TABLES FOR ARTILLERY METEOROLOGY (ELECTRONIC AND VISUAL) TYPE 2 MESSAGES



HEADQUARTERS DEPARTMENT OF THE ARMY



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TABLES FOR ARTILLERY METEOROLOGY (ELECTRONIC AND VISUAL) TYPE 2 MESSAGES

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CHAPTER 1 INTRODUCTION

1-1. Purpose and Scope

a. This manual is a compilation of tables and charts designed for use in computing type 2 meteorological messages for the artillery, including ballistic and computer messages. These charts and tables are applicable for meteorological observations using the radiosonde or the pilot balloon. Use of this manual in the computation of messages is described in FM 6-15, Artillery Meteorology.

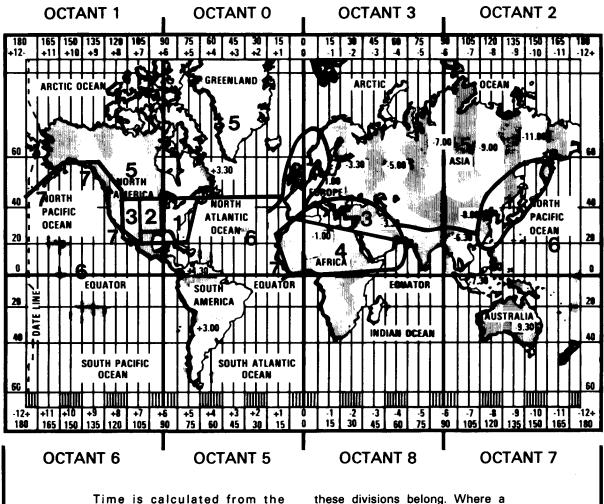
b. Users of this manual are encouraged to submit recommended changes or comments to improve the manual. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded direct to **Commandant**, **US Army Field Artillery School, ATTN: ATSF-CF-R, Fort Sill, OK 73503**.

c. FM 6-16, *Tables for Artillery Meteorology*, has been revised into a set of four field manuals. The set includes—

- □ FM 6-16 Tables for ArtiUery Meteorology (Electronic) Ballistic Type 3 and Computer Messages.
- ☐ FM 6-16-1 Tables for Artillery Meteorology (Sound Ranging) Messages.
- ☐ FM 6-16-2 Tables for Artillery Metiorology (Visual) Ballistic Type 3 and Computer Messages and Limited Surface Observations.
- □ FM 6-16-3 Tables for Artillery Meteorology (Electronic and Visual) Type 2 Messages.

1-2. Time Zones, Global Octants, and Climatic Regions

Figure 1-1 divides the world into time zones, global octants, and climatic regions, used in the heading of meteorological messages.



meridian of Greenwich. The middle of the zero time zone passes through Greenwich with its east and west limits 7°30' on each side. Each 15-degree zone east and west of the initial zone represents one hour of time. The number of hours that must be added to or subtracted from local standard time to give Greenwich time is indicated for each zone.

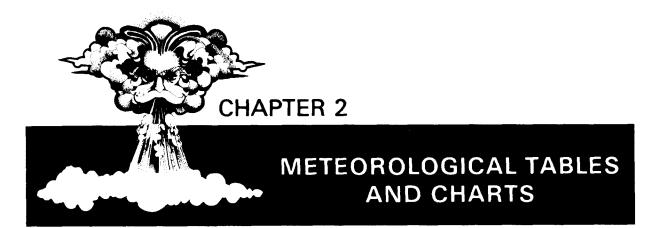
1. Political boundaries in the various countries have caused modifications of the time zones. The vertical lines and clear sections are used to show to which zones

these divisions belong. Where a half hour difference is legal, horizontal lines are used. Where no zone system has yet been adopted, the area is represented by small dots. Where no legal time has been established, the larger dots are used. Variations from zone time are given in hours and minutes.

2. The seven climatic regions of the Northern Hemisphere are indicated and identified by the large black numbers 1 through 7.

3. Global octant is indicated by bold N-S, E-W lines and octant identification.

Figure 1–1. Time Zones, Global Octants, and Climatic Regions



SECTION I GENERAL TABLES AND CHARTS FOR METEOROLOGICAL MESSAGES

2-1. Description of Tables and Charts

The tables and charts in this manual are presented in sections I, II, and III as follows:

a. Section I, General Tables and Charts for Meteorological Messages. These tables and charts are used for computing general meteorological data from all types of meteorological messages.

b. Section II, Tables for Type 2 (Electronic), Ballistic Message for Surface-to-Air Trajectories. These tables include the weighting factors and the weighted quantities for density, wind, and temperature pertaining to the trajectories of air defense weapons (guns).

c. Section III, Departure Tables for Type 2 (Visual), Ballistic Message for Surface-to-Air Trajectories. These departure tables are used in determining ballistic densities for a type 2 message.

2-2. Zone Structure of Atmosphere

For convenience in computing, reporting, and applying corrections, the standard atmosphere is further identified by dividing it into zones for standard heights. The zones for the various meteorological messages are illustrated in figure 2-1.

| Standard | | Zone Structure | |
|--------------------|-----------------|---|--|
| Height (Meters) | Ballistic | Computer | Fallout |
| Surface | <u> </u> | //////, 0′////// | \\\\\ ` 0;\\\\\ |
| 200 | | | |
| 500 | 2.111 | //////, 2'////// | |
| 1000 | ////// 3///// | <u> </u> | ////// \////// |
| 1500 | | V/////. 4///// | |
| 2000 | ///// 5///// | ()))) 5,)))) | |
| 2500 | - ()))) 6)))) | ////// 6′///// | |
| 3000 | | <u> </u> | \\\\\\ [:] 2\\\\\\ |
| 3500 | | ////// 8'///// | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| 4000 | | <u>, , , , , , , , , , , , , , , , , , , </u> | |
| 4500 | 8 | //////10////// | //////. ////// |
| 5000 | | <u> </u> | //////3///// |
| 6000 | /////_9///// | //////12////// | |
| 7000 | | 13 | |
| 8000 | | //////.14////// | |
| 9000 | | 1.1.1.1.5 | /////.5///// |
| 10000 | | //////16///// | |
| 11000 | - | 17 | ,)))));; e))))) |
| 12000 | | //////18///// | |
| 13000 | /////// | | /////////// |
| 14000 | | //////20////// | |
| 15000 | | 21 | .)))))) 8,)))))) |
| 16000 | | //////22'///// | |
| 17000 | /////15///// | 23 | ///// 9///// |
| 18000 | | /////24///// | <u> ////// //////</u> |
| 19000 | | 25 | 111111/10111111 |
| 20000 | | /////,26′///// | |
| *** | | | * * * |
| 32000 | | | ///////// |
| All f | allout zones ar | e 2,000 meters | thick. |

Figure 2-1 Zone structure for standard heights

2-3. Horizontal Distance Tables

a. Horizontal distance tables (table 2-1) are computed for the standard heights of the zone structure as shown in figure 2-1 and for a curved earth surface according to the following formula:

$$D = \frac{R \cos\theta}{H + R} \left[\int (H + R)^2 - R^2 \cos^2\theta - R \sin\theta \right]$$

b. In this formula, D is the arc distance of the earth's surface in meters and is the elevation angle to a balloon at standard height H. R is the average radius of the earth, 6,367,650 meters.

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | |
|---------|-------------------------------------|--------|--------|--------|----------|--------|--------|-------------|--------|--------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 3, 795 | 3, 673 | 3, 559 | 3, 452 | 3, 351 - | 3, 256 | 3, 166 | 3, 081 | 3, 000 | 2, 924 |
| 4 | 2, 851 | 2, 782 | 2, 716 | 2,652 | 2, 592 | 2, 535 | 2, 480 | 2, 427 | 2, 376 | 2, 328 |
| 5 | 2, 281 | 2, 236 | 2, 193 | 2, 152 | 2, 112 | 2, 074 | 2, 036 | 2,001 | 1, 966 | 1, 932 |
| 6 | 1, 900 | 1, 869 | 1, 839 | 1, 809 | 1, 781 | 1, 753 | 1, 726 | 1, 701 | 1, 675 | 1, 65 |
| 7 | 1, 627 | 1,604 | 1, 582 | 1, 560 | 1, 538 | 1, 518 | 1, 498 | 1, 478 | 1, 459 | 1, 440 |
| 8 | 1, 422 | 1, 404 | 1, 387 | 1, 370 | 1, 353 | 1, 337 | 1, 321 | 1, 306 | 1, 291 | 1, 27 |
| 9 | 1, 262 | 1, 248 | 1, 234 | 1, 221 | 1, 207 | 1, 194 | 1, 182 | 1, 169 | 1, 157 | 1, 14 |
| 10 | 1, 134 | 1, 122 | 1, 111 | 1, 100 | 1, 089 | 1, 079 | 1, 068 | 1, 058 | 1, 048 | 1, 038 |
| 11 | 1, 028 | 1, 019 | 1, 010 | 1, 000 | 991 | 983 | 974 | 965 | 957 | 948 |
| 12 | 941 | 933 | 925 | 917 | 909 | 902 | 894 | 887 | 880 | 873 |
| 13 | 866 | 859 | 852 | 846 | 839 | 833 | 826 | 820 | 814 | 808 |
| 14 | 802 | 796 | 790 | 784 | 779 | 773 | 768 | 762 | 757 | 751 |
| 15 | 746 | 741 | 736 | 731 | 726 | 721 | 716 | 711 | 707 | 702 |
| 16 | 697 | 693 | 688 | 684 | 679 | 675 | 671 | 666 | 662 | 658 |
| 17 | 654 | 650 | 646 | 642 | 638 | 634 | 630 | 627 | 623 | 619 |
| 18 | 615 | 612 | 608 | 605 | 601 | 598 | 594 | 591 | 587 | 584 |
| -19 | 581 | 577 | 574 | 571 | 568 | 565 | 562 | 558 | 555 | 552 |
| 20 | 549 | 546 | 544 | 541 | 538 | 535 | 532 | 529 | 526 | 524 |
| 21 | 521 | 518 | 516 | 513 | 510 | 508 | 505 | 503 | 500 | 497 |
| 22 | 495 | 492 | 490 | 488 | 485 | 483 | 480 | 478 | 476 | 473 |
| 23 | 471 | 469 | 467 | 464 | 462 | 460 | 458 | 456 | 453 | 451 |
| 24 | 449 | 447 | 445 | 443 | 441 | 439 | 437 | 435 | 433 | 431 |
| 25 | 429 | 427 | 425 | 423 | 421 | 419 | 417 | 416 | 414 | 412 |
| 26 | 410 | 408 | 406 | 405 | 403 | 401 | 399 | 398 | 396 | 394 |
| 27 | 392 | 391 | 389 | 387 | 386 | 384 | 383 | 381 | 379 | 378 |
| 28 | 376 | 375 | 373 | 371 | 370 | 368 | 367 | 365 | 364 | 362 |
| 29 | 361 | 359 | 358 | 356 | 355 | 353 | 352 | 351 | 349 | 348 |
| 30 | 346 | 345 | 344 | 342 | 341 | 340 | 338 | 337 | 335 | 334 |
| 31 | 333 | 332 | 330 | 329 | 328 | 326 | 325 | 324 | 323 | 321 |
| 32 | 320 | 319 | 318 | 316 | 315 | 314 | 313 | 312 | 310 | 309 |
| 33 | 308 | 307 | 306 | 304 | 303 | 302 | 301 | 300 | 299 | 298 |
| 34 | 296 | 295 | 294 | 293 | 292 | 291 | 290 | 289 | 288 | 287 |
| 35 | 286 | 285 | 284 | 282 | 281 | 280 | 279 | 278 | 277 | 276 |
| 36 | 275 | 274 | 273 | 272 | 271 | 270 | 269 | 268 | 267 | 266 |
| 37 | 265 | 264 | 263 | 263 | 262 | 261 | 260 | 259 | 258 | 257 |
| 38 | 256 | 255 | 254 | 253 | 252 | 251 | 251 | 250 | 249 | 248 |
| 39 | 247 | 246 | 245 | 244 | 243 | 243 | 242 | 241 | 240 | 239 |
| 40 | 238 | 237 | 237 | 236 | 235 | 234 | 233 | 2 33 | 232 | 231 |
| 41 | 230 | 229 | 228 | 228 | 227 | 226 | 225 | 224 | 224 | 223 |
| 42 | 222 | 221 | 221 | 220 | 219 | 218 | 217 | 217 | 216 | 215 |
| 43 | 214 | 214 | 213 | 212 | 211 | 211 | 210 | 209 | 209 | 208 |
| 44 | 207 | 206 | 206 | 205 | 204 | 204 | 203 | 202 | 201 | 201 |
| 45 | 200 | 199 | 199 | 198 | 197 | 197 | 196 | 195 | 194 | 194 |
| 46 | 193 | 192 | 192 | 191 | 190 | 190 | 189 | 188 | 188 | 187 |

Table 2-1. Horizontal Distance (Meters), 200 Meters (Ballistic Zone 1) (Computer Zone 1)

٠

| Degrees | | <u>-</u> | E | levation a | ngle, tenth | s of a degr | ee | ÷ | | - |
|----------|----------|----------|-------|------------|-------------|-----------------|-----|-----|-----|----------|
| Jegrees | .0 | 1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 186 | 186 | 185 | 185 | 184 | 183 | 183 | 182 | 181 | ε 181 |
| 48 | 180 | 179 | 179 | 178 | 178 | 177 | 176 | 176 | 175 | 174 |
| 49 | 174 | 173 | 173 | 172 | 171 | 171 | 170 | 170 | 169 | 168 |
| 50 | 168 | 167 | 167 | 166 | 165 | 165 | 164 | 164 | 163 | 163 |
| 51 | 162 | 161 | 161 | 160 | 160 | 15 9 | 159 | 158 | 157 | 157 |
| 52 | 156 | 156 | 155 | 155 | 154 | 153 | 153 | 152 | 152 | 151 |
| 53 | 151 | 150 | 150 | 149 | 149 | 148 | 147 | 147 | 146 | 146 |
| 54 | 145 | 145 | 144 | 144 | 143 | 143 | 142 | 142 | 141 | 141 |
| 55 | 140 | 140 | 139 | 138 | 138 | 137 | 137 | 136 | 136 | 135 |
| 56 | 135 | 134 | 134 | 133 | 133 | 132 | 132 | 131 | 131 | 130 |
| 57 | 130 | 129 | 129 | 128 | 128 | 127 | 127 | 126 | 126 | 125 |
| 58 | 125 | 124 | 124 | 124 | 123 | 123 | 122 | 122 | 121 | 121 |
| 59 | 120 | 120 | 119 | 119 | 118 | 118 | 117 | 117 | 116 | 116 |
| 60 | 115 | ac)115 | 115 | 114 | 114 | 113 | 113 | 112 | 112 | 111 |
| 61 | 111 | 20, 110 | 110 | 109 | 109 | 109 | 108 | 108 | 107 | 107 |
| 62 | 106 | - 106 | 105 | 105 | 105 | 104 | 104 | 103 | 103 | 102 |
| 63 | 102 | 101 | 101 | 101 | 100 | 100 | 99 | 99 | 98 | 98 |
| 64 | 98 | 97 | 97 | 96 | 96 | 95 | 95 | 95 | 94 | 94 |
| 65 | 93 | 93 | 92 | 92 | 92 | 91 | 91 | 90 | 90 | 89 |
| 66 | 89 | 89 | 88 | 88 | 87 | 87 | 87 | 86 | 86 | 85 |
| 67 | | | 84 | 84 | 83 | 83 | 82 | 82 | 82 | 81 |
| 68 | 85 81 | 84 80 | 80 | 80 | 79 | 79 | 78 | 78 | 78 | 77 |
| 69 | 77 | 76 | 76 | 76 | 75 | 75 | 74 | 74 | 74 | 73 |
| 70 | 73 | | 72 | 72 | 71 | 71 | 70 | 70 | 70 | 69 |
| 71 | - 69 | 68 | 68 | 68 | 67 | 67 | 67 | 66 | 66 | 65 |
| 72 | 65 | 65 | 64 | 64 | 63 | 63 | 63 | 62 | 62 | 62 |
| 73 | 61 | 61 | 60 | 60 | 60 | 59 | 59 | 58 | 58 | 58 |
| 74 | 57 | 57 | 57 | 56 | 56 | 55 | 55 | 55 | 54 | 54 |
| 75 | . 54 | 53 | 53 | 52 | 52 | 52 | 51 | 51 | 51 | 50 |
| 76 | ∵50 | 49 | 49 | 49 | 48 | 48 | 48 | 47 | 47 | 47 |
| 77 | 46 | 46 | 45 | 45 | 45 | 44 | 44 | 44 | 43 | 43 |
| 78 | 40 | 40 | 42 | 40 | 41 | 41 | 40 | 40 | 40 | 39 |
| 79 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 36 | 36 | 36 |
| 80 | 35 | 35 | 35 | 34 | 34 | 33 | 33 | 33 | 32 | 32 |
| 80 81 | 32 | 31 | 31 | 31 | 30 | 30 | 30 | 29 | 29 | 28 |
| 82 | 32 28 | 28 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 25 |
| 82 83 | 28 25 | 28 | 21 | 27 | 27 | 20 | 20 | 20 | 20 | 20 |
| | 25 | 24 21 | 24 20 | 23 20 | 20 | 19 | 19 | 19 | 18 | 18 |
| 84 95 | | | 17 | 20 16 | 16 | 15 | 15 | 15 | 15 | 10 |
| 85 | 17 | 1 | 1 | | 18 | 10 | 13 | 12 | 11 | 14 |
| 86 | 14 | 14 | 13 | 13 9 | 9 | 9 | 8 | 8 | 8 | |
| 87 | 10 | 10 | 10 | | 6 | 5 | 5 | 5 | 4 | 4 |
| 88 | . 7 | 7 | 6 | 6 2 | | 2 | 1 | 1 | | 4 |
| 89 | 3 | 3 | 3 | 2 | 2 | 1 4 | | 1 | | 1 |

| Table 2-1. | Horizontal Distance (Meters), 200 Meters (Ballistic Zone 1) | |
|---------------|---|--|
| 01.000 100 10 | (Computer Zone 1)—Continued | |
| | Le la | |

94C

| , | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------------------------------|--|---------------------------------|---|---|---|---|---|---|---|--|--|--|--|
| .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 9,407 | 9,111 | 8,833 | 8,571 | 8,324 | 8,090 | 7,869 | 7,660 | 7,461 | 7,273 | | | | |
| 7,093 | 6,922 | 6,759 | 6,604 | 6,455 | 6,313 | 6,177 | 6,046 | 5,921 | 5,801 | | | | |
| 5,686 | 5,575 | 5,468 | 5,365 | 5,266 | 5,170 | 5,078 | 4,989 | 4,903 | 4,820 | | | | |
| 4,740 | 4,662 | 4,587 | 4,514 | 4,443 | 4,375 | 4,308 | 4,244 | 4,181 | 4,120 | | | | |
| 4,061 | 4,004 | 3,948 | 3,894 | 3,841 | 3,789 | 3,739 | 3,690 | 3,642 | 3,596 | | | | |
| 3,550 | 3,506 | 3,463 | 3,421 | 3,380 | 3,339 | 3,300 | 3,262 | 3,224 | 3,188 | | | | |
| 3,152 | 3,117 | 3,082 | 3,049 | 3,016 | 2,983 | 2,952 | 2,921 | 2,891 | 2,861 | | | | |
| 2,832 | 2,803 | 2,775 | 2,748 | 2,721 | 2,694 | 2,669 | 2,643 | 2,618 | 2,594 | | | | |
| 2,569 | 2,546 | 2,522 | 2,500 | 2,477 | 2,455 | 2,433 | 2,412 | 2,391 | 2,370 | | | | |
| 2,350 | 2,330 | 2,310 | 2.291 | 2,272 | 2,253 | 2,235 | 2,217 | 2,199 | 2,181 | | | | |
| 2,164 | 2,147 | 2,130 | 2,113 | 2,097 | 2,081 | 2,065 | 2,050 | 2,034 | 2,019 | | | | |
| 2,004 | 1,989 | 1.975 | 1,960 | 1,946 | 1,932 | 1,918 | 1,905 | 1,891 | 1,878 | | | | |
| 1,865 | 1,852 | 1,839 | 1,827 | 1,814 | 1,802 | 1,790 | 1,778 | 1,766 | 1,754 | | | | |
| 1,743 | 1,731 | 1.720 | 1,709 | 1,698 | 1,687 | 1,676 | 1.666 | 1,655 | 1,645 | | | | |
| 1,635 | 1,624 | 1,614 | 1,605 | 1,595 | 1,585 | 1,575 | 1,566 | 1,557 | 1.547 | | | | |
| 1.538 | 1,529 | 1,520 | 1,511 | 1,502 | 1,494 | 1,485 | 1,477 | 1,468 | 1,460 | | | | |
| 1,452 | 1,443 | 1,435 | 1,427 | 1,419 | 1,411 | 1,404 | 1,396 | 1,388 | 1.381 | | | | |
| 1,373 | 1,366 | 1,358 | 1,351 | 1,344 | 1,337 | 1,330 | 1,323 | 1,316 | 1,309 | | | | |
| 1,302 | 1,295 | 1,289 | 1,282 | 1,275 | 1,269 | 1,262 | 1,256 | 1,250 | 1,243 | | | | |
| 1,237 | 1,231 | 1,225 | 1,219 | 1,213 | 1,207 | 1,201 | 1,195 | 1,189 | 1,183 | | | | |
| 1,178 | 1,172 | 1.166 | 1,161 | 1,155 | 1,150 | 1,144 | 1,139 | 1.133 | 1,128 | | | | |
| 1,123 | 1,117 | 1.112 | 1,107 | 1,102 | 1,097 | 1,092 | 1,087 | 1,082 | 1,077 | | | | |
| 1,072 | 1,067 | 1,062 | 1,057 | 1,053 | 1,048 | 1,043 | 1,039 | 1,034 | 1,029 | | | | |
| 1,025 | 1,020 | 1.016 | 1,011 | 1.007 | 1,003 | 998 | 994 | 990 | 985 | | | | |
| 981 | 977 | 973 | 969 | 964 | 960 | 956 | 952 | ⁺ 948 | 944 | | | | |
| 940 | 936 | 932 | 928 | 925 | 921 | 917 | 913 | 909 | 906 | | | | |
| 902 | 898 | 894 | 891 | 887 | 884 | 880 | 876 | 873 | 869 | | | | |
| 866 | 862 | 859 | 855 | 852 | 849 | 845 | 842 | 839 | 835 | | | | |
| 832 | 829 | 825 | 822 | 819 | 816 | 813 | 809 | 806 | 803 | | | | |
| 800 | 797 | 794 | 791 | 788 | 785 | 782 | 779 | 776 | 773 | | | | |
| 770 | 767 | 764 | 761 | 758 | 755 | 752 | 750 | 747 | 744 | | | | |
| 741 | 738 | 736 | 733 | 730 | 727 | 725 | 722 | 719 | 717 | | | | |
| 714 | 711 | 709 | 706 | 703 | 701 | 698 | 696 | 693 | 691 | | | | |
| 688 | 686 | 683 | 681 | 678 | 676 | 673 | 671 | 668 | 666 | | | | |
| 663 | 661 | 659 | 656 | 654 | 652 | 649 | 647 | 645 | 642 | | | | |
| 640 | 638 | 635 | 633 | 631 | 628 | 626 | 624 | 622 | 620 | | | | |
| 617 | 615 | 613 | 611 | 609 | 606 | 604 | 602 | 600 | 598 | | | | |
| 596 | 594 | 592 | 590 | 587 | 585 | 583 | 581 | 579 | 577 | | | | |
| 575 | 573 | 571 | 569 | 567 | 565 | 563 | 561 | 559 | 557 | | | | |
| | | | | | | | | | 538 | | | | |
| | | | | , | | | | | 520 | | | | |
| | | 1 | 1 1 | | | | | | 502 | | | | |
| | E Contraction of the second seco | 1 | | | | | | | 484 | | | | |
| | | | | | | | | | 464 | | | | |
| 555 536 518 500 483 | | 553 534 516 498 481 | 534 532 516 514 498 496 | 534 532 531 516 514 512 498 496 495 | 534 532 531 529 516 514 512 511 498 496 495 493 | 534 532 531 529 527 516 514 512 511 509 498 496 495 493 491 | 534 532 531 529 527 525 516 514 512 511 509 507 498 496 495 493 491 490 | 534 532 531 529 527 525 523 516 514 512 511 509 507 505 498 496 495 493 491 490 488 | 534 532 531 529 527 525 523 521 516 514 512 511 509 507 505 503 498 496 495 493 491 490 488 486 | | | | |

Table 2-1. Horizontal Distance (Meters), 500 Meters (Ballistic Zone 2) (Computer Zone 2)

| grees | | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|----------|-------|-------------------------------------|-----|------------|-----|-----|-----|-----|-------|-----|--|--|--|--|
| grees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 47 | 466 | 465 | 463 | 461 | 460 | 458 | 457 | 455 | 453 | 3 4 | | | | |
| 48 | 450 | 449 | 447 | 445 | 444 | 442 | 441 | 439 | 438 | 4 | | | | |
| 49 | 435 | 433 | 432 | 430 | 429 | 427 | 425 | 424 | 422 | 4 | | | | |
| 50 | 420 | 418 | 417 | 415 | 414 | 412 | 411 | 409 | 408 | 4 | | | | |
| 51 | 405 | 403 | 402 | 401 | 399 | 398 | 396 | 395 | 393 | 3 | | | | |
| 52 | 391 | 389 | 388 | 386 | 385 | 384 | 382 | 381 | 379 | 3 | | | | |
| 53 | 377 | 375 | 374 | 373 | 371 | 370 | 369 | 367 | 366 | | | | | |
| 53 54 | 363 | 362 | 361 | 359 | 358 | 357 | 355 | 354 | 353 | 3 | | | | |
| | 350 | 349 | 347 | 346 | 345 | 344 | 342 | 341 | 340 | | | | | |
| 55 56 | 330 | 336 | 335 | 333 | 332 | 331 | 330 | 328 | 327 | | | | | |
| | | 323 | | 321 | 320 | 319 | 317 | 316 | 315 | | | | | |
| 57 | 325 | | 322 | | 308 | 319 | 305 | 304 | 303 | | | | | |
| 58 | 312 | 311 | 310 | 309 297 | 296 | 294 | 293 | 292 | 291 | | | | | |
| 59 | 300 | 0.7 E 299 | 298 | | | | 293 | 292 | 291 | | | | | |
| 60 | 289 | 287 | 286 | 285 | 284 | 283 | 282 | 269 | 268 | | | | | |
| 61 | 277 | 276 | 275 | 274 | 273 | 271 | | 1 | 208 | | | | | |
| 62 | 266 | 265 | 264 | 262 | 261 | 260 | 259 | 258 | 1 | | | | | |
| 63 | 255 | 254 | 253 | 251 | 250 | 249 | 248 | 247 | 246 | | | | | |
| 64 | 244 | 243 | 242 | 241 | 240 | 238 | 237 | 236 | 235 | | | | | |
| 65 | 233 | 232 | 231 | 230 | 229 | 228 | 227 | 226 | 225 | | | | | |
| 66 | 223 | 222 | 221 | 219 | 218 | 217 | 216 | 215 | 214 | 5 Y | | | | |
| 67 | 212 | 211 | 210 | 209 | 208 | 207 | 206 | 205 | 204 | ÷ | | | | |
| 68 | 202 | 201 | 200 | 199 | 198 | 197 | 196 | 195 | 194 | | | | | |
| 69 | - 192 | 191 | 190 | 189 | 188 | 187 | 186 | 185 | 184 | | | | | |
| 70 | a 182 | 181 | 180 | 179 | 178 | 177 | 176 | 175 | 174 | | | | | |
| 71 | s 172 | 171 | 170 | 169 | 168 | 167 | 166 | 165 | 164 | | | | | |
| 72 | 162 | 161 | 161 | 160 | 159 | 158 | 157 | 156 | 155 | | | | | |
| 73 | 153 | 152 | 151 | 150 | 149 | 148 | 147 | 146 | 145 | | | | | |
| 74 | . 143 | 142 | 141 | 141 | 140 | 139 | 138 | 137 | 136 | | | | | |
| 75 | 134 | 133 | 132 | 131 | 130 | 129 | 128 | 127 | 127 | | | | | |
| 76 | 125 | 124 | 123 | 122 | 121 | 120 | 119 | 118 | 117 | | | | | |
| 77 | 115 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | | | | | |
| 78 | 106 | 105 | 104 | 104 | 103 | 102 | 101 | 100 | 99 | | | | | |
| 79 | 97 | 96 | 95 | 94 | 94 | 93 | 92 | 91 | 90 | | | | | |
| 80 | 88 | 87 | 86 | 85 | 85 | 84 | 83 | 82 | 81 | | | | | |
| 81 | 79 | 78 | 77 | 77 | 76 | 75 | 74 | 73 | 72 | | | | | |
| 82 | 70 | . 69 | 68 | 68 | 67 | 66 | 65 | 64 | 63 | | | | | |
| 83 | 61 | 61 | 60 | 59 | 58 | 57 | 56 | 55 | 54 | | | | | |
| 84 | 53 | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | | | | | |
| 85 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 38 | 37 | | | | | |
| 86 | 35 | 34 | 33 | 32 | 31 | 31 | 30 | 29 | 28 | | | | | |
| 87 | 26 | 25 | 24 | 24 | 23 | 22 | 21 | 20 | 19 | | | | | |
| 88 | 17 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | ,i 10 | | | | | |
| 89 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 3 | 2 | | | | | |

Table 2–1. Horizontal Distance (Meters), 500 Meters (Ballistic Zone 2) (Computer Zone 2)--Continued

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|----------|--------------------------------------|---------|---------|---------|------------------|---------|---------|----------------|---------|------------------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 3 | 18, 562 | 17, 992 | 17, 456 | 16, 949 | 16, 471 | 16, 018 | 15, 589 | 15, 182 | 14, 795 | 14, 427 | | | |
| 4 | 14, 076 | 13, 742 | 13, 423 | 13, 118 | 12, 826 | 12, 547 | 12, 280 | 12, 023 | 11,777 | 11, 54 | | | |
| 5 | 11, 313 | 11, 095 | 10, 884 | 10, 681 | 10, 486 | 10, 297 | 10, 115 | 9, 939 | 9, 769 | 9, 60 | | | |
| 6 | 9, 446 | 9, 292 | 9, 143 | 8, 999 | 8, 859 | 8, 723 | 8, 591 | 8, 463 | 8, 339 | 8, 218 | | | |
| 7 | 8, 101 | 7, 987 | 7, 876 | 7, 768 | 7, 663 | 7, 560 | 7, 461 | 7, 364 | 7, 269 | 7, 17 | | | |
| 8 | 7, 086 | 6, 998 | 6, 912 | 6, 829 | 6, 747 | 6, 667 | 6, 589 | 6, 51 2 | 6, 438 | 6, 365 | | | |
| 9 | 6, 293 | 6, 223 | 6, 155 | 6, 088 | 6, 022 | 5, 958 | 5, 895 | 5, 834 | 5, 773 | 5, 714 | | | |
| 10 | 5, 656 | 5, 599 | 5, 543 | 5, 489 | 5, 435 | 5, 382 | 5, 331 | 5, 280 | 5, 230 | 5, 182 | | | |
| 11 | 5, 133 | 5, 086 | 5, 040 | 4, 994 | 4, 949 | 4, 905 | 4, 862 | 4, 819 | 4, 777 | 4, 736 | | | |
| 12 | 4, 696 | 4, 656 | 4, 617 | 4, 578 | 4, 540 | 4, 503 | 4, 466 | 4, 430 | 4, 394 | 4, 359 | | | |
| 13 | 4, 324 | 4, 290 | 4, 257 | 4, 224 | 4, 191 | 4, 159 | 4, 127 | 4, 096 | 4,065 | 4, 035 | | | |
| 14 | 4, 005 | 3, 976 | 3, 947 | 3, 918 | 3, 890 | 3, 862 | 3, 834 | 3, 807 | 3, 780 | 3, 754 | | | |
| 15 | 3, 727 | 3, 702 | 3, 676 | 3, 651 | 3, 626 | 3, 602 | 3, 577 | 3, 554 | 3, 530 | 3, 507 | | | |
| 16 | 3, 484 | 3, 461 | 3, 438 | 3, 416 | 3, 394 | 3, 372 | 3, 351 | 3, 330 | 3, 309 | 3, 288 | | | |
| 17 | 3, 268 | 3, 247 | 3, 227 | 3, 208 | 3, 188 | 3, 169 | 3, 149 | 3, 131 | 3, 112 | 3, 093 | | | |
| 18 | 3, 075 | 3, 057 | 3, 039 | 3, 021 | 3,004 | 2, 986 | 2, 969 | 2, 952 | 2, 935 | 2, 918 | | | |
| 19 | 2, 902 | 2, 885 | 2, 869 | 2, 853 | 2, 837 | 2, 822 | 2, 806 | 2, 791 | 2,775 | 2, 760 | | | |
| 20 | 2, 745 | 2, 731 | 2, 716 | 2, 701 | 2, 687 | 2,673 | 2,659 | 2, 645 | 2, 631 | 2, 617 | | | |
| 21 | 2, 603 | 2, 590 | 2, 576 | 2, 563 | 2, 550 | 2, 537 | 2, 524 | 2, 511 | 2, 499 | 2, 486 | | | |
| 22 | 2, 474 | 2, 461 | 2, 449 | 2, 437 | 2, 425 | 2, 413 | 2, 401 | 2, 389 | 2, 377 | 2, 366 | | | |
| 23 | 2, 354 | 2, 343 | 2, 332 | 2, 321 | 2, 310 | 2, 299 | 2, 288 | 2, 277 | 2, 266 | 2, 255 | | | |
| 24 | 2, 245 | 2, 234 | 2, 224 | 2, 214 | 2, 203 | 2, 193 | 2, 183 | 2, 173 | 2, 163 | 2, 153 | | | |
| 25 | 2, 143 | 2, 134 | 2, 124 | 2, 114 | 2, 105 | 2,095 | 2,086 | 2,077 | 2,068 | 2, 058 | | | |
| 26 | 2,049 | 2,040 | 2,031 | 2,022 | 2,014 | 2,005 | 1, 996 | 1, 987 | 1, 979 | 1, 970 | | | |
| 27 | 1, 962 | 1, 953 | 1, 945 | 1, 937 | 1, 928 | 1, 920 | 1, 912 | 1, 904 | 1, 896 | 1, 888 | | | |
| 28 | 1, 880 | 1, 872 | 1, 864 | 1, 856 | 1, 849 | 1, 841 | 1, 833 | 1, 826 | 1, 818 | 1, 811 | | | |
| 29 | 1, 803 | 1, 796 | 1, 789 | 1, 781 | 1, 774 | 1, 767 | 1, 760 | 1, 752 | 1, 745 | 1, 738 | | | |
| 30 | ा , ३३३ अ.स. 1, 731 | 1, 724 | 1, 718 | 1, 711 | 1, 704 | 1, 697 | 1, 690 | 1, 684 | 1, 677 | 1, 730 | | | |
| 31 | 1, 664 | 1, 657 | 1,651 | 1, 644 | 1, 638 | 1, 631 | 1, 625 | 1, 619 | 1, 612 | 1, 606 | | | |
| 32 | 1, 600 | 1, 594 | 1, 587 | 1, 581 | 1, 575 | 1, 569 | 1, 563 | 1, 557 | 1, 551 | • | | | |
| 33 | 1, 539 | 1, 533 | 1, 528 | 1, 522 | 1, 516 | 1, 510 | 1, 505 | 1, 499 | 1, 331 | 1, 545 1, 488 | | | |
| 34 | 1, 482 | 1, 333 | 1, 328 | 1, 322 | 1, 460 | 1, 310 | 1, 303 | 1, 499 | 1, 493 | 1, 483 | | | |
| 35 | 1, 428 | 1, 422 | 1, 417 | 1, 412 | 1, 407 | 1, 402 | 1, 396 | 1, 391 | 1, 386 | 1, 433 | | | |
| 36 | 1, 376 | 1, 371 | 1, 366 | 1, 361 | 1, 356 | 1, 402 | 1, 346 | 1, 391 | 1, 336 | 1, 331 | | | |
| 37 | 1, 327 | 1, 322 | 1, 317 | 1, 312 | 1, 308 | 1, 303 | 1, 298 | 1, 293 | 1, 289 | 1, 331 | | | |
| 38 | 1, 327 | 1, 322 | 1, 317 | 1, 312 | | | | | | | | | |
| 39 | 1, 280 1, 235 | 1, 275 | 1, 270 | 1, 200 | 1, 261 1, 217 | 1, 257 | 1, 252 | 1, 248 | 1, 243 | 1, 239 | | | |
| 39 40 | • | · · · | , | | | 1, 213 | 1, 208 | 1, 204 | 1,200 | 1, 196 | | | |
| 1 | 1, 191 | 1, 187 | 1, 183 | 1, 179 | 1, 175 | 1, 171 | 1, 166 | 1, 162 | 1, 158 | 1, 154 | | | |
| 41 42 | 1, 150 | 1, 146 | 1, 142 | 1, 138 | 1, 134 | 1, 130 | 1, 126 | 1, 122 | 1, 118 | 1, 114 | | | |
| 42 | 1, 110 | 1, 106 | 1, 103 | 1,099 | 1,095 | 1,091 | 1,087 | 1,083 | 1,080 | 1,076 | | | |
| 1 | 1,072 | 1,068 | 1,065 | 1,061 | 1,057 | 1,054 | 1,050 | 1,046 | 1,043 | 1,039 | | | |
| 44 | 1,035 | 1,032 | 1, 028 | 1, 024 | 1, 021 | 1,017 | 1,014 | 1, 010 | 1,007 | 1, 003 | | | |
| 45 | 1,000 | 996 | 993 | 989 | 986 | 982 | 979 | 976 | 972 | 969 | | | |
| 46 | 965 | ' 962 | 959 | 955 | 952 | 949 | 945 | 942 | 939 | 936 | | | |

| egrees | | | Ele | evation and | gie, tenths | of a degree | ····+ | | | |
|----------|-------------------|-------------------------------|------------|-------------|-------------|-------------|-------|-----|-----|------------|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 932 | 929 | 926 | 923 | 919 | 916 | 913 | 910 | 907 | ~ 9(|
| 48 | 900 | 897 | 894 | 891 | 888 | 885 | 881 | 878 | 875 | 8 |
| 49 | 869 | 866 | 863 | 860 | 857 | 854 | 851 | 848 | 845 | 84 |
| 50 | 839 | 836 | 833 | 830 | 827 | 824 | 821 | 818 | 815 | 81 |
| 51 | 810 | 807 | 804 | 801 | 798 | 795 | 792 | 790 | 787 | 7 |
| 52 | 781 | 778 | 776 | 773 | 770 | 767 | 764 | 762 | 759 | 7. |
| 53 | 753 | 751 | 748 | 745 | 743 | 740 | 737 | 734 | 732 | 7 |
| 54 | 726 | 724 | 721 | 718 | 716 | 713 | 711 | 708 | 705 | 7 |
| 55 | 700 | 697 | 695 | 692 | 690 | 687 | 685 | 682 | 679 | • 6 |
| 56 | 674 | 672 | 669 | 667 | 664 | 662 | 659 | 657 | 654 | 6 |
| 57 | 649 | 647 | 644 | 642 | 639 | 637 | 634 | 632 | 630 | 6 |
| 58 | 625 | 622 | 620 | 617 | 615 | 613 | 610 | 608 | 606 | 6 |
| 59 | 601 | 598 | 596 | 594 | 591 | 589 | 587 | 584 | 582 | 5 |
| 60 | 577 | 575 | 573 | 570 | 568 | 566 | 563 | 561 | 559 | 5 |
| 61 | 554 | ⁴ ⁴ 552 | 550 | 547 | 545 | 543 | 541 | 538 | 536 | . 5 |
| 62 | 532 | 529 | 527 | 525 | 523 | 520 | 518 | 516 | 514 | 5 |
| 63 | 509 | 507 | 505 | 503 | 501 | 498 | 496 | 494 | 492 | 4 |
| 64 | 488 | 485 | 483 | 481 | 479 | 477 | 475 | 473 | 470 | 4 |
| 65 | 466 | 464 | 462 | 460 | 458 | 456 | 454 | 451 | 449 | 4 |
| 66 | 445 | 443 | 441 | 439 | 437 | 435 | 433 | 431 | 429 | 4 |
| 67 | 424 | 422 | 420 | 418 | 416 | 414 | 412 | 410 | 408 | 4 |
| 68 | 404 | 402 | 400 | 398 | 396 | 394 | 392 | 390 | 388 | · 3 |
| 69 | 384 | 382 | 380 | 378 | 376 | 374 | 372 | 370 | 368 | a g |
| 70 | - 364 | 362 | 360 | 358 | 356 | 354 | 352 | 350 | 348 | |
| 71 | ^{°0} 344 | 342 | 340 | 338 | 336 | 335 | 333 | 331 | 329 | |
| 72 | è 325 | 323 | 321 | 319 | 317 | 315 | 313 | 311 | 310 | 3 |
| 73 | ² 306 | 304 | 302 | 300 | 298 | 296 | 294 | 292 | 290 | 2 |
| 74 | I 287 | 285 | 283 | 281 | 238 | 290 | 275 | 252 | 272 | 2 |
| 75 | 268 | 265 | 263 | 261 | 260 | 259 | 275 | 255 | 253 | |
| | | | | | 200 | 259 240 | 238 | 235 | 235 | 2 2 |
| 76 77 | 249 231 | 247 229 | 246 227 | 244 225 | 242 | 240 | 238 | 230 | 235 | 2 |
| 78 | 231 | | 209 | 225 | 223 | 203 | 202 | 200 | 198 | 1 |
| | | 211 | | | 1 | | | | 198 | 1 |
| 79 | 194 | 193 | 191 | 189 | 187 | 185 | 184 | 182 | | |
| 80 | 176 | 175 | 173 | 171 | 169 | 167 | 166 | 164 | 162 | 1 |
| 81 | 158 | 157 | 155 | 153 | 151 | 149 | 148 | 146 | 144 | 1 |
| 82 | 141 | 139 | 137 | 135 | 133 | 132 | 130 | 128 | 126 | 1 |
| 83 | 123 | 121 | 119 | 117 | 116 | 114 | 112 | 110 | 109 | - 1 |
| 84 | 105 | 103 | 102 | 100 | 98 | 96 | 95 | 93 | 91 | |
| 85 | 87 | 86 | 84 | 82 | 80 | 79 | 77 | 75 | 73 | |
| 86 | 70 | 68 | 66 | 65 | 63 | 61 | 59 | 58 | 56 | |
| 87 | 52 | 51 | 49 | 47 | 45 | 44 | 42 | 40 | 38 | |
| 88 | 35 | 33 | 31 | 30 | 28 | 26 | 24 | 23 | 21 | |
| 89 | 17 | 16 | 14 | 12 | 10 | 9 | 7 | 5 | , 3 | |

Table 2–1. Horizontal Distance (Meters) 1,000 Meters (Ballistic Zone 3) Horizontal Distance (Meters) 1,000 Meters (Ballistic Zone 3) (Computer Zone 3)—Continued (Computer Zone 3)—Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-8

| Demos | | | E | levation ar | gle, tenths | s of a degre | e | | | |
|---------|---------|---------|---------|-------------|---------------------------------------|--------------|---------|---------|---------|-------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | 7 | .8 | .9 |
| 3 | 27, 483 | 26, 660 | 25, 882 | 25, 147 | 25, 452 | 23, 792 | 23, 166 | 22, 572 | 22,006 | 21, 4 |
| 4 | 20, 953 | 20, 462 | 19, 994 | 19, 546 | 19, 117 | 18, 706 | 18, 312 | 17, 933 | 17, 570 | 17, 2 |
| 5 | 16, 885 | 16, 562 | 16, 250 | 15, 950 | 15, 661 | 15, 381 | 15, 112 | 14, 851 | 14, 599 | 14, 3 |
| 6 | 14, 119 | 13, 891 | 13, 669 | 13, 455 | 13, 247 | 13, 045 | 12, 849 | 12,659 | 12,474 | 12, 2 |
| 7 | 12, 120 | 11, 950 | 11, 785 | 11, 624 | 11, 467 | 11, 315 | 11, 166 | 11, 021 | 10, 880 | 10, 7 |
| 8 | 10, 608 | 10, 477 | 10, 348 | 10, 223 | 10, 101 | 9, 982 | 9, 865 | 9, 751 | 9,640 | 9, 5 |
| 9 | 9, 424 | 9, 320 | 9, 218 | 9, 118 | 9, 020 | 8,924 | 8, 830 | 8, 738 | 8, 648 | 8, 5 |
| 10 | 8, 473 | 8, 388 | 8, 305 | 8, 223 | 8, 143 | 8,064 | 7, 987 | 7, 911 | 7, 836 | 7, 7 |
| 11 | 7, 691 | 7, 621 | 7, 551 | 7, 483 | 7, 416 | 7, 350 | 7, 285 | 7, 222 | 7, 159 | 7, C |
| 12 | 7, 037 | 6, 977 | 6, 919 | 6, 861 | 6, 804 | 6, 748 | 6, 693 | 6, 639 | 6, 586 | 6, 5 |
| 13 | 6, 481 | 6, 430 | 6, 380 | 6, 331 | 6, 282 | 6, 234 | 6,186 | 6, 140 | 6, 094 | 6, C |
| 14 | 6, 003 | 5, 959 | 5, 916 | 5, 873 | 5, 830 | 5, 789 | 5, 747 | 5, 707 | 5, 666 | 5,6 |
| 15 | 5, 588 | 5, 549 | 5, 511 | 5, 473 | 5, 830 | | 5, 747 | • | | |
| 16 | 5, 222 | 5, 188 | 5, 155 | 5, 121 | 5, 088 | 5,399 | 5, 024 | 5, 327 | 5, 292 | 5,2 |
| 17 | 4, 899 | 4, 869 | 4, 839 | | · · · · · · · · · · · · · · · · · · · | 5, 056 | | 4,992 | 4, 961 | 4, 9 |
| 18 | 4, 610 | 4, 583 | | 4,809 | 4, 780 | 4, 751 | 4, 722 | 4,694 | 4,666 | 4, 6 |
| 19 | 4, 310 | 4, 326 | 4, 556 | 4, 530 | 4, 503 | 4, 477 | 4,451 | 4,426 | 4, 401 | 4, 8 |
| 20 | 4, 117 | | 4, 302 | 4,278 | 4, 254 | 4, 231 | 4, 208 | 4,185 | 4, 162 | 4, 1 |
| 20 | | 4, 094 | 4,072 | 4, 051 | 4,029 | 4,008 | 3, 986 | 3, 965 | 3, 945 | 3, 9 |
| 21 | 3, 904 | 3, 883 | 3, 863 | 3, 843 | 3, 824 | 3, 804 | 3, 785 | 3, 766 | 3, 747 | 3, 7 |
| | 3, 709 | 3, 691 | 3, 672 | 3, 654 | 3, 636 | 3, 618 | 3, 600 | 3, 583 | 3, 565 | 3, 5 |
| 23 | 3, 531 | 3, 514 | 3, 497 | 3, 480 | 3, 463 | 3, 447 | 3, 430 | 3, 414 | 3, 398 | 3, 3 |
| 24 | 3, 366 | 3, 351 | 3, 335 | 3, 319 | 3, 304 | 3, 289 | 3, 274 | 3, 259 | 3, 244 | 3, 2 |
| 25 | 3, 214 | 3, 200 | 3, 185 | 3, 171 | 3, 157 | 3, 142 | 3, 128 | 3, 114 | 3, 101 | 3, (|
| - 26 | 3, 073 | 3, 060 | 3, 046 | 3, 033 | 3, 020 | 3, 006 | 2, 993 | 2, 980 | 2, 967 | 2, 9 |
| 27 | 2, 942 | 2, 929 | 2, 917 | 2, 904 | 2, 892 | 2, 880 | 2, 867 | 2, 855 | 2, 843 | 2, 8 |
| 28 | 2, 819 | 2, 807 | 2, 796 | 2, 784 | 2, 772 | 2, 761 | 2, 749 | 2, 738 | 2, 727 | 2, 7 |
| 29 | 2, 704 | 2, 693 | 2, 682 | 2, 671 | 2, 660 | 2,650 | 2, 639 | 2, 628 | 2, 618 | 2, 6 |
| 30 | 2, 597 | 2, 586 | 2, 576 | 2, 565 | 2, 555 | 2, 545 | 2, 535 | 2, 525 | 2, 515 | 2, 8 |
| 31 | 2, 495 | 2, 485 | 2, 475 | 2,466 | 2, 456 | 2, 446 | 2, 437 | 2, 427 | 2, 418 | 2, 4 |
| 32 | 2, 399 | 2, 390 | 2, 381 | 2, 372 | 2, 362 | 2, 353 | 2, 344 | 2, 335 | 2, 326 | 2, 3 |
| 33 | 2, 309 | 2, 300 | 2, 291 | 2, 282 | 2, 274 | 2, 265 | 2, 257 | 2, 248 | 2, 240 | 2, 2 |
| 34 | 2, 223 | 2, 214 | 2, 206 | 2, 198 | 2,190 | 2, 181 | 2, 173 | 2, 165 | 2, 157 | 2, 1 |
| 35 | 2, 141 | 2, 133 | 2, 125 | 2, 118 | 2, 110 | 2,102 | 2, 094 | 2, 087 | 2, 079 | 2, 0 |
| 36 | 2, 064 | 2, 056 | 2, 049 | 2, 041 | 2, 034 | 2, 026 | 2, 019 | 2, 012 | 2, 004 | 1, 9 |
| 37 | 1, 990 | 1, 982 | 1, 975 | 1, 968 | 1, 961 | 1, 954 | 1, 947 | 1, 940 | 1,933 | 1, 9 |
| 38 | 1, 91 9 | 1, 912 | 1, 905 | 1, 899 | 1, 892 | 1, 885 | 1, 878 | 1, 872 | 1, 865 | 1, 8 |
| .39 | 1,852 | 1, 845 | 1, 838 | 1,832 | 1, 825 | 1,819 | 1, 812 | 1, 806 | 1, 800 | 1, 7 |
| 40 | 1, 787 | 1, 781 | 1, 774 | 1, 768 | 1, 762 | 1, 756 | 1, 749 | 1, 743 | 1, 737 | 1, 7 |
| 41 | 1, 725 | 1, 719 | 1, 713 | 1, 707 | 1, 701 | 1, 695 | 1, 689 | 1, 683 | 1, 677 | 1, 6 |
| 42 | 1, 665 | 1, 659 | 1, 654 | 1, 648 | 1, 642 | 1, 636 | 1, 631 | 1, 625 | 1, 619 | 1, 6 |
| 43 | 1, 608 | 1,602 | 1, 597 | 1, 591 | 1, 586 | 1, 580 | 1, 575 | 1, 569 | 1, 564 | 1, 5 |
| 44 | 1, 553 | 1, 547 | 1, 542 | 1, 537 | 1, 531 | 1, 526 | 1, 521 | 1, 515 | 1, 510 | 1, 5 |
| 45 | 1, 499 | 1, 494 | 1, 489 | 1, 484 | 1, 479 | 1, 474 | 1, 468 | 1, 463 | 1,458 | 1, 4 |
| 46 | 1,448 | 1, 443 | 1, 438 | 1, 433 | 1, 428 | 1, 423 | 1, 418 | 1, 413 | 1, 408 | 1, 4 |

 Table 2–1.
 Horizontal Distance (Meters), 1,500 Meters (Ballistic Zone 4) (Computer Zone 4)

4

| Table 2-1. | Horizontal Distance (Meters), 1,500 | Meters (Ballistic Zone 4) (Comput | er Zone 4)—Continued |
|------------|-------------------------------------|-----------------------------------|----------------------|

| Degrees | | | El | evation an | gle, tenths | of a degree | e | | | |
|---------|--------|--------|--------|------------|-------------|-------------|--------|--------|--------|------|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 1, 398 | 1, 393 | 1, 389 | 1, 384 | 1, 379 | 1, 374 | 1, 369 | 1, 364 | 1, 360 | 1, 3 |
| 48 | 1, 350 | 1, 345 | 1, 341 | 1, 336 | 1, 331 | 1, 327 | 1, 322 | 1, 317 | 1,313 | 1, 3 |
| 49 | 1, 304 | 1, 299 | 1, 294 | 1, 290 | 1, 285 | 1, 281 | 1, 276 | 1, 272 | 1, 267 | 1, 2 |
| 50 | 1, 258 | 1, 254 | 1, 249 | 1, 245 | 1, 241 | 1, 236 | 1, 232 | 1, 227 | 1, 223 | 1, 2 |
| 51 | 1, 214 | 1, 210 | 1,206 | 1, 201 | 1, 197 | 1, 193 | 1,189 | 1,184 | 1, 180 | 1, 1 |
| 52 | 1, 172 | 1, 167 | 1, 163 | 1, 159 | 1,155 | 1, 151 | 1, 146 | 1,142 | 1, 138 | 1, 1 |
| 53 | 1,130 | 1, 126 | 1, 122 | 1, 118 | 1, 114 | 1, 110 | 1,106 | 1, 102 | 1, 098 | 1, 0 |
| 54 | 1, 089 | 1, 085 | 1,082 | 1,078 | 1, 074 | 1, 070 | 1,066 | 1, 062 | 1, 058 | 1, 0 |
| 55 | 1, 050 | 1, 046 | 1,042 | 1, 038 | 1, 034 | 1, 031 | 1, 027 | 1, 023 | 1, 019 | 1, 0 |
| 56 | 1, 011 | 1,008 | 1, 004 | 1,000 | 996 | 993 | 989 | 985 | 981 | 9 |
| 57 | 974 | 970 | 966 | 963 | 959 | 955 | 952 | 948 | 944 | 9 |
| 58 | 937 | 933 | 930 | 926 | 923 | 919 | 915 | 912 | 908 | 9 |
| 59 | 901 | 897 | 894 | 890 | 887 | 883 | 880 | 876 | 873 | 8 |
| 60 | 866 | 862 | 859 | 855 | 852 | 848 | 845 | 842 | 838 | 8 |
| 61 | 831 | 828 | 824 | 821 | 818 | 814 | 811 | 807 | 804 | 8 |
| 62 | 797 | 794 | 791 | 787 | 784 | 781 | 777 | 774 | 771 | 7 |
| 63 | 764 | 761 | 758 | 754 | 751 | 748 | 744 | 741 | 738 | 7 |
| 64 | 731 | 728 | 725 | 722 | 718 | 715 | 712 | 709 | 706 | 7 |
| 65 | 699 | 696 | 693 | 690 | _687 | 683 | 680 | 677 | 674 | 6 |
| 66 | 668 | 665 | 661 | 658 | 655 | 652 | 649 | 646 | 643 | 6 |
| 67 | 637 | 633 | 630 | 627 | 624 | 621 | 618 | 615 | 612 | 6 |
| 68 | 606 | 603 | 600 | 597 | 594 | 591 | 588 | 585 | 582 | 5 |
| 69 | 576 | 573 | 570 | 567 | 564 | 561 | 558 | 555 | 552 | 5 |
| 70 | - 546 | 543 | 540 | 537 | 534 | 531 | 528 | 525 | 522 | 5 |
| 71 | 516 | 513 | 511 | 508 | 505 | 502 | 499 | 496 | 493 | 4 |
| 72 | 487 | 484 | 481 | 479 | 476 | 473 | 470 | 467 | 464 | 4 |
| 73 | 458 | 456 | 453 | 450 | 447 | 444 | 441 | 439 | 436 | 4 |
| 74 | 430 | 427 | 424 | 422 | 419 | 416 | 413 | 410 | 407 | 4 |
| 75 | 402 | 399 | 396 | 393 | 391 | 388 | 385 | 382 | 379 | 3 |
| 76 | 374 | 371 | 368 | 366 | 363 | 360 | 357 | 354 | 352 | 3 |
| 77 | 346 | 343 | 341 | 338 | 335 | 332 | 330 | 327 | 324 | 3 |
| 78 | 319 | 316 | 313 | 311 | 308 | 305 | 302 | 300 | 297 | 2 |
| 79 | 292 | 289 | 286 | 283 | 281 | 278 | 275 | 273 | 270 | 2 |
| 80 | 264 | 262 | 259 | 256 | 254 | 251 | 248 | 246 | 243 | 2 |
| 81 | 238 | 235 | 232 | 229 | 227 | 224 | 221 | 219 | 216 | 2 |
| 82 | 211 | 208 | 205 | 203 | 200 | 197 | 195 | 192 | 189 | 1 |
| 83 | 184 | 181 | 179 | 176 | 174 | 171 | 168 | 166 | 163 | 1 |
| 84 | 158 | 155 | 152 | 150 | 147 | 144 | 142 | 139 | 136 | 1 |
| 85 | 131 | 129 | 126 | 123 | 121 | 118 | 115 | 113 | 110 | 1 |
| 86 | 105 | 102 | 100 | 97 | 94 | 92 | 89 | 86 | 84 | |
| 87 | 79 | 76 | 73 | 71 | 68 | 65 | 63 | 60 | 58 | |
| 88 | 52 | 50 | 47 | 45 | 42 | 39 | 37 | 34 | 31 | |
| 89 | 26 | 24 | 21 | 18 | 16 | 13 | 10 | 8 | 5 | |

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2 - 10

| Degrees | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|---------|---------|---------|---------|-------------|-------------|----------------|-----------------|----------------|---------|-----------------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 36, 188 | 35, 128 | 34, 126 | 33, 176 | 32, 276 | 31, 422 | 30, 610 | 29, 837 | 29, 101 | 28 , 399 |
| 4 | 27, 729 | 27, 089 | 26, 477 | 25, 891 | 25, 329 | 24, 791 | 24, 275 | 23, 779 | 23, 302 | 22, 844 |
| 5 | 22, 402 | 21, 978 | 21, 568 | 21, 173 | 20, 792 | 20, 424 | 20, 069 | 19, 725 | 19, 393 | 19, 071 |
| 6 | 18, 760 | 18, 458 | 18, 166 | 17, 883 | 17, 608 | 17, 341 | 17, 082 | 16, 831 | 16, 586 | 16, 348 |
| 7 | 16, 117 | 15, 893 | 15, 674 | 15, 461 | 15, 254 | 15, 052 | 14, 855 | 14, 663 | 14, 476 | 14, 293 |
| 8 | 14, 115 | 13, 941 | 13, 771 | 13, 606 | 13, 444 | 13, 285 | 13, 131 | 12, 980 | 12, 832 | 12, 687 |
| 9 | 12, 546 | 12, 407 | 12, 271 | 12, 139 | 12, 009 | 11, 882 | 11, 757 | 11, 635 | 11, 515 | 11, 397 |
| 10 | 11, 282 | 11, 169 | 11, 059 | 10, 950 | 10, 843 | 10, 739 | 10, 636 | 10, 535 | 10, 436 | 10, 339 |
| 11 | 10, 243 | 10, 150 | 10, 057 | 9, 967 | 9, 878 | 9, 790 | 9, 704 | 9, 620 | 9, 535 | 9, 454 |
| 12 | 9, 374 | 9, 295 | 9, 217 | 9, 140 | 9, 064 | 8, 990 | 8, 917 | 8, 845 | 8, 774 | 8, 704 |
| 13 | 8, 635 | 8, 567 | 8, 500 | 8, 434 | 8, 369 | 8, 305 | 8, 242 | 8, 180 | 8, 119 | 8, 058 |
| 14 | 7, 999 | 7, 940 | 7, 882 | 7, 825 | 7, 769 | 7, 713 | 7, 658 | 7,604 | 7, 550 | 7, 498 |
| 15 | 7, 446 | 7, 394 | 7, 343 | 7, 293 | 7, 244 | 7, 195 | 7, 147 | 7, 099 | 7, 052 | 7, 005 |
| 16 | 6, 959 | 6, 914 | 6, 869 | 6, 825 | 6, 781 | 6, 738 | 6, 695 | 6, 653 | 6, 611 | 6, 570 |
| 17 | 6, 529 | 6, 488 | 6, 448 | 6, 409 | 6, 370 | 8, 331 | 6, 293 | 6, 255 | 6, 218 | 6, 181 |
| 18 | 6, 144 | 6, 108 | 6, 072 | 6, 037 | 6, 002 | 5, 967 | 5, 933 | 5, 899 | 5, 865 | 5, 832 |
| 19 | 5, 799 | 5, 766 | 5, 734 | 5, 702 | 5, 670 | 5, 639 | 5, 608 | 5, 577 | 5, 547 | 5, 517 |
| 20 | 5, 487 | 5, 457 | 5, 428 | 5, 399 | 5, 370 | 5, 342 | 5, 313 | 5, 285 | 5, 258 | 5, 230 |
| 21 | 5, 203 | 5, 176 | 5, 149 | 5, 123 | 5, 097 | 5, 071 | 5, 045 | 5, 019 | 4, 994 | 4, 969 |
| 22 | 4, 944 | 4, 919 | 4, 895 | 4, 870 | 4, 846 | 4, 823 | 4, 799 | 4, 775 | 4, 752 | 4, 729 |
| 23 | 4, 706 | 4, 683 | 4, 661 | 4, 639 | 4, 616 | 4, 594 | 4, 573 | 4, 551 | 4, 530 | 4, 508 |
| 24 | 4, 487 | 4, 466 | 4, 445 | 4, 425 | 4, 404 | 4, 384 | 4, 364 | 4, 344 | 4, 324 | 4, 304 |
| 25 | 4, 285 | 4, 265 | 4, 246 | 4, 227 | 4, 208 | 4, 189 | 4, 170 | 4, 152 | 4, 133 | 4, 115 |
| -26 | 4, 097 | 4, 079 | 4, 061 | 4,043 | 4, 025 | 4, 008 | 3, 990 | 3, 973 | 3, 956 | 3, 939 |
| 27 | 3, 922 | 3, 905 | 3, 888 | 3, 871 | 3, 855 | 3, 839- | ™ 3, 822 | 3, 806 | 3, 790 | 3, 774 |
| 28 | 3, 758 | 3, 742 | 3, 727 | 3, 711 | 3, 696 | 3, 680 | 3, 665 | 3, 650 | 3, 635 | 3, 620 |
| 29 | 3, 605 | 3, 590 | 3, 576 | 3, 561 | 3, 547 | 3, 532 | 3, 518 | 3, 504 | 3, 489 | 3, 475 |
| 30 | 3, 461 | 3, 447 | 3, 434 | 3, 420 | 3, 406 | 3, 393 | 3, 379 | 3, 366 | 3, 352 | 3, 339 |
| 31 | 3, 326 | 3, 313 | 3, 300 | 3, 287 | 3, 274 | 3, 261 | 3, 249 | 3, 236 | 3, 223 | 3, 21 |
| 32 | 3, 198 | 3, 186 | 3, 174 | 3, 161 | 3, 149 | 3, 137 | 3, 125 | 3, 113 | 3, 101 | 3, 08 |
| 33 | 3, 078 | 3, 066 | 3, 054 | 3, 043 | 3, 031 | 3, 020 | 3, 008 | 2, 997 | 2, 986 | 2, 974 |
| 34 | 2, 963 | 2, 952 | 2, 941 | 2, 930 | 2, 919 | 2, 908 | 2, 897 | 2, 887 | 2, 876 | 2, 86 |
| 35 | 2,854 | 2, 844 | 2, 833 | 2, 823 | 2, 813 | 2, 802 | 2, 792 | 2, 782 | 2, 771 | 2, 76 |
| 36 | 2, 751 | 2, 741 | 2, 731 | 2, 721 | 2, 711 | 2, 701 | 2, 691 | 2, 682 | 2, 672 | 2, 66 |
| 37 | 2, 653 | 2, 643 | 2, 633 | 2, 624 | 2, 614 | 2, 605 | 2, 596 | 2, 586 | 2, 577 | 2, 56 |
| 38 | 2, 558 | 2, 549 | 2, 540 | 2, 531 | 2, 522 | 2 , 513 | 2, 504 | 2, 495 | 2, 486 | 2, 47 |
| 89 | 2, 468 | 2, 460 | 2, 451 | 2, 442 | 2, 434 | 2, 425 | 2, 416 | 2, 408 | 2, 399 | 2, 39 |
| 40 | 2, 382 | 2, 374 | 2, 365 | 2, 357 | 2, 349 | 2, 340 | 2, 332 | 2, 324 | 2, 316 | 2, 30 |
| 41 | 2, 300 | 2, 291 | 2, 283 | 2, 275 | 2, 267 | 2, 259 | 2, 251 | 2, 244 | 2, 236 | 2, 22 |
| 42 | 2, 220 | 2, 212 | 2, 205 | 2, 197 | 2, 189 | 2, 182 | 2, 174 | 2 , 166 | 2, 159 | 2, 15 |
| 43 | 2, 144 | 2, 136 | 2, 129 | 2, 121 | 2, 114 | 2, 107 | 2, 099 | 2, 092 | 2, 085 | 2, 07 |
| 44 | 2, 070 | 2, 063 | 2, 056 | 2, 048 | 2, 041 | 2, 034 | 2, 027 | 2, 020 | 2, 013 | 2, 00 |
| 45 | 1, 999 | 1, 992 | 1, 985 | 1, 978 | 1, 971 | 1, 964 | 1, 958 | 1, 951 | 1, 944 | 1, 937 |
| 46 | 1, 930 | 1, 924 | 1, 917 | 1, 910 | 1, 904 | 1, 897 | 1, 890 | 1, 884 | 1, 877 | 1, 87 |

 Table 2-1.
 Horizontal Distance (Meters), 2,000 Meters (Ballistic Zone 5) (Computer Zone 5) (Fallout Zone 1)

¥.

| Degrees - | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|-----------|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 1, 864 | 1, 858 | 1, 851 | 1, 845 | 1, 838 | 1, 832 | 1, 825 | 1, 819 | 1, 813 | 1, 80 | | | |
| 48 | 1, 800 | 1, 794 | 1, 787 | 1, 781 | 1, 775 | 1, 769 | 1, 762 | 1, 756 | 1, 750 | 1, 744 | | | |
| 49 | 1, 738 | 1, 732 | 1, 726 | 1, 720 | 1, 713 | 1, 707 | 1, 701 | 1, 695 | 1, 689 | 1, 683 | | | |
| 50 | 1, 677 | 1, 672 | 1, 666 | 1, 660 | 1, 654 | 1, 648 | 1, 642 | 1, 636 | 1, 630 | 1, 62 | | | |
| 51 | 1, 619 | 1, 613 | 1, 607 | 1, 602 | 1, 596 | 1, 590 | 1, 585 | 1, 579 | 1, 573 | 1, 56 | | | |
| 52 | 1, 562 | 1, 556 | 1, 551 | 1, 545 | 1, 540 | 1, 534 | 1, 528 | 1, 523 | 1, 517 | 1, 51 | | | |
| 53 | 1, 507 | 1, 501 | 1, 496 | 1, 490 | 1, 485 | 1, 479 | 1, 474 | 1, 469 | 1, 463 | 1, 45 | | | |
| 54 | 1, 453 | 1, 447 | 1, 442 | 1, 437 | 1, 431 | 1, 426 | 1, 421 | 1, 416 | 1, 410 | 1, 40 | | | |
| 55 | 1, 400 | 1, 395 | 1, 389 | 1, 384 | 1, 379 | 1, 374 | 1, 369 | 1, 364 | 1, 359 | 1, 354 | | | |
| 56 | 1, 348 | 1, 343 | 1, 338 | 1, 333 | 1, 328 | 1, 323 | 1, 318 | 1, 313 | 1, 308 | 1, 303 | | | |
| 57 | 1, 298 | 1, 293 | 1, 288 | 1, 283 | 1, 279 | 1, 274 | 1, 269 | 1, 264 | 1, 259 | 1, 254 | | | |
| 58 | 1, 249 | 1, 244 | 1, 240 | 1, 235 | 1, 230 | 1, 225 | 1, 220 | 1, 216 | 1, 211 | 1, 206 | | | |
| 59 | 1, 201 | 1, 197 | 1, 192 | 1, 187 | 1, 182 | 1, 178 | 1, 173 | 1, 168 | 1, 164 | 1, 159 | | | |
| 60 | 1, 154 | 1, 150 | 1, 145 | 1, 140 | 1, 136 | 1, 131 | 1, 127 | 1, 122 | 1, 117 | 1, 113 | | | |
| 61 | 1, 108 | 1, 104 | 1, 099 | 1, 095 | 1, 090 | 1, 086 | 1, 081 | 1, 077 | 1, 072 | 1, 068 | | | |
| 62 | 1, 063 | 1, 059 | 1, 054 | 1, 050 | 1, 045 | 1, 041 | 1, 036 | 1, 032 | 1, 027 | 1, 023 | | | |
| 63 | 1, 019 | 1, 014 | 1, 010 | 1, 006 | 1,001 | 997 | 992 | 988 | 984 | 979 | | | |
| 64 | 975 | 971 | 966 | 962 | 958 | 954 | 949 | 945 | 941 | 937 | | | |
| 65 | 932 | 928 | 924 | 920 | 915 | 911 | 907 | 903 | 899 | 894 | | | |
| 66 | 890 | 886 | 882 | 878 | 873 | 869 | 865 | 861 | 857 | 853 | | | |
| 67 | 849 | 845 | 840 | 836 | 832 | 828 | 824 | 820 | 816 | 812 | | | |
| 68 | 808 | 804 | 800 | 796 | 792 | 788 | 784 (| 780 | 775 | 771 | | | |
| 69 | 767 | 763 | 759 | 755 | 751 | 748 | 744 | 740 | 736 | 732 | | | |
| 70 | - 728 | 724 | 720 | 716 | 712 | 708 | 704 | 700 | 696 | 692 | | | |
| 71 | 688 | 685 | 681 | 677 | 673 | 669 | 665 | 661 | 657 | 653 | | | |
| 72 | 650 | 646 | 642 | 638 | 634 | 630 | 627 | 623 | 619 | 615 | | | |
| 73 | 611 | 607 | 604 | 600 | 596 | 592 | 588 | 585 | 581 | 577 | | | |
| 74 | 573 | 570 | 566 | 562 | 558 | 554 | 551 | 547 | 543 | 539 | | | |
| 75 | 536 | 532 | 528 | 525 | 521 | 517 | 513 | 510 | 506 | 502 | | | |
| 76 | 498 | 495 | 491 | 487 | 484 | 480 | 476 | 473 | 469 | 465 | | | |
| 77 | 462 | 458 | 454 | 451 | 447 | 443 | 440 | 436 | 432 | 429 | | | |
| 78 | 425 | 421 | 418 | 414 | 410 | 407 | 403 | 400 | 396 | 392 | | | |
| 79 | 389 | 385 | 381 | 378 | 374 | 371 | 367 | 363 | 360 | 356 | | | |
| 80 | 353 | 349 | 345 | 342 | 338 | 335 | 331, | 327 | 324 | 320 | | | |
| 81 | 317 | 313 | 310 | 306 | 302 | 299 | 295 | 292 | 288 | 285 | | | |
| 82 | 281 | 277 | 274 | 270 | 267 | 263 | 260 | 256 | 253 | 249 | | | |
| 83 | 245 | 242 | 238 | 235 | 231 | 228 | 224 | 221 | 217 | 214 | | | |
| 84 | 210 | 207 | 203 | 200 | 196 | 193 | 189 | 185 | 182 | 178 | | | |
| 85 | 175 | 171 | 168 | 164 | 161 | 157 | 154 | 150 | 147 | 143 | | | |
| 86 | 140 | 136 | 133 | 129 | 126 | 122 | 119 | 115 | 112 | 108 | | | |
| 87 | 105 | 101 | 98 | 94 | 91 | 87 | 84 | 80 | 77 | 73 | | | |
| 88 | 70 | 66 | 63 | 59 | 56 | 52 | 49 | 45 | 42 | 38 | | | |
| 89 | 35 | 31 | 28 | 24 | 21 | 17 | 14 | 10 | 7 | 3 | | | |

Table 2–1. Horizontal Distance (Meters), 2,000 Meters (Ballistic Zone 5) (Computer Zone 5) (Fallout Zone 1)— Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-12

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|-------------------------------------|---------------------------------------|---------|------------------------|-------------------------|------------------|------------------|------------------|------------------|------------------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 3 | 44, 692 | 43, 411 | 42, 197 | 41, 046 | 3 9, 9 53 | 38, 914 | 37, 926 | 36, 984 | 36, 085 | 35, 228 | | | |
| 4 | 34, 408 | 33, 625 | 32, 875 | 32, 156 | 31, 467 | 30, 806 | 30, 171 | 29, 562 | 28, 975 | 28, 411 | | | |
| 5 | 27, 867 | 27, 343 | 26, 838 | 26, 351 | 25, 880 | 25, 426 | 24, 987 | 24, 562 | 24, 151 | 23, 754 | | | |
| 6 | 23, 369 | 22, 995 | 22,634 | 22, 283 | 21, 942 | 21, 612 | 21, 291 | 20, 979 | 20, 676 | 20, 381 | | | |
| 7 | 20, 095 | 19, 816 | 19, 544 | 19, 280 | 19, 023 | 18, 772 | 18, 527 | 18, 289 | 18,056 | 17, 830 | | | |
| 8 | 17, 608 | 17, 392 | 17, 181 | 16, 975 | 16, 774 | 16, 577 | 16, 385 | 16, 197 | 16,013 | 15, 833 | | | |
| 9 | 15, 657 | 15, 484 | 15, 316 | 15, 151 | 14, 989 | 14, 830 | 14, 675 | 14, 523 | 14, 374 | 14, 228 | | | |
| 10 | 14, 084 | 13, 944 | 13, 806 | 13, 670 | 13, 538 | 13, 407 | 13, 279 | 13, 154 | 13, 030 | 12, 909 | | | |
| 11 | 12, 790 | 12,673 | 12, 558 | 12, 446 | 12, 335 | 12, 225 | 12, 118 | 12,013 | 11, 909 | 11, 807 | | | |
| 12 | 11, 706 | 11, 608 | 11, 510 | 11, 415 | 11, 320 | 11, 228 | 11, 136 | 11, 047 | 10, 958 | 10, 871 | | | |
| 13 | 10, 785 | 10, 700 | 10, 617 | 10, 535 | 10, 454 | 10, 374 | 10, 295 | 10, 218 | 10, 141 | 10, 066 | | | |
| 14 | 9, 992 | 9, 918 | 9, 846 | 9,775 | 9, 704 | 9,635 | 9, 566 | 9, 499 | 9, 432 | 9, 366 | | | |
| 15 | 9, 301 | 9, 237 | 9, 174 | 9, 111 | 9,049 | 9, 988 | 8, 928 | 8, 869 | 8, 810 | 8, 752 | | | |
| 16 | 8, 694 | 8, 638 | 8, 582 | 8, 526 | 8, 472 | 8, 418 | 8, 364 | 8, 312 | 8, 259 | 8, 208 | | | |
| 17 | 8, 157 | 8, 106 | 8,057 | 8,007 | 7, 959 | 7, 910 | 7, 863 | 7, 815 | 7, 769 | 7, 723 | | | |
| 18 | 7, 677 | 7, 632 | 7, 587 | 7, 543 | 7, 499 | 7,456 | 7, 413 | 7, 370 | 7, 328 | 7, 287 | | | |
| 19 | 7, 246 | 7, 205 | 7, 165 | 7, 125 | 7,085 | 7,046 | 7,007 | 6, 969 | 6, 931 | 6, 893 | | | |
| 20 | 6, 856 | 6, 819 | 6, 782 | 6, 746 | 6, 710 | 6, 675 | 6, 639 | 6, 604 | 6, 570 | 6, 536 | | | |
| 21 | 6, 502 | 6, 468 | 6, 434 | 6, 401 | 6, 369 | 6, 336 | 6, 304 | 6, 272 | 6, 240 | 6, 209 | | | |
| 22 | 6, 178 | 6, 147 | 6, 116 | 6,086 | 6, 056 | 6,026 | 5, 997 | 5, 967 | 5, 938 | 5, 910 | | | |
| 23 | 5, 881 | 5, 853 | 5, 824 | 5, 797 | 5, 769 | 5, 741 | 5, 714 | 5, 687 | 5, 660 | 5, 634 | | | |
| 24 | 5, 607 | 5, 581 | 5, 555 | 5, 529 | 5, 504 | 5, 478 | 5, 453 | 5, 428 | 5, 403 | 5, 379 | | | |
| 25 | 5, 354 | 5, 330 | 5, 306 | 5, 282 | 5, 258 | 5, 235 | 5, 211 | 5, 188 | 5, 165 | 5, 142 | | | |
| 26 | 5, 120 | 5, 097 | 5,075 | 5,052 | 5, 030 | 5,008 | 4, 987 | 4, 965 | 4, 943 | 4, 922 | | | |
| 27 | 4, 901 | 4, 880 | 4, 859 | 4, 838 | 4, 818 | 4, 797 | 4, 777 | 4, 757 | 4, 736 | 4, 322 4, 717 | | | |
| 28 | 4, 697 | 4, 677 | 4,657 | 4, 638 | 4, 619 | 4,600 | 4, 581 | 4, 562 | 4, 543 | 4, 524 | | | |
| 29 | 4, 505 | 4, 487 | 4, 469 | 4, 450 | 4, 432 | 4, 414 | 4, 396 | 4, 379 | 4, 361 | 4, 343 | | | |
| 30 | 4, 326 | 4, 309 | 4, 291 | 4, 274 | 4, 257 | 4, 240 | 4, 223 | 4, 206 | 4, 190 | 4, 173 | | | |
| 31 | 4, 157 | 4, 140 | 4, 124 | 4, 108 | 4, 092 | 4,076 | 4, 060 | 4, 200 | 4, 028 | 4, 173 | | | |
| 32 | 3, 997 | 8, 982 | 3, 966 | 3, 951 | 3, 936 | 3, 921 | 3, 906 | 3, 891 | 3, 876 | • | | | |
| 33 | 3, 846 | 3, 832 | 3, 817 | 3 , 8 03 | 3, 330 | 3, 321 | 3, 300 | 3, 745 | 3, 870 | 3, 861 3, 717 | | | |
| 34 | 3, 703 | 3, 689 | 3, 676 | 3, 662 | 3, 648 | 3, 635 | 3, 700 | 3, 743 | | | | | |
| 35 | 3, 568 | 3, 554 | 3, 541 | 3, 528 | 3, 515 | 3, 502 | 3, 489 | 3, 008 | 3, 594 3, 464 | 3, 581 3, 451 | | | |
| 36 | 3, 438 | 3, 334 | 3, 341 | | 3, 313 | 3, 302 | | | · | | | | |
| 37 | 3, 315 | 3, 303 | 3, 291 | 3, 401 3, 279 | 3, 388 | 3, 376 | 3, 364 3, 244 | 3, 352 3, 232 | 3, 339 3, 221 | 3, 327 3, 209 | | | |
| 38 | | · · · · · · · · · · · · · · · · · · · | | | · · | | | | | • | | | |
| 39 | 3, 198 3, 085 | 3, 186 | 3, 175 | 3, 163 | 3, 152 | 3, 141 | 3, 130 | 3, 118 | 3, 107 | 3,096 | | | |
| 40 | | 3,074 | 3,063 | 3,052 | 3,041 | 3, 031 2, 925 | 3,020 | 3,009 | 2, 999 | 2, 988 | | | |
| 40 | 2,977 | 2,967 | 2,956 | 2,946 | 2, 936 | · · · | 2,915 | 2,905 | 2,894 | 2,884 | | | |
| 41 | 2,874 | 2,864 | 2,854 | 2,844 | 2,834 | 2,824 | 2,814 | 2,804 | 2,794 | 2, 785 | | | |
| | 2,775 | 2,765 | 2,755 | 2,746 | 2,736 | 2,727 | 2,717 | 2,708 | 2,698 | 2,689 | | | |
| 43 | 2,679 | 2,670 | 2,661 | 2,651 | 2,642 | 2,633 | 2,624 | 2,615 | 2,605 | 2, 596 | | | |
| 44 | 2, 587 | 2, 578 | 2, 569 | 2, 560 | 2, 551 | 2, 543 | 2, 534 | 2, 525 | 2, 516 | 2, 507 | | | |
| 45 | 2, 499 | 2, 490 | 2, 481 | 2, 473 | 2, 464 | 2, 455 | 2, 447 | 2, 438 | 2, 430 | 2, 421 | | | |
| 46 | 2,413 | 2,404 | 2, 396 | 2, 388 | 2, 379 | 2, 371 | 2, 363 | 2, 355 | 2, 346 | 2, 33 8 | | | |

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|-------------------------------------|--------|------------|------------|------------|------------|----------|------------|---------|--------|--|--|--|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 2, 330 | 2, 322 | 2, 314 | 2, 306 | 2, 298 | 2, 290 | 2, 282 | 2, 274 | 2, 266 | 2, 25 | | | |
| 48 | 2, 250 | 2, 242 | 2, 234 | 2, 226 | 2, 218 | 2, 211 | 2, 203 | 2, 195 | 2, 187 | 2, 18 | | | |
| 49. | 2, 172 | 2, 164 | 2, 157 | 2, 149 | 2, 142 | 2, 134 | 2, 127 | 2, 119 | 2, 112 | 2, 10 | | | |
| 50 | 2, 097 | 2, 089 | 2, 082 | 2,074 | 2,067 | 2, 060 | 2, 052 | 2,045 | 2,038 | 2, 0; | | | |
| 51 | 2,023 | 2,016 | 2,009 | 2,002 | 1, 995 | 1, 988 | 1, 980 | 1, 973 | 1, 966 | 1, 9 | | | |
| 52 | 1, 952 | 1, 945 | 1, 938 | 1, 931 | 1, 924 | 1, 917 | 1, 910 . | 1, 904 | 1, 897 | 1, 8 | | | |
| 53 | 1, 883 | 1, 876 | 1, 869 | 1, 863 | 1, 856 | 1, 849 | 1, 842 | 1, 836 | 1, 829 | 1, 8 | | | |
| 54 | i, 815 | 1, 809 | 1,802 | 1, 796 | 1, 789 | 1, 782 | 1, 776 | 1, 769 | 1, 763 | 1, 7, | | | |
| 55 | 1, 750 | 1, 743 | 1, 737 | 1, 730 | 1, 724 | 1, 717 | 1, 711 | 1, 705 | 1, 698 | 1, 6 | | | |
| 56 | 1, 685 | 1,679 | 1,673 | 1, 666 | 1,660 | 1,654 | 1,648 | 1,641 | 1,635 | 1, 6 | | | |
| 57 | 1, 623 | 1, 617 | 1, 610 | 1,604 | 1, 598 | 1, 592 | 1, 586 | 1, 580 | 1, 574 | 1, 5 | | | |
| 58 | 1, 561 | 1, 555 | 1, 549 | 1, 543 | 1, 537 | 1, 531 | 1, 525 | 1, 519 | 1, 513 | 1, 5 | | | |
| 59 | 1, 501 | 1, 496 | 1, 490 | 1, 484 | 1, 478 | 1, 472 | 1, 466 | 1, 460 | 1, 454 | 1, 4- | | | |
| 60 | 1, 443 | 1, 437 | 1, 431 | 1, 425 | 1, 420 | 1, 414 | 1, 408 | 1,402 | 1, 397 | 1, 3 | | | |
| 61 | 1, 385 | 1, 379 | 1, 374 | 1, 368 | 1, 362 | 1, 357 | 1, 351 | 1, 346 | 1, 340 | 1, 3 | | | |
| 62 | 1, 329 | 1, 323 | 1, 318 | 1, 312 | 1, 306 | 1, 301 | 1. 295 | 1, 290 | 1, 284 | 1, 2 | | | |
| 63 | 1, 273 | 1, 268 | 1, 262 | 1, 257 | 1, 251 | 1, 246 | 1, 240 | 1, 235 | 1, 230 | 1, 2 | | | |
| 64 | 1, 219 | 1, 213 | 1, 208 | 1, 203 | 1, 197 | 1, 192 | 1, 187 | 1, 181 | 1, 176 | 1, 1 | | | |
| 65 | 1, 165 | 1, 160 | 1, 155 | 1, 149 | 1, 144 | 1, 139 | 1, 134 | 1, 128 | 1, 123 | 1, 1 | | | |
| 66 | 1, 113 | 1, 107 | 1, 102 | 1, 097 | 1, 092 | 1, 087 | 1, 081 | 1,076 | 1,071 | 1, 0 | | | |
| 67 | 1, 061 | 1, 105 | 1, 050 | 1,045 | 1,040 | 1,035 | 1,030 | 1,025 | 1,020 | 1, 0 | | | |
| 68 | 1,010 | 1,005 | 1,000 | 994 | 989 | 984 | 979 | 974 | 969 | 9 | | | |
| 69 | 959 | 954 | 949 | 944 | 939 | 934 | 929 | 924 | 919 | 9 | | | |
| 70 | - 910 | 905 | 900 | 895 | 890 | 885 | 880 | 875 | 870 | 8 | | | |
| 71 | 860 | 856 | 851 | 846 | 841 | 836 | 831 | 826 | 822 | 8 | | | |
| 72 | 812 | 807 | 802 | 798 | 793 | 788 | 783 | 778 | 774 | 7 | | | |
| 73 | 764 | 759 | 754 | 750 | 745 | 740 | 735 | 731 | 726 | 7 | | | |
| 74 | 717 | 712 | 707 | 702 | 698 | 693 | 688 | 684 | 679 | 6 | | | |
| 75 | 670 | 665 | 660 | 656 | 651 | 646 | 642 | 637 | 632 | 6 | | | |
| 76 | 623 | 618 | 614 | 609 | 605 | 600 | 595 | 591 | 586 | 5 | | | |
| 77 | 577 | 572 | 568 | 563 | 559 | 554 | 549 | 545 | 540 | 5 | | | |
| 78 | 531 | 527 | 508 | | | 508 | 504 | 499 | 495 | 4 | | | |
| 79 | 1 | 481 | | 518 472 | 513 | | 459 | 455 | 450 | 4 | | | |
| 80 | 486 | 481 | 477 432 | 472 | 468 423 | 463 418 | 459 | 409 | 405 | 4 | | | |
| 80 | 441 396 | 430 | 432 387 | 427 382 | 423 | 418 373 | 369 | 409 365 | 360 | 3 | | | |
| | | | | | | | | 305 | 316 | 3 | | | |
| 82 | 351 | 347 | 342 | 338 | 333 | 329 | 325 | | 271 | 3 2 | | | |
| 83 | 307 | 302 | 298 | 294 | 289 | 285 | 280 | 276 | 271 227 | 2 | | | |
| 84 | 263 | 258 | 254 | 249 | 245 | 241 | 236 | 232 | | 2 | | | |
| 85 | 219 | 214 | 210 | 205 | 201 | 197 | 192 | 188 | 184 | | | | |
| 86 | 175 | 170 | 166 | 162 | 157 | 153 | 148 | 144 | 140 | 1 | | | |
| 87 | 131 | 127 | 122 | 118 | 113 | 109 | 105 | 100 | 83 | | | | |
| 88 | 87 | 83 | 79 | 74 | 70 | 65 | 61 | 57 | 52 | | | | |
| 89 | 44 | 39 | 35 | 31 | 26 | 22 | 17 | 13 | 9 | | | | |

Table 2-1. Horizontal Distance (Meters), 2,500 Meters (Computer Zone 6)—Continued

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|-------------------------------------|-----------------|-----------------|-----------------|---------|-----------------|---------|---------|---------|---------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 3 | 53, 007 | 51, 519 | 50, 107 | 48, 766 | 47, 491 | 46, 277 | 45, 120 | 44, 017 | 42, 964 | 41, 957 | | | |
| 4 | 40, 995 | 40, 073 | 39, 191 | 38, 344 | 37, 533 | 36, 753 | 36, 004 | 35, 284 | 34, 590 | 33, 923 | | | |
| 5 | 33, 280 | 32, 660 | 32, 062 | 31, 485 | 30, 927 | 30, 388 | 29, 868 | 29, 364 | 28, 876 | 28, 404 | | | |
| 6 | 27, 946 | 27, 503 | 27,073 | 2 6, 656 | 26, 251 | 25, 857 | 25, 476 | 25, 104 | 24, 744 | 24, 393 | | | |
| 7 | 24, 052 | 2 3, 719 | 2 3, 396 | 2 3, 081 | 22, 774 | 22, 475 | 22, 184 | 21, 900 | 21, 622 | 21, 352 | | | |
| 8 | 21, 088 | 20, 830 | 20, 578 | 20, 332 | 20, 092 | 19, 857 | 19, 627 | 19, 403 | 19, 183 | 18, 968 | | | |
| 9 | 18, 758 | 18, 552 | 18, 351 | 18, 153 | 17, 960 | 17, 771 | 17, 585 | 17, 403 | 17, 225 | 17,050 | | | |
| 10 | 16, 879 | 16, 711 | 16, 546 | 16, 384 | 16, 225 | 16, 070 | 15, 917 | 15, 766 | 15, 619 | 15, 474 | | | |
| 11 | 15, 331 | 15, 192 | 15, 054 | 14, 919 | 14, 786 | 14, 656 | 14, 527 | 14, 401 | 14, 277 | 14, 155 | | | |
| 12 | 14, 034 | 13, 916 | 13, 800 | 13, 685 | 13, 573 | 13, 462 | 13, 352 | 13, 245 | 13, 139 | 13, 034 | | | |
| 13 | 12, 931 | 12, 830 | 12, 730 | 12, 632 | 12, 535 | 12 , 439 | 12, 345 | 12, 252 | 12, 161 | 12, 071 | | | |
| 14 | 11, 981 | 11, 894 | 11, 807 | 11, 722 | 11, 637 | 11, 554 | 11, 472 | 11, 391 | 11, 311 | 11, 232 | | | |
| 15 | 11, 154 | 11, 078 | 11, 002 | 10, 927 | 10, 853 | 10, 780 | 10, 707 | 10, 636 | 10, 566 | 10, 496 | | | |
| 16 | 10, 428 | 10, 360 | 10, 293 | 10, 226 | 10, 161 | 10, 096 | 10, 032 | 9, 969 | 9, 906 | 9, 844 | | | |
| 17 | 9, 783 | 9, 723 | 9, 663 | 9, 604 | 9, 546 | 9, 488 | 9, 431 | 9, 374 | 9, 318 | 9, 263 | | | |
| 18 | 9, 208 | 9, 154 | 9, 100 | 9, 047 | 8, 995 | 8, 943 | 8, 892 | 8, 841 | 8, 790 | 8, 741 | | | |
| 19 | 8, 691 | 8, 642 | 8, 594 | 8, 546 | 8, 499 | 8, 452 | 8,405 | 8, 359 | 8, 314 | 8, 269 | | | |
| 20 | 8, 224 | 8, 180 | 8, 136 | 8, 092 | 8, 049 | 8, 007 | 7, 964 | 7, 922 | 7, 881 | 7, 840 | | | |
| 21 | 7, 799 | 7, 759 | 7, 719 | 7, 679 | 7, 640 | 7, 601 | 7, 562 | 7, 524 | 7, 486 | 7, 448 | | | |
| 22 | 7, 411 | 7, 374 | 7, 337 | 7, 301 | 7, 265 | 7, 229 | 7, 194 | 7, 159 | 7, 124 | 7, 089 | | | |
| 23 | 7, 055 | 7, 021 | 6, 987 | 6, 954 | 6, 921 | 6, 888 | 6, 855 | 6, 823 | 6, 790 | 6, 759 | | | |
| 24 | 6, 727 | 6, 696 | 6, 664 | 6, 633 | 6, 603 | 6, 572 | 6, 542 | 6, 512 | 6, 482 | 6, 453 | | | |
| 25 | 6, 424 | 6, 394 | 6, 366 | 6, 337 | 6, 308 | 6, 280 | 6, 252 | 6, 224 | 6, 197 | 6, 169 | | | |
| - 26 | 6, 142 | 6, 115 | 6, 088 | 6, 061 | 6, 035 | 6, 009 | 5, 982 | 5, 956 | 5, 931 | 5, 905 | | | |
| 27 | 5, 880 | 5, 854 | 5, 829 | 5, 805 | 5, 780 | 5, 755 | 5, 731 | 5, 707 | 5, 683 | 5, 659 | | | |
| 28 | 5, 635 | 5, 611 | 5, 588 | 5, 564 | 5, 541 | 5, 518 | 5, 495 | 5, 473 | 5, 450 | 5, 428 | | | |
| 29 | 5, 405 | 5, 383 | 5, 361 | 5, 339 | 5, 318 | 5, 296 | 5, 275 | 5, 253 | 5, 232 | 5, 211 | | | |
| 30 | 5, 190 | 5, 169 | 5, 149 | 5, 128 | 5, 107 | 5, 087 | 5, 067 | 5, 047 | 5, 027 | 5, 007 | | | |
| 31 | 4, 987 | 4, 968 | 4, 948 | 4, 929 | 4, 909 | 4, 890 | 4, 871 | 4, 852 | 4, 833 | 4, 815 | | | |
| 32 | 4, 796 | 4, 777 | 4, 759 | 4, 741 | 4, 722 | 4, 704 | 4, 686 | 4, 668 | 4, 650 | 4, 633 | | | |
| 33 | 4, 615 | 4, 597 | 4, 580 | 4, 562 | 4, 545 | 4, 528 | 4, 511 | 4, 494 | 4, 477 | 4, 460 | | | |
| 34 | 4, 443 | 4, 427 | 4, 410 | 4, 394 | 4, 377 | 4, 361 | 4, 345 | 4, 328 | 4, 312 | 4, 296 | | | |
| 35 | 4, 280 | 4, 265 | 4, 249 | 4, 233 | 4, 217 | 4, 202 | 4, 186 | 4, 171 | 4, 156 | 4, 141 | | | |
| 36 | 4, 125 | 4, 110 | 4, 095 | 4, 080 | 4, 065 | 4, 051 | 4, 036 | 4, 021 | 4,007 | 3, 992 | | | |
| 37 | 3, 978 | 3, 963 | 3, 949 | 3, 935 | 3, 920 | 3, 906 | 3, 892 | 3, 878 | 3, 864 | 3, 850 | | | |
| 38 | 3,837 | 3, 823 | 3, 809 | 3, 795 | 3, 782 | 3, 768 | 3, 755 | 3, 741 | 3, 728 | 3, 715 | | | |
| .39 | 3, 702 | 3, 688 | 3, 675 | 3, 662 | 3, 649 | 3, 636 | 3, 623 | 3, 611 | 3, 598 | 3, 585 | | | |
| 40 | 3, 572 | 3, 560 | 3, 547 | 3, 535 | 3, 522 | 3, 510 | 3, 497 | 3, 485 | 3, 473 | 3, 461 | | | |
| 41 | 3, 448 | 3, 436 | 3, 424 | 3, 412 | 3, 400 | 3, 388 | 3, 376 | 3, 365 | 3, 353 | 3, 341 | | | |
| 42 | 3, 329 | 3, 318 | 3, 306 | 3, 294 | 3, 283 | 3, 271 | 3, 260 | 3, 249 | 3, 237 | 3, 226 | | | |
| 43 | 3, 215 | 3, 203 | 3, 192 | 3, 181 | 3, 170 | 3, 159 | 3, 148 | 3, 137 | 3, 126 | 3, 115 | | | |
| 44 | 3, 104 | 3, 094 | 3, 083 | 3, 072 | 3, 061 | 3, 051 | 3, 040 | 3, 029 | 3, 019 | 3, 008 | | | |
| 45 | 2, 998 | 2, 987 | 2, 977 | 2, 967 | 2, 956 | 2, 946 | 2, 936 | 2, 926 | 2, 915 | 2, 905 | | | |
| 46 | 2, 895 | 2, 885 | 2, 875 | 2,865 | 2,855 | 2, 845 | 2,835 | 2, 825 | 2, 815 | 2, 805 | | | |

Table 2–1. Horizontal Distance (Meters), 3,000 Meters (Ballistic Zone 6) (Computer Zone 7)

. . 1

| Table 2-1. | Horizontal Distance | (Meters), 3,000 Meters | (Ballistic Zone 6) (Com | puter Zone 7)—Continued |
|------------|---------------------|------------------------|-------------------------|-------------------------|
|------------|---------------------|------------------------|-------------------------|-------------------------|

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 2, 796 | 2, 786 | 2, 776 | 2, 766 | 2, 757 | 2, 747 | 2, 738 | 2, 728 | 2, 718 | 2, 70 | | | |
| 48 | 2, 699 | 2, 690 | 2, 681 | 2,671 | 2, 662 | 2,652 | 2,643 | 2,634 | 2, 625 | 2, 61 | | | |
| 49 | 2,606 | 2, 597 | 2, 588 | 2, 579 | 2, 570 | 2, 561 | 2, 552 | 2, 543 | 2, 534 | 2, 52 | | | |
| 50 | 2, 516 | 2, 507 | 2, 498 | 2, 489 | 2, 480 | 2, 471 | 2,463 | 2, 454 | 2, 445 | 2, 43 | | | |
| 51 | 2, 428 | 2, 419 | 2, 411 | 2, 402 | 2, 393 | 2, 385 | 2, 376 | 2, 368 | 2, 359 | 2, 35 | | | |
| 52 | 2, 342 | 2, 334 | 2, 326 | 2, 317 | 2, 309 | 2, 301 | 2, 292 | 2, 284 | 2, 276 | 2, 26 | | | |
| 53 | 2, 259 | 2, 251 | 2, 243 | 2, 235 | 2, 227 | 2, 219 | 2, 210 | 2, 202 | 2, 194 | 2, 18 | | | |
| 54 | 2, 178 | 2, 170 | 2, 162 | 2, 154 | 2, 147 | 2, 139 | 2, 131 | 2, 123 | 2, 115 | 2, 10 | | | |
| 55 | 2, 099 | 2, 092 | 2, 084 | 2, 076 | 2, 068 | 2,061 | 2, 053 | 2, 045 | 2, 038 | 2, 03 | | | |
| 56 | 2, 022 | 2,015 | 2,007 | 2,000 | 1, 992 | 1, 985 | 1, 977 | 1, 970 | 1, 962 | 1, 95 | | | |
| 57 | 1, 947 | 1, 940 | 1, 932 | 1, 925 | 1, 917 | 1, 910 | 1, 903 | 1, 895 | 1, 888 | 1, 88 | | | |
| 58 | 1, 874 | 1, 866 | 1, 859 | 1, 852 | 1, 845 | 1,837 | 1, 830 | 1, 823 | 1, 816 | 1, 80 | | | |
| 59 | 1,802 | 1, 794 | 1, 787 | 1, 780 | 1, 773 | 1, 766 | 1, 759 | 1, 752 | 1, 745 | 1, 738 | | | |
| 60 | 1, 731 | 1, 724 | 1, 717 | 1, 710 | 1, 703 | 1, 696 | 1, 689 | 1, 683 | 1,676 | 1, 669 | | | |
| 61 | 1, 662 | 1, 655 | 1, 648 | 1, 642 | 1, 635 | 1, 628 | 1, 621 | 1, 614 | 1, 608 | 1, 60 | | | |
| 62 | 1, 594 | 1, 588 | 1, 581 | 1, 574 | 1, 568 | 1, 561 | 1, 554 | 1, 548 | 1, 541 | 1, 53- | | | |
| 63 | 1, 528 | 1, 521 | 1, 515 | 1, 508 | 1, 501 | 1, 495 | 1, 488 | 1, 482 | 1, 475 | 1, 46 | | | |
| 64 | 1, 462 | 1, 456 | 1, 499 | 1, 443 | 1, 437 | 1,430 | 1,424 | 1, 417 | 1, 411 | 1, 40 | | | |
| 65 | 1, 398 | 1, 392 | 1, 385 | 1, 379 | 1, 373 | 1, 366 | 1, 360 | 1, 354 | 1, 348 | 1, 34 | | | |
| 66 | 1, 335 | 1, 329 | 1, 322 | 1, 316 | 1, 310 | 1, 304 | 1, 298 | 1, 291 | 1, 285 | 1, 27 | | | |
| 67 | 1, 273 | 1, 267 | 1, 260 | 1, 254 | 1, 248 | 1,242 | 1,236 | 1, 230 | 1, 224 | 1, 213 | | | |
| 68 | 1, 211 | 1. 205 | 1, 199 | 1, 193 | 1, 187 | 1, 181 | 1, 175 | 1, 169 | 1, 163 | 1, 15 | | | |
| 69 | 1, 151 | 1, 145 | 1, 139 | 1, 133 | 1, 127 | 1, 121 | 1, 115 | 1, 109 | 1, 103 | 1, 091 | | | |
| 70 | - 1,091 | 1,085 | 1,080 | 1,074 | 1,068 | 1,062 | 1,056 | 1,050 | 1,044 | 1, 03 | | | |
| 71 | 1,032 | 1,027 | 1,021 | 1,015 | 1,009 | 1,003 | 997 | 992 | 986 | 98 | | | |
| 72 | 974 | 968 | 963 | 957 | 951 | 945 | 940 | 934 | 928 | 92 | | | |
| 73 | 917 | 911 | 905 | 900 | 894 | 888 | 883 | 877 | 871 | 86 | | | |
| 74 | 860 | 854 | 848 | 843 | 837 | 832 | 826 | 820 | 815 | 80 | | | |
| 75 | 803 | 798 | 792 | 787 | 781 | 775 | 770 | 764 | 759 | 75 | | | |
| 76 | 748 | 742 | 737 | 731 | 725 | 720 | 714 | 709 | 703 | 69 | | | |
| 77 | 692 | 687 | 681 | 676 | 670 | 665 | 659 | 654 | 648 | 64 | | | |
| 78 | 637 | 632 | 626 | 621 | 616 | 610 | 605 | 599 | 594 | 58 | | | |
| 79 | 583 | 577 | 572 | 567 | 561 | 556 | 550 | 545 | 540 | 53- | | | |
| 80 | 529 | 523 | 518 | 513 | 507 | 502 | 496 | 491 | 486 | 48 | | | |
| 81 | 475 | 470 | 464 | 459 | 453 | 448 | 443 | 437 | 432 | 42 | | | |
| 82 | 421 | 416 | 411 | 405 | 400 | 395 | 389 | 384 | 379 | 37 | | | |
| 83 | 368 | 363 | 358 | 352 | 347 | 342 | 336 | 331 | 326 | 32 | | | |
| 84 | 315 | 310 | 305 | 299 | 294 | 289 | 283 | 278 | 273 | 26 | | | |
| 85 | 262 | 257 | 252 | 247 | 241 | 236 | 231 | 225 | 220 | 21 | | | |
| 86 | 210 | 204 | 199 | 194 | 189 | 183 | 178 | 173 | 168 | 16 | | | |
| 87 | 157 | 152 | 147 | 141 | 136 | 131 | 126 | 120 | 115 | 11 | | | |
| 88 | 105 | 99 | 94 | 89 | 84 | 79 | 73 | 68 | 63 | 5 | | | |
| 89 | 52 | 47 | 42 | 37 | 31 | 26 | 21 | 16 | 10 | | | | |

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | | |
|---------|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|--|--|--|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 3 | 61, 145 | 59, 463 | 57, 865 | 56, 344 | 54, 896 | 53, 516 | 52, 200 | 50, 942 | 49, 741 | 48, 592 | | | | |
| 4 | 47, 492 | 46, 438 | 45, 428 | 44, 459 | 43, 528 | 42, 634 | 41, 774 | 40, 947 | 40, 150 | 39, 383 | | | | |
| 5 | 38, 643 | 37, 929 | 37, 241 | 36, 576 | 35, 933 | 35, 312 | 34, 711 | 34, 130 | 33, 567 | 33, 022 | | | | |
| 6 | 32, 493 | 31, 981 | 31, 484 | 31,002 | 30, 533 | 30, 079 | 29, 637 | 29, 207 | 28, 790 | 28, 384 | | | | |
| 7 | 27, 989 | 27, 604 | 27, 229 | 26, 864 | 26, 509 | 26, 162 | 25, 824 | 25, 495 | 25, 173 | 24, 860 | | | | |
| 8 | 24, 553 | 24, 254 | 23, 962 | 23, 677 | 23, 398 | 23, 125 | 22, 859 | 22, 598 | 22, 343 | 22, 093 | | | | |
| 9 | 21, 849 | 21, 610 | 21, 376 | 21, 147 | 20, 923 | 20, 703 | 20, 487 | 20, 276 | 20,069 | 19, 866 | | | | |
| 10 | 19, 666 | 19, 471 | 19, 279 | 19,091 | 18, 907 | 18, 725 | 18, 547 | 18, 373 | 18, 201 | 18, 033 | | | | |
| 11 | 17, 867 | 17, 704 | 17, 545 | 17, 387 | 17, 233 | 17,081 | 16, 932 | 16, 785 | 16, 640 | 16, 498 | | | | |
| 12 | 16, 358 | 16, 221 | 16, 085 | 15, 952 | 15, 821 | 15, 692 | 15, 564 | 15, 439 | 15, 316 | 15, 194 | | | | |
| 13 | 15,075 | 14, 957 | 14, 840 | 14, 726 | 14, 613 | 14, 502 | 14, 392 | 14, 284 | 14, 177 | 14,072 | | | | |
| 14 | 13, 969 | 13, 866 | 13, 765 | 13, 666 | 13, 568 | 13, 471 | 13, 375 | 13, 281 | 13, 188 | 13, 096 | | | | |
| 15 | 13, 005 | 12, 916 | 12,828 | 12, 740 | 12,654 | 12, 569 | 12, 485 | 12, 402 | 12, 320 | 12, 239 | | | | |
| 16 | 12, 159 | 12, 080 | 12,002 | 11, 924 | 11, 848 | 11, 773 | 11, 698 | 11, 624 | 11, 551 | 11, 479 | | | | |
| 17 | 11, 408 | 11, 338 | 11, 268 | 11, 199 | 11, 131 | 11,064 | 10, 997 | 10, 932 | 10, 866 | 10, 802 | | | | |
| 18 | 10, 738 | 10, 675 | 10, 613 | 10, 551 | 10, 490 | 10, 429 | 10, 369 | 10, 310 | 10, 251 | 10, 193 | | | | |
| 19 | 10, 136 | 10, 079 | 10, 022 | 9, 967 | 9, 911 | 9, 857 | 9, 803 | 9, 749 | 9, 696 | 9, 643 | | | | |
| 20 | 9, 591 | 9, 539 | 9, 488 | 9, 438 | 9, 387 | 9, 338 | 9, 288 | 9, 240 | 9, 191 | 9, 143 | | | | |
| 21 | 9, 096 | 9,049 | 9,002 | 8, 956 | 8, 910 | 8, 865 | 8, 820 | 8, 775 | 8, 731 | 8, 687 | | | | |
| 22 | 8, 644 | 8, 600 | 8, 558 | 8, 515 | 8, 473 | 8, 432 | 8, 390 | 8, 349 | 8, 309 | 8, 268 | | | | |
| 23 | 8, 228 | 8, 189 | 8, 149 | 8, 110 | 8,072 | 8,033 | 7, 995 | 7, 958 | 7, 920 | 7, 883 | | | | |
| 24 | 7, 846 | 7, 809 | 7, 773 | 7, 737 | 7, 701 | 7,666 | 7,630 | 7, 596 | 7, 561 | 7, 526 | | | | |
| 25 | 7, 492 | 7, 458 | 7, 425 | 7, 391 | 7, 358 | 7, 325 | 7, 292 | 7, 260 | 7, 228 | 7, 196 | | | | |
| 26 | 7, 164 | 7, 132 | 7, 101 | 7,070 | 7,039 | 7,008 | 6,978 | 6, 948 | 6, 918 | 6, 888 | | | | |
| 27 | 6, 858 | 6, 829 | 6, 799 | 6, 770 | 6, 742 | 6, 713 | 6, 684 | 6, 656 | 6, 628 | 6, 600 | | | | |
| 28 | 6, 573 | 6, 545 | 6, 518 | 6, 490 | 6, 463 | 6, 437 | 6, 410 | 6, 384 | 6, 357 | 6, 331 | | | | |
| 29 | 6, 305 | 6, 279 | 6, 254 | 6, 228 | 6, 203 | 6, 178 | 6, 152 | 6, 128 | 6, 103 | 6, 078 | | | | |
| 30 | 6, 054 | 6,030 | 6,005 | 5, 981 | 5, 958 | 5, 934 | 5, 910 | 5, 887 | 5, 864 | 5, 840 | | | | |
| 31 | 5, 817 | 5, 794 | 5, 772 | 5, 749 | 5, 727 | 5, 704 | 5, 682 | 5, 660 | 5, 638 | 5, 616 | | | | |
| 32 | 5, 594 | 5, 573 | 5, 551 | 5, 530 | 5, 508 | 5, 487 | 5, 466 | 5, 445 | 5, 424 | 5, 404 | | | | |
| 33 | 5, 383 | 5, 363 | 5, 342 | 5, 322 | 5, 302 | 5, 282 | 5, 262 | 5, 242 | 5, 222 | 5, 203 | | | | |
| 34 | 5, 183 | 5, 164 | 5, 144 | 5, 125 | 5, 106 | 5, 087 | 5,068 | 5,049 | 5,030 | 5,012 | | | | |
| 35 | 4, 993 | 4, 974 | 4, 956 | 4, 938 | 4, 920 | 4, 901 | 4, 883 | 4, 866 | 4, 848 | 4, 830 | | | | |
| 36 | 4, 812 | 4, 795 | 4, 777 | 4, 760 | 4, 742 | 4, 725 | 4, 708 | 4, 691 | 4, 674 | 4, 657 | | | | |
| 37 | 4, 640 | 4, 623 | 4,606 | 4, 590 | 4, 573 | 4, 557 | 4, 540 | 4, 524 | 4, 508 | 4, 491 | | | | |
| 38 | 4, 475 | 4, 459 | 4, 443 | 4, 427 | 4, 412 | 4, 396 | 4, 380 | 4, 364 | 4, 349 | 4, 333 | | | | |
| 39 | 4, 318 | 4, 303 | 4, 287 | 4, 272 | 4, 257 | 4, 242 | 4, 227 | 4, 212 | 4, 197 | 4, 182 | | | | |
| 40 | 4, 167 | 4, 152 | 4, 138 | 4, 123 | 4, 109 | 4,094 | 4, 080 | 4,065 | 4, 051 | 4,037 | | | | |
| 41 | 4,023 | 4,008 | 3, 994 | 3, 980 | 3, 966 | 3, 952 | 3, 939 | 3, 925 | 3, 911 | 3, 897 | | | | |
| 42 | 3, 884 | 3, 870 | 3, 857 | 3, 843 | 3, 830 | 3, 816 | 3, 803 | 3, 790 | 3, 776 | 3, 763 | | | | |
| 43 | 3, 750 | 3, 737 | 3, 724 | 3, 711 | 3, 698 | 3, 685 | 3,672 | 3, 659 | 3, 647 | 3, 634 | | | | |
| 44 | 3, 621 | 3, 609 | 3, 596 | 3, 584 | 3, 571 | 3, 559 | 3, 546 | 3, 534 | 3, 522 | 3, 509 | | | | |
| 45 | 3, 497 | 3, 485 | 3, 473 | 3, 461 | 3, 449 | 3, 333 | 3, 425 | 3, 413 | 3, 401 | 3, 389 | | | | |
| 46 | 3, 377 | 3, 365 | 3, 354 | 3, 342 | 3, 330 | 3, 319 | 3, 307 | 3, 296 | 3, 284 | 3, 273 | | | | |

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2-17

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| | | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|----------|---------------|-------------------------------------|------------|------------|------------|------------|-----------|------------|--------|--------|--|--|--|--|
| egrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 47 | 3, 261 | 3, 250 | 3, 238 | 3, 227 | 3, 216 | 3, 205 | 3, 193 | 3, 182 | 3, 171 | 3, 10 | | | | |
| 48 | 3, 149 | 3, 138 | 3, 127 | 3, 116 | 3, 105 | 3, 094 | 3, 083 | 3,072 | 3,062 | 3, 0, | | | | |
| 49 | 3, 040 | 3, 030 | 3, 019 | 3,008 | 2, 998 | 2, 987 | 2, 977 | 2, 966 | 2,956 | 2, 9 | | | | |
| 50 | 2, 935 | 2, 924 | 2, 914 | 2,904 | 2, 893 | 2, 883 | 2, 873 | 2, 863 | 2,852 | 2, 8 | | | | |
| 51 | 2,832 | 2,822 | 2, 812 | 2,802 | 2, 792 | 2, 782 | 2, 772 | 2, 762 | 2,752 | 2, 7 | | | | |
| 52 | 2, 733 | 2, 723 | 2, 713 | 2, 703 | 2, 693 | 2,684 | 2,674 | 2,664 | 2,655 | 2, 6 | | | | |
| 53 | 2,636 | 2, 626 | 2,616 | 2,607 | 2, 598 | 2, 588 | 2, 579 | 2, 569 | 2, 560 | 2, 5 | | | | |
| 54 | 2, 541 | 2, 532 | 2, 523 | 2, 513 | 2, 504 | 2, 495 | 2, 486 | 2, 476 | 2, 467 | 2, 4 | | | | |
| 55 | 2, 449 | 2, 440 | 2, 431 | 2, 422 | 2, 413 | 2,404 | 2, 395 | 2, 386 | 2, 377 | 2, 3 | | | | |
| 56 | 2, 359 | 2, 350 | 2, 341 | 2, 333 | 2, 324 | 2, 315 | 2, 306 | 2, 298 | 2, 289 | 2, 2 | | | | |
| 57 | 2, 271 | 2, 263 | 2, 254 | 2, 245 | 2, 237 | 2, 228 | 2, 220 | 2, 211 | 2, 203 | 2, 1 | | | | |
| 58 | 2, 186 | 2, 177 | 2, 169 | 2, 160 | 2, 152 | 2, 143 | 2, 135 | 2, 127 | 2, 118 | 2, 1 | | | | |
| 59 | 2, 102 | 2,093 | 2,085 | 2,077 | 2,069 | 2,060 | 2,052 | 2,044 | 2,036 | 2, 0 | | | | |
| 60 | 2,019 | 2,011 | 2,003 | 1, 995 | 1, 987 | 1,979 | 1, 971 | 1, 963 | 1, 955 | 1, 9 | | | | |
| 61 | 1, 939 | 1, 931 | 1, 923 | 1, 915 | 1,907 | 1, 899 | 1, 891 | 1, 883 | 1,876 | 1, 8 | | | | |
| 62 | 1, 860 | 1, 852 | 1, 844 | 1, 836 | 1, 829 | 1, 821 | 1, 813 | 1,805 | 1, 798 | 1, 7 | | | | |
| 63 | 1, 782 | 1,775 | 1, 767 | 1, 759 | 1, 752 | 1, 744 | 1, 736 | 1, 729 | 1, 721 | 1, 7 | | | | |
| 64 | 1, 706 | 1, 698 | 1, 691 | 1, 683 | 1,676 | 1, 668 | 1, 661 | 1,653 | 1, 646 | 1,6 | | | | |
| 65 | 1,631 | 1, 624 | 1,616 | 1,609 | 1,601 | 1, 594 | 1, 587 | 1, 579 | 1, 572 | 1, 5 | | | | |
| 66 | 1, 557 | 1, 550 | 1, 543 | 1, 535 | 1, 528 | 1, 521 | 1, 514 | 1, 506 | 1, 499 | 1, 4 | | | | |
| 67 | 1, 485 | 1, 330 | 1, 470 | 1, 463 | 1, 456 | 1, 449 | 1, 442 | 1, 435 | 1, 427 | 1, 4 | | | | |
| 68 | 1, 403 | 1, 478 | 1, 399 | 1, 392 | 1, 385 | 1, 378 | 1, 371 | 1, 364 | 1, 357 | 1, 3 | | | | |
| 69 | 1, 343 | 1, 336 | 1, 339 | 1, 332 | 1, 315 | 1, 308 | 1, 301 | 1, 294 | 1, 287 | 1, 2 | | | | |
| 70 | 1, 343 | 1, 330 | 1, 329 | 1, 322 | 1, 315 | 1, 308 | 1, 232 | 1, 225 | 1, 218 | 1, 2 | | | | |
| 70 | 1, 273 | 1, 200 | 1, 259 | 1, 232 | 1, 240 | 1, 235 | 1, 252 | 1, 220 | 1, 150 | 1, 1 | | | | |
| 72 | 1, 204 | 1, 198 | 1, 191 | 1, 134 | 1, 110 | 1, 103 | 1, 104 | 1, 090 | 1, 083 | 1, 0 | | | | |
| 73 | 1, 137 | 1, 150 | 1, 123 | 1, 110 | 1, 110 | 1, 105 | 1,030 | 1,030 | 1,016 | 1,0 | | | | |
| 74 | · · · | 996 | 1,030 | 983 | 977 | 970 | 964 | 957 | 950 | 9 | | | | |
| | 1, 003 937 | 990 | 990 924 | 985 918 | 911 | 905 | 898 | 892 | 885 | 8 | | | | |
| 75 76 | 872 | 866 | 924 859 | 853 | 846 | 840 | 833 | 827 | 820 | 8 | | | | |
| 77 | 808 | | 795 | 788 | 782 | 775 | 769 | 763 | 756 | 7. | | | | |
| 78 | 744 | 801 737 | 795 | 700 | 718 | 712 | 705 | 699 | 693 | 6 | | | | |
| 79 | 680 | 674 | 667 | 661 | 655 | 648 | 642 | 636 | 629 | 6 | | | | |
| 80 | 617 | 611 | 604 | 598 | 592 | 585 | 579 | 573 | 567 | 5 | | | | |
| | 1 | | | 535 | 592 529 | 523 | 517 | 510 | 504 | 4 | | | | |
| 81 | 554 | 548 | 542 | | | 461 | 454 | 448 | 442 | 4 | | | | |
| 82 | 492 | 485 | 479 | 473 | 467 | 401 399 | 392 | 386 | 380 | 3 | | | | |
| 83 | 430 | 423 | 417 | 411 | 405 | 399 | 392 | 325 | 318 | 3 | | | | |
| 84 | 368 | 361 | 355 | 349 | 343 | 275 | 269 | 325 263 | 257 | ა 2 | | | | |
| 85 | 306 | 300 | 294 | 288 | 281 220 | | 1 | 203 | 196 | 1 | | | | |
| 86 | 245 | 238 | 232 | 226 | 220 | 214 | 208 | | 196 | 1 | | | | |
| 87 | 183 | 177 | 171 | 165 | 159 | 153 92 | 147 85 | 140 79 | 73 | 1 | | | | |
| 88 | 122 | 116 | 110 | 194 | 98 | r | 85 24 | 19 | 12 | | | | | |
| 89 | 61 | 55 | 49 | 43 | 37 (| 31 | 24 | 18 | 12 | | | | | |

Table 2-1 Horizontal Distance (Meters), 3,500 Meters (Computer Zone 8)—Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-18

| Degrees | | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|---------|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|--------|--|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 3 | 69, 119 | 67, 254 | 65, 479 | 63, 788 | 62, 176 | 60, 638 | 59, 169 | 57, 765 | 56, 422 | 55, 13 | | | | |
| 4 | 53, 904 | 52, 723 | 51, 590 | 50, 501 | 49, 456 | 48, 451 | 47, 484 | 46, 553 | 45, 656 | 44, 79 | | | | |
| 5 | 43, 957 | 43, 153 | 42, 376 | 41, 625 | 40, 899 | 40, 198 | 39, 519 | 38, 862 | 38, 225 | 37, 60 | | | | |
| 6 | 37, 010 | 36, 430 | 35, 868 | 35, 321 | 34, 791 | 34, 276 | 33, 775 | 33, 288 | 32, 815 | 32, 35 | | | | |
| 7 | 31, 906 | 31, 469 | 31, 044 | 30, 630 | 30, 227 | 29, 833 | 29, 449 | 29,075 | 28, 710 | 28, 35 | | | | |
| 8 | 28, 005 | 27, 666 | 27, 334 | 27, 009 | 26, 692 | 26, 382 | 26, 079 | 25, 783 | 25, 493 | 25, 20 | | | | |
| 9 | 24, 931 | 24, 659 | 24, 393 | 24, 132 | 23, 876 | 23, 626 | 23, 381 | 23, 140 | 22, 905 | 22, 67 | | | | |
| 10 | 22, 447 | 22, 224 | 22, 006 | 21, 792 | 21, 581 | 21, 375 | 21, 172 | 20, 973 | 20, 778 | 20, 58 | | | | |
| 11 | 20, 397 | 20, 212 | 20, 030 | 19, 851 | 19, 675 | 19, 502 | 19, 331 | 19, 164 | 18, 999 | 18, 83 | | | | |
| 12 | 18, 678 | 18, 521 | 18, 367 | 18, 215 | 18, 065 | 17, 918 | 17, 773 | 17, 630 | 17, 489 | 17, 35 | | | | |
| 13 | 17, 214 | 17, 080 | 16, 947 | 16, 817 | 16, 688 | 16, 561 | 16, 436 | 16, 313 | 16, 191 | 16, 07 | | | | |
| 14 | 15, 953 | 15, 836 | 15, 721 | 15, 608 | 15, 496 | 15, 385 | 15, 276 | 15, 169 | 15,062 | 14, 95 | | | | |
| 15 | 14, 854 | 14, 752 | 14, 651 | 14, 552 | 14, 453 | 14, 356 | 14, 260 | 14, 165 | 14, 072 | 13, 97 | | | | |
| 16 | 13, 888 | 13, 798 | 13, 709 | 13, 621 | 13, 533 | 13, 447 | 13, 362 | 13, 278 | 13, 195 | 13, 11 | | | | |
| 17 | 13, 032 | 12, 951 | 12, 872 | 12, 793 | 12, 715 | 12, 639 | 12, 563 | 12, 487 | 12, 413 | 12, 33 | | | | |
| 18 | 12, 267 | 12, 195 | 12, 123 | 12, 053 | 11, 983 | 11, 914 | 11, 846 | 11, 778 | 11, 711 | 11, 64 | | | | |
| 19 | 11, 579 | 11, 514 | 11, 450 | 11, 386 | 11, 323 | 11, 260 | 11, 199 | 11, 137 | 11,077 | 11, 01 | | | | |
| 20 | 10, 957 | 10, 898 | 10, 840 | 10, 782 | 10, 725 | 10, 668 | 10, 612 | 10, 556 | 10, 501 | 10, 44 | | | | |
| 21 | 10, 392 | 10, 338 | 10, 285 | 10, 232 | 10, 180 | 10, 128 | 10, 076 | 10, 025 | 9,975 | 9, 92 | | | | |
| 22 | 9, 875 | 9, 826 | 9, 777 | 9, 729 | 9, 681 | 9, 633 | 9, 586 | 9, 539 | 9, 493 | 9, 44 | | | | |
| 23 | 9, 401 | 9, 356 | 9, 311 | 9, 266 | 9, 222 | 9, 178 | 9, 135 | 9, 092 | 9,049 | 9,00 | | | | |
| 24 | 8, 964 | 8, 923 | 8, 881 | 8, 840 | 8, 799 | 8, 758 | 8, 718 | 8, 678 | 8,639 | 8, 59 | | | | |
| 25 | 8, 560 | 8, 522 | 8, 483 | 8, 445 | 8, 407 | 8, 369 | 8, 332 | 8, 295 | 8,258 | 8, 22 | | | | |
| - 26 | 8, 185 | 8, 149 | 8, 113 | 8, 078 | 8, 043 | 8,008 | 7, 973 | 7, 938 | 7,904 | 7, 87 | | | | |
| 27 | 7, 836 | 7, 802 | 7, 769 | 7, 736 | 7, 703 | 7,670 | 7, 638 | 7,605 | 7, 573 | 7, 54 | | | | |
| 28 | 7, 510 | 7, 478 | 7, 447 | 7, 416 | 7, 385 | 7, 355 | 7, 324 | 7, 294 | 7, 264 | 7, 23 | | | | |
| 29 | 7, 204 | 7, 175 | 7, 145 | 7, 116 | 7, 087 | 7, 059 | 7, 030 | 7,002 | 6, 973 | 6, 94 | | | | |
| 30 | 6, 917 | 6, 890 | 6, 862 | 6, 835 | 6, 807 | 6, 780 | 6, 753 | 6, 727 | 6, 700 | 6, 67 | | | | |
| 31 | 6, 647 | 6, 621 | 6, 595 | 6, 569 | 6, 543 | 6, 518 | 6, 492 | 6, 467 | 6, 442 | 6, 41 | | | | |
| 32 | 6, 392 | 6, 367 | 6, 343 | 6, 318 | 6, 294 | 6, 270 | 6, 246 | 6, 222 | 6, 198 | 6, 17 | | | | |
| 33 | 6, 151 | 6, 128 | 6, 104 | 6, 081 | 6, 058 | 6, 035 | 6, 012 | 5, 990 | 5, 967 | 5, 94 | | | | |
| 34 | 5, 922 | 5, 900 | 5, 878 | 5, 856 | 5, 834 | 5, 813 | 5, 791 | 5, 769 | 5, 748 | 5, 72 | | | | |
| 35 | 5, 705 | 5, 684 | 5, 663 | 5, 642 | 5, 622 | 5, 601 | 5, 580 | 5, 560 | 5, 539 | 5, 51 | | | | |
| 36 | 5, 499 | 5, 479 | 5, 459 | 5, 439 | 5, 419 | 5, 399 | 5, 380 | 5, 360 | 5, 341 | 5, 32 | | | | |
| 37 | 5, 302 | 5, 283 | 5, 264 | 5, 245 | 5, 226 | 5, 207 | 5, 188 | 5, 169 | 5, 151 | 5, 13 | | | | |
| 38 | 5, 114 | 5, 096 | 5, 077 | 5, 059 | 5, 041 | 5, 023 | 5, 005 | 4, 987 | 4, 969 | 4, 95 | | | | |
| 39 | 4, 934 | 4, 917 | 4, 899 | 4, 882 | 4, 864 | 4, 847 | 4, 830 | 4, 813 | 4, 796 | 4, 77 | | | | |
| 40 | 4, 762 | 4, 745 | 4, 728 | 4, 712 | 4, 695 | 4, 678 | 4, 662 | 4, 646 | 4, 629 | 4, 61 | | | | |
| 41 | 4, 597 | 4, 581 | 4, 564 | 4, 548 | 4, 532 | 4, 517 | 4, 501 | 4, 485 | 4, 469 | 4, 45 | | | | |
| 42 | 4, 438 | 4, 422 | 4, 407 | 4, 392 | 4, 376 | 4, 361 | 4, 346 | 4, 330 | 4, 315 | 4, 30 | | | | |
| 43 | 4, 285 | 4, 270 | 4, 255 | 4, 241 | 4, 226 | 4, 211 | 4, 196 | 4, 182 | 4, 167 | 4, 15 | | | | |
| 44 | 4, 138 | 4, 124 | 4, 109 | 4, 095 | 4, 081 | 4, 067 | 4, 052 | 4, 038 | 4, 024 | 4, 01 | | | | |
| 45 | 3, 996 | 3, 982 | 3, 968 | 3, 955 | 3, 941 | 3, 927 | 3, 913 | 3, 900 | 3, 886 | 3, 87 | | | | |
| 46 | 3, 859 | 3, 846 | 3, 832 | 3, 819 | 3, 806 | 3, 792 | 3, 779 | 3, 766 | 3, 753 | 3, 74 | | | | |

Table 2–1. ' Horizontal Distance (Meters), 4,000 Meters (Ballistic Zone 7) (Computer Zone 9) (Fallout Zone 2)

•

,

2-19

| Degrees | | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|------------|-------------------------------------|--------|------------|------------|------------|--------|--------|------------|--------|--|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 47 | 3, 727 | 3, 714 | 3, 701 | 3, 688 | 3, 675 | 3, 662 | 3, 649 | 3, 636 | 3, 624 | 3, 61 | | | | |
| 48 | 3, 598 | 3, 586 | 3, 573 | 3, 561 | 3, 548 | 3, 536 | 3, 523 | 3, 511 | 3, 499 | 3, 48 | | | | |
| 49 | 3, 474 | 3, 462 | 3, 450 | 3, 438 | 3, 425 | 3, 413 | 3, 401 | 3, 389 | 3, 377 | 3, 36, | | | | |
| 50 | 3, 354 | 3, 342 | 3, 330 | 3, 318 | 3, 306 | 3, 295 | 3, 283 | 3, 271 | 3, 260 | 3, 24 | | | | |
| 51 | 3, 236 | 3, 225 | 3, 213 | 3, 202 | 3, 191 | 3, 179 | 3, 168 | 3, 156 | 3, 145 | 3, 134 | | | | |
| 52 | 3, 123 | 3, 111 | 3, 100 | 3, 089 | 3,078 | 3, 067 | 3,056 | 3, 045 | 3,034 | 3, 02 | | | | |
| 53 | 3, 012 | 3, 001 | 2, 990 | 2,979 | 2, 968 | 2,957 | 2, 947 | 2, 936 | 2,925 | 2, 91 | | | | |
| 54 | 2, 904 | 2, 893 | 2, 883 | 2,872 | 2, 861 | 2,851 | 2, 840 | 2, 830 | 2,819 | 2, 809 | | | | |
| 55 | 2, 799 | 2, 788 | 2,778 | 2,768 | 2, 757 | 2, 747 | 2,737 | 2, 727 | 2, 716 | 2,70 | | | | |
| 56 | 2,696 | 2,686 | 2,676 | 2,666 | 2,656 | 2,646 | 2, 635 | 2,626 | 2,616 | 2,60 | | | | |
| 57 | 2, 596 | 2,586 | 2,576 | 2,566 | 2, 556 | 2, 546 | 2, 537 | 2, 527 | 2, 517 | 2, 503 | | | | |
| 58 | 2,498 | 2,488 | 2,478 | 2, 469 | 2,459 | 2, 449 | 2, 440 | 2,430 | 2, 421 | 2, 41 | | | | |
| 59 | 2, 402 | 2, 392 | 2, 383 | 2, 373 | 2, 364 | 2, 354 | 2, 345 | 2, 336 | 2, 326 | 2, 312 | | | | |
| 60 | 2, 308 | 2, 298 | 2, 289 | 2, 280 | 2, 271 | 2, 261 | 2, 252 | 2, 243 | 2, 234 | 2, 22 | | | | |
| 61 | 2,216 | 2, 200 | 2, 197 | 2, 188 | 2, 179 | 2, 170 | 2, 161 | 2, 152 | 2, 143 | 2, 134 | | | | |
| 62 | 2, 125 | 2, 201 | 2, 107 | 2,099 | 2,090 | 2, 081 | 2,072 | 2,063 | 2,054 | 2,04 | | | | |
| 63 | 2,037 | 2,028 | 2,019 | 2,010 | 2,002 | 1, 993 | 1, 984 | 1, 976 | 1,967 | 1, 958 | | | | |
| 64 | 1, 950 | 1,941 | 1, 932 | 1, 924 | 1, 915 | 1,907 | 1, 898 | 1, 889 | 1, 881 | 1, 872 | | | | |
| 65 | 1, 864 | 1, 855 | 1, 847 | 1, 839 | 1, 830 | 1, 822 | 1, 813 | 1, 805 | 1,796 | 1, 788 | | | | |
| 66 | 1, 780 | 1,771 | 1, 763 | 1,755 | 1, 746 | 1, 738 | 1, 730 | 1, 721 | 1, 713 | 1, 705 | | | | |
| 67 | 1, 697 | 1, 689 | 1, 680 | 1,672 | 1, 664 | 1, 656 | 1, 648 | 1, 639 | 1, 631 | 1, 623 | | | | |
| 68 | 1, 615 | 1, 607 | 1, 599 | 1, 591 | 1, 583 | 1, 575 | 1, 567 | 1, 558 | 1, 550 | 1, 542 | | | | |
| 69 | 1, 534 | 1, 526 | 1, 518 | 1, 510 | 1, 502 | 1, 495 | 1, 487 | 1, 479 | 1, 471 | 1, 463 | | | | |
| 70 | - 1, 455 | 1, 520 | 1, 439 | 1, 310 | 1, 302 | 1, 455 | 1, 408 | 1, 400 | 1, 392 | 1, 384 | | | | |
| 71 | 1, 435 | 1, 369 | 1, 435 | 1, 451 | 1, 425 | 1, 337 | 1, 330 | 1, 322 | 1, 314 | 1, 307 | | | | |
| 72 | 1, 370 | 1, 309 | 1, 283 | 1, 353 | 1, 345 | 1, 357 | 1, 253 | 1, 322 | 1, 237 | 1, 307 | | | | |
| 73 | 1, 233 | 1, 291 | 1, 203 | 1, 270 | 1, 208 | 1, 200 | 1, 235 | 1, 169 | 1, 257 | 1, 250 | | | | |
| 74 | 1, 222 | 1, 214 | 1, 207 | 1, 199 | 1, 192 | 1, 104 | 1, 170 | 1, 109 | 1, 086 | 1, 134 | | | | |
| 74 | 1, 140 | 1, 159 | 1, 151 | 1, 124 | 1, 110 | 1, 109 | 1, 101 | 1,019 | 1,080 | 1,004 | | | | |
| 76 | 997 | 989 | 982 | 974 | 967 | 960 | 952 | 945 | 938 | 930 | | | | |
| 70 | 997 923 | | 908 | 974 | 907 894 | 886 | 879 | 872 | 938 864 | 857 | | | | |
| 78 | 923 850 | 916 842 | 835 | 828 | 821 | 813 | 806 | 799 | 792 | 784 | | | | |
| 79 | 777 | 842 770 | 763 | 755 | 748 | 741 | 734 | 735 | 719 | 712 | | | | |
| 80 | 705 | 698 | 690 | 683 | 676 | 669 | 662 | 655 | 647 | 640 | | | | |
| 80 | 633 | 626 | | 612 | 605 | 597 | 590 | 583 | 576 | 569 | | | | |
| | | | 619 | | | | 519 | 512 | 505 | 498 | | | | |
| 82 | 562 | 555 | 548 | 540 | 533 463 | 526 | 448 | 441 | 434 | 497 | | | | |
| 83 | , 491 | 484 | 477 | 470 399 | 403 392 | 455 385 | 378 | 371 | 434 364 | 427 | | | | |
| 84 | 420 | 413 | 406 | | | 1 | | 1 | 294 | 287 | | | | |
| 85 | 350 | 343 | 336 | 329 | 322 | 315 | 308 | 301 | 294 | 287 | | | | |
| 86 | 280 | 273 | 266 | 259 | 252 | 244 | 237 | 230 | | 147 | | | | |
| 87 | 209 | 203 | 196 | 189 | 182 | 175 | 168 | 161 | 154 | 147 | | | | |
| 88 | 140 | 133 | 126 | 119 | 112 | 105 | 98 | 91 | 84 | 7 | | | | |
| 89 | 70 | 63 | 56 | 49 | 42 | 35 | 28 | 21 | 14 | | | | | |

 Table 2–1.
 Horizontal Distance (Meters), 4,000 Meters (Ballistic Zone 7) (Computer Zone 9)

 (Fallout Zone 2)—Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-20

| Degrees - | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|-----------|-------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 3 | 76, 936 | 74, 898 | 72, 956 | 71, 104 | 69, 336 | 67, 647 | 66, 033 | 64, 488 | 63, 009 | 61, 592 | | | |
| 4 | 60, 233 | 58, 930 | 57, 678 | 56, 475 | 55, 319 | 54, 206 | 53, 135 | 52, 103 | 51, 109 | 50, 150 | | | |
| 5 | 49, 224 | 48, 331 | 47, 468 | 46, 634 | 45, 827 | 45, 046 | 44, 291 | 43, 560 | 42, 851 | 42, 164 | | | |
| 6 | 41, 498 | 40, 852 | 40, 224 | 39, 615 | 39, 024 | 38, 449 | 37, 891 | 37, 347 | 36, 819 | 36, 305 | | | |
| 7 | 35, 804 | 35, 316 | 34, 841 | 34, 379 | 33, 928 | 33, 488 | 33, 059 | 32, 640 | 32, 232 | 31, 833 | | | |
| 8 | 31, 444 | 31, 064 | 30, 692 | 30, 329 | 29, 975 | 29, 628 | 29, 288 | 28, 957 | 28, 632 | 28, 314 | | | |
| 9 | 28, 003 | 27, 698 | 27, 400 | 27, 108 | 26, 822 | 26, 541 | 26, 267 | 25, 997 | 25, 733 | 25, 474 | | | |
| 10 | 25, 220 | 24, 970 | 24, 725 | 24, 485 | 24, 250 | 24, 018 | 23, 791 | 23, 568 | 23, 349 | 23, 133 | | | |
| 11 | 22, 922 | 22, 714 | 22, 510 | 22, 309 | 22, 111 | 21, 917 | 21, 726 | 21, 538 | 21, 354 | 21, 172 | | | |
| 12 | 20, 993 | 20, 817 | 20, 644 | 20, 473 | 20, 305 | 20, 140 | 19, 977 | 19, 817 | 19,659 | 19, 504 | | | |
| 13 | 19, 351 | 19, 200 | 19, 051 | 18, 904 | 18, 760 | 18, 617 | 18, 477 | 18, 338 | 18, 202 | 18, 067 | | | |
| 14 | 17, 934 | 17, 804 | 17, 674 | 17, 547 | 17, 421 | 17, 297 | 17, 175 | 17, 054 | 16, 935 | 16, 817 | | | |
| 15 | 16, 701 | 16, 586 | 16, 473 | 16, 361 | 16, 250 | 16, 141 | 16, 034 | 15, 927 | 15, 822 | 15, 718 | | | |
| 16 | 15, 616 | 15, 514 | 15, 414 | 15, 315 | 15, 217 | 15, 120 | 15, 025 | 14, 930 | 14, 837 | 14, 745 | | | |
| 17 | 14, 653 | 14, 563 | 14, 474 | 14, 385 | 14, 298 | 14, 212 | 14, 126 | 14, 042 | 13, 958 | 13, 876 | | | |
| 18 | 13, 794 | 13, 713 | 13, 633 | 13, 554 | 13, 475 | 13, 397 | 13, 321 | 13, 245 | 13, 169 | 13, 095 | | | |
| 19 | 13, 021 | 12, 948 | 12, 876 | 12, 804 | 12, 733 | 12, 663 | 12, 594 | 12, 525 | 12, 457 | 12, 389 | | | |
| 20 | 12, 322 | 12, 256 | 12, 190 | 12, 125 | 12, 061 | 11, 997 | 11, 934 | 11, 871 | 11, 809 | 11, 748 | | | |
| 21 | 11, 687 | 11, 626 | 11, 566 | 11, 507 | 11, 448 | 11, 390 | 11, 332 | 11, 275 | 11, 218 | 11, 162 | | | |
| 22 | 11, 106 | 11, 051 | 10, 996 | 10, 941 | 10, 888 | 10, 834 | 10, 781 | 10, 728 | 10, 676 | 10, 624 | | | |
| 23 | 10, 573 | 10, 522 | 10, 472 | 10, 422 | 10, 372 | 10, 323 | 10, 274 | 10, 225 | 10, 177 | 10, 129 | | | |
| 24 | 10, 082 | 10, 035 | 9, 988 | 9, 942 | 9, 896 | 9, 851 | 9, 805 | 9, 761 | 9, 716 | 9, 672 | | | |
| 25 | 9, 628 | 9, 584 | 9, 541 | 9, 498 | 9, 456 | 9, 413 | 9, 371 | 9, 330 | 9, 288 | 9, 247 | | | |
| -26 | 9, 206 | 9, 166 | 9, 125 | 9, 086 | 9, 046 | 9, 006 | 8, 967 | 8, 928 | 8, 890 | 8, 852 | | | |
| 27 | 8, 814 | 8, 776 | 8, 738 | 8, 701 | 8, 664 | 8, 627 | 8, 591 | 8, 554 | 8, 518 | 8, 482 | | | |
| 28 | 8, 447 | 8, 411 | 8, 376 | 8, 341 | 8, 307 | 8, 272 | 8, 238 | 8, 204 | 8, 170 | 8, 137 | | | |
| 29 | 8, 103 | 8, 070 | 8, 037 | 8,004 | 7, 972 | 7, 939 | 7, 907 | 7, 875 | 7, 843 | 7, 812 | | | |
| 30 | 7, 780 | 7, 749 | 7, 718 | 7, 687 | 7,657 | 7, 626 | 7, 596 | 7, 566 | 7, 536 | 7, 506 | | | |
| 31 | 7,477 | 7,447 | 7, 418 | 7, 389 | 7, 360 | 7, 331 | 7, 303 | 7, 274 | 7, 246 | 7, 218 | | | |
| 32 | 7, 190 | 7, 162 | 7, 134 | 7, 107 | 7, 080 | 7,052 | 7, 025 | 6, 999 | 6, 972 | 6, 945 | | | |
| 33 | 6, 919 | 6, 892 | 6, 866 | 6, 840 | 6, 814 | 6, 788 | 6, 763 | 6, 737 | 6, 712 | 6, 687 | | | |
| 34 35 | 6, 662 | 6, 637 | 6, 612 | 6, 587 | 6, 563 | 6, 538 | 6, 514 | 6, 489 | 6, 465 | 6, 441 | | | |
| 36 | 6, 418 6, 185 | 6, 394 | 6, 370 | 6, 347 | 6, 323 | 6, 300 | 6, 277 | 6, 254 | 6, 231 | 6, 208 | | | |
| 37 | 5, 964 | 6, 163 | 6, 140 | 6, 118 | 6, 095 | 6, 073 | 6, 051 | 6, 029 | 6,007 | 5, 985 | | | |
| | | 5,942 | 5, 921 | 5, 899 | 5, 878 | 5,857 | 5, 836 | 5, 815 | 5, 794 | 5, 773 | | | |
| 38 39 | 5, 752 5, 550 | 5, 732 5, 530 | 5,711 | 5, 691 | 5, 670 | 5,650 | 5, 630 | 5, 610 | 5, 590 | 5, 570 | | | |
| 40 | 5, 356 | 5, 337 | 5, 511 | 5, 491 | 5, 472 | 5, 452 | 5, 433 | 5, 414 | 5, 395 | 5, 375 | | | |
| 41 | 5, 171 | 5, 357 | 5, 319 5, 134 | 5, 300 | 5, 281 | 5, 263 | 5, 244 | 5, 226 | 5, 207 | 5, 189 | | | |
| 42 | 4, 992 | 4, 975 | 5, 134 4, 957 | 5, 116 | 5,098 | 5,080 | 5,063 | 5, 045 | 5,027 | 5,010 | | | |
| 43 | 4, 820 | 4, 973 | 4, 957 | 4, 940 4, 770 | 4, 923 4, 753 | 4, 905 | 4, 888 | 4,871 | 4,854 | 4, 837 | | | |
| 44 | 4, 655 | 4, 639 | 4, 622 | 4, 770 | | 4, 737 | 4, 720 | 4, 704 | 4, 687 | 4,671 | | | |
| 45 | 4, 495 | 4, 480 | 4, 622 | 4, 606 | 4, 590 4, 433 | 4, 574 | 4, 558 | 4, 543 | 4, 527 | 4, 511 | | | |
| 46 | 4, 341 | 4, 326 | 4, 311 | 4, 296 | 4, 433 | 4, 418 4, 266 | 4, 402 4, 251 | 4, 387 4, 236 | 4, 372 4, 221 | 4, 356 4, 207 | | | |

Table 2–1. Horizontal Distance (Meters), 4,500 Meters (Computer Zone 10)

|) | | | El | evation an | gle, tenths | of a degre | e | | | |
|----------|---------------|--------------------|------------|------------|-------------|------------|--------|------------|-------------|--------------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 4, 192 | 4, 177 | 4, 163 | 4, 148 | 4, 134 | 4, 119 | 4, 105 | 4, 091 | 4, 076 | 4, 06 |
| 48 | 4, 048 | 4, 034 | 4,019 | 4,005 | 3, 991 | 3, 977 | 3, 963 | 3, 949 | 3, 936 | 3, 92 |
| 49 | 3, 908 | 3, 894 | 3, 881 | 3, 867 | 3, 853 | 3, 840 | 3, 826 | 3, 813 | 3, 799 | 3, 78 |
| 50 | 3, 772 | 3, 759 | 3, 746 | 3, 732 | 3, 719 | 3, 706 | 3, 693 | 3, 680 | 3, 667 | 3, 6 |
| 51 | 3, 641 | 3, 628 | 3, 615 | 3, 602 | 3, 589 | 3, 576 | 3, 563 | 3, 551 | 3, 538 | 3, 55 |
| 52 | 3, 513 | 3, 500 | 3, 487 | 3, 475 | 3, 462 | 3, 450 | 3, 437 | 3, 425 | 3, 413 | 3, 40 |
| 53 | 3, 388 | 3, 376 | 3, 363 | 3, 351 | 3, 339 | 3, 327 | 3, 315 | 3, 303 | 3, 291 | 3, 2 |
| 54 | 3, 267 | 3, 255 | 3, 243 | 3, 231 | 3, 219 | 3, 207 | 3, 195 | 3, 183 | 3, 172 | 3, 16 |
| 55 | 3, 148 | 3, 136 | 3, 125 | 3, 113 | 3, 102 | 3, 090 | 3, 079 | 3, 067 | 3, 056 | 3. 0- |
| 56 | 3, 033 | 3, 021 | 3,010 | 2, 999 | 2, 987 | 2, 976 | 2, 965 | 2, 953 | 2,942 | 2, 93 |
| 57 | 2, 920 | 2, 909 | 2, 898 | 2, 886 | 2,875 | 2,864 | 2,853 | 2,842 | 2, 831 | 2, 82 |
| 58 | 2, 810 | 2, 799 | 2, 788 | 2, 777 | 2, 766 | 2, 755 | 2, 745 | 2, 734 | 2, 723 | 2, 7 |
| 59 | 2, 702 | 2, 691 | 2, 680 | 2,670 | 2,659 | 2,649 | 2,638 | 2,627 | 2,617 | 2, 60 |
| 60 | 2, 596 | 2, 585 | 2, 575 | 2, 565 | 2, 554 | 2, 544 | 2, 534 | 2, 523 | 2, 513 | 2, 50 |
| 61 | 2, 492 | 2, 482 | 2, 472 | 2, 462 | 2,451 | 2,441 | 2, 431 | 2, 421 | 2,411 | 2, 40 |
| 62 | 2, 391 | 2, 381 | 2, 371 | 2, 361 | 2, 351 | 2, 341 | 2, 331 | 2, 321 | 2, 311 | 2, 30 |
| 63 | 2, 291 | 2, 281 | 2, 271 | 2, 261 | 2, 252 | 2, 242 | 2, 232 | 2, 222 | 2, 213 | 2, 20 |
| 64 | 2, 193 | 2, 183 | 2, 174 | 2, 164 | 2, 154 | 2, 145 | 2, 135 | 2, 125 | 2, 116 | 2, 10 |
| 65 | 2, 097 | 2, 087 | 2,078 | 2,068 | 2, 059 | 2,049 | 2,040 | 2,030 | 2,021 | 2, 0 |
| 66 | 2,002 | 1, 993 | 1, 983 | 1, 974 | 1, 964 | 1, 955 | 1, 946 | 1, 937 | 1, 927 | 1, 9 |
| 67 | 1, 909 | 1, 899 | 1, 890 | 1, 881 | 1, 872 | 1, 863 | 1, 853 | 1, 844 | 1, 835 | 1, 82 |
| 68 | 1, 505 | 1, 808 | 1, 398 | 1, 789 | 1, 780 | 1, 771 | 1, 762 | 1, 753 | 1, 744 | 1, 0, |
| 69 | 1, 726 | 1, 717 | 1, 708 | 1, 699 | 1, 690 | 1, 681 | 1,672 | 1, 663 | 1, 654 | 1, 6 |
| 70 | - 1, 637 | 1, 628 | 1, 619 | 1, 610 | 1,601 | 1, 592 | 1, 584 | 1, 575 | 1, 566 | 1, 5 |
| 71 | 1, 548 | 1, 540 | 1, 531 | 1, 522 | 1, 513 | 1, 505 | 1, 496 | 1, 487 | 1, 478 | 1, 47 |
| 72 | 1, 348 | 1, 452 | 1, 331 | 1, 435 | 1, 426 | 1,418 | 1, 409 | 1, 401 | 1, 392 | 1, 38 |
| 73 | 1, 375 | 1, 366 | 1, 358 | 1, 435 | 1, 420 | 1, 332 | 1, 323 | 1, 315 | 1, 306 | 1, 29 |
| 73 | 1, 373 | 1, 300 | 1, 338 | 1, 345 | 1, 341 | 1, 332 | 1, 239 | 1, 230 | 1, 222 | 1, 2 1, 2 |
| 75 | 1, 289 | 1, 281 | 1, 272 | 1, 204 | 1, 230 | 1, 247 | 1, 155 | 1, 146 | 1, 138 | 1, 2, |
| 76 | · · · · | · · · · · · | 1, 105 | 1, 130 | 1, 171 | 1, 105 | 1, 133 | 1, 063 | 1, 055 | 1, 1. |
| 77 | 1, 121 | 1, 113 1, 030 | 1, 103 | 1,030 | 1,005 | 997 | 989 | 980 | 972 | 1, 0- |
| | 1, 038 956 | | 939 | 931 | 923 | 915 | 907 | 899 | 890 | 88 |
| 78 79 | 950 874 | 948 866 | 959 858 | 931 850 | 923 842 | 833 | 825 | 835 | 809 | 80 |
| 80 | 793 | 785 | 777 | 769 | 761 | 753 | 744 | 736 | 728 | 71 |
| i | 793 | 785 | 696 | 688 | 680 | 672 | 664 | 656 | 648 | 6- |
| 81 | | | | | | 592 | 584 | 576 | 568 | 5 |
| 82 | 632 | 624 | 616 | 608 508 | 600 500 | | | | 508 489 | |
| 83 | 552 | 544 | 536 | 528 | 520 | 512 | 504 | 496 417 | 489 | 46 |
| 84 | 473 | 465 | 457 | 449 | 441 | 433 | 425 | 338 | 330 | 3 |
| 85 | 393 | 386 | 378 | 370 | 362 | 354 | 346 | 358 259 | 251 | 3. 2 |
| 86 | 314 | 307 | 299 | 291 | 283 | 275 | 267 | | | 2- |
| 87 | 236 | 228 | 220 | 212 | 204 | 196 | 188 | 181 102 | 173 94 | 1 |
| 88 | 157 | 149 | 141 | 133 | 126 | 118 | 110 | | | i |
| 89 | 78 | 71 | 63 | 55 | 47 | 39 | 31 | 24 | 16 | |

Table 2-1. Horizontal Distance (Meters), 4,500 Meters (Computer Zone 10)—Continued

2-22

| Degrees | | | E | levation ar | gle, tenth | s of a degre | ee | | | |
|----------|------------------|------------------|------------------|------------------|------------------|------------------|----------------------------------|-------------------------|------------------|------------------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 84, 605 | 82, 404 | 80, 304 | 78, 299 | 76, 382 | 74, 550 | 72, 796 | 71, 117 | 69, 508 | 67, 965 |
| 4 | 66, 484 | 65, 062 | 63, 695 | 62, 382 | 61, 118 | 59, 901 | 58, 729 | 57, 600 | 56, 510 | 55, 460 |
| 5 | 54, 445 | 53, 465 | 52, 518 | 51, 602 | 5 0, 716 | 49, 859 | 49, 029 | 48, 225 | 47, 445 | 46, 690 |
| 6 | 45, 957 | 45, 245 | 44, 555 | 43, 884 | 43, 233 | 42, 599 | 41, 984 | 41, 385 | 40, 802 | 40, 235 |
| 7 | 39, 683 | 39, 145 | 38, 621 | 38, 110 | 37, 612 | 37, 127 | 36, 653 | 36, 191 | 35, 740 | 35, 300 |
| 8 | 34, 870 | 34, 449 | 34, 039 | 33, 638 | 33, 246 | 32, 862 | 32, 487 | 32, 120 | 31, 761 | 31, 410 |
| 9 | 31, 066 | 30, 729 | 30, 399 | 30, 075 | 29, 759 | 29, 448 | 29, 144 | 28, 846 | 28, 554 | 28, 267 |
| 10 | 27, 985 | 27, 709 | 27, 438 | 27, 173 | 26, 912 | 26, 655 | 26, 404 | 26, 157 | 25, 914 | 25, 675 |
| 11 | 25, 441 | 25, 211 | 24, 984 | 24, 762 | 24, 54 3 | 24, 328 | 24, 117 | 2 3, 9 08 | 23, 704 | 23, 502 |
| 12 | 23, 304 | 23, 109 | 22, 917 | 22, 728 | 22, 542 | 22, 359 | 22, 178 | 22, 001 | 21, 826 | 21, 653 |
| 13 | 21, 483 | 21, 316 | 21, 151 | 20, 989 | 20, 828 | 20, 670 | 20, 515 | 20, 361 | 20, 210 | 20, 061 |
| 14 | 19, 913 | 19, 768 | 19, 625 | 19, 483 | 19, 344 | 19, 206 | 19, 071 | 18, 937 | 18, 804 | 18, 674 |
| 15 | 18, 545 | 18, 418 | 18, 292 | 18, 168 | 18, 045 | 17, 924 | 17, 805 | 17, 687 | 17, 570 | 17, 455 |
| 16 | 17, 341 | 17, 229 | 17, 117 | 17, 008 | 16, 899 | 16, 792 | 16, 686 | 16, 581 | 16, 477 | 16, 375 |
| 17 | 16, 273 | 16, 173 | 16, 074 | 15, 976 | 15, 879 | 15, 783 | 15, 689 | 15, 595 | 15, 502 | 15, 410 |
| 18 | 15, 320 | 15, 2 30 | 15, 141 | 15, 053 | 14, 966 | 14, 880 | 14, 794 | 14, 710 | 14, 627 | 14, 544 |
| 19 | 14, 462 | 14, 381 | 14, 301 | 14, 221 | 14, 143 | 14, 065 | 13, 987 | 13, 911 | 13, 835 | 13, 760 |
| 20 | 13, 686 | 13, 613 | 13, 540 | 13, 468 | 13, 396 | 13, 325 | 13, 255 | 13, 186 | 13, 117 | 13, 048 |
| 21 | 12, 981 | 12, 914 | 12, 847 | 12, 781 | 12, 716 | 12, 651 | 12, 587 | 12, 524 | 12, 461 | 12, 398 |
| 22 | 12, 336 | 12, 275 | 12, 214 | 12, 153 | 12, 094 | 12, 034 | 11, 975 | 11, 917 | 11, 859 | 11, 801 |
| 23 | 11, 745 | 11, 688 | 11, 632 | 11, 576 | 11, 521 | 11, 466 | 11, 412 | 11, 358 | 11, 305 | 11, 252 |
| 24 | 11, 199 | 11, 147 | 11,095 | 11,044 | 10, 993 | 10, 942 | 10, 892 | 10, 842 | 10, 793 | 10, 744 |
| 25 | 10, 695 | 10, 646 | 10, 598 | 10, 551 | 10, 503 | 10, 456 | 10, 410 | 10, 364 | 10, 318 | 10, 272 |
| 26 | 10, 227 | 10, 182 | 10, 137 | 10, 093 | 10, 049 | 10,005 | 9, 961 | 9, 918 | 9, 875 | 9, 833 |
| 27 | 9, 791 | 9, 749 | 9, 707 | 9,666 | 9,624 | 9, 584 | 9, 543 | 9, 503 | 9, 463 | 9, 423 |
| 28 | 9, 383 | 9,344 | 9, 305 | 9, 266 | 9, 228 | 9, 189 | 9, 151 | 9, 114 | 9,076 | 9, 039 |
| 29 | 9,002 | 8,965 | 8,928 | 8, 892 | 8, 856 | 8, 820 | 8, 784 | 8, 749 | 8, 713 | 8, 678 |
| 30 | 8,643 | 8,609 | 8, 574 | 8, 540 | 8, 506 | 8,472 | 8, 438 | 8,405 | 8,372 | 8, 339 |
| 31 | 8, 306 | 8, 273 | 8, 241 | 8, 208 | 8, 176 | 8, 144 | 8, 113 | 8, 081 | 8,050 | 8, 018 |
| 32 33 | 7, 987 7, 686 | 7, 957 7, 657 | 7,926 | 7, 895 | 7,865 | 7,835 | 7,805 | 7,775 | 7,745 | 7, 716 |
| 34 | 7, 401 | 7, 373 | 7,628 | 7, 599 | 7, 570 | 7, 542 | 7, 513 | 7,485 | 7,457 | 7,428 |
| 35 | 7, 129 | 7, 103 | 7, 345 7, 077 | 7, 318 7, 051 | 7, 290 | 7,263 | 7,236 | 7, 209 | 7, 183 | 7, 156 |
| 36 | 6, 871 | 6, 846 | 6, 821 | 6, 796 | 7, 025 6, 772 | 6, 999 6, 747 | 6, 973 | 6, 948 6, 698 | 6,922 | 6, 897 |
| 37 | 6, 625 | 6, 601 | 6, 578 | 6, 554 | 6, 530 | 6, 507 | 6, 722 | · · | 6, 674 | 6, 650 |
| 38 | 6, 391 | 6, 368 | 6, 345 | 6, 322 | | , , | 6, 483 | 6, 460 | 6, 437 | 6, 414 |
| 39 | 6, 166 | 6, 144 | | | 6, 300 6, 070 | 6, 277 | 6, 255 | 6, 232 | 6, 210 | 6, 188 |
| 40 | 5, 951 | 5, 930 | 6, 122 5, 909 | 6, 100 5, 888 | 6, 079 5, 867 | 6, 057 5, 847 | 6, 036 5, 826 | 6, 014 5, 805 | 5, 993 5, 785 | 5, 972 5, 765 |
| 40 | 5, 744 | 5, 724 | 5, 704 | 5, 684 | | | | | | |
| 42 | 5, 546 | 5, 527 | 5, 507 | 5, 488 | 5, 664 5, 469 | 5, 644 5, 450 | 5, 624 5, 431 | 5, 605 5, 412 | 5, 585 5, 393 | 5, 566 5, 374 |
| 43 | 5, 355 | 5, 337 | 5, 318 | 5, 299 | 5, 409 5, 281 | 5, 262 | 5, 431 5, 244 | 5, 226 | 5, 393 5, 208 | 5, 374 5, 189 |
| 44 | 5, 171 | 5, 153 | 5, 135 | 5, 118 | 5, 231 | 5, 202 | 5, 064 | 5, 047 | 5, 029 | 5, 189 |
| 45 | 4, 994 | 4, 977 | 4, 959 | 4, 942 | 3, 100 4, 925 | 3, 082 4, 908 | 5 , 004 4 , 891 | 4, 874 | 5, 029 4, 857 | 5, 012 4, 840 |
| 46 | 4, 823 | 4, 806 | 4, 789 | 4, 542 | 4, 925 | 4, 508 | 4, 723 | 4, 374 | 4, 690 | 4, 840 |

Table 2–1. Horizontal Distance (Meters), 5,000 Meters (Ballistic Zone 8) (Computer Zone 11)

2-23

| Table 2-1. | . Horizontal Distance (Meters), 5,000 Meters (Ballistic Zone 8) (Computer Zone 11)—Continued |
|------------|--|
|------------|--|

| Degrees | | | El | evation an | gle, tenths | of a degree | e | | | |
|---------|------------------|------------------|------------------|------------|-------------|-------------|--------|--------|--------|---------------|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 4, 657 | 4, 641 | 4, 625 | 4, 609 | 4, 593 | 4, 577 | 4, 561 | 4, 545 | 4, 529 | 4, 5 1 |
| 48 | 4, 497 | 4, 481 | 4, 466 | 4, 450 | 4, 434 | 4, 419 | 4, 403 | 4, 388 | 4, 372 | 4, 3! |
| 49 | 4, 342 | 4, 326 | 4, 311 | 4, 296 | 4, 281 | 4, 266 | 4, 251 | 4, 236 | 4, 221 | 4, 20 |
| 50 | 4, 191 | 4, 176 | 4, 161 | 4, 147 | 4, 132 | 4, 117 | 4, 103 | 4, 088 | 4,074 | 4, 0 |
| 51 | 4,045 | 4,030 | 4,016 | 4,002 | 3, 987 | 3, 973 | 3, 959 | 3, 945 | 3, 931 | 3, 9 |
| 52 | 3, 902 | 3, 888 | 3, 874 | 3, 861 | 3, 847 | 3, 833 | 3, 819 | 3, 805 | 3, 791 | 3, 7 |
| 53 | 3, 764 | 3, 750 | 3, 737 | 3, 723 | 3, 710 | 3, 696 | 3, 683 | 3, 669 | 3, 656 | 3, 6 |
| 54 | 3, 629 | 3, 616 | 3, 603 | 3, 589 | 3, 576 | 3, 563 | 3, 550 | 3, 537 | 3, 524 | 3, 5 |
| 55 | 3, 498 | 3, 485 | 3, 472 | 3, 459 | 3, 446 | 3, 433 | 3, 420 | 3, 407 | 3, 395 | 3, 3 |
| 56 | 3, 369 | 3, 357 | 3, 344 | 3, 331 | 3, 319 | 3, 306 | 3, 294 | 3, 281 | 3, 269 | 3, 2 |
| 57 | 3, 244 | 3, 232 | 3, 219 | 3, 207 | 3, 195 | 3, 182 | 3, 170 | 3, 158 | 3, 146 | 3, 1 |
| 58 | 3, 121 | 3, 109 | 3, 097 | 3, 085 | 3, 073 | 3, 061 | 3, 049 | 3, 037 | 3, 025 | 3, 0 |
| 59 | 3,002 | 2, 990 | 2, 978 | 2, 966 | 2,954 | 2, 943 | 2, 931 | 2,919 | 2, 907 | 2, 8 |
| 60 | 2, 884 | 2, 872 | 2, 861 | 2,849 | 2, 838 | 2, 826 | 2, 815 | 2, 803 | 2, 792 | 2, 7 |
| 61 | 2, 769 | 2, 758 | 2, 746 | 2, 735 | 2, 724 | 2, 712 | 2, 701 | 2,690 | 2,679 | 2,6 |
| 62 | 2,656 | 2,645 | 2,634 | 2, 623 | 2,612 | 2,601 | 2, 589 | 2, 578 | 2, 567 | 2, 5 |
| 63 | 2, 545 | 2, 534 | 2, 523 | 2, 513 | 2, 502 | 2, 491 | 2, 480 | 2, 469 | 2, 458 | 2, 4 |
| 64 | 2, 437 | 2, 426 | 2, 415 | 2, 404 | 2, 394 | 2, 383 | 2, 372 | 2, 361 | 2, 351 | 2, 3 |
| 65 | 2, 330 | 2, 319 | 2, 308 | 2, 298 | 2, 287 | 2, 277 | 2,266 | 2,256 | 2, 245 | 2, 2 |
| 66 | 2, 224 | 2, 214 | 2, 203 | 2, 193 | 2, 183 | 2, 172 | 2, 162 | 2, 151 | 2, 141 | 2, 1 |
| . 67 | 2, 121 | 2, 110 | 2, 100 | 2,090 | 2,080 | 2,069 | 2,059 | 2,049 | 2,039 | 2,0 |
| 68 | 2,018 | 2,008 | 1, 998 | 1, 988 | 1,978 | 1, 968 | 1,958 | 1, 948 | 1, 938 | 1, 9 |
| 69 | - 1, 918 | 1,908 | 1, 898 | 1, 888 | 1, 878 | 1, 868 | 1, 858 | 1,848 | 1,838 | 1, 8 |
| 70 | 1, 818 | 1, 808 | 1, 799 | 1, 789 | 1, 779 | 1, 769 | 1, 759 | 1, 750 | 1, 740 | 1, 7 |
| 71 | 1, 720 | 1, 710 | 1, 701 | 1, 691 | 1, 681 | 1,672 | 1, 662 | 1,652 | 1, 643 | 1,6 |
| 72 | 1, 623 | 1, 710 | 1, 604 | 1, 594 | 1, 585 | 1, 575 | 1, 566 | 1, 556 | 1, 546 | 1, 5 |
| 73 | 1, 527 | 1, 518 | 1, 504 | 1, 499 | 1, 489 | 1, 480 | 1, 470 | 1,461 | 1, 451 | 1, 0 |
| 74 | 1, 433 | 1, 518 | 1, 308 | 1, 404 | 1, 395 | 1, 385 | 1, 376 | 1, 367 | 1, 357 | 1, 3 |
| 75 | 1, 433 | 1, 423 | 1, 414 | 1, 404 | 1, 301 | 1, 385 | 1, 283 | 1, 273 | 1, 264 | 1, 3 |
| 76 | 1, 339 | 1, 329 | 1, 320 | 1, 311 | 1, 209 | 1, 199 | 1, 190 | 1, 181 | 1, 172 | 1, 1 |
| 77 | · · · | | | 1, 218 | 1, 205 | 1, 108 | 1, 098 | 1, 089 | 1,080 | 1, 0 |
| 78 | 1, 153 1, 062 | 1, 144 1, 053 | 1, 135 1, 044 | 1, 120 | 1, 026 | 1, 108 | 1,007 | 998 | 989 | 1,0 |
| 79 | 971 | 962 | 953 | 1,035 | 935 | 926 | 917 | 908 | 899 | 8 |
| 80 | 881 | 872 | 863 | 854 | 845 | 836 | 827 | 818 | 809 | 8 |
| 81 | 791 | 782 | 773 | 765 | 756 | 747 | 738 | 729 | 720 | 7 |
| | | | 684 | 675 | 667 | 658 | 649 | 640 | 631 | ė |
| 82 | 702 | 693 | , | 587 | | 569 | 560 | 552 | 543 | Ę |
| 83 | 613 | 605 516 | 596 | 587 499 | 578 490 | 481 | 472 | 463 | 455 | 4 |
| 84 | 525 | 516 | 507 | | | 393 | 384 | 376 | 367 | 2 |
| 85 | 437 | 428 | 420 | 411 | 402 | | 297 | 288 | 279 | |
| 86 | 349 | 341 | 332 | 323 | 314 | 306 | | | 4 | 1 |
| 87 | 262 | 253 | 244 | 236 | 227 | 218 | 209 | 201 | 192 | 1 |
| 88 | 174 | 166 | 157 | 148 | 140 | 131 | 122 | 113 | 105 | |
| 89 | 87 | 78 | 70 | 61 | 52 | 44 | 35 | 26 | 17 | |

2-24

| Degrees | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|---------|---------|-----------------|---------|-------------|-----------------|-------------|---------|---------------|---------|---------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 99, 534 | 97, 031 | 94, 637 | 92, 347 | 90, 154 | 88, 053 | 86, 038 | 84, 106 | 82, 251 | 80, 470 |
| 4 | 78, 758 | 77, 112 | 75, 528 | 74, 003 | 72, 534 | 71, 119 | 69, 754 | 68, 437 | 67, 166 | 65, 939 |
| 5 | 64, 753 | 63, 606 | 62, 497 | 61, 424 | 60, 385 | 59, 378 | 58, 403 | 57, 458 | 56, 542 | 55, 653 |
| 6 | 54, 790 | 53, 95 2 | 53, 138 | 52, 347 | 51, 578 | 50, 831 | 50, 104 | 49, 396 | 48, 708 | 48, 037 |
| 7 | 47, 384 | 46, 748 | 46, 128 | 45, 523 | 44, 933 | 44, 358 | 43, 797 | 43, 249 | 42, 714 | 42, 192 |
| 8 | 41, 681 | 41, 183 | 40, 695 | 40, 219 | 39, 753 | 39, 298 | 38, 852 | 38, 416 | 37, 989 | 37, 57 |
| 9 | 37, 162 | 36, 761 | 36, 369 | 35, 984 | 35, 608 | 35, 238 | 34, 876 | 34, 521 | 34, 173 | 33, 831 |
| 10 | 33, 496 | 33, 167 | 32, 844 | 32, 528 | 32 , 217 | 31, 911 | 31, 611 | 31, 317 | 31, 027 | 30, 743 |
| 11 | 30, 463 | 30 , 189 | 29, 919 | 29, 653 | 29, 392 | 29, 136 | 28, 883 | 28, 635 | 28, 390 | 28, 150 |
| 12 | 27, 913 | 27, 681 | 27, 451 | 27, 226 | 27, 003 | 26, 785 | 26, 569 | 26, 357 | 26, 148 | 25, 942 |
| 13 | 25, 739 | 25, 539 | 25, 342 | 25, 148 | 24, 956 | 24, 768 | 24, 582 | 24, 398 | 24, 217 | 24, 039 |
| 14 | 23, 863 | 23, 689 | 23, 518 | 23, 349 | 23, 182 | 23, 018 | 22, 855 | 22, 695 | 22, 537 | 22, 381 |
| 15 | 22, 226 | 22, 074 | 21, 924 | 21, 776 | 21, 629 | 21, 484 | 21, 341 | 21, 200 | 21,061 | 20, 923 |
| 16 | 20, 786 | 20, 652 | 20, 519 | 20, 387 | 20, 258 | 20, 129 | 20, 002 | 19, 877 | 19, 753 | 19, 630 |
| 17 | 19, 509 | 19, 389 | 19, 270 | 19, 153 | 19, 037 | 18, 922 | 18, 809 | 18, 697 | 18, 586 | 18, 476 |
| 18 | 18, 367 | 18, 260 | 18, 153 | 18, 048 | 17, 944 | 17, 841 | 17, 738 | 17, 637 | 17, 537 | 17, 438 |
| 19 | 17, 340 | 17, 243 | 17, 147 | 17, 052 | 16, 958 | 16, 864 | 16, 772 | 16, 681 | 16, 590 | 16, 500 |
| 20 | 16, 411 | 16, 323 | 16, 236 | 16, 149 | 16, 064 | 15, 979 | 15, 895 | 15, 812 | 15, 729 | 15, 647 |
| 21 | 15, 566 | 15, 486 | 15, 406 | 15, 327 | 15, 249 | 15, 172 | 15, 095 | 15, 019 | 14, 943 | 14, 868 |
| 22 | 14, 794 | 14, 720 | 14, 647 | 14, 575 | 14, 503 | 14, 432 | 14, 362 | 14, 292 | 14, 222 | 14, 153 |
| 23 | 14, 085 | 14, 017 | 13, 950 | 13, 884 | 13, 817 | 13, 752 | 13, 687 | 13, 622 | 13, 558 | 13, 495 |
| 24 | 13, 432 | 13, 369 | 13, 307 | 13, 246 | 13, 184 | 13, 124 | 13, 064 | 13, 004 | 12, 944 | 12, 886 |
| 25 | 12, 827 | 12, 769 | 12, 712 | 12, 655 | 12, 598 | 12, 542 | 12, 486 | 12, 430 | 12, 375 | 12, 320 |
| 26 | 12, 266 | 12, 212 | 12, 159 | 12, 105 | 12, 053 | 12, 000 | 11, 948 | 11, 896 | 11, 845 | 11, 794 |
| 27 | 11, 743 | 11, 693 | 11, 643 | 11, 593 | 11, 544 | 11, 495 | 11, 446 | 11, 398 | 11, 350 | 11, 302 |
| 28 | 11, 255 | 11, 208 | 11, 161 | 11, 115 | 11, 069 | 11, 023 | 10, 977 | 10, 932 | 10, 887 | 10, 842 |
| 29 | 10, 798 | 10, 753 | 10, 710 | 10, 666 | 10, 623 | 10, 579 | 10, 537 | 10, 494 | 10, 452 | 10, 410 |
| 30 | 10, 368 | 10, 326 | 10, 285 | 10, 244 | 10, 203 | 10, 163 | 10, 122 | 10, 082 | 10, 042 | 10, 003 |
| 31 | 9, 963 | 9, 924 | 9, 885 | 9, 846 | 9, 808 | 9, 770 | 9, 732 | 9, 694 | 9, 656 | 9, 619 |
| 32 | 9, 581 | 9, 544 | 9, 508 | 9, 471 | 9, 435 | 9, 398 | 9, 362 | 9, 327 | 9, 291 | 9, 255 |
| 33 | 9, 220 | 9, 185 | 9, 150 | 9, 116 | 9, 081 | 9, 047 | 9, 013 | 8, 979 | 8, 945 | 8, 911 |
| 34 | 8, 878 | 8, 845 | 8, 811 | 8, 779 | 8, 746 | 8, 713 | 8, 681 | 8, 648 | 8, 616 | 8, 584 |
| 35 | 8, 553 | 8, 521 | 8, 490 | 8, 458 | 8, 427 | 8, 396 | 8, 365 | 8, 334 | 8, 304 | 8, 273 |
| 36 | 8, 243 | 8, 213 | 8, 183 | 8, 153 | 8, 124 | 8, 094 | 8, 065 | 8, 035 | 8, 006 | 7, 977 |
| 37 | 7, 948 | 7, 919 | 7, 891 | 7, 862 | 7, 834 | 7, 806 | 7, 778 | 7, 750 | 7, 722 | 7, 694 |
| 38 | 7,667 | 7, 639 | 7,612 | 7, 584 | 7, 557 | 7, 530 | 7, 503 | 7, 477 | 7, 450 | 7, 424 |
| 39 | 7, 397 | 7, 371 | 7, 345 | 7, 319 | 7, 293 | 7, 267 | 7, 241 | 7,215 | 7, 190 | 7,164 |
| 40 | 7,139 | 7,114 | 7, 089 | 7,064 | 7, 039 | 7,014 | 6, 989 | 6, 965 | 6, 940 | 6, 916 |
| 41 | 6, 891 | 6, 867 | 6, 843 | 6, 819 | 6, 795 | 6, 771 | 6, 748 | 6, 724 | 6, 700 | 6, 677 |
| 42 | 6, 654 | 6, 630 | 6, 607 | 6, 584 | 6, 561 | 6, 538 | 6, 515 | 6, 492 | 6, 470 | 6, 447 |
| 43 | 6, 425 | 6, 402 | 6, 380 | 6, 358 | 6, 336 | 6, 313 | 6, 291 | 6, 270 | 6, 248 | 6, 226 |
| 44 | 6, 204 | 6,183 | 6, 161 | 6, 140 | 6, 118 | 6, 097 | 6, 076 | 6,055 | 6, 033 | 6,012 |
| 45 | 5, 992 | 5, 971 | 5, 950 | 5, 929 | 5, 909 | 5, 888 | 5,867 | 5,847 | 5,827 | 5, 806 |
| 46 | 5, 786 | 5, 766 | 5, 746 | 5, 728 | 5, 706 | 5, 686 | 5, 666 | 5, 646 | 5, 627 | 5, 60' |

| egrees | | | E | levation an | gle, tenths | of a degre | e | | | |
|------------|------------------|------------------|------------------|------------------|------------------|------------------|--------|--------|--------------|----------|
| group | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 5, 588 | 5, 568 | 5, 549 | 5, 529 | 5, 510 | 5, 491 | 5, 471 | 5, 452 | 5, 433 | 5, 41 |
| 48 | 5, 395 | 5, 376 | 5, 358 | 5, 339 | 5, 320 | 5, 301 | 5, 283 | 5, 264 | 5, 246 | 5, 22 |
| 49 | 5, 209 | 5, 191 | 5, 172 | 5, 154 | 5, 136 | 5, 118 | 5, 100 | 5, 082 | 5, 064 | 5, 04 |
| 50 | 5, 028 | 5, 010 | 4, 993 | 4, 975 | 4, 957 | 4, 940 | 4, 922 | 4, 905 | 4, 887 | 4, 87 |
| 51 | 4, 853 | 4, 835 | 4, 818 | 4, 801 | 4, 784 | 4, 767 | 4, 750 | 4, 733 | 4, 716 | 4, 69 |
| 52 | 4, 682 | 4, 665 | 4, 648 | 4, 632 | 4,615 | 4, 598 | 4, 582 | 4, 565 | 4, 549 | 4, 53 |
| 53 | 4, 516 | 4, 499 | 4, 483 | 4, 467 | 4, 451 | 4, 434 | 4, 418 | 4, 402 | 4, 386 | 4, 37 |
| 54 | 4. 354 | 4, 338 | 4, 322 | 4, 306 | 4, 290 | 4, 275 | 4, 259 | 4, 243 | 4, 228 | 4, 21 |
| 55 | 4, 196 | 4, 181 | 4, 165 | 4, 150 | 4, 134 | 4, 119 | 4, 104 | 4, 088 | 4, 073 | 4, 05 |
| 56 | 4,042 | 4, 027 | 4,012 | 3, 997 | 3, 982 | 3, 967 | 3, 952 | 3, 937 | 3, 922 | 3, 90 |
| 57 | 3, 892 | 3, 877 | 3, 862 | 3, 848 | 3, 833 | 3, 818 | 3, 803 | 3, 789 | 3, 774 | 3, 76 |
| 58 | 3, 745 | 3, 730 | 3, 716 | 3, 702 | 3, 687 | 3, 673 | 3, 658 | 3, 644 | 3, 630 | 3, 61 |
| 59 | 3, 601 | 3, 587 | 3, 573 | 3, 559 | 3, 544 | 3, 530 | 3, 516 | 3, 502 | 3, 488 | 3, 47 |
| 60 | 3, 460 | 3, 446 | 3, 432 | 3, 419 | 3, 405 | 3, 391 | 3, 377 | 3, 363 | 3, 350 | 3, 33 |
| 61 | 3, 322 | 3, 309 | 3, 295 | 3, 281 | 3, 268 | 3, 254 | 3, 241 | 3, 227 | 3, 214 | 3, 20 |
| 62 | 3, 187 | 3, 173 | 3, 160 | 3, 147 | 3, 133 | 3, 120 | 3, 107 | 3, 094 | 3, 080 | 3, 06 |
| 63 | 3, 054 | 3, 041 | 3, 028 | 3, 014 | 3, 001 | 2, 988 | 2, 975 | 2, 962 | 2, 949 | 2, 93 |
| 64 | 2,923 | 2, 910 | 2, 897 | 2, 885 | 2, 872 | 2,859 | 2, 846 | 2, 833 | 2, 820 | 2, 80 |
| 65 | 2, 795 | 2, 782 | 2, 770 | 2,757 | 2, 744 | 2, 732 | 2, 719 | 2,706 | 2,694 | 2, 68 |
| 66 | 2, 669 | 2, 656 | 2, 644 | 2, 631 | 2, 619 | 2,600 | 2, 594 | 2, 581 | 2, 569 | 2, 55 |
| 67 | 2, 544 | 2, 532 | 2, 520 | 2, 507 | 2, 495 | 2, 483 | 2, 470 | 2, 458 | 2, 446 | 2, 43 |
| 68 | 2, 314 | 2, 332 | 2, 320 | 2, 385 | 2, 373 | 2, 361 | 2, 349 | 2, 337 | 2, 325 | 2, 31 |
| 69 | 2, 422 | 2, 289 | 2, 397 | 2, 335 | 2, 373 | 2, 301 | 2, 229 | 2, 217 | 2, 205 | 2, 19 |
| 70 | 2, 301 | 2, 289 | 2, 158 | 2, 205 | 2, 233 | 2, 123 | 2, 111 | 2,099 | 2, 087 | 2,07 |
| 71 | 2, 182 | 2, 170 | 2, 138 | 2, 140 | 2, 134 | 2, 123 | 1, 994 | 1, 982 | 1, 971 | 1, 95 |
| 72 | 1, 948 | 1, 936 | 1, 924 | 1, 913 | 1, 901 | 1, 890 | 1, 878 | 1, 867 | 1, 855 | 1, 84 |
| 73 | 1, 833 | 1, 830 | 1, 810 | 1, 513 | 1, 501 | 1, 776 | 1, 764 | 1, 753 | 1, 741 | 1, 73 |
| 74 | · 1 | 1, 707 | 1, 696 | 1, 685 | 1, 787 | 1, 662 | 1, 651 | 1, 640 | 1, 629 | 1, 61 |
| | 1,719 | | | • 1 | · · | 1, 550 | 1, 539 | 1, 528 | 1, 517 | 1, 50 |
| 75 | 1,606 | 1, 595 | 1, 584 | 1, 573 | 1, 561 1, 450 | 1, 550 | 1, 339 | 1, 528 | 1, 406 | 1, 39 |
| 76 77 | 1, 495 1, 384 | 1, 483 1, 373 | 1, 472 1, 362 | 1, 461 1, 351 | 1, 430 | 1, 329 | 1, 318 | 1, 307 | 1, 296 | 1, 28 |
| | | | · · · | | | 1, 329 | 1, 209 | 1, 198 | 1, 187 | 1, 17 |
| 78 | 1, 274 | 1, 263 | 1, 252 | 1, 241 | 1,230 | | 1, 209 | 1, 198 | 1, 187 | 1, 06 |
| 79 | 1,165 | 1,154 | 1, 143 | 1,133 | 1,122 | 1, 111 1, 003 | 992 | 982 | 971 | 1,00 |
| 80 | 1, 057 | 1,046 | 1,035 | 1,025 | 1,014 | | | 874 | 864 | 85 |
| 81 | 949 | 939 | 928 | 917 | 907 | 896 | 885 | , | 757 | 74 |
| 82 | . 842 | 832 | 821 | 810 | 800 | 789 | 779 | 768 | 651 | 64 |
| 83 | 736 | 725 | 715 | 704 | 694 | 683 | 672 | 662 | 546 | 53 |
| 84 | 630 | 619 | 609 | 598 | 588 | 577 | 567 | 556 | 540 440 | 43 |
| 85 | 524 | 514 | 503 | 493 | 482 | 472 | 461 | 451 | 335 | 32 |
| 86 | 419 | 409 | 398 | 388 | 377 | 367 | 356 | 346 | 335 230 | 32 22 |
| 87 | 314 | 304 | 293 | 283 | 272 | 262 | 251 | 241 | / | 11 |
| 88 | 209 | 199 | 188 | 178 | 167 | 157 | 146 | 136 | 126 | |
| 89 | 105 | 94 | 84 | 73 | 63 | 52 | 42 | 31 | 21 | 10 |

 Table 2–1.
 Horizontal Distance (Meters), 6,000 Meters (Ballistic Zone 9) (Computer Zone 12) (Fallout Zone 3)--- Continued

| Degrees | | | E | levation ai | ngle, tenth | s of a degre | ee | | | |
|---------|----------|---------------------|----------|-------------|-------------|--------------|---------|---------|---------|---------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 113, 961 | 111, 185 | 108, 524 | 105, 974 | 103, 527 | 101, 180 | 98, 925 | 96, 759 | 94, 677 | 92, 674 |
| 4 | 90, 747 | 88, 892 | 87, 104 | 85, 381 | 83, 720 | 82, 118 | 80, 571 | 79, 077 | 77, 633 | 76, 238 |
| 5 | 74, 889 | 73, 583 | 72, 320 | 71,096 | 69, 911 | 68, 762 | 67, 648 | 66, 568 | 65, 519 | 64, 502 |
| 6 | 63, 514 | 62, 554 | 61, 621 | 60, 714 | 59, 832 | 58, 974 | 58, 139 | 57, 326 | 56, 535 | 55, 764 |
| 7 | 55, 012 | 54, 280 | 53, 566 | 52, 870 | 5_, 191 | 51, 528 | 50, 881 | 50, 250 | 49, 633 | 49, 031 |
| 8 | 48, 442 | 47, 866 | 47, 304 | 46, 754 | 46, 216 | 45, 690 | 45, 175 | 44, 671 | 44, 178 | 43, 695 |
| 9 | 43, 222 | 42, 758 | 42, 304 | 41, 859 | 41, 423 | 40.996 | 40, 577 | 40, 166 | 39, 762 | 39, 367 |
| 10 | 38, 979 | 38, 598 | 38, 224 | 37, 857 | 37, 497 | 37, 143 | 36, 795 | 36, 454 | 36, 118 | 35, 788 |
| 11 | 35, 464 | 35, 146 | 34, 833 | 34; 525 | 34, 222 | 33, 924 | 33, 631 | 33, 343 | 33, 060 | 32, 781 |
| 12 | 32, 506 | 32, 236 | 31, 970 | 31, 708 | 31, 450 | 31, 196 | 30, 945 | 30, 699 | 30, 456 | 30, 217 |
| 13 | 29, 981 | 29, 74 9 | 29, 520 | 29, 295 | 29, 072 | 28, 853 | 28, 637 | 28, 423 | 28, 213 | 28, 000 |
| 14 | 27, 801 | 27, 599 | 27, 400 | 27, 204 | 27.010 | 26, 819 - | 26, 630 | 26, 444 | 26, 260 | 26, 078 |
| 15 | 25, 899 | 25, 722 | 25, 547 | 25, 375 | 25, 204 | 25, 036 | 24, 870 | 24, 705 | 24, 543 | 24, 383 |
| 16 | 24, 224 | 24,068 | 23, 913 | 23, 760 | 23, 609 | 23, 460 | 23, 312 | 23, 166 | 23, 022 | 22, 879 |
| 17 | 22, 738 | 22, 599 | 22, 461 | 22, 324 | 22, 189 | 22, 056 | 21, 924 | 21, 793 | 21, 664 | 21, 536 |
| 18 | 21, 409 | 21, 284 | 21, 160 | 21,038 | 20, 916 | 20, 796 | 20, 677 | 20, 560 | 20, 443 | 20, 328 |
| 19 | 20, 214 | 20, 101 | 19, 989 | 19, 878 | 19, 769 | 19, 660 | 19, 552 | 19, 446 | 19, 340 | 19, 230 |
| 20 | 19, 132 | 19, 030 | 18, 928 | 18, 827 | 18, 728 | 18, 629 | 18, 531 | 18, 434 | 18, 338 | 18, 243 |
| 21 | 18, 148 | 18, 055 | 17, 962 | 17, 870 | 17, 779 | 17, 689 | 17, 599 | 17, 510 | 17, 422 | 17, 335 |
| 22 | 17, 249 | 17, 163 | 17, 078 | 16, 994 | 16, 910 | 16, 827 | 16, 745 | 16, 664 | 16, 583 | 16, 503 |
| 23 | 16, 423 | 16, 344 | 16, 266 | 16, 188 | 16, 111 | 16, 035 | 15, 959 | 15, 884 | 15, 809 | 15, 73 |
| 24 | 15, 662 | 15, 589 | 15, 517 | 15, 445 | 15, 374 | 15, 303 | 15, 233 | 15, 163 | 15, 094 | 15, 028 |
| 25 | 14, 957 | 14, 890 | 14, 823 | 14, 756 | 14, 690 | 14, 624 | 14, 559 | 14, 495 | 14, 430 | 14, 367 |
| 26 | 14, 303 | 14, 241 | 14, 178 | 14, 116 | 14, 055 | 13, 994 | 13, 933 | 13, 873 | 13, 813 | 13, 753 |
| 27 | 13, 694 | 13, 636 | 13, 577 | 13, 520 | 13, 462 | 13, 405 | 13, 348 | 13, 292 | 13, 236 | 13, 180 |
| 28 | 13, 125 | 13, 070 | 13, 016 | 12, 962 | 12, 908 | 12, 854 | 12, 801 | 12, 748 | 12, 696 | 12, 644 |
| 29 | 12, 592 | 12, 541 | 12, 489 | 12, 439 | 12, 388 | 12, 338 | 12, 288 | 12, 238 | 12, 189 | 12, 140 |
| 30 | 12, 091 | 12, 043 | 11, 995 | 11, 947 | 11, 899 | 11, 852 | 11, 805 | 11, 758 | 11, 712 | 11, 665 |
| 31 | 11, 620 | 11, 574 | 11, 528 | 11, 483 | 11, 438 | 11, 394 | 11, 349 | 11, 305 | 11, 261 | 11, 218 |
| 32 | 11, 174 | 11, 131 | 11, 088 | 11, 046 | 11, 003 | 10, 961 | 10, 919 | 10, 877 | 10, 836 | 10, 794 |
| 33 | 10, 753 | 10, 712 | 10, 672 | 10, 631 | 10, 591 | 10, 551 | 10, 511 | 10, 472 | 10, 432 | 10, 393 |
| 34 | 10, 354 | 10, 315 | 10, 277 | 10, 238 | 10, 200 | 10, 162 | 10, 124 | 10, 087 | 10, 049 | 10, 012 |
| 35 | 9, 975 | 9, 938 | 9, 901 | 9, 865 | 9, 828 | 9, 792 | 9, 756 | 9, 721 | 9, 685 | 9, 649 |
| 36 | 9, 614 | 9, 579 | 9, 544 | 9, 509 | 9, 475 | 9, 440 | 9, 406 | 9, 372 | 9, 338 | 9, 304 |
| 37 | 9, 270 | 9, 237 | 9, 203 | 9, 170 | 9, 137 | 9, 104 | 9,071 | 9, 039 | 9,006 | 8, 974 |
| 38 | 8, 942 | 8, 910 | 8, 878 | 8, 846 | 8, 814 | 8, 783 | 8, 752 | 8, 720 | 8, 689 | 8, 658 |
| 39 | 8, 628 | 8, 597 | 8, 566 | 8, 536 | 8, 506 | 8, 476 | 8, 445 | 8, 416 | 8, 386 | 8, 356 |
| 40 | 8, 327 | 8, 297 | 8, 268 | 8, 239 | 8, 210 | 8, 181 | 8, 152 | 8, 123 | 8, 095 | 8, 066 |
| 41 | 8, 038 | 8,010 | 7, 982 | 7, 954 | 7, 926 | 7, 898 | 7, 870 | 7, 843 | 7, 815 | 7, 788 |
| 42 | 7, 760 | 7, 733 | 7, 706 | 7, 679 | 7,653 | 7, 626 | 7, 599 | 7, 573 | 7, 546 | 7, 520 |
| 43 | 7, 494 | 7, 467 | 7, 441 | 7, 415 | 7, 390 | 7, 364 | 7, 338 | 7, 313 | 7, 287 | 7, 262 |
| 44 | 7, 236 | 7, 211 | 7, 186 | 7, 161 | 7, 136 | 7, 111 | 7, 087 | 7,062 | 7, 037 | 7, 013 |
| 45 | 6, 988 | 6, 964 | 6, 940 | 6, 916 | 6, 892 | 6, 868 | 6, 844 | 6, 820 | 6, 796 | 6, 773 |
| 46 | 6, 749 | 6, 725 | 6, 702 | 6, 679 | 6, 655 | 6, 632 | 6, 609 | 6, 586 | 6, 563 | 6, 540 |

Table 2-1. Horizontal Distance (Meters), 7,000 Meters (Computer Zone 13)

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|-------------------------------------|------------|--------|------------|--------|--------|--------|--------|--------|------|--|--|--|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 6, 517 | 6, 495 | 6, 472 | 6, 449 | 6, 427 | 6, 404 | 6, 382 | 6, 360 | 6, 337 | 6, 3 | | | |
| 48 | 6, 293 | 6, 271 | 6, 249 | 6, 227 | 6, 205 | 6, 184 | 6, 162 | 6, 140 | 6, 119 | 6, 0 | | | |
| 49 | 6, 076 | 6, 054 | 6, 033 | 6, 012 | 5, 991 | 5, 970 | 5, 949 | 5, 928 | 5, 907 | 5, 8 | | | |
| 50 | 5, 865 | 5, 844 | 5, 824 | 5, 803 | 5, 782 | 5, 762 | 5, 741 | 5, 721 | 5, 701 | 5,6 | | | |
| 51 | 5, 660 | 5, 640 | 5, 620 | 5, 600 | 5, 580 | 5, 560 | 5, 540 | 5, 520 | 5, 501 | 5,4 | | | |
| 52 | 5,461 | 5, 442 | 5, 422 | 5, 403 | 5, 383 | 5, 364 | 5, 344 | 5, 325 | 5, 306 | 5, 2 | | | |
| 53 | 5, 267 | 5, 248 | 5, 229 | 5, 210 | 5, 191 | 5, 172 | 5, 154 | 5, 135 | 5, 116 | 5, 0 | | | |
| 54 | 5, 079 | 5, 060 | 5, 042 | 5, 023 | 5, 005 | 4, 986 | 4, 968 | 4, 949 | 4, 931 | 4, 9 | | | |
| 55 | 4, 895 | 4, 877 | 4,858 | 4, 840 | 4,822 | 4, 804 | 4, 787 | 4, 769 | 4, 751 | 4, 7 | | | |
| 56 | 4, 715 | 4, 697 | 4, 680 | 4, 662 | 4, 645 | 4, 627 | 4,609 | 4, 592 | 4, 575 | 4, 5 | | | |
| 57 | 4, 540 | 4, 522 | 4, 505 | 4, 488 | 4, 471 | 4, 454 | 4, 436 | 4, 419 | 4, 402 | 4, 3 | | | |
| 58 | 4, 368 | 4, 351 | 4, 335 | 4, 318 | 4, 301 | 4, 284 | 4, 267 | 4, 251 | 4, 234 | 4, 2 | | | |
| 59 | 4, 201 | 4, 184 | 4, 167 | 4, 151 | 4, 134 | 4, 118 | 4, 102 | 4, 085 | 4,069 | 4, 0 | | | |
| 60 | 4,036 | 4,020 | 4,004 | 3, 988 | 3, 971 | 3, 955 | 3, 939 | 3, 923 | 3, 907 | 3, 8 | | | |
| 61 | 3, 875 | 3, 859 | 3, 843 | 3, 828 | 3, 812 | 3, 796 | 3, 780 | 3, 764 | 3, 749 | 3, 7 | | | |
| 62 | 3, 717 | 3, 702 | 3, 686 | 3, 670 | 3, 655 | 3, 639 | 3, 624 | 3, 608 | 3, 593 | 3, 5 | | | |
| 63 | 3, 562 | 3, 547 | 3, 532 | 3, 516 | 3, 501 | 3, 486 | 3, 471 | 3, 455 | 3, 440 | 3, 4 | | | |
| 64 | 3, 410 | 3, 395 | 3, 380 | 3, 365 | 3, 350 | 3, 335 | 3, 320 | 3, 305 | 3, 290 | 3, 1 | | | |
| 65 | 3, 260 | 3, 245 | 3, 231 | 3, 216 | 3, 201 | 3, 186 | 3, 171 | 3, 157 | 3, 142 | 3, 1 | | | |
| 66 | 3, 113 | 3, 098 | 3, 084 | 3, 069 | 3, 055 | 3,040 | 3, 026 | 3,011 | 2, 997 | 2, 9 | | | |
| 67 | 2, 968 | 2, 953 | 2, 939 | 2, 925 | 2, 910 | 2, 896 | 2, 882 | 2,867 | 2, 853 | 2, 1 | | | |
| 68 | 2,825 | 2,811 | 2, 796 | 2, 782 | 2, 768 | 2,754 | 2, 740 | 2, 720 | 2, 712 | 2, (| | | |
| 69 | 2, 684 | 2,670 | 2,656 | 2,642 | 2,628 | 2,614 | 2,600 | 2, 586 | 2. 572 | 2, 1 | | | |
| 70 | 2, 545 | 2, 531 | 2, 517 | 2, 503 | 2, 490 | 2, 476 | 2,462 | 2, 449 | 2, 435 | 2, 4 | | | |
| 71 | 2, 407 | 2, 394 | 2, 380 | 2, 367 | 2,353 | 2, 339 | 2, 326 | 2, 812 | 2, 299 | 2, 2 | | | |
| 72 | 2, 272 | 2, 258 | 2, 245 | 2, 231 | 2, 218 | 2, 205 | 2, 191 | 2, 178 | 2, 164 | 2, | | | |
| 73 | 2, 138 | 2, 124 | 2, 210 | 2,098 | 2, 084 | 2,071 | 2,058 | 2,045 | 2,031 | 2, (| | | |
| 74 | 2,005 | 1, 992 | 1, 979 | 1, 965 | 1, 952 | 1, 939 | 1, 926 | 1, 913 | 1, 900 | 1, 8 | | | |
| 75 | 1, 874 | 1, 860 | 1, 847 | 1, 834 | 1, 821 | 1, 808 | 1, 795 | 1, 782 | 1, 769 | 1, 1 | | | |
| 76 | 1, 743 | 1, 730 | 1, 717 | 1, 704 | 1, 692 | 1,679 | 1, 666 | 1, 653 | 1, 640 | 1, (| | | |
| 77 | 1, 614 | 1, 601 | 1, 589 | 1, 576 | 1, 563 | 1, 550 | 1, 537 | 1, 525 | 1, 512 | 1, 4 | | | |
| 78 | 1, 486 | 1, 473 | 1, 461 | 1, 448 | 1, 435 | 1, 423 | 1, 410 | 1, 397 | 1, 384 | 1, 3 | | | |
| 79 | 1, 359 | 1, 346 | 1, 334 | 1, 321 | 1, 309 | 1, 296 | 1, 283 | 1, 271 | 1, 258 | 1, 2 | | | |
| 80 | 1, 233 | 1, 340 | 1, 208 | 1, 195 | 1, 183 | 1, 170 | 1, 158 | 1, 145 | 1, 132 | 1, | | | |
| 81 | 1, 200 | 1, 220 | 1, 082 | 1, 070 | 1, 057 | 1,045 | 1,033 | 1,020 | 1,008 | -, (| | | |
| 82 | 983 | 970 | 958 | 945 | 933 | 921 | 908 | 896 | 883 | į | | | |
| 83 | 859 | 970 846 | 834 | 821 | 809 | 797 | 784 | 772 | 760 | | | | |
| 84 | 735 | 723 | 710 | 698 | 686 | 673 | 661 | 649 | 636 | | | | |
| 85 | 612 | 599 | 587 | 575 | 563 | 550 | 538 | 526 | 513 | į | | | |
| 86 | 489 | 477 | 464 | 452 | 440 | 428 | 415 | 403 | 391 | | | | |
| 87 | 366 | 354 | 342 | 432 330 | 318 | 305 | 293 | 281 | 269 | | | | |
| 88 | 244 | 232 | 220 | 208 | 195 | 183 | 171 | 159 | 146 | - | | | |
| 89 | 122 | 110 | 98 | 208 85 | 73 | 61 | 49 | 37 | 24 | - | | | |

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | |
|----------|-------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 127, 933 | 124, 908 | 122, 004 | 119, 215 | 116, 536 | 113, 960 | 111, 484 | 109, 101 | 106, 807 | 104, 598 |
| 4 | 102, 470 | 100, 419 | 98, 440 | 96, 531 | 94, 689 | 92, 909 | 91, 190 | 89, 528 | 87, 921 | 86, 367 |
| 5 | 84, 862 | 83, 405 | 81, 994 | 80, 627 | 79, 301 | 78, 015 | 76, 768 | 75, 558 | 74, 383 | 73, 241 |
| 6 | 72, 132 | 71, 054 | 70, 006 | 68 , 987 | 67, 995 | 67, 0 30 | 66, 091 | 65, 176 | 64, 284 | 63, 416 |
| 7 | 62, 569 | 61, 744 | 60, 9 39 | 60, 153 | 59, 387 | 58, 6 39 | 57, 908 | 57, 195 | 56, 49 8 | 55, 817 |
| 8 | 55, 152 | 54, 502 | 53, 865 | 53, 243 | 52, 635 | 52, 039 | 51, 456 | 50, 886 | 50, 327 | 49, 780 |
| 9 | 49, 244 | 48, 719 | 48, 205 | 47, 701 | 47, 206 | 46, 722 | 46, 247 | 45, 780 | 45, 323 | 44, 874 |
| 10 | 44, 434 | 44, 002 | 43, 578 | 43, 161 | 42, 752 | 42, 350 | 41, 955 | 41, 568 | 41, 187 | 40, 812 |
| 11 | 40, 444 | 40, 082 | 39, 726 | 39, 377 | 39, 032 | 38, 694 | 38, 361 | 38, 034 | 37, 711 | 37, 394 |
| 12 | 37, 082 | 36, 775 | 36, 472 | 36, 174 | 35, 881 | 35, 592 | 35, 307 | 35, 027 | 34, 751 | 34. 478 |
| 13 | 34, 210 | 33, 946 | 33, 685 | 33, 429 | 33, 176 | 32, 926 | 32, 680 | 32, 437 | 32, 198 | 31, 962 |
| 14 | 31, 729 | 31, 499 | 31, 273 | 31, 049 | 30, 828 | 30, 610 | 30, 395 | 30, 183 | 29, 974 | 29, 767 |
| 15 | 29, 563 | 29, 361 | 29, 162 | 28, 966 | 28, 771 | 28, 580 | 28, 390 | 28, 203 | 28, 018 | 27, 835 |
| 16 | 27, 655 | 27, 476 | 27, 300 | 27, 126 | 26, 954 | 26, 783 | 26, 615 | 26, 449 | 26, 284 | 26, 122 |
| 17 | 25, 961 | 25, 802 | 25, 645 | 25, 489 | 25, 335 | 25, 183 | 25, 032 | 24, 884 | 24, 736 | 24, 590 |
| 18 | 24, 446 | 24, 303 | 24, 162 | 24, 022 | 23, 884 | 23, 747 | 23.612 | 23, 477 | 23, 345 | 23, 213 |
| 19 | 23, 083 | 22, 954 | 22, 827 | 22, 700 | 22, 575 | 22, 451 | 22, 328 | 22, 207 | 22, 087 | 21, 967 |
| 20 | 21, 849 | 21, 732 | 21, 616 | 21, 502 | 21, 388 | 21, 275 | 21, 163 | 21, 053 | 20, 943 | 20, 834 |
| 21 | 20, 727 | 20, 620 | 20, 514 | 20, 409 | 20, 305 | 20, 202 | 20, 100 | 19, 999 | 19, 899 | 19, 799 |
| 22 | 19, 700 | 19, 603 | 19, 506 | 19, 409 | 19, 314 | 19, 219 | 19, 126 | 19, 033 | 18, 940 | 18, 849 |
| 23 | 18, 758 | 18, 668 | 18, 579 | 18, 490 | 18, 402 | 18, 315 | 18, 229 | 18, 143 | 18, 058 | 17, 973 |
| 24 25 | 17, 889 17, 085 | 17, 806 | 17, 724 | 17,642 | 17, 560 | 17, 480 | 17, 400 | 17, 320 | 17, 241 | 17, 163 |
| -26 | · · | 17,008 | 16, 932 | 16, 856 | 16, 780 | 16, 705 | 16, 631 | 16, 557 | 16, 484 | 16, 411 |
| 20 | 16, 339 15, 643 | 16, 267 15, 577 | 16, 196 15, 510 | 16, 125 | 16, 055 | 15, 985 | 15, 916 | 15, 847 | 15, 779 | 15, 711 |
| 28 | 14, 994 | 14, 931 | 15, 510 | 15, 444 | 15, 378 | 15, 313 | 15, 248 | 15, 184 | 15, 120 | 15, 057 |
| 29 | 14, 385 | 14, 326 | 14, 268 | 14, 807 | 14, 746 | 14, 684 | 14, 624 | 14, 564 | 14, 504 | 14, 444 |
| 30 | 13, 813 | 13, 758 | 13, 703 | 14, 210 13, 648 | 14, 152 13, 594 | 14, 095 13, 540 | 14,038 | 13, 981 | 13, 925 | 13, 869 |
| 31 | 13, 275 | 13, 222 | 13, 171 | 13, 048 | 13, 068 | 13, 540 | 13, 486 | 13, 433 | 13, 380 | 13, 327 |
| 32 | 12, 766 | 12, 717 | 12, 668 | 12, 619 | 12, 571 | 13, 017 | 12, 966 12, 474 | 12, 916 | 12, 866 | 12, 816 |
| 33 | 12, 285 | 12, 239 | 12, 192 | 12, 015 | 12, 371 | 12, 054 | 12, 474 | 12, 427 | 12, 379 | 12, 332 |
| 34 | 11, 829 | 11, 785 | 11, 741 | 11, 697 | 11, 653 | 11, 610 | 12,009 | 11, 964 11, 524 | 11, 919 | 11, 874 |
| 35 | 11, 396 | 11, 354 | 11, 312 | 11, 271 | 11, 229 | 11, 188 | 11, 307 | 11, 324 | 11, 481 11, 065 | 11, 439 11, 025 |
| 36 | 10, 984 | 10, 944 | 10, 904 | 10, 864 | 10, 825 | 10, 785 | 10, 746 | 10, 707 | 10, 668 | 10, 630 |
| 37 | 10, 591 | 10, 553 | 10, 515 | 10, 477 | 10, 439 | 10, 402 | 10, 740 | 10, 327 | 10, 290 | 10, 030 |
| 38 | 10, 216 | 10, 180 | 10, 143 | 10, 107 | 10, 071 | 10, 035 | 9,999 | 9, 963 | 9, 928 | 9, 893 |
| 39 | 9, 857 | 9, 822 | 9, 787 | 9, 753 | 9, 718 | 9, 684 | 9,649 | 9, 615 | 9, 528 | 9, 547 |
| 40 | 9, 514 | 9, 480 | 9, 447 | 9, 413 | 9, 380 | 9, 347 | 9, 314 | 9, 281 | 9, 249 | 9, 216 |
| 41 | 9, 184 | 9, 152 | 9, 119 | 9, 087 | 9, 056 | 9, 024 | 8, 992 | 8, 961 | 8, 929 | 8, 898 |
| 42 | 8, 867 | 8, 836 | 8, 805 | 8, 774 | 8, 744 | 8, 713 | 8, 683 | 8,652 | 8, 622 | 8, 592 |
| 43 | 8, 562 | 8, 532 | 8, 502 | 8, 473 | 8, 443 | 8, 414 | 8, 384 | 8, 355 | 8, 326 | 8, 297 |
| 44 | 8, 268 | 8, 240 | 8, 211 | 8, 182 | 8, 154 | 8, 125 | 8, 097 | 8, 069 | 8, 041 | 8, 013 |
| 45 | 7, 985 | 7, 957 | 7, 929 | 7,902 | 7, 874 | 7,847 | 7, 820 | 7, 792 | 7, 765 | 7, 738 |
| 46 | 7, 711 | 7, 684 | 7,658 | 7,631 | 7,604 | 7, 578 | 7, 551 | 7, 525 | 7, 499 | 7, 473 |
| 1 | -, | 7,001 | 1,000 | 7,001 | 1,004 | 1, 518 | 7,001 [| 1,020 | (, 499 | 1, =13 |

 Table 2–1.
 Horizontal Distance (Meters), 8,000 Meters (Ballistic Zone 10)(Computer Zone 14)

 (Fallout Zone 4)

| Degrees- | Elevation angle, tenths of a degree | | | | | | | | | |
|----------|-------------------------------------|---------|---------|--------|--------|----------|--------|--------|--------|-------|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 7, 447 | 7, 421 | 7, 395 | 7, 369 | 7, 343 | 7, 318 | 7, 292 | 7, 267 | 7, 241 | 7, 21 |
| 48 | 7, 191 | 7, 165 | 7, 140 | 7, 115 | 7,090 | 7, 065 | 7,041 | 7,016 | 6, 991 | 6, 96 |
| 49 | 6, 942 | 6, 918 | 6, 894 | 6, 869 | 6, 845 | 6, 821 | 6, 797 | 6, 773 | 6, 749 | 6, 72 |
| 50 | 6, 701 | 6, 678 | 6,654 | 6, 631 | 6, 607 | 6, 584 | 6, 560 | 6, 537 | 6, 514 | 6, 49 |
| 51 | 6, 467 | 6, 444 | 6, 421 | 6, 399 | 6, 376 | 6, 353 | 6, 330 | 6, 308 | 6. 285 | 6. 26 |
| 52 | 6, 240 | 6, 218 | 6, 195 | 6, 173 | 6, 151 | 6, 129 | 6, 107 | 6, 085 | 6, 063 | 6, 04 |
| 53 | 6,019 | 5, 997 | 5, 975 | 5, 953 | 5, 932 | 5, 910 | 5, 889 | 5, 867 | 5, 846 | 5, 82 |
| 54 | 5, 803 | 5, 782 | 5, 761 | 5, 740 | 5, 718 | 5, 697 | 5, 676 | 5, 655 | 5, 635 | 5, 61 |
| 55 | 5, 593 | 5, 572 | 5, 551 | 5, 531 | 5, 510 | 5, 490 | 5, 469 | 5, 449 | 5, 428 | 5, 40 |
| 56 | 5, 388 | 5, 368 | 5, 347 | 5, 327 | 5, 307 | 5, 287 | 5, 267 | 5, 247 | 5, 227 | 5, 20 |
| 57 | 5, 187 | 5, 168 | 5, 148 | 5, 128 | 5, 108 | 5, 089 | 5, 069 | 5, 050 | 5,030 | 5, 01 |
| 58 | 4, 991 | 4, 972 | 4, 953 | 4, 934 | 4, 914 | 4, 895 | 4, 876 | 4, 857 | 4, 838 | 4, 81 |
| 59 | 4, 800 | 4, 781 | 4, 762 | 4, 743 | 4, 724 | 4, 705 | 4, 687 | 4, 668 | 4, 649 | 4, 63 |
| 60 | 4, 612 | 4, 593 | 4, 575 | 4, 556 | 4, 538 | 4, 520 | 4, 501 | 4, 483 | 4, 465 | 4, 44 |
| 61 | 4, 428 | 4, 410 | 4, 392 | 4, 374 | 4, 355 | 4, 337 | 4, 319 | 4, 301 | 4, 283 | 4, 26 |
| 62 | 4, 248 | 4, 230 | 4, 212 | 4, 194 | 4, 176 | 4, 159 | 4, 141 | 4, 123 | 4, 106 | 4, 08 |
| 63 | 4, 248 | 4, 2.50 | 4, 035 | 4, 194 | 4, 000 | 3, 983 | 3, 966 | 3, 948 | 3, 931 | 3, 9 |
| | · / | · · (| · · · · | · · · | · / | · · · · | · 1 | · · · | | 3, 7 |
| 64 | 3, 896 | 3,879 | 3, 862 | 3, 845 | 3,828 | 3, 810 | 3, 793 | 3, 776 | 3, 759 | 3, 5 |
| 65 | 3, 725 | 3, 708 | 3, 691 | 3, 674 | 3, 658 | 3, 641 | 3, 624 | 3, 607 | 3, 590 | |
| 66 | 3, 557 | 3, 540 | 3, 524 | 3, 507 | 3, 490 | 3, 474 | 3, 457 | 3, 441 | 3, 424 | 3, 41 |
| 67 | 3, 391 | 3, 375 | 3, 358 | 3, 342 | 3, 326 | 3, 309 | 3, 293 | 3, 277 | 3, 260 | 3, 24 |
| ·68 | 3, 228 | 3, 212 | 3, 195 | 3, 179 | 3, 163 | 3, 147 | 3, 131 | 3, 115 | 3, 099 | 3, 0 |
| 69 | 3, 067 | 3, 051 | 3, 035 | 3, 019 | 3, 003 | 2, 987 | 2, 971 | 2, 955 | 2, 939 | 2, 93 |
| 70 | 2, 908 | 2, 892 | 2, 876 | 2,861 | 2, 845 | 2,829 | 2, 813 | 2, 798 | 2, 782 | 2, 70 |
| 71 | 2, 751 | 2, 735 | 2, 720 | 2, 704 | 2, 689 | 2, 673 | 2, 658 | 2, 642 | 2, 627 | 2, 6 |
| 72 | 2, 596 | 2, 581 | 2, 565 | 2, 550 | 2, 534 | 2, 519 | 2, 504 | 2, 488 | 2, 473 | 2, 4 |
| 73 | 2, 443 | 2, 427 | 2, 412 | 2, 397 | 2, 382 | 2, 367 | 2, 351 | 2, 336 | 2, 321 | 2, 30 |
| 74 | 2, 291 | 2, 276 | 2, 261 | 2, 246 | 2, 231 | 2, 216 | 2, 201 | 2, 186 | 2, 171 | 2, 1 |
| 75 | 2, 141 | 2, 126 | 2, 111 | 2, 096 | 2, 081 | 2, 066 | 2, 051 | 2, 037 | 2, 022 | 2, 0 |
| 76 | 1, 992 | 1, 977 | 1, 962 | 1, 948 | 1, 933 | 1, 918 | 1, 903 | 1, 889 | 1, 874 | 1, 8 |
| 77 | 1, 845 | 1, 830 | 1, 815 | 1, 801 | 1, 786 | 1, 771 | 1, 757 | 1, 742 | 1,727 | 1, 7 |
| 78 | 1, 698 | 1, 684 | 1, 669 | 1, 655 | 1, 640 | 1, 626 | 1, 611 | 1, 597 | 1, 582 | 1, 5 |
| 79 | 1, 553 | 1, 539 | 1, 524 | 1, 510 | 1, 495 | 1, 481 | 1, 466 | 1, 452 | 1, 438 | 1, 4 |
| 80 | 1, 409 | 1, 394 | 1, 380 | 1, 366 | 1, 351 | 1, 337 | 1, 323 | 1, 308 | 1, 294 | 1, 28 |
| 81 | 1, 265 | 1, 251 | 1, 237 | 1, 223 | 1, 208 | 1, 194 [| 1, 180 | 1, 166 | 1, 151 | 1, 13 |
| 82 | 1, 123 | 1, 109 | 1, 094 | 1, 080 | 1, 066 | 1, 052 | 1, 038 | 1, 024 | 1, 009 | 9 |
| 83 | -981 | 967 | 953 | 939 | 924 | 910 | 896 | 882 | 868 | 8 |
| 84 | 840 | 826 | 812 | 797 | 783 | 769 | 755 | 741 | 727 | 7 |
| 85 | 699 | 685 | 671 | 657 | 643 | 629 | 615 | 601 | 587 | 5 |
| 86 | 559 | 545 | 531 | 517 | 503 | 489 | 475 | 461 | 447 | 43 |
| 87 | 419 | 405 | 391 | 377 | 363 | 349 | 335 | 321 | 307 | 2 |
| 88 | 279 | 265 | 251 | 237 | 223 | 209 | 195 | 181 | 167 | 1 |
| 89 | 139 | 126 | 112 | 98 | 84 | 70 | 56 | 42 | 28 | |

 Table 2–1.
 Horizontal Distance (Meters), 8,000 Meters (Ballistic Zone 10) (Computer Zone 14) (Fallout Zone 4)—Continued

2-30

| Degrees | | | E | levation ai | ngle, tenth | s of a degr | ee | | | |
|---------|-----------------|------------------|----------|-------------|-------------|-------------|----------|----------|----------|------------------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 141, 490 | 138, 236 | 135, 109 | 132, 101 | 129, 207 | 126, 421 | 123, 738 | 121, 153 | 118, 662 | 116, 261 |
| 4 | 113, 944 | 111, 708 | 109, 550 | 107, 466 | 105, 452 | 103, 505 | 101, 622 | 99, 801 | 98, 039 | 96, 332 |
| 5 | 94, 679 | 93, 078 | 91, 526 | 90, 020 | 88, 560 | 87, 144 | 85, 768 | 84, 433 | 83, 135 | 81, 875 |
| 6 | 80, 649 | 79, 457 | 78, 298 | 77, 170 | 76, 072 | 75, 003 | 73, 962 | 72, 948 | 71, 960 | 70, 996 |
| 7 | 70, 057 | 69, 141 | 68, 247 | 67, 374 | 66, 523 | 65, 691 | 64, 879 | 64, 086 | 63, 311 | 62, 554 |
| 8 | 61, 813 | 61, 089 | 60, 381 | 59, 688 | 59, 010 | 58, 347 | 57, 697 | 57, 061 | 56, 439 | 55, 829 |
| 9 | 55, 231 | 54, 646 | 54, 072 | 53, 509 | 52, 958 | 52, 417 | 51, 886 | 51, 366 | 50, 855 | 50, 354 |
| 10 | 49, 862 | 49, 380 | 48, 906 | 48, 440 | 47, 983 | 47, 534 | 47, 093 | 46, 659 | 46, 233 | 45, 814 |
| 11 | 45, 403 | 44, 998 | 44, 600 | 44, 209 | 43, 824 | 43, 445 | 43, 073 | 42, 706 | 42, 346 | 41, 991 |
| 12 | 41, 641 | 41, 297 | 40, 959 | 40, 625 | 40, 297 | 39, 973 | 39, 654 | 39, 341 | 39, 031 | 38, 726 |
| 13 | 38, 426 | 38, 130 | 37, 838 | 37, 551 | 37, 267 | 36, 987 | 36, 712 | 36, 440 | 36, 171 | 35, 907 |
| 14 | 35, 646 | 35, 388 | 35, 134 | 34, 884 | 34, 636 | 34, 392 | 34, 151 | 33, 913 | 33, 678 | 33, 447 |
| 15 | 33, 218 | 32, 992 | 32, 768 | 32, 548 | 32, 330 | 32, 115 | 31, 903 | 31, 693 | 31, 485 | 31, 280 |
| 16 | 31, 078 | 30, 878 | 30, 680 | 30, 485 | 30, 291 | 30, 100 | 29, 912 | 29, 725 | 29, 540 | 29, 358 |
| 17 | 29, 177 | 28, 999 | 28, 823 | 28, 648 | 28, 475 | 28, 305 | 28, 136 | 27, 968 | 27, 803 | 27, 639 |
| 18 | 27, 478 | 27, 317 | 27, 159 | 27, 002 | 26, 847 | 26, 693 | 26, 541 | 26, 390 | 26, 241 | 26, 094 |
| 19 | 25, 947 | 25, 803 | 25, 660 | 25, 518 | 25, 377 | 25, 238 | 25, 100 | 24, 964 | 24, 829 | 24, 695 |
| 20 | 24, 562 | 24, 431 | 24, 301 | 24, 172 | 24, 044 | 23, 917 | 23, 792 | 23, 668 | 23, 545 | 23, 423 |
| 21 | 23, 302 | 23, 182 | 23, 063 | 22, 945 | 22, 828 | 22, 713 | 22, 598 | 22, 484 | 22, 372 | 22, 260 |
| 22 | 22, 149 | 22, 039 | 21, 930 | 21, 822 | 21, 715 | 21, 609 | 21, 503 | 21, 399 | 21, 295 | 21, 192 |
| 23 | 21, 090 | 20, 989 | 20, 889 | 20, 789 | 20, 691 | 20, 593 | 20, 496 | 20, 399 | 20, 304 | 20, 209 |
| 24 | 20, 114 | 20, 021 | 19, 928 | 19, 836 | 19, 745 | 19, 654 | 19, 564 | 19, 475 | 19, 386 | 19, 298 |
| 25 | 19, 211 | 19, 125 | 19, 038 | 18, 953 | 18, 868 | 18, 784 | 18, 701 | 18, 618 | 18, 535 | 18, 454 |
| 26 | 18, 372 | 18, 292 | 18, 212 | 18, 132 | 18, 053 | 17, 975 | 17, 897 | 17, 820 | 17, 743 | 17, 667 |
| 27 | 17, 591 | 17, 516 | 17, 441 | 17, 367 | 17, 293 | 17, 220 | 17, 147 | 17, 075 | 17,003 | 16, 9 3 2 |
| 28 | 16, 861 | 16, 790 | 16, 720 | 16, 651 | 16, 582 | 16, 513 | 16, 445 | 16, 377 | 16, 310 | 16, 243 |
| 29 | 16, 176 | 16, 110 | 16, 045 | 15, 979 | 15, 915 | 15, 850 | 15, 786 | 15, 722 | 15, 659 | 15, 596 |
| 30 | 15, 534 | 15, 471 | 15, 410 | 15, 348 | 15, 287 | 15, 226 | 15, 166 | 15, 106 | 15, 047 | 14, 987 |
| 31 | 14, 928 | 14, 870 | 14, 811 | 14, 753 | 14, 696 | 14, 638 | 14, 582 | 14, 525 | 14, 469 | 14, 412 |
| 32 | 14, 357 | 14, 301 | 14, 246 | 14, 191 | 14, 137 | 14, 083 | 14, 029 | 13, 975 | 13, 922 | 13, 869 |
| 33 | 13, 816 | 1 3 , 764 | 13, 711 | 13, 660 | 13, 608 | 13, 557 | 13, 505 | 13, 455 | 13, 404 | 13, 354 |
| 34 | 13, 304 | 13, 254 | 13, 204 | 13, 155 | 13, 106 | 13, 057 | 13, 009 | 12, 960 | 12, 912 | 12, 864 |
| 35 | 12, 817 | 12, 769 | 12, 722 | 12, 675 | 12, 629 | 12, 582 | 12, 536 | 12, 490 | 12, 444 | 12, 399 |
| 36 | 12, 353 | 12, 308 | 12, 263 | 12, 219 | 12, 174 | 12, 130 | 12, 086 | 12, 042 | 11, 998 | 11, 955 |
| 37 | 11, 912 | 11, 869 | 11, 826 | 11, 783 | 11, 741 | 11, 698 | 11, 656 | 11, 614 | 11, 573 | 11, 531 |
| 38 | 11, 490 | 11, 449 | 11, 408 | 11, 367 | 11, 326 | 11, 286 | 11, 246 | 11, 206 | 11, 166 | 11, 126 |
| 39 | 11, 086 | 11, 047 | 11, 008 | 10, 969 | 10, 930 | 10, 891 | 10, 853 | 10, 814 | 10, 776 | 10, 738 |
| 40 | 10, 700 | 10, 662 | 10, 625 | 10, 587 | 10, 550 | 10, 513 | 10, 476 | 10, 439 | 10, 402 | 10, 365 |
| 41 | 10, 329 | 10, 293 | 10, 257 | 10, 221 | 10, 185 | 10, 149 | 10, 114 | 10, 078 | 10, 043 | 10, 008 |
| 42 | 9, 973 | 9, 938 | 9, 903 | 9, 869 | 9, 834 | 9, 800 | 9, 765 | 9, 731 | 9, 697 | 9, 664 |
| 43 | 9, 6 3 0 | 9, 596 | 9, 563 | 9, 530 | 9, 496 | 9, 463 | 9, 430 | 9, 397 | 9, 365 | 9, 332 |
| 44 | 9, 300 | 9, 267 | 9, 235 | 9, 203 | 9, 171 | 9, 139 | 9, 107 | 9, 075 | 9, 044 | 9, 012 |
| 45 | 8, 981 | 8, 950 | 8, 919 | 8, 888 | 8, 857 | 8, 826 | 8, 795 | 8, 764 | 8, 734 | 8, 704 |
| 46 | 8, 673 | 8, 643 | 8, 613 | 8, 583 | 8, 553 | 8, 523 | 8, 494 | 8, 464 | 8, 434 | 8, 405 |

Table 2–1. Horizontal Distance (Meters), 9,000 Meters, (Computer Zone 15)

| Degrees - | | | El | evation an | gle, tenths | of a degre | e | | | |
|-----------|------------|------------|------------|------------|-------------|------------|--------|-----------|--------|-------|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 8, 376 | 8, 346 | 8, 317 | 8, 288 | 8, 259 | 8, 230 | 8, 202 | 8, 173 | 8, 144 | 8, 1 |
| 48 | 8, 088 | 8, 059 | 8, 031 | 8, 003 | 7, 975 | 7, 947 | 7, 919 | 7, 891 | 7, 864 | 7, 8 |
| 49 | 7, 808 | 7, 781 | 7, 754 | 7, 726 | 7, 699 | 7, 672 | 7, 645 | 7, 618 | 7, 591 | 7, 50 |
| 50 | 7, 537 | 7, 511 | 7, 484 | 7, 458 | 7, 431 | 7, 405 | 7, 379 | 7, 353 | 7, 326 | 7, 30 |
| 51 | 7, 274 | 7, 249 | 7, 223 | 7, 197 | 7, 171 | 7, 146 | 7, 120 | 7, 095 | 7, 069 | 7, 0- |
| 52 | 7,019 | 6, 993 | 6, 968 | 6, 943 | 6, 918 | 6, 893 | 6, 868 | 6, 844 | 6, 819 | 6, 7 |
| 53 | 6, 770 | 6, 745 | 6, 721 | 6, 696 | 6, 672 | 6, 648 | 6, 623 | 6, 599 | 6, 575 | 6, 5 |
| 54 | 6, 527 | 6, 503 | 6, 479 | 6, 456 | 6, 432 | 6, 408 | 6, 385 | 6, 361 | 6, 338 | 6, 31 |
| 55 | 6, 291 | 6, 267 | 6, 244 | 6, 221 | 6, 198 | 6, 175 | 6, 152 | 6, 129 | 6, 106 | 6, 08 |
| 56 | 6, 060 | 6, 037 | 6,015 | 5, 992 | 5, 969 | 5, 947 | 5, 924 | 5, 902 | 5, 879 | 5, 8 |
| 57 | 5, 835 | 5, 812 | 5, 790 | 5, 768 | 5, 746 | 5, 724 | 5, 702 | 5, 680 | 5. 658 | 5, 6 |
| 58 | 5, 614 | 5, 593 | 5, 571 | 5, 549 | 5, 528 | 5, 506 | 5, 484 | 5, 463 | 5, 441 | 5, 42 |
| 59 | 5, 399 | 5, 377 | 5, 356 | 5, 335 | 5, 314 | 5, 293 | 5, 272 | 5, 250 | 5, 229 | 5, 20 |
| 60 | 5, 188 | 5, 167 | 5, 146 | 5, 125 | 5, 104 | 5, 084 | 5, 063 | 5,042 | 5,022 | 5, 00 |
| 61 | 4, 981 | 4, 960 | 4, 940 | 4, 919 | 4, 899 | 4, 879 | 4, 858 | 4,838 | 4, 818 | 4, 79 |
| 62 | 4, 778 | 4, 758 | 4, 738 | 4, 718 | 4, 698 | 4, 678 | 4, 658 | 4, 638 | 4,618 | 4, 59 |
| 63 | 4, 578 | 4, 559 | 4, 539 | 4, 519 | 4, 500 | 4, 480 | 4, 461 | 4, 441 | 4, 422 | 4, 4 |
| 64 | 4, 383 | 4, 363 | 4, 344 | 4, 325 | 4, 305 | 4, 286 | 4, 267 | 4, 248 | 4, 228 | 4. 20 |
| 65 | 4, 190 | 4, 171 | 4, 152 | 4, 133 | 4, 114 | 4, 095 | 4,076 | 4,057 | 4, 038 | 4, 0 |
| 66 | 4, 001 | 3, 982 | 3, 963 | 3, 945 | 3, 926 | 3, 907 | 3, 889 | 3, 870 | 3, 851 | 3, 8 |
| 67 | 3, 814 | 3, 796 | 3, 777 | 3, 759 | 3, 741 | 3, 722 | 3, 704 | 3, 686 | 3, 667 | 3, 64 |
| 68 | 3, 631 | 3, 612 | 3, 594 | 3, 576 | 3, 558 | 3, 540 | 3, 522 | 3, 504 | 3, 486 | 3, 4 |
| 69 | 3, 450 | 3, 432 | 3, 414 | 3, 396 | 3, 378 | 3, 360 | 3, 342 | 3, 324 | 3, 306 | 3, 2 |
| 70 | 3, 271 | 3, 253 | 3, 235 | 3, 218 | 3, 200 | 3, 182 | 3, 165 | 3, 147 | 3, 129 | 3, 1 |
| 71 | 3, 094 | 3, 077 | 3, 059 | 3,042 | 3,024 | 3,007 | 2, 989 | 2, 972 | 2, 955 | 2, 9 |
| 72 | 2, 920 | 2, 903 | 2, 885 | 2, 868 | 2, 851 | 2, 833 | 2,816 | 2, 799 | 2, 782 | 2, 7 |
| 73 | 2, 320 | 2, 300 | 2, 713 | 2, 696 | 2, 679 | 2,662 | 2, 645 | 2, 628 | 2, 611 | 2, 59 |
| 74 | 2, 577 | 2, 560 | 2, 543 | 2, 526 | 2, 509 | 2, 492 | 2, 475 | 2, 459 | 2, 442 | 2, 42 |
| 75 | 2, 408 | 2, 300 | 2, 374 | 2, 358 | 2, 303 | 2, 324 | 2, 307 | 2, 291 | 2, 274 | 2, 2, |
| 76 | 2, 408 | 2, 391 | 2, 207 | 2, 333 | 2, 341 | 2, 158 | 2, 141 | 2, 124 | 2, 108 | 2, 09 |
| 77 | 2, 075 | 2, 224 | 2, 201 | 2, 131 | 2, 009 | 1, 992 | 1, 976 | 1, 959 | 1, 943 | 1, 92 |
| 78 | 1, 910 | 1, 894 | 1,877 | 1, 861 | 1, 845 | 1, 828 | 1, 812 | 1, 796 | 1, 779 | 1, 70 |
| 79 | 1, 747 | 1, 731 | 1, 714 | 1, 698 | 1, 682 | 1, 666 | 1, 649 | 1,633 | 1, 617 | 1, 60 |
| 80 | 1, 585 | 1, 569 | 1, 552 | 1, 536 | 1, 520 | 1, 504 | 1, 488 | 1, 472 | 1, 456 | 1, 44 |
| 81 | 1, 423 | 1, 303 | 1, 391 | 1, 375 | 1, 359 | 1, 343 | 1, 327 | 1, 311 | 1, 295 | 1, 27 |
| 82 | 1, 263 | 1, 407 | 1, 391 | 1, 215 | 1, 199 | 1, 183 | 1, 167 | 1, 151 | 1, 135 | 1, 11 |
| 83 | 1, 203 | 1, 088 | 1, 231 | 1, 215 | 1, 199 | 1, 133 | 1,008 | 992 | 976 | |
| | | · · | · · | 897 | 881 | 865 | 850 | 834 | 818 | 80 |
| 84 85 | 945 786 | 929 770 | 913 755 | 739 | 723 | 707 | 692 | 676 | 660 | 64 |
| | | | | | I | 550 | 534 | 518 | 502 | 48 |
| 86 | 628 | 613 | 597 | 581 424 | 565 | 392 | 377 | 361 | 345 | 33 |
| 87 | 471 | 455 | 440 | 1 | 408 | | 220 | 204 | 188 | 17 |
| 88 | 314 | 298 | 282 | 267 | 251 | 235 | | 204 47 | 31 | 1 |
| 89 | 157 | 141 | 125 | 110 | 94 | 78 | 63 | 917 (| 01 | |

| Table 2–1. Horn | ontal Distance (Meters), 9,000 Meters, (Computer Zone 15)—Continued |
|-----------------|---|

| Degrees | | | Е | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|-------------------------|--------------------|--------------------|--------------------|-------------|-------------|----------|--------------------|--------------------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 154, 666 | 151, 203 | 147, 869 | 144, 658 | 141, 565 | 138, 583 | 135, 708 | 132, 935 | 130, 260 | 127, 677 |
| 4 | 125, 184 | 122, 775 | 120, 447 | 118, 197 | 116, 020 | 113, 915 | 111, 877 | 109, 904 | 107, 994 | 106, 142 |
| 5 | 104, 348 | 102, 608 | 100, 921 | 99, 284 | 97, 694 | 96, 151 | 94, 653 | 93, 197 | 91, 782 | 90, 406 |
| 6 | 89, 068 | 87, 766 | 86, 499 | 85, 266 | 84, 065 | 82, 895 | 81, 756 | 80, 645 | 79, 562 | 78, 507 |
| 7 | 77, 477 | 76, 472 | 75, 492 | 74, 534 | 73, 600 | 72, 687 | 71, 795 | 70, 924 | 70,073 | 69, 240 |
| 8 | 68, 426 | 67, 630 | 66, 851 | 66, 089 | 65, 343 | 64, 613 | 63, 898 | 63, 198 | 62, 513 | 61, 841 |
| 9 | 61, 183 | 60, 538 | 59, 905 | 59, 285 | 58, 677 | 58, 081 | 57, 496 | 56, 922 | 56, 359 | 55, 806 |
| 10 | 55, 264 | 54, 731 | 54, 208 | 53, 694 | 53, 190 | 52, 694 | 52, 207 | 51, 729 | 51, 258 | 50, 796 |
| 11 | 50, 311 | 49, 894 | 49, 455 | 49, 022 | 48, 597 | 48, 179 | 47, 767 | 47, 362 | 46, 963 | 46, 571 |
| 12 | 46, 185 | 45, 804 | 45, 430 | 45, 061 | 44, 698 | 44, 340 | 43, 988 | 43, 640 | 43, 298 | 42, 961 |
| 13 | 42, 629 | 42, 301 | 41, 978 | 41,660 | 41, 346 | 41,037 | 40, 732 | 40, 431 | 40, 134 | 39, 841 |
| 14 | 39, 552 | 39, 267 | 38, 986 | 38, 708 | 38, 435 | 38, 164 | 37, 897 | 37, 634 | 37, 374 | 37, 117 |
| 15 | 36, 864 | 36, 613 | 36, 366 | 36, 122 | 35, 881 | 35, 643 | 35, 407 | 35, 175 | 34, 945 | 34, 718 |
| 16 | 34, 494 | 34, 272 | 34, 053 | 33, 836 | 33, 622 | 33, 411 | 33, 201 | 32, 995 | 32, 790 | 32, 588 |
| 17 | 32, 388 | 32, 190 | 31, 994 | 31, 801 | 31, 610 | 31, 420 | 31, 233 | 31, 048 | 30, 865 | 30. 683 |
| 18 | 30, 504 | 30, 326 | 30, 150 | 29, 976 | 29, 804 | 29, 634 | 29, 465 | 29, 298 | 29, 133 | 28, 969 |
| 19 | 28, 807 | 28, 647 | 28, 488 | 28, 331 | 28, 175 | 28, 021 | 27, 868 | 27, 717 | 27, 567 | 27, 418 |
| 20 | 27, 271 | 27, 126 | 26, 981 | 26, 838 | 26, 697 | 26, 556 | 26, 417 | 26, 279 | 26, 143 | 26, 007 |
| 21 | 25. 873 | 25, 740 | 25, 608 | 25, 478 | 25, 348 | 25, 220 | 25, 093 | 24, 966 | 24, 841 | 24, 717 |
| 22 | 24, 594 | 24, 473 | 24, 352 | 24, 232 | 24, 113 | 23, 995 | 23, 878 | 23, 762 | 23, 647 | 23, 533 |
| 23 | 23, 420 | 23, 308 | 23, 197 | 23, 086 | 22, 977 | 22, 868 | 22, 760 | 22, 653 | 22, 547 | 23, 000 |
| 24 | 22, 337 | 22, 233 | 22, 131 | 23,000 22,028 | 21, 927 | 21, 827 | 21, 727 | 21, 628 | 21, 529 | 21, 432 |
| 25 | 21, 335 | 21, 239 | 21, 143 | 21, 048 | 20, 954 | 20, 861 | 20, 768 | 20, 676 | 20, 585 | 20, 494 |
| -26 | 20, 404 | 20, 314 | 20, 226 | 20, 137 | 20, 054 | 19, 963 | 19, 876 | 20, 010 19, 790 | 20, 385 19, 705 | 19, 621 |
| 27 | 19, 537 | 19, 453 | 19, 370 | 19, 288 | 19, 206 | 19, 125 | 19, 870 | | - | • |
| 28 | 18, 726 | 18, 648 | 18, 570 | 18, 493 | 19, 200 | 18, 125 | | 18,964 | 18, 884 | 18, 805 |
| 29 | 17, 966 | 17, 893 | 17, 820 | 17, 748 | 17, 676 | 18, 540 | 18, 264 | 18, 189 | 18, 115 | 18, 040 |
| 30 | 17, 253 | 17, 184 | 17, 820 | | · · · · · | | 17, 533 | 17, 462 | 17, 392 | 17, 322 |
| 31 | 16, 581 | 16, 516 | 16, 451 | 17,047 | 16, 979 | 16, 912 | 16, 845 | 16, 778 | 16, 712 | 16, 646 |
| 32 | 15. 946 | | 1 | 16, 387 | 16, 323 | 16, 259 | 16, 196 | 16, 133 | 16.070 | 16,008 |
| 33 | 15. 346 | 15,885 15,288 | 15,824 15,230 | 15,763 15,172 | 15, 702 | 15,642 | 15, 582 | 15, 523 | 15, 463 | 15, 405 |
| 34 | 14, 777 | 13, 288 14, 722 | 13, 230 14, 667 | 15, 172 14, 612 | 15, 115 | 15,058 | 15,001 | 14, 945 | 14.888 | 14, 833 |
| 35 | 14, 236 | 14, 722 | | | 14, 557 | 14, 503 | 14, 449 | 14, 396 | 14, 342 | 14, 289 |
| 36 | 13, 722 | 13, 672 | 14, 131 | 14,079 | 14, 028 | 13, 976 | 13, 925 | 13, 874 | 13, 823 | 13, 772 |
| 37 | 13, 231 | | 13, 622 | 13, 572 | 13, 523 | 13, 474 | 13, 425 | 13, 376 | 13, 328 | 13, 279 |
| 38 | | 13, 184 | 13, 136 | 13, 089 | 13, 041 | 12, 995 | 12, 948 | 12, 901 | 12, 885 | 12, 809 |
| -39 | $\frac{12,763}{12,315}$ | 12, 717 | 12, 672 | 12,626 | 12, 581 | 12, 536 | 12, 492 | 12, 447 | 12,403 | 12, 359 |
| 40 | | 12. 271 | 12, 228 | 12, 184 | 12, 141 | 12,098 | 12, 055 | 12,013 | 11, 970 | 11, 928 |
| 40 | 11, 886 | 11, 844 | 11, 802 | 11, 760 | 11, 719 | 11, 678 | 11, 637 | 11, 596 | 11, 555 | 11, 514 |
| 41 | 11, 474 | 11, 433 | 11, 393 | 11, 353 | 11, 314 | 11, 274 | 11, 234 | 11, 195 | 11, 156 | 11, 117 |
| | 11,078 | 11,039 | 11,001 | 10, 962 | 10, 924 | 10, 886 | 10, 848 | 10, 810 | 10, 772 | 10, 735 |
| 43 | 10, 697 | 10, 660 | 10, 623 | 10. 586 | 10, 549 | 10, 512 | 10, 476 | 10, 439 | 10, 403 | 10, 366 |
| 44 | 10, 330 | •10. 294 | 10, 259 | 10, 223 | 10, 187 | 10, 152 | 10, 117 | 10, 081 | 10, 046 | 10, 011 |
| 45 | 9, 977 | 9, 942 | 9, 907 | 9, 873 | 9, 838 | 9, 804 | 9, 770 | 9, 736 | 9, 702 | 9, 668 |
| 46 | 9, 635 | 9,601 | 9, 568 | 9, 534 | 9, 501 | 9, 468 | 9, 435 | 9, 402 | 9, 369 | 9, 337 |

|)egrees | | | E | evation an | igle, tenths | of a degre | e | | | |
|---------|--------|--------|--------|------------|--------------|------------|--------|--------|--------|-------|
| /egrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 9, 304 | 9, 272 | 9, 239 | 9, 207 | 9, 175 | 9, 143 | 9, 111 | 9, 079 | 9, 047 | 9, 01 |
| 48 | 8, 984 | 8, 953 | 8, 921 | 8, 890 | 8, 859 | 8, 828 | 8, 797 | 8, 766 | 8, 735 | 8, 70 |
| 49 | 8,674 | 8, 644 | 8, 613 | 8, 583 | 8, 553 | 8, 523 | 8, 493 | 8, 463 | 8, 433 | 8, 40 |
| 50 | 8, 373 | 8, 344 | 8, 314 | 8, 285 | 8, 255 | 8, 226 | 8, 197 | 8, 168 | 8, 139 | 8, 11 |
| 51 | 8, 081 | 8, 052 | 8, 024 | 7, 995 | 7, 966 | 7, 938 | 7, 910 | 7, 881 | 7, 853 | 7, 82 |
| 52 | 7, 797 | 7, 769 | 7, 741 | 7, 713 | 7, 685 | 7, 658 | 7, 630 | 7, 603 | 7, 575 | 7, 54 |
| 53 | 7. 520 | 7, 493 | 7, 466 | 7, 439 | 7, 412 | 7, 385 | 7.358 | 7, 331 | 7, 304 | 7, 27 |
| 54 | 7, 251 | 7, 224 | 7, 198 | 7, 172 | 7, 145 | 7, 119 | 7, 093 | 7, 067 | 7, 040 | 7, 01 |
| 55 | 6, 988 | 6, 963 | 6, 937 | 6, 911 | 6, 885 | 6, 859 | 6, 834 | 6, 808 | 6, 783 | 6, 75 |
| 56 | 6, 732 | 6, 707 | 6, 682 | 6, 656 | 6, 631 | 6, 606 | 6, 581 | 6, 556 | 6, 531 | 6, 50 |
| 57 | 6, 482 | 6, 457 | 6, 432 | 6, 408 | 6, 383 | 6, 359 | 6, 334 | 6, 310 | 6, 286 | 6, 26 |
| 58 | 6, 237 | 6, 213 | 6, 189 | 6, 165 | 6, 141 | 6, 117 | 6, 093 | 6, 069 | 6, 045 | 6, 02 |
| 59 | 5, 997 | 5, 974 | 5, 930 | 5, 927 | 5, 903 | 5, 880 | 5, 856 | 5, 833 | 5, 809 | 5, 78 |
| 60 | 5, 763 | 5, 740 | 5, 717 | 5, 694 | 5, 670 | 5, 647 | 5, 624 | 5, 602 | 5, 579 | 5, 58 |
| 61 | 5, 533 | 5, 510 | 5, 488 | 5, 465 | 5, 442 | 5, 420 | 5, 397 | 5, 375 | 5, 352 | 5, 33 |
| 62 | 5, 308 | 5, 285 | 5, 263 | 5, 241 | 5, 219 | 5, 196 | 5, 174 | 5, 152 | 5, 130 | 5, 10 |
| 63 | 5, 086 | 5, 064 | 5, 042 | 5, 021 | 4, 999 | 4, 977 | 4, 955 | 4, 934 | 4, 912 | 4, 8 |
| 64 | 4, 869 | 4, 847 | 4, 826 | 4, 804 | 4, 783 | 4, 761 | 4, 740 | 4, 719 | 4, 697 | 4, 6 |
| 65 | 4, 655 | 4, 634 | 4, 613 | 4, 592 | 4, 570 | 4, 549 | 4, 528 | 4, 507 | 4, 486 | 4, 40 |
| 66 | 4, 445 | 4, 424 | 4, 403 | 4, 382 | 4, 361 | 4, 341 | 4, 320 | 4, 299 | 4, 279 | 4, 2 |
| 67 | 4, 237 | 4, 217 | 4, 196 | 4, 176 | 4, 156 | 4, 135 | 4, 115 | 4, 094 | 4, 074 | 4, 0 |
| . 68 | 4, 033 | 4,013 | 3, 993 | 3, 973 | 3, 953 | 3, 932 | 3, 912 | 3, 892 | 3, 872 | 3, 8 |
| 69 | 3, 832 | 3, 812 | 3, 792 | 3, 772 | 3, 752 | 3, 733 | 3, 713 | 3, 693 | 3, 673 | 3, 6 |
| 70 | 3,634 | 3, 614 | 3, 594 | 3, 575 | 3, 555 | 3, 535 | 3, 516 | 3, 496 | 3, 477 | 3, 4 |
| 71 | 3, 438 | 3, 418 | 3, 399 | 3, 379 | 3, 360 | 3, 340 | 3, 321 | 3, 302 | 3, 282 | 3, 2 |
| 72 | 3, 244 | 3, 225 | 3, 205 | 3, 186 | 3, 167 | 3, 148 | 3, 129 | 3, 110 | 3, 090 | 3, 0 |
| 73 | 3, 052 | 3, 033 | 3, 014 | 2, 995 | 2, 976 | 2, 957 | 2, 938 | 2, 919 | 2, 901 | 2, 8 |
| 74 | 2, 863 | 2, 844 | 2,825 | 2, 806 | 2, 788 | 2, 769 | 2, 750 | 2, 731 | 2, 713 | 2, 6 |
| 75 | 2,675 | 2.656 | 2, 638 | 2,619 | 2, 601 | 2, 582 | 2, 563 | 2, 545 | 2. 526 | 2, 5 |
| 76 | 2, 489 | 2, 471 | 2, 452 | 2, 434 | 2, 415 | 2, 397 | 2, 378 | 2, 360 | 2, 342 | 2, 3 |
| 77 | 2, 305 | 2, 287 | 2, 268 | 2, 250 | 2, 232 | 2, 213 | 2, 195 | 2, 177 | 2, 159 | 2, 1 |
| 78 | 2, 122 | 2, 104 | 2, 086 | 2, 068 | 2, 049 | 2, 031 | 2, 013 | 1, 995 | 1, 977 | 1, 9 |
| 79 | 1, 941 | 1, 923 | 1, 905 | 1, 887 | 1, 868 | 1, 850 | 1, 832 | 1, 814 | 1, 796 | 1, 7 |
| 80 | 1, 760 | 1, 743 | 1, 725 | 1, 707 | 1, 689 | 1,671 | 1, 653 | 1, 635 | 1, 617 | 1, 5 |
| 81 | 1, 581 | 1, 563 | 1, 546 | 1, 528 | 1, 510 | 1, 492 | 1, 474 | 1, 457 | 1, 439 | 1, 4 |
| 82 | 1, 403 | 1, 385 | 1.368 | 1, 350 | 1, 332 | 1, 314 | 1, 297 | 1, 279 | 1, 261 | 1, 2 |
| 83 | 1, 226 | 1, 208 | 1, 191 | 1, 173 | 1, 155 | 1, 138 | 1, 120 | 1, 102 | 1, 085 | 1, 0 |
| 84 | 1, 049 | 1,032 | 1, 014 | 997 | 979 | 961 | 944 | 926 | 909 | 8 |
| 85 | 874 | 856 | 838 | 821 | 803 | 786 | 768 | 751 | 733 | 7 |
| 86 | 698 | 681 | 663 | 646 | 628 | 611 | 593 | 576 | 558 | 5 |
| 87 | 523 | 506 | 488 | 471 | 453 | 436 | 418 | 401 | 384 | 3 |
| 88 | 349 | 331 | 314 | 296 | 279 | 261 | 244 | 227 | 209 | 1 |
| 89 | 174 | 157 | 139 | 122 | 105 | 87 | 70 | 52 | 35 | |

 Table 2–1.
 Horizontal Distance (Meters), 10,000 Meters (Ballistic Zone 11) (Computer Zone 16) (Fallout Zone 5)—Continued

| Degrees | | | E | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|-----------|--------------------|----------|--------------------|--------------------|------------------------------------|--------------------|--------------------|----------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 167, 491 | 163, 835 | 160, 310 | 156, 911 | 153, 632 | 150, 468 | 147, 413 | 144, 464 | 141, 615 | 138, 863 |
| 4 | 136, 202 | 133, 630 | 131, 142 | 128, 734 | 126, 404 | 124, 148 | 121, 963 | 119, 846 | 117, 794 | 115, 804 |
| 5 | 113, 874 | 112, 002 | 110, 185 | 108, 421 | 106, 708 | 105, 044 | 103, 426 | 101, 854 | 100, 325 | 98, 838 |
| 6 | 97, 391 | 95, 983 | 94, 612 | 93, 276 | 91, 976 | 90, 708 | 89, 473 | 88, 269 | 87, 094 | 85, 949 |
| 7 | 84, 831 | 83, 740 | 82, 675 | 81, 635 | 80, 620 | 79, 627 | 78, 658 | 77, 710 | 76, 784 | 75, 878 |
| 8 | 74, 992 | 74, 125 | 73, 277 | 72, 447 | 71, 635 | 70, 839 | 70,060 | 69, 297 | 68, 550 | 67, 817 |
| 9 | 67, 099] | 66, 396 | 65, 706 | 65, 029 | 64, 366 | 63, 715 | 63, 077 | 62, 450 | 61, 835 | 61, 232 |
| 10 | 60, 639 | 60, 057 | 59, 486 | 58, 924 | 58, 373 | 57, 831 | 57, 299 | 56, 776 | 56, 262 | 55, 756 |
| 11 | 55, 259 | 54, 770 | 54, 289 | 53, 817 | 53, 351 | 52, 894 | 52, 443 | 52,000 | 51, 564 | 51, 134 |
| 12 | 50, 712 | 50, 295 | 49, 885 | 49, 482 | 49,084 | 48, 692 | 48, 307 | 47, 926 | 47, 552 | 47, 182 |
| 13 | 46, 819 | 46, 460 | 46, 106 | 45, 758 | 45, 414 | 45,075 | 44, 740 | 44, 411 | 44, 085 | 43, 765 |
| 14 | 43, 448 | 43, 136 | 42, 827 | 42, 523 | 42, 223 | 41, 927 | 41, 634 | 41, 346 | 41,000 | 40, 779 |
| 15 | 40, 501 | 40, 227 | 39, 956 | 39, 688 | 39, 423 | 39, 162 | 38, 904 | 38, 649 | 38, 397 | 38, 143 |
| 16 | 37, 902 | 37, 659 | 37, 419 | 37, 181 | 36, 946 | 36, 714 | 36, 485 | 36, 258 | 36, 033 | 35, 811 |
| 17 | 35, 592 | 35, 374 | 35, 160 | 34, 948 | 34, 738 | 34, 530 | 34, 325 | 34, 122 | 33, 921 | 33, 721 |
| 18 | 33, 525 | 33, 330 | 33, 137 | 32, 946 | 32, 757 | 32, 570 | 32, 385 | 32, 202 | 32, 020 | 31, 840 |
| 19 | 31, 663 | 31, 487 | 31, 312 | 31, 139 | 30, 968 | 30, 799 | 30, 631 | 30, 465 | 30, 301 | 30, 138 |
| 20 | 29, 976 | 29, 816 | 29, 658 | 29, 501 | 29, 345 | 29 , 191 | 29, 038 | 28, 887 | 28, 737 | 28, 588 |
| 21 | 28, 441 | 28, 295 | 28, 150 | 28,007 | 27, 865 | 27, 724 | 2 7, 584 | 27, 445 | 27, 308 | 27, 172 |
| 22 | 27, 037 | 26, 903 | 26, 770 | 26, 639 | 26, 508 | 26, 379 | 26, 250 | 26, 123 | 25, 997 | 25, 871 |
| 23 | 25, 747 | 25, 624 | 25, 502 | 25, 380 | 25, 260 | 25, 141 | 25, 022 | 24, 905 | 24, 788 | 24, 672 |
| 24 | 24, 557 | 24, 444 | 24, 330 | 24, 218 | 24, 107 | 23, 996 | 23, 887 | 23, 778 | 23, 670 | 23, 563 |
| 25 | 23, 456 | 23, 351 | 23, 246 | 23, 142 | 23, 038 | 23 , 936 22 , 936 | 23, 831 | 23, 733 | 23, 670 | 20, 500 |
| -26 | 23, 433 | 22, 335 | 23, 240 | 23, 142 | 23, 038 22, 044 | 22, 930 | 21, 854 | 21, 759 | 21, 666 | 21, 573 |
| 27 | 21, 480 | 21, 389 | 21, 297 | 21, 207 | 22, 044 21, 117 | 21, 949 | 21, 834 | 21, 759 | 20, 763 | 20, 676 |
| 28 | 20, 590 | 20, 504 | 20, 418 | 20, 334 | 20, 249 | 20, 166 | | 20, 851 | 19, 918 | 19, 836 |
| 29 | 19,755 | 20, 504 19, 674 | 19, 594 | 20, 334 19, 515 | 20, 249 19, 436 | | 20, 083 19, 279 | | 19, 918 | 19, 030 |
| 30 | 18, 971 | 18, 895 | 18, 820 | 18, 745 | | 19, 357 18, 596 | | 19, 201 | 18, 376 | 19, 047 |
| 31 | 18, 232 | 18, 855 | 18, 820 | 18, 745 | 18, 670 17, 948 | 17, 878 | 18, 522 | 18, 449 17, 740 | 17, 671 | 17, 603 |
| 32 | 17, 535 | | | | | | 17, 809 | | | |
| 32 | 16, 875 | 17, 467 | 17, 400 | 17, 333 | 17, 266 | 17, 200 | 17, 135 | 17,069 | 17,004 | 16, 939 |
| | | 16, 811 | 16, 747 | 16, 684 | 16, 621 | 16, 558 | 16, 496 | 16, 434 | 16, 372 | 16, 310 |
| 34 | 16, 249 | 16, 189 | 16, 128 | 16,068 | 16,008 | 15, 948 | 15, 889 | 15, 830 | 15, 772 | 15, 713 |
| 35 | 15,655 | 15, 597 | 15, 540 | 15, 482 | 15, 426 | 15, 369 | 15, 312 | 15, 256 | 15, 200 | 15, 145 |
| 36 | 15, 089 | 15,034 | 14, 980 | 14, 925 | 14, 871 | 14, 817 | 14, 763 | 14, 709 | 14, 656 | 14, 603 |
| 37 | 14, 550 | 14, 498 | 14, 445 | 14, 393 | 14, 341 | 14, 290 | 14, 238 | 14, 187 | 14, 136 | 14, 086 |
| 38 | 14,035 | 13, 985 | 13, 935 | 13, 885 | 13, 836 | 13, 786 | 13, 737 | 13, 688 | 13, 639 | 13, 591 |
| 39 | 13, 543 | 13, 495 | 13, 447 | 13, 399 | 13, 351 | 13, 304 | 13, 257 | 13, 210 | 13, 164 | 13, 117 |
| 40 | 13,071 | 13, 025 | 12, 979 | 12, 933 | 12, 887 | 12, 842 | 12, 797 | 12, 752 | 12, 707 | 12, 662 |
| 41 | 12, 618 | 12, 574 | 12, 529 | 12, 486 | 12, 442 | 12, 398 | 12, 355 | 12, 311 | 12, 268 | 12, 225 |
| 42 | 12, 183 | 12, 140 | 12, 098 | 12, 055 | 12, 013 | 11, 971 | 11, 930 | 11, 888 | 11, 847 | 11, 805 |
| 43 | 11, 764 | 11, 723 | 11, 682 | 11, 641 | 11, 601 | 11, 561 | 11, 520 | 11, 480 | 11, 440 | 11, 400 |
| 44 | 11, 361 | 11, 321 | 11, 282 | 11, 243 | 11, 203 | 11, 164 | 11, 126 | 11, 087 | 11, 048 | 11, 010 |
| 45 | 10, 972 | 10, 933 | 10, 895 | 10, 857 | 10, 820 | 10, 782 | 10, 745 | 10, 707 | 10, 670 | 10, 633 |
| 46 | 10, 596 | 10, 559 | 10, 522 | 10, 485 | 10, 449 | 10, 413 | 10, 376 | 10, 340 | 10, 304 | 10, 268 |

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| | | | E | evation ar | ngle, tenths | of a degre | e | | | |
|----------|---------|------------------|---------|------------|--------------|------------|---------|--------|------------|---------|
| egrees - | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 10, 232 | 10, 197 | 10, 161 | 10, 126 | 10, 090 | 10, 055 | 10, 020 | 9, 985 | 9, 950 | 9, 91 |
| 48 | 9, 880 | 9, 846 | 9, 811 | 9, 777 | 9, 743 | 9, 709 | 9, 675 | 9, 641 | 9, 607 | 9, 57 |
| 49 | 9, 539 | 9, 506 | 9, 472 | 9, 439 | 9, 406 | 9, 373 | 9, 340 | 9, 307 | 9, 274 | 9, 24 |
| 50 | 9, 209 | 9, 176 | 9, 144 | 9, 111 | 9, 079 | 9, 047 | 9, 015 | 8, 983 | 8, 951 | 8, 91 |
| 51 | 8, 887 | 8, 856 | 8, 824 | 8, 793 | 8, 761 | 8, 730 | 8, 699 | 8, 668 | 8, 637 | 8, 60 |
| 52 | 8, 575 | 8, 544 | 8, 513 | 8, 483 | 8, 452 | 8, 422 | 8, 391 | 8, 361 | 8, 331 | 8, 30 |
| 53 | 8, 271 | 8, 241 | 8, 211 | 8, 181 | 8, 151 | 8, 122 | 8, 092 | 8, 063 | 8, 033 | 8, 00 |
| 54 | 7,975 | 7, 945 | 7, 916 | 7, 887 | 7, 858 | 7, 829 | 7, 800 | 7, 772 | 7, 743 | 7, 71 |
| 55 | 7, 686 | 7,657 | 7, 629 | 7,600 | 7, 572 | 7, 544 | 7, 516 | 7, 488 | 7, 460 | 7, 43 |
| 56 | 7, 404 | 7, 376 | 7, 348 | 7, 321 | 7, 293 | 7, 265 | 7, 238 | 7, 211 | 7, 183 | 7, 15 |
| 57 | 7, 129 | 7, 101 | 7,074 | 7,047 | 7, 020 | 6, 993 | 6, 966 | 6, 940 | 6, 913 | 6, 88 |
| 58 | 6, 859 | 6, 833 | 6, 806 | 6, 780 | 6, 753 | 6, 727 | 6, 701 | 6,674 | 6, 648 | 6, 62 |
| 59 | 6, 596 | 6, 570 | 6,544 | 6, 518 | 6, 492 | 6, 466 | 6, 441 | 6, 415 | 6, 389 | 6, 36 |
| 60 | 6, 338 | 6, 313 | 6, 287 | 6, 262 | 6, 236 | 6, 211 | 6, 186 | 6, 161 | 6, 135 | 6, 11 |
| 61 | 6, 085 | 6, 060 | 6, 035 | 6,010 | 5, 986 | 5, 961 | 5, 936 | 5, 911 | 5, 887 | 5, 86 |
| 62 | 5, 837 | 5, 813 | 5, 788 | 5, 764 | 5, 739 | 5, 715 | 5, 691 | 5, 666 | 5, 642 | 5, 61 |
| 63 | 5, 594 | 5, 570 | 5, 546 | 5, 522 | 5, 498 | 5, 474 | 5, 450 | 5, 426 | 5, 402 | 5, 33 |
| 64 | 5, 355 | 5, 331 | 5, 307 | 5, 284 | 5, 260 | 5, 237 | 5, 213 | 5, 190 | 5, 166 | 5, 14 |
| 65 | 5, 120 | 5, 096 | 5, 073 | 5,050 | 5, 027 | 5,003 | 4, 980 | 4, 957 | 4, 934 | 4, 9 |
| 66 | 4, 888 | 4, 865 | 4, 842 | 4, 820 | 4, 797 | 4,774 | 4, 751 | 4, 728 | 4, 706 | 4, 68 |
| 67 | 4, 660 | 4, 638 | 4, 615 | 4, 593 | 4, 570 | 4, 548 | 4, 525 | 4, 503 | 4, 481 | 4, 4 |
| . 68 | 4, 436 | 4, 414 | 4, 391 | 4, 369 | 4, 347 | 4, 325 | 4, 303 | 4, 281 | 4, 259 | 4, 2; |
| 69 | 4, 215 | 4, 193 | 4, 171 | 4, 149 | 4, 127 | 4, 105 | 4, 083 | 4,062 | 4,040 | 4, 0 |
| 70 | 3, 996 | 3, 975 | 3, 953 | 3, 931 | 3, 910 | 3, 888 | 3, 867 | 3, 845 | 3, 824 | 3, 80 |
| 71 | 3, 781 | 3, 759 | 3, 333 | 3, 717 | 3, 695 | 3,674 | 3, 653 | 3, 631 | 3, 610 | 3, 5 |
| 72 | 3, 568 | 3, 735 | 3, 738 | 3, 504 | 3, 483 | 3, 462 | 3, 441 | 3, 420 | 3, 399 | 3, 3 |
| 73 | 3, 357 | 3, 340 | 3, 315 | 3, 294 | 3, 273 | 3, 252 | 3, 232 | 3, 211 | 3, 190 | 3, 10 |
| 74 | · · · | 3, 330 | 3, 315 | 3, 086 | 3, 066 | 3, 045 | 3, 024 | 3,004 | 2, 983 | 2, 9 |
| 75 | 3, 149 | 2, 922 | 2,901 | 2, 881 | 2, 860 | 2,840 | 2, 819 | 2, 799 | 2,778 | 2, 7 |
| - | 2,942 | 2, 922 2, 717 | 2, 501 | 2, 677 | 2, 656 | 2, 636 | 2, 616 | 2, 596 | 2, 575 | 2, 5 |
| 76 | 2,738 | | 2, 097 | 2, 077 | 2,050 | 2, 030 | 2, 010 | 2, 394 | 2, 374 | 2, 3 |
| 77 | 2, 535 | 2, 515 2, 314 | 2, 495 | 2, 475 | 2, 454 | 2, 434 | 2, 414 | 2, 194 | 2, 174 | 2, 1 |
| 78 | 2, 334 | • | 2, 294 | 2, 274 | 2, 254 | 2, 035 | 2, 015 | 1, 996 | 1, 976 | 1, 9 |
| 79 | 2, 134 | 2, 115 | · · · | 1, 877 | 2,035 | 1, 838 | 1, 818 | 1, 798 | 1, 778 | 1, 7 |
| 80 | 1, 936 | 1, 916 | 1, 897 | · · | 1, 661 | 1, 641 | 1, 622 | 1, 602 | 1, 582 | 1, 5 |
| 81 | 1, 739 | 1, 720 | 1, 700 | 1, 680 | · · | | 1, 426 | 1, 407 | 1, 387 | 1, 3 |
| 82 | 1, 543 | 1, 524 | 1, 504 | 1, 485 | 1, 465 | 1,446 | 1, 420 | 1, 212 | 1, 193 | 1, 17 |
| 83 | 1, 348 | 1, 329 | 1, 309 | 1, 290 | 1, 271 | 1, 251 | | 1, 212 | 999 | 1, 1 |
| 84 | 1, 154 | 1, 135 | 1, 115 | 1, 096 | 1,077 | 1,057 | 1,038 | 826 | 806 | 78 |
| 85 | 961 | 941 | 922 | 903 | 884 | 864 | 845 | 633 | 614 | 59 |
| 86 | 768 | 749 | 729 | 710 | 691 | 672 | 652 | | 422 | |
| 87 | 575 | 556 | 537 | 518 | 499 | 479 | 460 | 441 | 422 230 | 40 2 |
| 88 | 383 | 364 | 345 | 326 | 307 | .288 | 268 | 249 | | |
| 89 | 192 | 173 | 153 | 134 | 115 | 96 | 77 | 57 | 38 | 1 |

Table 2-1. Horizontal Distance (Meters), 11,000 Meters (Computer Zone 17)—Continued

| Degrees | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|-------------|-----------------|-----------------|----------|-------------|-------------|-------------|----------|-----------------|----------|-----------------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 179, 993 | 176, 157 | 172, 455 | 168, 880 | 165, 428 | 162, 093 | 158, 870 | 155, 755 | 152, 743 | 149, 831 |
| 4 | 147, 013 | 144, 286 | 141, 646 | 139, 089 | 136, 613 | 134, 214 | 131, 888 | 129, 633 | 127, 446 | 125, 324 |
| 5 | 123, 264 | 121, 265 | 119, 324 | 117, 438 | 115, 605 | 113, 824 | 112,092 | 110, 408 | 108, 769 | 107, 175 |
| 6 | 105, 622 | 104, 111 | 102, 639 | 101, 205 | 99, 807 | 98, 445 | 97, 117 | 95, 821 | 94, 558 | 93, 325 |
| 7 | 92, 121 | 90, 946 | 89, 799 | 88, 678 | 87, 583 | 86, 513 | 85, 468 | 84, 445 | 83, 446 | 82, 468 |
| 8 | 81, 512 | 80, 576 | 79, 660 | 78, 763 | 77, 885 | 77, 026 | 76, 184 | 75, 359 | 74, 550 | 73, 758 |
| 9 | 72, 982 | 72, 221 | 71, 474 | 70, 742 | 70, 024 | 69, 319 | 68, 628 | 67, 950 | 67, 284 | 66, 630 |
| 10 | 65, 988 | 65, 358 | 64, 739 | 64, 130 | 63, 533 | 62, 946 | 62, 369 | 61, 801 | 61, 244 | 60, 696 |
| 11 | 60, 157 | 59, 626 | 59, 105 | 58, 592 | 58, 087 | 57, 591 | 57, 102 | 56, 621 | 56, 148 | 55, 682 |
| 12 | 55, 223 | 54, 77 1 | 54, 326 | 53, 888 | 53, 456 | 53, 031 | 52, 612 | 52, 199 | 51, 792 | 51, 391 |
| 13 | 50, 995 | 50, 606 | 50, 222 | 49, 843 | 49, 469 | 49, 101 | 48, 738 | 48, 379 | 48,026 | 47, 677 |
| 14 | 47, 333 | 46, 994 | 46, 659 | 46, 328 | 46, 002 | 45, 680 | 45, 362 | 45, 048 | 44, 738 | 44, 432 |
| 15 | 44, 130 | 43, 831 | 43, 536 | 43, 245 | 42, 958 | 42, 674 | 42, 393 | 42, 116 | 41, 842 | 41, 571 |
| 16 | 41, 303 | 41, 039 | 40, 777 | 40, 519 | 40, 263 | 40, 011 | 39, 761 | 39, 514 | 39, 270 | 39, 029 |
| 17 | 38, 790 | 38, 554 | 38, 320 | 38, 089 | 37, 861 | 37, 635 | 37, 411 | 37, 190 | 36, 971 | 36, 754 |
| 18 | 36, 540 | 36, 328 | 36, 118 | 35, 910 | 35, 705 | 35, 501 | 35, 299 | 35, 100 | 34, 902 | 34, 707 |
| 19 | 34, 513 | 34, 322 | 34, 132 | 33, 944 | 33, 758 | 33, 573 | 33, 391 | 33, 210 | 33, 031 | 32, 853 |
| 20 | 32, 677 | 32, 503 | 32, 331 | 32, 160 | 31, 990 | 31, 822 | 31,656 | 31, 491 | 31, 328 | 31, 166 |
| 21 | 31, 006 | 30, 847 | 30, 689 | 30, 533 | 30, 378 | 30, 224 | 30, 072 | 29, 921 | 29, 772 | 29, 623 |
| 22 | 29, 476 | 29, 330 | 29, 186 | 29, 042 | 28, 900 | 28, 759 | 28, 619 | 28, 481 | 28, 343 | 28, 207 |
| 23 | 28, 071 | 27, 937 | 27, 804 | 27, 672 | 27, 541 | 27, 411 | 27, 281 | 27, 153 | 27, 026 | 26, 900 |
| 24 | 26, 775 | 26, 651 | 26, 528 | 26, 406 | 26, 285 | 26, 164 | 26, 045 | 25, 926 | 25, 808 | 25, 692 |
| 25 | 25, 576 | 25, 460 | 25, 346 | 25, 233 | 25, 120 | 25, 008 | 24, 897 | 24, 787 | 24, 678 | 24, 569 |
| 26 | 2 4, 461 | 24, 354 | 24, 248 | 24, 142 | 24, 037 | 23, 933 | 23, 829 | 23, 727 | 23, 625 | 23, 523 |
| 27 | 23, 422 | 23, 322 | 23, 223 | 23, 124 | 23, 026 | 22, 929 | 22, 832 | 22, 736 | 22, 641 | 22, 546 |
| 28 | 22, 452 | 22, 358 | 22, 265 | 22, 173 | 22, 081 | 21, 990 | 21, 899 | 21, 809 | 21, 719 | 21, 631 |
| 29 | 21, 542 | 21, 454 | 21, 367 | 21, 280 | 21, 194 | 21, 108 | 21, 023 | 20, 938 | 20, 854 | 20, 770 |
| 30 | 20, 687 | 20 , 605 | 20, 522 | 20, 441 | 20, 360 | 20, 279 | 20, 199 | 20 , 119 | 20, 039 | 19, 961 |
| 31 | 19. 882 | 19, 804 | 19, 727 | 19,650 | 19, 573 | 19, 497 | 19, 421 | 19, 346 | 19, 271 | 19, 196 |
| 32 | 19, 122 | 19, 048 | 18, 975 | 18, 902 | 18, 830 | 18, 757 | 18, 686 | 18, 614 | 18, 543 | 18, 473 |
| 33 | 18, 403 | 18, 333 | 18, 263 | 18, 194 | 18, 126 | 18, 057 | 17, 989 | 17, 922 | 17, 854 | 17, 78' |
| 34 | 17, 721 | 17, 654 | 17, 589 | 17, 523 | 17, 458 | 17, 393 | 17, 328 | 17, 264 | 17, 200 | 17, 13(|
| 35 | 17, 073 | 17, 010 | 16, 947 | 16, 885 | 16, 823 | 16, 761 | 16, 699 | 16, 638 | 16, 577 | 16, 517 |
| 36 | 16, 456 | 16, 396 | 16, 336 | 16, 277 | 16, 218 | 16, 159 | 16, 100 | 16, 042 | 15, 984 | 15, 9 26 |
| 37 | 15, 868 | 15, 811 | 15, 754 | 15, 697 | 15, 641 | 15, 584 | 15, 528 | 15, 473 | 15, 417 | 15, 362 |
| 38 | 15, 307 | 15, 252 | 15, 198 | 15, 143 | 15, 089 | 15, 035 | 14, 982 | 14, 928 | 14, 875 | 14, 822 |
| 39 . | 14, 770 | 14, 717 | 14, 665 | 14, 613 | 14, 561 | 14, 510 | 14, 458 | 14, 407 | 14, 356 | 14, 306 |
| 40 | 14, 255 | 14, 205 | 14, 155 | 14, 105 | 14, 055 | 14,006 | 13, 956 | 13, 907 | 13, 859 | 13, 810 |
| 41 | 13, 761 | 13, 713 | 13, 665 | 13, 617 | 13, 569 | 13, 522 | 13, 474 | 13, 427 | 13, 380 | 13, 334 |
| 42 | 13, 287 | 13, 240 | 13, 194 | 13, 148 | 13, 102 | 13, 056 | 13, 011 | 12, 966 | 12, 920 | 12, 875 |
| 43 | 12, 830 | 12, 786 | 12, 741 | 12, 697 | 12, 652 | 12, 608 | 12, 565 | 12, 521 | 12, 477 | 12, 434 |
| 44 | 12, 391 | 12, 347 | 12, 304 | 12, 262 | 12, 219 | 12, 176 | 12, 134 | 12, 092 | 12, 050 | 12, 008 |
| 45 | 11, 966 | 11, 925 | 11, 883 | 11, 842 | 11, 801 | 11, 760 | 11, 719 | 11, 678 | 11, 637 | 11, 597 |
| 46 | 11, 556 | 11, 516 | 11, 476 | 11, 436 | 11, 397 | 11, 357 | 11, 317 | 11, 278 | 11, 238 | 11, 199 |

| Degrees | | | E | levation ar | gle, tenths | of a degre | e | | | |
|---------|---------|---------|---------|-------------|-------------|------------|---------|---------|---------------------------------------|-------------|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 11, 160 | 11, 121 | 11, 082 | 11, 044 | 11, 005 | 10, 967 | 10, 982 | 10, 890 | 10, 852 | 10, 81 |
| 48 | 10, 776 | 10, 739 | 10, 601 | 10, 664 | 10, 626 | 10, 589 | 10, 552 | 10, 515 | 10, 478 | 10, 44 |
| 49 | 10, 404 | 10, 368 | 10, 331 | 10, 295 | 10, 259 | 10, 223 | 10, 187 | 10, 151 | 10, 115 | 10, 07 |
| 50 | 10, 044 | 10, 008 | 9, 973 | 9, 937 | 9, 902 | 9, 867 | 9, 832 | 9, 797 | 9, 762 | 9, 73 |
| 51 | 9, 693 | 9, 659 | 9, 624 | 9, 590 | 9, 556 | 9, 522 | 9, 488 | 9, 454 | 9, 420 | 9, 38 |
| 52 | 9, 352 | 9, 319 | 9, 285 | 9, 252 | 9, 219 | 9, 186 | 9, 152 | 9, 119 | 9, 086 | 9, 0 |
| 53 | 9, 021 | 8, 988 | 8, 956 | 8, 923 | 8, 891 | 8, 858 | 8, 826 | 8, 749 | 8, 762 | 8, 7; |
| 54 | 8, 698 | 8, 666 | 8, 634 | 8, 602 | 8, 571 | 8, 539 | 8, 508 | 8, 476 | 8, 445 | 8, 4 |
| 55 | 8, 383 | 8, 352 | 8, 321 | 8, 290 | 8, 259 | 8, 228 | 8, 198 | 8, 167 | 8, 136 | 8, 10 |
| 56 | 8, 075 | 8,045 | 8,015 | 7, 985 | 7, 954 | 7, 924 | 7, 894 | 7, 865 | 7, 835 | 7, 80 |
| 57 | 7, 775 | 7, 745 | 7, 716 | 7, 686 | 7, 657 | 7, 628 | 7, 598 | 7, 569 | 7, 540 | 7, 5 |
| 58 | 7, 482 | 7, 453 | 7, 424 | 7, 395 | 7, 366 | 7, 337 | 7, 308 | 7, 280 | 7, 251 | 7, 2 |
| 59 | 7, 194 | 7, 166 | 7, 138 | 7, 109 | 7, 081 | 7, 053 | 7,025 | 6, 997 | 6, 969 | 6, 9 |
| 60 | 6, 913 | 6, 885 | 6, 857 | 6, 830 | 6, 802 | 6, 774 | 6, 747 | 6, 719 | 6, 692 | 6, 6 |
| 61 | 6, 637 | 6, 610 | 6, 583 | 6, 556 | 6, 528 | 6, 501 | 6, 474 | 6, 447 | 6, 421 | 6, 3 |
| 62 | 6, 367 | 6, 340 | 6, 313 | 6, 287 | 6, 260 | 6, 233 | 6, 207 | 6, 180 | 6, 154 | 6, 1 |
| 63 | 6, 101 | 6, 075 | 6,049 | 6, 023 | 5, 996 | 5, 970 | 5, 944 | 5, 918 | 5, 892 | 5, 8 |
| 64 | 5, 840 | 5, 815 | 5, 789 | 5, 763 | 5, 737 | 5, 712 | 5, 686 | 5, 661 | 5, 635 | 5, 6 |
| 65 | 5, 584 | 5, 559 | 5, 533 | 5, 508 | 5, 483 | 5, 457 | 5, 432 | 5, 407 | 5, 382 | 5, 3 |
| 66 | 5, 332 | 5, 307 | 5, 282 | 5, 257 | 5, 232 | 5, 207 | 5, 182 | 5, 157 | 5, 133 | 5, 1 |
| 67 | 5, 083 | 5, 059 | 5, 034 | 5,009 | 4, 985 | 4, 960 | 4, 936 | 4, 912 | 4, 887 | 4, 8 |
| 68 | 4, 838 | 4, 814 | 4, 790 | 4, 766 | 4, 742 | 4, 717 | 4, 693 | 4, 669 | 4, 645 | 4, 6 |
| 69 | 4, 597 | 4, 573 | 4, 549 | 4, 525 | 4, 501 | 4, 478 | 4, 454 | 4, 430 | 4, 406 | 4, 3 |
| 70 | 4, 359 | 4, 335 | 4, 312 | 4, 288 | 4, 264 | 4, 241 | 4, 217 | 4, 194 | 4, 171 | 4, 1 |
| 71 | 4, 124 | 4, 100 | 4, 077 | 4, 054 | 4,030 | 4, 007 | 3, 984 | 3, 961 | 3, 938 | 3, 9 |
| 72 | 3, 891 | 3, 868 | 3, 845 | 3, 822 | 3, 799 | 3, 776 | 3, 753 | 3, 730 | 3, 707 | 3, 6 |
| 73 | 3, 662 | 3, 639 | 3, 616 | 3, 593 | 3, 570 | 3, 548 | 3, 525 | 3, 502 | 3, 479 | 3, 4 |
| 74 | 3, 434 | 3, 412 | 3, 389 | 3, 366 | 3, 344 | 3, 321 | 3, 299 | 3, 276 | 3, 254 | 3, 2 |
| 75 | 3, 209 | 3, 412 | 3, 164 | 3, 300 | 3, 120 | 3, 097 | 3, 235 | 3, 270 | 3, 031 | 3, 0 |
| 76 | | 2, 964 | | 2, 920 | 2, 897 | 2, 875 | 2, 853 | 2, 831 | 2, 809 | 2, 7 |
| 70 | 2, 986 | · · · | 2, 942 | 2, 920 | 2, 677 | · · · | 2, 633 | 2, 651 | 2, 805 | 2, 10 |
| | 2, 765 | 2, 743 | 2, 721 | | · · · | 2,655 | · ·) | , , | · · · · · · · · · · · · · · · · · · · | 2, 3 |
| 78 | 2, 546 | 2, 524 | 2, 502 | 2, 480 | 2, 459 | 2, 437 | 2,415 | 2, 393 | 2,372 2,155 | 2, 3, 2, 1, |
| 79 | 2, 328 | 2, 306 | 2, 285 | 2, 263 | 2, 241 | 2, 220 | 2, 198 | 2, 177 | | 2, 1, 1, 9 |
| 80 | 2, 112 | 2,090 | 2, 069 | 2, 047 | 2, 026 | 2,004 | 1, 983 | 1, 961 | 1,940 | , |
| 81 | 1,897 | 1, 876 | 1, 854 | 1, 833 | 1, 811 | 1, 790 | 1, 769 | 1, 747 | 1, 726 | 1, 70 |
| 82 | 1, 683 | 1, 662 | 1, 641 | 1, 619 | 1, 598 | 1, 577 | 1, 556 | 1, 534 | 1, 513 | 1.4 |
| 83 | 1, 471 | 1, 449 | 1, 428 | 1,407 | 1, 386 | 1, 365 | 1, 343 | 1, 322 | 1, 301 | 1, 2 |
| 84 | 1, 259 | 1, 238 | 1, 217 | 1, 195 | 1, 174 | 1, 153 | 1, 132 | 1, 111 | 1, 090 | 1, 0 |
| 85 | 1,048 | 1, 027 | 1, 006 | 985 | 964 | 943 | 922 | 901 | 880 | 8 |
| 86 | 838 | 817 | 796 | 775 | 754 | 733 | 712 | 691 | 670 | 6 |
| 87 | 628 | 607 | 586 | 565 | 544 | 523 | 502 | 481 | 460 | 43 |
| 88 | 418 | 397 | 376 | 355 | 335 | 314 | 293 | 272 | 251 | 2 |
| 89 | 209 | 188 | 167 | 146 | 125 | 105 | 84 | 63 | 42 | 2 |

| Table 2-1. | Horizontal Distance (Meters), | 12,000 Meters (Ba | allistic Zone | 12) (Computer | Zone 18) |
|------------|-------------------------------|-------------------|---------------|---------------|----------|
| | (Fallout | Zone 6)-Continue | ed | | |

| Degrees | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------|----------|-------------|-------------|-------------|----------|----------|----------|------------------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 192, 193 | 188, 190 | 184, 322 | 180, 583 | 176, 969 | 173, 474 | 170, 093 | 166, 822 | 163, 657 | 160, 59 3 |
| 4 | 157, 626 | 154, 752 | 151, 968 | 149, 270 | 146, 655 | 144, 119 | 141, 659 | 139, 272 | 136, 956 | 134, 707 |
| 5 | 132, 524 | 130, 403 | 128, 342 | 126, 339 | 124, 391 | 122, 497 | 120, 655 | 118, 862 | 117, 118 | 115, 419 |
| 6 | 113, 765 | 112, 154 | 110, 584 | 109, 053 | 107, 562 | 106, 107 | 104, 689 | 103, 304 | 101, 954 | 100, 635 |
| 7 | 99, 348 | 98, 091 | 96, 864 | 95, 664 | 94, 492 | 93, 346 | 92, 226 | 91, 131 | 90, 059 | 89, 011 |
| 8 | 87, 986 | 86, 982 | 86,000 | 85, 038 | 84, 096 | 83, 173 | 82, 269 | 81, 383 | 80, 515 | 79, 665 |
| 9 | 78, 831 | 78, 013 | 77, 211 | 76, 424 | 75, 652 | 74, 895 | 74, 151 | 73, 422 | 72, 706 | 72, 002 |
| 10 | 71, 312 | 70, 634 | 69, 967 | 69, 313 | 68, 670 | 68, 038 | 67, 416 | 66, 806 | 66, 205 | 65, 615 |
| 11 | 65, 034 | 64, 463 | 63, 902 | 63, 349 | 62, 805 | 62, 270 | 61, 744 | 61, 225 | 60, 715 | 60, 213 |
| 12 | 59, 718 | 59, 231 | 58, 751 | 58, 279 | 57, 813 | 57, 355 | 56, 903 | 56, 457 | 56, 019 | 55, 586 |
| 13 | 55, 160 | 54, 739 | 54, 325 | 53, 916 | 53, 513 | 53, 116 | 52, 724 | 52, 337 | 51, 956 | 51, 579 |
| 14 | 51, 208 | 50, 842 | 50, 480 | 50, 123 | 49, 771 | 49, 423 | 49, 080 | 48, 741 | 48, 406 | 48, 076 |
| 15 | 47, 750 | 47, 427 | 47, 109 | 46, 795 | 46, 484 | 46, 177 | 45, 874 | 45, 575 | 45, 279 | 44, 986 |
| 16 | 44, 697 | 44, 411 | 44, 129 | 43, 850 | 43, 574 | 43, 301 | 43, 031 | 42, 764 | 42, 501 | 42, 240 |
| 17 | 41, 982 | 41, 727 | 41, 474 | 41, 225 | 40, 978 | 40, 734 | 40, 492 | 40, 253 | 40, 016 | 39, 782 |
| 18 | 39, 550 | 39, 321 | 39,094 | 38, 870 | 38, 647 | 38, 427 | 38, 209 | 37, 994 | 37, 780 | 37, 569 |
| 19 | 37, 360 | 37, 152 | 36, 947 | 36, 744 | 36, 543 | 36, 343 | 36, 146 | 35, 950 | 35, 756 | 35, 565 |
| 20 | 35, 374 | 35, 186 | 35, 000 | 34, 815 | 34, 631 | 34, 450 | 34, 270 | 34, 092 | 33, 915 | 33, 740 |
| 21 | 33, 567 | 33, 395 | 33, 224 | 33, 055 | 32, 888 | 32, 722 | 32, 557 | 32, 394 | 32, 232 | 32, 072 |
| 22 | 31, 913 | 31, 755 | 31, 599 | 31, 443 | 31, 290 | 31, 137 | 30, 986 | 30, 836 | 30, 687 | 30, 539 |
| 23 | 30, 393 | 30, 248 | 30, 103 | 29, 960 | 29, 819 | 29, 678 | 29, 538 | 29, 400 | 29, 262 | 29, 126 |
| 24 | 28, 991 | 28, 856 | 28, 723 | 28, 591 | 28, 460 | 28, 329 | 28, 200 | 28,072 | 27, 945 | 27, 818 |
| 25 | 27, 693 | 27, 568 | 27, 444 | 27, 322 | 27, 200 | 27,079 | 26, 959 | 26, 839 | 26, 721 | 26, 603 |
| 26 | 26, 487 | 26, 371 | 26, 256 | 26, 141 | 26, 028 | 25, 915 | 25, 803 | 25, 692 | 25, 581 | 25, 472 |
| 27 | 25, 363 | 25, 255 | 25, 147 | 25, 040 | 24, 934 | 24, 829 | 24, 724 | 24, 620 | 24, 517 | 24, 414 |
| 28 | 24, 312 | 24, 211 | 24, 110 | 24, 010 | 23, 911 | 23, 812 | 23, 714 | 23, 617 | 23, 520 | 23, 423 |
| 29 | 23, 328 | 23, 233 | 23, 138 | 23, 044 | 22, 951 | 22, 858 | 22, 766 | 22, 674 | 22, 583 | 22, 493 |
| 30 | 22, 403 | 22, 313 | 22, 224 | 22, 136 | 22, 048 | 21, 960 | 21, 873 | 21, 787 | 21, 701 | 21, 616 |
| 31 | 21, 531 | 21, 447 | 21, 363 | 21, 279 | 21, 196 | 21, 114 | 21, 032 | 20, 950 | 20, 869 | 20, 788 |
| 32 | 20, 708 | 20, 628 | 20, 549 | 20, 470 | 20, 392 | 20, 313 | 20, 236 | 20, 159 | 20, 082 | 20, 005 |
| 33 | 19, 929 | 19, 854 | 19, 779 | 19, 704 | 19, 629 | 19, 555 | 19, 482 | 19, 409 | 19, 336 | 19, 263 |
| 34 | 19, 191 | 19, 119 | 19, 048 | 18, 977 | 18, 906 | 18, 836 | 18, 766 | 18, 696 | 18,627 | 18, 558 |
| 35 | 18, 490 | 18, 422 | 18, 354 | 18, 286 | 18, 219 | 18, 152 | 18, 085 | 18,019 | 17, 953 | 17, 887 |
| 36 | 17, 822 | 17, 757 | 17, 692 | 17,628 | 17, 564 | 17, 500 | 17, 437 | 17, 374 | 17, 311 | 17, 248 |
| 37 | 17, 186 | 17, 124 | 17, 062 | 17,000 | 16, 939 | 16, 878 | 16, 818 | 16, 757 | 16, 697 | 16, 637 |
| 38 | 16, 578 | 16, 518 | 16, 459 | 16, 401 | 16, 342 | 16, 284 | 16, 226 | 16, 168 | 16,110 | 16,053 |
| 39 | 15, 996 | 15, 939 | 15, 883 | 15, 827 | 15, 770 | 15, 715 | 15, 659 | 15, 604 | 15, 549 | 15, 494 |
| 40 | 15, 439 | 15, 384 | 15, 330 | 15, 276 | 15, 222 | 15, 169 | 15, 116 | 15, 062 | 15,009 | 14, 957 |
| 41 | 14, 904 | 14, 852 | 14, 800 | 14, 748 | 14, 696 | 14, 645 | 14, 594 | 14, 543 | 14, 492 | 14, 441 |
| 42 | 14, 390 | 14, 340 | 14, 290 | 14, 240 | 14, 190 | 14, 141 | 14, 092 | 14, 042 | 13, 994 | 13, 945 |
| 43 | 13, 896 | 13, 848 | 13, 799 | 13, 751 | 13, 704 | 13, 656 | 13, 608 | 13, 561 | 13, 514 | 13, 467 |
| 44 | 13, 420 | 13, 373 | 13, 327 | 13, 280 | 13, 234 | 13, 188 | 13, 142 | 13, 096 | 13, 051 | 13,006 |
| 45 | 12, 960 | 12, 915 | 12, 870 | 12, 826 | 12, 781 | 12, 737 | 12, 692 | 12, 648 | 12,604 | 12, 560 |
| 46 | 12, 516 | 12, 473 | 12, 430 | 12, 386 | 12, 343 | • | | , | | 12, 130 |

Table 2-1. Horizontal Distance (Meters), 13,000 Meters (Computer Zone 19)

| egrees | | | E | levation ar | ngle, tenth | s of a degre | ee | | | |
|--------|------------|---------|---------|-------------|-------------|--------------|---------|---------|---------|-----------|
| gices | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 12, 087 | 12, 045 | 12, 003 | 11, 961 | 11, 919 | 11, 878 | 11, 836 | 11, 795 | 11, 754 | 11, 7 |
| 48 | 11, 672 | 11, 631 | 11, 590 | 11, 550 | 11, 509 | 11, 469 | 11, 429 | 11, 389 | 11, 349 | 11, 3 |
| 49 | 11, 269 | 11, 229 | 11, 190 | 11, 151 | 11, 111 | 11,072 | 11,033 | 10, 994 | 10, 956 | 10, 9 |
| 50 | 10, 878 | 10, 840 | 10, 801 | 10, 763 | 10, 725 | 10, 687 | 10, 649 | 10, 611 | 10, 574 | 10, 5 |
| 51 | 10, 499 | 10, 461 | 10, 424 | 10, 387 | 10, 350 | 10, 313 | 10, 276 | 10, 239 | 10, 203 | 10, 1 |
| 52 | 10, 130 | 10, 093 | 10, 057 | 10, 021 | 9, 985 | 9, 949 | 9, 913 | 9, 877 | 9, 842 | 9, 8 |
| 53 | 9, 771 | 9, 735 | 9, 700 | 9, 665 | 9, 630 | 9, 595 | 9, 560 | 9, 525 | 9, 490 | 9, 4 |
| 54 | 9, 421 | 9, 386 | 9, 352 | 9, 318 | 9, 283 | 9, 249 | 9, 215 | 9, 181 | 9, 147 | 9, 1 |
| 55 | 9, 080 | 9, 046 | 9,012 | 8, 979 | 8, 945 | 8, 912 | 8, 879 | 8, 846 | 8, 813 | 8, 7 |
| 56 | 8, 747 | 8, 714 | 8, 681 | 8, 648 | 8, 616 | 8, 583 | 8, 551 | 8, 518 | 8, 486 | 8, 4 |
| 57 | 8, 421 | 8, 389 | 8, 357 | 8, 325 | 8, 293 | 8, 262 | 8, 230 | 8, 198 | 8, 167 | 8, 1 |
| 58 | 8, 104 | 8,072 | 8, 041 | 8, 009 | 7, 978 | 7, 947 | 7, 916 | 7, 885 | 7, 854 | 7, 8 |
| 59 | 7, 792 | 7, 762 | 7, 731 | 7, 700 | 7, 670 | 7, 639 | 7,609 | 7, 578 | 7, 548 | 7, 5 |
| 60 | 7, 488 | 7, 458 | 7, 428 | 7, 398 | 7, 368 | 7. 338 | 7, 308 | 7. 278 | 7. 248 | 7, 2 |
| 61 | 7,189 | 7,160 | 7, 130 | 7, 101 | 7, 071 | 7,042 | 7,013 | 6, 983 | 6, 954 | 6. 9 |
| 62 | 6, 896 | 6, 867 | 6, 838 | 6, 809 | 6, 781 | 6, 752 | 6, 723 | 6, 694 | 6, 666 | 6, 6 |
| 63 | 6, 609 | 6, 580 | 6, 552 | 6, 523 | 6, 495 | 6, 467 | 6, 438 | 6, 410 | 6, 382 | 6. 3 |
| 64 | 6, 326 | 6, 298 | 6, 270 | 6, 242 | 6, 214 | 6, 187 | 6, 159 | 6, 131 | 6, 103 | 6, 0 |
| 65 | 6, 048 | 6, 021 | 5, 993 | 5, 966 | 5, 938 | 5, 911 | 5, 884 | 5, 857 | 5, 829 | 5, 8 |
| 66 | 5, 775 | 5, 748 | 5, 721 | 5, 694 | 5, 667 | 5, 640 | 5, 613 | 5, 586 | 5, 559 | 5, 5 |
| 67 | 5, 506 | 5, 479 | 5, 453 | 5, 426 | 5, 399 | 5, 373 | 5, 346 | 5, 320 | 5, 293 | 5, 2 |
| 68 | 5, 241 | 5, 214 | 5, 188 | 5, 162 | 5, 136 | 5, 110 | 5, 083 | 5, 057 | 5, 031 | 5, 0 |
| 69 | 4, 979 | 4, 953 | 4, 927 | 4, 902 | 4, 876 | 4, 850 | 4, 824 | 4, 798 | 4, 773 | 4.7 |
| 70 | 4, 721 | 4, 696 | 4, 670 | 4, 645 | 4, 619 | 4, 594 | 4, 568 | 4, 543 | 4, 517 | 4, 4 |
| 71 | 4, 467 | 4, 441 | 4, 416 | 4, 391 | 4, 366 | 4, 340 | 4, 315 | 4, 290 | 4, 265 | 4, 2 |
| 72 | 4, 215 | 4, 190 | 4, 165 | 4, 140 | 4, 115 | 4, 090 | 4, 065 | 4, 040 | 4,016 | 3, 9 |
| 73 | 3, 966 | 3, 941 | 3, 917 | 3, 892 | 3, 867 | 3, 843 | 3, 818 | 3, 793 | 3, 769 | 3, 7 |
| 74 | 3, 720 | 3, 695 | 3, 671 | 3, 646 | 3, 622 | 3, 598 | 3, 573 | 3, 549 | 3, 525 | 3, 5 |
| 75 | 3, 476 | 3, 452 | 3, 428 | 3, 403 | 3, 379 | 3, 355 | 3, 331 | 3, 307 | 3, 283 | 3, 2 |
| 76 | 3, 234 | 3, 210 | 3, 186 | 3, 162 | 3, 138 | 3, 114 | 3, 091 | 3, 067 | 3, 043 | 3, 0 |
| 77 | 2, 995 | 2, 971 | 2, 947 | 2, 924 | 2, 900 | 2, 876 | 2, 852 | 2, 829 | 2, 805 | 2, 7 |
| 78 | 2, 355 | 2, 371 | 2, 341 | 2, 687 | 2, 500 | 2, 639 | 2,616 | 2, 592 | 2, 569 | 2, 5 |
| 79 | 2, 737 | 2, 134 | 2, 710 | 2, 087 | 2,003 | 2, 039 | 2, 381 | 2, 358 | 2, 334 | 2, 3 |
| 80 | 2, 288 | 2, 498 | 2, 475 | 2, 431 | 2, 128 | 2, 101 | 2, 331 | 2, 124 | 2, 101 | 2, 0 |
| 81 | 2, 255 | 2, 032 | 2, 008 | 1, 985 | 1, 962 | 1, 939 | 1, 916 | 1, 893 | 1, 869 | 1, 8 |
| 82 | 1, 823 | 1,800 | 1, 777 | 1, 754 | 1, 731 | 1, 708 | 1, 685 | 1, 662 | 1, 639 | 1, 6 |
| 83 | 1, 593 | 1, 570 | 1, 547 | 1, 734 | 1, 501 | 1, 108 | 1, 455 | 1, 432 | 1, 409 | 1, 3 |
| 84 | 1, 364 | 1, 341 | 1, 318 | 1, 295 | 1, 301 | 1, 249 | 1, 226 | 1, 204 | 1, 181 | 1, 1 |
| 85 | 1, 304 | 1, 341 | 1, 318 | 1, 295 | 1, 272 | 1, 249 | 998 | 975 | 953 | ,, i 9 |
| 86 | 907 | 884 | 862 | 839 | 816 | 793 | 771 | 748 | 725 | 7 |
| 87 | 680 | 657 | 635 | 612 | 589 | 566 | 544 | 521 | 498 | 4 |
| 88 | 453 | 430 | 408 | 385 | 362 | 340 | 317 | 294 | 272 | 2 |
| 89 | 455 226 | 204 | 181 | 159 | 136 | 113 | 91 | 68 | 45 | - |

Table 2-1. Horizontal Distance (Meters), 13,000 Meters (Computer Zone 19)—Continued

| Degrees | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------|----------|-------------|-------------|-------------|----------|----------|----------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 204, 112 | 199, 954 | 195, 930 | 192, 038 | 188, 271 | 184, 626 | 181, 096 | 177, 678 | 174, 367 | 171, 160 |
| 4 | 168, 052 | 165, 039 | 162, 118 | 159, 285 | 156, 537 | 153, 871 | 151, 283 | 148, 770 | 146, 330 | 143, 960 |
| 5 | 141, 657 | 139, 419 | 137, 243 | 135, 127 | 133, 069 | 131,066 | 129, 118 | 127, 220 | 125, 373 | 123, 574 |
| 6 | 121, 821 | 120, 113 | 118, 448 | 116, 824 | 115, 241 | 113, 697 | 112, 190 | 110, 720 | 109, 285 | 107, 883 |
| 7 | 106, 515 | 105, 178 | 103, 872 | 102, 595 | 101, 347 | 100, 127 | 98, 934 | 97, 768 | 96, 626 | 95, 509 |
| 8 | 94, 416 | 93, 346 | 92, 298 | 91, 272 | 90, 267 | 89, 282 | 88, 318 | 87, 372 | 86, 446 | 85, 537 |
| 9 | 84, 646 | 83, 773 | 82, 916 | 82, 075 | 81, 250 | 80, 441 | 79, 646 | 78, 866 | 78, 101 | 77, 349 |
| 10 | 76, 610 | 75, 885 | 75, 172 | 7,4, 472 | 73, 783 | 73, 107 | 72, 442 | 71, 789 | 71, 146 | 70, 514 |
| 11 | 69, 892 | 69, 281 | 68, 679 | 68, 088 | 67, 503 | 66, 932 | 66, 368 | 65, 813 | 65, 266 | 64, 728 |
| 12 | 64, 198 | 63, 676 | 63, 162 | 62, 655 | 62, 156 | 61, 665 | 61, 180 | 60, 703 | 60, 232 | 59, 768 |
| 13 | 59, 311 | 58, 860 | 58, 416 | 57, 978 | 57, 545 | 57, 119 | 56, 699 | 56, 284 | 55, 875 | 55, 471 |
| 14 | 55, 073 | 54, 679 | 54, 291 | 53, 908 | 53, 530 | 53, 157 | 52, 789 | 52, 425 | 52,066 | 51,711 |
| 15 | 51, 361 | 51, 015 | 50, 673 | 50, 336 | 50, 002 | 49, 673 | 49, 347 | 49,026 | 48,708 | 48, 394 |
| 16 | 48, 084 | 47, 777 | 47, 473 | 47, 174 | 46, 877 | 46, 584 | 46, 295 | 46,008 | 45, 725 | 45, 445 |
| 17 | 45, 168 | 44, 893 | 44, 622 | 44, 354 | 44, 089 | 43, 827 | 43, 567 | 43, 310 | 43, 056 | 42, 804 |
| 18 | 42, 555 | 42, 309 | 42,065 | 41, 824 | 41, 585 | 41, 349 | 41, 114 | 40, 883 | 40,653 | 40, 426 |
| 19 | 40, 201 | 39, 978 | 39, 758 | 39, 539 | 39, 323 | 39, 109 | 38, 897 | 38, 686 | 38, 478 | 38, 272 |
| 20 | 38, 068 | 37, 865 | 37, 665 | 37, 466 | 37, 269 | 37,074 | 36, 881 | 36, 689 | 36, 499 | 36, 311 |
| 21 | 36, 124 | 35, 939 | 35, 756 | 35, 574 | 35, 394 | 35, 216 | 35, 039 | 34, 863 | 34, 689 | 34, 517 |
| 22 | 34, 346 | 34, 176 | 34,008 | 33, 841 | 33, 676 | 33, 512 | 33, 349 | 33, 188 | 33, 028 | 32, 869 |
| 23 | 32, 712 | 32, 555 | 32, 400 | 32, 247 | 32, 094 | 31, 943 | 31, 793 | 31, 644 | 31, 496 | 31, 349 |
| 24 | 31, 204 | 31, 059 | 30, 916 | 30, 774 | 30, 633 | 30, 493 | 30, 354 | 30, 216 | 30, 079 | 29, 943 |
| 25 | 29, 808 | 29, 674 | 29, 541 | 29, 409 | 29, 278 | 29, 147 | 29, 018 | 28, 890 | 28, 762 | 28, 636 |
| 26 | 28, 510 | 28, 386 | 28, 262 | 28, 139 | 28, 017 | 27, 896 | 27, 775 | 27,655 | 27, 537 | 27, 419 |
| 27 | 27, 301 | 27, 185 | 27,069 | 26, 954 | 26, 840 | 26, 727 | 26, 614 | 26, 503 | 26, 391 | 26, 281 |
| 28 | 26, 171 | 26, 062 | 25, 954 | 25, 846 | 25, 739 | 25, 633 | 25, 528 | 25, 423 | 25, 318 | 25, 215 |
| 29 | 25, 112 | 25, 010 | 24, 908 | 24, 807 | 24, 706 | 24, 607 | 24, 507 | 24, 409 | 24, 311 | 24, 213 |
| 30 | 24, 116 | 24, 020 | 23, 924 | 23, 829 | 23, 735 | 23, 641 | 23, 547 | 23, 454 | 23, 362 | 23, 270 |
| 31 | 23, 179 | 23, 088 | 22, 997 | 22, 908 | 22, 818 | 22, 730 | 22, 641 | 22, 554 | 22, 466 | 22, 379 |
| 32 | 22, 293 | 22, 207 | 22, 122 | 22, 037 | 21, 952 | 21, 868 | 21, 785 | 21, 702 | 21, 619 | 21, 537 |
| 33 | 21, 455 | 21, 374 | 21, 293 | 21, 212 | 21, 132 | 21,053 | 20, 973 | 20, 895 | 20, 816 | 20, 738 |
| 34 | 20, 661 | 20, 583 | 20, 507 | 20, 430 | 20, 354 | 20, 278 | 20, 203 | 20, 128 | 20, 054 | 19, 980 |
| 35 | 19, 906 | 19, 832 | 19,759 | 19, 687 | 19, 614 | 19, 542 | 19, 471 | 19, 399 | 19, 328 | 19, 258 |
| 36 | 19, 187 | 19, 117 | 19, 048 | 18, 978 | 18, 909 | 18, 841 | 18,772 | 18, 704 | 18, 637 | 18, 569 |
| 37 | 18, 502 | 18, 435 | 18, 369 | 18, 303 | 18, 237 | 18, 171 | 18, 106 | 18, 041 | 17,976 | 17, 912 |
| 38 | 17, 848 | 17, 784 | 17, 720 | 17, 657 | 17, 594 | 17, 531 | 17, 469 | 17, 407 | 17, 345 | 17, 283 |
| 39 | 17, 222 | 17, 161 | 17, 100 | 17, 039 | 16, 979 | 16, 919 | 16, 859 | 16, 799 | 16, 740 | 16, 681 |
| 40 | 16, 622 | 16, 563 | 16, 505 | 16, 447 | 16, 389 | 16, 331 | 16, 274 | 16, 217 | 16, 160 | 16, 103 |
| 41 | 16, 047 | 15, 990 | 15, 934 | 15, 878 | 15, 823 | 15, 767 | 15, 712 | 15, 657 | 15, 602 | 15, 548 |
| 42 | 15, 494 | 15, 439 | 15, 385 | 15, 332 | 15, 278 | 15, 225 | 15, 172 | 15, 119 | 15,066 | 15,014 |
| 43 | 14, 961 | 14, 909 | 14, 857 | 14, 806 | 14, 754 | 14, 703 | 14, 651 | 14, 601 | 14, 550 | 14, 499 |
| 44 | 14, 449 | 14, 398 | 14, 348 | 14, 298 | 14, 249 | 14, 199 | 14, 150 | 14, 101 | 14, 052 | 14,003 |
| 45 | 13, 954 | 13, 905 | 13, 857 | 13, 809 | 13, 761 | 13, 713 | 13, 665 | 13, 618 | 13, 570 | 13, 523 |
| 46 | 13, 476 | 13, 429 | 13, 383 | 13, 336 | • | | | | | 13, 060 |

 Table 2–1.
 Horizontal Distance (Meters), 14,000 Meters (Ballistic Zone 13) (Computer Zone 20) (Fallout Zone 7)

| Degrees | | | El | evation an | gle, tenths | of a degre | e | | | |
|---------|---------------|---------|---------------|------------|-------------|------------|---------|---------|---------|---------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 13, 014 | 12, 969 | 12, 924 | 12, 878 | 12, 834 | 12, 789 | 12, 744 | 12, 700 | 12, 655 | 12, 611 |
| 48 | 12, 567 | 12, 523 | 12, 479 | 12, 435 | 12, 392 | 12, 348 | 12, 305 | 12, 262 | 12, 219 | 12, 176 |
| 49 | 12, 133 | 12, 091 | 12, 048 | 12, 006 | 11, 963 | 11, 921 | 11, 879 | 11, 837 | 11, 796 | 11, 754 |
| 50 | 11, 713 | 11, 671 | 11, 630 | 11, 589 | 11, 548 | 11, 507 | 11, 466 | 11, 425 | 11, 385 | 11, 344 |
| 51 | 11, 304 | 11, 264 | 11, 224 | 11, 184 | 11, 144 | 11, 104 | 11, 064 | 11, 025 | 10, 985 | 10, 94 |
| 52 | 10, 907 | 10, 868 | 10, 829 | 10, 790 | 10, 751 | 10, 712 | 10, 673 | 10, 635 | 10, 597 | 10, 55 |
| 53 | 10, 520 | 10, 482 | 10, 444 | 10, 406 | 10, 368 | 10, 331 | 10, 293 | 10, 255 | 10, 218 | 10, 18 |
| 54 | 10, 143 | 10, 106 | 10, 069 | 10, 032 | 9, 995 | 9, 939 | 9, 922 | 9, 885 | 9, 849 | 9, 81 |
| 55 | 9, 776 | 9, 740 | 9, 704 | 9, 668 | 9, 632 | 9, 596 | 9, 560 | 9, 524 | 9, 489 | 9, 45 |
| 56 | 9, 418 | 9, 382 | 9, 347 | 9, 312 | 9, 277 | 9, 242 | 9, 207 | 9, 172 | 9, 137 | 9, 10 |
| 57 | 9, 068 | 9, 033 | 8, 998 | 8, 964 | 8, 930 | 8, 895 | 8, 861 | 8, 827 | 8, 793 | 8,75 |
| 58 | 8,725 | 8, 691 | 8, 658 | 8, 624 | 8, 590 | 8, 557 | 8, 523 | 8, 490 | 8, 457 | 8, 42 |
| 59 | 8, 390 | 8, 357 | 8, 324 | 8, 291 | 8, 258 | 8, 225 | 8, 193 | 8, 160 | 8, 127 | 8, 09 |
| 60 | 8,062 | 8, 030 | 7, 997 | 7, 965 | 7, 933 | 7,901 | 7, 869 | 7,836 | 7,804 | 7,77 |
| 61 | 7,741 | 7,709 | 7,677 | 7,645 | 7,614 | 7, 582 | 7,551 | 7, 519 | 7, 488 | 7, 45 |
| 62 | 7, 425 | 7, 394 | 7, 363 | 7, 332 | 7, 301 | 7,270 | 7, 239 | 7,208 | 7, 177 | 7, 14 |
| 63 | 7, 116 | 7,085 | 7,054 | 7,024 | 6, 993 | 6, 963 | 6, 933 | 6, 902 | 6, 872 | 6, 84 |
| 64 | 6, 811 | 6, 781 | 6,751 | 6, 721 | 6, 691 | 6, 661 | 6,631 | 6, 602 | 6, 572 | 6, 54 |
| 65 | 6, 512 | 6, 483 | 6, 453 | 6, 424 | 6, 394 | 6, 365 | 6, 335 | 6, 306 | 6, 277 | 6, 24 |
| 66 | 6, 218 | 6, 189 | 6, 160 | 6, 131 | 6, 102 | 6,073 | 6,044 | 6,015 | 5, 986 | 5, 95 |
| 67 | 5, 928 | 5, 900 | 5, 871 | 5, 842 | 5, 814 | 5, 785 | 5,757 | 5,728 | 5,700 | 5, 67 |
| 68 | 5, 643 | 5,615 | 5, 586 | 5, 558 | 5, 530 | 5, 502 | 5, 474 | 5, 445 | 5, 417 | 5, 38 |
| 69 | 5, 361 | 5, 333 | 5, 306 | 5, 278 | 5, 250 | 5, 222 | 5, 194 | 5, 167 | 5, 139 | 5, 11 |
| 70 | 5, 084 | 5,056 | 5, 029 | 5,001 | 4, 974 | 4, 946 | 4, 919 | 4, 891 | 4,864 | 4, 83 |
| 71 | 4, 809 | 4, 782 | 4,755 | 4,728 | 4,701 | 4, 673 | 4, 646 | 4,619 | 4, 592 | 4, 56 |
| 72 | 4, 538 | 4, 511 | 4, 485 | 4, 458 | 4, 431 | 4, 404 | 4, 377 | 4, 350 | 4, 324 | 4, 29 |
| 73 | 4, 270 | 4, 244 | 4, 217 | 4, 191 | 4, 164 | 4, 137 | 4, 111 | 4, 085 | 4,058 | 4, 03 |
| 74 | 4,005 | 3, 979 | 3, 953 | 3, 926 | 3, 900 | 3, 874 | 3, 847 | 3, 821 | 3, 795 | 3, 76 |
| 75 | 3, 743 | 3, 717 | 3, 691 | 3, 664 | 3, 638 | 3, 612 | 3, 586 | 3, 560 | 3, 535 | 3, 50 |
| 76 | 3, 483 | 3, 457 | 3, 431 | 3, 405 | 3, 379 | 3, 354 | 3, 328 | 3, 302 | 3, 276 | 3, 25 |
| 77 | 3, 225 | 3, 199 | 3, 174 | 3, 148 | 3, 122 | 3, 097 | 3,071 | 3, 046 | 3, 020 | 2, 99 |
| 78 | 2,969 | 2, 944 | 2, 918 | 2, 893 | 2, 867 | 2, 842 | 2, 817 | 2, 791 | 2, 766 | 2,74 |
| 79 | 2, 715 | 2,690 | 2,665 | 2,639 | 2,614 | 2, 589 | 2, 564 | 2, 539 | 2, 513 | 2, 48 |
| 80 | 2, 463 | 2, 438 | 2, 413 | 2, 388 | 2, 363 | 2, 338 | 2, 313 | 2, 287 | 2, 262 | 2, 23 |
| 81 | 2, 212 | 2, 180 | 2, 163 | 2, 138 | 1, 113 | 2,088 | 2,063 | 2,038 | 2,013 | 1, 98 |
| 82 | 1, 963 | 1, 938 | 1, 914 | 1, 889 | 1, 864 | 1,839 | 1, 814 | 1, 789 | 1, 765 | 1,74 |
| 83 | 1, 505 | 1, 500 | 1, 666 | 1, 641 | 1,616 | 1, 592 | 1, 567 | 1, 542 | 1, 518 | 1, 49 |
| 84 | 1, 468 | 1, 444 | 1, 000 | 1, 394 | 1, 370 | 1, 345 | 1, 320 | 1, 296 | 1, 318 | 1, 44 |
| 85 | 1, 408 | 1, 198 | 1, 419 | 1, 394 | 1, 370 | 1, 345 | 1, 320 | 1, 250 | 1, 026 | 1, 2, |
| 86 | 1, 222 977 | 1, 198 | 1, 173 928 | 903 | 879 | 1,099 | 830 | 1,000 | 781 | 75 |
| 87 | 732 | | | | 634 | 610 | 585 | 561 | 537 | 5 |
| | | 708 | 683 | 659 | | | | 317 | 293 | 20 |
| 88 | 488 | 463 | 439 | 415 | 390 | 366 | 341 | | | 20 |
| 89 | 244 | 219 | 195 | 171 | 146 | 122 | 98 | 73 | 49 | |

Table 2–1. Horizontal Distance (Meters), 14,000 Meters (Ballistic Zone 13) (Computer Zone 20) (Fallout Zone 7)—Continued

| Degrees | | | E | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|----------|-----------------|-----------------|--------------------|-----------------------------|--------------------|--------------------|----------|----------|----------|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 215, 769 | 211, 464 | 207, 296 | 203, 259 | 199, 349 | 195, 561 | 191, 891 | 188, 334 | 184, 886 | 181, 542 |
| 4 | 178, 300 | 175, 155 | 172, 104 | 169, 143 | 166, 268 | 163, 477 | 160, 766 | 158, 133 | 155, 575 | 153, 088 |
| 5 | 150, 670 | 148, 319 | 146, 033 | 143, 808 | 141, 643 | 139, 535 | 137, 484 | 135, 485 | 133, 539 | 131, 64 |
| 6 | 129, 793 | 127, 991 | 126, 234 | 124, 520 | 122, 848 | 121, 217 | 119, 624 | 118, 070 | 116, 552 | 115, 07 |
| 7 | 113, 621 | 112, 206 | 110, 824 | 109, 472 | 108, 150 | 106, 858 | 105, 593 | 104, 357 | 103, 146 | 101, 96 |
| 8 | 100, 802 | 99, 667 | 98, 555 | 97, 466 | 96, 399 | 95, 354 | 94, 330 | 93, 326 | 92, 341 | 91, 370 |
| 9 | 90, 429 | 89, 501 | 88, 590 | 87, 696 | 86, 819 | 85, 959 | 85, 114 | 84, 284 | 83, 469 | 82, 66 |
| 10 | 81, 883 | 81, 111 | 80, 353 | 79, 607 | 78, 875 | 78, 155 | 77, 447 | 76, 751 | 76, 066 | 75, 393 |
| 11 | 74, 731 | 74, 080 | 73, 439 | 72, 808 | 72, 188 | 71, 577 | 70, 976 | 70, 384 | 69, 801 | 69, 22 |
| 12 | 68, 662 | 68, 105 | 67, 557 | 67.017 | 66, 485 | 65, 961 | 65, 444 | 64, 935 | 64, 433 | 63, 938 |
| 13 | 63, 450 | 62, 969 | 62, 495 | 62, 027 | 61, 566 | 61, 111 | 60, 662 | 60, 220 | 59, 783 | 59, 352 |
| 14 | 58, 927 | 58, 507 | 58, 093 | 57, 684 | 57, 280 | 56, 882 | 56, 489 | 56, 100 | 55, 717 | 55, 338 |
| 15 | 54, 964 | 54, 594 | 54, 229 | 53, 869 | 53, 513 | 53, 161 | 52, 813 | 52, 470 | 52, 130 | 51, 795 |
| 16 | 51, 463 | 51, 135 | 50, 811 | 50, 491 | 50, 174 | 49, 861 | 49, 552 | 49, 245 | 48, 943 | 48, 643 |
| 17 | 48, 347 | 48, 054 | 47, 765 | 47, 478 | 47, 194 | 46, 914 | 46, 636 | 46, 362 | 46, 090 | 45, 821 |
| 18 | 45, 555 | 45, 292 | 45, 031 | 44, 773 | 44, 518 | 44, 265 | 44, 015 | 43, 767 | 43, 522 | 43, 279 |
| 19 | 43, 038 | 42, 800 | 42, 564 | 42, 331 | 42, 100 | 41, 870 | 41, 643 | 41, 419 | 41, 196 | 40, 975 |
| 20 | 40, 757 | 40, 540 | 40, 326 | 40, 113 | 39, 903 | 39.694 | 39, 487 | 39, 282 | 39, 079 | 38, 878 |
| 21 | 38, 678 | 38, 481 | 38, 285 | 38, 090 | 37, 898 | 37, 707 | 37, 517 | 37, 330 | 37, 144 | 36, 959 |
| 22 | 36, 776 | 36, 595 | 36, 415 | 36, 236 | 36, 059 | 35, 884 | 35, 710 | 35, 537 | 35, 366 | 35, 196 |
| 23 | 35, 028 | 34, 861 | 34, 695 | 34, 530 | 34, 367 | 34, 205 | 34, 045 | 33, 885 | 33, 727 | 33, 570 |
| 24 | 33, 414 | 33, 260 | 33 , 107 | 32, 954 | 32, 803 | 32, 653 | 32, 505 | 32, 357 | 32, 210 | 32, 065 |
| 25 | 31, 920 | 31, 777 | 31, 635 | 31, 493 | 31, 353 | 31, 214 | 31,076 | 30, 938 | 30, 802 | 30, 667 |
| 26 | 30, 532 | 30, 399 | 30, 266 | 30, 135 | 30,004 | 29, 874 | 29, 745 | 29, 617 | 29, 490 | 29, 364 |
| 27 | 29, 238 | 29, 114 | 28, 990 | 28, 867 | 28, 745 | 28, 623 | 28, 503 | 28, 383 | 28, 264 | 28, 146 |
| 28 | 28, 029 | 23, 114 | 23, 330 | 27, 681 | 23, 143 | 27, 453 | 27, 340 | 27, 227 | 27, 116 | 23, 140 |
| 29 | 26, 895 | 26, 785 | 26, 676 | 26, 568 | 26, 461 | 26, 354 | 26, 247 | 26, 142 | 26, 037 | 25, 933 |
| 30 | 25, 829 | 25, 726 | 25, 623 | 25, 522 | 25, 420 | 25, 320 | 25, 220 | 25, 120 | 25, 021 | 24, 923 |
| 31 | 23, 825 | 23, 728 | 23, 623 | 23, 522 | 23, 420 24, 4 3 9 | 23, 320 24, 344 | 23, 220 24, 250 | 24, 156 | 24, 062 | 23, 969 |
| 31 | 24, 825 | 24, 728 | 24, 031 23, 694 | 24, 555 23, 603 | 24, 439 23, 512 | 24, 344 23, 422 | 24, 230 | 23, 244 | 24, 002 | 23, 909 |
| 33 | 23, 817 | 23, 183 | 23, 094 | 23, 003 | 23, 512 | 23, 422 22, 549 | 23, 333 22, 464 | 22, 380 | 22, 296 | 23, 007 |
| 34 | 22, 380 | 22, 033 | 22, 800 | 22, 120 | 22, 034 | 22, 349 | 21, 639 | 21, 559 | 21, 479 | 22, 212 |
| 35 | 21, 321 | 22, 040 | 21, 304 | 21, 082 | 21, 801 21, 009 | 20, 932 | 20, 855 | 20, 778 | 20, 702 | 20, 627 |
| | · · | | | · • | | | | 20, 034 | 19, 962 | 19, 890 |
| 36 | 20, 552 | 20, 477 | 20, 402 | 20, 328 | 20, 254 | 20, 180 | 20, 107 | 19, 324 | 19, 902 | 19, 890 |
| 37 | 19, 818 | 19, 746 | 19,675 | 19, 604 | 19, 534 | 19, 464 | 19, 394 | | | |
| 38 | 19, 117 | 19,049 | 18, 981 | 18, 913 | 18, 846 | 18, 778 | 18, 712 | 18, 645 | 18, 579 | 18, 513 |
| 39 | 18, 447 | 18, 381 | 18, 316 | 18, 251 | 18, 187 | 18, 122 | 18,058 | 17, 995 | 17, 931 | 17, 868 |
| 40 | 17,805 | 17, 742 | 17,679 | 17,617 | 17, 555 | 17, 493 | 17, 432 | 17, 371 | 17, 310 | 17, 249 |
| 41 | 17, 188 | 17, 128 | 17,068 | 17,008 | 16, 949 | 16, 889 | 16, 830 | 16, 771 | 16, 713 | 16, 654 |
| 42 | 16, 596 | 16, 538 | 16, 480 | 16, 423 | 16, 365 | 16, 308 | 16, 251 | 16, 195 | 16, 138 | 16, 082 |
| 43 | 16, 026 | 15, 970 | 15, 915 | 15, 859 | 15, 804 | 15, 749 | 15, 694 | 15, 640 | 15, 585 | 15, 531 |
| 44 | 15, 477 | 15, 423 | 15, 370 | 15, 316 | 15, 263 | 15, 210 | 15, 157 | 15, 104 | 15, 052 | 14, 999 |
| 45 | 14, 947 | 14, 895 | 14, 843 | 14, 792 | 14, 740 | 14, 689 | 14, 638 | 14, 587 | 14, 536 | 14, 486 |
| 46 | 14, 435 | 14, 38 5 | 14, 335 | 14, 285 | 14, 236 | 14, 186 | 14, 137 | 14, 087 | 14, 038 | 13, 989 |

| Degrees | | Elevation angle, tenths of a degree | | | | | | | | | | | |
|---------|---------|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|--------|--|--|--|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 13, 941 | 13, 892 | 13, 844 | 13, 795 | 13, 747 | 13, 699 | 13, 651 | 13, 604 | 13, 556 | 13, 50 | | | |
| 48 | 13, 462 | 13, 414 | 13, 367 | 13, 321 | 13, 274 | 13, 228 | 13, 181 | 13, 135 | 13, 089 | 13, 04 | | | |
| 49 | 12, 997 | 12, 951 | 12, 906 | 12, 861 | 12, 815 | 12, 770 | 12, 725 | 12, 680 | 12, 636 | 12, 5 | | | |
| 50 | 12, 547 | 12, 502 | 12, 458 | 12, 414 | 12, 370 | 12, 326 | 12, 282 | 12, 239 | 21, 195 | 12, 1 | | | |
| 51 | 12, 109 | 12,066 | 12, 023 | 11, 980 | 11, 937 | 11, 895 | 11, 852 | 11, 810 | 11, 768 | 11, 7 | | | |
| 52 | 11, 683 | 11, 641 | 11, 600 | 11, 558 | 11, 516 | 11, 475 | 11, 434 | 11, 392 | 11, 351 | 11, 3 | | | |
| -53 | 11, 269 | 11, 228 | 11, 188 | 11, 147 | 11, 107 | 11, 066 | 11, 026 | 10, 986 | 10, 946 | 10, 9 | | | |
| 54 | 10, 866 | 10, 826 | 10, 786 | 10, 747 | 10, 707 | 10, 668 | 10, 629 | 10, 589 | 10, 550 | 10, 5 | | | |
| 55 | 10, 472 | 10, 434 | 10, 395 | 10, 356 | 10, 318 | 10, 279 | 10, 241 | 10, 203 | 10, 165 | 10, 1 | | | |
| 56 | 10, 088 | 10, 051 | 10, 013 | 9, 975 | 9, 937 | 9, 900 | 9, 862 | 9, 825 | 9, 788 | 9, 7 | | | |
| 57 | 9, 713 | 9, 676 | 9, 639 | 9, 603 | 9, 566 | 9, 529 | 9, 492 | 9, 456 | 9, 419 | 9, 3 | | | |
| 58 | 9, 347 | 9, 310 | 9, 274 | 9, 238 | 9, 202 | 9, 166 | 9, 131 | 9, 095 | 9, 059 | 9, 0 | | | |
| 59 | 8, 988 | 8, 952 | 8, 917 | 8, 882 | 8, 846 | 8, 811 | 8, 776 | 8, 741 | 8, 706 | 8, 6 | | | |
| 60 | 8, 637 | 8, 602 | 8, 567 | 8, 532 | 8, 498 | 8, 463 | 8, 429 | 8, 395 | 8, 360 | 8, 3 | | | |
| 61 | 8, 292 | 8, 258 | 8, 224 | 8, 190 | 8, 156 | 8, 122 | 8, 089 | 8, 055 | 8, 021 | 7, 9 | | | |
| 62 | 7, 954 | 7, 921 | 7, 887 | 7, 854 | 7, 821 | 7, 788 | 7, 755 | 7, 721 | 7, 688 | 7,6 | | | |
| 63 | 7, 623 | 7, 590 | 7, 557 | 7, 524 | 7, 492 | 7, 459 | 7, 426 | 7, 394 | 7, 361 | 7, 3 | | | |
| 64 | 7, 297 | 7, 264 | 7, 232 | 7, 200 | 7, 168 | 7, 136 | 7, 104 | 7, 072 | 7, 040 | 7, 0 | | | |
| 65 | 6, 976 | 6, 945 | 6, 913 | 6, 881 | 6, 850 | 6, 818 | 6, 787 | 6, 755 | 6, 724 | 6,€ | | | |
| 66 | 6, 661 | 6, 630 | 6, 599 | 6, 568 | 6, 536 | 6, 505 | 6, 474 | 6, 443 | 6, 413 | 6, 3 | | | |
| 67 | 6, 351 | 6, 320 | 6, 289 | 7, 259 | 6, 228 | 6, 197 | 6, 167 | 6, 136 | 6, 106 | 6, 0 | | | |
| 68 | 6, 045 | 6, 015 | 5, 984 | 5, 954 | 5, 924 | 5, 894 | 5, 864 | 5, 833 | 5, 803 | 5, 7 | | | |
| 69 | 5, 743 | 5, 714 | 5, 684 | 5, 654 | 5, 624 | 5, 594 | 5, 564 | 5, 535 | 5, 505 | 5, 4 | | | |
| 70 | 5, 446 | 5, 416 | 5, 387 | 5, 357 | 5, 328 | 5, 299 | 5, 269 | 5, 240 | 5, 211 | 5, 1 | | | |
| 71 | 5, 152 | 5, 123 | 5, 094 | 5; 065 | 5, 036 | 5, 006 | 4, 977 | 4, 948 | 3, 920 | 4, 8 | | | |
| 72 | 4, 862 | 4, 833 | 4, 804 | 4, 775 | 4, 747 | 4, 718 | 4, 689 | 4, 660 | 4, 632 | 4,6 | | | |
| 73 | 4, 575 | 4, 546 | 4, 518 | 4, 489 | 4, 461 | 4, 432 | 4, 404 | 4, 376 | 4, 347 | 4, 3 | | | |
| 74 | 4, 291 | 4, 262 | 4, 234 | 4, 206 | 4, 178 | 4, 150 | 4, 122 | 4, 094 | 4, 065 | 4, 0 | | | |
| 75 | 4,009 | 3, 981 | 3, 954 | 3, 926 | 3, 898 | 3, 870 | 3, 842 | 3, 814 | 3, 786 | 3, 7 | | | |
| 76 | 3, 731 | 3, 703 | 3, 675 | 3, 648 | 3, 620 | 3, 592 | 3, 565 | 3, 537 | 3, 510 | 3, 4 | | | |
| 77 | 3, 455 | 3, 427 | 3, 400 | 3, 372 | 3, 345 | 3, 317 | 3, 290 | 3, 263 | 3, 235 | 3, 2 | | | |
| 78 | 3, 181 | 3, 153 | 3, 126 | 3, 099 | 3, 072 | 3, 044 | 3, 017 | 2, 990 | 2, 963 | 2, 9 | | | |
| 79 | 2, 909 | 2, 882 | 2, 855 | 2, 827 | 2, 800 | 2, 773 | 2, 746 | 2, 719 | 2, 692 | 2, 6 | | | |
| 80 | 2,639 | 2,612 | 2, 585 | 2, 558 | 2, 531 | 2, 504 | 2, 477 | 2, 450 | 2, 424 | 2, 3 | | | |
| 81 | 2, 370 | 2, 343 | 2, 317 | 2, 290 | 2, 263 | 2, 236 | 2, 210 | 2, 183 | 2, 156 | 2, 1 | | | |
| 82 | 2, 103 | 2, 076 | 2, 050 | 2, 023 | 1, 997 | 1, 970 | 1, 944 | 1, 917 | 1, 890 | 1, 8 | | | |
| 83 | 1, 837 | 1, 811 | 1, 784 | 1, 758 | 1, 731 | 1, 705 | 1, 679 | 1, 652 | 1, 626 | 1, 5 | | | |
| 84 | 1, 573 | 1, 546 | 1, 520 | 1, 494 | 1, 467 | 1, 441 | 1, 415 | 1, 388 | 1, 362 | 1, 3 | | | |
| 85 | 1, 309 | 1, 283 | 1, 257 | 1, 230 | 1, 204 | 1, 178 | 1, 151 | 1, 125 | 1, 099 | 1, 0 | | | |
| 86 | 1, 046 | 1, 020 | 994 | 968 | 941 | 915 | 889 | 863 | 837 | 8 | | | |
| 87 | 784 | 758 | 732 | 706 | 680 | 653 | 627 | 601 | 575 | 5 | | | |
| 88 | 523 | 496 | 470 | 444 | 418 | 392 | 366 | 340 | 313 | 2 | | | |
| 89 | 261 | 235 | 209 | 183 | 157 | 131 | 104 | 78 | 52 | | | | |

Table 2–1. Horizontal Distance (Meters), 15,000 Meters (Computer Zone 21)—Continued

| Domesco | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------|----------|-------------|-------------|---------------------------|----------|----------|----------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 227, 180 | 222, 738 | 218, 433 | 214, 260 | 210, 215 | 20 6 , 2 93 | 202, 489 | 198, 800 | 195, 222 | 191, 749 |
| 4 | 188, 380 | 185, 109 | 181, 933 | 178, 849 | 175, 853 | 172, 943 | 170, 115 | 167, 366 | 164, 694 | 162, 095 |
| 5 | 159, 567 | 157, 107 | 154, 714 | 152, 384 | 150, 116 | 147, 907 | 145, 756 | 143, 660 | 141, 617 | 139, 626 |
| 6 | 137, 684 | 135, 791 | 133, 944 | 132, 142 | 130, 384 | 128, 667 | 126, 992 | 125, 355 | 123, 757 | 122, 196 |
| 7 | 120, 679 | 119, 179 | 117, 721 | 116, 296 | 114, 902 | 113, 538 | 112, 204 | 110, 899 | 109, 621 | 108, 371 |
| 8 | 107, 146 | 105, 947 | 104, 772 | 103, 621 | 102, 494 | 101, 389 | 100, 306 | 99, 244 | 98, 203 | 97, 182 |
| 9 | 96, 180 | 95, 198 | 94, 234 | 93, 288 | 92, 360 | 91, 448 | 90, 554 | 89, 675 | 88, 812 | 87, 965 |
| 10 | 87, 132 | 86, 314 | 85, 510 | 84, 720 | 83, 944 | 83, 180 | 82, 430 | 81, 692 | 80, 966 | 80, 252 |
| 11 | 79, 550 | 78, 859 | 78, 179 | 77, 511 | 76, 852 | 76, 204 | 75, 566 | 74, 938 | 74, 320 | 73, 711 |
| 12 | 73, 111 | 72, 520 | 71, 938 | 71, 365 | 70, 800 | 70, 243 | 69, 694 | 69, 153 | 68, 620 | 68, 095 |
| 13 | 67, 577 | 67, 066 | 66, 562 | 66, 065 | 65, 575 | 65, 092 | 64, 615 | 64, 145 | 63, 681 | 63, 223 |
| 14 | 62, 771 | 62, 325 | 61, 884 | 61, 450 | 61, 021 | 60, 597 | 60, 179 | 59, 766 | 59, 359 | 58, 956 |
| 15 | 58, 558 | 58, 165 | 57, 777 | 57, 394 | 57,015 | 56, 641 | 56, 271 | 55, 906 | 55, 545 | 55, 188 |
| 16 | 54, 835 | 54, 487 | 54, 142 | 53, 801 | 53, 464 | 53, 131 | 52, 802 | 52, 476 | 52, 154 | 51, 836 |
| 17 | 51, 521 | 51, 209 | 50, 901 | 50, 596 | 50, 294 | 49, 996 | 49, 701 | 49, 408 | 49, 119 | 48, 833 |
| 18 | 48, 550 | 48, 270 | 47, 992 | 47, 718 | 47, 446 | 47, 177 | 46, 910 | 46, 647 | 46, 386 | 46, 127 |
| 19 | 45, 871 | 45, 618 | 45, 367 | 45, 118 | 44, 872 | 44, 628 | 44, 386 | 44, 147 | 43, 910 | 43, 675 |
| 20 | 43, 442 | 43, 212 | 42, 983 | 42, 757 | 42, 533 | 42, 311 | 42,091 | 41, 872 | 41, 656 | 41, 442 |
| 21 | 41, 229 | 41,019 | 40,810 | 40, 603 | 40, 398 | 40, 195 | 39, 993 | 39, 793 | 39, 595 | 39, 398 |
| 22 | 39, 203 | 39, 010 | 38, 819 | 38, 629 | 38, 440 | 38, 253 | 38,068 | 37, 884 | 35, 353 | 35, 598 |
| 23 | 37, 341 | 37, 163 | 36, 987 | 36, 811 | 36, 638 | 36, 465 | 36, 294 | 36, 124 | 37, 702 | |
| 24 | 35, 623 | 35, 458 | 35, 295 | 35, 133 | 34, 972 | 30, 403 | 30, 294 | 34, 496 | 1 1 | 35, 789 |
| -25 | 34. 031 | 33, 878 | 33, 727 | 33, 576 | 33, 427 | | | 1 . | 34, 340 | 34, 185 |
| 26 | 32, 552 | 32, 410 | 32, 269 | 32, 128 | 31, 989 | 33, 278 | 33, 131 | 32, 985 | 32, 839 | 32, 695 |
| 20 | 31, 173 | 31,041 | 30, 909 | 1 | | 31,851 | 31, 713 | 31, 577 | 31, 442 | 31, 307 |
| 28 | 29, 884 | • | | 30, 778 | 30, 647 | 30, 518 | 30, 390 | 30, 262 | 30, 135 | 30, 009 |
| 20 | | 29, 760 | 29, 636 | 29, 514 | 29, 392 | 29, 271 | 29, 150 | 29,030 | 28, 912 | 28, 793 |
| | 28, 676 | 28, 559 | 28, 443 | 28, 328 | 28, 213 | 28, 099 | 27, 986 | 27, 874 | 27,762 | 27,651 |
| 30 | 27, 540 | 27, 430 | 27, 321 | 27, 213 | 27, 105 | 26, 997 | 26, 891 | 26, 785 | 26, 679 | 26, 574 |
| 31 | 26, 470 | 26, 367 | 26, 263 | 26, 161 | 26, 059 | 25, 958 | 25, 857 | 25, 757 | 25, 657 | 25, 558 |
| 32 | 25, 460 | 25, 362 | 25, 264 | 25, 167 | 25, 071 | 24, 975 | 24, 880 | 24, 785 | 24, 691 | 24, 597 |
| 33 | 24, 503 | 24, 411 | 24, 318 | 24, 226 | 24, 135 | 24, 044 | 23, 954 | 23, 864 | 23, 774 | 23, 685 |
| 34 | 23. 597 | 23, 509 | 23, 421 | 23, 334 | 23, 247 | 23, 161 | 23, 075 | 22, 989 | 22, 904 | 22, 819 |
| 35 | 22, 735 | 22, 651 | 22, 568 | 22, 485 | 22, 402 | 22, 320 | 22, 238 | 22, 157 | 22, 076 | 21, 995 |
| 36 | 21, 915 | 21,835 | 21,756 | 21,677 | 21, 598 | 21, 519 | 21, 441 | 21, 364 | 21, 286 | 21, 210 |
| 37 | 21, 133 | 21, 057 | 20, 981 | 20, 905 | 20, 830 | 20, 755 | 20, 681 | 20, 607 | 20, 533 | 20, 459 |
| 38 | 20, 386 | 20, 313 | 20, 241 | 20, 168 | 20, 096 | 20, 025 | 19, 953 | 19, 882 | 19, 812 | 19, 741 |
| 39 | 19, 671 | 19, 602 | 19, 532 | 19, 463 | 19, 394 | 19, 325 | 19, 257 | 19, 189 | 19, 121 | 19, 054 |
| 40 | 18, 987 | 18, 920 | 18, 853 | 18, 787 | 18, 720 | 18, 655 | 18, 589 | 18, 524 | 18, 459 | 18, 394 |
| 41 | 18, 329 | 18, 265 | 18, 201 | 18, 137 | 18,074 | 18, 011 | 17, 948 | 17, 885 | 17, 822 | 17, 760 |
| 42 | 17, 698 | 17, 636 | 17, 575 | 17, 513 | 17, 452 | 17, 391 | 17, 331 | 17, 270 | 17, 210 | 17, 150 |
| 43 | 17,090 | 17, 031 | 16, 971 | 16, 912 | 16, 854 | 16, 795 | 16, 736 | 16, 678 | 16, 620 | 16, 562 |
| 44 | 16, 505 | 16, 447 | 16, 390 | 16, 333 | 16, 276 | 16, 220 | 16, 164 | 16, 107 | 16, 051 | 15, 996 |
| 45 | 15, 940 | 15,*885 | 15, 829 | 15, 774 | 15, 719 | 15, 665 | 15, 610 | 15, 556 | 15, 502 | 15, 448 |
| 46 ! | 15, 394 | 15, 341 | 15, 287 | 15, 234 | 15, 181 | 15, 128 | 15,076 | 15, 023 | 14, 971 | 14, 919 |

| Degrees | | Elevation angle, tenths of a degree | | | | | | | | | | | |
|---------|----------|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|--------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 14, 867 | 14, 815 | 14, 763 | 14, 712 | 14, 660 | 14, 609 | 14, 558 | 14, 507 | 14, 457 | 14, 40 | | | |
| 48 | 14, 356 | 14, 306 | 14, 256 | 14, 206 | 14, 156 | 14, 106 | 14, 057 | 14, 008 | 13, 958 | 13, 90 | | | |
| 49 | 13, 861 | 13, 812 | 13, 763 | 13, 715 | 13, 667 | 13, 619 | 13, 571 | 13, 523 | 13, 475 | 13, 42 | | | |
| 50 | 13, 380 | 13, 333 | 13, 286 | 13, 239 | 13, 192 | 13, 145 | 13, 099 | 13, 052 | 13, 006 | 12, 96 | | | |
| 51 | 12, 913 | 12, 868 | 12, 822 | 12, 776 | 12, 730 | 12, 685 | 12, 640 | 12, 595 | 12, 549 | 12, 50 | | | |
| 52 | 12, 460 | 12, 415 | 12, 370 | 12, 326 | 12, 282 | 12, 237 | 12, 193 | 12, 149 | 12, 105 | 12, 06 | | | |
| 53 | 12, 018 | 11, 975 | 11, 931 | 11, 888 | 11, 845 | 11, 802 | 11, 759 | 11, 716 | 11, 673 | 11, 63 | | | |
| 54 | 11, 588 | 11, 545 | 11, 503 | 11, 461 | 11, 419 | 11, 377 | 11, 335 | 11, 293 | 11, 251 | 11, 21 | | | |
| 55 | 11, 168 | 11, 127 | 11, 086 | 11, 045 | 11, 003 | 10, 962 | 10, 922 | 10, 881 | 10, 840 | 10, 79 | | | |
| 56 | 10, 759 | 10, 719 | 10, 678 | 10, 638 | 10, 598 | 10, 558 | 10, 518 | 10, 478 | 10, 438 | 10, 39 | | | |
| 57 | 10, 359 | 10, 320 | 10, 280 | 10, 241 | 10, 202 | 10, 162 | 10, 123 | 10, 084 | 10, 045 | 10, 00 | | | |
| 58 | 9, 968 | 9, 929 | 9, 891 | 9, 852 | 9, 814 | 9, 776 | 9, 737 | 9, 699 | 9, 661 | 9, 623 | | | |
| 59 | 9, 585 | 9, 548 | 9, 510 | 9, 472 | 9, 435 | 9, 397 | 9, 360 | 9, 322 | 9, 285 | 9, 24 | | | |
| 60 | 9, 211 | 9, 174 | 9, 137 | 9, 100 | 9, 063 | 9, 026 | 8, 989 | 8, 953 | 8, 916 | 8, 88 | | | |
| 61 | 8, 843 | 8, 807 | 8, 771 | 8, 735 | 8, 698 | 8, 662 | 8, 626 | 8, 590 | 8, 555 | 8, 51 | | | |
| 62 | 8, 483 | 8, 447 | 8, 412 | 8, 376 | 8, 341 | 8, 305 | 8, 270 | 8, 235 | 8, 200 | 8, 16 | | | |
| 63 | 8, 129 | 8, 094 | 8, 059 | 8, 024 | 7, 990 | 7, 955 | 7, 920 | 7, 885 | 7, 851 | 7, 81 | | | |
| 64 | 7, 782 | 7, 747 | 7, 713 | 7, 679 | 7, 645 | 7, 610 | 7, 576 | 7, 542 | 7, 508 | 7, 47 | | | |
| 65 | 7, 440 | 7,406 | 7, 373 | 7, 339 | 7, 305 | 7, 271 | 7, 238 | 7, 204 | 7, 171 | 7, 13 | | | |
| 66 | 7, 104 | 7,071 | 7, 037 | 7,004 | 6, 971 | 6, 938 | 6, 905 | 6, 872 | 6, 839 | 6, 80 | | | |
| . 67 | 6, 773 | 6, 740 | 6, 707 | 5, 675 | 6, 642 | 6, 609 | 6, 577 | 6, 544 | 6, 512 | 6, 47 | | | |
| 68 | 6, 447 | 6, 415 | 6, 382 | 6, 350 | 6, 318 | 6, 286 | 6, 253 | 6, 221 | 6, 189 | 6, 15 | | | |
| 69 | - 6, 125 | 6, 093 | 6, 062 | 6, 030 | 5, 998 | 5, 966 | 5, 934 | 5, 903 | 5, 871 | 5, 84 | | | |
| 70 | 5, 808 | 5, 776 | 5, 745 | 5, 714 | 5, 682 | 5, 651 | 5, 619 | 5, 588 | 5, 557 | 5, 52 | | | |
| 71 | 5, 495 | 5, 463 | 5, 432 | 5, 401 | 5, 370 | 5, 339 | 5, 308 | 5, 278 | 5, 247 | 5, 210 | | | |
| 72 | 5, 185 | 5, 154 | 5, 124 | 5, 093 | 5, 062 | 5, 032 | 5, 001 | 4, 970 | 4, 940 | 4, 90 | | | |
| 73 | 4, 879 | 4, 848 | 4, 818 | 4, 788 | 4, 757 | 4, 727 | 4, 697 | 4, 667 | 4, 636 | 4, 60 | | | |
| 74 | 4, 576 | 4, 546 | 4, 516 | 4, 486 | 4, 456 | 4, 426 | 4, 396 | 4, 366 | 4, 336 | 4, 30 | | | |
| 75 | 4, 276 | 4, 246 | 4, 216 | 4, 187 | 4, 157 | 4, 127 | 4, 097 | 4, 068 | 4, 038 | 4, 00 | | | |
| 76 | 3, 979 | 3, 949 | 3, 920 | 3, 890 | 3, 861 | 3, 831 | 3, 802 | 3, 772 | 3, 743 | 3, 71 | | | |
| 77 | 3, 684 | 3, 655 | 3, 626 | 3, 596 | 3, 567 | 3, 538 | 3, 509 | 3, 480 | 3, 450 | 3, 42 | | | |
| 78 | 3, 392 | 3, 363 | 3, 334 | 3, 305 | 3, 276 | 3, 247 | 3, 218 | 3, 189 | 3, 160 | 3, 13 | | | |
| 79 | 3, 102 | 3, 073 | 3, 044 | 3, 016 | 2, 987 | 2, 958 | 2, 929 | 2, 900 | 2, 872 | 2, 84 | | | |
| 80 | 2, 814 | 2, 785 | 2, 757 | 2, 728 | 2, 699 | 2, 671 | 2, 642 | 2, 613 | 2, 585 | 2, 55 | | | |
| 81 | 2, 528 | 2, 499 | 2, 471 | 2, 442 | 2, 414 | 2, 385 | 2, 357 | 2, 328 | 2, 300 | 2, 27 | | | |
| 82 | 2, 243 | 2, 215 | 2, 186 | 2, 158 | 2, 129 | 2, 101 | 2, 073 | 2, 044 | 2, 016 | 1, 98 | | | |
| 83 | 1, 960 | 1, 931 | 1, 903 | 1, 875 | 2, 847 | 1, 818 | 1, 790 | 1,762 | 1, 734 | 1, 70 | | | |
| 84 | 1, 677 | 1, 649 | 1, 521 | 1, 593 | 1, 565 | 1, 537 | 1, 509 | 1, 481 | 1, 452 | 1, 42 | | | |
| 85 | 1, 396 | 1, 368 | 1, 340 | 1, 312 | 1, 284 | 1, 256 | 1, 228 | 1, 200 | 1, 172 | 1, 14 | | | |
| 86 | 1, 116 | 1, 088 | 1, 060 | 1, 032 | 1, 004 | 976 | 948 | 920 | 892 | 86 | | | |
| 87 | 836 | 808 | 781 | 753 | 725 | 697 | 669 | 641 | 613 | 58 | | | |
| 88 | 557 | 529 | 502 | 474 | 446 | 418 | 390 | 362 | 334 | 30 | | | |
| 89 | 279 | 251 | 223 | 195 | 167 | 139 | 111 | 84 | 56 | 28 | | | |

| Table 2-1. | Horizontal Distance (Meters), | 16,000 Meters (Ba | allistic Zone | 14) (Computer | Zone 22) |
|------------|-------------------------------|-------------------|---------------|---------------|----------|
| | (Fallout | Zone 8)-Continue | ed | | |

| Degrees | | | E | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------|----------|------------|-------------|-------------|----------|----------|----------|----------|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 238, 360 | 233, 788 | 229, 354 | 225, 053 | 220, 880 | 216, 830 | 212, 901 | 209, 087 | 205, 384 | 201, 789 |
| 4 | 198, 298 | 194, 907 | 191, 612 | 188, 411 | 185, 300 | 182, 275 | 179, 334 | 176, 474 | 173, 692 | 170, 986 |
| 5 | 168, 352 | 165, 788 | 163, 291 | 160, 860 | 158, 493 | 156, 186 | 153, 938 | 151, 747 | 149, 611 | 147, 528 |
| 6 | 145, 496 | 143, 514 | 141, 581 | 139, 693 | 137, 851 | 136, 052 | 134, 295 | 132, 579 | 130, 902 | 129, 263 |
| 7 | 127, 662 | 126, 096 | 124, 565 | 123, 068 | 121, 603 | 120, 170 | 118, 768 | 117, 395 | 116,052 | 114, 736 |
| 8 | 113, 448 | 112, 186 | 110, 950 | 109, 738 | 108, 551 | 107, 387 | 106, 247 | 105, 128 | 104, 031 | 102, 955 |
| 9 | 101, 900 | 100, 864 | 99, 848 | 98, 851 | 97, 872 | 96, 910 | 95, 967 | 95, 040 | 94, 129 | 93, 235 |
| 10 | 92, 356 | 91, 493 | 90, 645 | 89, 811 | 88, 991 | 88, 185 | 87, 392 | 86, 613 | 85, 846 | 85, 092 |
| 11 | 84, 350 | 83, 620 | 82, 902 | 82, 195 | 81, 499 | 80, 814 | 80, 140 | 79, 476 | 78, 822 | 78, 179 |
| 12 | 77, 544 | 76, 920 | 76, 304 | 75, 698 | 75, 100 | 74, 511 | 73, 931 | 73, 359 | 72, 795 | 72, 239 |
| 13 | 71, 691 | 71, 150 | 70, 617 | 70, 092 | 69, 573 | 69,062 | 68, 557 | 68, 059 | 67, 568 | 67, 083 |
| 14 | 66, 605 | 66, 132 | 65, 666 | 65, 206 | 64, 752 | 64, 304 | 63, 861 | 63, 424 | 62, 992 | 62, 565 |
| 15 | 62, 144 | 61, 728 | 61, 317 | 60, 911 | 60, 510 | 60, 114 | 59, 722 | 59, 335 | 58, 952 | 58, 574 |
| 16 | 58, 201 | 57, 831 | 57, 466 | 57, 105 | 56, 748 | 56, 395 | 56,046 | 55, 701 | 55, 360 | 55, 022 |
| 17 | 54, 688 | 54, 358 | 54, 031 | 53, 708 | 53, 388 | 53, 072 | 52, 759 | 52, 449 | 52, 143 | 51, 840 |
| 18 | 51, 539 | 51, 242 | 50, 948 | 50, 657 | 50, 369 | 50, 084 | 49, 801 | 49, 522 | 49, 245 | 48, 971 |
| 19 | 48, 699 | 48, 430 | 48, 164 | 47, 901 | 47, 640 | 47, 381 | 47, 125 | 46, 871 | 46, 620 | 46, 371 |
| 20 | 46, 124 | 45, 879 | 45, 637 | 45, 397 | 45, 159 | 44, 924 | 44, 690 | 44, 459 | 44, 229 | 44, 002 |
| 21 | 43, 777 | 43, 553 | 43, 332 | 43, 112 | 42.895 | 42, 679 | 42, 465 | 42, 253 | 42,043 | 41, 834 |
| 22 | 41, 628 | 41, 423 | 41, 219 | 41,018 | 40, 818 | 40, 620 | 40, 423 | 40, 228 | 40, 034 | 39, 842 |
| 23 | 39, 652 | 39, 463 | 39, 276 | 39, 090 | 38, 905 | 38, 722 | 38, 541 | 38, 361 | 38, 182 | 38, 005 |
| 24 | 37, 829 | 37, 654 | 37, 481 | 37, 309 | 37, 138 | 36, 968 | 36, 800 | 36, 633 | 36, 467 | 36, 303 |
| 25 | 36, 140 | 35, 978 | 35, 817 | 35, 657 | 35, 498 | 35, 341 | 35, 184 | 35, 029 | 34, 875 | 34, 722 |
| 26 | 34, 570 | 34, 419 | 34, 269 | 34, 120 | 33, 973 | 33, 826 | 33, 680 | 33, 535 | 33, 391 | 33, 249 |
| 27 | 33, 107 | 32, 966 | 32, 826 | 32, 687 | 32, 549 | 32, 411 | 32, 275 | 32, 140 | 32,005 | 31, 871 |
| 28 | 31, 738 | 31, 606 | 31, 475 | 31, 345 | 31, 216 | 31, 087 | 30, 959 | 30, 832 | 30, 706 | 30, 580 |
| 29 | 30, 456 | 30, 332 | 30, 209 | 30, 086 | 29, 965 | 29, 844 | 29, 724 | 29,604 | 29, 485 | 29, 367 |
| 30 | 29, 250 | 29, 133 | 29, 018 | 28, 902 | 28, 788 | 28, 674 | 28, 561 | 28, 448 | 28, 336 | 28, 225 |
| 31 | 28, 114 | 28,004 | 27, 895 | 27, 786 | 27, 678 | 27, 570 | 27, 463 | 27, 357 | 27, 251 | 27, 146 |
| 32 | 27, 041 | 26, 937 | 26, 834 | 26, 731 | 26, 629 | 26, 527 | 26, 426 | 26, 325 | 26, 225 | 26, 125 |
| 33 | 26, 026 | 25, 928 | 25, 829 | 25, 732 | 25, 635 | 25, 538 | 25, 442 | 25, 347 | 25, 252 | 25, 157 |
| 34 | 25, 063 | 24, 970 | 24, 877 | 24, 784 | 24, 692 | 24, 600 | 24, 509 | 24, 418 | 24, 328 | 24, 238 |
| 35 | 24, 148 | 24, 059 | 23, 971 | 23, 883 | 23, 795 | 23, 708 | 23, 621 | 23, 534 | 23, 448 | 23, 363 |
| 36 | 23, 278 | 23, 193 | 23, 108 | 23, 024 | 22, 941 | 22, 858 | 22, 775 | 22, 692 | 22, 610 | 22, 529 |
| 37 | 22, 447 | 22, 366 | 22, 286 | 22, 205 | 22, 126 | 22, 046 | 21, 967 | 21, 888 | 21, 810 | 21, 732 |
| 38 | 21, 654 | 21, 577 | 21, 500 | 21, 423 | 21, 346 | 21, 270 | 21, 195 | 21, 119 | 21,044 | 20, 969 |
| 39 | 20, 895 | 20, 821 | 20, 747 | 20, 674 | 20, 600 | 20, 528 | 20, 455 | 20, 383 | 20, 311 | 20, 239 |
| 40 | 20, 168 | 20, 097 | 20, 026 | 19, 955 | 19, 885 | 19, 815 | 19, 746 | 19, 676 | 19,607 | 19, 538 |
| 41 | 19, 470 | 19, 402 | 19, 334 | 19, 266 | 19, 199 | 19, 131 | 19,064 | 18, 998 | 18, 931 | 18, 865 |
| 42 | 18, 799 | 18, 734 | 18, 668 | 18, 603 | 18, 538 | 18, 474 | 18,409 | 18, 345 | 18, 281 | 18, 217 |
| 43 | 18, 154 | 18, 091 | 18, 028 | 17, 965 | 17, 903 | 17,840 | 17, 778 | 17, 716 | 17,655 | 17, 593 |
| 44 | 17, 532 | 17, 471 | 17, 410 | 17, 350 | 17, 290 | 17, 230 | 17, 170 | 17, 110 | 17, 051 | 16, 991 |
| 45 | 16, 932 | 16, 873 | 16, 815 | 16, 756 | 16, 698 | 16, 640 | 16, 582 | 16, 525 | 16, 467 | 16, 410 |
| 46 | 16, 353 | 16, 296 | 16, 239 | 16, 183 | 16, 126 | 16, 070 | 16,014 | 15, 958 | 15, 903 | 15, 848 |

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| | | Elevation angle, tenths of a degree | | | | | | | | | | | |
|---------|------------------|-------------------------------------|----------------|---------|---------|---------|---------|---------|---------|-------------|--|--|--|
|)egrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 15, 792 | 15, 737 | 15, 682 | 15, 628 | 15, 573 | 15, 519 | 15, 465 | 15, 411 | 15, 357 | 15, 30 | | | |
| 48 | 15, 250 | 15, 196 | 15, 143 | 15, 090 | 15, 037 | 14, 985 | 14, 932 | 14, 880 | 14, 828 | 14, 7 | | | |
| 49 | 14, 724 | 14,672 | 14, 620 | 14, 569 | 14, 518 | 14, 467 | 14, 416 | 14, 365 | 14, 314 | 14, 20 | | | |
| 50 | 14, 213 | 14, 163 | 14, 113 | 14, 063 | .4, 013 | 13, 964 | 13, 914 | 13, 865 | 13, 816 | 13, 7 | | | |
| 51 | 13, 718 | 13, 669 | 13, 620 | 13, 572 | 13, 523 | 13, 475 | 13, 427 | 13, 379 | 13, 331 | 13, 2 | | | |
| 52 | 13, 236 | 13, 188 | 13, 141 | 13, 094 | 13, 047 | 13, 000 | 12, 953 | 12, 906 | 12, 859 | 12, 8 | | | |
| 53 | 12, 767 | 12,720 | 12,674 | 12,628 | 12, 582 | 12, 537 | 12, 491 | 12, 446 | 12, 400 | 12, 3 | | | |
| 54 | 12, 310 | 12, 265 | 12, 220 | 12, 175 | 12, 130 | 12,086 | 12, 041 | 11, 997 | 11, 952 | 11, 9 | | | |
| 55 | 11, 864 | 11,820 | 11,776 | 11, 733 | 11,689 | 11,645 | 11,602 | 11, 559 | 11, 515 | 11, 4 | | | |
| 56 | 11, 429 | 11, 386 | 11, 343 | 11, 301 | 11, 258 | 11, 216 | 11, 173 | 11, 131 | 11, 089 | 11,0 | | | |
| 57 | 11,004 | 10, 962 | 10, 921 | 10,879 | 10, 837 | 10,796 | 10, 754 | 10, 713 | 10,671 | 10,6 | | | |
| 58 | 10, 589 | 10, 548 | 10, 507 | 10, 466 | 10, 425 | 10, 385 | 10, 344 | 10, 304 | 10, 263 | 10, 2 | | | |
| 59 | 10, 183 | 10, 142 | 10, 102 | 19, 062 | 10, 022 | 9, 982 | 9,943 | 9, 903 | 9,863 | 9,8 | | | |
| 60 | 9,784 | 9, 745 | 9,706 | 9,667 | 9,627 | 9, 588 | 9, 549 | 9, 511 | 9, 472 | 9, 4 | | | |
| 61 | 9, 394 | 9, 356 | 9, 317 | 9, 279 | 9, 240 | 9, 202 | 9, 164 | 9, 126 | 9, 088 | 9,0 | | | |
| 62 | 9,012 | 8,974 | 8,936 | 8, 898 | 8, 860 | 8, 823 | 8, 785 | 8,748 | 8, 710 | 8,6 | | | |
| 63 | 8,636 | 8, 599 | 8, 562 | 8, 524 | 8, 487 | 8, 451 | 8,414 | 8, 377 | 8, 340 | 8, 3 | | | |
| 64 | 8, 267 | 8, 230 | 8, 194 | 8, 157 | 8, 121 | 8, 085 | 8,048 | 8,012 | 7, 976 | 7,9 | | | |
| 65 | 7,904 | 7,868 | 7,832 | 7,796 | 7,760 | 7,725 | 7,689 | 7,653 | 7,618 | 7,5 | | | |
| 66 | 7, 547 | 7, 511 | 7,476 | 7,441 | 7,405 | 7,370 | 7, 335 | 7,300 | 7, 265 | 7, 2 | | | |
| 67 | 7, 195 | 7, 160 | 7, 125 | 7,091 | 7,056 | 7,021 | 6, 987 | 6,952 | 6, 918 | 6,8 | | | |
| 68 | 6, 849 | 6, 814 | 6, 780 | 6, 746 | 6,711 | 6,677 | 6, 643 | 6, 609 | 6, 575 | 6,5 | | | |
| 69 | 6, 507 | 6, 473 | 6, 439 | 6,405 | 6, 372 | 6, 338 | 6, 304 | 6,271 | 6, 237 | 6,2 | | | |
| 70 | 6, 170 | 6, 136 | 6, 103 | 6,070 | 6,036 | 6,003 | 5, 970 | 5, 936 | 5, 903 | 5, 8 | | | |
| 71 | 5, 837 | 5, 804 | 5, 771 | 5, 738 | 5,705 | 5,672 | 5,639 | 5,606 | 5, 574 | 5, 5 | | | |
| 72 | 5, 508 | 5, 475 | 5, 443 | 5, 410 | 5, 378 | 5, 345 | 5, 313 | 5, 280 | 5, 248 | 5, 2 | | | |
| 73 | 5, 183 | 5, 151 | 5, 118 | 5, 086 | 5,054 | 5,022 | 4, 989 | 4, 957 | 4, 925 | 4,8 | | | |
| 74 | 4,861 | 4, 829 | 4, 797 | 4, 765 | 4,733 | 4, 701 | 4,670 | 4, 638 | 4, 606 | 4, 5 | | | |
| 75 | 4, 543 | 4, 511 | 4, 479 | 4, 448 | 4, 416 | 4, 384 | 4, 353 | 4, 321 | 4, 290 | 4, 2 | | | |
| 76 | 4, 343 | 4, 196 | 4, 164 | 4, 133 | 4, 101 | 4,070 | 4,039 | 4,008 | 3, 976 | 3, 9 | | | |
| 77 | 3, 914 | 3, 883 | 3, 852 | 3, 821 | 3, 790 | 3, 759 | 3, 728 | 3, 696 | 3, 666 | 3,6 | | | |
| 78 | | 3, 573 | 3, 542 | 3, 511 | 3, 480 | 3, 449 | 3, 418 | 3, 388 | 3, 357 | 3, 3 | | | |
| 79 | 3, 604 3, 296 | 3, 265 | 3, 342 | 3, 203 | 3, 173 | 3, 142 | 3, 112 | 3, 081 | 3, 051 | 3,0 | | | |
| 80 | 2, 989 | 3, 203 2, 959 | 2, 928 | 2, 898 | 2, 868 | 2,837 | 2, 807 | 2,776 | 2, 746 | 2, 7 | | | |
| 81 | 2, 585 | 2, 555 | 2, 525 | 2, 594 | 2,564 | 2, 534 | 2, 504 | 2,473 | 2, 443 | 2,4 | | | |
| 82 | 2, 383 | 2, 353 | 2, 322 | 2, 292 | 2, 262 | 2, 232 | 2, 202 | 2, 172 | 2, 142 | 2, 1 | | | |
| 83 | | 2, 353 2, 052 | 2, 322 | 1, 992 | 1, 962 | 1,932 | 1,902 | 1,872 | 1,842 | 1, 8 | | | |
| (| 2,082 | | | 1, 592 | 1, 562 | 1,633 | 1,603 | 1, 573 | 1, 543 | 1, 5 | | | |
| 84 | 1,782 | 1,752 | 1,722 1,424 | 1, 092 | 1, 364 | 1, 334 | 1,305 | 1, 275 | 1, 245 | 1, 2 | | | |
| 85 | 1,483 | 1,454 | | 1, 394 | 1, 304 | 1, 034 | 1, 303 | 978 | 948 | r, <u>r</u> | | | |
| 86 | 1, 186 | 1,156 | 1, 126 | 1,090 | 770 | 740 | 711 | 681 | 651 | é | | | |
| 87 | 889 | 859 | 829 522 | | 474 | 444 | 414 | 385 | 355 | 3 | | | |
| 88 | 592 | 562 | 533 | 503 | | | 118 | 89 | 59 | •) | | | |
| 89 | 296 | 266 | 237 | 207 | 178 | 148 | 110 | 0.9 | 00 | | | | |

Table 2-1. Horizontal Distance (Meters), 17,000 Meters (Computer Zone 23)—Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-48

| Degrees | | | E | levation ar | ngle, tenth | s of a degr | ee | - | | |
|----------|--------------------|----------|----------|-------------|-------------|-------------|----------|----------|----------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 249, 321 | 244, 628 | 240, 072 | 235, 649 | 231, 355 | 227, 185 | 223, 136 | 219, 202 | 215, 382 | 211, 670 |
| 4 | 208, 062 | 204, 557 | 201, 148 | 197, 835 | 194, 613 | 191, 478 | 188, 429 | 185, 463 | 182, 575 | 179, 765 |
| 5 | 177, 028 | 174, 364 | 171, 768 | 169, 239 | 166, 775 | 164, 373 | 162, 032 | 159, 749 | 157, 523 | 155, 351 |
| 6 | 153, 232 | 151, 164 | 149, 145 | 147, 175 | 145, 250 | 143, 371 | 141, 535 | 139, 741 | 137, 987 | 136, 274 |
| 7 | 134, 598 | 132, 960 | 131, 357 | 129, 789 | 128, 256 | 126, 755 | 125, 285 | 123, 847 | 122, 439 | 121,059 |
| 8 | 119, 709 | 118, 385 | 117, 088 | 115, 817 | 114, 572 | 113, 350 | 112, 153 | 110, 978 | 109, 827 | 108, 697 |
| 9 | 107, 588 | 106, 500 | 105, 433 | 104, 385 | 103, 356 | 102, 345 | 101, 353 | 100, 379 | 99, 421 | 98, 481 |
| 10 | 97, 557 | 96, 649 | 95, 756 | 94, 879 | 94, 016 | 93, 168 | 92, 334 | 91, 513 | 90, 706 | 89, 913 |
| 11 | 89, 132 | 88, 363 | 87, 607 | 86, 862 | 86, 129 | 85, 408 | 84, 698 | 83, 998 | 83, 309 | 82, 631 |
| 12 | 81, 963 | 81, 305 | 80, 656 | 80, 017 | 79, 387 | 78, 766 | 78, 155 | 77, 552 | 76, 957 | 76, 371 |
| 13 | 75, 793 | 75, 223 | 74, 661 | 74, 106 | 73, 560 | 73, 020 | 72, 488 | 71, 963 | 71, 444 | 70, 933 |
| 14 | 70, 428 | 69, 930 | 69, 438 | 68, 953 | 68, 474 | 68, 001 | 67, 533 | 67,072 | 66, 616 | 66, 166 |
| 15 | 65, 722 | 65, 283 | 64, 849 | 64, 420 | 63, 997 | 63, 578 | 63, 165 | 62,756 | 62, 352 | 61, 953 |
| 16 | 61, 559 | 61, 169 | 60, 783 | 60, 402 | 60, 025 | 59, 652 | 59, 284 | 58, 919 | 58, 559 | 58, 202 |
| 17 | 57, 850 | 57, 501 | 57, 156 | 56, 815 | 56, 477 | 56, 143 | 55, 812 | 55, 485 | 55, 161 | 54, 841 |
| 18 | 54, 524 | 54, 210 | 53, 899 | 53, 592 | 53, 287 | 52, 986 | 52, 687 | 52, 392 | 52, 101 | 51, 810 |
| 19 | 51, 523 | 51, 239 | 50, 958 | 50, 679 | 50, 403 | 50, 130 | 49, 859 | 49. 591 | 49.325 | |
| 20 | 48, 801 | 48, 543 | 48, 287 | 48,033 | 47, 782 | 47, 533 | 47, 286 | 47,041 | 46, 799 | 49,062 |
| 21 | 46, 321 | 46, 084 | 45, 850 | 45, 618 | 45, 388 | 45, 160 | 44, 934 | 44, 710 | 40, 759 | 46, 559 |
| 22 | 44, 049 | 43, 832 | 43, 617 | 43, 404 | 43, 193 | 42, 983 | 42, 775 | 42, 569 | | 44, 267 |
| 23 | 41, 960 | 41, 760 | 41, 562 | 41, 366 | 43, 155 | | 1 | | 42, 364 | 42, 161 |
| 23 | 40, 032 | 39, 847 | 39, 664 | | | 40, 977 | 40, 785 | 40, 595 | 40, 406 | 40, 218 |
| 25 | 40, 032 38, 246 | | | 39, 482 | 39, 302 | 39, 122 | 38, 944 | 38.768 | 38, 593 | 38, 419 |
| - | | 38,075 | 37, 904 | 37, 735 | 37, 568 | 37, 401 | 37, 236 | 37,072 | 36, 909 | 36.747 |
| 26 27 | 36, 586 | 36, 426 | 36, 268 | 36, 110 | 35, 954 | 35.799 | 35. 645 | 35, 491 | 35, 339 | 35.188 |
| | 35, 038 | 34, 889 | 34, 741 | 34, 594 | 34, 448 | 34, 303 | 34, 159 | 34,015 | 33. 873 | 33, 732 |
| 28 20 | 33, 591 | 33, 451 | 33, 313 | 33, 175 | 33, 038 | 32, 902 | 32, 767 | 32, 632 | 32,499 | 32, 366 |
| 29 20 | 32, 234 | 32, 103 | 31, 973 | 31, 843 | 31, 715 | 31, 587 | 31, 460 | 31, 333 | 31, 208 | 31, 083 |
| 30 | 30, 959 | 30, 835 | 30, 713 | 30, 591 | 30, 470 | 30, 349 | 30, 229 | 30, 110 | 29, 992 | 29, 874 |
| 31 | 29, 757 | 29, 640 | 29, 525 | 29, 410 | 29, 295 | 29, 181 | 29, 068 | 28.956 | 28.844 | 28.733 |
| 32 | 28, 622 | 28, 512 | 28.402 | 28, 293 | 28, 185 | 28, 078 | 27, 970 | 27, 864 | 27, 758 | 27, 653 |
| 33 | 27, 548 | 27, 443 | 27, 340 | 27.236 | 27, 134 | 27, 032 | 26, 930 | 26, 829 | 26, 728 | 26, 628 |
| 34 | 26, 529 | 26, 430 | 26, 331 | 26, 233 | 26, 136 | 26, 039 | 25, 942 | 25, 846 | 25, 751 | 25, 656 |
| 35 | 25. 561 | 25, 467 | 25, 373 | 25, 280 | 25, 187 | 25, 095 | 25, 003 | 24, 911 | 24, 820 | 24, 730 |
| 36 | 24, 639 | 24, 550 | 24, 460 | 24, 371 | 24, 283 | 24, 195 | 24, 107 | 24, 020 | 23, 933 | 23, 847 |
| 37 | 23, 761 | 23, 675 | 23, 590 | 23, 505 | 23, 420 | 23, 336 | 23, 252 | 23, 169 | 23. 086 | 23, 003 |
| 38 | 22, 921 | 22, 839 | 22, 758 | 22, 677 | 22, 596 | 22, 515 | 22, 435 | 22, 355 | 22, 276 | 22, 197 |
| 39 | 22, 118 | 22, 040 | 21, 962 | 21, 884 | 21, 806 | 21, 729 | 21, 652 | 21, 576 | 21,500 | 21, 424 |
| 40 | 21, 348 | 21, 273 | 21, 198 | 21, 124 | 21, 049 | 20, 975 | 20, 992 | 20, 828 | 20, 755 | 20,682 |
| 41 | 20, 610 | 20, 538 | 20, 466 | 20, 394 | 20, 323 | 20, 252 | 20, 181 | 20, 110 | 20, 040 | 19, 970 |
| 42 | 19, 900 | 19, 831 | 19, 761 | 19, 693 | 19, 624 | 19, 555 | 19, 487 | 19, 419 | 19, 352 | 19, 284 |
| 43 | 19, 217 | 19, 150 | 19, 084 | 19, 017 | 18, 951 | 18, 885 | 18, 819 | 18, 754 | 18, 689 | 18, 624 |
| 44 | 18, 559 | 18, 494 | 18, 430 | 18, 366 | 18, 302 | 18, 239 | 18, 175 | 18, 112 | 18, 049 | 17, 987 |
| 45 | 17, 924 | 17, 862 | 17, 800 | 17, 738 | 17, 676 | 17, 615 | 17, 554 | 17, 493 | 17, 432 | 17, 371 |
| 46 | 17, 311 | 17, 250 | 17, 190 | 17, 131 | 17, 071 | 17,012 | 16, 952 | 16, 893 | 16, 835 | 16, 776 |

Table 2–1. Horizontal Distance (Meters), 18,000 Meters (Ballistic Zone 15) (Computer Zone 24) (Fallout Zone 9)

| | | | E | levation ar | ion angle, tenths of a degree | | | | | | | |
|----------|----------|------------------|------------------|-------------|-------------------------------|---------|---------|---------|------------------|--------|--|--|
| egrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | |
| 47 | 16, 717 | 16, 659 | 16, 601 | 16, 543 | 16, 486 | 16, 428 | 16, 371 | 16, 314 | 16, 257 | 16, 20 | | |
| 48 | 16, 143 | 16, 087 | 16, 030 | 15,974 | 15, 918 | 15, 863 | 15, 807 | 15, 752 | 15, 696 | 15, 64 | | |
| 49 | 15, 586 | 15, 532 | 15, 477 | 15, 423 | 15, 368 | 15, 314 | 15, 260 | 15, 207 | 15, 153 | 15, 10 | | |
| 50 | 15, 046 | 14, 993 | 14, 940 | 14.887 | 14, 835 | 14, 782 | 14, 730 | 14, 677 | 14, 625 | 14, 57 | | |
| 51 | 14, 522 | 14, 470 | 14, 418 | 14, 367 | 14, 316 | 14, 265 | 14, 214 | 14, 163 | 14, 112 | 14, 06 | | |
| 52 | 14, 011 | 13, 961 | 13, 911 | 13, 861 | 13, 811 | 13, 762 | 13, 712 | 13, 663 | 13, 613 | 13, 56 | | |
| 53 | 13, 515 | 13, 466 | 13, 417 | 13, 369 | 13, 320 | 13, 272 | 13, 223 | 13, 175 | 13, 127 | 13, 07 | | |
| 54 | 13, 031 | 12, 984 | 12, 936 | 12, 888 | 12, 841 | 12, 794 | 12, 747 | 12,700 | 12,653 | 12, 60 | | |
| 55 | 12, 560 | 12, 513 | 12, 467 | 12, 420 | 12, 374 | 12, 328 | 12, 282 | 12, 236 | 12, 190 | 12, 14 | | |
| 56 | 12,099 | 12, 054 | 12,008 | 11, 963 | 11, 918 | 11, 873 | 11, 828 | 11, 783 | 11, 739 | 11, 69 | | |
| 57 | 11, 649 | 11, 605 | 11, 561 | 11, 517 | 11, 472 | 11, 428 | 11, 384 | 11, 341 | 11, 297 | 11, 25 | | |
| 58 | 11, 210 | 11, 166 | 11, 123 | 11, 080 | 11, 037 | 10, 994 | 10, 951 | 10, 908 | 10, 865 | 10, 82 | | |
| 59 | 10, 780 | 10, 737 | 10, 695 | 10, 652 | 10, 610 | 10, 568 | 10, 526 | 10, 484 | 10, 442 | 10, 40 | | |
| 60 | 10, 358 | 10, 316 | 10, 275 | 10, 233 | 10, 192 | 10, 151 | 10, 109 | 10,068 | 10, 027 | 9, 98 | | |
| 61 | 9,945 | 9, 904 | 9, 863 | 9, 823 | 9, 782 | 9, 742 | 9, 701 | 9,661 | 9, 620 | 9, 58 | | |
| 62 | 9, 540 | 9, 504 | 9,460 | 9, 420 | 9, 380 | 9. 340 | 9, 300 | 9, 261 | 9, 221 | 9, 18 | | |
| 63 | 9, 142 | 9, 103 | 9,064 | 9, 024 | 8, 985 | 8, 946 | 8,907 | 8, 868 | 8, 829 | 8, 79 | | |
| 64 | 8, 752 | 8, 713 | 5, 004 8, 674 | 8, 636 | 8, 597 | 8, 559 | 8, 520 | 8, 482 | 8, 444 | 8, 40 | | |
| 65 | 8, 752 | 8, 329 | 8, 291 | 8, 050 | 8, 337 | 8, 178 | 8, 140 | 8, 102 | 8,064 | 8, 02 | | |
| 66 | 7, 989 | 8, 323 7, 952 | 8, 291 7, 914 | 7, 877 | 8, 215 7, 840 | 7, 802 | 7, 765 | 7, 728 | 7, 691 | 7, 65 | | |
| | 7, 989 | 7, 580 | 7, 514 | 7, 506 | 7, 840 | 7, 802 | 7, 396 | 7, 360 | 7, 323 | 7, 28 | | |
| 67 | · · · | 7, 380 | | | 7, 470 | 7, 069 | 7,033 | 6, 997 | 6, 961 | 6, 92 | | |
| 68 | 7, 250 | | 7, 178 | 7, 141 | | · · · | 6, 674 | 6, 638 | 6, 603 | 6, 50 | | |
| 69 70 | - 6, 889 | 6, 853 | 6, 817 | 6, 781 | 6, 745 | 6,710 | | 6, 285 | 6, 250 | 6, 21 | | |
| 70 | 6, 532 | 6, 496 | 6, 461 | 6, 426 | 6, 390 | 6, 355 | 6, 320 | | 0, 250 5, 901 | 5, 86 | | |
| 61 | 6, 179 | 6, 144 | 6, 109 | 6, 075 | 6, 040 | 6,005 | 5, 970 | 5, 935 | | | | |
| 72 | 5, 831 | 5, 797 | 5, 762 | 5, 728 | 5, 693 | 5, 659 | 5, 624 | 5, 590 | 5, 555 | 5, 52 | | |
| 73 | 5, 487 | 5, 453 | 5, 419 | 5, 384 | 5, 350 | 5, 316 | 5, 282 | 5, 248 | 5, 214 | 5, 18 | | |
| 74 | 5, 146 | 5, 112 | 5, 079 | 5, 045 | 5, 011 | 4, 977 | 4, 944 | 4, 910 | 4, 876 | 4, 84 | | |
| 75 | 4, 809 | 4, 775 | 4, 742 | 4, 708 | 4,675 | 4,642 | 4,608 | 4, 575 | 4, 541 | 4, 50 | | |
| 76 | 4, 475 | 4, 442 | 4, 408 | 4, 375 | 4, 342 | 4, 309 | 4, 276 | 4, 243 | 4, 210 | 4, 17 | | |
| 77 | 4, 144 | 4, 111 | 4,078 | 4, 045 | 4,012 | 3, 979 | 3, 946 | 3, 913 | 3, 881 | 3, 84 | | |
| 78 | 3, 815 | 3, 782 | 3, 750 | 3, 717 | 3, 684 | 3, 652 | 3, 619 | 3, 586 | 3, 554 | 3, 52 | | |
| 79 | 3, 489 | 3, 456 | 3, 424 | 3, 391 | 3, 359 | 3, 327 | 3, 294 | 3, 262 | 3, 229 | 3, 19 | | |
| 80 | 3, 165 | 3, 133 | 3, 100 | 3, 068 | 3, 036 | 3, 004 | 2,971 | 2, 939 | 2, 907 | 2, 87 | | |
| 81 | 2, 843 | 2, 811 | 2, 779 | 2, 747 | 2, 714 | 2, 682 | 2,650 | 2,618 | 2, 586 | 2, 55 | | |
| 82 | 2, 523 | 2, 491 | 2, 459 | 2, 427 | 2, 395 | 2, 363 | 2, 331 | 2, 299 | 2, 267 | 2, 23 | | |
| 83 | 2, 204 | 2, 172 | 2, 140 | 2, 109 | 2, 077 | 2, 045 | 2,013 | 1, 982 | 1, 950 | 1, 91 | | |
| 84 | 1, 887 | 1, 855 | 1, 823 | 1, 792 | 1, 760 | 1, 728 | 1, 697 | 1,665 | 1, 633 | 1,60 | | |
| 85 | 1, 570 | 1, 539 | 1, 507 | 1, 476 | 1, 444 | 1, 413 | 1, 381 | 1, 350 | 1, 318 | 1, 28 | | |
| 86 | 1, 255 | 1, 224 | 1, 192 | 1, 161 | 1, 129 | 1, 098 | 1,066 | 1, 035 | 1,004 | 97 | | |
| 87 | 941 | 909 | 878 | 846 | 815 | 784 | 752 | 721 | 690 | 65 | | |
| 88 | 627 | 595 | 564 | 533 | 501 | 470 | 439 | 407 | 376 | 34 | | |
| 89 | 313 | 282 | 251 | 219 | 188 | 157 | 125 | 94 | 63 | 3 | | |

| Table 2-1 | Horizontal Distance (Meters), 18,000 Meters (Ballistic Zone 15) (Computer Zone 24 | 4) |
|-----------|---|----|
| | (Fallout Zone 9)—Continued | |

| Degrees | | | E | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------|----------|------------|-----------------|-------------|----------|----------|----------|---------|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 260, 077 | 255, 268 | 250, 596 | 246, 058 | 241, 649 | 237, 365 | 233, 201 | 229, 155 | 225, 222 | 221, 39 |
| 4 | 217, 680 | 214, 064 | 210, 547 | 207, 126 | 203, 797 | 200, 558 | 197, 405 | 194, 336 | 191, 347 | 188, 43 |
| 5 | 185, 601 | 182, 839 | 180, 147 | 177, 524 | 174, 967 | 172, 473 | 170, 041 | 167, 669 | 165, 355 | 163, 09 |
| 6 | 160, 893 | 158, 741 | 156, 640 | 154, 588 | 152, 584 | 150, 626 | 148, 713 | 146,843 | 145, 015 | 143, 22 |
| 7 | 141, 480 | 139, 770 | 138,098 | 136, 461 | 134, 860 | 133, 292 | 131, 757 | 130, 255 | 128, 783 | 127, 34 |
| 8 | 125, 929 | 124, 545 | 123, 189 | 121, 859 | 120, 556 | 119, 278 | 118, 025 | 116, 796 | 115, 590 | 114, 40 |
| 9 | 113, 246 | 112, 106 | 110, 988 | 109, 890 | 108, 812 | 107, 753 | 106, 713 | 105, 692 | 104, 688 | 103, 70 |
| 10 | 102, 734 | 101, 781 | 100, 845 | 99, 925 | 99, 020 | 98, 130 | 97, 255 | 96, 394 | 95, 547 | 94, 71 |
| - 11 [| 93, 894 | 93, 087 | 92, 293 | 91, 512 | 90, 742 | 89, 985 | 89, 239 | 88, 504 | 87, 781 | 87, 06 |
| 12 | 86, 366 | 85, 675 | 84, 993 | 84, 322 | 83, 660 | 83, 008 | 82, 365 | 81, 731 | 81, 106 | 80, 49 |
| 13 | 79, 883 | 79, 284 | 78, 693 | 78, 110 | 77, 535 | 76, 968 | 76, 408 | 75, 856 | 75, 311 | 74, 77 |
| 14 | 74, 242 | 73, 718 | 73, 201 | 72, 690 | 72, 186 | 71, 689 | 71, 197 | 70, 712 | 70, 232 | 69, 75 |
| 15 | 69, 291 | 68, 829 | 68, 372 | 67, 921 | 67, 476 | 67, 036 | 66, 600 | 66, 170 | 65, 745 | 65, 32 |
| 16 | 64, 910 | 64, 499 | 64, 094 | 63, 692 | 63, 296 | 62, 903 | 62, 515 | 62, 132 | 61, 752 | 61, 37 |
| 17 | 61, 005 | 60, 638 | 60, 275 | 59, 915 | 59, 560 | 59, 208 | 58, 860 | 58, 515 | 58, 174 | 57, 83 |
| 18 | 57, 503 | 57, 172 | 56, 845 | 56, 521 | 56, 201 | 55, 883 | 55, 569 | 55, 258 | 54, 950 | 54, 64 |
| 19 | 54, 342 | 54, 043 | 53, 747 | 53, 453 | 53, 163 | 52, 875 | 52, 590 | 52, 307 | 52, 027 | 51, 75 |
| 20 | 51, 475 | 51, 203 | 50, 933 | 50, 666 | 50, 401 | 50, 139 | 49; 879 | 49, 621 | 49, 365 | 49, 11 |
| 21 | 48, 861 | 48, 612 | 48, 366 | 48, 121 | 47, 879 | 47, 638 | 47, 400 | 47, 164 | 46, 930 | 46, 69 |
| 22 | 46, 467 | 46, 239 | 46, 012 | 45, 788 | 45, 565 | 45, 344 | 45, 125 | 44, 907 | 44, 692 | 44, 47 |
| 23 | 44, 266 | 44, 055 | 43, 846 | 43, 639 | 43, 433 | 43, 230 | 43, 027 | 42, 826 | 42, 627 | 42, 42 |
| 24 | 42, 233 | 42, 038 | 41, 845 | 41, 653 | 41, 463 | 41, 274 | 41, 087 | 40, 900 | 40, 716 | 40, 53 |
| 25 | 40, 350 | 40, 170 | 39, 990 | 39, 812 | 39, 635 | 39, 459 | 39, 285 | 39, 112 | 38, 940 | 38, 76 |
| - 26 | 38, 600 | 38, 432 | 38, 265 | 38, 099 | 37, 934 | 37, 770 | 37, 607 | 37, 446 | 37, 286 | 37, 12 |
| 27 | 36, 968 | 36, 811 | 36, 655 | 36, 500 | 36 , 346 | 36, 192 | 36, 040 | 35, 889 | 35, 739 | 35, 59 |
| 28 | 35, 442 | 35, 295 | 35, 149 | 35, 003 | 34, 859 | 34, 715 | 34, 573 | 34, 431 | 34, 290 | 34, 15 |
| 29 | 34, 011 | 33, 873 | 33, 735 | 33, 599 | 33, 463 | 33, 328 | 33, 194 | 33, 061 | 32, 929 | 32, 79 |
| 30 | 32, 666 | 32, 536 | 32, 406 | 32, 278 | 32, 150 | 32, 023 | 31, 897 | 31, 771 | 31, 646 | 31, 52 |
| 31 | 31, 398 | 31, 276 | 31, 154 | 31, 032 | 30, 911 | 30, 791 | 30, 672 | 30, 553 | 30, 435 | 30, 31 |
| 32 | 30, 201 | 30, 085 | 29, 970 | 29, 855 | 29, 741 | 29, 627 | 29, 514 | 29, 402 | 29, 290 | 29, 17 |
| 33 | 29, 068 | 28, 958 | 28, 849 | 28, 740 | 28, 632 | 28, 524 | 28, 417 | 28, 310 | 28, 204 | 28, 09 |
| 34 | 27, 994 | 27, 889 | 27, 785 | 27, 682 | 27, 579 | 27, 477 | 27, 375 | 27, 274 | 27, 173 | 27, 07 |
| 35 | 26, 973 | 26, 873 | 26, 774 | 26, 676 | 26, 578 | 26, 481 | 26, 384 | 26, 287 | 26, 191 | 26, 09 |
| 36 | 26,000 | 25, 906 | 25, 811 | 25, 718 | 25, 624 | 25, 531 | 25, 439 | 25, 347 | 25, 255 | 25, 16 |
| 37 | 25, 073 | 24, 983 | 24, 893 | 24, 803 | 24, 714 | 24, 626 | 24, 537 | 24, 449 | 24, 362 | 24, 27 |
| 38 | 24, 188 | 24, 101 | 24, 015 | 23, 930 | 23, 844 | 23, 759 | 23, 675 | 23, 591 | 23, 507 | 23, 42 |
| .39 | 23, 340 | 23, 258 | 23, 175 | 23, 093 | 23, 012 | 22, 930 | 22, 849 | 22, 768 | 22, 688 | 22, 60 |
| 40 | 22, 528 | 22, 449 | 22, 370 | 22, 291 | 22, 213 | 22, 135 | 22, 057 | 21, 980 | 21, 903 | 21, 82 |
| 41 | 27, 749 | 21, 673 | 21, 597 | 21, 522 | 21, 446 | 21, 371 | 21, 296 | 21, 222 | 21, 148 | 21, 07 |
| 42 | 21,000 | 20, 927 | 20, 854 | 20, 781 | 20, 709 | 20, 637 | 20, 565 | 20, 493 | 20, 422 | 20, 35 |
| 43 | 20, 280 | 20, 209 | 20, 139 | 20,069 | 19, 999 | 19, 929 | 19, 860 | 19, 791 | 19, 722 | 19, 65 |
| 44 | 19, 585 | 19, 517 | 19, 449 | 19, 382 | 19, 315 | 19, 247 | 19, 181 | 19, 114 | 19, 048 | 18, 98 |
| 45 | 18, 915 | 18, 850 | 18, 784 | 18, 719 | 18, 654 | 18, 589 | 18, 524 | 18, 460 | 18, 396 | 18, 33 |
| 46 | 18, 268 | 18, 205 | 18, 141 | 18, 078 | 18, 015 | 17, 953 | 17, 890 | 17, 828 | 17, 766 | 17, 70 |

| Table 0.1 | Having what Distance (Mr. | Annal 10 000 Manage | Computer Zama 251 |
|-----------|---------------------------|----------------------|--------------------|
| | Horizontal Distance (Me | ters), 19,000 weters | (Computer Zone 25) |

| Degrees - | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|-----------|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--|--|--|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 47 | 17, 642 | 17, 581 | 17, 520 | 17, 458 | 17, 398 | 17, 337 | 17, 276 | 17, 216 | 17, 156 | 17, 09 | | | |
| 48 | 17, 036 | 16, 977 | 16, 917 | 16, 858 | 16, 799 | 16, 740 | 16, 682 | 16, 623 | 16, 565 | 16, 50 | | | |
| 49 | 16, 449 | 16, 391 | 16, 333 | 16, 276 | 16, 219 | 16, 162 | 16, 105 | 16, 048 | 15, 992 | 15, 93 | | | |
| 50 | 15, 879 | 15, 823 | 15, 767 | 15, 711 | 15, 655 | 15, 600 | 15, 545 | 15, 490 | 15, 435 | 15, 38 | | | |
| 51 | 15, 325 | 15, 271 | 15, 216 | 15, 162 | 15, 108 | 15, 054 | 15, 000 | 14, 947 | 14, 893 | 14, 84 | | | |
| 52 | 14, 787 | 14, 734 | 14, 681 | 14, 628 | 14, 576 | 14, 523 | 14, 471 | 14, 419 | 14, 367 | 14, 31 | | | |
| 53 | 14, 263 | 14, 211 | 14, 160 | 14, 108 | 14, 057 | 14, 006 | 13, 955 | 13, 904 | 13, 853 | 13, 80 | | | |
| 54 | 13, 752 | 13, 702 | 13, 652 | 13, 602 | 13, 552 | 13, 502 | 13, 452 | 13, 403 | 13, 353 | 13, 30 | | | |
| 55 | 13, 255 | 13, 206 | 13, 157 | 13, 108 | 13, 059 | 13, 010 | 12, 962 | 12, 913 | 12, 865 | 12, 81 | | | |
| 56 | 12, 769 | 12, 721 | 12, 673 | 12, 625 | 12, 578 | 12, 530 | 12, 483 | 12, 436 | 12, 388 | 12, 34 | | | |
| 57 | 12, 294 | 12, 247 | 12, 201 | 12, 154 | 12, 107 | 12, 061 | 12, 015 | 11, 968 | 11, 922 | 11, 87 | | | |
| 58 | 11, 830 | 11, 784 | 11, 739 | 11, 693 | 11,648 | 11, 602 | 11, 557 | 11, 511 | 11, 466 | 11, 42 | | | |
| 59 | 11, 376 | 11, 331 | 11, 287 | 11, 242 | 11, 197 | 11, 153 | 11, 108 | 11,064 | 11, 020 | 10, 97 | | | |
| 60 | 10, 932 | 10, 888 | 10, 844 | 10, 800 | 10, 756 | 10, 713 | 10, 669 | 10, 626 | 10, 582 | 10, 53 | | | |
| 61 | 10, 496 | 10, 453 | 10, 410 | 10, 367 | 10, 324 | 10, 281 | 10, 238 | 10, 196 | 10, 153 | 10, 11 | | | |
| 62 | 10,068 | 10,026 | 9, 984 | 9, 941 | 9, 899 | 9, 857 | 9, 815 | 9, 774 | 9, 732 | 9, 69 | | | |
| 63 | 9,648 | 9,607 | 9, 565 | 9, 524 | 9, 483 | 9, 441 | 9, 400 | 9, 359 | 9, 318 | 9, 27 | | | |
| 64 | 9, 236 | 9, 195 | 9, 154 | 9, 114 | 9, 073 | 9, 033 | 8, 992 | 8, 952 | 8, 911 | 8, 87 | | | |
| 65 | 8, 831 | 8, 790 | 8, 750 | 8,710 | 8,670 | 8, 630 | 8, 591 | 8, 551 | 8, 511 | 8, 47 | | | |
| 66 | 8, 432 | 8, 392 | 8, 353 | 8, 313 | 8,274 | 8, 235 | 8, 195 | 8, 156 | 8, 117 | 8, 07 | | | |
| 67 | 8,039 | 8,000 | 7, 961 | 7, 922 | 7, 883 | 7, 845 | 7, 806 | 7, 767 | 7, 729 | 7, 69 | | | |
| 68 | 7,652 | 7, 613 | 7, 575 | 7, 537 | 7, 499 | 7,460 | 7, 422 | 7, 384 | 7, 346 | 7, 30 | | | |
| 69 | 7, 270 | 7, 232 | 7, 194 | 7, 157 | 7, 119 | 7, 081 | 7,044 | 7,006 | 6, 968 | 6, 93 | | | |
| 70 | 6, 894 | 6, 856 | 6, 819 | 6, 781 | 6, 744 | 6, 707 | 6, 670 | 6, 633 | 6, 596 | 6, 55 | | | |
| 71 | 6, 522 | 6, 485 | 6, 448 | 6, 411 | 6, 374 | 6, 337 | 6, 301 | 6, 264 | 6, 227 | 6, 19 | | | |
| 72 | 6, 154 | 6, 118 | 6, 081 | 6,045 | 6,008 | 5,972 | 5, 936 | 5, 899 | 5, 863 | 5, 82 | | | |
| 73 | 5, 791 | 5, 755 | 5, 719 | 5, 683 | 5, 647 | 5, 611 | 5, 575 | 5, 539 | 5, 503 | 5, 46 | | | |
| 74 | 5, 431 | 5, 396 | 5, 360 | 5, 324 | 5, 289 | 5, 253 | 5, 217 | 5, 182 | 5, 146 | 5, 11 | | | |
| 75 | 5, 075 | 5, 040 | 5,005 | 4, 969 | 4, 934 | 4, 899 | 4, 863 | 4, 828 | 4, 793 | 4, 75 | | | |
| 76 | 4, 723 | 4, 688 | 4, 653 | 4, 618 | 4, 583 | 4, 548 | 4, 513 | 4, 478 | 4, 443 | 4, 40 | | | |
| 77 | 4, 373 | 4, 338 | 4, 304 | 4, 269 | 4, 234 | 4, 199 | 4, 165 | 4, 130 | 4, 095 | 4,00 | | | |
| 78 | 4, 026 | 3, 992 | 3, 957 | 3, 923 | 3, 888 | 3, 854 | 3, 819 | 3, 785 | 3, 751 | 3, 71 | | | |
| 79 | 3, 682 | 3, 648 | 3, 613 | 3, 579 | 3, 545 | 3, 511 | 3, 477 | 3, 442 | 3, 408 | 3, 37 | | | |
| 80 | 3, 340 | 3, 306 | 3, 272 | 3, 238 | 3, 204 | 3, 170 | 3, 136 | 3, 102 | 3,068 | 3, 03 | | | |
| 81 | 3,000 | 2,966 | 2,933 | 2, 899 | 2, 865 | 2, 831 | 2, 797 | 2, 763 | 2, 730 | 2, 69 | | | |
| 82 | 2,662 | 2,629 | 2, 595 | 2, 561 | 2, 528 | 2, 494 | 2, 460 | 2, 427 | 2, 393 | 2, 35 | | | |
| 83 | 2, 326 | 2, 292 | 2, 259 | 2, 225 | 2, 192 | 2, 158 | 2, 125 | 2, 091 | 2,058 | 2, 03 | | | |
| 84 | 1, 991 | 1, 958 | 1, 924 | 1, 891 | 1, 857 | 1, 824 | 1, 791 | 1, 757 | 1, 724 | 1, 69 | | | |
| 85 | 1, 657 | 1, 624 | 1, 591 | 1, 557 | 1, 524 | 1, 491 | 1, 458 | 1,424 | 1, 391 | 1, 35 | | | |
| 86 | 1, 325 | 1, 291 | 1, 258 | 1, 225 | 1, 192 | 1, 159 | 1, 125 | 1,092 | 1,059 | 1, 02 | | | |
| 87 | 993 | 960 | 926 | 893 | 860 | 827 | 794 | 761 | 728 | 69 | | | |
| 88 | 662 | 628 | 595 | 562 | 529 | 496 | 463 | 430 | 397 | 36 | | | |
| 89 | 331 | 298 | 265 | 231 | 198 | 165 | 132 | 99 | 66 | 3 | | | |

Table 2-1. Horizontal Distance (Meters), 19,000 Meters (Computer Zone 25)—Continued

| Degrees | | | E | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------|----------|------------|-------------|-------------|----------|-----------------|----------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 270, 637 | 265, 719 | 260, 938 | 256, 290 | 251, 772 | 247, 379 | 243, 107 | 238, 952 | 234, 911 | 230, 981 |
| 4 | 227, 157 | 223, 436 | 219, 815 | 216, 290 | 212, 859 | 209, 519 | 206, 266 | 203, 097 | 200, 011 | 197,004 |
| 5 | 194, 073 | 191, 217 | 188, 433 | 185, 718 | 183,070 | 180, 487 | 177, 968 | 175, 509 | 173, 110 | 170, 768 |
| 6 | 168, 481 | 166, 248 | 164, 067 | 161, 936 | 159, 855 | 157, 820 | 155, 831 | 153, 887 | 151, 986 | 150, 127 |
| 7 | 148, 309 | 146, 530 | 144, 789 | 143, 085 | 141, 417 | 139, 784 | 138, 185 | 136, 619 | 135, 085 | 133, 582 |
| 8 | 132, 110 | 130, 666 | 129, 252 | 127, 865 | 126, 505 | 125, 171 | 123, 863 | 122, 580 | 121, 321 | 120, 086 |
| 9 | 118, 873 | 117, 683 | 116, 515 | 115, 368 | 114, 241 | 113, 135 | 112,048 | 110, 980 | 109, 931 | 108, 900 |
| 10 | 107, 887 | 106, 891 | 105, 912 | 104, 949 | 104, 002 | 103, 071 | 102, 156 | 101, 255 | 100, 368 | 99, 496 |
| 11 | 98, 638 | 97, 794 | 96, 963 | 96, 144 | 95, 339 | 94, 545 | 93, 764 | 92, 995 | 92, 237 | 91, 491 |
| 12 | 90, 755 | 90, 031 | 89, 317 | 88, 613 | 87, 920 | 87, 236 | 86, 562 | 85, 898 | 85, 243 | 84, 597 |
| 13 | 83, 961 | 83, 332 | 82, 713 | 82, 102 | 81, 499 | 80, 904 | 80, 317 | 79, 738 | 79, 167 | 78, 603 |
| 14 | 78, 046 | 77, 497 | 76, 954 | 76, 418 | 75, 890 | 75, 367 | 74, 852 | 74, 342 | 73, 840 | 73, 343 |
| 15 | 72, 852 | 72, 367 | 71, 888 | 71, 415 | 70, 947 | 70, 485 | 70, 028 | 69, 577 | 69, 131 | 68, 690 |
| 16 | 68, 254 | 67, 823 | 67, 397 | 66, 976 | 66, 559 | 66, 148 | 65, 740 | 65, 337 | 64, 939 | 64, 545 |
| 17 | 64, 155 | 63, 769 | 63, 388 | 63, 011 | 62, 637 | 62, 268 | 61, 902 | 61, 540 | 61, 182 | 60, 828 |
| 18 | 60, 477 | 60, 130 | 59, 786 | 59, 446 | 59, 109 | 58, 776 | 58, 446 | 58, 119 | 57, 795 | 57, 475 |
| 19 | 57, 157 | 56, 843 | 56, 532 | 56, 223 | 55, 918 | 55, 616 | 55, 316 | 55, 019 | 54, 725 | 54, 434 |
| 20 | 54, 145 | 53, 859 | 53, 576 | 53, 295 | 53, 017 | 52, 741 | 52, 467 | 52, 197 | 51, 928 | 51, 662 |
| 21 | 51, 398 | 51, 137 | 50, 878 | 50, 621 | 50, 366 | 50, 113 | 49, 863 | 49, 615 | 49, 369 | 49, 124 |
| 22 | 48, 882 | 48, 642 | 48, 404 | 48, 168 | 47, 934 | 47, 702 | 47, 471 | 47, 243 | 47,016 | 46, 791 |
| 23 | 46, 568 | 46, 347 | 46, 128 | 45, 910 | 45, 694 | 45, 479 | 45, 267 | 45, 055 | 44, 846 | 44, 638 |
| 24 | 44, 432 | 44, 227 | 44, 024 | 43, 822 | 43, 622 | 43, 424 | 43, 227 | 43, 031 | 42, 837 | 42, 644 |
| 25 | 42, 452 | 42, 262 | 42, 074 | 41, 886 | 41, 700 | 41, 516 | 41, 333 | 41, 151 | 40, 970 | 40, 790 |
| 26 | 40, 612 | 40, 435 | 40, 259 | 40, 085 | 39, 912 | 39, 739 | 39, 569 | 39, 399 | 39, 230 | 39, 063 |
| 27 | 38, 896 | 38, 731 | 38, 567 | 38, 404 | 38, 242 | 38, 081 | 37, 921 | 37, 762 | 37, 604 | 37, 447 |
| 28 | 37, 291 | 37, 137 | 36, 983 | 36, 830 | 36, 678 | 36, 527 | 36, 377 | 36, 228 | 36, 080 | 35, 933 |
| 29 | 35, 787 | 35, 641 | 35, 497 | 35, 353 | 35, 210 | 35, 069 | 34, 928 | 34, 787 | 34, 648 | 34, 510 |
| 30 | 34, 372 | 34, 235 | 34, 099 | 33, 964 | 33, 829 | 33, 696 | 33, 563 | 33, 4 31 | 33, 299 | 33, 169 |
| 31 | 33, 039 | 32, 910 | 32, 781 | 32, 654 | 32, 527 | 32, 400 | 32, 275 | 32, 150 | 32, 026 | 31, 902 |
| 32 | 31, 780 | 31, 657 | 31, 536 | 31, 415 | 31, 295 | 31, 176 | 31, 057 | 30, 939 | 30, 821 | 30, 704 |
| 33 | 30, 588 | 30, 472 | 30, 357 | 30, 242 | 30, 129 | 30, 015 | 29, 902 | 29, 790 | 29, 679 | 29, 568 |
| 34 | 29, 457 | 29, 347 | 29, 238 | 29, 129 | 29, 021 | 28, 914 | 28, 806 | 28, 700 | 28, 594 | 28, 488 |
| 35 | 28, 383 | 28, 279 | 28, 175 | 28, 071 | 27, 968 | 27, 866 | 27, 764 | 27, 662 | 27, 561 | 27, 461 |
| 36 | 27, 361 | 27, 261 | 27, 162 | 27, 063 | 26, 965 | 26, 867 | 26, 770 | 26, 673 | 26, 577 | 26, 481 |
| 37 | 26 385 | 26, 290 | 26, 196 | 26, 101 | 26, 008 | 25, 914 | 25, 821 | 25, 729 | 25, 637 | 25, 545 |
| 38 | 25, 454 | 25, 363 | 25, 272 | 25, 182 | 25, 092 | 25, C03 | 24, 914 | 24, 826 | 24, 737 | 24, 650 |
| 39 | 24, 562 | 24, 475 | 24, 388 | 24, 302 | 24, 216 | 24, 131 | 24, 045 | 23, 960 | 23, 876 | 23, 792 |
| 40 | 23, 708 | 23, 624 | 23, 541 | 23, 458 | 23, 376 | 23, 294 | 23, 212 | 23, 130 | 23, 049 | 22, 969 |
| 41 | 22, 888 | 22, 808 | 22, 728 | 22, 648 | 22, 569 | 22, 490 | 22, 412 | 22, 333 | 22, 255 | 22, 178 |
| 42 | 22, 100 | 22, 023 | 21, 946 | 21, 870 | 21, 793 | 21, 717 | 21, 642 | 21, 566 | 21, 491 | 21, 416 |
| 43 | 21, 342 | 21, 268 | 21, 194 | 21, 120 | 21, 046 | 20, 973 | 20, 900 | 20, 828 | 20, 755 | 20, 683 |
| 44 | 20, 611 | 20, 540 | 20, 468 | 20, 397 | 20, 326 | 20, 256 | 20, 185 | 20, 115 | 20, 045 | 19, 976 |
| 45 | 19, 906 | 19, 837 | 19, 768 | 19, 700 | 19, 631 | 19, 563 | 19, 495 | 19, 427 | 19, 360 | 19, 292 |
| 46 | 19, 225 | 19, 158 | 19, 092 | 19, 025 | 18, 959 | 18, 893 | 18, 828 | 18, 762 | 18, 697 | 18, 632 |

Table 2-1. Horizontal Distance (Meters), 20,000 Meters (Computer Zone 26) (Fallout Zone 10)

| Table 2-1. | Horizontal Distance (Meters), | 20,000 Meters (Compute | r Zone 26) (Fallout Zone 10)—Continued |
|------------|-------------------------------|------------------------|--|
| | | | |

| Degrees | | | E | levation ai | ngle, tenths | of a degre | e | | | |
|---------|--------|--------|--------|-------------|--------------|------------|--------|----------------|---------------|--------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 18,567 | 18,502 | 18,437 | 18,373 | 18,309 | 18,245 | 18,182 | 18,118 | 18,055 | 17,992 |
| 48 | 17,929 | 17,866 | 17,804 | 17,742 | 17,679 | 17,618 | 17,556 | 17,494 | 17,433 | 17,372 |
| 49 | 17,311 | 17,250 | 17,189 | 17,129 | 17,069 | 17,009 | 16,949 | 16,889 | 16,830 | 16,770 |
| 50 | 16,711 | 16,652 | 16,593 | 16,535 | 16,476 | 16,418 | 16,359 | 16,301 | 16,244 | 16,186 |
| 51 | 16,128 | 16,071 | 16,014 | 15,957 | 15,900 | 15,843 | 15,787 | 15,730 | 15,674 | 15,618 |
| 52 | 15,562 | 15,506 | 15,450 | 15,395 | 15,340 | 15,284 | 15,229 | 15,174 | 15,120 | 15,06 |
| 53 | 15,011 | 14,956 | 14,902 | 14,848 | 14,794 | 14,740 | 14,687 | 14,633 | 14,580 | 14,52 |
| 54 | 14,473 | 14,420 | 14,368 | 14,315 | 14,262 | 14,210 | 14,158 | 14,105 | 14,053 | 14,001 |
| 55 | 13,950 | 13,898 | 13,846 | 13,795 | 13,744 | 13,692 | 13,641 | 13,590 | 13,540 | 13,489 |
| 56 | 13,438 | 13,388 | 13,338 | 13,287 | 13,237 | 13,187 | 13,137 | 13,088 | 13,038 | 12,988 |
| 57 | 12,939 | 12,890 | 12,840 | 12,791 | 12,742 | 12,693 | 12,645 | 12,5 96 | 12,547 | 12,499 |
| 58 | 12,451 | 12,402 | 12,354 | 12,306 | 12,258 | 12,210 | 12,163 | 12,115 | 12,068 | 12,020 |
| 59 | 11,973 | 11.926 | 11,878 | 11,831 | 11,784 | 11,738 | 11,691 | 11,644 | 11,598 | 11,551 |
| 60 | 11,505 | 11,459 | 11,412 | 11,366 | 11,320 | 11,274 | 11,229 | 11,183 | 11,137 | 11,092 |
| 61 | 11,046 | 11,001 | 10,955 | 10,910 | 10,865 | 10,820 | 10,775 | 10,730 | 10,686 | 10,641 |
| 62 | 10,596 | 10,552 | 10,507 | 10,463 | 10,419 | 10,374 | 10,330 | 10,286 | 10,242 | 10,198 |
| 63 | 10,154 | 10,111 | 10,067 | 10,023 | 9,980 | 9,937 | 9,893 | 9,850 | 9,807 | 9,764 |
| 64 | 9,720 | 9,678 | 9,635 | 9,592 | 9,549 | 9,506 | 9,464 | 9,421 | 9,379 | 9,336 |
| 65 | 9,294 | 9,252 | 9,209 | 9,167 | 9,125 | 9,083 | 9,041 | 8,999 | 8,957 | 8,916 |
| 66 | 8,874 | 8,832 | 8,791 | 8,749 | 8,708 | 8,666 | 8,625 | 8,584 | 8,543 | 8,502 |
| 67 | 8,461 | 8,420 | 8,379 | 8,338 | 8,297 | 8,256 | 8,215 | 8,175 | 8,134 | 8,094 |
| 68 | 8,053 | 8,013 | 7,972 | 7,932 | 7,892 | 7,852 | 7,811 | 7,771 | 7,731 | 7,691 |
| 69 | 7,651 | 7,612 | 7,572 | 7,532 | 7,492 | 7,453 | 7,413 | 7,373 | 7,334 | 7,295 |
| 70 | 7,255 | 7,216 | 7,176 | 7,137 | 7,098 | 7,059 | 7,020 | 6,981 | 6,942 | 6,903 |
| 71 | 6,864 | 6,825 | 6,786 | 6,747 | 6,708 | 6,670 | 6,631 | 6,593 | 6,554 | 6,515 |
| 72 | 6,477 | 6,439 | 6,400 | 6,362 | 6,324 | 6,285 | 6,247 | 6,209 | 6,171 | 6,133 |
| 73 | 6,095 | 6,057 | 6,019 | 5,981 | 5,943 | 5,905 | 5,867 | 5,829 | 5,792 | 5,754 |
| 74 | 5,716 | 5,679 | 5,641 | 5,603 | 5,566 | 5,528 | 5,491 | 5,454 | 5,416 | 5,379 |
| 75 | 5,342 | 5,304 | 5,267 | 5,230 | 5,193 | 5,156 | 5,119 | 5,081 | 5,044 | 5,007 |
| 76 | 4,970 | 4,934 | 4,897 | 4,860 | 4,823 | 4,786 | 4,749 | 4,713 | 4,676 | 4,639 |
| 77 | 4,603 | 4,566 | 4,529 | 4,493 | 4,456 | 4,420 | 4,383 | 4,347 | 4,310 | 4,274 |
| 78 | 4,238 | 4,201 | 4,165 | 4,129 | 4,092 | 4,056 | 4,020 | 3,984 | 3,947 | 3,91 |
| 79 | 3,875 | 3,839 | 3,803 | 3,767 | 3,731 | 3,695 | 3,659 | 3,623 | 3,587 | 3,551 |
| 80 | 3,515 | 3,479 | 3,444 | 3,408 | 3,372 | 3,336 | 3,300 | 3,265 | 3,22 9 | 3,193 |
| 81 | 3,158 | 3,122 | 3,086 | 3,051 | 3,015 | 2,980 | 2,944 | 2,908 | 2,873 | 2,83' |
| 82 | 2,802 | 2,766 | 2,731 | 2,696 | 2,660 | 2,625 | 2,589 | 2,554 | 2,519 | 2,48 |
| 83 | 2,448 | 2,413 | 2,377 | 2,342 | 2,307 | 2,272 | 2,236 | 2,201 | 2,166 | 2,13 |
| 84 | 2,095 | 2,060 | 2,025 | 1,990 | 1,955 | 1,920 | 1,885 | 1,850 | 1,814 | 1,779 |
| 85 | 1,744 | 1,709 | 1,674 | 1,639 | 1,604 | 1,569 | 1,534 | 1,499 | 1,464 | 1,429 |
| 86 | 1,394 | 1,359 | 1,324 | 1,289 | 1,254 | 1,219 | 1,184 | 1,150 | 1,115 | 1,080 |
| 87 | 1,045 | 1,010 | 975 | 940 | 905 | 870 | 836 | 801 | 766 | 73 |
| 88 | 696 | 661 | 627 | 592 | 557 | 522 | 487 | 452 | 418 | 383 |
| 89 | 348 | 313 | 278 | 244 | 209 | 174 | 139 | 104 | 70 | 35 |

| | | • | | levetion a | ngla tanth | s of a degr | | | | |
|---------|----------------|-----------------|---------|------------|--------------------|-------------|-----------------|---------|---------|---------|
| Degrees | | | г. Т | | ingre, tenth | s of a degr | ee | ···- | · | |
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 291,212 | 286,091 | 281,107 | 276,256 | 271,534 | 266,938 | 262,464 | 258,107 | 253,865 | 249,734 |
| 4 | 245,711 | 241,793 | 237,975 | 234,256 | 230,632 | 227,101 | 223,658 | 220,303 | 217,031 | 213,841 |
| 5 | 210,729 | 207,694 | 204,733 | 201,843 | 199,023 | 196,271 | 193,583 | 190,959 | 188,397 | 185,894 |
| 6 | 183,448 | 181,059 | 178,724 | 176,441 | 174,210 | 172,028 | 169,894 | 167,807 | 165,765 | 163,767 |
| 7 | 161,812 | 159,898 | 158,024 | 156,190 | 154,394 | 152,634 | 150,910 | 149,222 | 147,567 | 145,945 |
| 8 | 144,355 | 142,796 | 141,268 | 139,769 | 138,299 | 136,857 | 135,442 | 134,053 | 132,691 | 131,353 |
| 9 | 130,040 | 128,750 | 127,484 | 126,241 | 125,020 | 123,820 | 122,641 | 121,482 | 120,344 | 119,225 |
| 10 | 118,124 | 117,043 | 115,979 | 114,933 | 113,905 | 112,893 | 111,897 | 110,918 | 109,954 | 109,006 |
| 11 | 108,072 | 107,153 | 106,249 | 105,358 | 104,481 | 103,617 | 102,766 | 101,929 | 101,103 | 100,290 |
| 12 | 99,489 | 98,699 | 97,921 | 97,154 | 96,398 | 95,655 | 94,91 8 | 94,194 | 93,480 | 92,775 |
| 13 | 92,080 | 91,395 | 90,719 | 90,052 | 89,394 | 88,745 | 88,104 | 87,472 | 86,848 | 86,232 |
| 14 | 85,624 | 85,024 | 84,432 | 83,846 | 83,269 | 82,698 | 82,135 | 81,578 | 81,029 | 80,486 |
| 15 | 79,949 | 79,419 | 78,896 | 78,378 | 77,867 | 77,362 | 76,862 | 76,369 | 75,881 | 75,399 |
| 16 | 74,922 | 74,450 | 73,984 | 73,523 | 73,068 | 72,617 | 72,171 | 71,731 | 71,295 | 70,863 |
| 17 | 70,437 | 70,015 | 69,597 | 69,184 | 68,775 | 68,371 | 67,970 | 67,574 | 67,182 | 66,794 |
| 18 | 66,410 | 66,030 | 65,654 | 65,281 | 64,912 | 64,547 | 64,185 | 63,827 | 63,473 | 63,122 |
| 19 | 62,774 | 62,430 | 62,089 | 61,751 | 61,416 | 61,085 | 60,756 | 60,431 | 60,109 | 59,790 |
| 20 | 59,473 | 5 9,16 0 | 58,849 | 58,541 | 58,236 | 57,934 | 57,635 | 57,338 | 57,043 | 56,752 |
| 21 | 56,462 | 56,176 | 55,892 | 55,610 | 55,331 | 55,054 | 54,779 | 54,507 | 54,237 | 53,969 |
| 22 | 53,704 | 53,441 | 53,180 | 52,921 | 52,664 | 52,409 | 52,156 | 51,906 | 51,657 | 51,411 |
| 23 | 51, 166 | 50,923 | 50,683 | 50,444 | 50,207 | 49,971 | 4 <u>9,</u> 738 | 49,506 | 49,277 | 49,049 |
| 24 | 48,822 | 48,598 | 48,375 | 48,154 | 47,934 | 47,716 | 47,500 | 47,285 | 17,072 | 46,860 |
| 25 | 46,650 | 46,442 | 46,235 | 46,029 | 45,825 | 45,622 | 45,421 | 45,222 | 45,023 | 44,826 |
| 26 | 44,631 | 44,436 | 44,244 | 44,052 | 43,862 | 43,673 | 43,485 | 43,299 | 43,114 | 42,930 |
| 27 | 42,747 | 42,566 | 42,385 | 42,206 | 42,02 9 | 41,852 | 41,676 | 41,502 | 41,329 | 41,157 |
| 28 | 40,985 | 40,815 | 40,647 | 40,479 | 40,312 | 40,146 | 39,982 | 39,818 | 39,655 | 39,494 |
| 29 | 39,333 | 39,174 | 39,015 | 38,857 | 38,701 | 38,545 | 38,390 | 38,236 | 38,083 | 37,931 |
| 30 | 37,780 | 37,630 | 37,480 | 37,332 | 37,184 | 37,037 | 36,891 | 36,746 | 36,602 | 36,458 |
| 31 | 36,316 | 36,174 | 36,033 | 35,893 | 35,753 | 35,615 | 35,477 | 35,340 | 35,203 | 35,068 |
| 32 | 34,933 | 34,799 | 34,665 | 34,533 | 34,401 | 34,269 | 34,139 | 34,009 | 33,880 | 33,751 |
| 33 | 33,624 | 33,497 | 33,370 | 33,244 | 33,119 | 32,995 | 32,871 | 32,748 | 32,625 | 32,503 |
| 34 | 32,382 | 32,261 | 32,141 | 32,022 | 31,903 | 31,785 | 31,667 | 31,550 | 31,433 | 31,317 |
| 35 | 31,202 | 31,087 | 30,973 | 30,859 | 30,746 | 30,663 | 30.521 | 30,410 | 30,299 | 30,188 |
| 36 | 30,078 | 29,969 | 29,860 | 29,752 | 29,644 | 29,536 | 29,429 | 29,323 | 29,217 | 29,112 |
| 37 | 29,007 | 28,902 | 28,798 | 28,695 | 28,592 | 28,489 | 28,387 | 28,285 | 28,184 | 28,083 |
| 38 | 27,983 | 27,883 | 27,784 | 27,685 | 27,586 | 27,488 | 27,390 | 27,293 | 27,196 | 27,100 |
| 39 - | 27,003 | 26,908 | 26,813 | 26,718 | 26,623 | 26,529 | 26,436 | 26,342 | 26,249 | 26,157 |
| 40 | 26,065 | 25,973 | 25,882 | 25,791 | 25,700 | 25,610 | 25,520 | 25,430 | 25,341 | 25,252 |
| 41 | 25,164 | 25,076 | 24,988 | 24,900 | 24,813 | 24,727 | 24,640 | 24,554 | 24,468 | 24,383 |
| 42 | 24,298 | 24,213 | 24,129 | 24,045 | 23,961 | 23,877 | 23,794 | 23,711 | 23,629 | 23,546 |
| 43 | 23,465 | 23,383 | 23,302 | 23,221 | 23,140 | 23,059 | 22,979 | 22,899 | 22,820 | 22,740 |
| 44 | 22,661 | 22,583 | 22,504 | 22,426 | 22,348 | 22,271 | 22,193 | 22,116 | 22,039 | 21,963 |
| 45 | 21,887 | 21,811 | 21,735 | 21,659 | 21,584 | 21,509 | 21,434 | 21,360 | 21,286 | 21,212 |
| 46 | 21,138 | 21,065 | 20,991 | 20,918 | 20,846 | 20,773 | 20,701 | 20,629 | 20,557 | 20,486 |

| | | | E | levation ar | ngle, tenth | s of a degre | e | | _ | |
|----------|---------|---------------|---------|----------------|-------------|--------------|---------|---------|---------|--------|
| egrees - | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 20, 414 | 20, 343 | 20, 272 | 20, 202 | 20, 131 | 20, 061 | 19, 991 | 19, 921 | 19, 852 | 19, 78 |
| 48 | 19, 713 | 19, 644 | 19, 576 | 19, 507 | 19, 439 | 19, 371 | 19, 303 | 19, 235 | 19, 168 | 19, 10 |
| 49 | 19, 034 | 18, 967 | 18, 900 | 18, 834 | 18, 768 | 18, 702 | 18, 636 | 18, 570 | 18, 505 | 18, 43 |
| 50 | 18, 374 | 18, 310 | 18, 245 | 18, 180 | 18, 116 | 18, 052 | 17, 988 | 17, 924 | 17, 861 | 17, 79 |
| 51 | 17, 734 | 17, 671 | 17, 608 | 17, 545 | 17, 483 | 17, 420 | 17, 358 | 17, 296 | 17, 234 | 17, 1 |
| 52 | 17, 111 | 17,050 | 16, 989 | 16, 928 | 16, 867 | 16, 806 | 16, 746 | 16, 685 | 16, 625 | 16, 5 |
| 53 | 16, 505 | 16, 445 | 16, 386 | 16, 326 | 16; 267 | 16, 208 | 16, 149 | 16, 090 | 16, 031 | 15, 9 |
| 54 | 15, 914 | 15, 856 | 15, 798 | 15, 740 | 15, 682 | 15, 625 | 15, 567 | 15, 510 | 15, 453 | 15, 3 |
| 55 | 15, 339 | 15, 282 | 15, 225 | 15, 169 | 15, 112 | 15, 056 | 15, 000 | 14, 944 | 14, 838 | 14, 8 |
| 56 | 14, 777 | 14, 721 | 14, 666 | 14, 610 | 14, 555 | 14, 500 | 14, 446 | 14, 391 | 14, 336 | 14, 2 |
| 57 | 14, 227 | 14, 173 | 14, 119 | 14, 065 | 14, 011 | 13, 958 | 13, 904 | 13, 850 | 13, 797 | 13, 7 |
| 58 | 13, 691 | 13, 638 | 13, 585 | 13, 532 | 13, 479 | 13, 427 | 13, 374 | 13, 322 | 13, 269 | 13, 2 |
| 59 | 13, 165 | 13, 113 | 13, 061 | 13, 010 | 12, 958 | 12, 907 | 12, 855 | 12, 804 | 12, 753 | 12, 7 |
| 60 | 12, 651 | 12, 600 | 12, 549 | 12, 498 | 12, 448 | 12, 397 | 12, 347 | 12, 297 | 12, 246 | 12, 1 |
| 61 | 12, 146 | 12, 096 | 12, 047 | 11, 997 | 11, 947 | 11, 898 | 11, 848 | 11, 799 | 11, 750 | 11, 7 |
| 62 | 11, 652 | 11, 603 | 11, 554 | 11, 505 | 11, 456 | 11, 408 | 11, 359 | 11, 311 | 11, 262 | 11, 2 |
| 63 | 11, 166 | 11, 118 | 11, 070 | 11, 022 | 10, 974 | 10, 926 | 10, 879 | 10, 831 | 10, 784 | 10, 7 |
| 64 | 10, 689 | 10, 642 | 10, 594 | 10, 547 | 10, 500 | 10, 453 | 10, 406 | 10, 360 | 10, 313 | 10, 2 |
| 65 | 10, 220 | 10, 173 | 10, 127 | 10, 080 | 10, 034 | 9, 988 | 9, 942 | 9, 896 | 9, 850 | 9, 8 |
| 66 | 9, 758 | 9, 712 | 9, 667 | 9, 621 | 9, 575 | 9, 530 | 9, 484 | 9, 439 | 9, 394 | 9, 3 |
| 67 | 9, 303 | 9, 258 | 9, 213 | 9, 168 | 9, 123 | 9,079 | 9,034 | 8, 989 | 8, 945 | 8, 9 |
| 68 | 8, 855 | 8, 811 | 8, 767 | 8, 722 | 8,678 | 8,634 | 8, 590 | 8, 546 | 8, 502 | 8, 4 |
| 69 | 8, 414 | 8, 370 | 8, 326 | 8, 282 | 8, 239 | 8, 195 | 8, 152 | 8, 108 | 8, 065 | 8, 0 |
| 70 | 7, 978 | 7, 935 | 7, 891 | 7, 848 | 7, 805 | 7, 762 | 7, 719 | 7,676 | 7,633 | 7, 5 |
| 71 | 7, 548 | 7, 505 | 7,462 | 7, 419 | 7, 377 | 7, 334 | 7, 292 | 7, 249 | 7, 207 | 7, 1 |
| 72 | 7, 122 | 7, 080 | 7, 038 | 6, 996 | 6, 954 | 6, 912 | 6, 869 | 6, 828 | 6, 786 | 6, 7 |
| 73 | 6, 702 | 6, 660 | 6, 618 | 6, 577 | 6, 535 | 6, 493 | 6, 452 | 6, 410 | 6, 369 | 6, 3 |
| 74 | 6, 286 | 6, 244 | 6, 203 | 6, 16 2 | 6, 121 | 6,079 | 6, 038 | 5, 997 | 5, 956 | 5, 9 |
| 75 | 5, 874 | 5, 833 | 5, 792 | 5, 751 | 5, 710 | 5, 669 | 5, 629 | 5, 588 | 5, 547 | 5, 5 |
| 76 | 5, 466 | 5, 425 | 5, 385 | 5, 344 | 5, 304 | 5, 263 | 5, 223 | 5, 182 | 5, 142 | 5, 1 |
| 77 | 5,061 | 5, 021 | 4, 981 | 4, 940 | 4, 900 | 4, 860 | 4, 820 | 4, 780 | 4, 740 | 4, 7 |
| 78 | 4, 660 | 4, 620 | 4, 580 | 4, 540 | 4, 500 | 4, 460 | 4, 420 | 4, 381 | 4, 341 | 4, 3 |
| 79 | 4, 261 | 4, 222 | 4, 182 | 4, 142 | 4, 103 | 4, 063 | 4, 024 | 3, 984 | 3, 945 | 3, 9 |
| 80 | 3, 806 | 3, 826 | 3, 787 | 3, 747 | 3, 708 | 3, 669 | 3, 629 | 3, 590 | 3, 551 | 3, 5 |
| 81 | 3, 472 | 3, 433 | 3, 394 | 3, 355 | 3, 316 | 3, 276 | 3, 237 | 3, 198 | 3, 159 | 3, 1 |
| 82 | 3, 081 | 3, 042 | 3, 003 | 2, 964 | 2, 925 | 2, 886 | 2, 847 | 2, 808 | 2, 770 | 2, 7 |
| 83 | 2, 692 | 2, 653 | 2, 614 | 2, 575 | 2, 537 | 2, 498 | 2, 459 | 2, 420 | 2, 382 | 2, 3 |
| 84 | 2, 304 | 2, 266 | 2, 227 | 2, 188 | 2, 150 | 2, 111 | 2, 072 | 2, 034 | 1, 995 | 1, 9 |
| 85 | 1, 918 | 1, 880 | 1, 841 | 1, 802 | 1, 764 | 1, 725 | 1, 687 | 1, 648 | 1, 610 | 1, 5 |
| 86 | 1, 533 | 1, 495 | 1, 456 | 1, 418 | 1, 379 | 1, 341 | 1, 303 | 1, 264 | 1, 226 | 1, 1 |
| 87 | 1, 149 | 1, 111 | 1, 072 | 1, 034 | 996 | 957 | 919 | 881 | 842 | 8 |
| 88 | 766 | 727 | 689 | 651 | 612 | 574 | 536 | 498 | 459 | 4 |
| 89 | 383 | 344 | 306 | 268 | 230 | 191 | 153 | 115 | 77 | |

Table 2-1. Horizontal Distance (Meters), 22,000 Meters (Fallout Zone 11)-Continued

| Domoco | | Elevation angle, tenths of a degree | | | | | | | | | | | | |
|---------|----------|-------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|--|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | | |
| 3 | 311, 117 | 305, 812 | 300, 644 | 295, 608 | 290, 700 | 285, 919 | 281, 258 | 276, 717 | 272, 290 | 267, 975 | | | | |
| 4 | 263, 768 | 259, 667 | 255, 668 | 251, 769 | 247, 966 | 244, 257 | 240, 638 | 237, 108 | 233, 663 | 230, 302 | | | | |
| 5 | 227, 020 | 223, 817 | 220, 690 | 217, 637 | 214, 655 | 211, 742 | 208, 896 | 206, 116 | 203, 399 | 200, 744 | | | | |
| 6 | 198, 148 | 195, 610 | 193, 128 | 190, 701 | 188, 328 | 186, 005 | 183, 733 | 181, 509 | 179, 332 | 177, 202 | | | | |
| 7 | 175, 116 | 173, 073 | 171,072 | 169, 113 | 167, 193 | 165, 312 | 163, 468 | 161, 661 | 159, 890 | 158, 153 | | | | |
| 8 | 156, 450 | 154, 780 | 153, 142 | 151, 535 | 149, 958 | 148, 411 | 146, 892 | 145, 402 | 143, 938 | 142, 502 | | | | |
| 9 | 141, 091 | 139, 705 | 138, 344 | 137,007 | 135, 694 | 134, 403 | 133, 134 | 131, 887 | 130, 662 | 129, 457 | | | | |
| 10 | 128, 272 | 127, 107 | 125, 961 | 124, 834 | 123, 725 | 122, 634 | 121, 561 | 120, 504 | 119, 465 | 118, 442 | | | | |
| 11 | 117, 434 | 116, 443 | 115, 466 | 114, 505 | 113, 558 | 112, 625 | 111, 706 | 110, 801 | 109, 909 | 109, 031 | | | | |
| 12 | 108, 165 | 107, 311 | 106, 470 | 105, 641 | 104, 824 | 104, 018 | 103, 223 | 102, 440 | 101, 667 | 100, 905 | | | | |
| 13 | 100, 153 | 99, 412 | 98, 680 | 97, 958 | 97, 246 | 96, 543 | 95, 850 | 95, 165 | 94, 489 | 93, 822 | | | | |
| 14 | 93, 164 | 92, 514 | 91, 872 | 91, 238 | 90, 612 | 89, 994 | 89, 383 | 88, 780 | 88, 184 | 87, 595 | | | | |
| 15 | 87, 014 | 86, 439 | 85, 872 | 85, 311 | 84, 756 | 84, 208 | 83, 667 | 83, 131 | 82, 602 | 82, 079 | | | | |
| 16 | 81, 562 | 81, 051 | 80, 545 | 80, 045 | 79, 550 | 79,061 | 78, 578 | 78, 099 | 77, 626 | 77, 158 | | | | |
| 17 | 76, 695 | 76, 237 | 75, 783 | 75, 335 | 74, 891 | 74, 452 | 74,017 | 73, 587 | 73, 161 | 72, 740 | | | | |
| 18 | 72, 323 | 71, 910 | 71, 501 | 71, 097 | 70, 696 | 70, 299 | 69, 907 | 69, 518 | 69, 132 | 68, 751 | | | | |
| 19 | 68, 373 | 67, 999 | 67, 629 | 67, 261 | 66, 898 | 66, 538 | 66, 181 | 65, 827 | 65, 477 | 65, 130 | | | | |
| 20 | 64, 786 | 64, 446 | 64, 108 | 63, 773 | 63, 442 | 63, 113 | 62, 788 | 62, 465 | 62, 145 | 61, 828 | | | | |
| 21 | 61, 513 | 61, 202 | 60, 893 | 60, 586 | 60, 283 | 59, 982 | 59, 683 | 59, 387 | 59, 093 | 58, 802 | | | | |
| 22 | 58, 514 | 58, 227 | 57, 943 | 57, 662 | 57, 382 | 57, 105 | 56, 831 | 56, 558 | 56, 288 | 56, 019 | | | | |
| 23 | 55, 753 | 55, 489 | 55, 227 | 54, 967 | 54, 709 | 54, 453 | 54, 200 | 53, 948 | 53, 698 | 53, 449 | | | | |
| 24 | 53, 203 | 52, 959 | 52, 716 | 52, 476 | 52, 237 | 52,000 | 51, 764 | 51, 530 | 51, 299 | 51,068 | | | | |
| 25 | 50, 840 | 50, 613 | 50, 387 | 50, 164 | 49, 942 | 49, 721 | 49, 502 | 49, 285 | 49,069 | 48, 854 | | | | |
| 26 | 48, 642 | 48, 430 | 48, 220 | 48, 012 | 47, 805 | 47, 599 | 47, 395 | 47, 192 | 46, 990 | 46, 790 | | | | |
| 27 | 46, 591 | 46, 394 | 46, 198 | 46, 003 | 45, 809 | 45,617 | 45, 425 | 45, 236 | 45, 047 | 44, 859 | | | | |
| 28 | 44, 673 | 44, 488 | 44, 304 | 44, 122 | 43, 940 | 43, 760 | 43, 580 | 43, 402 | 43, 225 | 43, 049 | | | | |
| 29 | 42, 874 | 42, 700 | 42, 528 | 42, 356 | 42, 185 | 42,016 | 41, 847 | 41, 679 | 41, 513 | 41, 347 | | | | |
| 30 | 41, 182 | 41, 019 | 40, 856 | 40, 694 | 40, 534 | 40, 374 | 40, 215 | 40, 057 | 39, 900 | 39, 743 | | | | |
| 31 | 39, 588 | 39, 433 | 39, 280 | 39, 127 | 38, 975 | 38, 824 | 38, 674 | 38, 525 | 38, 376 | 38, 228 | | | | |
| 32 | 38, 082 | 37, 935 | 37, 790 | 37, 646 | 37, 502 | 37, 359 | 37, 217 | 37, 075 | 36, 935 | 36, 795 | | | | |
| 33 | 36, 656 | 36, 517 | 36, 379 | 36, 242 | 36, 106 | 35, 970 | 35, 835 | 35, 701 | 35, 568 | 35, 435 | | | | |
| 34 | 35, 303 | 35, 171 | 35, 040 | 34, 910 | 34, 781 | 34, 652 | 34, 524 | 34, 396 | 34, 269 | 34, 143 | | | | |
| 35 | 34, 017 | 33, 892 | 33, 767 | 33, 644 | 33, 520 | 33, 398 | 33, 276 | 33, 154 | 33, 033 | 32, 913 | | | | |
| 36 | 32, 793 | 32, 674 | 32, 555 | 32, 437 | 32, 319 | 32, 202 | 32, 086 | 31, 970 | 31, 854 | 31, 740 | | | | |
| 37 | 31, 625 | 31, 511 | 31, 398 | 31, 285 | 31, 173 | 31, 061 | 30, 950 | 30, 839 | 30, 729 | 30, 619 | | | | |
| 38 | 30, 510 | 30, 401 | 30, 292 | 30, 185 | 30, 077 | 29, 970 | 29, 864 | 29, 758 | 29, 652 | 29, 547 | | | | |
| 39 | 29, 442 | 29, 338 | 29, 234 | 29, 131 | 29, 028 | 28, 925 | 28, 823 | 28, 722 | 28, 620 | 28, 520 | | | | |
| 40 | 28, 419 | 28, 319 | 28, 220 | 28, 120 | 28, 022 | 27, 923 | 27, 825 | 27, 728 | 27, 630 | 27, 534 | | | | |
| 41 | 27, 437 | 27, 341 | 27, 245 | 27, 150 | 27, 055 | 26, 961 | 26, 867 | 26, 773 | 26, 679 | 26, 586 | | | | |
| 42 | 26, 493 | 26, 401 | 26, 309 | 26, 217 | 26, 126 | 26, 035 | 25, 944 | 25, 854 | 25, 764 | 25, 674 | | | | |
| 43 | 25, 585 | 25, 496 | 25, 407 | 25, 319 | 25, 231 | 25, 143 | 25, 056 | 24, 969 | 24, 882 | 24, 796 | | | | |
| 44 | 24, 710 | 24, 624 | 24, 538 | 24, 453 | 24, 368 | 24, 284 | 24, 199 | 24, 115 | 24, 032 | 23, 948 | | | | |
| 45 | 23, 865 | 23, 782 | 23, 700 | 23, 617 | 23, 535 | 23, 454 | 23, 372 | 23, 291 | 23, 210 | 23, 130 | | | | |
| 46 | 23, 049 | 22, 969 | 22, 889 | 22, 810 | 22, 730 | 22, 651 | 22, 573 | 22, 494 | 22, 416 | 22, 338 | | | | |

Table 2-1. Horizontal Distance (Meters), 24,000 Meters (Fallout Zone 12)

| Degrees | | | El | evation ar | gle, tenths | of a degre | e | | | |
|---------|---------|-----------|------------------|------------------|------------------|------------------|---------|---------|------------------|---------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 22, 260 | 22, 183 | 22 , 105 | 22, 028 | 21, 951 | 21, 875 | 21, 799 | 21, 723 | 21, 647 | 21, 571 |
| 48 | 21, 496 | 21, 421 | 21, 346 | 21, 271 | 21, 197 | 21, 123 | 21, 049 | 20, 975 | 20, 901 | 20, 828 |
| 49 | 20, 755 | 20, 682 | 20, 610 | 20, 537 | 20, 465 | 20, 393 | 20, 321 | 20, 250 | 20, 178 | 20, 107 |
| 50 | 20, 036 | 19, 966 | 19, 895 | 19, 825 | 19, 755 | 19, 685 | 19, 615 | 19, 545 | 19, 476 | 19, 407 |
| 51 | 19, 338 | 19, 269 | 19, 201 | 19, 132 | 19, 064 | 18, 996 | 18, 928 | 18, 861 | 18, 793 | 18, 726 |
| 52 | 18, 659 | 18, 592 | 18, 526 | 18, 459 | 18, 393 | 18, 326 | 18, 260 | 18, 195 | 18, 129 | 18, 064 |
| 53 | 17, 998 | 17, 933 | 17, 868 | 17, 803 | 17, 739 | 17, 674 | 17, 610 | 17, 546 | 17, 482 | 17, 418 |
| 54 | 17, 354 | 17, 291 | 17, 228 | 17, 164 | 17, 101 | 17, 038 | 16, 976 | 16, 913 | 16, 851 | 16, 789 |
| 55 | 16, 726 | 16, 665 | 16, 603 | 16, 541 | 16, 480 | 16, 418 | 16, 357 | 16, 296 | 16, 235 | 16, 174 |
| 56 | 16, 114 | 16, 053 | 15, 993 | 15, 933 | 15, 873 | 15, 813 | 15, 753 | 15, 693 | 15, 634 | 15, 574 |
| 57 | 15, 515 | 15, 456 | 15, 397 | 15, 338 | 15, 279 | 15, 221 | 15, 162 | 15, 104 | 15, 046 | 14, 988 |
| 58 | 14, 930 | 14, 872 | 14, 814 | 14, 756 | 14, 699 | 14, 642 | 14, 584 | 14, 527 | 14, 470 | 14, 414 |
| 59 | 14, 357 | 14, 300 | 14, 244 | 14, 187 | 14, 131 | 14,075 | 14,019 | 13, 963 | 13, 907 | 13, 851 |
| 60 | 13, 796 | 13, 740 | 13, 685 | 13, 630 | 13, 574 | 13, 519 | 13, 465 | 13, 410 | 13, 355 | 13, 300 |
| 61 | 13, 246 | 13, 191 | 13, 137 | 13, 083 | 13, 029 | 12, 975 | 12, 921 | 12, 867 | 12, 813 | 12, 760 |
| 62 | 12, 706 | 12,653 | 12,600 | 12, 546 | 12, 493 | 12, 440 | 12, 387 | 12, 335 | 12, 282 | 12, 229 |
| 63 | 12, 177 | 12, 124 | 12, 072 | 12, 020 | 11, 968 | 11, 915 | 11, 863 | 11, 812 | 11, 760 | 11, 708 |
| 64 | 11,656 | 11, 605 | 11, 553 | 11, 502 | 11, 451 | 11, 400 | 11, 348 | 11, 297 | 11, 246 | 11, 196 |
| 65 | 11, 145 | 11, 094 | 11, 043 | 10, 993 | 10, 942 | 10, 892 | 10, 842 | 10, 792 | 10, 741 | 10, 691 |
| 66 | 10, 641 | 10, 591 | 10, 542 | 10, 492 | 10, 442 | 10, 393 | 10, 343 | 10, 294 | 10, 244 | 10, 195 |
| 67 | 10, 146 | 10, 097 | 10, 012 | 9, 998 | 9, 949 | 9, 901 | 9, 852 | 9, 803 | 9, 754 | 9, 706 |
| 68 | 9, 657 | 9, 609 | 9, 560 | 9, 512 | 9, 464 | 9, 416 | 9, 367 | 9, 319 | 9, 271 | 9, 223 |
| 69 | 9,176 | 9, 128 | 9, 080 | 9,032 | 8, 985 | 8, 937 | 8, 890 | 8, 842 | 8, 795 | 8, 748 |
| 70 | 8, 700 | 8, 653 | 8 , 606 | 8, 559 | 8, 512 | 8, 465 | 8, 418 | 8, 371 | 8, 324 | 8, 278 |
| 71 | 8, 231 | 8, 184 | 8, 000 | 8, 091 | 8, 045 | 7, 998 | 7, 952 | 7, 906 | 7, 860 | 7, 813 |
| 72 | 7, 767 | 7, 721 | 7, 675 | 7, 629 | 7, 583 | 7, 537 | 7, 492 | 7, 446 | 7,400 | 7, 354 |
| 73 | 7, 309 | 7, 263 | 7, 218 | 7, 029 | 7, 127 | 7, 081 | 7,036 | 6, 991 | 6, 945 | 6, 900 |
| 74 | 6, 855 | 6, 810 | 6, 765 | 6, 7 2 0 | 6, 675 | 6, 630 | 6, 585 | 6, 540 | 6, 495 | 6, 450 |
| 75 | 6, 406 | 6, 361 | | 6, 720 6, 272 | 6, 227 | 6, 183 | 6, 138 | 6,094 | 6, 049 | 6, 005 |
| 76 | | 5, 916 | 6, 316 5, 872 | 5, 828 | | 5, 740 | 5, 696 | 5, 651 | 5, 607 | 5, 563 |
| 77 | 5,961 | · · · · · | | 5, 388 | 5, 784 5, 344 | 5, 740 | 5, 256 | 5, 213 | 5, 169 | 5, 125 |
| | 5, 519 | 5,476 | 5, 432 4, 995 | | | 3, 300 4, 864 | 4, 821 | 4, 777 | 4, 734 | 4, 691 |
| 78 | 5, 082 | 5,038 | · · · | 4, 951 | 4, 908 | | 4, 388 | 4, 345 | 4, 302 | 4, 259 |
| 79 | 4, 647 | 4,604 | 4, 561 | 4, 518 | 4, 474 | 4, 431 | · · | 3, 915 | 3, 872 | 3, 830 |
| 80 | 4, 216 | 4, 173 | 4, 130 | 4, 087 | 4,044 | 4,001 | 3, 958 | 3, 913 | 3, 445 | 3, 403 |
| 81 | 3, 787 | 3, 744 | 3, 701 | 3, 659 | 3, 616 | 3, 573 | 3, 531 | · · · | 3, 443 | 2, 978 |
| 82 | 3, 360 | 3, 318 | 3, 275 | 3, 233 | 3, 190 | 3, 148 | 3, 105 | 3, 063 | | 2, 575 |
| 83 | 2, 936 | 2, 893 | 2,851 | 2,809 | 2,766 | 2,724 | 2, 682 | 2,640 | 2, 597 2, 176 | 2, 555 |
| 84 | 2, 513 | 2, 471 | 2, 429 | 2, 386 | 2, 344 | 2, 302 | 2, 260 | 2, 218 | | 1, 714 |
| 85 | 2,092 | 2,050 | 2,008 | 1, 966 | 1, 924 | 1, 882 | 1,840 | 1, 798 | 1,756 | 1, 714 |
| 86 | 1,672 | 1, 630 | 1, 588 | 1, 546 | 1, 504 | 1, 462 | 1, 420 | 1, 379 | 1, 337 | 1, 290 |
| 87 | 1, 253 | 1, 211 | 1, 169 | 1, 128 | 1, 086 | 1,044 | 1,002 | 960 | 919 | 459 |
| 88 | 835 | 793 | 751 | 710 | 668 | 626 000 | 584 | 543 | 501 | |
| 89 | ^17 | 376 | 334 | 292 | 250 | 209 | 167 | 125 | 83 | 42 |

Table 2-1. Horizontal Distance (Meters), 24,000 Meters (Fallout Zone 12)—Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-58

| Degrees | | | E | levation a | ngle, tenth | s of a degr | ee | | | |
|---------|----------|----------------------|----------|------------|-------------|-------------|----------|----------|----------|----------|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 3 | 330, 411 | 324, 939 | 319, 602 | 314, 397 | 309, 320 | 304, 367 | 299, 536 | 294, 824 | 290, 226 | 285, 741 |
| 4 | 281, 365 | 277, 095 | 272, 927 | 268, 860 | 264, 891 | 261,016 | 257, 233 | 253, 539 | 249, 932 | 246, 410 |
| 5 | 242, 970 | 239, 609 | 236, 326 | 233, 118 | 229, 982 | 226, 918 | 223, 923 | 220, 995 | 218, 132 | 215, 332 |
| 6 | 212, 593 | 209, 914 | 207, 293 | 204, 729 | 202, 219 | 199, 763 | 197, 358 | 195,004 | 192, 698 | 190, 441 |
| 7 | 188, 229 | 186, 063 | 183, 940 | 181, 860 | 179, 821 | 177, 823 | 175, 864 | 173, 943 | 172,060 | 170, 212 |
| 8 | 168, 400 | 166, 622 | 164, 878 | 163, 166 | 161.487 | 159, 837 | 158, 219 | 156, 629 | 155,068 | 153, 535 |
| 9 | 152, 030 | 150, 551 | 149, 097 | 147,669 | 146, 266 | 144, 887 | 143, 531 | 142, 198 | 140, 887 | 139, 599 |
| 10 | 138, 331 | 137, 085 | 135, 858 | 134, 652 | 133, 465 | 132, 297 | 131, 147 | 130,016 | 128, 902 | 127, 806 |
| 11 | 126, 726 | 125, 663 | 124, 617 | 123, 586 | 122, 570 | 121, 570 | 120, 584 | 119, 613 | 118,657 | 117, 714 |
| 12 | 116, 784 | 115, 868 | 114, 965 | 114,075 | 113, 197 | 112, 332 | 111, 478 | 110, 637 | 109, 306 | 108, 988 |
| 13 | 108, 180 | 107, 383 | 106, 596 | 105, 821 | 105, 055 | 104, 299 | 103, 553 | 102, 817 | 102, 090 | 101, 373 |
| 14 | 100, 665 | 99, 965 | 99, 275 | 98, 593 | 97, 919 | 97, 254 | 96, 597 | 95, 948 | 95, 306 | 94, 673 |
| 15 | 94, 047 | 93, 428 | 92, 817 | 92, 213 | 91, 616 | 91, 026 | 90, 442 | 89, 866 | 89, 296 | 88, 732 |
| 16 | 88, 175 | 87, 624 | 87,079 | 86, 540 | 86,008 | 85, 481 | 84, 959 | 84, 444 | 83, 934 | 83, 429 |
| 17 | 82, 930 | 82, 436 | 81, 947 | 81, 464 | 80, 985 | 80, 512 | 80, 043 | 79, 579 | 79, 120 | 78, 666 |
| 18 | 78, 216 | 77, 771 | 77, 330 | 76, 893 | 76, 461 | 76,033 | 75, 609 | 75, 190 | 74, 774 | 74, 363 |
| 19 | 73, 955 | 73, 551 | 73, 152 | 72,755 | 72, 363 | 71, 974 | 71, 589 | 71, 208 | 70, 830 | 70, 455 |
| 20 | 70, 084 | 69, 716 | 69, 352 | 68, 991 | 68, 633 | 68, 278 | 67, 927 | 67, 578 | 67, 233 | 66, 890 |
| 21 | 66, 551 | 66, 214 | 65, 881 | 65, 550 | 65, 222 | 64, 897 | 64, 574 | 64, 255 | 63, 938 | 63, 623 |
| 22 | 63, 312 | 63, 002 | 62, 696 | 62, 391 | 62,090 | 61, 790 | 61, 494 | 61, 199 | 60, 907 | 60, 617 |
| 23 | 60, 330 | 60, 045 | 59, 762 | 59, 481 | 59, 202 | 58, 926 | 58, 651 | 58, 379 | 58, 109 | 57, 841 |
| 24 | 57, 575 | 57, 311 | 57, 049 | 56, 789 | 56, 530 | 56, 274 | 56, 020 | 55, 767 | 55, 517 | 55, 268 |
| 25 | 55, 021 | 54, 775 | 54, 532 | 54, 290 | 54, 050 | 53, 812 | 53, 575 | 53, 340 | 53, 107 | 52, 875 |
| 26 | 52, 645 | 52, 416 | 52, 189 | 51, 964 | 51,740 | 51, 518 | 51, 297 | 51, 078 | 50, 860 | 50, 643 |
| 27 | 50, 128 | 50, 215 | 50, 003 | 49, 792 | 49, 583 | 49, 375 | 49, 168 | 48, 963 | 48, 759 | 48, 556 |
| 28 | 48, 355 | 48, 155 | 47, 956 | 47, 758 | 47, 562 | 47, 367 | 47, 173 | 46, 980 | 46, 789 | 46, 599 |
| 29 | 46, 409 | 46, 221 | 46, 035 | 45, 849 | 45, 664 | 45, 481 | 45, 299 | 45, 117 | 44, 937 | 44, 758 |
| 30 | 44, 580 | 44, 403 | 44, 227 | 44, 052 | 43, 878 | 43, 705 | 43, 533 | 43, 362 | 43, 192 | 43, 023 |
| 31 | 42, 855 | 42, 688 | 42, 522 | 42, 357 | 42, 193 | 42, 029 | 41, 867 | 41, 705 | 41, 545 | 41, 385 |
| 32 | 41, 226 | 41, 068 | 40, 911 | 40, 754 | 40, 599 | 40, 444 | 40, 290 | 40, 137 | 39, 985 | 39, 834 |
| 33 | 39, 683 | 39, 533 | 39, 384 | 39, 236 | 39, 089 | 38, 942 | 38, 796 | 38, 651 | 38, 506 | 38, 363 |
| 34 | 38, 220 | 38, 078 | 37, 936 | 37, 795 | 37, 655 | 37, 516 | 37, 377 | 37, 239 | 37, 101 | 36, 965 |
| 35 | 36, 829 | 36, 693 | 36, 559 | 36, 425 | 36, 291 | 36, 158 | 36, 026 | 35, 895 | 35, 764 | 35, 634 |
| 36 | 35, 504 | 35, 375 | 35, 247 | 35, 119 | 34, 992 | 34, 865 | 34, 739 | 34, 614 | 34, 489 | 34, 364 |
| 37 | 34, 241 | 34, 118 | 33, 995 | 33, 873 | 33, 751 | 33, 630 | 33, 510 | 33, 390 | 33, 271 | 33, 152 |
| 38 | 33, 033 | 32, 916 | 32, 798 | 32, 682 | 32, 565 | 32, 450 | 32, 334 | 32, 220 | 32, 105 | 31, 992 |
| 39 | 31, 878 | 31, 765 | 31, 653 | 31, 541 | 31, 430 | 31, 319 | 31, 208 | 31,098 | 30, 989 | 30, 880 |
| 40 | 30, 771 | 30, 663 | 30, 555 | 30, 448 | 30, 341 | 30, 234 | 30, 128 | 30, 023 | 29, 917 | 29, 813 |
| 41 | 29,708 | 29, 604 | 29, 501 | 29, 398 | 29, 295 | 29, 193 | 29, 091 | 28, 989 | 28, 888 | 28, 787 |
| 42 | 28, 687 | 28, 587 | 28, 487 | 28, 388 | 28, 289 | 28, 191 | 28,092 | 27, 995 | 27, 897 | 27, 800 |
| 43 | 27, 704 | 27,607 | 27, 511 | 27, 416 | 27, 320 | 27, 226 | 27, 131 | 27,037 | 26, 943 | 26, 849 |
| 44 | 26, 756 | 26, 663 | 26, 571 | 26, 478 | 26, 387 | 26, 295 | 26, 204 | 26, 113 | 26, 022 | 25, 932 |
| 45 | 25, 842 | 25, 752 | 25, 663 | 25, 574 | 25, 485 | 25, 396 | 25, 308 | 25, 220 | 25, 133 | 25, 046 |
| 46 | 24, 959 | 24, 872 | 24, 785 | 24, 699 | 24, 613 | 24, 528 | 24, 443 | 24, 358 | 24, 273 | 24, 188 |

ŧ

| egrees | | | E | levation ar | ngle, tenth | s of a degr | ee | | | |
|---------|---------|---------|---------|-------------|-------------|-------------|---------|---------|---------|--------|
| Jegrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 |
| 47 | 24, 104 | 24, 020 | 23, 937 | 23, 853 | 23, 770 | 23, 687 | 23, 605 | 23, 522 | 23, 440 | 23, 35 |
| 48 | 23, 277 | 23, 196 | 23, 115 | 23, 034 | 22, 953 | 22, 873 | 22, 793 | 22, 713 | 22, 634 | 22, 5 |
| 49 | 22, 475 | 22, 396 | 22, 318 | 22, 239 | 22, 161 | 22, 083 | 22, 005 | 21, 928 | 21, 851 | 21, 7 |
| 50 | 21, 697 | 21,620 | 21, 544 | 21, 468 | 21, 392 | 21, 316 | 21, 241 | 21, 165 | 21, 090 | 21, 0 |
| 51 | 20, 941 | 20, 866 | 20, 792 | 20, 718 | 20, 644 | 20, 571 | 20, 497 | 20, 424 | 20, 351 | 20, 2 |
| 52 | 20, 206 | 20, 133 | 20, 061 | 19, 989 | 19, 917 | 19, 846 | 19,774 | 19, 703 | 19, 632 | 19, 5 |
| 53 | 19, 490 | 19, 420 | 19, 349 | 19, 279 | 19, 209 | 19, 139 | 19,070 | 19,000 | 18, 931 | 18, 8 |
| 54 | 18,793 | 18,724 | 18, 656 | 18, 587 | 18, 519 | 18, 451 | 18, 383 | 18, 316 | 18, 248 | 18, 1 |
| 55 | 18, 113 | 18, 046 | 17, 979 | 17, 913 | 17, 846 | 17,780 | 17,713 | 17, 647 | 17, 581 | 17, 5 |
| 56 | 17, 450 | 17, 384 | 17, 319 | 17, 254 | 17, 189 | 17, 124 | 17,059 | 16, 994 | 16, 930 | 16, 8 |
| 57 | 16, 802 | 16, 738 | 16, 674 | 16, 610 | 16, 546 | 16, 483 | 16, 420 | 16, 356 | 16, 293 | 16, 2 |
| 58 | 16, 168 | 16, 105 | 16, 043 | 15, 980 | 15, 918 | 15, 856 | 15, 794 | 15,732 | 15,670 | 15,6 |
| 59 | 15, 547 | 15, 486 | 15, 425 | 15, 364 | 15, 303 | 15, 242 | 15, 181 | 15, 121 | 15,060 | 15, 0 |
| 60 | 14, 940 | 14, 880 | 14, 820 | 14, 7,60 | 14, 700 | 14, 641 | 14, 581 | 14, 522 | 14, 463 | 14, 4 |
| 61 | 14, 344 | 14, 286 | 14, 227 | 14, 168 | 14, 109 | 14, 051 | 13, 993 | 13, 934 | 13, 876 | 13, 8 |
| 62 | 13, 760 | 13,703 | 13, 645 | 13, 587 | 13, 530 | 13, 472 | 13, 415 | 13, 358 | 13, 301 | 13, 2 |
| 63 | 13, 187 | 13, 130 | 13, 073 | 13,017 | 12, 960 | 12, 904 | 12, 848 | 12, 791 | 12,735 | 12,6 |
| 64 | 12,623 | 12, 568 | 12, 512 | 12, 456 | 12, 401 | 12, 345 | 12, 290 | 12, 235 | 12, 179 | 12, 1 |
| 65 | 12,069 | 12,014 | 11, 960 | 11, 905 | 11,850 | 11, 796 | 11, 741 | 11, 687 | 11, 633 | 11, 5 |
| 66 | 11, 524 | 11, 470 | 11, 416 | 11, 362 | 11, 309 | 11, 255 | 11, 201 | 11, 148 | 11,094 | 11,0 |
| 67 | 10, 987 | 10, 934 | 10, 881 | 10, 828 | 10, 775 | 10, 722 | 10, 669 | 10, 616 | 10, 564 | 10, 5 |
| 68 | 10, 458 | 10, 406 | 10, 354 | 10, 301 | 10, 249 | 10, 197 | 10, 145 | 10,093 | 10, 041 | 9,9 |
| 69 | 9, 937 | 9, 885 | 9, 833 | 9,782 | 9, 730 | 9,679 | 9, 627 | 9, 576 | 9, 525 | 9, 4 |
| 70 | 9, 422 | 9, 371 | 9, 320 | 9, 269 | 9,218 | 9, 167 | 9, 117 | 9,066 | 9,015 | 8, 9 |
| 71 | 8, 914 | 8, 863 | 8, 813 | 8, 763 | 8,712 | 8, 662 | 8, 612 | 8, 562 | 8, 512 | 8,4 |
| 72 | 8, 412 | 8, 362 | 8, 312 | 8, 262 | 8, 212 | 8, 163 | 8, 113 | 8,064 | 8,014 | 7,9 |
| 73 | 7, 915 | 7, 866 | 7, 816 | 7,767 | 7,718 | 7,669 | 7,620 | 7, 571 | 7, 522 | 7,4 |
| 74 | 7,424 | 7, 375 | 7, 326 | 7, 277 | 7,229 | 7,180 | 7,131 | 7,083 | 7,034 | 6, 9 |
| 75 | .6, 937 | 6, 889 | 6, 841 | 6, 792 | 6, 744 | 6, 696 | 6, 648 | 6, 599 | 6, 551 | 6, 5 |
| 76 | 6, 455 | 6, 407 | 6, 359 | 6, 312 | 6, 264 | 6, 216 | 6, 168 | 6, 120 | 6,073 | 6, 0 |
| 77 | 5, 978 | 5, 930 | 5, 882 | 5, 835 | 5, 787 | 5,740 | 5, 693 | 5, 645 | 5, 598 | 5, 5 |
| 78 | 5, 503 | 5, 456 | 5, 409 | 5, 362 | 5, 315 | 5, 268 | 5, 221 | 5, 174 | 5, 127 | 5,0 |
| 79 | 5,033 | 4, 986 | 4, 939 | 4, 892 | 4, 846 | 4, 799 | 4,752 | 4, 705 | 4,659 | 4, 6 |
| 80 | 4, 566 | 4, 519 | 4, 472 | 4, 426 | 4, 379 | 4, 333 | 4, 287 | 4, 240 | 4, 194 | 4, 1 |
| 81 | 4, 101 | 4, 055 | 4,008 | 3, 962 | 3, 916 | 3, 870 | 3, 824 | 3, 777 | 3, 731 | 3,6 |
| 82 | 3, 639 | 3, 593 | 3, 547 | 3, 501 | 3, 455 | 3, 409 | 3, 363 | 3, 317 | 3, 271 | 3, 2 |
| 83 | 3, 179 | 3, 133 | 3, 088 | 3,042 | 2,996 | 2, 950 | 2,904 | 2,859 | 2, 813 | 2, 7 |
| 84 | 2,722 | 2,676 | 2,630 | 2, 585 | 2, 539 | 2, 493 | 2, 448 | 2,402 | 2, 357 | 2,3 |
| 85 | 2, 265 | 2, 220 | 2, 174 | 2, 129 | 2,083 | 2,038 | 1, 992 | 1, 947 | 1, 902 | 1,8 |
| 86 | 1, 811 | 1, 765 | 1, 720 | 1, 674 | 1, 629 | 1, 584 | 1, 538 | 1, 493 | 1, 448 | 1, 0 |
| 87 | 1, 357 | 1, 703 | 1, 720 | 1, 221 | 1, 025 | 1, 131 | 1,085 | 1, 040 | 995 | 9 |
| 88 | 904 | 859 | 814 | 769 | 723 | 678 | 633 | 588 | 542 | 4 |
| 89 | 452 | 407 | 362 | 316 | 271 | 226 | 181 | 136 | 90 | - |

Table 2-1. Horizontal Distance (Meters), 26,000 Meters (Fallout Zone 13)—Continued

Enter table with elevation angle to nearest tenth of a degree. Obtain horizontal distance to the nearest 10 meters. Do not interpolate.

2-60

| Degrees | | Elevation angle, tenths of a degree | | | | | | | | | | | |
|---------|----------|-------------------------------------|----------|----------|----------|-------------------|----------|-----------------|----------|------------------|--|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | | |
| 3 | 349, 148 | 343, 522 | 338, 030 | 332, 669 | 327, 435 | 322, 325 | 317, 337 | 312, 466 | 307, 711 | 303, 06 8 | | | |
| 4 | 298, 534 | 294, 106 | 289, 782 | 285, 558 | 281, 433 | 277, 403 | 273, 466 | 269, 619 | 265, 860 | 262, 187 | | | |
| 5 | 258, 597 | 255,088 | 251, 657 | 248, 303 | 245, 023 | 241,816 | 238, 679 | 235, 610 | 232, 608 | 229, 671 | | | |
| 6 | 226,796 | 223, 983 | 221, 229 | 218, 534 | 215, 894 | 213, 310 | 210, 779 | 208, 299 | 205, 871 | 203, 491 | | | |
| 7 | 201, 159 | 198, 874 | 196, 634 | 194, 438 | 192, 285 | 190, 174 | 188, 104 | 186, 074 | 184, 082 | 182, 127 | | | |
| 8 | 180, 210 | 178, 328 | 176, 481 | 174, 668 | 172, 888 | 171, 141 | 169, 425 | 167, 739 | 166, 084 | 164, 457 | | | |
| 9 | 162, 860 | 161, 290 | 159, 747 | 158, 230 | 156, 739 | 155, 274 | 153, 833 | 152, 417 | 151, 023 | 149, 653 | | | |
| 10 | 148, 305 | 146, 979 | 145, 674 | 144, 390 | 143, 127 | 141, 883 | 140, 659 | 139, 454 | 138, 268 | 137, 100 | | | |
| 11 | 135, 950 | 134, 817 | 133, 701 | 132, 602 | 131, 520 | 130, 453 | 129, 402 | 128, 366 | 127, 346 | 126, 340 | | | |
| 12 | 125, 348 | 124, 370 | 123, 407 | 122, 456 | 121, 519 | 120, 595 | 119, 684 | 118, 785 | 117, 898 | 117, 024 | | | |
| 13 | 116, 161 | 115, 309 | 114, 469 | 113, 640 | 112, 821 | 112, 014 | 111, 216 | 110, 429 | 109, 652 | 108, 885 | | | |
| 14 | 108, 128 | 107, 380 | 106, 641 | 105, 912 | 105, 191 | 104, 479 | 103, 776 | 103, 082 | 102, 396 | 101, 718 | | | |
| 15 | 101, 048 | 100, 385 | 99, 731 | 99, 085 | 98, 445 | 97, 814 | 97, 189 | 96, 572 | 95, 961 | 95, 358 | | | |
| 16 | 94, 761 | 94, 171 | 93, 587 | 93, 010 | 92, 439 | 91, 875 | 91, 316 | 90, 764 | 90, 218 | 89, 677 | | | |
| 17 | 89, 142 | 88, 613 | 88, 089 | 87, 571 | 87, 058 | · 86, 5 50 | 86, 048 | 85, 551 | 85, 058 | 84, 571 | | | |
| 18 | 84, 089 | 83, 612 | 83, 139 | 82,671 | 82, 207 | 81, 748 | 81, 294 | 80, 844 | 80, 398 | 79, 957 | | | |
| 19 | 79, 520 | 79, 087 | 78, 658 | 78, 233 | 77, 812 | 77, 395 | 76, 982 | 76, 573 | 76, 167 | 75, 765 | | | |
| 20 | 75, 367 | 74, 973 | 74, 581 | 74, 194 | 73, 810 | 73, 429 | 73, 052 | 72, 678 | 72, 307 | 71, 940 | | | |
| 21 | 71, 575 | 71, 214 | 70, 856 | 70, 501 | 70, 149 | 69, 800 | 69, 454 | 69, 110 | 68, 770 | 68, 432 | | | |
| 22 | 68, 098 | 67, 766 | 67, 436 | 67, 110 | 66, 786 | 66, 465 | 66, 146 | 65, 8 30 | 65, 516 | 65, 205 | | | |
| 23 | 64, 896 | 64, 590 | 64, 286 | 63, 984 | 63, 685 | 63, 388 | 63, 093 | 62, 80 1 | 62, 511 | 62, 223 | | | |
| 24 | 61, 937 | 61, 653 | 61, 372 | 61, 093 | 60, 815 | 60, 540 | 60, 267 | 59, 995 | 59, 726 | 59, 459 | | | |
| 25 | 59, 193 | 58, 930 | 58, 668 | 58, 408 | 58, 151 | 57, 894 | 57, 640 | 57, 388 | 57, 137 | 56, 888 | | | |
| 26 | 56, 641 | 56, 395 | 56, 151 | 55, 909 | 55, 668 | 55, 430 | 55, 192 | 54, 957 | 54, 722 | 54, 490 | | | |
| 27 | 54, 259 | 54, 029 | 53, 801 | 53, 575 | 53, 350 | 53, 126 | 52, 904 | 52, 684 | 52, 464 | 52, 246 | | | |
| 28 | 52, 030 | 51, 815 | 51, 601 | 51, 389 | 51, 178 | 50, 968 | 50, 760 | 50, 553 | 50, 347 | 50, 142 | | | |
| 29 | 49, 939 | 49, 737 | 49, 536 | 49, 336 | 49, 138 | 48, 941 | 48, 745 | 48, 550 | 48, 356 | 48, 164 | | | |
| 30 | 47, 972 | 47, 782 | 47, 593 | 47, 405 | 47, 218 | 47, 032 | 46, 847 | 46, 663 | 46, 480 | 46, 299 | | | |
| 31 | 46, 118 | 45, 938 | 45, 760 | 45, 582 | 45, 405 | 45, 230 | 45, 055 | 44, 881 | 44, 709 | 44, 537 | | | |
| 32 | 44, 366 | 44, 196 | 44, 027 | 43, 859 | 43, 692 | 43, 525 | 43, 360 | 43, 195 | 43, 032 | 42, 869 | | | |
| 33 | 42, 707 | 42, 546 | 42, 386 | 42, 226 | 42, 068 | 41, 910 | 41, 753 | 41, 597 | 41, 441 | 41, 287 | | | |
| 34 | 41, 133 | 40, 980 | 40, 828 | 40, 676 | 40, 526 | 40, 376 | 40, 226 | 40, 078 | 39, 930 | 39, 783 | | | |
| 35 | 39, 637 | 39, 491 | 39, 346 | 39, 202 | 39, 059 | 38, 916 | 38, 774 | 38, 632 | 38, 492 | 38, 352 | | | |
| 36 | 38, 212 | 38, 073 | 37, 935 | 37, 798 | 37, 661 | 37, 525 | 37, 389 | 37, 254 | 37, 120 | 36, 986 | | | |
| 37 | 36, 853 | 36, 721 | 36, 589 | 36, 457 | 36, 327 | 36, 196 | 36, 067 | 35, 938 | 35, 810 | 35, 682 | | | |
| 38 | 35, 554 | 35, 428 | 35, 302 | 35, 176 | 35, 051 | 34, 926 | 34, 802 | 34, 679 | 34, 556 | 34, 433 | | | |
| 39 | 34, 312 | 34, 190 | 34, 069 | 33, 949 | 33, 829 | 33, 710 | 33, 591 | 33, 473 | 33, 355 | 33, 237 | | | |
| 40 | 33, 120 | 33, 004 | 32, 888 | 32, 772 | 32, 657 | 32, 543 | 32, 429 | 32, 315 | 32, 202 | 32, 089 | | | |
| 41 | 31, 977 | 31, 865 | 31, 754 | 31, 643 | 31, 532 | 31, 422 | 31, 312 | 31, 203 | 31, 094 | 30, 986 | | | |
| 42 | 30, 878 | 30, 770 | 30, 663 | 30, 556 | 30, 450 | 30, 344 | 30, 238 | 30, 133 | 30, 028 | 29, 924 | | | |
| 43 | 29, 820 | 29, 716 | 29, 613 | 29, 510 | 29, 408 | 29, 306 | 29, 204 | 29, 102 | 29, 001 | 28, 901 | | | |
| 44 | 28, 800 | 28, 701 | 28, 601 | 28, 502 | 28, 403 | 28, 304 | 28, 206 | 28, 108 | 28, 011 | 27, 914 | | | |
| 45 | 27, 817 | 27, 720 | 27, 624 | 27, 528 | 27, 433 | 27, 337 | 27, 243 | 27, 148 | 27, 054 | 26, 960 | | | |
| 46 | 26, 866 | 26, 773 | 26, 680 | 26, 587 | 26, 495 | 26, 403 | 26, 311 | 26, 219 | 26, 128 | 26, 037 | | | |

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | |
|---------|-------------------------------------|---------|------------------|---------|---------|---------|---------|---------|---------|-------|--|--|
| egrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | |
| 47 | 25, 947 | 25, 857 | 25, 766 | 25, 677 | 25, 587 | 25, 498 | 25, 409 | 25, 321 | 25, 232 | 25, 1 | | |
| 48 | 25, 057 | 24, 969 | 24, 882 | 24, 795 | 24, 708 | 24, 622 | 24, 536 | 24, 450 | 24, 364 | 24, 2 | | |
| 49 | 24, 194 | 24, 109 | 24, 024 | 23, 940 | 23, 856 | 23, 772 | 23, 688 | 23, 605 | 23, 522 | 23, 4 | | |
| 50 | 23, 356 | 23, 274 | 23, 191 | 23, 109 | 23, 028 | 22, 946 | 22, 865 | 22, 784 | 22, 703 | 22, 6 | | |
| 51 | 22, 542 | 22, 462 | 22, 382 | 22, 303 | 22, 223 | 22, 144 | 22, 065 | 21, 986 | 21, 908 | 21, 8 | | |
| 52 | 21,751 | 21, 673 | 21, 596 | 21, 518 | 21, 441 | 21, 364 | 21, 287 | 21, 210 | 21, 133 | 21, 0 | | |
| 53 | 20, 981 | 20, 905 | 20, 829 | 20, 754 | 20, 679 | 20, 604 | 20, 529 | 20, 454 | 20, 379 | 20, 3 | | |
| 54 | 20, 331 | 20, 157 | 20, 083 | 20,009 | 19, 936 | 19, 863 | 19,790 | 19,717 | 19, 644 | 19, 5 | | |
| 55 | 19, 499 | 19, 427 | 19, 355 | 19, 283 | 19, 200 | 19, 140 | 19,069 | 18, 997 | 18, 926 | 18, 8 | | |
| 56 | 18, 785 | 18, 714 | 18,644 | 18, 574 | 18, 504 | 18, 434 | 18, 364 | 18, 295 | 18, 225 | 18, 1 | | |
| 57 | 18, 185 | 18, 018 | 13,044 17,949 | 17, 881 | 17, 812 | 17, 744 | 17,676 | 17, 608 | 17, 540 | 17, 4 | | |
| 58 | 17, 405 | , | | · · | 17, 136 | 17,069 | 17,003 | 16, 936 | 16, 870 | 16, 8 | | |
| 59 | | 17, 337 | 17,270 16,605 | 17, 203 | 16, 474 | 16, 409 | 16, 343 | 16, 278 | 16, 213 | 16, 1 | | |
| | 16, 737 | 16, 671 | - • | 16, 540 | | · · | · · · | | 15, 570 | • | | |
| 60 | 16, 083 | 16,019 | 15, 954 | 15, 890 | 15, 825 | 15, 761 | 15, 697 | 15, 633 | • | 15, 5 | | |
| 61 | 15, 442 | 15, 379 | 15, 316 | 15, 252 | 15, 189 | 15, 126 | 15,064 | 15,001 | 14, 938 | 14, 8 | | |
| 62 | 14, 814 | 14,751 | 14, 689 | 14, 627 | 14, 565 | 14, 503 | 14, 442 | 14, 380 | 14, 319 | 14, 2 | | |
| 63 | 14, 196 | 14, 135 | 14,074 | 14,013 | 13, 952 | 13, 892 | 13, 831 | 13, 771 | 13, 710 | 13, 0 | | |
| 64 | 13, 590 | 13, 530 | 13, 470 | 13, 410 | 13, 350 | 13, 290 | 13, 231 | 13, 171 | 13, 112 | 13, (| | |
| 65 | 12, 993 | 12, 934 | 12, 875 | 12, 816 | 12, 757 | 12, 699 | 12, 640 | 12, 582 | 12, 523 | 12, 4 | | |
| 66 | 12, 406 | 12, 348 | 12, 290 | 12, 232 | 12, 174 | 12, 116 | 12, 059 | 12,001 | 11, 943 | 11, 8 | | |
| . 67 | 11, 829 | 11, 771 | 11, 714 | 11, 657 | 11,600 | 11, 543 | 11, 486 | 11, 429 | 11, 372 | 11, 3 | | |
| 68 | 11, 259 | 11, 203 | 11, 146 | 11, 090 | 11, 034 | 10, 977 | 10, 921 | 10, 865 | 10, 809 | 10, 7 | | |
| 69 | 10; 698 | 10, 642 | 10, 586 | 10, 531 | 10, 475 | 10, 420 | 10, 364 | 10, 309 | 10, 254 | 10, 1 | | |
| 70 | 10, 144 | 10, 089 | 10, 034 | 9, 979 | 9, 924 | 9, 869 | 9, 815 | 9, 760 | 9, 705 | 9, 6 | | |
| 71 | 9, 596 | 9, 542 | 9, 488 | 9, 434 | 9, 379 | 9, 325 | 9, 271 | 9, 217 | 9, 163 | 9, 1 | | |
| 72 | 9, 056 | 9, 002 | 8, 948 | 8, 895 | 8, 841 | 8, 788 | 8, 734 | 8, 681 | 8, 628 | 8, 5 | | |
| 73 | 8, 521 | 8, 468 | 8, 415 | 8, 362 | 8, 309 | 8, 256 | 8, 203 | 8, 150 | 8, 098 | 8, 0 | | |
| 74 | 7, 992 | 7, 940 | 7, 887 | 7, 835 | 7, 782 | 7,730 | 7,677 | 7,625 | 7, 573 | 7, 5 | | |
| 75 | 7,469 | 7, 416 | 7, 364 | 7, 312 | 7, 260 | 7, 209 | 7, 157 | 7, 105 | 7, 053 | 7, 0 | | |
| 76 | 6, 950 | 6, 898 | 6, 846 | 6, 795 | 6, 743 | 6, 692 | 6, 641 | 6, 589 | 6, 538 | 6, 4 | | |
| 77 | 6, 435 | 6, 384 | 6, 333 | 6, 282 | 6, 231 | 6, 180 | 6, 129 | 6, 078 | 6, 027 | 5,9 | | |
| 78 | 5, 925 | 5, 874 | 5, 823 | 5, 773 | 5, 722 | 5,671 | 5, 621 | 5, 570 | 5, 519 | 5, 4 | | |
| 79 | 5, 418 | 5, 368 | 5, 317 | 5, 267 | 5, 217 | 5, 166 | 5, 116 | 5, 066 | 5, 016 | 4, 9 | | |
| 80 | 4, 915 | 4, 865 | 4, 815 | 4, 765 | 4,715 | 4, 665 | 4, 615 | 4, 565 | 4, 515 | 4, 4 | | |
| 81 | 4, 415 | 4, 365 | 4, 315 | 4, 266 | 4, 216 | 4, 166 | 4, 116 | 4, 067 | 4, 017 | 3, 9 | | |
| 82 | 3, 918 | 3, 868 | 3, 819 | 3, 769 | 3, 719 | 3, 670 | 3, 621 | 3, 571 | 3, 522 | 3, 4 | | |
| 83 | 3, 423 | 3, 373 | 3, 324 | 3, 275 | 3, 225 | 3, 176 | 3, 127 | 3, 078 | 3, 028 | 2, 9 | | |
| 84 | 2, 930 | 2, 881 | 2, 832 | 2, 782 | 2, 733 | 2, 684 | 2, 635 | 2, 586 | 2, 537 | 2, 4 | | |
| 85 | 2, 439 | 2, 390 | 2, 341 | 2, 292 | 2, 243 | 2, 194 | 2, 145 | 2,096 | 2, 047 | 1, 9 | | |
| 86 | 1, 949 | 1, 900 | 1, 852 | 1,803 | 1,754 | 1,705 | 1,656 | 1,607 | 1, 559 | 1, 8 | | |
| 87 | 1,461 | 1, 412 | 1, 363 | 1, 315 | 1, 266 | 1, 217 | 1, 168 | 1, 120 | 1,071 | 1, 0 | | |
| 88 | 973 | 925 | 876 | 827 | 779 | 730 | 681 | 633 | 584 | 5 | | |
| 89 | 487 | 438 | 389 | 341 | 292 | 243 | 195 | 146 | 97 | | | |

Table 2-1. Horizontal Distance (Meters), 28,000 Meters (Fallout Zone 14)—Continued

| Degrees | Elevation angle, tenths of a degree | | | | | | | | | | | |
|---------|-------------------------------------|----------|----------|----------|----------|----------|----------|----------|-----------------|-----------------|--|--|
| Degrees | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | | |
| 3 | 367, 371 | 361, 603 | 355, 969 | 350, 463 | 345, 085 | 339, 829 | 334, 694 | 329, 677 | 324, 775 | 319, 985 | | |
| 4 | 315, 304 | 310, 729 | 306, 258 | 301, 888 | 297, 617 | 293, 442 | 289, 360 | 285, 369 | 281, 467 | 277, 652 | | |
| 5 | 273,920 | 270, 271 | 266, 701 | 263, 208 | 259, 792 | 256, 448 | 253. 177 | 249, 975 | 246, 841 | 243, 773 | | |
| 6 | 240, 769 | 237, 827 | 234, 947 | 232, 126 | 229, 363 | 226, 656 | 224, 003 | 221, 404 | 218, 857 | 216, 361 | | |
| 7 | 213, 913 | 211, 514 | 209, 161 | 206, 854 | 204, 591 | 202, 371 | 200, 194 | 198, 057 | 195, 961 | 193, 903 | | |
| 8 | 191, 884 | 189, 902 | 187, 955 | 186, 044 | 184, 167 | 182, 324 | 180, 514 | 178, 735 | 176, 988 | 175, 271 | | |
| 9 | 173, 583 | 171, 925 | 170, 295 | 168, 692 | 167, 117 | 165, 567 | 164, 044 | 162, 545 | 161, 071 | 159, 621 | | |
| 10 | 158, 195 | 156, 791 | 155, 409 | 154,050 | 152, 712 | 151, 395 | 150, 098 | 148, 821 | 147, 564 | 146, 326 | | |
| 11 | 145, 106 | 143, 905 | 142, 722 | 141, 556 | 140, 408 | 139, 276 | 138, 161 | 137, 061 | 135, 978 | 134, 910 | | |
| 12 | 133, 857 | 132, 819 | 131, 796 | 130, 786 | 129, 791 | 128, 809 | 127, 841 | 126, 886 | 125, 944 | 125, 014 | | |
| 13 | 124, 097 | 123, 191 | 122, 298 | 121, 417 | 120, 546 | 119, 687 | 118, 839 | 118,002 | 117, 176 | 116, 360 | | |
| 14 | 115, 554 | 114, 758 | 113, 972 | 113, 195 | 112, 428 | 111, 671 | 110, 922 | 110, 183 | 109, 452 | 108, 730 | | |
| 15 | 108, 017 | 107, 312 | 106, 615 | 105, 927 | 105, 246 | 104, 573 | 103, 907 | 103, 250 | 102, 599 | 101, 956 | | |
| 16 | 101, 320 | 100, 692 | 100.070 | 99, 455 | 98, 846 | 98, 245 | 97, 649 | 97, 061 | 96. 478 | 9 5, 902 | | |
| 17 | 95, 331 | 94, 767 | 94, 208 | 93, 656 | 93, 109 | 92, 568 | 92, 032 | 91, 502 | 90, 977 | 90, 457 | | |
| 18 | 89, 942 | 89, 433 | 88, 929 | 88, 430 | 87, 935 | 87, 446 | 86, 961 | 86, 481 | 86, C 05 | 85, 534 | | |
| 19 | 85, 067 | 84, 605 | 84, 148 | 83, 694 | 83. 245 | 82, 800 | 82, 359 | 81, 922 | 81, 489 | 81, 060 | | |
| 20 | 80, 635 | 80, 214 | 79, 796 | 79, 383 | 78, 972 | 78, 566 | 78, 163 | 77, 764 | 77, 368 | 76, 975 | | |
| 21 | 76, 586 | 76, 201 | 75, 818 | 75, 439 | 75, 063 | 74, 690 | 74, 321 | 73, 954 | 73, 590 | 73, 230 | | |
| 22 | 72, 872 | 72, 518 | 72, 166 | 71, 817 | 71, 471 | 71, 128 | 70, 787 | 70, 449 | 70, 114 | 69, 782 | | |
| 23 | 69, 452 | 69, 125 | 68, 800 | 68, 478 | 68, 158 | 67, 841 | 67. 526 | 67, 213 | 66, 903 | 66, 596 | | |
| 24 | 66, 290 | 65, 987 | 65, 686 | 65, 388 | 65, 091 | 64, 797 | 64, 505 | 64, 215 | 63, 927 | 63, 641 | | |
| 25 | 63, 358 | 63, 076 | 62, 796 | 62, 519 | 62, 243 | 61, 969 | 61, 697 | 61, 427 | 61, 159 | 60, 893 | | |
| _ 26 | 60, 629 | 60, 366 | 60, 106 | 59, 847 | 59, 590 | 59, 334 | 59, 080 | 58, 828 | 58, 578 | 58 , 329 | | |
| 27 | 58, 082 | 57, 837 | 57, 593 | 57, 351 | 57, 110 | 56, 871 | 56, 634 | 56, 398 | 56, 163 | 55 , 931 | | |
| 28 | 55 , 699 | 55, 469 | 55, 241 | 55, 013 | 54, 788 | 54, 563 | 54, 341 | 54, 119 | 53, 899 | 53, 680 | | |
| 29 | 53, 463 | 53, 247 | 53, 032 | 52, 818 | 52, 606 | 52, 395 | 52, 185 | 51.977 | 51, 770 | 51, 564 | | |
| 30 | 51, 359 | 51, 156 | 50, 953 | 50, 752 | 50, 552 | 50, 353 | 50, 155 | 49, 959 | 49, 763 | 49, 569 | | |
| 31 | 49, 376 | 49, 183 | 48, 992 | 48, 802 | 48, 613 | 48, 425 | 48, 239 | 48, 053 | 47, 868 | 47, 684 | | |
| 32 | 47, 501 | 47, 320 | 47, 139 | 46, 959 | 46, 780 | 46, 602 | 46, 425 | 46, 249 | 46, 074 | 45, 900 | | |
| 33 | 45, 727 | 45, 554 | 45, 383 | 45, 212 | 45, 042 | 44, 874 | 44, 706 | 44, 539 | 44, 372 | 44, 267 | | |
| 34 | 44, 042 | 43, 879 | 43, 716 | 43, 554 | 43, 393 | 43, 232 | 43, 072 | 42, 914 | 42, 755 | 42, 598 | | |
| 35 | 42, 442 | 42, 286 | 42, 131 | 41, 976 | 41, 823 | 41, 670 | 41, 518 | 41, 367 | 41. 216 | 41, 066 | | |
| 36 | 40, 917 | 40, 768 | 40, 621 | 40, 473 | 40, 327 | 40. 181 | 40, 036 | 39, 892 | 39, 748 | 39, 605 | | |
| 37 | 39, 462 | 39, 321 | 39, 179 | 39, 039 | 38, 899 | 38, 760 | 38, 621 | 38, 483 | 38, 346 | 38, 209 | | |
| 38 | 38, 073 | 37, 937 | 37, 802 | 37, 667 | 37, 534 | 37, 400 | 37, 268 | 37, 135 | 37,004 | 36, 873 | | |
| 39 | 36, 742 | 36, 612 | 36, 483 | 36, 354 | 36, 226 | 36, 098 | 35, 971 | 35, 844 | 35, 718 | 35, 592 | | |
| 40 | 35, 467 | 35, 343 | 36, 218 | 35, 095 | 34, 972 | 34, 849 | 34, 727 | 34, 605 | 34, 484 | 34, 364 | | |
| 41 | 34, 243 | 34, 124 | 34,004 | 33, 886 | 33, 767 | 33, 649 | 33, 532 | 33, 415 | 33, 298 | 33, 182 | | |
| 42 | 33, 067 | 32, 952 | 32, 837 | 32, 723 | 32, 609 | 32, 495 | 32, 382 | 32, 270 | 32, 157 | 32, 046 | | |
| 43 | 31, 934 | 31, 823 | 31, 713 | 31, 603 | 31, 493 | 31, 384 | 31, 275 | 31, 166 | 31, 058 | 30, 950 | | |
| 44 | 30, 843 | 30, 736 | 30, 629 | 30, 523 | 30, 417 | 30, 312 | 30, 207 | 30, 102 | 29, 997 | 29, 893 | | |
| 45 | 29, 790 | 29, 686 | 29, 583 | 29, 481 | 29, 378 | 39, 277 | 29, 175 | 29,074 | 28, 973 | 28, 872 | | |
| 46 | 28, 772 | 28, 672 | 28, 573 | 28, 473 | 28, 374 | 28, 276 | 28, 178 | 28, 080 | 27, 982 | 27, 885 | | |

Table 2-1. Horizontal Distance (Meters), 30,000 Meters (Fallout Zone 15)

| Degrees - | Elevation angle, tenths of a degree | | | | | | | | | | | |
|-----------|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-------|--|--|
| | .0 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | 8 | .9 | | |
| 47 | 27, 788 | 27, 691 | 27. 595 | 27, 499 | 27, 403 | 27, 307 | 27, 212 | 27, 117 | 27, 023 | 26, 9 | | |
| 48 | 26, 835 | 26, 741 | 26, 647 | 26, 554 | 26, 462 | 26, 369 | 26, 277 | 26, 185 | 26, 093 | 26, 0 | | |
| 49 | 25, 910 | 25, 820 | 25, 729 | 25, 639 | 25, 549 | 25. 459 | 25, 369 | 25, 280 | 25, 191 | 25, 1 | | |
| 50 | 25, 014 | 24, 925 | 24, 837 | 24, 750 | 24, 662 | 24, 575 | 24, 488 | 24, 401 | 24. 315 | 24, 2 | | |
| 51 | 24, 143 | 24, 057 | 23, 971 | 23, 886 | 23, 801 | 23, 716 | 23, 631 | 23, 547 | 23, 463 | 23. 3 | | |
| 52 | 23, 295 | 23, 212 | 23, 129 | 23, 046 | 22, 963 | 22, 880 | 22, 798 | 22, 716 | 22, 634 | 22, 5 | | |
| 53 | 22, 471 | 22, 389 | 22, 308 | 22, 228 | 22, 147 | 22, 066 | 21, 986 | 21, 906 | 21, 826 | 21, 7 | | |
| 54 | 21, 667 | 21, 588 | 21, 509 | 21, 430 | 21, 352 | 21, 273 | 21, 195 | 21, 117 | 21,039 | 20, 9 | | |
| 55 | 20, 884 | 20, 806 | 20, 729 | 20, 652 | 20, 576 | 20, 499 | 20, 423 | 20, 346 | 20, 270 | 20, 1 | | |
| 56 | 20, 119 | 20, 043 | 19, 968 | 19, 893 | 19, 818 | 19, 743 | 19, 669 | 19, 594 | 19, 520 | 19, 4 | | |
| 57 | 19, 372 | 19, 298 | 19, 224 | 19, 151 | 19,078 | 19, 004 | 18, 931 | 18, 859 | 18, 786 | 18, 7 | | |
| 58 | 18, 641 | 18, 569 | 18, 497 | 18, 425 | 18, 353 | 18, 282 | 18, 210 | 18, 139 | 18, 068 | 17, 9 | | |
| 59 | 17, 926 | 17, 855 | 17, 785 | 17, 715 | 17,644 | 17, 574 | 17, 504 | 17, 434 | 17, 365 | 17, 2 | | |
| 60 | 17, 226 | 17, 157 | 17, 087 | 17, 018 | 16, 950 | 16, 881 | 16, 812 | 16, 744 | 16, 676 | 16, 6 | | |
| 61 | 16, 539 | 16, 471 | 16, 404 | 16, 336 | 16, 269 | 16, 201 | 16, 134 | 16,067 | 16,000 | 15, 9 | | |
| 62 | 15, 866 | 15, 799 | 15, 733 | 15,666 | 15, 600 | 15, 534 | 15, 468 | 15, 402 | 15, 336 | 15, 2 | | |
| 63 | 15, 205 | 15, 139 | 15, 074 | 15,009 | 14, 944 | 14, 879 | 14, 814 | 14, 749 | 14, 684 | 14, 6 | | |
| 64 | 14, 555 | 14, 491 | 14, 427 | 14, 363 | 14, 298 | 14, 235 | 14, 171 | 14, 107 | 14, 043 | 13, 9 | | |
| 65 | 13, 917 | 13, 853 | 13, 790 | 13, 727 | 13, 664 | 13, 601 | 13, 538 | 13, 476 | 13, 413 | 13, 3 | | |
| 66 | 13, 288 | 13, 226 | 13, 164 | 13, 101 | 13, 039 | 12, 977 | 12, 916 | 12, 854 | 12, 792 | 12, 7 | | |
| 67 | 12, 669 | 12,608 | 12, 547 | 12, 485 | 12, 424 | 12, 363 | 12, 302 | 12, 241 | 12, 181 | 12, 1 | | |
| 68 | 12,059 | 11, 999 | 11, 938 | 11, 878 | 11, 818 | 11, 758 | 11, 698 | 11, 638 | 11, 578 | 11. 5 | | |
| 69 | 11, 458 | 11, 398 | 11, 339 | 11, 279 | 11, 220 | 11, 160 | 11, 101 | 11, 042 | 10, 983 | 10, 9 | | |
| 70 | 10, 865 | 10, 806 | 10, 747 | 10, 688 | 10, 629 | 10, 571 | 10, 512 | 10, 454 | 10, 395 | 10, 3 | | |
| 71 | 10, 279 | 10, 220 | 10, 162 | 10, 104 | 10, 046 | 9, 988 | 9, 930 | 9, 872 | 9, 815 | 9, 7 | | |
| 72 | 9, 699 | 9, 642 | 9, 584 | 9, 527 | 9, 470 | 9, 412 | 9, 355 | 9, 298 | 9, 241 | 9, 1 | | |
| 73 | 9, 127 | 9,070 | 9,013 | 8, 956 | 8, 900 | 8, 843 | 8, 786 | 8, 730 | 8, 673 | 8, 6 | | |
| 74 | 8, 560 | 8, 504 | 8, 448 | 8, 392 | 3, 335 | 8, 279 | 8, 223 | 8, 167 | 8, 111 | 8, 0 | | |
| 75 | 7, 999 | 7, 944 | 7, 888 | 7, 832 | 7, 777 | 7, 721 | 7, 665 | 7, 610 | 7, 554 | 7, 4 | | |
| 76 | 7,444 | 7, 388 | 7. 333 | 7, 278 | 7, 223 | 7, 168 | 7, 113 | 7,058 | 7,003 | 6, 9 | | |
| 77 | 6, 893 | 6, 838 | 6, 783 | 6, 728 | 6, 674 | 6, 619 | 6, 564 | 6, 510 | 6, 455 | 6, 4 | | |
| 78 | 6, 346 | 6, 292 | 6, 237 | 6, 183 | 6, 129 | 6,074 | 6, 020 | 5, 966 | 5, 912 | 5, 8 | | |
| 79 | 5, 804 | 5, 749 | 5, 695 | 5, 642 | 5, 588 | 5, 534 | 5, 480 | 5, 426 | 5, 372 | 5, 3 | | |
| 80 | 5, 265 | 5, 211 | 5, 157 | 5, 104 | 5, 050 | 4, 996 | 4, 943 | 4, 889 | 4, 836 | 4, 7 | | |
| 81 | 4, 729 | 4, 676 | 4, 622 | 4, 569 | 4, 516 | 4, 462 | 4, 409 | 4, 356 | 4, 303 | 4, 2 | | |
| 82 | 4, 196 | 4, 143 | 4,090 | 4, 037 | 3, 984 | 3, 931 | 3, 878 | 3, 825 | 3, 772 | 3, 7 | | |
| 83 | 3, 666 | 3, 613 | 3, 560 | 3, 508 | 3, 455 | 3, 402 | 3, 349 | 3, 296 | 3, 244 | 3, 1 | | |
| 84 | 3, 138 | 3, 086 | 3, 033 | 2, 980 | 2, 928 | 2, 875 | 2, 822 | 2, 770 | 2, 717 | 2, 6 | | |
| 85 | 2, 612 | 2, 560 | 2, 507 | 2, 455 | 2, 402 | 2, 350 | 2, 298 | 2, 245 | 2, 193 | 2, 1 | | |
| 86 | 2, 088 | 2, 036 | 1, 983 | 1, 931 | 1, 879 | 1, 826 | 1, 774 | 1, 722 | 1, 669 | 1, 6 | | |
| 87 | 1, 565 | 1, 513 | 1, 460 | 1, 408 | 1, 356 | 1, 304 | 1, 251 | 1, 199 | 1, 147 | 1, 0 | | |
| 88 | 1, 043 | 991 | 938 | 886 | 834 | 782 | 730 | 678 | 625 | 5 | | |
| 89 | 521 | 469 | 417 | 365 | 313 | 261 | 208 | 156 | 104 | | | |

Table 2–1. Horizontal Distance (Meters), 30,000 Meters (Fallout Zone 15)—Continued

2-4. Conversion of Wind Speed (Miles per Hour to Knots)

Chart 2-1 is used to convert wind speed in knots and miles per hour.

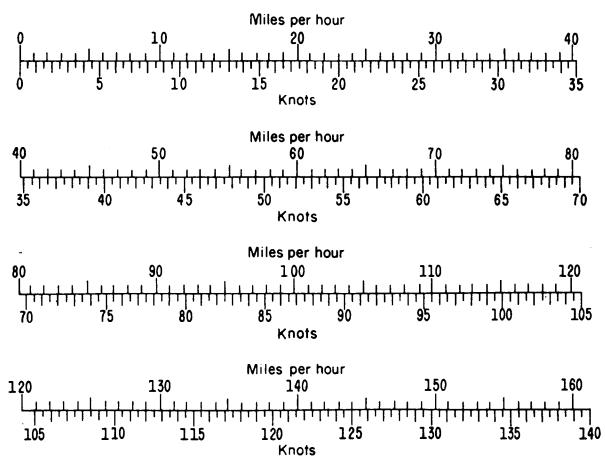


Chart 2-1. Conversion of Wind Speed (Miles Per Hour to Knots)

1 KNOT=1.15155 MPH

Table 2–2. Feet to Meters Conversion

1 foot = 0.3048 meters

| Feet | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
|------------------|--------------------|-----------------------|--------------------|--------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 0 | 0. 00 | 3. 05 | 6.10 | 9.14 | 12.19 | 15.24 | 18.29 | 21.34 | 24.38 | 27.43 |
| 100 | 30.48 | 33. 53 | 36.58 | 39.62 | 42.67 | 45.72 | 48. 77 | 51.82 | 54.86 | 57.91 |
| 200 | 60.96 | 64. 01 | 67 . 06 | 70.10 | 73.15 | 76. 20 | 79.25 | 82.30 | 85.34 | 88. 39 |
| 300 | 91.44 | 94.49 | 97.54 | 100. 58 | 103.63 | 106.68 | 109. 73 | 112.78 | 115.82 | 118.87 |
| 400 | 121.92 | 124.97 | 128.02 | 131.06 | 134. 11 | 137.16 | 140.21 | 143.26 | 146.30 | 149.35 |
| 500 | 152.40 | 155.45 | 158.50 | 161.54 | 164. 59 | 167.64 | 170.69 | 173. 74 | 176.78 | 179.83 |
| 600 | 182.88 | 185. 93 | 188.98 | 192.02 | 195.07 | 198.12 | 201.17 | 204. 22 | 207.26 | 210. 31 |
| 700 | 213.36 | 216. 41 | 219.46 | 222.50 | 225.55 | 228.60 | 231.65 | 234.70 | 237.74 | 240.79 |
| 800 900 | 243. 84 274. 32 | 246. 89 277. 37 | 249.94 280.42 | 252.98 283.46 | 256.03 286.51 | 259.08 289.56 | 262.13 | 265.18 | 268. 22 298. 70 | 271.27 |
| 1,000 | 304.80 | 307.85 | 310.90 | 283.40 313.94 | 316. 99 | 289. 50 320. 04 | 292. 61 323. 09 | 295.66 326.14 | 298.70 329.18 | 301.75 332.23 |
| 1,100 | 335. 28 | 338. 33 | 341.38 | 344. 42 | 347. 47 | 350. 52 | 353. 57 | 356. 62 | 359.66 | 362. 71 |
| 1,200 | 365. 76 | 368. 81 | 371.86 | 374.90 | 377.95 | 381.00 | 384.05 | 387.10 | 390.14 | 393.19 |
| 1, 300 | 396. 24 | 399. 29 | 402.34 | 405.38 | 408. 43 | 411.48 | 414. 53 | 417.58 | 420. 62 | 423.67 |
| 1,400 | 426. 72 | 429. 77 | 432.82 | 435.86 | 438. 91 | 441.96 | 445.01 | 448.06 | 451.10 | 454.15 |
| 1, 500 | 457. 20 | 460. 25 | 463. 30 | 466. 34 | 469.39 | 472.44 | 475. 49 | 478.54 | 481.58 | 484.63 |
| 1,600 | 487.68 | 490. 73 | 493. 78 | 496.82 | 499. 87 | 502.92 | 505. 97 | 509. 02 | 512.06 | 515.11 |
| 1,700 | 518.16 | 521. 21 | 524.26 | 527.30 | 530. 35 | 533.40 | 536.45 | 539. 50 | 542.54 | 545. 59 |
| 1, 800 | 548.64 | 551.69 | 554.74 | 557.78 | 560. 83 | 563. 88 | 566. 93 | 569.98 | 573. 02 | 576.07 |
| 1,900 | 579.12 | 582.17 | 585. 22 | 588.26 | 591.31 | 594.36 | 597.41 | 600.46 | 603.50 | 606.55 |
| 2,000 | 609.60 | 612.65 | 615.70 | 618.74 | 621.79 | 624.84 | 627.89 | 630.94 | 633. 98 | 637.03 |
| 2, 100 | 640.08 | 643.13 | 646.18 | 649.22 | 652. 27 | 655.32 | 658.37 | 661.42 | 664.46 | 667.51 |
| 2, 200 | 670.56 | 673. 61 | 676.66 | 679. 70 | 682.75 | 685.80 | 688.85 | 691.90 | 694.94 | 697 . 99 |
| 2, 300 | 701.04 | 704.09 | 707.14 | 710.18 | 713.23 | 716.28 | 719.33 | 722.38 | 725.42 | 728.47 |
| 2, 400 | 731. 52 | 734. 57 | 737.62 | 740.66 | 743. 71 | 746.76 | 749. 81 | 752.86 | 755.90 | 758.95 |
| 2, 500 | 762.00 | 765.05 | 768.10 | 771.14 | 774.19 | 777. 24 | 780. 29 | 783.34 | 786.38 | 789.43 |
| 2,600 | 792.48 | 795. 53 | 798.58 | 801.62 | 804.67 | 807.72 | 810.77 | 813.82 | 816.86 | 819.91 |
| 2, 700 | 822.96 | 826. 01 | 829.06 | 832.10 | 835.15 | 838.20 | 841.25 | 844. 30 | 847.34 | 850.39 |
| 2,800 | 853. 44 | 856. 49 | 859.54 | 862.58 | 865. 63 | 868.68 | 871.73 | 874.78 | 877.82 | 880. 87 |
| 2,900 | _883. 92 | 886. 97 | 890.02 | 893.06 | 896.11 | 899.16 | 902. 21 | 905.26 | 908.30 | 911.35 |
| 3,000 | 914.40 | 917.45 | 920. 50 | 923. 54 | 926.59 957.08 | 929.64 | 932.69 963.17 | 935.74 966.22 | 938.78 969.26 | 941.83 972.31 |
| 3,100 3,200 | 944.88 | 947.93 | 950. 98 | 954.02 | 937.08 | 960.12 990.60 | 903. 17 993. 65 | 900. 22 996. 70 | 909. 20 999. 74 | 1,002.79 |
| 3, 200 3, 300 | 975.36 1,005.84 | 978. 41 1, 008. 89 | 981.46 1,011.94 | 984.50 1,014.98 | | 1,021.08 | 1, 024. 13 | 1,027.18 | 1, 030. 22 | 1,033.27 |
| 3, 400 | 1,036.32 | 1,039.37 | 1,042.42 | 1, 045. 46 | | 1, 051. 56 | 1,054.61 | 1, 057. 66 | | 1,063.75 |
| 3, 500 | 1,066.80 | 1,069.85 | 1,072.90 | 1,075.94 | 1,078.99 | 1, 082. 04 | 1, 085. 09 | 1, 088. 14 | 1,091.18 | 1,094.23 |
| 3,600 | 1,097.28 | 1, 100. 33 | 1, 103. 38 | 1, 106. 42 | 1, 109. 47 | 1,112.52 | 1, 115. 57 | 1, 118, 62 | 1, 121. 66 | 1, 124. 71 |
| 3, 700 | 1, 127. 76 | 1, 130. 81 | 1, 133. 86 | 1, 136. 90 | | 1, 143, 00 | 1,146.05 | | | 1, 155. 19 |
| 3, 800 | 1, 158, 24 | 1, 161. 29 | 1, 164. 34 | 1, 167. 38 | | 1, 173, 48 | 1, 176. 53 | 1, 179. 58 | 1, 182. 62 | 1, 185. 67 |
| 3, 900 | 1, 188. 72 | 1, 191. 77 | 1, 194. 82 | 1, 197. 86 | | 1, 203. 96 | 1, 207. 01 | 1, 210. 06 | 1, 213. 10 | 1, 216. 15 |
| 4,000 | 1, 219. 20 | 1, 222. 25 | 1, 225. 30 | 1, 228. 34 | | 1, 234. 44 | 1, 237. 49 | 1, 240. 54 | 1, 243, 58 | 1, 246. 63 |
| 4, 100 | 1,249.68 | 1, 252. 73 | 1, 255. 78 | 1, 258. 82 | 1,261.87 | 1,264.92 | 1, 267. 97 | 1, 271. 02 | 1, 274. 06 | 1, 277. 11 |
| 4, 200 | 1, 280. 16 | 1, 283. 21 | 1, 286. 26 | 1, 289. 30 | 1, 292. 35 | 1, 295. 40 | 1, 298. 45 | 1, 301. 50 | 1, 304. 54 | 1, 307. 59 |
| 4, 300 | 1, 310. 64 | 1, 313. 69 | 1, 316. 74 | 1, 319. 78 | | 1, 325. 88 | 1, 328. 93 | 1, 331. 98 | 1, 335. 02 | 1, 338. 0 7 |
| 4, 400 | 1,341.12 | 1, 344. 17 | 1, 347. 22 | 1, 350. 26 | 1, 353. 31 | 1,356.36 | 1, 359. 41 | 1, 362. 46 | 1,365.50 | 1, 368. 55 |
| 4, 500 | 1, 371. 60 | 1, 374. 65 | 1, 377. 70 | 1, 380. 74 | 1, 383. 79 | 1, 386. 84 | 1, 389. 89 | | 1, 395. 98 | 1, 399. 03 |
| 4,600 | 1, 402. 08 | 1, 405. 13 | 1, 408. 18 | 1, 411. 22 | 1, 414. 27 | 1, 417. 32 | 1, 420. 37 | 1, 423. 42 | 1, 426. 46 | 1, 429. 51 |
| 4,700 | 1, 432. 56 | 1, 435. 61 | 1, 438. 66 | 1, 441. 70 | | 1, 447. 80 | 1, 450. 85 | | 1, 456. 94 | 1, 459. 99 |
| 4,800 | 1, 463. 04 | 1, 466. 09 | 1, 469. 14 | 1, 472. 18 | | 1,478.28 | 1, 481. 33 | | | 1, 490. 47 |
| 4,900 | 1, 493. 52 | 1, 496. 57 | 1, 499. 62 | 1, 502. 66 | | 1, 508. 76 | | | | |
| 5, 000 | 1, 524. 00 | 1, 527. 05 | 1, 530. 10 | 1, 533. 14 | 1, 536. 19 | 1, 539. 24 | 1, 542. 29 | 1, 545. 34 | 1, 548. 38 | 1, 551. 43 |

Proportional parts: feet 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 meters .30 .61 .91 1.22 1.52 1.83 2.13 2.44 2.74

2-66

Table 2-2. Feet to Meters Conversion-Continued

1 foot = 0.3048 meters

| Teet 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
|--|---|--|--|----|--|--|--|---|--|
| Reet 0 5,000 1,524. 5,100 1,554. 5,200 1,584. 5,300 1,615. 5,400 1,645. 5,500 1,676. 5,700 1,737. 5,800 1,767. 5,900 1,889. 5,100 1,859. 5,100 1,889. 5,000 1,889. 5,000 1,920. 5,400 1,950. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,042. 5,500 2,255. 7,000 2,133. 7,000 2,316. | $ \begin{array}{c} 1, 00 & 1, 527, 03, \\ 1, 48 & 1, 557, 55, \\ 2, 96 & 1, 588, 03, \\ 5, 44 & 1, 618, 44, 95, \\ 5, 44 & 1, 618, 44, 95, \\ 5, 44 & 1, 618, 44, 95, \\ 5, 44 & 1, 618, 44, 97, 44, \\ 5, 92 & 1, 648, 97, \\ 6, 41 & 1, 770, 86, \\ 8, 80 & 1, 740, 44, \\ 7, 84 & 1, 770, 86, \\ 8, 32 & 1, 801, 33, \\ 8, 80 & 1, 831, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 832, 83, \\ 8, 80 & 1, 862, 33, \\ 1, 892, 83, \\ 2, 164 & 2, 045, 21, \\ 1, 953, 77, \\ 1, 20 & 1, 953, 77, \\ 1, 20 & 1, 953, 77, \\ 1, 20 & 1, 953, 77, \\ 2, 16 & 2, 045, 21, \\ 1, 953, 22, 195, 53, \\ 1, 22 & 1, 953, 77, \\ 1, 20 & 2, 746, 23, \\ 1, 2, 228, 05, \\ 1, 2, 2, 106, 17, \\ 1, 2, 166, 2, 197, 61, \\ 1, 2, 2, 106, 17, \\ 1, 2, 668, 2, 106, 17, \\ 1, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 106, 17, \\ 1, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 106, 17, \\ 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,$ | $ \begin{bmatrix} 1, 530, 10\\ 3, 1, 560, 58\\ 1, 591, 06\\ 1, 621, 54\\ 1, 652, 02\\ 5, 1, 682, 50\\ 1, 712, 98\\ 1, 713, 94\\ 7, 1, 804, 42\\ 1, 773, 94\\ 7, 1, 804, 42\\ 1, 773, 94\\ 7, 1, 804, 42\\ 1, 773, 94\\ 7, 1, 804, 42\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 1, 926, 34\\ 2, 078, 78\\ 1, 926, 34\\ 2, 078, 78\\ 2, 109, 22\\ 5, 2, 109, 22\\ 5, 2, 109, 22\\ 5, 2, 109, 22\\ 5, 2, 109, 22\\ 5, 2, 109, 22\\ 5, 2, 109, 22\\ 5, 2, 2414, 02\\ 2, 201, 14\\ 7, 2, 261, 62\\ 2, 231, 14\\ 7, 2, 261, 62\\ 2, 233, 36\\ 2, 383, 54\\ 7, 2, 414, 50\\ 3, 2, 657, 36\\ 2, 657, 38\\ 2, 657, 38\\ 2, 658, 34\\ 7, 2, 718, 82\\ 2, 657, 36\\ 2, 688, 34\\ 7, 2, 718, 82\\ 2, 718, 82\\ 2, 719, 30\\ 2, 810, 26\\ 2, 810, 26\\ 2, 810, 26\\ 2, 810, 26\\ 2, 810, 26\\ 2, 932, 18\\ 1, 2, 932, 18\\ 1, 2, 932\\ 1, 2, 932\\ 1, 32\\ 1, 32\\ 2, 932, 18\\ 1, 32\\ 1, 1, 12\\ $ | $\begin{array}{c} 1, 533, 14\\ 1, 563, 62\\ 1, 594, 10\\ 1, 624, 58\\ 1, 655, 06\\ 1, 685, 54\\ 1, 716, 02\\ 1, 746, 50\\ 1, 776, 98\\ 1, 807, 46\\ 1, 837, 64\\ 1, 807, 46\\ 1, 837, 64\\ 1, 807, 46\\ 1, 837, 64\\ 1, 807, 46\\ 1, 837, 99\\ 3, 898, 90\\ 1, 929, 38\\ 1, 959, 86\\ 1, 990, 34\\ 2, 020, 82\\ 2, 051, 30\\ 2, 081, 78\\ 2, 112, 26\\ 2, 142, 74\\ 2, 173, 22\\ 2, 203, 70\\ 2, 234, 18\\ 2, 264, 66\\ 2, 295, 14\\ 2, 325, 62\\ 2, 356, 10\\ 2, 346, 58\\ 2, 417, 06\\ 2, 447, 54\\ \end{array}$ | | $\begin{array}{c} 50\\ \hline \\1, 539, 24\\ 1, 569, 72\\ 1, 600, 20\\ 1, 630, 68\\ 1, 661, 16\\ 1, 691, 64\\ 1, 722, 12\\ 1, 752, 02\\ 1, 752, 02\\ 1, 783, 08\\ 1, 813, 56\\ 1, 844, 04\\ 1, 874, 52\\ 1, 905, 00\\ 1, 935, 48\\ 1, 905, 90\\ 1, 935, 48\\ 1, 905, 90\\ 1, 935, 48\\ 1, 905, 90\\ 1, 935, 48\\ 1, 905, 90\\ 2, 057, 40\\ 2, 056, 92\\ 2, 057, 40\\ 2, 057, 40\\ 2, 057, 40\\ 2, 057, 40\\ 2, 057, 40\\ 2, 057, 40\\ 2, 057, 40\\ 2, 311, 72\\ 2, 362\\ 2, 057, 40\\ 2, 311, 72\\ 2, 362\\ 2, 057, 40\\ 2, 354, 41\\ 2, 354, 66\\ 2, 453, 64\\ 2, 454, 42\\ 2, 514, 60\\ 2, 545, 08\\ 2, 575, 56\\ 2, 666, 04\\ 2, 636, 52\\ 2, 667, 08\\ 2, 775, 56\\ 44\\ 2, 666, 04\\ 2, 636, 52\\ 2, 667, 08\\ 2, 775, 56\\ 44\\ 2, 788, 92\\ 2, 277, 96\\ 2, 758, 44\\ 2, 788, 92\\ 2, 819, 40\\ 2, 910, 84\\ 2, 911, 80\\ 2, 9$ | $\begin{array}{c} 60\\ 1, 542, 29\\ 1, 572, 77\\ 1, 603, 25\\ 1, 633, 53\\ 1, 664, 21\\ 1, 694, 69\\ 1, 725, 17\\ 1, 755, 16\\ 1, 786, 13\\ 1, 816, 61\\ 1, 847, 09\\ 1, 908, 05\\ 1, 938, 53\\ 1, 969, 01\\ 1, 938, 53\\ 1, 969, 01\\ 2, 029, 97\\ 2, 060, 45\\ 2, 090, 93\\ 2, 121, 41\\ 2, 151, 89\\ 2, 122, 37\\ 2, 212, 85\\ 2, 394, 29\\ 2, 334, 77\\ 2, 212, 85\\ 2, 395, 73\\ 2, 426, 21\\ 2, 485, 17\\ 2, 517, 65\\ 2, 578, 61\\ 1, 939, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 609, 09\\ 2, 639, 57\\ 2, 610, 10\\ 2, 701, 37\\ 2, 852, 93\\ 2, 914, 37\\ 2, 974, 85\\ \end{array}$ | $\begin{array}{c} 70\\ 1, 545. 34\\ 1, 575. 82\\ 1, 606. 30\\ 1, 636. 78\\ 1, 667. 26\\ 1, 697. 74\\ 1, 728. 22\\ 1, 758. 74\\ 1, 728. 22\\ 1, 758. 18\\ 1, 819. 66\\ 1, 850. 14\\ 1, 789. 18\\ 1, 819. 66\\ 1, 850. 14\\ 1, 880. 62\\ 1, 911. 10\\ 1, 941. 58\\ 1, 972. 06\\ 2, 002. 54\\ 2, 003. 92\\ 2, 003. 98\\ 2, 154. 94\\ 2, 154. 94\\ 2, 237. 84\\ 2, 337. 82\\ 2, 398. 78\\ 2, 429. 26\\ 2, 459. 74\\ 2, 490. 22\\ 2, 520. 70\\ 2, 551. 18\\ 2, 551. 18\\ 2, 551. 18\\ 2, 551. 18\\ 2, 551. 18\\ 2, 551. 18\\ 2, 551. 18\\ 2, 555. 98\\ 2, 855. 98\\ 2, 855. 98\\ 2, 855. 98\\ 2, 916. 94\\ 2, 947. 42\\ 2, 977. 90\\ 3, 977.$ | $\begin{array}{c} 1, 548. 38\\ 1, 578. 86\\ 1, 609. 34\\ 1, 639. 82\\ 1, 670. 30\\ 1, 700. 78\\ 1, 731. 26\\ 1, 761. 74\\ 1, 792. 22\\ 1, 822. 70\\ 1, 853. 18\\ 1, 914. 14\\ 1, 944. 62\\ 1, 975. 10\\ 2, 036. 06\\ 2, 066. 54\\ 2, 097. 02\\ 2, 127. 50\\ 2, 157. 98\\ 2, 188. 46\\ 2, 218. 94\\ 2, 249. 42\\ 2, 279. 90\\ 2, 310. 38\\ 2, 340. 86\\ 2, 371. 34\\ 2, 401. 82\\ 2, 432. 30\\ 2, 462. 78\\ 2, 554. 22\\ 554. 22\\ 554. 22\\ 554. 22\\ 554. 22\\ 2, 554. 70\\ 2, 615. 18\\ 2, 645. 66\\ 2, 676. 14\\ 2, 798. 06\\ 2, 737. 10\\ 2, 767. 58\\ 2, 798. 06\\ 2, 737. 10\\ 2, 767. 58\\ 2, 798. 06\\ 2, 737. 10\\ 2, 767. 58\\ 2, 859. 02\\ 2, 889. 50\\ 2, 919. 98\\ 2, 950. 46\\ \end{array}$ | $\begin{array}{c} 90\\ 1, 551. 43\\ 1, 581. 91\\ 1, 612. 39\\ 1, 673. 35\\ 1, 703. 83\\ 1, 734. 31\\ 1, 795. 27\\ 1, 825. 75\\ 1, 795. 27\\ 1, 825. 75\\ 1, 856. 23\\ 1, 794. 31\\ 1, 795. 27\\ 1, 825. 75\\ 2, 008. 63\\ 2, 039. 11\\ 2, 069. 59\\ 2, 100. 07\\ 2, 2130. 55\\ 2, 039. 11\\ 2, 221. 99\\ 2, 252. 47\\ 2, 282. 95\\ 2, 252. 47\\ 2, 282. 95\\ 2, 374. 391\\ 2, 246. 83\\ 2, 374. 81\\ 2, 526. 79\\ 2, 587. 75\\ 2, 801. 11\\ 2, 831. 59\\ 2, 802. 55\\ 2, 983. 51\\ 2, 983. 51\\ 2, 983. 91\\ 2, 98$ |

Proportional parts: feet 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 meters .30 .61 .91 1.22 1.52 1.83 2.13 2.44 2.74

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|------|------------|------|--------------|------------|----------------------|------|----------------|
| 5 | 0.3 | 205 | 11. 5 | 405 | 22. 8 | 605 | 34. (|
| 10 | . 6 | 210 | 11.8 | 410 | 23.1 | 610 | 34. 3 |
| 15 | . 8 | 215 | 12.1 | 415 | 23. 3 | 615 | 34. 6 |
| 20 | 1.1 | 220 | 12.4 | 420 | 23.6 | 620 | 34. 9 |
| 25 | 1.4 | 225 | 12. 7 | 425 | 23. 9 | 625 | 35. 2 |
| 30 | 1. 7 | 230 | 12.9 | 430 | 24. 2 | 630 | 35. 4 |
| 35 | 2.0 | 235 | 13. 2 | 435 | 24. 5 | 635 | 35. 7 |
| 40 | 2.2 | 240 | 13.5 | 440 | 24.8 | 640 | 36 . C |
| 45 | 2.5 | 245 | 13.8 | 445 | 25. 0 | 645 | 36. 3 |
| 50 | 2. 8 | 250 | 14. 1 | 450 | 25. 3 | 650 | 36. 0 |
| 55 | 3. 1 | 255 | 14. 3 | 455 | 25. 6 | 655 | 36. 8 |
| 60 | 3.4 | 260 | 14.6 | 460 | 25 . 9 | 660 | 37. 1 |
| 65 | 3. 7 | 265 | 14. 9 | 465 | 26 . 2 | 665 | 37. 4 |
| 70 | 3.9 | 270 | 15.2 | 470 | 26.4 | 670 | 37. 7 |
| 75 | 4. 2 | 275 | 15.5 | 475 | 26.7 | 675 | 38. 0 |
| 30 | 4.5 | 280 | 15. 8 | 480 | 27. 0 | 680 | 38. 2 |
| 35 | 4.8 | 285 | 16. 0 | 485 | 27. 3 | 685 | 38.5 |
| 0 | 5. 1 | 290 | 16.3 | 490 | 27.6 | 690 | 38.8 |
| 5 | 53 | 295 | 16.6 | 495 | 27.8 | 695 | 39. 1 |
| 100 | 5. 6 | 300 | 16. 9 | 500 | 28.1 | 700 | 39. 4 |
| 105 | 5. 9 | 305 | 17. 2 | 505 | 28.4 | 705 | 39. 7 |
| 110 | 6. 2 | 310 | 17.4 | 510 | 28.7 | 710 | 39. 9 |
| 15 | 6.5 | 315 | 17.7 | 515 | 29.0 | 715 | 40. 2 |
| 20 | 6.8 | 320 | 18.0 | 520 | 29. 2 | 720 | 40.5 |
| 125 | 7.0 | 325 | 18.3 | 525 | 29. 5 | 725 | 40.8 |
| 30 | 7.3 | 330 | 18.6 | 530 | 29.8 | 730 | 41. 1 41. 3 |
| 35 | 7.6 | 335 | 18.8 | 535 | 30.1 | 735 | 41.6 |
| 140 | 7.9 | 340 | 19.1 | 540 | 30. 4 | 740 | 41. 0 |
| 45 | 8.2 8.4 | 345 | 19.4 19.7 | 545 550 | 30. 7 30. 9 | 750 | 42. 2 |
| | 0. 1 | 350 | 19. / | 550 | 30. 5 | 100 | 76.6 |
| 55 | 8.7 | 355 | 20.0 | 555 | 31.2 | 755 | 42.5 |
| 160 | 9.0 | 360 | 20.2 | 560 | 31.5 | 760 | 42.8 |
| 165 | 9.3 | 365 | 20.5 | 565 | 31.8 | 765 | 43. 0 |
| 170 | 9.6 | 370 | 20.8 | 570 | 32.1 | 770 | 43. 3 |
| 175. | 9.8 | 375 | 21.1 | 575 | 32. 3 | 775 | 43. 6 |
| 80 | 10. 1 | 380 | 21. 4 | 580 | 32. 6 | 780 | 43. 9 |
| 85 | 10.4 | 385 | 21. 7 | 585 | 32. 9 | 785 | 44. 2 |
| 90 | 10. 7 | 380 | 21. 9 | 590 | 33. 2 | 790 | 44. 4 |
| 95 | 11. 0 | 395 | 22.2 | 595 | 33. 5 | 795 | 44. 7 |
| 00 | 11.2 | 400 | 22.5 | 600 | 33.8 | 800 | 45 0 |

 Table 2-3.
 Mils to Degrees Conversion

Conversion Formulas: 1 mil = .05625°; 1° = 17.778 mils.

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|-------|---------------|-------|---------|-------|---------|-------|---------|
| 805 | 45. 3 | 1,005 | 56. 5 | 1,205 | 67. 8 | 1,405 | 79. 0 |
| 810 | 45.6 | 1,010 | 56.8 | 1,210 | 68.1 | 1,410 | 79.3 |
| 815 | 45.8 | 1,015 | 57.1 | 1.215 | 68.3 | 1,415 | 79. 6 |
| 820 | 46.1 | 1,020 | 57.4 | 1,220 | 68 6 | 1,420 | 79.9 |
| 825 | 46. 4 | 1,025 | 57. 7 | 1,225 | 68.9 | 1,425 | 80. 2 |
| 830 | 46. 7 | 1,030 | 57. 9 | 1,230 | 69. 2 | 1,430 | 80. 4 |
| 835 | 47.0 | 1,035 | 58.2 | 1,235 | 69. 5 | 1,435 | 80. 7 |
| 840 | 47. 2 | 1,040 | 58.5 | 1,240 | 69.8 | 1,440 | 81. 0 |
| 845 | 47.5 | 1,045 | 58.8 | 1,245 | 70. 0 | 1,445 | 81. 3 |
| 850 | 47. 8 | 1,050 | 59. 1 | 1,250 | 70. 3 | 1,450 | 81. 6 |
| 855 | 48.1 | 1,055 | 59. 3 | 1,255 | 70. 6 | 1,455 | 81. 8 |
| 860 | 48.4 | 1,060 | 59. 6 | 1,260 | 70. 9 | 1,460 | 82. 1 |
| 865 | 48.7 | 1,065 | 59. 9 | 1,265 | 71. 2 | 1,465 | 82. 4 |
| 870 | 48. 9 | 1,070 | 60. 2 | 1,270 | 71.4 | 1,470 | 82. 7 |
| 875 | 49. 2 | 1,075 | 60. 5 | 1,275 | 71. 7 | 1,475 | 83. 0 |
| 880 | 49. 5 | 1,080 | 60. 8 | 1,280 | 72. 0 | 1,480 | 83. 2 |
| 885 | 49.8 | 1,085 | 61. 0 | 1,285 | 72.3 | 1,485 | 83. 5 |
| 890 | 50.1 | 1,090 | 61. 3 | 1,290 | 72.6 | 1,490 | 83. 8 |
| 895 | 50.3 | 1,095 | 61.6 | 1,295 | 72.8 | 1,495 | 84. 1 |
| 900 | 50.6 | 1,100 | 61. 9 | 1,300 | 73. 1 | 1,500 | 84. 4 |
| 905 | 50. 9 | 1,105 | 62. 2 | 1,305 | 73. 4 | 1,505 | 84. 7 |
| 910 | 51. 2 | 1,110 | 62.4 | 1,310 | 73. 7 | 1,510 | 84. 9 |
| 915: | 51. 5 | 1,115 | 62. 7 | 1,315 | 74.0 | 1,515 | 85. 2 |
| 920 | 51.8 | 1,120 | 63. 0 | 1,320 | 74. 2 | 1,520 | 85. 5 |
| 925 | 52. 0 | 1,125 | 63. 3 | 1,325 | .74. 5 | 1,525 | 85. 8 |
| 930 | 52.3 | 1,130 | 63. 6 | 1,330 | 74. 8 | 1,530 | 86. 1 |
| 935 | 52.6 | 1,135 | 63. 8 | 1,335 | 75.1 | 1,535 | 86. 3 |
| 940 | 52.9 | 1,140 | 64.1 | 1,340 | 75.4 | 1,540 | 86. 6 |
| 945 | 53. 2 | 1,145 | 64.4 | 1,345 | 75.7 | 1,545 | 86. 9 |
| 950 | 53. 4 | 1,150 | 64. 7 | 1,350 | 75.9 | 1,550 | 87. 2 |
| 955 | 53. 7 | 1,155 | 65. 0 | 1,355 | 76. 2 | 1,555 | 87. 5 |
| 960 | 54.0 | 1,160 | 65. 2 | 1,360 | 76. 5 | 1,560 | 87. 8 |
| 965 | 54. 3 | 1,165 | 65.5 | 1,365 | 76. 8 | 1,565 | 88. C |
| 970 | 54.6 | 1,170 | 65. 8 | 1,370 | 77.1 | 1,570 | 88. 3 |
| 975 | 54.8 | 1,175 | 66. 1 | 1,375 | 77. 3 | 1,575 | 88.6 |
| 980 | 55. 1 | 1,180 | 66.4 | 1,380 | 77. 6 | 1,580 | 88. 9 |
| 985 | 55. 4 | 1,185 | 66. 7 | 1,385 | 77. 9 | 1,585 | 89. 2 |
| 990 | 55. 7 | 1,190 | 66. 9 | 1,390 | 78. 2 | 1,590 | 89. 4 |
| 995 | 56 . 0 | 1,195 | 67. 2 | 1,395 | 78.5 | 1,595 | 89. 7 |
| 1,000 | 56. 2 | 1,200 | 67.5 | 1,400 | 78.8 | 1,600 | 90. 0 |

Table 2-3. Mils to Degrees Conversion—Continued

Conversion Formulas: 1 mil = .05625°; 1° = 17.778 mils.

Table 2-3. Mils to Degrees Conversion—Continued

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|-------|---------|-------|---------|-------|---------|-------|---------|
| 1,605 | 90.3 | 1,805 | 101.5 | 2,005 | 112.8 | 2,205 | 124.0 |
| 1,610 | - | 1.810 | 101.8 | 2,010 | 113.1 | 2,210 | 124.3 |
| 1,615 | | 1.815 | 102.1 | 2,015 | 113.3 | 2,215 | 124.6 |
| 1,620 | 91.1 | 1,820 | 102.4 | 2,020 | 113.6 | 2,220 | 124.9 |
| 1,625 | 91.4 | 1,825 | 102.7 | 2,025 | 113.9 | 2,225 | 125.2 |
| 1,630 | 91.7 | 1,830 | 102.9 | 2,030 | 114.2 | 2,230 | 125.4 |
| 1,635 | 92.0 | 1,835 | 103.2 | 2,035 | 114.5 | 2,235 | 125.7 |
| 1,640 | 92.2 | 1,840 | 103.5 | 2,040 | 114.8 | 2,240 | 126.0 |
| 1,645 | 92.5 | 1,845 | 103.8 | 2,045 | 115.0 | 2,245 | 126.3 |
| 1,650 | 92.8 | 1,850 | 104.1 | 2,050 | 115.3 | 2,250 | 126.6 |
| 1,655 | 93.1 | 1,855 | 104.3 | 2,055 | 115.6 | 2,255 | 126.8 |
| 1,660 | 93.4 | 1,860 | 104.6 | 2,060 | 115.9 | 2,260 | 127.1 |
| 1,665 | 93.7 | 1,865 | 104.9 | 2,065 | 116.2 | 2,265 | 127.4 |
| 1,670 | 93.9 | 1,870 | 105.2 | 2,070 | 116.4 | 2,270 | 127.7 |
| 1,675 | 94.2 | 1,875 | 105.5 | 2,075 | 116.7 | 2,275 | 128.0 |
| 1,680 | | 1,880 | 105.8 | 2,080 | 117.0 | 2,280 | 128.2 |
| 1,685 | | 1,885 | 106.0 | 2,085 | 117.3 | 2,285 | 128.5 |
| 1,690 | 95.1 | 1,890 | 106.3 | 2,090 | 117.6 | 2,290 | 128.8 |
| 1,695 | 95.3 | 1,895 | 106.6 | 2.095 | 117.8 | 2,295 | 129.1 |
| 1,700 | 95.6 | 1,900 | 106.9 | 2,100 | 118.1 | 2,300 | 129.4 |
| 1,705 | | 1,905 | 107.2 | 2,105 | 118.4 | 2,305 | 129.7 |
| 1,710 | | 1,910 | 107.4 | 2,110 | 118.7 | 2,310 | 129.9 |
| 1,715 | | 1,915 | 107.7 | 2,115 | 119.0 | 2,315 | 130.2 |
| 1,720 | 96.8 | 1,920 | 108.0 | 2,120 | 119.2 | 2,320 | 130.5 |
| 1,725 | 97.0 | 1,925 | 108.3 | 2,125 | 119.5 | 2,325 | 130.8 |
| 1,730 | | 1,930 | 108.6 | 2,130 | 119.8 | 2,330 | 131.1 |
| 1,735 | | 1,935 | 108.8 | 2,135 | 120.1 | 2,335 | 131.3 |
| 1,740 | | 1,940 | 109.1 | 2,140 | 120.4 | 2,340 | 131.6 |
| 1,745 | | 1,945 | 109.4 | 2,145 | 120.7 | 2,345 | 131.9 |
| 1,750 | 98.4 | 1,950 | 109.7 | 2,150 | 120.9 | 2,350 | 132.2 |
| 1,755 | 1 | 1,955 | 110.0 | 2,155 | 121.2 | 2,355 | 132.5 |
| 1,760 | | 1,960 | 110.2 | 2,160 | 121.5 | 2,360 | 132.8 |
| 1,765 | | 1,965 | 110.5 | 2,165 | 121.8 | 2,365 | 133.0 |
| 1,770 | | 1,970 | 110.8 | 2,170 | 122.1 | 2,370 | 133.3 |
| 1,775 | 99.8 | 1,975 | 111.1 | 2,175 | 122.3 | 2,375 | 133.6 |
| 1,780 | | 1,980 | 111.4 | 2,180 | 122.6 | 2,380 | 133.9 |
| 1,785 | | 1,985 | 111.7 | 2,185 | 122.9 | 2,385 | 134.2 |
| 1,790 | | 1,990 | 111.9 | 2,190 | 123.2 | 2,390 | 134.4 |
| 1,795 | | 1,995 | 112.2 | 2,195 | 123.5 | 2,395 | 134.7 |
| 1,800 | 101.2 | 2,000 | 112.5 | 2,200 | 123.8 | 2,400 | 135.0 |

Conversion Formulas: 1 mil = .05625°; 1° = 17.778 mils.

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|-------|---------|-------|---------|-------|---------|-------|---------------|
| 2,405 | 135.3 | 2,605 | 146.5 | 2,805 | 157.8 | 3,005 | 169.0 |
| ,410 | 135.6 | 2,610 | 146.8 | 2,810 | 158.1 | 3,010 | 169.3 |
| 2,415 | 135.8 | 2,615 | 147.1 | 2,815 | 158.3 | 3,015 | 169.6 |
| ,420 | 136.1 | 2,620 | 147.4 | 2,820 | 158.6 | 3,020 | 169.9 |
| .,425 | 136.4 | 2,625 | 147.7 | 2,825 | 158.9 | 3,025 | 170.2 |
| 2,430 | 136.7 | 2,630 | 147.9 | 2,830 | 159.2 | 3,030 | 170.4 |
| ,435 | 137.0 | 2,635 | 148.2 | 2,835 | 159.5 | 3,035 | 170.7 |
| .,440 | 137.2 | 2,640 | 148.5 | 2,840 | 159.8 | 3,040 | 171.0 |
| .,445 | 137.5 | 2,645 | 148.8 | 2,845 | 160.0 | 3,045 | 171.3 |
| .,450 | 137.8 | 2,650 | 149.1 | 2,850 | 160.3 | 3,050 | 171.6 |
| ,455 | 138.1 | 2,655 | 149.3 | 2,855 | 160.6 | 3,055 | 171.8 |
| ,460 | 138.4 | 2,660 | 149.6 | 2,860 | 160.9 | 3.060 | 172.1 |
| ,465 | 138.7 | 2,665 | 149.9 | 2,865 | 161.2 | 3,065 | 172.4 |
| .,470 | 138.9 | 2,670 | 150.2 | 2,870 | 161.4 | 3,070 | 172.7 |
| ,475 | 139.2 | 2,675 | 150.5 | 2,875 | 161.7 | 3,075 | 173.0 |
| ,480 | 139.5 | 2,680 | 150.8 | 2,880 | 162.0 | 3,080 | 173.2 |
| ,485 | 139.8 | 2,685 | 151.0 | 2,885 | 162.3 | 3,085 | 173.5 |
| ,490 | 140.1 | 2,690 | 151.3 | 2,890 | 162.6 | 3,090 | 173.8 |
| ,495 | 140.3 | 2,695 | 151.6 | 2,895 | 162.8 | 3,095 | 174.1 |
| .,500 | 140.6 | 2,700 | 151.9 | 2,900 | 163.1 | 3,100 | 174.4 |
| ,505 | 140.9 | 2,705 | 152.2 | 2,905 | 163.4 | 3,105 | 174.7 |
| ,510 | 141.2 | 2,710 | 152.4 | 2,910 | 163.7 | 3,110 | 174.9 |
| ,515 | 141.5 | 2,715 | 152.7 | 2,915 | 164.0 | 3,115 | 175.2 |
| ,520 | 141.8 | 2,720 | 153.0 | 2,920 | 164.2 | 3,120 | 175.5 |
| ,525 | 142.0 | 2,725 | 153.3 | 2,925 | 164.5 | 3,125 | 175.8 |
| ,530 | 142.3 | 2,730 | 153.6 | 2,930 | 164.8 | 3,130 | 176.1 |
| ,535 | 142.6 | 2,735 | 153.8 | 2,935 | 165.1 | 3,135 | 176.3 |
| ,540 | 142.9 | 2,740 | 154.1 | 2,940 | 165.4 | 3,140 | 1 76.6 |
| ,545 | 143.2 | 2,745 | 154.4 | 2,945 | 165.7 | 3,145 | 176.9 |
| ,550 | 143.4 | 2,750 | 154.7 | 2,950 | 165.9 | 3,150 | 177.2 |
| ,555 | 143.7 | 2,755 | 155.0 | 2,955 | 166.2 | 3,155 | 177.5 |
| ,560 | 144.0 | 2,760 | 155.2 | 2,960 | 166.5 | 3,160 | 177.8 |
| ,565 | 144.3 | 2,765 | 155.5 | 2,965 | 166.8 | 3,165 | 178.0 |
| ,570 | 144.6 | 2,770 | 155.8 | 2,970 | 167.1 | 3,170 | 178.3 |
| ,575 | 144.8 | 2,775 | 156.1 | 2,975 | 167.3 | 3,175 | 178.6 |
| .580 | 145.1 | 2,780 | 156.4 | 2,980 | 167.6 | 3,180 | 178.9 |
| 585 | 145.4 | 2,785 | 156.7 | 2,985 | 167.9 | 3,185 | 179.2 |
| ,590 | 145.7 | 2,790 | 156.9 | 2,990 | 168.2 | 3,190 | 179.4 |
| ,595 | 146.0 | 2,795 | 157.2 | 2,995 | 168.5 | 3,195 | 179.7 |
| .600 | 146.2 | 2,800 | 157.5 | 3,000 | 168.8 | 3.200 | 180.0 |

Conversion Formulas: 1 mil = .05625°; 1° = 17.778 mils.

| Table 2-3. | Mils to Degree | es Conversion—Continued |
|------------|----------------|-------------------------|
|------------|----------------|-------------------------|

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|-------|---------|--------|---------|-------|---------|-------|---------|
| 3,205 | 180.3 | 3,405 | 191. 5 | 3,605 | 202. 8 | 3,805 | 214.0 |
| 3,210 | 180.6 | 3,410 | 191. 8 | 3,610 | 203, 1 | 3,810 | 214. 3 |
| 3,215 | 180.8 | 3,415 | 192.1 | 3,615 | 203, 3 | 3,815 | 214. 6 |
| 3,220 | 181.1 | 3,420 | 192.4 | 3,620 | 203. 6 | 3,820 | 214.9 |
| 3,225 | 181. 4 | 3,425 | 192. 7 | 3,625 | 203. 9 | 3,825 | 215. 2 |
| 3,230 | 181. 7 | 3,430 | 192. 9 | 3,630 | 204. 2 | 3,830 | 215. 4 |
| 3,235 | 182. 0 | 3,435 | 193. 2 | 3,635 | 204. 5 | 3,835 | 215. 7 |
| 3,240 | 182. 2 | 3,440 | 193. 5 | 3,640 | 204.8 | 3,840 | 216. 0 |
| 3,245 | 182.5 | 3,445 | 193. 8 | 3,645 | 205. 0 | 3,845 | 316. 3 |
| 3,250 | 182.8 | 3,450 | 194. 1 | 3,650 | 205. 3 | 3,850 | 216.6 |
| 3,255 | 183. 1 | 3,455 | 194. 3 | 3,655 | 205. 6 | 3,855 | 216. 8 |
| 3,260 | 183. 4 | 3,460 | 194.6 | 3,660 | 205. 9 | 3,860 | 217.1 |
| 3,265 | 183. 7 | 3,465 | 194. 9 | 3,665 | 206. 2 | 3,865 | 217.4 |
| 3,270 | 183. 9 | 3,470 | 195. 2 | 3,670 | 206. 4 | 3,870 | 217.7 |
| 3,275 | 184. 2 | 3,475 | 195. 5 | 3,675 | 206. 7 | 3,875 | 218.0 |
| 3,280 | 184. 5 | 3,480 | 195. 8 | 3,680 | 207. 0 | 3,880 | 218. 2 |
| 3,285 | 184.8 | 3,485, | 196. 0 | 3,685 | 207.3 | 3,885 | 218.5 |
| 3,290 | 185.1 | 3,490 | 196. 3 | 3,690 | 207.6 | 3,890 | 218.8 |
| 3,295 | 185. 3 | 3,495 | 196.6 | 3,695 | 207.8 | 3,895 | 219. 1 |
| 3,300 | 185.6 | 3,500 | 196. 9 | 3,700 | 208.1 | 3,900 | 219. 4 |
| 3,305 | 185. 9 | 3,505 | 197. 2 | 3,705 | 208.4 | 3,905 | 219. 7 |
| 3,310 | 186. 2 | 3,510 | 197.4 | 3,710 | 208. 7 | 3,910 | 219. 9 |
| 3,315 | 186.5 | 3,515 | 197.7 | 3,715 | 209. 0 | 3,915 | 220. 2 |
| 3,320 | 186. 8 | 3,520 | 198.0 | 3,720 | 209. 2 | 3,920 | 220.5 |
| 3,325 | 187.0 | 3,525 | 198.3 | 3,725 | 209.5 | 3,925 | 220. 8 |
| 3,330 | 187. 3 | 3,530 | 198.6 | 3,730 | 209. 8 | 3,930 | 221.1 |
| 3,335 | 187.6 | 3,535 | 198.8 | 3,735 | 210.1 | 3,935 | 221. 3 |
| 3,340 | 187. 9 | 3,540 | 199.1 | 3,740 | 210. 4 | 3,940 | 221.6 |
| 3,345 | 188. 2 | 3,545 | 199.4 | 3,745 | 210. 7 | 3,945 | 221.9 |
| 3,350 | 188.4 | 3,550 | 199. 7 | 3,750 | 210. 9 | 3,950 | 222. 2 |
| 3,355 | 188.7 | 3,555 | 200. 0 | 3,755 | 211. 2 | 3,955 | 222.5 |
| 3,360 | 189. 0 | 3,560 | 200. 2 | 3,760 | 211.5 | 3,960 | 222.8 |
| 3,365 | 189.3 | 3,565 | 200.5 | 3,765 | 211.8 | 3,965 | 223.0 |
| 3,370 | 189.6 | 3,570 | 200. 8 | 3,770 | 212.1 | 3,970 | 223.3 |
| 3,375 | 189. 8 | 3,575 | 201. 1 | 3,775 | 212. 3 | 3,975 | 223, 6 |
| 3,380 | 190. 1 | 3,580 | 201. 4 | 3,780 | 212. 6 | 3,980 | 223. 9 |
| 3,385 | 190.4 | 3,585 | 201. 7 | 3,785 | 212. 9 | 3,985 | 224. 2 |
| 3,390 | 190. 7 | 3,590 | 201. 9 | 3,790 | 213. 2 | 3,990 | 224, 4 |
| 3,395 | 191.0 | 3,595 | 202. 2 | 3,795 | 213. 5 | 3,995 | 224. 7 |
| 3,400 | 191.2 | 3,600 | 202. 5 | 3,800 | 213.8 | 4,000 | 225.0 |
| | | , | | | | 1 | |

Conversion Formulas: 1 mil = .05625°; 1° = 17.778 mils.

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|------|---------|--------|----------------|--------|---------|--------|---------|
| 005 | 225. 3 | 4, 205 | 236. 5 | 4, 405 | 247. 8 | 4, 605 | 259. |
| 010 | 225. 6 | 4, 210 | 236.8 | 4, 410 | 248.1 | 4, 610 | 259. |
| 015 | 225. 8 | 4, 215 | 237.1 | 4, 415 | 248.3 | 4, 615 | 259. |
| 020 | 226.1 | 4. 220 | 237. 4 | 4, 420 | 248.6 | 4, 620 | 259. |
| 025 | 226. 4 | 4, 225 | 237. 7 | 4, 425 | 248.9 | 4, 625 | 260. |
| 030 | 226. 7 | 4, 230 | 237. 9 | 4, 430 | 249. 2 | 4, 630 | 260. |
| 035 | 227. 0 | 4, 235 | 238. 2 | 4, 435 | 249.5 | 4, 635 | 260. |
| 040 | 227, 2 | 4, 240 | 238.5 | 4, 440 | 249.8 | 4, 640 | 261. |
| 045 | 227.5 | 4, 245 | 238.8 | 4, 445 | 250. 0 | 4, 645 | 261. |
| 050 | 227. 8 | 4, 250 | 239. 1 | 4, 450 | 250. 3 | 4, 650 | 261. |
| 055 | 228.1 | 4, 255 | 239. 3 | 4, 455 | 250. 6 | 4, 655 | 261. |
| 060 | 228.4 | 4, 260 | 239.6 | 4, 460 | 250. 9 | 4, 660 | 262. |
| 065 | 228.7 | 4, 265 | 239. 9 | 4, 465 | 251. 2 | 4, 665 | 262 |
| 070 | 228.9 | 4, 270 | 240. 2 | 4. 470 | 251.4 | 4. 670 | 262. |
| 075 | 229. 2 | 4, 275 | 240. 5 | 4, 475 | 251. 7 | 4, 675 | 263. |
| 080 | 229. 5 | 4, 280 | 240. 8 | 4, 480 | 252.0 | 4, 680 | 263. |
| 085 | 229.8 | 4, 285 | 241. 0 | 4, 485 | 252.3 | 4, 685 | 263. |
| 090 | 230. 1 | 4, 290 | 241. 3 | 4. 490 | 252.6 | 4. 690 | 263. |
| 095 | 230. 3 | 4, 295 | 241.6 | 4, 495 | 252.8 | 4, 695 | 264. |
| 100 | 230. 6 | 4, 300 | 241. 9 | 4, 500 | 253. 1 | 4, 700 | 264. |
| 105 | 230. 9 | 4, 305 | 242. 2 | 4, 505 | 253. 4 | 4, 705 | 264. |
| 110 | 231. 2 | 4, 310 | 242.4 | 4, 510 | 253. 7 | 4, 710 | 264. |
| 115 | 231. 5 | 4, 315 | 242.7 | 4, 515 | 254.0 | 4, 715 | 265. 2 |
| 120 | 231.8 | 4, 320 | 243. 0 | 4, 520 | 254.2 | 4, 720 | 265. |
| 125 | 232. 0 | 4, 325 | 243. 3 | 4, 525 | 254. 5 | 4, 725 | 265. |
| 130 | 232. 3 | 4, 330 | 243. 6 | 4, 530 | 254. 8 | 4, 730 | 266. |
| 135 | 232. 6 | 4, 335 | 243. 8 | 4, 535 | 255.1 | 4, 735 | 266. |
| 140 | 232. 9 | 4, 340 | 244. 1 | 4, 540 | 255. 4 | 4, 740 | 266. |
| 145 | 233. 2 | 4, 345 | 244.4 | 4, 545 | 255. 7 | 4, 745 | 266. |
| 150 | 233. 4 | 4, 350 | 244. 7 | 4, 550 | 255. 9 | 4, 750 | 267. |
| 155 | 233. 7 | 4, 355 | 245. 0 | 4, 555 | 256. 2 | 4, 755 | 267. |
| 160 | 234. 0 | 4, 360 | 245. 2 | 4, 560 | 256. 5 | 4, 760 | 267. 8 |
| 165 | 234. 3 | 4, 365 | 245. 5 | 4, 565 | 256. 8 | 4, 765 | 268. (|
| 170 | 234. 6 | 4, 370 | 245. 8 | 4, 570 | 257.1 | 4, 770 | 268. |
| 175 | 234. 8 | 4, 375 | 246 . 1 | 4, 575 | 257. 3 | 4, 775 | 268. (|
| 180 | 235. 1 | 4, 380 | 246. 4 | 4, 580 | 257. 6 | 4, 780 | 268. |
| 185 | 235. 4 | 4, 385 | 246. 7 | 4, 585 | 257. 9 | 4, 785 | 269. |
| 190 | 235. 7 | 4, 390 | 246. 9 | 4, 590 | 258. 2 | 4, 790 | 269. |
| 195 | 236. 0 | 4, 395 | 247. 2 | 4. 595 | 258.5 | 4. 795 | 269. 2 |
| 200 | 236. 2 | 4, 400 | 247. 5 | 4, 600 | 258.8 | 4, 800 | 270. |

Table 2-3. Mils to Degrees Conversion—Continued

Conversion Formulas: 1 mil = $.05625^\circ$; 1° = 17.778 mils.

| Table 2-3. | Mils to Degrees | Conversion—Continued |
|------------|-----------------|----------------------|
|------------|-----------------|----------------------|

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|-------|---------|-------|--|-------|-----------------------|---------|---------|
| 4,805 | 270. 3 | 5,005 | 281. 5 | 5,205 | 292. 8 | 5,405 | 304. 0 |
| 4,810 | 270.6 | 5,010 | 281.8 | 5,210 | 293.1 | 5,410 | 304.3 |
| 4,815 | 270.8 | 5,015 | 282.1 | 5,215 | 293. 3 | 5,415 | 304.6 |
| 4,820 | 271.1 | 5,020 | 282.4 | 5,220 | 2 93. 6 | 5,420 | 304.9 |
| 4,825 | 271.4 | 5,025 | 282.7 | 5,225 | 2 93. 9 | 5,425 | 305. 2 |
| 4,040 | 211. 4 | 0,020 | 202.1 | 0,220 | 450. 5 | 0,140 | 000.2 |
| 4,830 | 271.7 | 5,030 | 282. 9 | 5,230 | 294. 2 | 5,430 | 305. 4 |
| 4,835 | 272.0 | 5,035 | 283, 2 | 5,235 | 295. 5 | 5,435 | 305. 7 |
| 4,840 | 272. 2 | 5,040 | 283.5 | 5,240 | 2 94. 8 | 5,440 | 306. 0 |
| 4,845 | 272.5 | 5,045 | 283, 8 | 5,245 | 2 95. 0 | 5,445 | 306. 3 |
| 4,850 | 272. 8 | 5,050 | 284.1 | 5,250 | 295. 3 | 5,450 | 306. 6 |
| 4,855 | 273. 1 | 5,055 | 284, 3 | 5,255 | 295. 6 | 5,455 | 306, 8 |
| 4,860 | 273.4 | 5,060 | 284, 6 | 5,260 | 295. 9 | 5,460 | 307. 1 |
| 4,865 | 273. 7 | 5,065 | 284, 9 | 5,265 | 296. 2 | 5,465 | 307. 4 |
| 4,870 | 273. 9 | 5,070 | 285. 2 | 5,270 | 296.4 | 5,470 | 307.7 |
| 4,875 | 274. 2 | 5,075 | 285. 5 | 5,275 | 296. 7 | 5,475 | 308. 0 |
| 4,880 | 274.5 | 5,080 | 285. 8 | 5,280 | 297.0 | 5,480 | 308. 2 |
| 4,885 | 274.8 | 5,085 | 285.8 286.0 | 5,285 | 2 97. 3 | 5,485 | 308.5 |
| 4,890 | 275.1 | 5,090 | 286.3 | 5,290 | 297.6 | 5,490 | 308.8 |
| 4,895 | 275.3 | 5,095 | 28 6, 6 | 5,295 | 297.8 | 5,495 | 309.1 |
| 4,900 | 275.6 | 5,100 | 286 , 9 | 5,300 | 298.1 | 5,500 | 309.4 |
| -, | | | | | | | |
| 4,905 | 275. 9 | 5,105 | 287. 2 | 5,305 | 298.4 | 5,505 | 309. 7 |
| 4,910 | 276. 2 | 5,110 | 287.4 | 5,310 | 298.7 | 5,510 | 309. 9 |
| 4,915 | 276.5 | 5,115 | 287.7 | 5,315 | 299. 0 | 5,515 | 310. 2 |
| 4,920 | 276.8 | 5,120 | 288.0 | 5,320 | 2 99. 2 | 5,520 | 310. 5 |
| 4,925 | 277.0 | 5,125 | 288 . 3 | 5,325 | 299. 5 | 5,525 | 310. 8 |
| 4,930 | 277.3 | 5,130 | 288.6 | 5,330 | 299. 8 | 5,530 | 311.1 |
| 4,935 | 277.6 | 5,135 | 288.8 | 5,335 | 300. 1 | 5,535 | 311.3 |
| 4,940 | 277.9 | 5,140 | 289.1 | 5,340 | 300. 4 | 5,540 | 311.6 |
| 4,945 | 278.2 | 5,145 | 289.4 | 5,345 | 300. 7 | 5,545 | 311. 9 |
| 4,950 | 278.4 | 5,150 | 289. 7 | 5,350 | 300. 9 | 5,550 | 312. 2 |
| 4,955 | 278.7 | 5,155 | 290. 0 | 5,355 | 301, 2 | 5,555 | 312.5 |
| 4,960 | 279.0 | 5,160 | 2 90, 2 | 5,360 | 301. 5 | 5,560 | 312.8 |
| 4,965 | 279.3 | 5,165 | 2 90. 2 | 5,365 | 301. 8 | • 5,565 | 313.0 |
| 4,970 | 279. 6 | 5,170 | 2 90. 3 2 90. 8 | 5,370 | 302. 1 | 5,570 | 313.3 |
| 4,975 | 279.8 | 5,175 | 2 90. 8 2 91. 1 | 5,375 | 302.3 | 5,575 | 313. 6 |
| | | | | | | | 010.0 |
| 4,980 | 280.1 | 5,180 | 2 91. 4 | 5,380 | 302.6 | 5,580 | 313.9 |
| 4,985 | 280.4 | 5,185 | 2 91. 7 | 5,385 | 302.9 | 5,585 | 314. 2 |
| 4,990 | 280. 7 | 5,190 | 2 91. 9 | 5,390 | 303. 2 | 5,590 | 314.4 |
| 4,995 | 281. 0 | 5,195 | 2 9 2 . 2 | 5,395 | 303. 5 | 5,595 | 314.7 |
| 5,000 | 281. 2 | 5,200 | 2 9 2 . 5 | 5,400 | 303. 8 | 5,600 | 315.0 |

Conversion Formulas: 1 mil = .05625°; 1° = 17.778 mils.

| Mils | Degrees | Mils | Degrees | Mils | Degrees | Mils | Degrees |
|-------|-----------------|-------|---------|-------|----------------|-------|---------------------------|
| 5,605 | 815. 3 | 5,805 | 326. 5 | 6,005 | 337. 8 | 6,205 | 349. (|
| 5,610 | 315.6 | 5,810 | 326. 8 | 6,010 | 338.1 | 6,210 | 349. 3 |
| 5,615 | 315.8 | 5,815 | 327.1 | 6,015 | 338.3 | 6,215 | 349. 6 |
| 5,620 | 316.1 | 5,820 | 327.4 | 6,020 | 338.6 | 6,220 | 349. 9 |
| 5,625 | 316.4 | 5,825 | 327. 7 | 6,025 | 338. 9 | 6,225 | 349. 8 |
| 5,630 | 316. 7 | 5,830 | 327. 9 | 6,030 | 339. 2 | 6,230 | 350. 4 |
| 5,635 | 317.0 | 5,835 | 328. 2 | 6,035 | 339.5 | 6,235 | 350. 7 |
| 640 | 317.2 | 5,840 | 328.5 | 6,040 | 339.8 | 6,240 | 351. 0 |
| 645 | 317.5 | 5,845 | 328.8 | 6,045 | 340. 0 | 6,245 | 351. 3 |
| ,650 | 317. 8 | 5,850 | 329. 1 | 6,050 | 340. 3 | 6,250 | 351. 6 |
| ,655 | 3 1 8. 1 | 5,855 | 329. 3 | 6,055 | 340. 6 | 6,255 | 351. 8 |
| ,660 | 318.4 | 5,860 | 329.6 | 6,060 | 340 . 9 | 6,260 | 352. 1 |
| ,665 | 318.7 | 5,865 | 329. 9 | 6,065 | 341. 2 | 6,265 | 352. 4 |
| 670 | 318.9 | 5,870 | 330.2 | 6,070 | 341.4 | 6,270 | 352. 1 |
| ,675 | 319. 2 | 5,875 | 330. 5 | 6,075 | 341. 7 | 6,275 | 353. (|
| ,680 | 319.5 | 5,880 | 330. 8 | 6,080 | 342. 0 | 6,280 | 353. : |
| ,685 | 319.8 | 5,885 | 331.0 | 6,085 | 342.3 | 6,285 | 353. |
| ,690 | 320.1 | 5,890 | 331. 3 | 6,090 | 342.6 | 6,290 | 353. 1 |
| ,695 | 320.3 | 5,895 | 331. 6 | 6,095 | 342. 8 | 6,295 | 354. : |
| ,700 | 320. 6 | 5,900 | 331. 9 | 6,100 | 343. 1 | 6,300 | 354. |
| ,705 | 320. 9 | 5,905 | 332. 2 | 6,105 | 343. 4 | 6,305 | 3 54. ⁴ |
| ,710 | 321. 2 | 5,910 | 332. 4 | 6,110 | 343.7 | 6,310 | 354. 9 |
| ,715 | 321. 5 | 5,915 | 332. 7 | 6,115 | 344. 0 | 6,315 | 355. 2 |
| ,720 | 321.8 | 5,920 | 333. 0 | 6,120 | 344. 2 | 6,320 | 35 5 |
| ,725 | 322 . 0 | 5,925 | 333. 3 | 6,125 | 344. 5 | 6,325 | 355. 8 |
| ,730 | 322. 3 | 5,930 | 333. 6 | 6,130 | 344. 8 | 6,330 | 356, 1 |
| ,735 | 322.6 | 5,935 | 333. 8 | 6,135 | 345.1 | 6,335 | 356. 8 |
| ,740 | 322 . 9 | 5,940 | 334.1 | 6,140 | 345. 4 | 6,340 | 356. (|
| ,745 | 323 2 | 5,945 | 334. 4 | 6,145 | 345. 7 | 6,345 | 356. 9 |
| ,750 | 323. 4 | 5,950 | 334. 7 | 6,150 | 345. 9 | 6,350 | 357. 2 |
| ,755 | 323. 7 | 5,955 | 335. 0 | 6,155 | 346. 2 | 6,355 | 357. 5 |
| ,760 | 324. 0 | 5,960 | 335. 2 | 6,160 | 346. 5 | 6,360 | 357. 8 |
| ,765 | 324. 3 | 5,965 | 335. 5 | 6,165 | 346. 8 | 6,365 | 358. (|
| ,770 | 324.6 | 5,970 | 335. 8 | 6,170 | 347.1 | 6,370 | 358. |
| ,775 | 324. 8 | 5,975 | 336. 1 | 6,175 | 347. 3 | 6,375 | 358. |
| ,780 | 325.1 | 5,980 | 336. 4 | 6,180 | 347. 6 | 6,380 | 358.9 |
| ,785 | 325.4 | 5,985 | 336. 7 | 6,185 | 347. 9 | 6,385 | 359. 2 |
| ,790 | 325. 7 | 5,990 | 336. 9 | 6,190 | 348.2 | 6,390 | 359. |
| ,795 | 326 . 0 | 5,995 | 337. 2 | 6,195 | 348.5 | 6,395 | 359. |
| ,800 | 326. 2 | 6,000 | 337.5 | 6,200 | 348.8 | 6,400 | 360. (|

Conversion Formulas: 1 mil = $.05625^\circ$; 1° = 17.778 mils.

2-5. Pressure Conversion (Inches of Mercury to Millibars)

The millibars of pressure for a certain number of inches of mercury may be determined from chart 2-2.

Chart 2-2. Pressure Conversion. (Inches of Mercury to Millibars)

Formula: 1,000 Millibars = 29.53 Inches of Mercury.

2-6. Conversion of Pressure to Percent of Standard

The conversion of surface pressure in millibars to percent of the standard mean sea level (MSL) pressure is accomplished by use of chart 2-3.

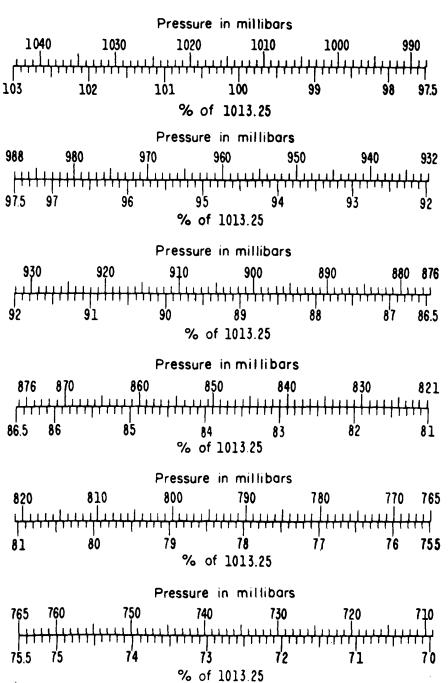


Chart 2–3. Conversion of Pressure to Percent of Standard

2-77

FM 6-16-3

-

2-7. Pressure to Contact Conversion

The conversion of pressure in millibars to contact value in tenths, or vice versa, is accomplished by use of table 2-4.

Table 2-4. Pressure to Contact Conversion

| Contact Tenths | 17.0 | 16.5 | 16.0 | 15.5 | 15.0 | 14.5 | 14.0 | 13.5 | 13.0 | 12.5 | 12.0 |
|-------------------|------|------|------|------|------|------|------|------|-------------|------|------|
| 0.1 | 1.7 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 | 1.3 | 1.2 |
| 0.2 | 3.4 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 |
| 0.3 | 5.1 | 5.0 | 4.8 | 4.6 | 4.5 | 4.4 | 4.2 | 4.1 | 3.9 | 3.8 | 3.6 |
| 0.4 | 6.8 | 6.6 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.0 | 4.8 |
| 0.5 | 8.5 | 8.2 | 8.0 | 7.8 | 7.5 | 7.3 | 7.0 | 6.8 | <u>6.</u> 5 | 6.3 | 6.0 |
| 0.6 | 10.2 | 9.9 | 9.6 | 9.3 | 9.0 | 8.7 | 8.4 | 8.1 | 7.8 | 7.5 | 7.2 |
| 0.7 | 11.9 | 11.6 | 11.2 | 10.8 | 10.5 | 10.2 | 9.8 | 9.5 | 9.1 | 8.8 | 8.4 |
| 0.8 | 13.6 | 13.2 | 12.8 | 12.4 | 12.0 | 11.6 | 11.2 | 10.8 | 10.4 | 10.0 | 9.6 |
| 0.9 | 15.3 | 14.8 | 14.4 | 14.0 | 13.5 | 13.1 | 12.6 | 12.2 | 11.7 | 11.3 | 10.8 |
| 1.0 | 17.0 | 16.5 | 16.0 | 15.5 | 15.0 | 14.5 | 14.0 | 13.5 | 13.0 | 12.5 | 12.0 |

PRESSURE MILLIBARS

PRESSURE MILLIBARS

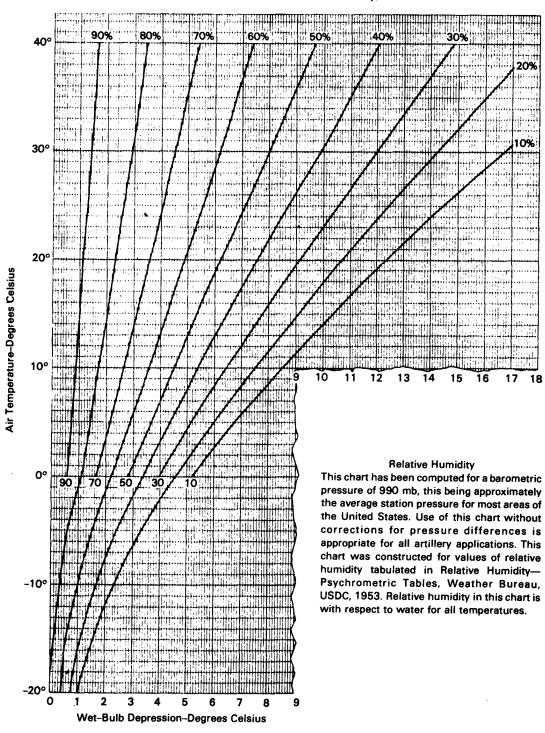
| Contact Tenths | 11.5 | 11.0 | 10.5 | 10.0 | 9.5 | 9.0 | 8.5 | 8.0 | 7.5 | 7.0 | 6.5 |
|-------------------|------|------|------|------|-------------|-----|-----|-----|-----|-----|-----|
| 0.1 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | .9 | .9 | .8 | .8 | .7 | .7 |
| 0.2 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 |
| 0.3 | 3.4 | 3.3 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 |
| 0.4 | 4.6 | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.2 | 3.0 | 2.8 | 2.6 |
| 0.5 | 5.8 | 5.5 | 5.3 | 5.0 | 4.8 | 4.5 | 4.3 | 4.0 | 3.8 | 3.5 | 3.3 |
| 0.6 | 6.9 | 6.6 | 6.3 | 6.0 | 5.8 | 5.4 | 5.1 | 4.8 | 4.5 | 4.2 | 3.9 |
| 0.7 | 8.1 | 7.7 | 7.4 | 7.0 | 6.7 | 6.3 | 6.0 | 5.6 | 5.3 | 4.9 | 4.6 |
| 0.8 | 9.2 | 8.8 | 8.4 | 8.0 | 7.6 | 7.2 | 6.8 | 6.4 | 6.0 | 5.6 | 5.2 |
| 0.9 | 10.4 | 9.9 | 9.5 | 9.0 | 8.6 | 8.1 | 7.7 | 7.2 | 6.8 | 6.3 | 5.9 |
| 1.0 | 11.5 | 11.0 | 10.5 | 10.0 | 9 .5 | 9.0 | 8.5 | 8.0 | 7.5 | 7.0 | 6.5 |

PRESSURE MILLIBARS

| Contact Tenths | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.8 | |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 0.1 | .6 | .6 | .5 | .5 | .4 | .4 | .3 | .3 | .2 | .2 | |
| 0.2 | 1.2 | 1.2 | 1.0 | .9 | .8 | .7 | .6 | .5 | .4 | .4 | |
| 0.3 | 1.8 | 1.7 | 1.5 | 1.4 | 1.2 | 1.1 | .9 | .8 | .6 | .5 | |
| 0.4 | 2.4 | 2.2 | 2.0 | 1.8 | 1.6 | 1.4 | 1.2 | 1.0 | .8 | .7 | |
| 0.5 | 3.0 | 2.8 | 2.5 | 2.3 | 2.0 | 1.8 | 1.5 | 1.3 | 1.0 | .9 | |
| 0.6 | 3.6 | 3.3 | 3.0 | 2.7 | 2.4 | 2.1 | 1.8 | 1.5 | 1.2 | 1.1 | |
| 0.7 | 4.2 | 3.9 | 3.5 | 3.2 | 2.8 | 2.5 | 2.1 | 1.8 | 1.4 | 1.3 | |
| 0.8 | 4.8 | 4.4 | 4.0 | 3.6 | 3.2 | 2.8 | 2.4 | 2.0 | 1.6 | 1.4 | |
| 0.9 | 5.4 | 5.0 | 4.5 | 4.1 | 3.6 | 3.2 | 2.7 | 2.3 | 1.8 | 1.6 | |
| 1.0 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.8 | |

2-8. Relative Humidity

Relative humidity may be determined by use of a psychrometer and psychrometer tables or by use of chart 2-4.





2-9. Table of Corrections Used to Determine Virtual Temperature for Plotting Chart ML-574(*)

a. Table 2-5 provides temperature multipliers which, when multiplied by relative humidity values (i.e., 45% = 0.45, etc.) and added to the observed temperature values, yield virtual temperatures.

b. Enter the table with the observed air temperature rounded off to the nearest whole degree Celsius and the observed pressure rounded off to the nearest 50 millibars. If the observed pressure value ends with 25 or 75 (e.g., 925 or 775), round off to the lower 50-millibar value. Do not interpolate. Table 2–5. Corrections Used to Determine Virtual Temperature (100% RH)

| E. | ture °C | -40 | - 39 | 38 | -37 | - 36 | - 35 | -34 | - 33 | - 32 | -31 | - 30 | -29 | - 28 | -27 | - 26 | -25 | -24 | - 23 | - 22 | -21 | -20 | - 19 | - 18 | -17 | 0 1 | -15 | -14 | -13 | -12 | | 01 - | 6 | x | |
|--------------------|----------------------------|------|------|------|-----|------|------|-----|------|------|-------------|------|------|------|-----|------|-----|-----|------|------|-----|-----|------|------|------|-------------|------|-----------|------|---------------|-----|--------------|-------------|--------------|--|
| | 00 SO | 1.0 | 0.1 | 0.1 | | 0.1 | 0.1 | | | | 0.2 | | 0.3 | | 0.3 | | 0.3 | | | | | | | | 0.8 | | | | | 1.2 | | 1.4 | 1.6 | 1.7 | |
| | S50 250 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | C.2 | 0.3 | 0.3 | 0.3 | 4.0 | 0.4 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | | 0.7 | 8.0 | 6.0 | 1.0 | | 7.1 | 1.2 | 1.4 | |
| | ခွင့ | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | | 0.6 | 0.1 | 0.7 | 8.0 | | N .1 | 1.0 | 1.1 | |
| | မို ပိ | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | | 0.5 | 0.6 | 0.6 | 2.0 | | 8.0 | 0.9 | 1.0 | |
| | နိုင် | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 4.0 | 0.5 | 0.5 | 0.6 | 0.0 | - t | | 8.0 | 0.8 | |
| | 5 5 25 29 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 4 .0 | 0.4 | 0.4 | 0.5 | 0.0 9 0 | | 0.0 | 0.7 | x.0 | |
| | စို့ပိ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 4.0 | 0.4 | 0.4 | 0.4 | 0.0 2 2 | | 0.0 | 9.0 | | |
| | °C 550 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 6.0 | 0.3 | 0.4 | 0.4 | 4.0 | 5 C | 0.0 | 0.6 | 9.0 | |
| bare | စ္တိ ပ် | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0 .1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.0 | 0.3 | 0.3 | 0.4 | 4.0 | | 0.0 | 0.5 | 9.0 | |
| Pressure-Millibare | <u>အီ</u> ပိ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.0 | 0.3 | 0.3 | 0.3 | 4.0 | | 4.0 | 0.5 1 | 0.D | |
| ressur | စိုပ် | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 7.0 | 0.3 | 0.3 | 0.3 | 4.0 | 5 | . | 4.0 | 0.D | |
| 24 | 350 250 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.5 | 7.0 | 0.3 | 0.3 | 0.3 | 0.3 | | * · · | 4.0 | 0.4 | |
| | စ္ထိပ္ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.5 | 9 | 0.2 | 0.3 | 0.3 | 0.0 0.0 | | . | 4.0 | 0.4 | |
| | 0 <u>8</u> 80 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.5 | 4.0 | 0.2 | 0.2 | 0.3 | 0.3 | | | 4 .0 | 4 .0 | |
| | စ္တို့ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.5 | 2.0 | 0.2 | 2.0 | 0.2 | 2 C C C | | 0.0 | | 0.4 | |
| | 950 050 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 7.0 | 0.2 | 0.Z | 0.2 | 2 C C | | 0.0 | 0.3 | U. 4 | |
| | 000 000 000 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 7.0 | 0.2 | 0.2 | 0.2 | 2.0 | | 0.0 | 0.3 | 0.3 | |
| | °C °C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 4.0 | 0.2 | 0.2 | 0 K | 2.0 | | 0.0 | ю. С. С. | 0.3 | |
| | 0 1100 1100 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 4 | 0.2 | 0.2 | 2 Q | 2.0 | | 0.0 | 2 O O | 0.0 | |
| | ture °C | - 40 | - 39 | - 38 | -37 | - 36 | - 35 | -34 | - 33 | - 32 | -31 | -30 | - 29 | - 28 | -27 | - 26 | -25 | -24 | -23 | -22 | -21 | -20 | - 19 | - 18 | - 17 | | - 15 | - 14 - | - 13 | 21- | : : | 01 | ה פ ו | ю (| |

| (100% RH)—Continued | | |
|--------------------------------------|---|--|
| ne Virtual Temperature (100 | | |
| e Virtual | • | |
| Used to Determine V | | |
| Used to | | |
| Corrections Used to Determine | | |
| Table 2–5. | | |

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| | | | | C-7 AIRP | ; , | 255 | | | | | | | | | | | | | | |
|--|--------|---------|------------|-------------|----------|------------|---------------|----------|--------------------|----------|-----------|----------|-------|--------|----------|----------|--------------|-------------|--------------|-----------|
| Tempto | | | | | | | | - | Pressure-Millibars | e-Milli | Ibars | | Ī | | | | | | 1 | Tempera- |
| ture °C | °C | °C 1050 | 00° 00° | 950 °C | စ္တိပ္ပ | လို့ ကိ | စ္တိပ္ | °C °C | 8°5 8°0 | ၀ဌ ၀ဌ | စ္တပ္ | °C °C | ç, 20 | °C 450 | 8° 8° | ဒိုင် | စ္တပ္ | S50 | \$00 \$00 | ture °C |
| -5 | 4.0 | 0.4 | 0.4 | 4.0 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 1.0 | 1.1 | 1.2 | 1.4 | 1.7 | 2.2 | -5 |
| - 4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 1.0 | 1.2 | 1.3 | 1.6 | 1.9 | 2.3 | - 4 |
| - 3 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 1.0 | 1.1 | 1.3 | 1.4 | 1.7 | 2.0 | 2.5 | - 3 2 |
| - 2 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 1.6 | 1.1 | 1.2 | 1.4 | 1.6 | 1.8 | 2.2 | 2.7 | 12 |
| - 1 | 0.5 | 0.6 | 0.6 | 0. 6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 1.0 | 1:1 | 1.2 | 1.3 | 1.5 | 1.7 | 2.0 | 2.4 | 3.0 | -1 |
| 0 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.6 | 1.8 | 2.1 | 2.6 | 3.2 | 0 |
| | • | | t | t | 0 | 4 | 0 | ć | , , | \$ | | , , | , | 1 , | t , | 0 | Ċ | a c | | • |
| | 0.6 | 0.6 | 0.7 | 7.0 | 8.0 | 8. G | 0.9 | 0.9 | 0.1 | 0.1 | I.1 | 1.2 | 1.4 | 1.5 | | 7.0 7 | 5 N | 20 0 N 0 | 4.1 | - (|
| 61 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.9 | 0.9 | 1.0 | 1.0 | 1.1 | 1.2 | 1.3 | 1.5 | 1.6 | 1.8 | 2.1 | 2.5 | 3.0 | 3.7 | 21 |
| ŝ | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 1.0 | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.6 | 1.8 | 2.0 | 2.3 | 2.7 | 3.2 | 4.0 | en |
| 4 | 0.8 | 0.8 | 0.8 | 0.9 | 1.0 | 1.0 | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.6 | 1.7 | 1.9 | 2.2 | 2.5 | 2.9 | 3.4 | 4.3 | 4 |
| 5 | 0.8 | 6.0 | 0.9 | 1.0 | 1.0 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.7 | 1.8 | 2.0 | 2.3 | 2.6 | 3.1 | 3.7 | 4.7 | 2 |
| y | 6.0 | 6.0 | 1.0 | 1.0 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.8 | 2.0 | 2.2 | 2.5 | 2.8 | 3.3 | 4.0 | 5.0 | 9 |
| | 1.0 | 1.0 | 1.1 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.8 | 1.9 | 2.1 | 2.4 | 2.7 | 3.1 | 3.6 | 4.3 | 5.4 | 7 |
| · ac | 1.0 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.6 | 1.8 | 1.9 | 2.1 | 2.3 | 2.6 | 2.9 | 3.3 | 3.9 | 4.6 | 5.8 | 00 |
| 0 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 1.4 | 1.5 | 1.6 | 1.8 | 1.9 | 2.1 | 2.2 | 2.5 | 2.8 | 3.1 | 3.6 | 4.2 | 5.0 | 6.3 | 6 |
| 10 | 1.2 | 1.3 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.2 | 2.4 | 2.7 | 3.0 | 3.3 | 1.8 | 4.5 | 5.4 | 6.7 | 10 |
| = | 1 3 | 1 4 | 1 4 | 15 | 9 | 17 | 8 | 0 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.2 | 3.6 | 4.1 | 4.8 | 5.8 | 7.2 | 11 |
| : 2 | 1 4 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 61 | 2.0 | 2.2 | 2.4 | 2.5 | 2.8 | 3.1 | 3.4 | 3.8 | 4.4 | 5.1 | 6.2 | 7.8 | 12 |
| 13 | 1.5 | 1.6 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.2 | 2.3 | 2.5 | 2.7 | 3.0 | 3.3 | 3.7 | 4.1 | 4.7 | 5.5 | 6.6 | 8.3 | 13 |
| 14 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 2.1 | 2.2 | 2.3 | 2.5 | 2.7 | 2.9 | 3.2 | 3.5 | 3.9 | 4.4 | 5.0 | 5.9 | 7.1 | 9.0 | 14 |
| 15 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.5 | 2.7 | 2.9 | 3.1 | 3.4 | 3.8 | 4.2 | 4.7 | 5.4 | 6.3 | 7.6 | 9.6 | 15 |
| | | 0 | | č | 6 | | 1 | | ġ | , | | t | | ļ | | 5 | 6 | 00 | 6 () , | 97 |
| 16 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.4 | 2.5 | 2.7 | 6.7 | 3.1 | 3.4 | 3.7 | 4.0 | 4.5 | 5.1 | 5.8 | 20 0 20 1 | 8.2 | 10.3 | 9 |
| 17 | 2.0 | 2.0 | 5.5 7 | 2.3 | 2.4 | 2.5 | 2.7 | 2.9 | 3.1 | | 3.6 | 3.9 | 4.3 | 4.8 | 5.4 | 6.2 | 7.3 | 8. S | 0.11 | 11 |
| 18 | 2.1 | 2.2 | 2.3 | 2.4 | 2.6 | 2.7 | 2.9 | 3.1 | | 3.5 | 80. 80 | 4.2 | 4.6 | 5.2 | | 6.6 | 1.8 | 9.4 | 11.8 | 18 |
| 19 | 2.2 | 2.3 | 2.5 | 2.6 | 2.7 | 2.9 | 3.1 | 3.3 | 3.5 | | 4.1 | 4.5 | 5.0 | 5.5 | 6.2 | 7.1 | 80 57 | 10.0 | 12.7 | 19 |
| 20 | 2.4 | 2.5 | 2.6 | 2.8 8 | 2.9 | 3.1 | 3.3 | 3.5 | 3.8 | 4.0 | 4.4 | 4.8 | 5.3 | 5.9 | 6.6 | 7.6 | 8.9 | 10.8 | 13.6 | 20 |
| 21 | 2.5 | 2.7 | 2.8 | 3.0 | 3.1 | 3.3 | 3.5 | 3.7 | 4.0 | 4.3 | 4.7 | 5.1 | 5.6 | 6.3 | 7.1 | 8.1 | | | | 21 |
| 22 | 2.7 | 2.8 | 3.0 | 3.2 | 3.3 | 3.5 | 3.7 | 4.0 | 4.3 | 4.6 | 5.0 | 5.5 | 6.0 | 6.7 | 7.6 | 8.7 | | | | 22 |
| 23 | 2.9 | 3.0 | 3.2 | 3.4 | 3.5 | 3.8 | 4.0 | 4.3 | 4.6 | 4.9 | 5.4 | 5.8 | 6.4 | 7.2 | 8.1 | 9.3 | | | | 23 |
| 24 | 3.1 | 3.2 | 3.4 | 3.6 | 3.8 | 4.0 | 4.3 | 4.5 | 4.9 | 5.3 | 5.7 | 6.2 | 6.9 | 7.7 | 8.6 | 9.9 | | | | 24 |
| 25 | 3.3 | 3.4 | -3.6 | 3.8 3.8 | 4.0 | 4.3 | 4.5 | 4.8 | 5.2 | 5.6 | 6.1 | 6.6 | 7.3 | 8.2 | 9.2 | 10.6 | | | | 25 |
| Enter table with temperature to the | e with | tem | eratu | ire tc | | neare | nearest whole | ole | | | | | | | | | | | | |
| degree Celsius and pressure to the nearest | elsius | and | Dress | üre | to th | e nei | | 50 | | | | | | | | | | | | |
| millibars. Obtain virtual temperature | Obtair | i virtu | al ter | nper | ature | increment. | | Do | | | | | | | | | | | | |
| not interpolate. | olate. | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

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| 11.3 12.0 12.8 13.7 14.6 | | | |
|--|---|--|--|
| 9.8 10.5 11.2 11.9 11.9 | | | |
| 8.7 9.3 9.9 10.6 11.2 | 12.0 12.7 13.6 14.4 15.3 17.3 17.3 19.6 19.6 | | |
| 7.8 8.3 8.9 9.5 10.1 | 10.7 11.4 11.4 12.9 13.7 13.7 13.7 15.6 15.6 15.6 15.6 17.5 | | |
| 7.1 7.6 8.1 8.6 9.1 | 9.7 10.8 11.0 11.0 11.0 12.4 13.2 14.0 14.0 16.8 16.8 | | |
| 6.5 6.9 7.8 8.4 | 8.9 9.5 10.0 11.4 11.4 12.1 12.8 13.6 14.4 15.8 | | |
| 6.0 6.4 6.8 7.7 7.7 | 8.2 8.7 9.3 9.8 9.8 9.8 9.8 10.4 11.1 11.1 11.1 11.3 12.5 11.3 12.5 12.3 | 16.0 16.9 17.8 17.8 17.8 17.8 28.2 20.0 20.0 22.4 22.4 25.1 25.1 | |
| 5.6 5.9 6.3 7.1 | 7.6 8.1 8.6 9.1 9.1 9.7 10.3 110.8 110.9 11.6 112.3 13.0 | 13.8 14.7 15.5 16.5 16.5 17.4 18.5 19.6 20.7 221.9 231.9 | |
| 5.5 5.9 6.2 6.2 | 7.1 7.5 8.0 8.6 9.0 9.0 10.2 11.4 11.4 | 12.9 13.7 14.5 16.2 16.2 16.2 17.2 19.3 20.4 | |
| 4 6 7 7 7 7 7 8 7 8 7 8 7 8 7 8 8 7 8 | 6.6 7.0 7.5 8.0 8.4 8.4 9.0 9.5 10.1 10.1 11.4 | 12.0 12.8 13.5 14.3 15.2 15.2 15.0 16.0 17.0 18.0 18.0 20.1 | |
| 4.6 5.2 5.5 9.9 | 6.2 6.6 7.5 7.5 7.9 8.6 8.6 8.6 9.5 10.1 | 11.3 12.0 12.7 13.4 14.2 14.2 16.9 16.9 16.9 17.8 18.9 | 20.0 21.1 22.3 24.9 24.9 26.3 20.9 30.9 32.6 |
| 4.4 4.6 5.2 5.2 | 5.9 6.2 6.6 7.0 7.5 7.0 7.5 8.6 8.0 8.6 8.6 8.6 10.1 | 10.7 11.3 11.3 12.0 13.4 14.2 15.0 15.0 15.0 17.8 | 18.8 19.8 21.0 22.1 23.4 24.7 24.7 23.6 0 30.6 |
| 4.4 4.4 7.2 7.2 | 5.8 6.3 6.3 7.1 7.1 7.1 8.5 8.5 8.5 8.5 | 10.1 10.7 11.3 12.0 12.7 13.4 13.4 14.2 15.0 16.0 16.8 | 17.7 18.7 19.8 20.9 22.9 23.3 24.6 23.3 24.6 23.4 26.0 27.4 28.9 |
| 3.9 4.4 5.0 | 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 | 9.6 10.1 10.1 11.4 11.4 12.0 12.0 12.0 12.0 12.0 15.0 15.9 | 16.8 17.8 19.8 19.8 20.9 22.1 22.1 23.3 24.6 25.9 27.3 |
| 8.8 4.4 4.7 | 5.0 5.3 6.4 6.8 7.2 8.1 8.1 8.1 8.1 | 9.1 9.6 10.2 10.8 11.4 11.4 12.8 13.5 14.3 15.1 | 16.9 16.9 17.8 17.8 19.9 19.9 21.0 22.1 23.3 24.6 24.6 25.9 |
| 3.5 3.7 4.0 4.5 | 4 2 2 2 7 4 5 2 7 4 5 2 7 4 5 2 7 7 4 5 2 7 7 5 5 2 7 7 5 5 2 7 7 5 5 5 7 7 7 5 5 7 7 7 5 7 7 7 7 | 8.7 9.2 9.7 10.3 11.5 11.5 12.2 13.6 13.6 14.4 | 15.2 16.1 17.0 17.9 17.9 28.9 23.4 24.7 24.7 |
| 26 29 30 30 | 6 3 3 3 3 3 3 3 3 3 3 | 56846 8485 58846 8488 598 | 688828 85882 688828 |

Enter table with temperature to the nearest whole degree Celsius and pressure to the nearest 50 millibars. Obtain virtual temperature increment. Do not interpolate.

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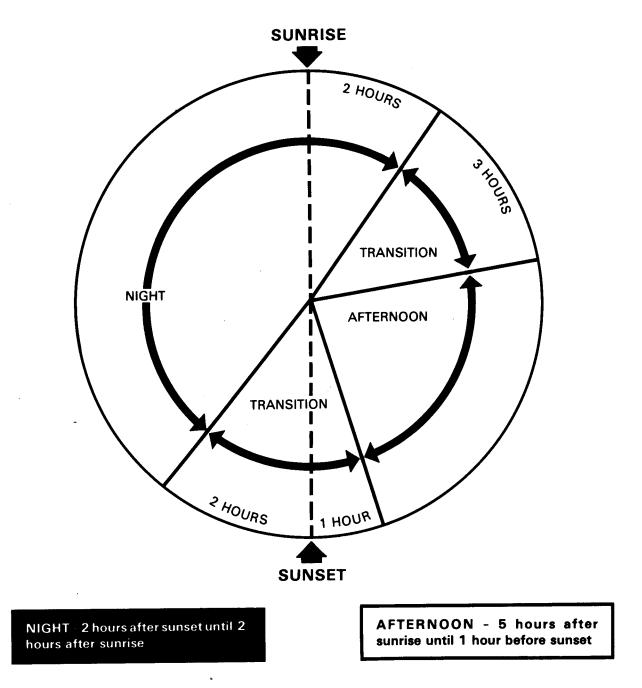
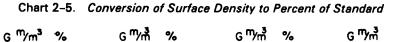
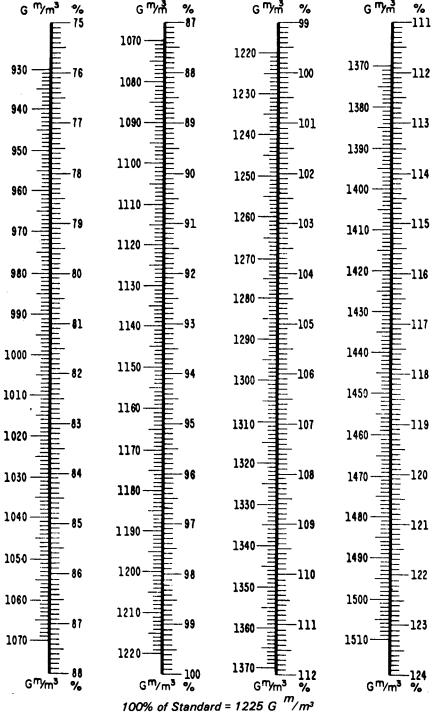


Figure 2-2. Meteorological day (ballistic messages using departure method)

2-10. Conversion of Surface Density to Percent of Standard

The surface density, in grams per cubic meter and expressed as a standard surface density, may be determined from chart 2-5.





| | | 1 | | Tempe | erature |
|----------------------|----------|-----------------------------|---------------------|-------|---------|
| Zone limits (meters) | Zone no. | Midpoint height (meters) | Density (gms/m³) | °C | °K |
| Surface | 00 | 0 | 1,225.0 | 15.0 | 288.2 |
| 0-200 | 01 | 100 | 1,213.3 | 14.4 | 287.5 |
| 200-500 | 02 | 350 | 1,184.4 | 12.7 | 285.9 |
| 500-1,000 | 03 | 750 | 1,139.2 | 10.1 | 283.3 |
| 1,000-1,500 | 04 | 1,250 | 1,084.6 | 6.9 | 280.0 |
| 1,500–2,000 | 05 | 1,750 | 1,032.0 | 3.6 | 276.8 |
| 2,000–3,000 | 06 | 2,500 | 956.9 | -1.3 | 271.9 |
| 3,000-4,000 | 07 | 3,500 | 863.2 | -7.7 | 265.4 |
| 4,000–5,000 | 08 | 4,500 | 776.8 | -14.3 | 258.9 |
| 5,000–6,000 | 09 | 5,500 | 697.1 | -20.8 | 252.4 |
| 6,000-8,000 | 10 | 7,000 | 589.5 | -30.5 | 242.7 |
| 8,000-10,000 | 11 | 9,000 | 466.4 | -43.5 | 229.7 |
| 10,000-12,000 | 12 | 11,000 | 363.9 | -54.9 | 218.3 |
| 12,000-14,000 | 13 | 13,000 | 265.5 | -56.5 | 216.7 |
| 14,000-16,000 | 14 | 15,000 | 193.7 | -56.5 | 216.7 |
| 16,000-18,000 | 15 | 17,000 | 141.3 | -56.5 | 216.7 |

Table 2–6. Standard Conditions at Ballistic Zone Midpoints

Midpoint values extracted from US Standard Atmosphere, 1976, National Oceanic and Atmospheric Administration.

Table 2–7. Standard Conditions Computer Zone Midpoints

| | | | | Temp | erature |
|----------------------|----------|-----------------------------|------------------|-------|---------|
| Zone limits (meters) | Zone no. | Midpoint height (meters) | Pressure (mb) | °C | °K |
| Surface | | 0 | 1013 | 15.0 | 288. |
| 0–200t. | 01 | 100 | 1001 | 14.4 | 287. |
| 200-500 | 02 | 350 | 0972 | 12.7 | 285. |
| 500–1,000 | 03 | 750 | 0926 | 10.1 | 283. |
| 1,000–1,500 | 04 | 1,250 | 0872 | 6.9 | 280. |
| 1,500-2,000 | 05 | 1,750 | 0820 | 3.6 | 276. |
| 2,000-2,500 | 06 | 2,250 | 0771 | 0.4 | 273. |
| 2,500-3,000 | | 2,750 | 0724 | -2.9 | 270. |
| 3,000-3,500 | | 3,250 | 0679 | -6.1 | 267. |
| 3,500-4,000 | | 3,750 | 0637 | -9.4 | 263. |
| 4,000–4,500 | 10 | 4,250 | 0597 | -12.6 | 260. |
| 4,500–5,000 | 11 | 4,750 | 0558 | -15.9 | 257. |
| 5,000-6,000 | | 5,500 | 0505 | -20.8 | 252. |
| 6,000–7,000 | 13 | 6,500 | 0440 | -27.3 | 245. |
| 7,000–8,000 | 14 | 7,500 | 0383 | -33.8 | 239. |
| 8,000-9,000 | | 8,500 | 0331 | -40.3 | 232. |
| 9,000-10,000 | | 9,500 | 0285 | -46.8 | 226.4 |
| 10,000-11,000 | 17 | 10,500 | 0245 | -53.3 | 219. |
| 11,000–12,000 | 18 | 11,500 | 0209 | -56.5 | 216. |
| 12,000-13,000 | 19 | 12,500 | 0179 | -56.5 | 216. |
| 13,000-14,000 | | 13,500 | 0153 | -56.5 | 216.' |
| 14,000-15,000 | 21 | 14,500 | 0130 | -56.5 | 216. |
| 15,000-16,000 | | 15,500 | 0111 | -56.5 | 216.7 |
| 16,000-17,000 | 23 | 16,500 | 0095 | -56.5 | 216. |
| 17,000-18,000 | 24 | 17,500 | 0081 | -56.5 | 216. |
| 18,000–19,000 | 25 | 18,500 | 0069 | -56.5 | 216.' |
| 19,000-20,000 | | 19,500 | 0059 | -56.5 | 216.7 |

Midpoint values are in agreement with STANAG 4061 Edition 3, QSTAG 332, STANAG 4082 Edition 1, and QSTAG 252.

SECTION II TABLES FOR TYPE 2, BALLISTIC MESSAGE FOR SURFACE-TO-AIR TRAJECTORIES

2-11. General

Tables 2-8 through 2-14 contain the weighting factors used in obtaining a type 2 message. Some of the tables present the weighting factors directly; in others, the weighting factors are used to determine the effect of the various zone values on the line values of the meteorological message. The weighting factors used are those agreed to, on an interim basis, by the fifth meeting of the NATO Group on External Ballistics, November 1960.

2-12. Weighted Density Tables (Type 2 Message)

a. The weighted density tables give the weighted densities for the type 2 message (surface-to-air firing) and may be used to convert zone densities in grams per cubic meter to zone densities in percent of standard for that zone, and to convert zone densities to the weighted effect of these zone densities on the various line values of the meteorological message.

b. The values in the density—percent column were computed by dividing the Gm/M³ value by the zone midpoint standard density.

c. The line-zone number values were computed by multiplying the density percent values by the weighting factors shown in table 2-8. Line-zone number 21 is the product of the weighting factor (.63), line 2 of zone number 1, table 2-8 and the density—percent value. Line-zone number 32 is the product of the weighting factor (.37), line 3 of zone number 2, table 2-8 and the density—percent value.

| Line | | | | | | | Zone | No. | | | | | | | |
|------|-------|------|------|------|-------|------|-------|------|------------|------|------|-------|-------|-------|-------|
| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | 1. 00 | | l | | | , | | | | | ļ | ł | | | |
| 2 | . 63 | 0.37 | | | | | [| | ļ | - | | | 1 | | 1 |
| 3 | . 37 | . 37 | 0.26 | | | | |] | 1 | | | |] | 1 | 1 |
| 4 | . 25 | . 30 | . 35 | 0.10 | 1 | 1 | } |] |] . |] | | | | 1 | |
| 5 | . 20 | . 24 | . 30 | . 18 | 0. 08 | | | ļ | [| [| | í | | | 1 |
| 6 | . 13 | . 19 | . 24 | . 18 | . 14 | 0.12 | ļ | ! | ł | ſ | } | [| 1 | ł | 1 |
| 7 | . 10 | . 14 | . 20 | . 16 | . 14 | . 19 | 0. 07 | | 1 | 1 | [| ĺ | | | |
| 8 | . 09 | . 10 | . 17 | . 15 | . 13 | . 20 | . 12 | 0.04 | ĺ | | | | | | |
| 9 | . 07 | . 09 | . 14 | . 13 | . 12 | . 19 | . 15 | . 08 | 0. 03 | 1 | 1 | | | | |
| 10 | . 05 | . 08 | . 12 | . 10 | . 10 | . 17 | . 14 | . 10 | . 08 | 0.06 | | | | [| |
| 11 | . 04 | . 06 | . 10 | . 08 | . 08 | . 15 | . 13 | . 10 | . 10 | . 12 | 0.04 | | | { | |
| 12 | . 04 | . 06 | . 09 | . 08 | . 08 | . 13 | . 12 | . 10 | . 08 | . 13 | . 07 | 0. 02 | | | |
| 13 | . 03 | . 05 | . 08 | . 08 | . 06 | . 12 | . 11 | . 10 | . 08 | . 13 | . 09 | . 05 | 0. 02 | | |
| 14 | . 03 | . 05 | . 06 | . 07 | . 07 | . 11 | . 10 | . 09 | . 08 | . 13 | . 10 | . 06 | . 04 | 0. 01 | |
| 15 | . 02 | . 05 | . 06 | . 07 | . 05 | . 11 | . 10 | . 08 | . 08 | . 13 | . 10 | . 07 | . 05 | . 03 | 0. 00 |

Table 2-8. Density Weighting Factors (Type 2 Message) (Surface-to-A'ir Trajectories)

| Den | sity | | | | | | | Line-Z | one No | · | | | | | |
|-------------------|------------------|----------------|---------------------------|--|----------------|----------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|------------|------------|
| Gm/M ³ | % | 21 | 31 | 41 | 51 | 61 | | 81 | 91 | 01 | 11 | 21 | 31 | 41 | 51 |
| 780 | 64. 3 | 40. 5 | 23. 8 | 16. 1 | 1 2 . 9 | 8.4 | 6.4 | 5. 8 | 4.5 | 3. 2 | 2.6 | 2.6 | 1. 9 | 1. 9 | 1. 3 |
| 790 | 65.1 | 41.0 | 24.1 | 16.3 | 13. 0 | 8.5 | 6.5 | 5.9 | 4.6 | 3.3 | 2.6 | 2.6 | 2.0 | 2.0 | 1. 3 |
| 800 | 65.9 | 41.5 | 24.4 | 16.5 | 13. 2 | 8.6 | 6.6 | 5.9 | 4.6 | 3. 3 | 2.6 | 2.6 | 2 . 0 | 2.0 | 1. 3 |
| 810 | 66. 8 | 42 . 1 | 24.7 | 16.7 | 13.4 | 8.7 | 6. 7 | 6.0 | 4.7 | 3.3 | 2.7 | 2.7 | 2.0 | 2.0 | 1. 3 |
| 820 | 67.6 | 42.6 | 25.0 | 16.9 | 13.5 | 8.8 | 6.8 | 6.1 | 4.7 | 3.4 | 2.7 | 2.7 | 2.0 | 2.0 | 1.4 |
| 830 (| 68. 4 | 43.1 | 25.3 | 17.1 | 13. 7 | 8.9 | 6. & | 6. 2 | 4.8 | 3, 4 | 2.7 | 2.7 | 2.1 | 2.1 | 1.4 |
| 840 | 69. 2 | 43.6 | 25.6 | 17.3 | 13.8 | 9. 0 | 6. 9 | 6. 2 | 4.8 | 3.5 | 2.8 | 2.8 | 2.1 | 2.1 | 1.4 |
| 850 | 70. 1 | 44. 1 | 25. 9 | 17.5 | 14.0 | 9.1 | 7.0 | 6.3 | 4.9 | 3.5 | 2.8 | 2.8 | 2. 1 | 2.1 | 1.4 |
| 860 | 70.9 | 44. 7 | 26. 2 | 17.7 | 14. 2 | 9. 2 | 7.1 | 6.4 | 5.0 | 3.5 | 2.8 | 2.8 | 2.1 | 2.1 | 1.4 |
| 870 | 71. 7 | 45. 2 | 26.5 | 17.9 | 14.3 | 9.3 | 7.2 | 6.5 | 5.0 | 3.6 | 2.9 | 2.9 | 2.2 | 2.2 | 1.4 |
| 880 | 72.5 | 45. 7 | 26.8 | 18.1 | 14.5 | 9.4 | 7.3 | 6.5 | 5.1 | 3.6 | 2.9 | 2.9 | 2.2 | 2. 2 | 1. 5 |
| 890 | 73. 3 | 46. 2 | 27.1 | 18.3 | 14.7 | 9.5 | 7.3 | 6.6 | 5.1 | 3, 7 | 2.9 | 2.9 | 2. 2 | 2.2 | 1.5 |
| 900 | 74, 2 | 46. 7 | 27.4 | 18.5 | 14.8 | 9.6 | 7.4 | 6.7 | 5.2 | 3.7 | 3.0 | 3.0 | 2.2 | 2.2 | 1.5 |
| 910 | 75.0 | 47.3 | 27.8 | 18.8 | 15.0 | 9.8 | 7.5 | 6.8 | 5.3 | 3.8 | 3.0 | 3.0 | 2.3 | 2.3 | 1.5 |
| 920 | 75.8 | 47.8 | 28.1 | 19.0 | 15.2 | 9.9 | 7.6 | 6.8 | 5.3 | 3.8 | 3.0 | 3.0 | 2.3 | 2.3 | 1.5 |
| 930 | 76.6 | 48.3 | 28.4 | 19.2 | 15.3 | 10.0 | 7.7 | 6.9 | 5.4 | 3.8 | 3.1 | 3.1 | 2.3 | 2.3 | 1.5 |
| 940 | 77.5 | 48.8 | 28.7 | 19. <u>4</u> | 15.5 | 10.1 | 7.7 | 7.0 | 5.4 | 3.9 | 3.1 | 3.1 | 2.3 | 2.3 | 1.5 |
| 950 | 78.3 | 49.3 | 2 9. 0 | 19.6 | 15.7 | 10.2 | 7.8 | 7.0 | 5.5 | 3.9 | 3.1 | 3.1 | 2.3 | 2.3 2.4 | 1.6 |
| 960 | 79.1 | 49.8 | 29.3 | 19.8 | 15.8 | 10.3 | 7.9 | 7.1 | 5.5 | 4, 0 4, 0 | 3. 2 3. 2 | 3. 2 3. 2 | 2.4 2.4 | 2.4 2.4 | 1.6 |
| 970 | 79.9 | 50.4 | 29.6 | 20 . 0 | 16.0 | 10. 4 | 8.0 8.1 | 7.2 7.3 | 5.6 5.7 | 4.0 | 3. 2 3. 2 | 3. 2 3. 2 | 2.4 2.4 | 2.4 2.4 | 1.6 1.6 |
| 980 | 80.8 | 50. 9 | 29 , 9 | 20.2 | 16. 2 | 10.5 | 8.2 | 7.3 | 5. 7 5. 7 | 4.0 | 3. 2 3. 3 | 3. 2 3. 3 | 2. 4 2. 4 | 2.4 | 1.6 |
| 990 | 81.6 | 51.4 | 30. 2 | 20, 4 | 16.3 | 10. 6 10. 7 | 8.2 8.2 | 7.4 | 5.8 | 4.1 | 5.5 3.3 | 3.3 | 2. 4 | 2. 4 | 1.6 |
| 1,000 | 82. 4 | 51. 9 52. 4 | 30.5 | 20,6 | 16.5 16.6 | 10. 7 | o. ∠ 8. 3 | 7.5 | 5.8 | 4.2 | 3.3 | 3.3 | 2.5 | 2.5 | 1.0 |
| 1,010 | 83. 2 84. 1 | 52. 4 53. 0 | 30.8 | 20, 8 21, 0 | 16. 8 | 10. 8 | 8.4 | 7.6 | 5.9 | 4.2 | 3.4 | 3. 3 3. 4 | 2.5 | 2.5 | 1.7 |
| 1, 020 1, 030 | 84. 9 | 53. 0 53. 5 | 31. 1 31. 4 | 21. 0 21. 2 | 10. 8 | 10. 9 | 8.5 | 7.6 | 5.9 | 4.2 | 3.4 | 3. 4 | 2.5 | 2.5 | 1.7 |
| 1,040 | 85.7 | 53. 5 54. 0 | 31. 4 31. 7 | 21. 2 21. 4 | 17.1 | 11. 0 | 8.6 | 7.7 | 6.0 | 4.3 | 3.4 | 3.4 | 2.6 | 2.6 | 1.7 |
| 1,050 | 86.5 | 54.5 | 32. 0 | 21 , 4 21 , 6 | 17.3 | 11. 3 | 8.7 | 7.8 | 6.1 | 4.3 | 3.5 | 3.5 | 2.6 | 2.6 | 1.7 |
| 1,060 | 80. 3 87. 4 | 55.0 | 32.3 | 21, 8 | 17.5 | 11. 4 | 8.7 | 7.9 | 6.1 | 4.4 | 3.5 | 3.5 | 2.6 | 2.6 | 1.7 |
| 1,070 | 88. 2 | 55.6 | 32.6 | 22.0 | 17.6 | 11.5 | 8.8 | 7.9 | 6.2 | 4.4 | 3.5 | 3.5 | 2.6 | 2.6 | 1.8 |
| 1,080 | 89. 0 | 56. 1 | 32.9 | 22 . 3 | 17.8 | 11.6 | 8.9 | 8.0 | 6.2 | 4.5 | 3.6 | 3.6 | 2.7 | 2.7 | 1.8 |
| 1,090 | 89.8 | 56.6 | 33. 2 | 22.5 | 18.0 | 11.7 | 9.0 | 8.1 | 6.3 | 4.5 | 3.6 | 3.6 | 2.7 | 2.7 | 1.8 |
| 1, 100 | 90. 7 | 57.1 | 33.5 | 22.7 | 18.1 | 11.8 | 9.1 | 8.2 | 6.3 | 4.5 | 3.6 | 3. 6 | 2, 7 | 2.7 | 1. 8 |
| 1, 110 | 91.5 | 57.6 | 33.9 | 22.9 | 18.3 | 11.9 | 9.1 | 8.2 | 6.4 | 4.6 | 3.7 | 3.7 | 2.7 | 2.7 | 1.8 |
| 1, 120 | 92. 3 | 58.2 | 34.2 | 23.1 | 18.5 | 12.0 | 9.2 | 8.3 | 6.5 | 4.6 | 3.7 | 3.7 | 2.8 | 2.8 | 1. 8 |
| 1, 130 | 93. 1 | 58.7 | 34.5 | 23, 3 | 18.6 | 12. 1 | 9.3 | 8.4 | 6.5 | 4.7 | 3.7 | 3.7 | 2.8 | 2.8 | 1. 9 |
| 1, 140 | 94.0 | 59. 2 | 34.8 | 23.5 | 18.8 | 12. 2 | 9.4 | 8.5 | 6. 6 | 4.7 | 3.8 | 3. 8 | 2.8 | 2.8 | 1. 9 |
| 1, 150 | 94.8 | 59.7 | 35.1 | 23. 7 | 19.0 | 12.3 | 9.5 | 8.5 | 6. 6 | 4.7 | 3. 8 | 3. 8 | 2.8 | 2.8 | 1. 9 |
| 1, 160 | 95. 6 | 60. 2 | 35.4 | 23. 9 | 19. 1 | 12.4 | 9.6 | 8.6 | 6.7 | 4.8 | 3.8 | 3. 8 | 2.9 | 2.9 | 1. 9 |
| 1, 170 | 96. 4 | 60.8 | 35. 7 | 24.1 | 19.3 | 12.5 | 9.6 | 8.7 | 6.8 | 4.8 | 3. 9 | 3. 9 | 2. 9 | 2.9 | 1. 9 |
| 1, 180 | 97. 3 | 61. 3 | 36. 0 | 24.3 | 19.5 | 12.6 | 9. 7 | 8.8 | 6.8 | 4.9 | 3. 9 | 3. 9 | 2.9 | 2.9 | 1. 9 |
| 1, 190 | 98.1 | 61. 8 | 36. 3 | 24.5 | 19.6 | 12.8 | 9. 8 | 8.8 | 6. 9 | 4.9 | 3. 9 | 3. 9 | 2.9 | 2.9 | 2. 0 |
| 1,200 | 98. 9 | 62.3 | 36.6 | 24. 7 | 19.8 | 12.9 | 9.9 | 8.9 | 6.9 | 4.9 | 4.0 | 4.0 | 3. 0 | 3.0 | 2.0 |

 Table 2-9.
 Weighted Densities (Type 2 Message), Zone 1

| De | nsity | | | <u> </u> | | | I | ine-Zo | ne No. | | | | , | | | |
|-------------------|-------|-------|------|----------|-------------|------|------|--------|--------|-----|-----|-----|-----|-----|-----|-----|
| Gm/M ^a | % | 11 | 21 | 31 | 41 | 51 | 61 | 71 | 81 | 91 | 01 | 11 | 21 | 31 | 41 | 51 |
| 1,210 | 99.7 | 99.7 | 62.8 | 36.9 | 24.9 | 19.9 | 13.0 | 10.0 | 9.0 | 7.0 | 5.0 | 4.0 | 4.0 | 3.0 | 3.0 | 2.0 |
| 1,220 | 100.6 | 100.6 | 63.3 | 37.2 | 25.1 | 20.1 | 13.1 | 10.1 | 9.0 | 7.0 | 5.0 | 4.0 | 4.0 | 3.0 | 3.0 | 2.0 |
| 1,230 | 101.4 | 101.4 | 63.9 | 37.5 | 25.3 | 20.3 | 13.2 | 10.1 | 9.1 | 7.1 | 5.1 | 4.1 | 4.1 | 3.0 | 3.0 | 2.0 |
| 1,240 | 102.2 | 102.2 | 64.4 | 37.8 | 25.6 | 20.4 | 13.3 | 10.2 | 9.2 | 7.2 | 5.1 | 4.1 | 4.1 | 3.1 | 3.1 | 2.0 |
| 1,250 | 103.0 | 103.0 | 64.9 | 38.1 | 25.8 | 20.6 | 13.4 | 10.3 | 9.3 | 7.2 | 5.2 | 4.1 | 4.1 | 3.1 | 3.1 | 2.1 |
| 1,260 | 103.8 | 103.8 | 65.5 | 38.4 | 26.0 | 20.8 | 13.5 | 10.4 | 9.4 | 7.3 | 5.2 | 4.2 | 4.2 | 3.1 | 3.1 | 2.1 |
| 1,270 | 104.7 | 104.7 | 65.9 | 38.7 | 26.2 | 20.9 | 13.6 | 10.5 | 9.4 | 7.3 | 5.2 | 4.2 | 4.2 | 3.1 | 3.1 | 2.1 |
| 1,280 | 105.5 | 105.5 | 66.5 | 39.0 | 26.4 | 21.1 | 13.7 | 10.6 | 9.5 | 7.4 | 5.3 | 4.2 | 4.2 | 3.2 | 3.2 | 2.1 |
| 1,290 | 106.3 | 106.3 | 67.0 | 39.3 | 26.6 | 21.3 | 13.8 | 10.6 | 9.6 | 7.4 | 5.3 | 4.3 | 4.3 | 3.2 | 3.2 | 2.1 |
| 1,300 | 107.1 | 107.1 | 67.5 | 39.6 | 26.8 | 21.4 | 13.9 | 10.7 | 9.6 | 7.5 | 5.4 | 4.3 | 4.3 | 3.2 | 3.2 | 2.1 |
| 1,310 | 108.0 | 108.0 | 68.0 | 39.9 | 27.0 | 21.6 | 14.0 | 10.8 | 9.7 | 7.6 | 5.4 | 4.3 | 4.3 | 3.2 | 3.2 | 2.2 |
| 1,320 | 108.8 | 108.8 | 68.5 | 40.3 | 27.2 | 21.8 | 14.1 | 10.9 | 9.8 | 7.6 | 5.4 | 4.4 | 4.4 | 3.3 | 3.3 | 2.2 |
| 1,330 | 109.6 | 109.6 | 69.1 | 40.6 | 27.4 | 21.9 | 14.3 | 11.0 | 9.9 | 7.7 | 5.5 | 4.4 | 4.4 | 3.3 | 3.3 | 2.2 |
| 1,340 | 110.4 | 110.4 | 69.6 | 40.9 | 27.6 | 22.1 | 14.4 | 11.0 | 9.9 | 7.7 | 5.5 | 4.4 | 4.4 | 3.3 | 3.3 | 2.2 |
| 1,350 | 111.3 | 111.3 | 70.1 | 41.2 | 27.8 | 22.3 | 14.5 | 11.1 | 10.0 | 7.8 | 5.6 | 4.5 | 4.5 | 3.3 | 3.3 | 2.2 |
| 1,360 | 112.1 | 112.1 | 70.6 | 41.5 | 28.0 | 22.4 | 14.6 | 11.2 | 10.1 | 7.8 | 5.6 | 4.5 | 4.5 | 3.4 | 3.4 | 2.2 |
| 1,370 | 112.9 | 112.9 | 71.1 | 41.8 | 28.2 | 22.6 | 14.7 | 11.3 | 10.2 | 7.9 | 5.6 | 4.5 | 4.5 | 3.4 | 3.4 | 2.3 |
| 1,380 | 113.7 | 113.7 | 71.7 | 42.1 | 28.4 | 22.7 | 14.8 | 11.4 | 10.2 | 8.0 | 5.7 | 4.5 | 4.5 | 3.4 | 3.4 | 2.3 |
| 1,390 | 114.6 | 114.6 | 72.2 | 42.4 | 28.6 | 22.9 | 14.9 | 11.5 | 10.3 | 8.0 | 5.7 | 4.6 | 4.6 | 3.4 | 3.4 | 2.3 |
| 1,400 | 115.4 | 115.4 | 72.7 | 42.7 | 28.8 | 23.1 | 15.0 | 11.5 | 10.4 | 8.1 | 5.8 | 4.6 | 4.6 | 3.5 | 3.5 | 2.3 |
| 1,410 | 116.2 | 116.2 | 73.2 | 43.0 | 29.1 | 23.2 | 15.1 | 11.6 | 10.5 | 8.1 | 5.8 | 4.6 | 4.6 | 3.5 | 3.5 | 2.3 |
| 1,420 | 117.0 | 117.0 | 73.7 | 43.3 | 29.3 | 23.4 | 15.2 | 11.7 | 10.5 | 8.2 | 5.9 | 4.7 | 4.7 | 3.5 | 3.5 | 2.3 |
| 1,430 - | 117.9 | 117.9 | 74.3 | 43.6 | 29.5 | 23.6 | 15.3 | 11.8 | 10.6 | 8.3 | 5.9 | 4.7 | 4.7 | 3.5 | 3.5 | 2.4 |
| 1,440 | 118.7 | 118.7 | 74.8 | 43.9 | 29.7 | 23.7 | 15.4 | 11.9 | 10.7 | 8.3 | 5.9 | 4.7 | 4.7 | 3.6 | 3.6 | 2.4 |
| 1,450 | 119.5 | 119.5 | 75.3 | 44.2 | 29.9 | 23.9 | 15.5 | 12.0 | 10.8 | 8.4 | 6.0 | 4.8 | 4.8 | 3.6 | 3.6 | 2.4 |
| 1,460 | 120.3 | 120.3 | 75.8 | 44.5 | 30.1 | 24.1 | 15.6 | 12.0 | 10.8 | 8.4 | 6.0 | 4.8 | 4.8 | 3.6 | 3.6 | 2.4 |
| 1,470 | 121.2 | 121.2 | 76.3 | 44.8 | 30.3 | 24.2 | 15.8 | 12.1 | 10.9 | 8.5 | 6.1 | 4.8 | 4.8 | 3.6 | 3.6 | 2.4 |
| 1,480 | 122.0 | 122.0 | 76.8 | 45.1 | 30.5 | 24.4 | 15.9 | 12.2 | 11.0 | 8.5 | 6.1 | 4.9 | 4.9 | 3.7 | 3.7 | 2.4 |
| 1,490 | 122.8 | 122.8 | 77.4 | 45.4 | 30.7 | 24.6 | 16.0 | 12.3 | 11.1 | 8.6 | 6.1 | 4.9 | 4.9 | 8.7 | 8.7 | 2.5 |
| 1,500 | 123.6 | 123.6 | 77.9 | 45.7 | 80.9 | 24.7 | 16.1 | 12.4 | 11.1 | 8.7 | 6.2 | 4.9 | 4.9 | 3.7 | 8.7 | 2.5 |
| 1,510 | 124.5 | 124.5 | 78.4 | 46.0 | 31.1 | 24.9 | 16.2 | 12.4 | 11.2 | 8.7 | 6.2 | 5.0 | 5.0 | 3.7 | 8.7 | 2.5 |
| 1,520 | 125.3 | 125.3 | 78.9 | 46.4 | 31.3 | 25.1 | 16.3 | 12.5 | 11.3 | 8.8 | 6.3 | 5.0 | 5.0 | 3.8 | 3.8 | 2.5 |
| 1,530 | 126.1 | 126.1 | 79.4 | 46.7 | 81.5 | 25.2 | 16.4 | 12.6 | 11.3 | 8.8 | 6.3 | 5.0 | 5.0 | 3.8 | 3.8 | 2.5 |
| 1,540 | 126.9 | 126.9 | 80.0 | 47.0 | 31.7 | 25.4 | 16.5 | 12.7 | 11.4 | 8.9 | 6.3 | 5.1 | 5.1 | 3.8 | 3.8 | 2.5 |
| 1,550 | 127.8 | 127.8 | 80.5 | 47.3 | 32.0 | 25.6 | 16.6 | 12.8 | 11.5 | 8.9 | 6.4 | 5.1 | 5.1 | 3.8 | 3.8 | 2.6 |
| 1,560 | 128.6 | 128.6 | 81.0 | 47.6 | 32.2 | 25.7 | 16.7 | 12.9 | 11.6 | 9.0 | 6.4 | 5.1 | 5.1 | 3.9 | 3.9 | 2.6 |
| 1,570 | 129.4 | 129.4 | 81.5 | 47.9 | 32.4 | 25.9 | 16.8 | 12.9 | 11.6 | 9.1 | 6.5 | 5.2 | 5.2 | 3.9 | 3.9 | 2.6 |
| 1,580 | 130.2 | 130.2 | 82.0 | 48.2 | 32.6 | 26.0 | 16.9 | 13.0 | 11.7 | 9.1 | 6.5 | 5.2 | 5.2 | 3.9 | 3.9 | 2.6 |
| 1,590 | 181.0 | 131.0 | 82.5 | 48.5 | 32.8 | 26.2 | 17.0 | 13.1 | 11.8 | 9.2 | 6.6 | 5.2 | 5.2 | 3.9 | 3.9 | 2.6 |
| 1,600 | 131.9 | 131.9 | 83.1 | 48.8 | 33.0 | 26.4 | 17.1 | 13.2 | 11.9 | 9.2 | 6.6 | 5.8 | 5.3 | 4.0 | 4.0 | 2.6 |
| 1,610 | 132.7 | 182.7 | 83.6 | 49.1 | 83.2 | 26.5 | 17.2 | 13.3 | 11.9 | 9.3 | 6.6 | 5.3 | 5.3 | 4.0 | 4.0 | 2.7 |
| 1,620 | 133.5 | 133.5 | 84.1 | 49.4 | 33.4 | 26.7 | 17.4 | 13.4 | 12.0 | 9.8 | 6.7 | 5.8 | 5.3 | 4.0 | 4.0 | 2.7 |

Table 2-9. Weighted Densities (Type 2 Message), Zone 1-Continued

| Den | sity | | | | | | L | ine-Zon | e No. | | | | | | |
|-------------------|-------|------|------|------|------|------|------|---------|-------|-------------|-----|-----|-----|-----|-----|
| Gm/M ³ | 9% | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 02 | 12 | 22 | 32 | 42 | 52 |
| 760 | 64.2 | 23.7 | 23.7 | 19.3 | 15.4 | 12.2 | 9.0 | 6.4 | 5.8 | 5.1 | 3.9 | 3.9 | 3.2 | 3.2 | 3.2 |
| 770 | 65.0 | 24.1 | 24.1 | 19.5 | 15.6 | 12.4 | 9.1 | 6.5 | 5.9 | 5.2 | 3.9 | 3.9 | 3.3 | 3.3 | 3.3 |
| 780 | 65.9 | 24.4 | 24.4 | 19.8 | 15.8 | 12.5 | 9.2 | 6.6 | 5.9 | 5.3 | 4.0 | 4.0 | 3.3 | 3.3 | 3.3 |
| 790 | 66.7 | 24.7 | 24.7 | 20.0 | 16.0 | 12.7 | 9.3 | 6.7 | 6.0 | 5.3 | 4.0 | 4.0 | 3.3 | 3.3 | 3.3 |
| 800 | 67.5 | 25.0 | 25.0 | 20.3 | 16.2 | 12.8 | 9.5 | 6.8 | 6.1 | 5.4 | 4.1 | 4.1 | 3.4 | 3.4 | 3.4 |
| 810 | 68.4 | 25.3 | 25.3 | 20.5 | 16.4 | 13.0 | 9.6 | 6.8 | 6.2 | 5.5 | 4.1 | 4.1 | 3.4 | 3.4 | 3.4 |
| 820 | 69.2 | 25.6 | 25.6 | 20.8 | 16.6 | 13.2 | 9.7 | 6.9 | 6.2 | 5.5 | 4.2 | 4.2 | 3.5 | 3.5 | 3.5 |
| 830 | 70.1 | 25.9 | 25.9 | 21.0 | 16.8 | 13.3 | 9.8 | 7.0 | 6.3 | 5.6 | 4.2 | 4.2 | 3.5 | 3.5 | 3.5 |
| 840 | 70.9 | 26.2 | 26.2 | 21.3 | 17.0 | 13.5 | 9.9 | 7.1 | 6.4 | 5.7 | 4.3 | 4.3 | 3.5 | 3.5 | 3.5 |
| 850 | 71.8 | 26.6 | 26.6 | 21.5 | 17.2 | 13.6 | 10.0 | 7.2 | 6.5 | 5.7 | 4.3 | 4.3 | 3.6 | 3.6 | 3.6 |
| 860 | 72.6 | 26.9 | 26.9 | 21.8 | 17.4 | 13.8 | 10.2 | 7.3 | 6.5 | 5.8 | 4.4 | 4.4 | 3.6 | 3.6 | 3.6 |
| 870 | 73.5 | 27.2 | 27.2 | 22.0 | 17.6 | 14.0 | 10.3 | 7.3 | 6.6 | 5.9 | 4.4 | 4.4 | 3.7 | 3.7 | 3.7 |
| 880 | 74.3 | 27.5 | 27.5 | 22.3 | 17.8 | 14.1 | 10.4 | 7.4 | 6.7 | 5.9 | 4.5 | 4.5 | 3.7 | 3.7 | 3.7 |
| 890 | 75.1 | 27.8 | 27.8 | 22.5 | 18.0 | 14.3 | 10.5 | 7.5 | 6.8 | 6. 0 | 4.5 | 4.5 | 3.8 | 3.8 | 3.8 |
| 900 | 76.0 | 28.1 | 28.1 | 22.8 | 18.2 | 14.4 | 10.6 | 7.6 | 6.8 | 6.1 | 4.6 | 4.6 | 3.8 | 3.8 | 3.8 |
| 910 | 76.8 | 28.4 | 28.4 | 23.1 | 18.4 | 14.6 | 10.8 | 7.7 | 6.9 | 6.1 | 4.6 | 4.6 | 3.8 | 3.8 | 3.8 |
| 920 | 77.7 | 28.7 | 28.7 | 23.3 | 18.6 | 14.8 | 10.9 | 7.8 | 7.0 | 6.2 | 4.7 | 4.7 | 3.9 | 3.9 | 3.9 |
| 930 | 78.5 | 29.1 | 29.1 | 23.6 | 18.8 | 14.9 | 11.0 | 7.9 | 7.1 | 6.3 | 4.7 | 4.7 | 3.9 | 3.9 | 3.9 |
| 940 | 79.4 | 29.4 | 29.4 | 23.8 | 19.0 | 15.1 | 11.1 | 7.9 | 7.1 | 6.3 | 4.8 | 4.8 | 4.0 | 4.0 | 4.0 |
| 950 | 80.2 | 29.7 | 29.7 | 24.1 | 19.3 | 15.2 | 11.2 | 8.0 | 7.2 | 6.4 | 4.8 | 4.8 | 4.0 | 4.0 | 4.0 |
| 960 | 81.0 | 30.0 | 30.0 | 24.3 | 19.5 | 15.4 | 11.3 | 8.1 | 7.3 | 6.5 | 4.9 | 4.9 | 4.1 | 4.1 | 4.1 |
| 970 | 81.9 | 30.3 | 30.3 | 24.6 | 19.7 | 15.6 | 11.5 | 8.2 | 7.4 | 6.6 | 4.9 | 4.9 | 4.1 | 4.1 | 4.1 |
| 980 | 82.7- | 30.6 | 30.6 | 24.8 | 19.9 | 15.7 | 11.6 | 8.3 | 7.4 | 6.6 | 5.0 | 5.0 | 4.1 | 4.1 | 4.1 |
| 990 | 83.6 | 30.9 | 30.9 | 25.1 | 20.1 | 15.9 | 11.7 | 8.4 | 7.5 | 6.7 | 5.0 | 5.0 | 4.2 | 4.2 | 4.2 |
| 1,000 | 84.4 | 31.2 | 31.2 | 25.3 | 20.3 | 16.0 | 11.8 | 8.4 | 7.6 | 6.8 | 5.1 | 5.1 | 4.2 | 4.2 | 4.2 |
| 1,010 | 85.3 | 31.6 | 31.6 | 25.6 | 20.5 | 16.2 | 11.9 | 8.5 | 7.7 | 6.8 | 5.1 | 5.1 | 4.3 | 4.3 | 4.3 |
| 1,020 | 86.1 | 31.9 | 31.9 | 25.8 | 20.7 | 16.4 | 12.1 | 8.6 | 7.8 | 6.9 | 5.2 | 5.2 | 4.3 | 4.3 | 4.3 |
| 1,030 | 87.0 | 32.2 | 32.2 | 26.1 | 20.9 | 16.5 | 12.2 | 8.7 | 7.8 | 7.0 | 5.2 | 5.2 | 4.3 | 4.3 | 4.3 |
| 1,040 | 87.8 | 32.5 | 32.5 | 26.3 | 21.1 | 16.7 | 12.3 | 8.8 | 7.9 | 7.0 | 5.3 | 5.3 | 4.4 | 4.4 | 4.4 |
| 1,050 | 88.7 | 32.8 | 32.8 | 26.6 | 21.3 | 16.8 | 12.4 | 8.9 | 8.0 | 7.1 | 5.3 | 5.3 | 4.4 | 4.4 | 4.4 |
| 1,060 | 89.5 | 33.1 | 33.1 | 26.8 | 21.5 | 17.0 | 12.5 | 8.9 | 8.1 | 7.2 | 5.4 | 5.4 | 4.5 | 4.5 | 4.5 |
| 1,070 | 90.3 | 33.4 | 33.4 | 27.1 | 21.7 | 17.2 | 12.6 | 9.0 | 8.1 | 7.2 | 5.4 | 5.4 | 4.5 | 4.5 | 4.5 |
| 1,080 | 91.2 | 33.7 | 33.7 | 27.4 | 21.9 | 17.3 | 12.8 | 9.1 | 8.2 | 7.3 | 5.5 | 5.5 | 4.6 | 4.6 | 4.6 |
| 1,090 | 92.0 | 34.1 | 34.1 | 27.6 | 22.1 | 17.5 | 12:9 | 9.2 | 8.3 | 7.4 | 5.5 | 5.5 | 4.6 | 4.6 | 4.6 |
| 1,100 | 92.9 | 34.4 | 34.4 | 27.9 | 22.3 | 17.6 | 13.0 | 9.3 | 8.4 | 7.4 | 5.6 | 5.6 | 4.6 | 4.6 | 4.6 |
| 1,110 | 93.7 | 34.7 | 34.7 | 28.1 | 22.5 | 17.8 | 13.1 | 9.4 | 8.4 | 7.5 | 5.6 | 5.6 | 4.7 | 4.7 | 4.7 |
| 1,120 | 94.6 | 35.0 | 35.0 | 28.4 | 22.7 | 18.0 | 13.2 | 9.5 | 8.5 | 7.6 | 5.7 | 5.7 | 4.7 | 4.7 | 4.7 |
| 1,130 | 95.4 | 35.3 | 35.3 | 28.6 | 22.9 | 18.1 | 13.4 | 9.5 | 8.6 | 7.6 | 5.7 | 5.7 | 4.8 | 4.8 | 4.8 |
| 1,140 | 96.3 | 35.6 | 35.6 | 28.9 | 23.1 | 18.3 | 13.5 | 9.6 | 8.7 | 7.7 | 5.8 | 5.8 | 4.8 | 4.8 | 4.8 |
| 1,150 | 97.1 | 35.9 | 35.9 | 29.1 | 23.3 | 18.4 | 13.6 | 9.7 | 8.7 | 7.8 | 5.8 | 5.8 | 4.9 | 4.9 | 4.9 |
| 1,160 | 97.9 | 36.2 | 36.2 | 29.4 | 23.5 | 18.6 | 13.7 | 9.8 | 8.8 | 7.8 | 5.9 | 5.9 | 4.9 | 4.9 | 4.9 |

 Table 2–9.
 Weighted Densities (Type 2 Message), Zone 2

| Table 2-9. | Weighted Densities (Type 2 Message), Zone 2—Continued |
|------------|---|
|------------|---|

| Den | sity | | | | | |] | Line-Zo | ne No. | | | | | | |
|-------------------|--------------|---------------|--------------|---------------------------|----------------|----------------|----------------|---------|------------|-------|------|------|------|------|----------|
| Gm/M ⁸ | 96 | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 02 | 12 | 22 | 32 | 42 | 52 |
| 1, 170 | 98.8 | 36.6 | 36.6 | 29.6 | 23. 7 | 18.8 | 13.8 | 9.9 | 8.9 | 7.9 | 5.9 | 5.9 | 4.9 | 4.9 | 4 |
| 1, 180 | 99. 6 | 36.9 | 36.9 | 29.9 | 23.9 | 18.9 | 13.9 | 10.0 | 9.0 | 8.0 | 6.0 | 6.0 | 5.0 | 5.0 | 5. |
| 1, 190 | 100. 5 | 37. 2 | 37. 2 | 30. 1 | 24.1 | 19.1 | 14.1 | 10.0 | 9.0 | 8.0 | 6.0 | 6.0 | 5.0 | 5.0 | 5. |
| 1, 200 | 101. 3 | 37.5 | 37.5 | 30. 4 | 24.3 | 19.3 | 14.2 | 10. 1 | 9.1 | 8.1 | 6.1 | 6.1 | 5.1 | 5.1 | 5. |
| 1, 210 | 102. 2 | 37.8 | 37.8 | 30.6 | 24.5 | 19.4 | 14.3 | 10.2 | 9.2 | 8.2 | 6.1 | 6.1 | 5.1 | 5.1 | 5. |
| 1, 220 | 103. 0 | 38.1 | 38.1 | 30.9 | 24.7 | 19.6 | 14.4 | 10.3 | 9.3 | 8.2 | 6.2 | 6.2 | 5.2 | 5.2 | 5. |
| 1, 230 | 103. 9 | 38.4 | 38.4 | 31. 2 | 24.9 | 19.7 | 14.5 | 10.4 | 9.3 | 8.3 | 6.2 | 6.2 | 5.2 | 5.2 | 5. |
| 1, 240 | 104. 7 | 38. 7 | 38.7 | 31. 4 | 25.1 | 19.9 | 14.7 | 10.5 | 9.4 | 8.4 | 6.3 | 6.3 | 5.2 | 5. 2 | 5. |
| 1, 250 | 105. 5 | 39.0 | 39.0 | 31. 7 | 25.3 | 20.1 | 14.8 | 10.6 | 9.5 | 8.4 | 6.3 | 6.3 | 5.3 | 5.3 | 5. |
| 1, 260 | 106.4 | 39.4 | 39.4 | 31.9 | 25.5 | 20. 2 | 14.9 | 10.6 | 9.6 | 8.5 | 6.4 | 6.4 | 5.3 | 5. 3 | 5. |
| 1, 270 | 107. 2 | 39 . 7 | 39.7 | 32. 2 | 25.7 | 20. 4 | 15.0 | 10. 7 | 9. 7 | 8.6 | 6.4 | 6.4 | 5.4 | 5.4 | 5. |
| 1, 280 | 107. 2 | 40 . 0 | 40. 0 | 32. 2 32. 4 | 25.9 | 20. 4 | 15.0 | 10. 7 | 9.7 9.7 | 8.6 | 6.5 | 6.5 | 5.4 | 5.4 | 5. 5. |
| 1, 290 | 108. 1 | 40. 3 | 40. 0 | 32. 1 32. 7 | 26. 1 | 20. 3 | 15. 1 15. 2 | 10.8 | 9.8 | 8.7 | 6.5 | 6.5 | 5.4 | 5.4 | э. 5. |
| 1, 300 | 108. 9 | 40.6 | 40. 6 | 32. 1 32. 9 | 26. 1 26. 3 | 20. 7 20. 9 | | | | | | | - | | |
| | | | | | 20. 3 26. 5 | | 15.4 | 11.0 | 9.9 | 8.8 | 6.6 | 6.6 | 5.5 | 5.5 | 5. |
| 1, 310 | 110.6 | 40.9 | 40.9 | 33. 2 | | 21.0 | 15.5 | 11. 1 | 10.0 | 8.8 | 6.6 | 6.6 | 5.5 | 5.5 | 5. |
| 1, 320 | 111.4 | 41. 2 | 41. 2 | 33.4 | 26.7 | 21. 2 | 15.6 | 11.1 | 10.0 | 8.9 | 6.7 | 6.7 | 5.6 | 5.6 | 5. |
| 1, 330 | 112.3 | 41.5 | 41.5 | 33. 7 | 27.0 | 21. 3 | 15.7 | 11. 2 | 10. 1 | 9.0 | 6. 7 | 6.7 | 5.6 | 5.6 | 5. |
| 1, 340 | 113.1 | 41.9 | 41.9 | 33.9 | 27. 2 | 21.5 | 15.8 | 11. 3 | 10. 2 | 9.1 | 6.8 | 6.8 | 5.7 | 5.7 | 5. |
| 1, 350 | 114.0 | 42.2 | 42.2 | 34. 2 | 27.4 | 21. 7 | 16. 0 | 11.4 | 10.3 | 9.1 | 6.8 | 6.8 | 5.7 | 5.7 | 5. |
| 1, 360 | 114. 8 | 42.5 | 42.5 | 34.4 | 27.6 | 21.8 | 16. 1 | 11. 5 | 10. 3 | 9. 2 | 6.9 | 6. 9 | 5.7 | 5.7 | 5. |
| 1, 370 | 115. 7 | 42. 8 | 42.8 | 34. 7 | 27.8 | 22. 0 | 16. 2 | 11. 6 | 10. 4 | 9.3 | 6. 9 | 6. 9 | 5.8 | 5.8 | 5. |
| 1, 380 | 116.5 | 43. 1 | 43. 1 | 35. 0 | 28. 0 | 22. 1 | 16. 3 | 11. 7 | 10. 5 | 9. 3 | 7.0 | 7.0 | 5.8 | 5.8 | 5. |
| 1, 390 | 117. 4 | 43. 4 | 43. 4 | 35. 2 | 28. 2 | 22. 3 | 16.4 | 11. 7 | 10. 6 | 9.4 | 7.0 | 7.0 | 5. 9 | 5.9 | 5. |
| 1, 400 | 118.2 | 43. 7 | 43. 7 | 35. 5 | 28.4 | 22. 5 | 16.5 | 11. 8 | 10. 6 | 9.5 | 7.1 | 7.1 | 5.9 | 5.9 | 5. |
| 1, 410 | 119.0 | 44.0 | 44. 0 | 35. 7 | 28.6 | 22.6 | 16.7 | 11. 9 | 10. 7 | 9.5 | 7.1 | 7.1 | 6.0 | 6. 0 | 6. |
| 1, 420 | 119. 9 | 44. 4 | 44. 4 | 36. 0 | 28.8 | 22. 8 | 16.8 | 12.0 | 10.8 | 9.6 | 7.2 | 7.2 | 6. 0 | 6. 0 | 6. |
| 1, 430 | 120. 7 | 44.7 | 44. 7 | 36. 2 | 29. 0 | 22. 9 | 16.9 | 12.1 | 10. 9 | 9.7 | 7.2 | 7.2 | 6.0 | 6.0 | 6. |
| 1, 440 | 121. 6 | 45.0 | 45.0 | 36. 5 | 29. 2 | 23. 1 | 17. 0 | 12. 2 | 10. 9 | 9. 7 | 7.3 | 7.3 | 6.1 | 6.1 | 6. |
| 1, 450 | 122. 4 | 45.3 | 45.3 | 36.7 | 29.4 | 23. 3 | 17.1 | 12. 2 | 11.0 | 9.8 | 7.3 | 7.3 | 6.1 | 6.1 | 6. |
| 1,460 | 123. 3 | 45.6 | 45.6 | 37. 0 | 29. 6 | 23.4 | 17.3 | 12.3 | 11. 1 | 9.9 | 7.4 | 7.4 | 6. 2 | 6.2 | 6. |
| 1, 470 | 124. 1 | 45.9 | 45.9 | 37. 2 | 29.8 | 23. 6 | 17.4 | 12.4 | 11. 2 | 9.9 | 7.4 | 7.4 | 6.2 | 6.2 | 6. |
| 1, 480 | 125. 0 | 46. 2 | 46. 2 | 37. 5 | 30. 0 | 23. 7 | 17.5 | 12.5 | 11. 2 | 10. 0 | 7.5 | 7.5 | 6. 2 | 6.2 | 6. |
| 1, 490 | 125.8 | 46.5 | 46.5 | 37. 7 | 30. 2 | 23. 9 | 17.6 | 12.6 | 11.3 | 10. 1 | 7.5 | 7.5 | 6.3 | 6.3 | 6. |
| 1, 500 | 126.6 | 46.9 | 46. 9 | 38.0 | 30.4 | 24.1 | 17.7 | 12.7 | 11.4 | 10. 1 | 7.6 | 7.6 | 6.3 | 6.3 | 6. |
| 1, 510 | 127. 5 | 47. 2 | 47. 2 | 38. 2 | 30. 6 | 24. 2 | 17.8 | 12.8 | 11.5 | 10. 2 | 7.6 | 7.6 | 6.4 | 6.4 | 6. |
| | 128.3 | 47.5 | 47.5 | 38.5 | 30.8 | 24.4 | 18.0 | 12.8 | 11. 5 | 10. 3 | 7.7 | 7.7 | 6.4 | 6.4 | 6. |
| 1, 530 | 129. 2 | 47.8 | 47.8 | 38. 8 | 31.0 | 24.5 | 18.1 | 12.9 | 11.6 | 10.3 | 7.8 | 7.8 | 6.5 | 6.5 | 6. |
| 1, 540 | 130. 0 | 48.1 | 48.1 | 39.0 | 31. 2 | 24.7 | 18.2 | 13.0 | 11. 7 | 10.4 | 7.8 | 7.8 | 6.5 | 6.5 | 6. |
| | 130. 9 | 48.4 | 48.4 | 39. 3 | 31. 4 | 24.9 | 18.3 | 13. 1 | 11.8 | 10. 5 | 7.8 | 7.8 | 6.5 | 6.5 | 6. |
| 1, 560 | 131. 7 | 48.7 | 48.7 | 39. 5 | 31. 6 | 25. 0 | 18.4 | 13. 2 | 11.8 | 10. 5 | 7.9 | 7.9 | 6.6 | 6.6 | 6. |

| Densi | ty | , | | | | | Line | -Zone N | lo. | | | | | |
|-------------------|--------------------|-------|-------|-------|-------|-------|----------------|---------|-------|--------------|--------------|------|------|------|
| Gm/M ³ | % | 33 | 43 | 53 | 63 | 73 | 83 | 93 | 03 | 13 | 23 | 33 | 43 | 53 |
| 740 | 65. 0 | 16. 9 | 22. 7 | 19.5 | 15.6 | 13. 0 | 11. 0 | 9. 1 | 7. 8 | 6. 5 | 5. 8 | 5. 2 | 3. 9 | 3. 9 |
| 750 | 65. 8 | 17.1 | 23. 0 | 19.8 | 15.8 | 13. 2 | 1 1 . 2 | 9. 2 | 7.9 | 6.6 | 5.9 | 5. 3 | 4.0 | 4. 0 |
| 760 | 66. 7 | 17.3 | 23.4 | 20. 0 | 16.0 | 13. 3 | 11. 3 | 9. 3 | 8.0 | 6. 7 | 6.0 | 5. 3 | 4.0 | 4. 0 |
| 770 | 67.6 | 17.6 | 23. 7 | 20.3 | 16.2 | 13.5 | 11.5 | 9.5 | 8.1 | 6.8 | 6. 1 | 5.4 | 4.1 | 4. 1 |
| 780 | 68. 5 | 17.8 | 24.0 | 20.5 | 16.4 | 13. 7 | 11.6 | 9.6 | 8.2 | 6.8 | 6 . 2 | 5. 5 | 4.1 | 4.1 |
| 790 | 69. 3 | 18.0 | 24. 3 | 20.8 | 16.6 | 13.9 | 11.8 | 9. 7 | 8.3 | 6. 9 | 6. 2 | 5. 5 | 4.2 | 4. 2 |
| 800 | 70. 2 | 18.3 | 24.6 | 21.1 | 16.9 | 14.0 | 11.9 | 9.8 | 8.4 | 7.0 | 6. 3 | 5.6 | 4.2 | 4. 2 |
| 810 | 71. 1 | 18.5 | 24. 9 | 21.3 | 17.1 | 14.2 | 12.1 | 10. 0 | 8.5 | 7.1 | 6.4 | 5.7 | 4.3 | 4. 3 |
| 820 | 72. 0 | 18.7 | 25. 2 | 21.6 | 17.3 | 14.4 | 12.2 | 10.1 | 8.6 | 7.2 | 6. 5 | 5.8 | 4.3 | 4. 3 |
| 830 | 72 . 9 | 18.9 | 25.5 | 21.9 | 17.5 | 14.6 | 12.4 | 10.2 | 8.7 | 7.3 | 6.6 | 5.8 | 4.4 | 4. 4 |
| 840 | 73. 7 | 19. 2 | 25.8 | 22.1 | 17.7 | 14.7 | 12.5 | 10.3 | 8.8 | 7.4 | 6.6 | 5.9 | 4.4 | 4.4 |
| 850 | 74. 6 | 19.4 | 26.1 | 22.4 | 17.9 | 14.9 | 12.7 | 10.4 | 9.0 | 7.5 | 6.7 | 6.0 | 4.5 | 4.5 |
| 860 | 75.5 | 19.6 | 26.4 | 22.6 | 18.1 | 15.1 | 12.8 | 10.6 | 9.1 | 7.5 | 6.8 | 6.0 | 4.5 | 4.5 |
| 870 | 76.4 | 19.9 | 26.7 | 22.9 | 18.3 | 15.3 | 13.0 | 10.7 | 9. 2 | 7.6 | 6.9 | 6.1 | 4.6 | 4.6 |
| 880 | 77. 2 | 20.1 | 27.0 | 23. 2 | 18.5 | 15.4 | 13.1 | 10.8 | 9.3 | 7.7 | 7.0 | 6. 2 | 4.6 | 4. 6 |
| 890 | 78.1 | 20.3 | 27. 3 | 23. 4 | 18.8 | 15.6 | 13.3 | 10.9 | 9.4 | 7.8 | 7.0 | 6.3 | 4.7 | 4. 7 |
| 900 | 79. 0 | 20.5 | 27.7 | 23. 7 | 19.0 | 15.8 | 13.4 | 11.1 | 9.5 | 7.9 | 7.1 | 6. 3 | 4.7 | 4.7 |
| 910 | 79. 9 | 20.8 | 28.0 | 24.0 | ·19.2 | 16.0 | 13.6 | 11. 2 | 9.6 | 8.0 | 7.2 | 6.4 | 4.8 | 4. 8 |
| 920 | 80.8 | 21. 0 | 28.3 | 24. 2 | 19.4 | 16.2 | 13.7 | 11. 3 | 9.7 | 8.1 | 7.3 | 6.5 | 4.8 | 4.8 |
| 930 | 81.6 | 21.2 | 28.6 | 24.5 | 19.6 | 16.3 | 13.9 | 11.4 | 9.8 | 8.2 | 7.3 | 6.5 | 4.9 | 4. 9 |
| · 940 | 82.5 | 21.5 | 28.9 | 24.8 | 19.8 | 16.5 | 14.0 | 11.6 | 9.9 | 8.3 | 7.4 | 6.6 | 5.0 | 5. 0 |
| 950 | 83.4 | 21.7 | 29. 2 | 25. 0 | 20.0 | 16.7 | 14.2 | 11.7 | 10.0 | 8.3 | 7.5 | 6. 7 | 5.0 | 5. 0 |
| 960 | ⁻ 84. 3 | 21.9 | 29.5 | 25. 3 | 20.2 | 16.9 | 14.3 | 11.8 | 10.1 | 8.4 | 7.6 | 6.7 | 5.1 | 5. 1 |
| 970 | 85.1 | 22.1 | 29.8 | 25.5 | 20.4 | 17.0 | 14.5 | 11.9 | 10. 2 | 8.5 | 7.7 | 6.8 | 5.1 | 5. 1 |
| 980 | 86. 0 | 22.4 | 30. 1 | 25.8 | 20. 6 | 17.2 | 14.6 | 12.0 | 10.3 | 8.6 | 7.7 | 6. 9 | 5.2 | 5. 2 |
| 990 | 86. 9 | 22.6 | 30.4 | 26.1 | 20.9 | 17.4 | 14.8 | 12.2 | 10. 4 | 8.7 | 7.8 | 7.0 | 5.2 | 5. 2 |
| 1,000 | 87. 8 | 22.8 | 30. 7 | 26.3 | 21.1 | 17.6 | 14. 9 | 12.3 | 10.5 | 8.8 | 7.9 | 7.0 | 5.3 | 5. 3 |
| 1, 010 | 88.7 | 23.1 | 31.0 | 26.6 | 21. 3 | 17.7 | 15.1 | 12.4 | 10.6 | 8.9 | 8.0 | 7.1 | 5.3 | 5. 3 |
| 1, 020 | 89. 5 | 23. 3 | 31. 3 | 26.9 | 21.5 | 17.9 | 15.2 | 12.5 | 10.7 | 9. 0 | 8.1 | 7. 2 | 5.4 | 5, 4 |
| 1, 030 | 90.4 | 23.5 | 31.6 | 27.1 | 21.7 | 18.1 | 15.4 | 12.7 | 10.9 | 9 . O | 8.1 | 7.2 | 5.4 | 5.4 |
| 1, 040 | 91. 3 | 23. 7 | 32.0 | 27.4 | 21. 9 | 18.3 | 15.5 | 12.8 | 11. 0 | 9. 1 | 8.2 | 7. 3 | 5.5 | 5.5 |
| 1, 050 | 92. 2 | 24.0 | 32.3 | 27.7 | 22.1 | 18.4 | 15.7 | 12.9 | 11.1 | 9. 2 | 8.3 | 7.4 | 5.5 | 5.5 |
| 1,060 | 93 . 0 | 24. 2 | 32.6 | 27.9 | 22. 3 | 18.6 | 15.8 | 13.0 | 11. 2 | 9. 3 | 8.4 | 7.4 | 5.6 | 5. 6 |
| 1, 070 | 93. 9 | 24.4 | 32.9 | 28.2 | 22.5 | 18.8 | 16.0 | 13.2 | 11. 3 | 9.4 | 8.5 | 7.5 | 5.6 | 5. 6 |
| 1,080 | 94.8 | 24.6 | 33.2 | 28.4 | 22.8 | 19.0 | 16.1 | 13.3 | 11.4 | 9.5 | 8.5 | 7.6 | 5.7 | 5. 7 |
| 1,090 | 95. 7 | 24. 9 | 33. 5 | 28.7 | 23.0 | 19.1 | 16.3 | 13.4 | 11.5 | 9. 6 | 8.6 | 7.7 | 5.7 | 5. 7 |
| 1, 100 | 96.6 | 25.1 | 33.8 | 29. 0 | 23. 2 | 19.3 | 16.4 | 13.5 | 11.6 | 9.7 | 8.7 | 7.7 | 5.8 | 5. 8 |

 Table 2–9.
 Weighted Densities (Type 2 Message), Zone 3

| Dens | ity | | | | | | Line | -Zone l | No. | | | | | |
|-------------------|--------------|-------|--------------|---------------|-------|-------|---------------|---------|-------|-------|-------|-------|------|----|
| Gm/M ³ | % | 33 | 43 | 53 | 63 | 73 | 83 | 93 | 03 | 13 | 23 | 33 | 43 | 53 |
| 1, 110 | 97.4 | 25. 3 | 34.1 | 29. 2 | 23. 4 | 19.5 | 16.6 | 13.6 | 11. 7 | 9.7 | 8.8 | 7.8 | 5.8 | 5. |
| 1, 120 | 98. 3 | 25.6 | 34.4 | 29.5 | 23.6 | 19.7 | 16.7 | 13.8 | 11.8 | 9.8 | 8.8 | 7.9 | 5.9 | 5. |
| 1, 130 | 99. 2 | 25.8 | 34. 7 | 2 9. 8 | 23.8 | 19.8 | 16.9 | 13.9 | 11.9 | 9.9 | 8.9 | 7.9 | 6. 0 | 6 |
| 1, 140 | 100. 1 | 26. 0 | 35. 0 | 30. 0 | 24.0 | 20. 0 | 17.0 | 14.0 | 12.0 | 10. 0 | 9.0 | 8.0 | 6. 0 | 6 |
| 1, 150 | 100. 9 | 26. 2 | 35. 3 | 30. 3 | 24. 2 | 20. 2 | 17.2 | 14.1 | 12.1 | 10.1 | 9.1 | 8.1 | 6. 1 | 6 |
| 1, 160 | 101. 8 | 26.5 | 35.6 | 30. 5 | 24.4 | 20.4 | 17.3 | 14. 3 | 12.2 | 10. 2 | 9. 2 | 8.1 | 6. 1 | 6 |
| 1, 170 | 102.7 | 26.7 | 35. 9 | 30. 8 | 24.6 | 20.5 | 17.5 | 14.4 | 12.3 | 10. 3 | 9. 2 | 8. 2 | 6.2 | 6 |
| 1, 180 | 103.6 | 26.9 | 36. 3 | 31. 1 | 24.9 | 20.7 | 17.6 | 14.5 | 12.4 | 10.4 | 9.3 | 8.3 | 6.2 | 6 |
| 1, 190 | 104.5 | 27. 2 | 36.6 | 31. 3 | 25.1 | 20.9 | 17.8 | 14.6 | 12.5 | 10.4 | 9.4 | 8.4 | 6. 3 | 6 |
| 1, 200 | 105. 3 | 27.4 | 36. 9 | 31.6 | 25.3 | 21.1 | 17.9 | 14.7 | 12.6 | 10.5 | 9.5 | 8.4 | 6. 3 | 6 |
| 1, 210 | 106.2 | 27.6 | 37. 2 | 31. 9 | 25.5 | 21. 2 | 18.1 | 14.9 | 12.7 | 10.6 | 9.6 | 8.5 | 6.4 | 6 |
| 1, 220 | 107.1 | 27.8 | 37.5 | 32.1 | 25.7 | 21.4 | 18.2 | 15.0 | 12.9 | 10.7 | 9.6 | 8.6 | 6.4 | 6 |
| 1, 230 | 108.0 | 28.1 | 37.8 | 32.4 | 25.9 | 21.6 | 18.4 | 15.1 | 13.0 | 10.8 | 9.7 | 8.6 | 6.5 | 6 |
| 1, 240 | 108.8 | 28.3 | 38.1 | 32.6 | 26.1 | 21.8 | 18.5 | 15. 2 | 13. 1 | 10.9 | 9.8 | 8.7 | 6.5 | 6 |
| 1, 250 | 109.7 | 28.5 | 38.4 | 32.9 | 26. 3 | 21.9 | 18.7 | 15.4 | 13. 2 | 11.0 | 9.9 | 8.8 | 6.6 | 6 |
| 1, 260 | 110.6 | 28.8 | 38.7 | 33. 2 | 26.5 | 22.1 | 18.8 | 15.5 | 13.3 | 11.1 | 10. 0 | 8.8 | 6.6 | 6 |
| 1, 270 | 111.4 | 29. 0 | 39. 0 | 33.4 | 26.7 | 22.3 | 18.9 | 15.6 | 13.4 | 11.1 | 10. 0 | 8.9 | 6.7 | 6 |
| 1, 280 | 112.4 | 29. 2 | 39. 3 | 33. 7 | 27.0 | 22.5 | 19.1 | 15.7 | 13.5 | 11.2 | 10. 1 | 9.0 | 6.7 | 6 |
| 1, 290 | 113.2 | 29.4 | 39.6 | 34. 0 | 27.2 | 22.6 | 19. 3 | 15.9 | 13.6 | 11. 3 | 10. 2 | 9.1 | 6.8 | 6 |
| 1, 300 | 114.1 | 29.7 | 39.9 | 34. 2 | 27.4 | 22.8 | 19 <i>.</i> 4 | 16.0 | 13. 7 | 11.4 | 10.3 | 9.1 | 6.8 | 6 |
| 1, 310 | 115.0 | 29. 9 | 40. 2 | 34.5 | 27.6 | 23. 0 | 19.5 | 16.1 | 13.8 | 11.5 | 10.3 | 9.2 | 6.9 | 6 |
| 1, 320 | 115.9 | 30.1 | 40.6 | 34.8 | 27.8 | 23. 2 | 19.7 | 16.2 | 13.9 | 11.6 | 10.4 | 9.3 | 7.0 | 7 |
| 1, 330 | 116.7 | 30.4 | 40.8 | 35. 0 | 28.0 | 23. 3 | 19.8 | 16.3 | 14.0 | 11.7 | 10.5 | 9.3 | 7.0 | 7 |
| 1, 340 | 117.6 | 30.6 | 41.2 | 35. 3 | 28. 2 | 23. 5 | 20. 0 | 16.5 | 14.1 | 11.8 | 10.6 | 9.4 | 7.1 | 7 |
| 1, 350 | 118.5 | 30.8 | 41.5 | 35.6 | 28.4 | 23. 7 | 20.1 | 16.6 | 14.2 | 11.9 | 10.7 | 9.5 | 7.1 | 7 |
| 1, 360 | 119.4 | 31. 0 | 41.8 | 35. 8 | 28.7 | 23. 9 | 20.3 | 16.7 | 14.3 | 11. 9 | 10.7 | 9.6 | 7.2 | 7 |
| 1, 370 | 120.3 | 31. 3 | 42.1 | 36. 1 | 28.9 | 24.1 | 20.4 | 16.8 | 14.4 | 12.0 | 10.8 | 9.6 | 7.2 | 7 |
| 1, 380 | 121. 1 | 31. 5 | 42.4 | 36. 3 | 29.1 | 24. 2 | 20.6 | 17.0 | 14.5 | 12.1 | 10. 9 | 9.7 | 7.3 | 7 |
| 1, 390 | 122. 0 | 31. 7 | 42.7 | 36.6 | 29. 3 | 24.4 | 20.7 | 17.1 | 14.6 | 12.2 | 11.0 | 9.8 | 7.3 | 7 |
| 1, 400 | 122. 9 | 32. 0 | 43. 0 | 36. 9 | 29.5 | 24.6 | 20. 9 | 17.2 | 14.7 | 12. 3 | 11. 1 | 9.8 | 7.4 | 7 |
| 1, 410 | 123.8 | 32. 2 | 43.3 | 37.1 | 29. 7 | 24.8 | 21. 0 | 17.3 | 14. 9 | 12.4 | 11. 1 | 9.9 | 7.4 | 7 |
| 1, 420 | 124.7 | 32.4 | 43.6 | 37.4 | 29.9 | 24. 9 | 21. 2 | 17.5 | 15.0 | 12.5 | 11. 2 | 10. 0 | 7.5 | 7 |
| 1, 430 | 125.5 | 32.6 | 43.9 | 37. 7 | 30. 1 | 25.1 | 21.3 | 17.6 | 15.1 | 12.6 | 11.3 | 10.0 | 7.5 | 7 |
| 1, 440 | 126.4 | 32.9 | 44. 2 | 37.9 | 30. 3 | 25.3 | 21.5 | 17.7 | 15.2 | 12.6 | 11.4 | 10. 1 | 7.6 | 7 |
| 1, 450 | 127.3 | 33. 1 | 44.6 | 38. 2 | 30.6 | 25.5 | 21.6 | 17.8 | 15.3 | 12.7 | 11.4 | 10. 2 | 7.6 | 7 |
| 1, 460 | 128. 2 | 33. 3 | 44.9 | 38.5 | 30.8 | 25.6 | 21.8 | 17.9 | 15.4 | 12.8 | 11.5 | 10. 2 | 7.7 | 7 |
| 1, 470 | 129.0 | 33. 5 | 45.2 | 38.7 | 31.0 | 25.8 | 21.9 | 18.1 | 15.5 | 12.9 | 11.6 | 10.3 | 7.7 | 7 |

| Den | sity | | | | | | Line-Zo | one No. | | | <u></u> | | |
|-------------------|-------|------|-------|-------|-------|-------|---------|---------|------|------|---------|------|------|
| Gm/M ³ | % | 44 | 54 | 64 | 74 | 84 | 94 | 04 | 14 | 24 | 34 | 44 | 54 |
| 700 | 64. 5 | 6. 5 | 11. 6 | 11. 6 | 10. 3 | 9. 7 | 8.4 | 6. 5 | 5. 2 | 5. 2 | 5. 2 | 4.5 | 4.0 |
| 710 | 65. 5 | 6.5 | 11. 8 | 11.8 | 10. 5 | 9.8 | 8.5 | 6.5 | 5. 2 | 5.2 | 5.2 | 4.6 | 4.6 |
| 720 | 66.4 | 6.6 | 11. 9 | 11. 9 | 10.6 | 10. 0 | 8.6 | 6.6 | 5.3 | 5.3 | 5.3 | 4.6 | 4. (|
| 730 | 67. 3 | 6.7 | 12.1 | 12.1 | 10.8 | 10. 1 | 8.7 | 6.7 | 5.4 | 5.4 | 5.4 | 4.7 | 4.1 |
| 740 | 68.2 | 6.8 | 12. 3 | 12.3 | 10. 9 | 10. 2 | 8.9 | 6.8 | 5.5 | 5.5 | 5.5 | 4.8 | 4.1 |
| 750 | 69.1 | 6. 9 | 12, 4 | 12, 4 | 11. 1 | 10, 4 | 9.0 | 6. 9 | 5. 5 | 5. 5 | 5.5 | 4.8 | 4. |
| 760 | 70.1 | 7.0 | 12.6 | 12.6 | 11. 2 | 10.5 | 9.1 | 7.0 | 5.6 | 5.6 | 5.6 | 4.9 | 4. |
| 770 | 71.0 | 7.1 | 12.8 | 12.8 | 11.4 | 10.6 | 9. 2 | 7.1 | 5.7 | 5.7 | 5.7 | 5.0 | 5. |
| 780 | 71.9 | 7.2 | 12.9 | 12.9 | 11. 5 | 10. 8 | 9.3 | 7.2 | 5.8 | 5.8 | 5.8 | 5.0 | 5. |
| 790 | 72.8 | 7.3 | 13, 1 | 13. 1 | 11.7 | 10. 9 | 9.5 | 7.3 | 5.8 | 5.8 | 5.8 | 5.1 | 5. |
| 800 | 73. 8 | 7.4 | 13. 3 | 13. 3 | 11, 8 | 11. 1 | 9.6 | 7.4 | 5.9 | 5. 9 | 5.9 | 5. 2 | 5. : |
| 810 | 74.7 | 7.5 | 13, 4 | 13.4 | 11. 9 | 11. 2 | 9.7 | 7.5 | 6.0 | 6.0 | 6.0 | 5.2 | 5. : |
| 820 | 75.6 | 7.6 | 13, 6 | 13.6 | 12.1 | 11. 3 | 9.8 | 7.6 | 6.0 | 6.0 | 6.0 | 5.3 | 5. |
| 830 | 76.5 | 7.7 | 13, 8 | 13.8 | 12.2 | 11.5 | 9.9 | 7.7 | 6.1 | 6.1 | 6.1 | 5.4 | 5. |
| 840 | 77.4 | 7.7 | 13. 9 | 13. 9 | 12.4 | 11.6 | 10.1 | 7.7 | 6.2 | 6. 2 | 6.2 | 5.4 | 5. |
| 850 | 78.4 | 7.8 | 14.1 | 14.1 | 12.5 | 11.8 | 10. 2 | 7.8 | 6.3 | 6.3 | 6.3 | 5.5 | 5. |
| 860 | 79. 3 | 7.9 | 14.3 | 14.3 | 12.7 | 11. 9 | 10. 3 | 7.9 | 6.3 | 6. 3 | 6.3 | 5.6 | 5. |
| 870 | 80. 2 | 8.0 | 14.4 | 14.4 | 12.8 | 12.0 | 10. 4 | 8.0 | 6.4 | 6. 4 | 6.4 | 5.6 | 5. |
| 880 | 81. 1 | 8.1 | 14.6 | 14.6 | 13.0 | 12.2 | 10. 5 | 8.1 | 6.5 | 6. 5 | 6.5 | 5.7 | 5. |
| 890 | 82.1 | 8.2 | 14.8 | 14.8 | 13. 1 | 12.3 | 10. 7 | 8.2 | 6. 6 | 6.6 | 6.6 | 5.7 | 5. |
| 900 | 83. 0 | 8.3 | 14.9 | 14.9 | 13. 3 | 12.4 | 10. 8 | 8.3 | 6.6 | 6.6 | 6.6 | 5.8 | 5. |
| 910 | 83. 9 | 8.4 | 15.1 | 15.1 | 13. 4 | 12.6 | 10. 9 | 8.4 | 6.7 | 6.7 | 6.7 | 5.9 | 5. |
| 920 | 84.8 | 8.5 | 15.3 | 15. 3 | 13.6 | 12.7 | 11. 0 | 8.5 | 6.8 | 6. 8 | 6.8 | 5.9 | 5. |
| 930 | 85.7 | 8.6 | 15.4 | 15.4 | 13.7 | 12.9 | 11. 1 | 8.6 | 6.9 | 6.9 | 6.9 | 6.0 | 6. |
| 940 | 86.7 | 8.7 | 15.6 | 15.6 | 13. 9 | 13.0 | 11. 3 | 8 7 | 6.9 | 6.9 | 6.9 | 6.1 | 6. |
| 950 | 87.6 | 8.8 | 15.8 | 15.8 | 14.0 | 13. 1 | 11. 4 | 8.8 | 7.0 | 7.0 | 7.0 | 6.1 | 6. |
| 960 | 88.5 | 8.9 | 15.9 | 15. 9 | 14.2 | 13. 3 | 11. 5 | 8.9 | 7.1 | 7.1 | 7.1 | 6. 2 | 6. |
| 970 | 89.4 | 8.9 | 16.1 | 16.1 | 14.3 | 13.4 | 11.6 | 8.9 | 7. 2 | 7. 2 | 7.2 | 63 | 6. |
| 980 | 90. 4 | 9.0 | 16. 3 | 16.3 | 14.5 | 13.6 | 11. 7 | 9.0 | 7. 2 | 7. 2 | 7. 2 | 6.3 | 6. |
| 990 | 91. 3 | 9.1 | 16. 4 | 16. 4 | 14.6 | 13. 7 | 11. 9 | 9.1 | 7.3 | 7.3 | 7.3 | 6.4 | 6. |
| 1,000 | 92. 2 | 9.2 | 16. 6 | 16.6 | 14.8 | 13. 8 | 12.0 | 9.2 | 7.4 | 7.4 | 7.4 | 6.5 | 6. |
| 1,010 | 93.1 | 9.3 | 16.8 | 16.8 | 14.9 | 14.0 | 12.1 | 9.3 | 7.4 | 7.4 | 7.4 | 6.5 | 6. |
| 1,020 | 94.0 | 9.4 | 16.9 | 16.9 | 15.0 | 14.1 | 12.2 | 9.4 | 7.5 | 7.5 | 7.5 | 6.6 | 6. |
| 1,030 | 95.0 | 9.5 | 17.1 | 17.1 | 15.2 | 14.2 | 12.8 | 9.5 | 7.6 | 7.6 | 7.6 | 6.6 | 6. |
| 1,040 | 95.9 | 9.6 | 17.8 | 17.8 | 15.8 | 14.4 | 12.5 | 9.6 | 7.7 | 7.7 | 7.7 | 6.7 | 6. |
| 1,050 | 96.8 | 9.7 | 17.4 | 17.4 | 15.5 | 14.5 | 12.6 | 9.7 | 7.7 | 7.7 | 7.7 | 6.8 | 6. |
| 1,060 | 97.7 | 9.8 | 17.6 | 17.6 | 15.6 | 14.7 | 12.7 | 9.8 | 7.8 | 7.8 | | 6.8 | 6. |

 Table 2-9.
 Weighted Densities (Type 2 Message), Zone 4

| Den | sity | | | | | | Line-Zoi | ne No. | | | | | |
|-------------------|--------|------|------|------|------|--------|----------|--------|------|------|------|-----|-----|
| Gm/M ³ | % | 44 | 54 | 64 | 74 | 84 | 94 | 04 | 14 | 24 | 34 | 44 | 54 |
| 1, 070 | 98.7 | 9.9 | 17.8 | 17.8 | 15.8 | 14.8 | 12.8 | 9.9 | 7.9 | 7.9 | 7.9 | 6.9 | 6.9 |
| 1, 080 | 99.6 | 10.0 | 17.9 | 17.9 | 15.9 | 14.9 | 12.9 | 10.0 | 8.0 | 8.0 | 8.0 | 7.0 | 7.0 |
| 1, 090 | 100.5 | 10.1 | 18.1 | 18.1 | 16.1 | 15.1 | 13.1 | 10.1 | 8.0 | 8.0 | 8.0 | 7.0 | 7.0 |
| 1,100 | 101.4 | 10.1 | 18.3 | 18.3 | 16.2 | 15.2 | 13.2 | 10.1 | 8.1 | 8.1 | 8.1 | 7.1 | 7.1 |
| 1, 110 | 102.3 | 10.2 | 18.4 | 18.4 | 16.4 | 15.4 | 13.3 | 10.2 | 8.2 | 8.2 | 8.2 | 7.2 | 7.2 |
| 1, 120 | 103.3 | 10.3 | 18.6 | 18.6 | 16.5 | 15.5 | 13.4 | 10.3 | 8.3 | 8.3 | 8.3 | 7.2 | 7.2 |
| 1, 130 | 104.2 | 10.4 | 18.8 | 18.8 | 16.7 | 15.6 | 13.5 | 10.4 | 8.3 | 8.3 | 8.3 | 7.3 | 7.3 |
| 1, 140 | 105.1 | 10.5 | 18.9 | 18.9 | 16.8 | 15.8 | 13.7 | 10.5 | 8.4 | 8.4 | 8.4 | 7.4 | 7.4 |
| 1,150 | 106.0 | 10.6 | 19.1 | 19.1 | 17.0 | 15.9 | 13.8 | 10.6 | 8.5 | 8.5 | 8.5 | 7.4 | 7.4 |
| 1,160 | 107.0 | 10.7 | 19.3 | 19.3 | 17.1 | 16.0 | 13.9 | 10.7 | 8.6 | 8.6 | 8.6 | 7.5 | 7.5 |
| 1, 170 | 107.9 | 10.8 | 19.4 | 19.4 | 17.3 | 16.2 | 14.0 | 10.8 | 8.6 | 8.6 | 8.6 | 7.6 | 7.6 |
| 1, 180 | 108.8 | 10.9 | 19.6 | 19.6 | 17.4 | 16.3 | 14.1 | 10.9 | 8.7 | 8.7 | 8.7 | 7.6 | 7.6 |
| 1, 190 | 109.7 | 11.0 | 19.7 | 19.7 | 17.6 | 16.5 | 14.3 | 11.0 | 8.8 | 8.8 | 8.8 | 7.7 | 7.7 |
| 1, 200 | 110.6 | 11.1 | 19.9 | 19.9 | 17:7 | 16.6 | 14.4 | 11.1 | 8.9 | 8.9 | 8.9 | 7.7 | 7.7 |
| 1, 210 | 111.6 | 11.2 | 20.1 | 20.1 | 17.9 | 16.7 | 14.5 | 11.2 | 8.9 | 8.9 | 8.9 | 7.8 | 7.8 |
| 1, 220 | 112.5 | 11.2 | 20.2 | 20.2 | 18.0 | 16.9 | 14.6 | 11.2 | 9.0 | 9.0 | 9.0 | 7.9 | 7.9 |
| 1, 230 | 113.4 | 11.3 | 20.4 | 20.4 | 18.1 | 17.0 | 14.7 | 11.3 | 9.1 | 9.1 | 9.1 | 7.9 | 7.9 |
| 1, 240 | 114.3 | 11.4 | 20.6 | 20.6 | 18.3 | . 17.1 | 14.9 | 11.4 | 9.1 | 9.1 | 9.1 | 8.0 | 8.0 |
| 1, 250 | 115. 2 | 11.5 | 20.7 | 20.7 | 18.4 | 17.3 | 15.0 | 11.5 | 9.2 | 9.2 | 9.2 | 8.1 | 8.1 |
| 1, 260 | 116.2 | 11.6 | 20.9 | 20.9 | 18.6 | 17.4 | 15.1 | 11.6 | 9.3 | 9.3 | 9.3 | 8.1 | 8.1 |
| 1, 270 | 117.1 | 11.7 | 21.1 | 21.1 | 18.7 | 17.6 | 15.2 | 11.7 | 9.4 | 9.4 | 9.4 | 8.2 | 8.2 |
| 1, 280 | 118.0 | 11.8 | 21.2 | 21.2 | 18.9 | 17.7 | 15.3 | 11.8 | 9.4 | 9.4 | 9.4 | 8.3 | 8.8 |
| 1, 290 | 118.9 | 11.9 | 21.4 | 21.4 | 19.0 | 17.8 | 15.5 | 11.9 | 9.5 | 9.5 | 9.5 | 8.3 | 8.8 |
| 1, 300 | 119.9 | 12.0 | 21.6 | 21.6 | 19.2 | 18.0 | 15.6 | 12.0 | 9.6 | 9.6 | 9.6 | 8.4 | 8.4 |
| 1, 310 | 120.8 | 12.1 | 21.7 | 21.7 | 19.3 | 18.1 | 15.7 | 12.1 | 9.7 | 9.7 | 9.7 | 8.5 | 8.5 |
| 1, 320 | 121.7 | 12.2 | 21.9 | 21.9 | 19.5 | 18.3 | 15.8 | 12.2 | 9.7 | 9.7 | 9.7 | 8.5 | 8.5 |
| 1, 330 | 122.6 | 12.3 | 22.1 | 22.1 | 19.6 | 18.4 | 15.9 | 12.3 | 9.8 | 9.8 | 9.8 | 8.6 | 8.6 |
| 1, 340 | 123.5 | 12.4 | 22.2 | 22.2 | 19.8 | 18.5 | 16.1 | 12.4 | 9.9 | 9.9 | 9.9 | 8.6 | 8.6 |
| 1, 350 | 124.5 | 12.4 | 22.4 | 22.4 | 19.9 | 18.7 | 16.2 | 12.4 | 10.0 | 10.0 | 10.0 | 8.7 | 8.7 |
| 1, 360 | 125.4 | 12.5 | 22.6 | 22.6 | 20.1 | 18.8 | 16.3 | 12.5 | 10.0 | 10.0 | 10.0 | 8.8 | 8.8 |
| 1, 370 | 126.3 | 12.6 | 22.7 | 22.7 | 20.2 | 18.9 | 16.4 | 12.6 | 10.1 | 10.1 | 10.1 | 8.8 | 8.8 |
| 1, 380 | 127.2 | 12.7 | 22.9 | 22.9 | 20.4 | 19.1 | 16.5 | 12.7 | 10.2 | 10.2 | 10.2 | 8.9 | 8.9 |
| 1, 390 | 128.2 | 12.8 | 23.1 | 23.1 | 20.5 | 19.2 | 16.7 | 12.8 | 10.3 | 10.3 | 10.3 | 9.0 | 9.0 |
| 1,400 | 129.1 | 12.9 | 23.2 | 23.2 | 20.7 | 19.4 | 16.8 | 12.9 | 10.3 | 10.3 | 10.3 | 9.0 | 9.0 |
| 1, 410 | 130.0 | 13.0 | 23.4 | 23.4 | 20.8 | 19.5 | 16.9 | 13.0 | 10.4 | 10.4 | 10.4 | 9.1 | 9.1 |
| 1, 420 | 130.9 | 13.1 | 23.6 | 23.6 | 20.9 | 19.6 | 17.0 | 18.1 | 10.5 | 10.5 | 10.5 | 9.2 | 9.2 |

Table 2-9. Weighted Densities (Type 2 Message), Zone 4-Continued

| Table 2–9. | Weighted Densities (Type 2 Message), Zone 5 | |
|------------|---|--|
|------------|---|--|

| Den | sity | | | | | Line- | Zone No. | | | | | |
|-------------------|-------|------|-------|-------|---------------------------|-------|----------|------|------|------|------|------|
| Gm/M ³ | % | 55 | 65 | 75 | 85 | 95 | 05 | 15 | 25 | 35 | 45 | 55 |
| 670 | 64. 9 | 5. 2 | 9. 1 | 9. 1 | 8.4 | 7.8 | 6. 5 | 5. 2 | 5. 2 | 3. 9 | 4.5 | 3. : |
| 680 | 65. 9 | 5.3 | 9. 2 | 9. 2 | 8.6 | 7.9 | 6. 6 | 5.3 | 5.3 | 4.0 | 4.6 | 3. 3 |
| 690 | 66. 9 | 5.3 | 9.4 | 9.4 | 8.7 | 8.0 | 6. 7 | 5.3 | 5.3 | 4.0 | 4.7 | 3. 3 |
| 700 | 67.8 | 5.4 | 9.5 | 9.5 | 8.8 | 8.1 | 6.8 | 5.4 | 5.4 | 4.1 | 4.7 | 3. |
| 710 | 68.8 | 5.5 | 9.6 | 9.6 | 8.9 | 8.3 | 6.9 | 5.5 | 5.5 | 4.1 | 4.8 | 3. |
| 720 | 69.8 | 5.6 | 9.8 | 9.8 | 9.1 | 8.4 | 7.0 | 5.6 | 5.6 | 4.2 | 4.9 | 3. |
| 730 | 70. 7 | 5.7 | 9.9 | 9. 9 | 9. 2 | 8.5 | 7.1 | 5.7 | 5.7 | 4.2 | 5.0 | 3. |
| 740 | 71. 7 | 5.7 | 10. 0 | 10. 0 | 9.3 | 8.6 | 7. 2 | 5.7 | 5.7 | 4.3 | 5.0 | 3. |
| 750 | 72. 7 | 5.8 | 10. 2 | 10. 2 | 9.4 | 8.7 | 7.3 | 5.8 | 5.8 | 4.4 | 5.1 | 3. |
| 760 | 73. 6 | 5.9 | 10.3 | 10. 3 | 9.6 | 8.8 | 7.4 | 5. 9 | 5.9 | 4.4 | 5.2 | 3. |
| , 770 | 74.6 | 6.0 | 10.4 | 10. 4 | 9. 7 | 9.0 | 7.5 | 6.0 | 6.0 | 4.5 | 5. 2 | 3. |
| 780 | 75.6 | 6.0 | 10. 6 | 10. 6 | 9.8 | 9.1 | 7.6 | 6.0 | 6.0 | 4.5 | 5.3 | 3. |
| 790 | 76.6 | 6.1 | 10. 7 | 10. 7 | 10. 0 | 9.2 | 7.7 | 6.1 | 6.1 | 4.6 | 5.4 | 3. |
| 800 | 77.5 | 6. 2 | 10. 9 | 10. 9 | 10. 1 | 9.3 | 7.8 | 6. 2 | 6. 2 | 4.7 | 5.4 | 3. |
| 810 | 78.5 | 6.3 | 11. 0 | 11. 0 | 10. 2 | 9.4 | 7.8 | 6.3 | 6.3 | 4.7 | 5.5 | 3. |
| 820 | 79.5 | 6.4 | 11. 1 | 11. 1 | 10. 3 | 9.5 | 7.9 | 6.4 | 6.4 | 4.8 | 5.6 | 4. |
| 830 | 80.4 | 6.4 | 11. 3 | 11. 3 | 10. 5 | 9.7 | 8.0 | 6.4 | 6.4 | 4.8 | 5.6 | 4. |
| 840 | 81.4 | 6.5 | 11.4 | 11.4 | 10.6 | 9.8 | 8.1 | 6.5 | 6.5 | 4.9 | 5.7 | 4. |
| 850 | 82.4 | 6.6 | 11. 5 | 11. 5 | 10. 7 | 9.9 | 8.2 | 6.6 | 6.6 | 4.9 | 5.8 | 4. |
| 860 | 83. 3 | 6.7 | 11. 7 | 11. 7 | 10. 8 | 10. 0 | 8.3 | 6.7 | 6. 7 | 5.0 | 5.8 | 4. |
| 870 | 84.3 | 6.7 | 11. 8 | 11. 8 | 11. 0 | 10. 1 | 8.4 | 6.7 | 6.7 | 5.1 | 5.9 | 4. |
| 880 | 85.3 | 6.8 | 11. 9 | 11. 9 | 11. 1 | 10. 2 | 8.5 | 6.8 | 6. 8 | 5.1 | 6.0 | 4. |
| 890 | 86. 2 | 6.9 | 12.1 | 12.1 | 11. 2 | 10. 3 | 8.6 | 6.9 | 6.9 | 5. 2 | 6.0 | 4. |
| 900 | 87. 2 | 7.0 | 12.2 | 12.2 | 11. 3 | 10.5 | 8.7 | 7.0 | 7.0 | 5.2 | 6.1 | 4. |
| 910 | 88.2 | 7.1 | 12.3 | 12.3 | 11. 5 | 10. 6 | 8.8 | 7.1 | 7.1 | 5.3 | 6. 2 | 4. |
| 920 | 89.1 | 7.1 | 12.5 | 12.5 | 11. 6 | 10. 7 | 8.9 | 7.1 | 7.1 | 5.3 | 6. 2 | 4. |
| 930 | 90. 1 | 7. 2 | 12.6 | 12.6 | 11. 7 | 10. 8 | 9.0 | 7. 2 | 7.2 | 5.4 | 6.3 | 4. |
| 940 | 91. 1 | 7.3 | 12.8 | 12.8 | 11.8 | 10. 9 | 9.1 | 7.3 | 7.3 | 5.5 | 6.4 | 4. |
| 950 | 92. 1 | 7.4 | 12.9 | 12. 9 | 12. 0 [·] | 11. 0 | 9.2 | 7.4 | 7.4 | 5.5 | 6.4 | 4. |
| 960 | 93. 0 | 7.4 | 13. 0 | 13. 0 | 12.1 | 11. 2 | 9.3 | 7.4 | 7.4 | 5.6 | 6.5 | 4. |
| 970 | 94. 0 | 7.5 | 13. 2 | 13. 2 | 12.2 | 11. 3 | 9.4 | 7.5 | 7.5 | 5.6 | 6.6 | 4. |
| 980 | 95. 0 | 7.6 | 13. 3 | 13. 3 | 12.3 | 11.4 | 9. 5 | 7.6 | 7.6 | 5.7 | 6.6 | 4. |
| 990 | 95. 9 | 7.7 | 13.4 | 13. 4 | 12.5 | 11.5 | 9.6 | 7.7 | 7.7 | 5.8 | 6.7 | 4. |

| Den | sity | | | | | Line | -Zone No | • | | | | |
|-------------------|---------|-------|-------|-------|-------|-------|----------|-------|-------|------|------|-------------|
| Gm/M ⁸ | % | 55 | 65 | 75 | 85 | 95 | 05 | 15 | 25 | 35 | 45 | 55 |
| 1,000 | 96. 9 | 7. 8 | 13. 6 | 13. 6 | 12.6 | 11. 6 | 9.7 | 7.8 | 7.8 | 5.8 | 6. 8 | 4.8 |
| 1, 010 | 97. 9 | 7.8 | 13. 7 | 13. 7 | 12.7 | 11. 7 | 9.8 | 7.8 | 7.8 | 5.9 | 6.9 | 4.9 |
| 1, 020 | 98. 8 | 7.9 | 13. 8 | 13.8 | 12.8 | 11. 9 | 9. 9 | 7.9 | 7.9 | 5.9 | 6.9 | 4.9 |
| 1, 030 | 99.8 | 8.0 | 14.0 | 14. 0 | 13. 0 | 12.0 | 10. 0 | 8.0 | 8.0 | 6. 0 | 7.0 | 5.0 |
| 1,040 | 100. 8 | 8.1 | 14.1 | 14. 1 | 13. 1 | 12.1 | 10. 1 | 8.1 | 8.1 | 6.0 | 7.1 | 5.0 |
| 1, 050 | 101. 7 | 8.1 | 14. 2 | 14. 2 | 13. 2 | 12. 2 | 10. 2 | 8.1 | 8.1 | 6. 1 | 7.1 | 5.1 |
| 1,060 | 102.7 | 8.2 | 14.4 | 14.4 | 13. 4 | 12.3 | 10, 3 | 8.2 | 8.2 | 6. 2 | 7.2 | 5.1 |
| 1, 070 | 103. 7 | 8.3 | 14.5 | 14.5 | 13. 5 | 12.4 | 10.4 | 8.3 | 8.3 | 6. 2 | 7.3 | 5. 2 |
| 1, 080 | 104.7 | 8.4 | 14.7 | 14.7 | 13.6 | 12.6 | 10.5 | 8.4 | 8.4 | 6.3 | 7.3 | 5. 2 |
| 1, 090 | 105. 6 | 8.4 | 14.8 | 14.8 | 13. 7 | 12.7 | 10.6 | 8.4 | 8.4 | 6.3 | 7.4 | 5.3 |
| 1, 100 | 106.6 | 8.5 | 14.9 | 14. 9 | 13. 9 | 12.8 | 10. 7 | 8.5 | 8.5 | 6.4 | 7.5 | 5.3 |
| 1, 110 | 107.6 | 8.6 | 15.1 | 15.1 | 14.0 | 12.9 | 10.8 | 8.6 | 8.6 | 6.5 | 7.5 | 5.4 |
| 1, 120 | 108.5 | 8.7 | 15. 2 | 15. 2 | 14.1 | 13. 0 | 10. 9 | 8.7 | 8.7 | 6.5 | 7.6 | 5.4 |
| 1, 130 | 109.5 | 8.8 | 15.3 | 15.3 | 14. 2 | 13. 1 | 11. 0 | 8.8 | 8.8 | 6.6 | 7.7 | 5.5 |
| 1, 140 | 110.5 | 8.8 | 15.5 | 15.5 | 14.4 | 13. 3 | 11. 0 | 8.8 | 8.8 | 6.6 | 7.7 | 5.5 |
| 1, 150 | 111.4 | 8.9 | 15.6 | 15.6 | 14.5 | 13. 4 | 11. 1 | 8.9 | 8.9 | 6.7 | 7.8 | 5.6 |
| 1, 160 | 112.4 | 9.0 | 15.7 | 15.7 | 14.6 | 13. 5 | 11. 2 | 9.0 | 9.0 | 6.7 | 7.9 | 5.6 |
| 1, 170 | .113. 4 | 9.1 | 15. 9 | 15. 9 | 14.7 | 13.6 | 11. 3 | 9.1 | 9.1 | 6.8 | 7.9 | 5.7 |
| 1, 180 | 114.3 | 9.1 | 16. 0 | 16.0 | 14.9 | 13. 7 | 11.4 | 9.1 | 9.1 | 6.9 | 8.0 | 5.7 |
| 1, 190 | 115.3 | 9. 2 | 16.1 | 16.1 | 15. 0 | 13.8 | 11.5 | 9. 2 | 9. 2 | 6.9 | 8.1 | 5.8 |
| 1, 200 | 116.3 | 9.3 | 16.3 | 16.3 | 15.1 | 14.0 | 11.6 | 9.3 | 9.3 | 7.0 | 8.1 | 5.8 |
| 1, 210 | 117. 2 | 9.4 | 16.4 | 16.4 | 15. 2 | 14.1 | 11. 7 | 9.4 | 9.4 | 7.0 | 8.2 | 5.9 |
| 1, 220 | 118.2 | 9.5 | 16. 6 | 16. 6 | 15.4 | 14.2 | 11.8 | 9. 5 | 9.5 | 7.1 | 8.3 | 5.9 |
| 1, 230 | 119. 2 | 9.5 | 16.7 | 16.7 | 15.5 | 14.3 | 11. 9 | 9.5 | 9.5 | 7.2 | 8.3 | 6.0 |
| 1, 240 | 120. 2 | .9.6 | 16.8 | 16.8 | 15.6 | 14.4 | 12.0 | -9.6 | 9.6 | 7.2 | 8.4 | 6. 0 |
| 1, 250 | 121.1 | 9.7 | 17.0 | 17.0 | 15. 7 | 14.5 | 12.1 | 9.7 | 9.7 | 7.3 | 8.5 | 6. 1 |
| 1, 260 | 122.1 | 9.8 | 17.1 | 17.1 | 15. 9 | 14. 7 | 12. 2 | 9.8 | 9.8 | 7.3 | 8.5 | 6. 1 |
| 1, 270 | 123.1 | 9.8 | 17. 2 | 17. 2 | 16. 0 | 14.8 | 12.3 | 9.8 | 9.8 | 7.4 | 8.6 | 6. 2 |
| 1, 280 | 124.0 | 9. 9 | 17.4 | 17.4 | 16. 1 | 14.9 | 12.4 | 9. 9 | 9.9 | 7.4 | 8.7 | 6. 2 |
| 1, 290 | 125. 0 | 10. 0 | 17.5 | 17.5 | 16. 3 | 15. 0 | 12.5 | 10. 0 | 10. 0 | 7.5 | 8.8 | 6. 3 |
| 1, 300 | 126.0 | 10. 1 | 17.6 | 17.6 | 16. 4 | 15. 1 | 12.6 | 10. 1 | 10.1 | 7.6 | 8.8 | 6.3 |
| 1, 310 | 126. 9 | 10. 2 | 17.8 | 17.8 | 16.5 | 15. 2 | 12.7 | 10. 2 | 10. 2 | 7.6 | 8.9 | 6. 3 |

Table 2-9. Weighted Densities (Type 2 Message), Zone 5-Continued

| Table 2-9. | Weighted Densities (Type 2 Message), Zone 6 |
|------------|---|
|------------|---|

| Density | | | | | | Line-Zone | e No. | | | | |
|-------------------|--------------------|----------------|----------------|----------------|----------------|----------------|---|----------------|--------------|----------------|------------|
| Gm/M ³ | % | 66 | 76 | 86 | 96 | 06 | 16 | 26 | 36 | 46 | 56 |
| 620 | 64.8 | 7.8 | 12. 3 | 13.0 | 12. 3 | 11. 0 | 9. 7 | 8.4 | 7.8 | 7. 1 | 7. |
| 630 | 65.8 | 7.9 | 12.5 | 13. 2 | 12.5 | 11. 2 | 9.9 | 8.6 | 7.9 | 7.2 | 7. |
| 640 | 66. 9 | 8.0 | 12.7 | 13.4 | 12.7 | 11.4 | 10. 0 | 8.7 | 8.0 | 7.4 | 7. |
| 650 | 67. 9 | 8.2 | 12.9 | 13.6 | 12.9 | 11.5 | 10. 2 | 8.8 | 8.2 | 7.5 | 7. |
| 660 | 69. 0 | 8.3 | 13.1 | 13.8 | 13.1 | 11.7 | 10. 3 | 9. 0 | 8.3 | 7.6 | 7. |
| 670 | 70. 0 | 8.4 | 13. 3 | 14.0 | 13. 3 | 11. 9 | 10. 5 | 9.1 | 8.4 | 7.7 | 7. |
| 680 | 71.1 | 8.5 | 13.5 | 14.2 | 13.5 | 12.1 | 10.7 | 9. 2 | 8.5 | 7.8 | 7. 7. |
| 690 | 72.1 | 8.7 | 13.7 | 14.4 | 13.7 | 12.3 | 10.8 | 9.4 | 8.7 | 7.9 | 7. |
| 700 | 73.1 | 8.8 | 13.9 | 14.6 | 13.9 | 12.4 | 11.0 | 9.5 | 8.8 | 8.0 8.2 | 8. |
| 710 720 | 74. 2 75. 2 | 8.9 9.0 | 14. 1 14. 3 | 14. 8 15. 0 | 14. 1 14. 3 | 12.6 12.8 | $\begin{array}{c c} 11. 1 \\ 11. 3 \end{array}$ | 9.6 9.8 | 8.9 9.0 | 8. 2 8. 3 | 8. 8. |
| 730 | 76.3 | 9.0 | 14.5 | 15. 0 | 14. 5 | 13.0 | 11. 3 | 9.9 | 9.0 | 8.4 | 8. |
| 740 | 77.3 | 9.3 | 14. 7 | 15.5 | 14. 7 | 13.1 | 11.6 | 10.1 | 9.3 | 8.5 | 8. |
| 750 | 78.4 | 9.4 | 14.9 | 15.7 | 14.9 | 13. 3 | 11.8 | 10. 2 | 9.4 | 8.6 | 8. |
| 760 | 79.4 | 9.5 | 15. 1 | 15.9 | 15.1 | 13. 5 | 11.9 | 10. 3 | 9.5 | 8. 7 | 8. |
| 770 | 80. 5 | 9.7 | 15. 3 | 16.1 | 15. 3 | 13.7 | 12. 1 | 10. 5 | 9.7 | 8.9 | 8. |
| 780 | 81.5 | 9.8 | 15.5 | 16.3 | 15. 5 | 13.9 | 12. 2 | 10.6 | 9.8 | 9. 0 | 9 . |
| 790 | 82. 5 | 9.9 | 15.7 | 16.5 | 15.7 | 14.0 | 12.4 | 10.7 | 9.9 | 9. 1 | 9. |
| 800 | 83.6 | 10.0 | 15.9 | 16. 7 | 15.9 | 14.2 | 12.5 | 10. 9 | 10.0 | 9.2 | 9. |
| 810 | 84.6 | 10. 2 | 16.1 | 16.9 | 16.1 | 14.4 | 12.7 | 11.0 | 10. 2 | 9.3 | 9. |
| 820 | 85.7 | 10. 3 | 16.3 | 17.1 | 16.3 | 14.6 | 12.9 | 11. 1 | 10. 3 | 9.4 | 9. |
| 830 | 86. 7 | 10.4 | 16.5 | 17. 3 | 16.5 | 14.7 | 13. 0 | 11.3 | 10.4 | 9.5 | 9. |
| 840 | 87. 8 | 10.5 | 16. 7 | 17.6 | 16.7 | 14.9 | 13. 2 | 11.4 | 10.5 | 9. 7 | 9. |
| 850 | 88.8 | 10.7 | 16. 9 | 17.8 | 16. 9 | 15.1 | 13.3 | 11.5 | 10.7 | 9.8 | 9. |
| 860 | 89.9 | 10.8 | 17.1 | 18.0 | 17.1 | 15.3 | 13.5 | 11.7 | 10.8 | 9.9 | 9. 10. |
| 870 880 | 90. 9 92. 0 | 10. 9 11. 0 | 17.3 17.5 | 18.2 | 17.3 17.5 | 15.5 15.6 | 13.6 13.8 | 11. 8 12. 0 | 10.9 11.0 | 10. 0 10. 1 | 10. |
| 890 | 93.0 | 11. 2 | 17. 7 | 18. 4 18. 6 | 17. 5 | 15.8 | 13. 8 | 12.0 | 11. 2 | 10. 1 | 10. |
| 900 | 94.0 | 11. 3 | 17.9 | 18.8 | 17.9 | 16.0 | 14.1 | 12. 2 | 11. 3 | 10.3 | 10. 10. |
| 910 | 95. 1 | 11.4 | 18. i | 19.0 | 18.1 | 16. 2 | 14.3 | 12. 4 | 11.4 | 10. 5 | 10. |
| 920 | 96. 1 | 11. 4 11. 5 | 18.3 | 19. 2 | 18.3 | 16.3 | 14.4 | 12.5 | 11.5 | 10.6 | 10. |
| 930 | 97. 2 | 11.7 | 18.5 | 19.4 | 18.5 | 16.5 | 14.6 | 12.6 | 11.7 | 10.7 | 10. |
| 940 | 98. 2 | 11.8 | 18.7 | 19.6 | 18.7 | 16.7 | 14.7 | 12.8 | 11.8 | 10.8 | 10. |
| 950 | 99. 3 | 11. 9 | 18.9 | 19.9 | 18.9 | 16.9 | 14.9 | 12.9 | 11.9 | 10. 9 | 10. |
| 960 | 100.3 | 12.0 | 19.1 | 20.1 | 19.1 | 17.1 | 15.0 | 13.0 | 12.0 | 11. 0 | 11. |
| 970 | 101. 4 | 12. 2 | 19. 3 | 20. 3 | 19. 3 | 17. 2 | 15.2 | 13. 2 | 12. 2 | 11.1 | 11. |
| 980 | 102.4 | 12.3 | 19.5 | 20.5 | 19.5 | 17.4 | 15.4 | 13.3 | 12.3 | 11.3 | 11. |
| 990 | 103. 4 | 12.4 | 19.6 | 20. 7 | 19.6 | 17.6 | 15.5 | 13.4 | 12.4 | 11.4 | 11. |
| 1,000 | 104.5 | 12.5 | 19.9 | 20. 9 | 19.9 | 17.8 | 15.7 | 13.6 | 12.5 | 11.5 | 11. 11. |
| 1,010 | 105.5 | 12.7 | 20.1 | 21.1 | 20.1 | 17.9 | 15.8 | 13.7 | 12.7 | 11.6 11.7 | 11. |
| 1, 020 1, 030 | 106. 6 107. 6 | 12.8 12.9 | 20. 3 20. 4 | 21. 3 21. 5 | 20. 3 20. 4 | 18.1 18.3 | 16. 0 16. 1 | 13.9 14.0 | 12.8 12.9 | 11.8 | 11. |
| 1.040 | 107. 0 | 13.0 | 20. 4 | 21. 5 | 20. 4 | 18.5 | 16. 3 | 14. 1 | 13.0 | 12.0 | 12. |
| 1,050 | 109. 7 | 13. 2 | 20.8 | 21. 9 | 20.8 | 18.7 | 16.5 | 14.3 | 13. 2 | 12.1 | 12. |
| 1,060 | 110.8 | 13. 3 | 21.0 | 22. 2 | 21.0 | 18.8 | 16.6 | 14.4 | 13. 3 | 12.2 | 12. |
| 1,070 | 111.8 | 13.4 | 21. 2 | 22. 4 | 21. 2 | 19.0 | 16.8 | 14.5 | 13. 4 | 12.3 | 12. |
| 1, 080 | 112.9 | 13.5 | 21. 4 | 22. 6 | 21. 4 | 19. 2 | 16. 9 | 14.7 | 13. 5 | 12.4 | 12. |
| 1,090 | 113.9 | 13.7 | 21.6 | 22.8 | 21.6 | 19.4 | 17.1 | 14.8 | 13.7 | 12.5 | 12. |
| 1, 100 | 114.9 | 13.8 | 21.8 | 23. 0 | 21.8 | 19.5 | 17. 2 | 14.9 | 13.8 | 12.6 | 12. |
| 1, 110 | 116.0 | 13.9 | 22. 0 | 23. 2 | 22. 0 | 19.7 | 17.4 | 15.1 | 13.9 | 12.8 | 12. |
| 1, 120 | 117.0 | 14.0 | 22. 2 | 23. 4 | 22. 2 | 19.9 | 17.6 | 15.2 | 14.0 | 12.9 | 12. |
| 1,130 | 118.1 | 14.2 | 22. 4 | 23. 6 | 22. 4 | 20.1 | 17.7 | 15.4 | 14.2 | 13.0 | 13. |
| 1,140 | 119.1 | 14.3 | 22.6 | 23.8 | 22.6 | 20. 3 | 17.9 | 15.5 | 14.3 | 13.1 | 13. |
| 1,150 | 120. 2 | 14.4 | 22.8 | 24.0 | 22.8 | 20.4 | 18.0 | 15.6 | 14.4 | 13.2 | 13. 13. |
| 1,160 | 121. 2 | 14.5 | 23.0 | 24. 2 | 23.0 | 20.6 | 18.2 | 15.8 | 14.5 14.7 | 13.3 13.4 | 13. |
| 1, 170 | 122.3 | 14.7 | 23. 2 | 24.5 | 23. 2 | 20.8 | 18.3 | 15.9 16.0 | | 13. 6 | 13. |
| 1, 180 1, 190 | 123. 3 124. 3 | 14.8 14.9 | 23. 4 23. 6 | 24. 7 24. 9 | 23. 4 23. 6 | 21. 0 21. 1 | 18.5 18.6 | 16. 0 | 14.8 14.9 | 13. 7 | 13. |
| 1, 200 | 124. 3 | 14.9 | 23. 0 | 24. 9 25. 1 | 23. 0 | 21. 1 21. 3 | 18.8 | 16. 2 | 15.0 | 13. 8 | 13. |
| 1, 210 | | | | 25 3 | 24 0 | 21 5 | | | | | 13. |
| 1,210 | 126. 4 | 15.2 | 24.0 | 25. 3 | 24 . 0 | 21.5 | 19. 0 | 16.4 | 15. 2 | 13. 9 | 12 |

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| Table 2-9. | Weighted | Densities | (Type | 2 Messagel | Zone 7 |
|------------|----------|------------|--------|----------------|---------|
| | Weighted | 2011010100 | 11,700 | L 1110000490/, | 20110 / |

| Densi | ty | | Line-Zone No. | | | | | | | | | | |
|---|--|---|--|---|---|---|---|---|--|--|--|--|--|
| Gm/M ³ | % | 77 | 87 | 97 | 07 | 17 | 27 | 37 | 47 | 57 | | | |
| 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 800 810 820 830 840 850 860 870 880 900 910 920 930 940 950 970 980 990 1,020 1,030 1,040 1,050 1,090 | $\begin{array}{c} 64. \ 9\\ 66. \ 0\\ 67. \ 2\\ 68. \ 3\\ 69. \ 4\\ 70. \ 7\\ 71. \ 8\\ 73. \ 0\\ 74. \ 1\\ 75. \ 3\\ 76. \ 4\\ 77. \ 6\\ 78. \ 8\\ 79. \ 9\\ 81. \ 1\\ 82. \ 2\\ 83. \ 4\\ 84. \ 5\\ 85. \ 7\\ 86. \ 9\\ 89. \ 2\\ 90. \ 3\\ 91. \ 1\\ 82. \ 2\\ 83. \ 4\\ 84. \ 5\\ 85. \ 7\\ 86. \ 9\\ 89. \ 2\\ 90. \ 3\\ 91. \ 1\\ 82. \ 2\\ 83. \ 4\\ 84. \ 5\\ 85. \ 7\\ 86. \ 9\\ 89. \ 2\\ 90. \ 3\\ 91. \ 1\\ 82. \ 2\\ 89. \ 2\\ 90. \ 3\\ 91. \ 1\\ 182. \ 2\\ 89. \ 2\\ 99. \ 6\\ 100. \ 8\\ 101. \ 9\\ 103. \ 1\\ 104. \ 2\\ 105. \ 4\\ 106. \ 6\\ 107. \ 7\\ 108. \ 9\\ 110. \ 0\\ 111. \ 2\\ 113. \ 5\\ 114. \ 7\\ 115. \ 8\\ 117. \ 0\\ 118. \ 1\\ 119. \ 3\\ 120. \ 5\\ 121. \ 8\\ 123. \ 9\\ 125. \ 1\\ 126. \ 2\\ 126.$ | 4.4.4.4.4.4.5.5.5.5.5.5.5.5.5.5.5.5.5.5 | $\begin{array}{c} 7.8\\ 8.8\\ 8.8\\ 8.8\\ 8.8\\ 8.8\\ 8.8\\ 8.8\\$ | $\begin{array}{c} 9.7\\ 9.91\\ 10.34\\ 10.68\\ 11.1\\ 11.5\\ 11.5\\ 11.5\\ 12.2\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 12.5\\ 15.5$ | $\begin{array}{c} 9.1\\ 9.24\\ 9.9.9\\ 9.99\\ 10.12\\ 10.57\\ 9.9\\ 10.24\\ 10.57\\ 9.9\\ 10.12\\ 11.1\\ 11.1\\ 11.1\\ 11.2\\ 12.23\\ 56\\ 80\\ 11.3\\ 13.3\\ 13.4\\ 11.1\\ 11.1\\ 11.2\\ 12.23\\ 12.6\\ 80\\ 11.3\\ 13.3\\ 13.4\\ 14.4\\ 14.5\\ 15.5\\ 15.5\\ 15.5\\ 16.2\\ 16.5\\ 79\\ 0.2\\ 4.5\\ 7\\ 17.7\\ 17.7\\ 17.7\\ 17.7\\ 17.5\\ 17.7\\ 17.5\\ 17.7\\ 17.5\\ 1$ | $\begin{array}{c} 8. \ 4\\ 8. \ 6\\ 8. \ 7\\ 8. \ 9\\ 9. \ 2\\ 9. \ 3\\ 9. \ 9\\$ | $\begin{array}{c} 7.8\\ 7.9\\ 8.2\\ 8.8\\ 8.8\\ 8.9\\ 9.9\\ 9.5\\ 6.7\\ 9.0\\ 10.1\\ 10.3\\ 4.6\\ 7.8\\ 9.0\\ 9.5\\ 6.7\\ 9.0\\ 10.1\\ 11.3\\ 11.5\\ 7.8\\ 9.0\\ 12.2\\ 4.5\\ 6.8\\ 9.0\\ 2.3\\ 13.3\\ 5.6\\ 8.9\\ 0.2\\ 10.1\\ 11.3\\ 11.5\\ 12.2\\ 4.5\\ 6.8\\ 9.0\\ 13.3\\ 5.6\\ 8.9\\ 0.2\\ 13.3\\ 13.5\\ 6.8\\ 9.0\\ 13.3\\ 13.5\\ 6.8\\ 9.0\\ 13.3\\ 13.5\\ 6.8\\ 9.0\\ 13.3\\ 13.5\\ 6.8\\ 9.0\\ 13.3\\ 13.5\\ 6.8\\ 9.0\\ 13.3\\ 13.5\\ 6.8\\ 9.0\\ 13.3\\ 13.5\\ $ | $\begin{array}{c} 7.3\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 7.7.7\\ 8.8.2\\ 8.8.8\\ 8.8.9\\ 9.9.9\\ 10.0.3\\ 11.1\\ 12.3\\ 12.2\\ $ | $\begin{array}{c} \textbf{6.6} \\ \textbf{6.6} \\ \textbf{6.6} \\ \textbf{7.7.7} \\ \textbf{7.7.7} \\ \textbf{7.7.7} \\ \textbf{7.7.7} \\ \textbf{7.7.7} \\ \textbf{8.8} \\ \textbf{8.8} \\ \textbf{8.8} \\ \textbf{8.9} \\ \textbf{9.9.9} \\ \textbf{10.12} \\ \textbf{10.57} \\ \textbf{8.9} \\ \textbf{0.112} \\ \textbf{11.12} \\ \textbf{11.1.9} \\ \textbf{11.1.9} \\ \textbf{11.1.9} \\ \textbf{11.1.9} \\ \textbf{12.2.3} \\ \textbf{4.5.6} \\ \textbf{12.2.3} \\ \textbf{12.2.5} \\ \textbf{6.9} \\ \textbf{12.2.3} \\ \textbf{12.2.5} \\ 12.2.5$ | 6.6.6.6.6.7.7.7.7.7.7.7.7.8.8.8.8.8.8.8. | | | |

| Densi | ty | | | | Line-Zon | ne No. | | | |
|-------------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Gm/M ³ | % | 88 | 98 | 08 | 18 | 28 | 38 | 48 | 58 |
| 500 | 64.4 | 2.6 | 5.1 | 6.4 | 6.4 | 6.4 | 6.4 | 5.8 | 5.1 |
| 510 | 65.6 | 2.6 | 5.3 | 6.6 | 6.6 | 6.6 | 6.6 | 5.9 | 5.3 |
| 520 | 66.9 | 2.7 | 5.4 | 6.7 | 6.7 | 6.7 | 6.7 | 6.0 | 5.4 |
| 530 | 68.2 | 2.7 | 5.5 | 6.8 | 6.8 | 6.8 | 6.8 | 6.1 | 5.5 |
| 540 | 69.4 | 2.8 | 5.6 | 6.9 | 6.9 | 6.9 | 6.9 | 6.2 | 5.6 |
| 550 | 70.8 | 2.8 | 5.7 | 7.1 | 7.1 | 7.1 | 7.1 | 6.4 | 5.7 |
| 560 | 72.1 | 2.9 | 5.8 | 7.2 | 7.2 | 7.2 | 7.2 | 6.5 | 5.8 |
| 570 | 73.4 | 2.9 | 5.9 | 7.8 | 7.3 | 7.3 | 7.3 | 6.6 | 5.9 |
| 580 | 74.6 | 3.0 | 6.0 | 7.5 | 7.5 | 7.5 | 7.5 | 6.7 | 6.0 |
| 590 | 75.9 | 3.0 | 6.1 | 7.6 | 7.6 | 7.6 | 7.6 | 6.8 | 6.1 |
| 600 | 77.2 | 3.1 | 6.2 | 7.7 | 7.7 | 7.7 | 7.7 | 6.9 | 6.2 |
| 610 | 78.5 | 3.1 | 6.3 | 7.9 | 7.9 | 7.9 | 7.9 | 7.1 | 6.8 |
| 620 | 79.8 | 3.2 | 6.4 | 8.0 | 8.0 | 8.0 | 8.0 | 7.2 | 6.4 |
| 630 | 81.1 | 3.2 | 6.5 | 8.1 | 8.1 | 8.1 | 8.1 | 7.3 | 6.5 |
| 640 | 82.4 | 3.3 | 6.6 | 8.2 | 8.2 | 8.2 | 8.2 | 7.4 | 6.6 |
| 650 | 83.7 | 3.3 | 6.7 | 8.4 | 8.4 | 8.4 | 8.4 | 7.5 | 6.7 |
| 660 | 84.9 | 3.4 | 6.8 | 8.5 | 8.5 | 8.5 | 8.5 | 7.6 | 6.8 |
| 670 | 86.2 | 3.4 | 6.9 | 8.6 | 8.6 | 8.6 | 8.6 | 7.8 | 6.9 |
| 680 | 87.5 | 3.5 | 7.0 | 8.8 | 8.8 | 8.8 | 8.8 | 7.9 | 7.0 |
| 690 | 88.8 | 3.6 | 7.1 | 8.9 | 8.9 | 8.9 | 8.9 | 8.0 | 7.1 |
| 700 | 90.1 | 8.6 | 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 8.1 | 7.2 7.3 |
| 710 | 91.4 | 3.7 | 7.3 | 9.1 | 9.1 9.3 | 9.1 9.3 | 9.1 9.3 | 8.2 8.3 | 7.4 |
| 720 | - 92.7 | 3.7 3.8 | 7.4 7.5 | 9.3 9.4 | | 9.3 | 9.3 | 8.5 | 7.8 |
| 730 | 94.0 95.2 | 3.8 | 7.6 | 9.5 | 9.4 9.5 | 9.5 | 9.4 | 8.6 | 7.6 |
| 740 | | 3.9 | 7.7 | 9.7 | 9.5 | 9.7 | 9.5 | 8.7 | 7.7 |
| 750 760 | 96.5 97.8 | 3.9 | 7.8 | 9.8 | 9.8 | 9.8 | 9.8 | 8.8 | 7.8 |
| 770 | 99.1 | 4.0 | 7.9 | 9.9 | 9.9 | 9.9 | 9.9 | 8.9 | 7.9 |
| 780 | 100.4 | 4.0 | 8.0 | 10.0 | 10.0 | 10.0 | 10.0 | 9.0 | 8.0 |
| 790 | 101.7 | 4.1 | 8.1 | 10.2 | 10.2 | 10.2 | 10.2 | 9.2 | 8.1 |
| 800 | 101.0 | 4.1 | 8.2 | 10.3 | 10.3 | 10.3 | 10.3 | 9.3 | 8.2 |
| 810 | 104.2 | 4.2 | 8.3 | 10.4 | 10.4 | 10.4 | 10.4 | 9.4 | 8.3 |
| 820 | 105.5 | 4.2 | 8.4 | 10.6 | 10.6 | 10.6 | 10.6 | 9.5 | 8.4 |
| 830 | 106.8 | 4.3 | 8.5 | 10.7 | 10.7 | 10.7 | 10.7 | 9.6 | 8.5 |
| 840 | 108.1 | 4.3 | 8.6 | 10.8 | 10.8 | 10.8 | 10.8 | 9.7 | 8.6 |
| 850 | 109.4 | 4.4 | 8.8 | 10.9 | 10.9 | 10.9 | 10.9 | 9.8 | 8.8 |
| 860 | 110.7 | 4.4 | 8.9 | 11.1 | 11.1 | 11.1 | 11.1 | 10.0 | 8.9 |
| 870 | 112.0 | 4.5 | 9.0 | 11.2 | 11.2 | 11.2 | 11.2 | 10.1 | 9.0 |
| 880 | 113.3 | 4.5 | 9.1 | 11.3 | 11.3 | 11.3 | 11.3 | 10.2 | 9.1 |
| 890 | 114.5 | 4.6 | 9.2 | 11.5 | 11.5 | 11.5 | 11.5 | 10.3 | 9.2 |
| 900 | 115.8 | 4.6 | 9.3 | 11.6 | 11.6 | 11.6 | 11.6 | 10.4 | 9.3 |
| 910 | 117.1 | 4.7 | 9.4 | 11.7 | 11.7 | 11.7 | 11.7 | 10.5 | 9.4 |
| 920 | 118.4 | 4.7 | 9.5 | 11.8 | 11.8 | 11.8 | 11.8 | 10.7 | 9.5 |
| 930 | 119.7 | 4.8 | 9.6 | 12.0 | 12.0 | 12.0 | 12.0 | 10.8 | 9.6 |
| 940 | 121.0 | 4.8 | 9.7 | 12.1 | 12.1 | 12.1 | 12.1 | 10.9 | 9.7 |
| 950 | 122.3 | 4.9 | 9.8 | 12.2 | 12.2 | 12.2 | 12.2 | 11.0 | 9.8 |
| 960 | 123.6 | 4.9 | 9.9 | 12.4 | 12.4 | 12.4 | 12.4 | 11.1 | 9.9 |
| 970 | 124.8 | 5.0 | 10.0 | 12.5 | 12.5 | 12.5 | 12.5 | 11.2 | 10.0 |
| 980 | 126.1 | 5.0 | 10.1 | 12.6 | 12.6 | 12.6 | 12.6 | 11.4 | 10.1 |

 Table 2-9.
 Weighted Densities (Type 2 Message), Zone 8

| Density | | Line-Zone No. | | | | | | | | |
|-------------------|--------|---------------|------|------|------|------|------|--------------|--|--|
| Gm/M ⁸ | % | 99 | 09 | 19 | 29 | 39 | 49 | 59 | | |
| 450 | 64.5 | 1.9 | 5.2 | 6.5 | 5.2 | 5.2 | 5.2 | 5.5 | | |
| 460 | 63.0 | 2.0 | 5.3 | 6.6 | 5.3 | 5.3 | 5.3 | 5. | | |
| 470 | 67.4 | 2.0 | 5.4 | 6.7 | 5.4 | 5.4 | 5.4 | 5.4 | | |
| 480 | 68.8 | 2.1 | 5.5 | 6.9 | 5.5 | 5.5 | 5.5 | 5. | | |
| 490 | 70.3 | 2.1 | 5.6 | 7.0 | 5.6 | 5.6 | 5.6 | 5. | | |
| 500 | 71.7 | 2.2 | 5.7 | 7.2 | 5.7 | 5.7 | 5.7 | 5. | | |
| 510 | 73.1 | 2.2 | 5.9 | 7.3 | 5.9 | 5.9 | 5.9 | 5. | | |
| 520 | 74.6 | 2.2 | 6.0 | 7.5 | 6.0 | 6.0 | 6.0 | 6. | | |
| 530 | 76.0 | 2.3 | 6.1 | 7.6 | 6.1 | 6.1 | 6.1 | 6. | | |
| 540 | 77.4 | 2.3 | 6.2 | 7.7 | 6.2 | 6.2 | 6.2 | 6.5 | | |
| 550 | 78.9 | 2.4 | 6.3 | 7.9 | 6.3 | 6.3 | 6.3 | 6. | | |
| 560 | 80.3 | 2.4 | 6.4 | 8.0 | 6.4 | 6.4 | 6.4 | 6.4 | | |
| 570 | 81.7 | 2.5 | 6.5 | 8.2 | 6.5 | 6.5 | 6.5 | 6. | | |
| 580 | 83.2 | 2.5 | 6.7 | 8.3 | 6.7 | 6.7 | 6.7 | 6. | | |
| 590 | 84.6 | 2.5 | 6.8 | 8.5 | 6.8 | 6.8 | 6.8 | 6. | | |
| 600 | 86.0 | 2.6 | 6.9 | 8.6 | 6.9 | 6.9 | 6.9 | 6.9 | | |
| 610 | 87.5 | 2.6 | 7.0 | 8.7 | 7.0 | 7.0 | 7.0 | 7.0 | | |
| 620 | 88.9 | 2.7 | 7.1 | 8.9 | 7.1 | 7.1 | 7.1 | 7.3 | | |
| 630 | 90.3 | 2.7 | 7.2 | 9.0 | 7.2 | 7.2 | 7.2 | 7.5 | | |
| 640 | 91.8 | 2.8 | 7.3 | 9.2 | 7.3 | 7.3 | 7.3 | 7. | | |
| 650 | 93.2 | 2.8 | 7.5 | 9.3 | 7.5 | 7.5 | 7.5 | 7. | | |
| 660 | 94.6 | 2.8 | 7.6 | 9.5 | 7.6 | 7.6 | 7.6 | 7.0 | | |
| - 670 | 96.1 | 2.9 | 7.7 | 9.6 | 7.7 | 7.7 | 7.7 | 7.5 | | |
| 680 | 97.5 | 2.9 | 7.8 | 9.8 | 7.8 | 7.8 | 7.8 | 7. | | |
| 690 | 98.9 | 3.0 | 7.9 | 9.9 | 7.9 | 7.9 | 7.9 | 7.9 | | |
| 700 | 100.4 | 3.0 | 8.0 | 10.0 | 8.0 | 8.0 | 8.0 | 8.0 | | |
| 710 | 101.8 | 3.1 | 8.1 | 10.2 | 8.1 | 8.1 | 8.1 | 8.1 | | |
| 720 | 103.2 | 3.1 | 8.3 | 10.3 | 8.3 | 8.3 | 8.3 | 8. | | |
| 730 | 104.7 | 3.1 | 8.4 | 10.5 | 8.4 | 8.4 | 8.4 | 8. | | |
| 740 | 106.1 | 3.2 | 8.5 | 10.6 | 8.5 | 8.5 | 8.5 | 8. | | |
| 750 | 107.5 | 3.2 | 8.6 | 10.8 | 8.6 | 8.6 | 8.6 | 8. | | |
| 760 | 109.0 | 3.3 | 8.7 | 10.9 | 8.7 | 8.7 | 8.7 | 8. | | |
| 770 | 110.4 | 3.3 | 8.8 | 11.0 | 8.8 | 8.8 | 8.8 | 8. | | |
| 780 | 111.8 | 3.4 | 8.9 | 11.2 | 8.9 | 8.9 | 8.9 | 8.9 | | |
| 790 | 113.3 | 3.4 | 9.1 | 11.3 | 9.1 | 9.1 | 9.1 | 9. | | |
| 800 | 114.7 | 3.4 | 9.2 | 11.5 | 9.2 | 9.2 | 9.2 | 9.5 | | |
| 810 | 116.1 | 3.5 | 9.3 | 11.6 | 9.3 | 9.3 | 9.3 | 9.3 | | |
| 820 | 117.6 | 3.5 | 9.4 | 11.8 | 9.4 | 9.4 | 9.4 | 9.4 | | |
| 830 | 119.0 | 3.6 | 9.5 | 11.9 | 9.5 | 9.5 | 9.5 | 9.4 | | |
| 840 | 120. 4 | 3.6 | 9.6 | 12.0 | 9.6 | 9.6 | 9.6 | 9.0 | | |
| 850 | 121. 9 | 3.7 | 9.8 | 12.2 | 9.8 | 9.8 | 9.8 | 9.3 | | |
| 860 870 | 123.3 | 3.7 | 9.9 | 12.3 | 9.9 | 9.9 | 9.9 | 9.9 | | |
| 870 880 | 124.7 | 3.7 | 10.0 | 12.5 | 10.0 | 10.0 | 10.0 | 10.0 10.1 | | |
| 000 | 126.1 | 3.8 | 10.1 | 12.6 | 10.1 | 10.1 | 10.1 | 10.1 | | |

Table 2-9. Weighted Densities (Type 2 Message), Zone 9

Enter table with zone density to the nearest gram per cubic meter. Obtain zone density and weighted densities to the nearest tenth of a percent. Interpolate if necessary.

| Density | | Line-Zone No. | | | | | | | | |
|-------------------|--------|---------------|-------|-------|-------|-------|-----|--|--|--|
| Gm/M ³ | % | 00 | 10 | 20 | 30 | 40 | 50 | | | |
| 380 | 64. 4 | 3. 9 | 7. 7 | 8.4 | 8.4 | 8.4 | 8. | | | |
| 390 | 66. 1 | 4.0 | 7.9 | 8.6 | 8.6 | 8.6 | 8. | | | |
| 400 | 67.8 | 4.1 | 8.1 | 8.8 | 8.8 | 8.8 | 8. | | | |
| 410 | 69.5 | 4. 2 | 8.3 | 9.0 | 9.0 | 9. 0 | 9. | | | |
| 420 | 71. 2 | 4.3 | 8.5 | 9.3 | 9.3 | 9.3 | 9. | | | |
| 430 | 72. 9 | 4.4 | 8.7 | 9.5 | 9.5 | 9.5 | 9. | | | |
| 440 | 74.6 | 4.5 | 8.9 | 9. 7 | 9. 7 | 9. 7 | 9. | | | |
| 450 | 76. 3 | 4.6 | 9. 2 | 9.9 | 9. 9 | 9.9 | 9. | | | |
| 460 | 78.0 | 4.7 | 9.4 | 10. 1 | 10. 1 | 10. 1 | 10. | | | |
| 470 | 79. 7 | 4.8 | 9.6 | 10. 4 | 10.4 | 10. 4 | 10. | | | |
| 480 | 81.4 | 4.9 | 9.8 | 10.6 | 10. 6 | 10. 6 | 10. | | | |
| 490 | 83.1 | 5. Q | 10. 0 | 10. 8 | 10. 8 | 10. 8 | 10. | | | |
| 500 | 84.7 | 5.1 | 10. 2 | 11. 0 | 11. 0 | 11. 0 | 11. | | | |
| 510 | 86.4 | 5. 2 | 10. 4 | 11. 2 | 11. 2 | 11. 2 | 11. | | | |
| 520 | 88.1 | 5.3 | 10.6 | 11.5 | 11.5 | 11.5 | 11. | | | |
| 530 | 89. 8 | 5.4 | 10. 8 | 11. 7 | 11. 7 | 11. 7 | 11. | | | |
| 540 | 91. 5 | 5.5 | 11.0 | 11. 9 | 11. 9 | 11.9 | 11. | | | |
| 550 | 93. 2 | 5.6 | 11. 2 | 12. 1 | 12.1 | 12.1 | 12. | | | |
| 560 | 94. 9 | 5.7 | 11.4 | 12.3 | 12.3 | 12.3 | 12. | | | |
| 570 | 96.6 | 5.8 | 11.6 | 12.6 | 12.6 | 12.6 | 12. | | | |
| 580 | 98.3 | 5.9 | 11. 8 | 12.8 | 12.8 | 12. 8 | 12. | | | |
| 590 | 100. 0 | 6.0 | 12.0 | 13. 0 | 13. 0 | 13. 0 | 13. | | | |
| 600 | 101. 7 | 6.1 | 12. 2 | 13. 2 | 13. 2 | 13. 2 | 13. | | | |
| 610 | 103. 4 | 6.2 | 12.4 | 13. 4 | 13.4 | 13.4 | 13. | | | |
| 620 | 105. 1 | 6.3 | 12.6 | 13. 7 | 13. 7 | 13. 7 | 13. | | | |
| 630 | 106. 8 | 6.4 | 12.8 | 13. 9 | 13. 9 | 13. 9 | 13. | | | |
| 640 | 108.5 | 6.5 | 13. 0 | 14. 1 | 14. 1 | 14. 1 | 14. | | | |
| 650 | 110. 2 | 6.6 | 13. 2 | 14.3 | 14. 3 | 14. 3 | 14. | | | |
| 660 | 111. 9 | 6.7 | 13. 4 | 14.5 | 14.5 | 14.5 | 14. | | | |
| 670 | 113.6 | 6.8 | 13.6 | 14.8 | 14.8 | 14. 8 | 14. | | | |
| 680 | 115.3 | 6.9 | 13. 8 | 15.0 | 15. 0 | 15. 0 | 15. | | | |
| 690 | 116.9 | 7.0 | 14.0 | 15. 2 | 15.2 | 15. 2 | 15. | | | |
| 700 | 118.6 | 7.1 | 14. 2 | 15.4 | 15.4 | 15.4 | 15. | | | |
| 710 | 120. 3 | 7. 2 | 14.4 | 15.6 | 15.6 | 15.6 | 15. | | | |
| 720 | 122. 0 | 7.3 | 14.6 | 15. 9 | 15.9 | 15.9 | 15. | | | |
| 730 | 123. 7 | 7.4 | 14.8 | 16. 1 | 16. 1 | 16. 1 | 16. | | | |
| 740 | 125. 4 | 7.5 | 15.1 | 16. 3 | 16. 3 | 16.3 | 16. | | | |

Table 2-9. Weighted Densities (Type 2 Message), Zone 10

| Dens | ity | | Line | e-Zone No. | | |
|-------------------|----------------|---|--|--------------|--|--------------------------|
| Gm/M ³ | % | 11 | 21 | 31 | 41 | 51 |
| 300 | 64. 2 | 2.6 | 4.5 | 5, 8 | 6.4 | 6. 4 |
| 310 | 66.4 | 2.7 | 4.6 | 6.0 | 6.6 | 6.6 |
| 320 | 68.5 | 2.77 2.89 3.12 3.33 4 3.56 3.56 3.59 3.99 3.00 | 4.8 | 6. 2 | 6. 6 6. 9 7. 1 7. 3 7. 5 7. 7 | 6.9 7.1 7.3 7.5 |
| 330 | 70. 7 72. 8 | 2.8 | 4.9 | 6.4 | 7.1 | 7.1 |
| 340 | 72.8 | 2.9 | 5.1 | 6.6 | 7.3 | 7.3 |
| 350 | 74.9 | 3.0 | 5. 2 | 6.7 | 7.5 | 7.5 |
| 360 | 77.1 | 3.1 | 5.4 | 6.9 | 7.7 | 7.7 |
| 370 | 79. 2 | 3. 2 | 5.5 | 6. 9 7. 1 | 7.9 | 7.9 |
| 380 | 81.4 | 3.3 | 5.7 | 7.3 | 8.1 | 8.1 |
| 390 | 83.5 | 3.3 | 4. 9 5. 1 5. 2 5. 4 5. 5 5. 7 5. 8 | 7.5 7.7 | 8.1 8.4 8.6 8.8 | 8.4 |
| 400 | 85.7 | 3.4 | 6. 0 | 7.7 | 8.6 | 8.6 |
| 410 | 87.8 | 3.5 | 6.1 | 7.9 | 8.8 | 8.6 8.8 |
| 420 | 89. 9 | 3.6 | 6.3 | 8.1 | 9.0 | 9. 0 |
| 430 | 92.1 | 3.7 | 6.4 | 8.3 | 9. 2 | 9, 2 |
| 440 | 94.2 | 3.8 | 6.6 | 8.5 | 9.4 | 9.4 |
| 450 | 96.4 | 3.9 | 6.7 | 8.7 | 9.6 | 9.6 |
| 460 470 | 98.5 | 3.9 | 6. 9 | 8.9 | 9. 9 | 9.9 |
| 470 | 100.6 | 4.0 | 7.0 | 9.1 | 10. 1 | 9.9 10.1 |
| 480 | 102.8 | 4.1 | 7.2 | 9.3 | 10.3 | 10.3 |
| 490 | 104.9 | 4.2 | 7.3 | 9, 4 | 10. 5 | 10.5 |
| 500 | 107.1 | 42 43 | 7.2 7.3 7.5 | 9.6 | 10.7 | 10. 7 |
| 510 | 109. 2 | 4.4 | 76 | 9.8 | 10.9 | 10. 9 |
| 520 | 111.3 | 4.5 | 7.8 | 10. 0 | 11.1 | 11. 1 |
| 530 | 113. 5 | 4.5 | 7. 9 | 10. 2 | 11.3 | 11. 3 |
| 540 | 115.6 | 4.6 | 8.1 | 10.4 | 11.6 | 11. 6 |
| 550 | 117.8 | 4.7 | 8.2 | 10.6 | 11.8 | 11. 8 |
| 560 | 119.9 | 4.8 | 8.4 | 10. 8 | 12.0 | 12.0 |
| 570 | 122.1 | 4.9 | 8.5 | 11.0 | 12.2 | 12. 2 |
| 580 | 124. 2 | 5.0 | 8.7 | 11. 2 | 12.4 | 12.4 |
| 590 | 126. 3 | 5.1 | 8.8 | 11.4 | 12.6 | 12.6 |

Table 2-9. Weighted Densities (Type 2 Message), Zone 11

 Table 2-9.
 Weighted Densities (Type 2 Message), Zone 12

.

| Densi | ty | | Line-Zo | ne No. | |
|-------------------|------------------|--|---|--|---|
| Gm/M ³ | % | 22 | 32 | 42 | 52 |
| 230 | 63.0 | 1. 3 1. 3 | 3. 2 | 3.8 | 4.4 |
| 240 | 65.8 | | 3. 2 3. 3 3. 4 3. 6 3. 7 3. 8 4. 0 | 3. 9 | 4.4 4.6 |
| 250 | 68.5 | 1.4 | 3.4 | 4.1 | 4.8 |
| 260 | 71. 3 | 1.4 1.5 | 3.6 | 4.3 | 5. 0 |
| 270 | 74.0 | 1.5 | 3. 7 | 4.4 | 5. 2 |
| 280 | 76.8 | 1.5 | 3. 8 | 4.6 | 5.4 |
| 290 | 79.5 | 1.6 | 4.0 | 4.8 | 5.6 |
| 300 | 82. 2 | 1.6 | 4.1 | 4.9 | 5.8 |
| 310 | 85. 0 | 1. 7 | 4. 2 | 4.6 4.8 4.9 5.3 5.4 5.6 5.8 5.8 5.8 5.1 | 5. 9 |
| 320 | 87. 7 | 1.8 | 4.4 | 5.3 | 6. 1 |
| 330 | 90. 5 | 1.8 | 4.5 | 5.4 | 6.3 |
| 340 | 93. 2 | 1.9 | 4.7 | 5. 6 | 6.5 |
| 350 | 95. 9 | 1.9 | 4.8 | 5.8 | 0. / |
| 360 | 98. 7 | 2.0 | 4. ý | 5.9 | 0.9 |
| 370 | 101. 4 104. 2 | 2.0 | 5.1 | 6.1 | $\frac{1}{7}$ |
| 380 | | 2.1 | 5. 2 5. 3 | 6.3 6.4 | 1.3 |
| 390 | 106.9 109.6 | 2.1 | 5. 5 | | 7.0 |
| 400 | 112.4 | 2. 4 | 5.5 5.6 | 6.6 6.7 | 7.0 |
| 410 420 | 112.4 | 2.2 | 5.8 | 6. 6 6. 7 6. 9 7. 1 | 7.9 9 1 |
| 430 | 117.9 | 2.3 | 5.9 | 7.1 | 83 |
| 440 | 120. 6 | 2. 1 | 4. 2 4. 4 5. 7 4. 9 1. 2 5. 5 5. 6 8 9 0 | 7. 2 | 84 |
| 450 | 123. 4 | 2.5 | 6. 2 | 7.4 | 86 |
| 460 | 126. 1 | 1.9 2.0 2.1 2.2 2.2 2.3 4 4 2.5 5 | 6.3 | 7.6 | 555555666667777788888888888888888888888 |
| | | | | | |

Enter table with zone density to the nearest gram per cubic meter. Obtain zone density and weighted densities to the nearest tenth of a percent. Interpolate if necessary.

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Table 2-9.Weighted Densities (Type 2 Message),Zone 13

Table 2-9. Weighted Densities (Type 2 Message), Zone 14 Zone 14

| Dens | sity | Lin | e-Zone No. | |
|-------------------|--------|------|------------|-----------------|
| Gm/M ³ | % | 33 | 43 | 53 |
| 170 | 63. 8 | 1. 3 | 2.6 | 3. 2 |
| 180 | 67.5 | 1.4 | 2.7 | 3. 4 |
| 190 | 71. 3 | 1.4 | 2.9 | 3. 6 |
| 200 | 75. 0 | 1. 5 | 3. 0 | 3. 8 |
| 210 | 78.8 | 1.6 | 3. 2 | 3. 9 |
| 220 | 82.5 | 1. 7 | 3.3 | 4.1 |
| 230 | 86. 3 | 1. 7 | 3.5 | 4.3 |
| 240 | 90. 0 | 1.8 | 3. 6 | 4. 5 |
| 250 | 93. 8 | 1. 9 | 3. 8 | 4.7 |
| 260 | 97. 5 | 2.0 | 3. 9 | 4. 9 |
| 270 | 101. 3 | 2.0 | 4.1 | 5. 1 |
| 280 | 105. 0 | 2.1 | 4.2 | 5. 3 |
| 290 | 108.8 | 2. 2 | 4.4 | 5. 4 |
| 300 | 112.5 | 2.3 | 4.5 | 5. C |
| 310 | 116. 3 | 2.3 | 4.7 | 5. 8 |
| 320 | 120. 0 | 2.4 | 4.8 | 6. 0 |
| 330 | 123. 8 | 2.5 | 5.0 | 6. 2 |

| Density | / | Line-Zon | e No. |
|-------------------|--------|----------|-------|
| Gm/M ³ | % | 44 | 54 |
| 120 | 61. 6 | 0. 6 | 1, 8 |
| 130 | 66. 7 | 0. 7 | 2.0 |
| 140 | 71. 9 | 0. 7 | 2. 2 |
| 150 | 77.0 | 0.8 | 2, 3 |
| 160 | 82.1 | 0.8 | 2.5 |
| 170 | 87. 3 | 0. 9 | 2.6 |
| 180 | 92.4 | 0. 9 | 2. 8 |
| 190 | 97. 5 | 1.0 | 2. 9 |
| 200 | 102.7 | 1.0 | 3. 1 |
| 210 | 107. 8 | 1.1 | 3. 2 |
| 220 | 112.9 | 1.1 | 3. 4 |
| 230 | 118.1 | 1. 2 | 3. 5 |
| 240 | 123. 2 | 1. 2 | 3. 7 |

Table 2-9. Weighted Densities (Type 2 Message), Zone 15

| Density | ·] | Line–Zone No. | | |
|-------------------|--------|---------------|--|--|
| Gm/M ³ | % | 55 | | |
| 90 | 63. 2 | 0. (| | |
| 100 | 70. 3 | 0. (| | |
| 110 | 77. 3 | 0. (| | |
| 120 | 84.3 | 0. (| | |
| 130 | 91. 4 | 0. (| | |
| 140 | 98.4 | 0. (| | |
| 150 | 105. 4 | 0. (| | |
| 160 | 112.4 | 0. (| | |
| 170 | 119. 5 | 0. (| | |
| 180 | 126.4 | 0. (| | |

Enter table with zone density to the nearest gram per cubic meter. Obtain zone density and weighted densities to the nearest tenth of a percent. Interpolate if necessary.

| Line | | | | | | | _ | Zone No |). | | | | | | |
|------|------|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|
| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | 1.00 | 0 | | 1 | | T | | | | | 1 | 1 | | | + |
| 2 | .50 | .50 | | | 1 | | | | | | | | 1 | 1 | |
| 3 | .29 | .33 | .38 | | | | | | | | 1 | | | Į | |
| 4 | .18 | .23 | .39 | .20 |] | | | | | | | | | l | |
| 5 | .13 | .18 | .31 | .27 | .11 | | | 1 |] | | | | 1 | [| |
| 6 | .08 | .12 | .22 | .20 | .19 | .19 | | { | | } | } | | | 1 | |
| 7 | .07 | .08 | .16 | .15 | .16 | .27 | .11 | 1 | 1 | | | | | | |
| 8 | .04 | .08 | .13 | .12 | .13 | .24 | .18 | .08 | | | | | | | |
| 9 | .04 | .06 | .11 | .10 | .10 | .21 | .20 | .12 | .06 | | | | | | 1 |
| 10 | .03 | .04 | .08 | .08 | .08 | .16 | .15 | .14 | .13 | .11 | | | | | 1 |
| 11 | .02 | .04 | .06 | .07 | .06 | .13 | .13 | .12 | .11 | .18 | .08 | | | | |
| 12 | .03 | .04 | .07 | .07 | .07 | .12 | .11 | .10 | .08 | .15 | .10 | .06 | | | |
| 13 | .02 | .04 | .05 | .06 | .06 | .11 | .10 | .09 | .08 | .14 | .11 | .09 | .05 | | |
| 14 | .02 | .04 | .05 | .06 | .04 | .09 | .09 | .09 | .08 | .13 | .11 | .09 | .06 | .05 | 1 |
| 15 | .01 | .03 | .05 | .04 | .05 | .09 | .09 | .08 | .07 | .12 | .10 | .09 | .08 | .06 | .04 |

Table 2-10. Wind Weighting Factors (Type 2 Message)

2-13. Weighted Wind Speed Tables (Type 2 Message)

a. The weighted wind tables maybe used to convert zone winds to the weighted effect of these winds on various line values of the meteorological message.

b. The line-zone number values are the product of zone wind values and the weighting factor values shown in table 2-10. The values of line-zone number 21 are the product of zone wind speeds and the weighting factor (.50), line 2 of zone number 1, table 2-10.

| Wind | 1 | | | | | Lin | e-Zone | No. | <u> </u> | <u> </u> | <u></u> | | | |
|----------|--------------|--------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|----------|-----------|----------|
| Speed, | } | T | <u></u> | 1 | 1 | 71 | T | <u> </u> | 1 | 1 | 1 | | 1 | |
| Knots | 21 | 31 | 41 | 51 | 61 | 71 | 81 | 91 | 01 | 11 | 21 | 31 | 41 | 51 |
| 2 | 1.0 | .6 | .4 | .3 | .2 | .1 | .1 | .1 | .1 | .0 | .1 | .0 | 0. | .0 |
| 4 | 2.0 | 1.2 | .7 | .5 | .3 | .3 | .2 | .2 | .1 | .1 | .1 | .1 | .1 | 0. |
| 6 | 3.0 | 1.7 | 1.1 | .8 | .5 | .4 | .2 | .2 | .2 | .1 | .2 | .1 | .1 | 1. |
| 8 | 4.0 | 2.3 | 1.4 | 1.0 | .6 | .6 | .3 | .3 | .2 | .2 | .2 | .2 | .2 | .1 |
| 10 | 5.0 | 2.9 | 1.8 | 1.3 | .8 | .7 | .4 | .4 | .3 | .2 | .3 | .2 | .2 | .1 |
| 12 | 6.0 | 3.5 | 2.2 | 1.6 | 1.0 | .8 | .5 | .5 | .4 | .2 | .4 | .2 | .2 | .1 |
| 14 | 7.0 | 4.1 | 2.5 | 1.8 | 1.1 | 1.0 | .6 | .6 | .4 | .3 | .4 | .3 | .3 | .1 |
| 16 | 8.0 | 4.6 | 2.9 | 2.1 | 1.3 | 1.1 | .6 | .6 | .5 | .3 | .5 | .3 | .3 | .2 |
| 18 | 9.0 | 5.2 | 3.2 | 2.3 | 1.4 | 1.3 | .7 | .7 | .5 | .4 | .5 | .4 | .4 | .2 |
| 20 | 10.0 | 5.8 | 3.6 | 2.6 | 1.6 | 1.4 | .8 | .8 | .6 | .4 | .6 | .4 | .4 | .2 |
| 22 | 11.0 | 6.4 | 4.0 | 2.9 | 1.8 | 1.5 | .9 | .9 | .7 | .4 | .7 | .4 | .4 | .2 |
| 24 | 12.0 | 7.0 | 4.3 | 3.1 | 1.9 | 1.7 | 1.0 | 1.0 | .7 | .5 | .7 | .5 | .5 | .2 |
| 26 | 13.0 | 7.5 | 4.7 | 3.4 | 2.1 | 1.8 | 1.0 | 1.0 | .8 | .5 | .8 | .5 | .5 | .3 |
| 28 | 14.0 | 8.1 | 5.0 | 3.6 | 2.2 | 2.0 | 1.1 | 1.1 | .8 | .6 | .8 | .6 | .6 | .3 |
| 30 | 15.0 | 8.7 | 5.4 | 3.9 | 2.4 | 2.1 | 1.2 | 1.2 | .9 | .6 | .9 | .6 | .6 | .3 .3 |
| 32 | 16.0 | 9.3 | 5.8 | 4.2 | 2.6 | 2.2 | 1.3 | 1.3 | 1.0 | .6 | 1.0 | .6 | .6 | |
| 34 | 17.0 | 9.9 | 6.1 | 4.4 | 2.7 | 2.4 | 1.4 | 1.4 | 1.0 | .7 | 1.0 | .7 | .7 | .3 |
| 36 | 18.0 | 10.4 | 6.5 | 4.7 | 2.9 | 2.5 | 1.4 | 1.4 | 1.1 | .7 | 1.1 | .7 | .7 | .4 .4 |
| 38 | 19.0 | 11.0 | 6.8 | 4.9 | 3.0 | 2.7 | 1.5 | 1.5 | 1.1 | .8 | 1.1 | .8 | .8 | .4 |
| 40 | 20.0 | 11.6 | 7.2 | 5.2 | 3.2 | 2.8 | 1.6 | 1.6 | 1.2 | .8 | 1.2 | .8 | .8 | .4 |
| 42 | 21.0 | 12.2 | 7.6 | 5.5 | 3.4 | 2.9 | 1.7 | 1.7 | 1.3 | .8 | 1.3 | .8 | .8 .9 | .4 |
| 44 | 22.0 | 12.8 | 7.9 | 5.7 | 3.5 | 3.1 | 1.8 | 1.8 | 1.3 | .9 | 1.3 1.4 | .9 .9 | .9 .9 | .5 |
| 46 | 23.0 | 13.3 | 8.3 | 6.0 | 3.7 | 3.2 | 1.8 | 1.8 1.9 | 1.4 1.4 | .9 1.0 | 1.4 | .9 | .9 1.0 | .5 |
| 48 50 | 24.0 25.0 | 13.9 14.5 | 8.6 9.0 | 6.2 6.5 | 3.8 4.0 | 3.4 3.5 | 1.9 2.0 | 2.0 | 1.4 | 1.0 | 1.4 | 1.0 | 1.0 | .5 |
| 50 52 | 25.0 26.0 | | | 6.8 | 4.0 | 3.5 3.6 | 2.0 | 2.0 | 1.5 | 1.0 | 1.5 | 1.0 | 1.0 | .5 |
| 52 54 | 26.0 | 15.1 15.7 | 9.4 9.7 | 0.8 7.0 | 4.2 | 3.8 | 2.1 | 2.1 | 1.6 | 1.0 | 1.6 | 1.0 | 1.0 | .5 |
| 54 56 | 27.0 | 16.2 | 10.1 | 7.3 | 4.5 | 3.9 | 2.2 | 2.2 | 1.0 | 1.1 | 1.0 | 1.1 | 1.1 | .6 |
| 58 58 | 28.0 29.0 | 16.2 | 10.1 | 7.5 | 4.6 | 4.1 | 2.2 | 2.2 | 1.7 | 1.1 | 1.7 | 1.1 | 1.1 | .6 |
| 60 | 30.0 | 17.4 | 10.4 | 7.8 | 4.8 | 4.2 | 2.4 | 2.4 | 1.8 | 1.2 | 1.8 | 1.2 | 1.2 | .6 |
| 62 | 31.0 | 18.0 | 10.8 | 8.1 | 5.0 | 4.3 | 2.5 | 2.5 | 1.9 | 1.2 | 1.0 | 1.2 | 1.2 | .6 |
| 64 | 32.0 | 18.6 | 11.5 | 8.3 | 5.1 | 4.5 | 2.6 | 2.6 | 1.9 | 1.3 | 1.9 | 1.3 | 1.3 | .6 |
| 66 | 33.0 | 19.1 | 11.9 | 8.6 | 5.3 | 4.6 | 2.6 | 2.6 | 2.0 | 1.3 | 2.0 | 1.3 | 1.3 | .7 |
| 68 | 34.0 | 19.7 | 12.2 | 8.8 | 5.4 | 4.8 | 2.7 | 2.7 | 2.0 | 1.4 | 2.0 | 1.4 | 1.4 | .7 |
| 70 | 35.0 | 20.3 | 12.6 | 9.1 | 5.6 | 4.9 | 2.8 | 2.8 | 2.1 | 1.4 | 2.1 | 1.4 | 1.4 | .7 |
| 72 | 36.0 | 20.9 | 13.0 | 9.4 | 5.8 | 5.0 | 2.9 | 2.9 | 2.2 | 1.4 | 2.2 | 1.4 | 1.4 | .7 |
| 74 | 37.0 | 21.5 | 13.3 | 9.6 | 5.9 | 5.2 | 3.0 | 3.0 | 2.2 | 1.5 | 2.2 | 1.5 | 1.5 | .7 |
| 76 | 38.0 | 22.0 | 13.7 | 9.9 | 6.1 | 5.3 | 3.0 | 3.0 | 2.3 | 1.5 | 2.3 | 1.5 | 1.5 | .8 |
| 78 | 39.0 | 22.6 | 14.0 | 10.1 | 6.2 | 5.5 | 3.1 | 3.1 | 2.3 | 1.6 | 2.3 | 1.6 | 1.6 | .8 |
| 80 | 40.0 | 23.2 | 14.4 | 10.4 | 6.4 | 5.6 | 3.2 | 3.2 | 2.4 | 1.6 | 2.4 | 1.6 | 1.6 | .8 |
| | | | | | | | L | | | I | | | | L |

 Table 2–11.
 Weighted Wind Speeds (Type 2 Message), Zone 1

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| Wind | [| | | | | Lir | ne-Zone | No. | | | | | <u> </u> | |
|-----------------|----------------------------|--------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|
| Speed, Knots | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 02 | 12 | 22 | 32 | 42 | 52 |
| 2 | 1.0 | .7 | .5 | .4 | .2 | .2 | .2 | .1 | .1 | .1 | .1 | .1 | .1 | .1 |
| 4 | 2.0 | 1.3 | .9 | .7 | .5 | .3 | .3 | .2 | .2 | .2 | .2 | .2 | .2 | .1 .2 |
| 6 | 3.0 | 2.0 | 1.4 | 1.1 | .7 | .5 | .5 | .4 | .2 | .2 | .2 | .2 | .2 | .2 |
| 8 | 4.0 | 2.6 | 1.8 | 1.4 | 1.0 | .6 | .6 | .5 | .3 | .3 | .3 | .3 | 3 | .2 |
| 10 | 5.0 | 3.3 | 2.3 | 1.8 | 1.2 | .8 | .8 | .6 | .4 | .4 | .4 | .4 | .4 | .3 |
| 12 | 6.0 | 4.0 | 2.8 | 2.2 | 1.4 | 1.0 | 1.0 | .7 | .5 | .5 | .5 | .5 | .5 | .4 |
| 14 | 7.0 | 4.6 | 3.2 | 2.5 | 1.7 | 1.1 | 1.1 | .8 | .6 | .6 | .6 | .6 | .6 | .4 |
| 16 | 8.0 | 5.3 | 3.7 | 2.9 | 1.9 | 1.3 | 1.3 | 1.0 | .6 | .6 | .6 | .6 | .6 | .5 |
| 18 | 9.0 | 5.9 | 4.1 | 3.2 | 2.2 | 1.4 | 1.4 | 1.1 | .7 | .7 | .7 | .7 | 7. | .5 |
| 20 | 10.0 | 6.6 | 4.6 | 3.6 | 2.4 | 1.6 | 1.6 | 1.2 | .8 | .8 | .8 | .8 | .8 | .6 |
| 22 | 11.0 | 7.3 | 5.1 | 4.0 | 2.6 | 1.8 | 1.8 | 1.3 | 9. | .9 | .9 | .9 | .9 | .7 |
| 24 | 12.0 | 7.9 | 5.5 | 4.3 | 2.9 | 1.9 | 1.9 | 1.4 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .7 |
| 26 | 13.0 | 8.6 | 6.0 | 4.7 | 3.1 | 2.1 | 2.1 | 1.6 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .8 |
| 28 | 14.0 | 9.2 | 6.4 | 5.0 | 3.4 | 2.2 | 2.2 | 1.7 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | .8 |
| 30 | 15.0 | 9.9 | 6.9 | 5.4 | 3.6 | 2.4 | 2.4 | 1.8 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | .9 |
| 32 | 16.0 | 10.6 | 7.4 | 5.8 | 3.8 | 2.6 | 2.6 | 1.9 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.0 |
| 34 | 17.0 | 11.2 | 7.8 | 6.1 | 4.1 | 2.7 | 2.7 | 2.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.0 |
| 36 | 18.0 | 11.9 | 8.3 | 6.5 | 4.3 | 2.9 | 2.9 | 2.2 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.1 |
| 38 | 19.0 | 12.5 | 8.7 | 6.8 | 4.6 | 3.0 | 3.0 | 2.3 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.1 |
| 40 | 20.0 | 13.2 | 9.2 | 7.2 | 4.8 | 3.2 | 3.2 | 2.4 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.2 |
| 42 | 21.0 | 13.9 | 9.7 | 7.6 | 5.0 | 3.4 | 3.4 | 2.5 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.3 |
| 44 | 22.0 | 14.5 | 10.1 | 7.9 | 5.3 | 3.5 | 3.5 | 2.6 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.3 |
| 46 48 | 23.0 | 15.2 | 10.6 | 8.3 | 5.5 | 3.7 | 3.7 | 2.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.4 |
| , | 24.0 25.0 | 15.8 16.5 | 11.0 | 8.6 | 5.8 | 3.8 | 3.8 | 2.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.4 |
| 50 52 | 25.0 26.0 | 17.2 | 11.5 12.0 | 9.0 9.4 | 6.0 6.2 | 4.0 | 4.0 4.2 | 3.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.5 |
| 52 54 | 28.0 27.0 | 17.2 | 12.0 | 9.4 9.7 | 6.2 6.5 | 4.2 4.3 | 4.2 | 3.1 3.2 | 2.1 2.2 | 2.1 2.2 | 2.1 2.2 | 2.1 | 2.1 | 1.6 |
| 56 | 28.0 | 18.5 | 12.4 | 10.1 | 6.7 | 4.5 | 4.5 | 3.4 | 2.2 | 2.2 | 2.2 | 2.2 2.2 | 2.2 2.2 | 1.6 1.7 |
| 58 | 29.0 | 19.1 | 13.3 | 10.1 | 7.0 | 4.6 | 4.6 | 3.5 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 1.7 |
| 60 | 30.0 | 19.8 | 13.8 | 10.4 | 7.2 | 4.8 | 4.8 | 3.6 | 2.4 | 2.3 | 2.3 | 2.3 | 2.3 | 1.7 |
| 62 | 31.0 | 20.5 | 14.3 | 11.2 | 7.4 | 5.0 | 5.0 | 3.7 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 |
| 64 | 32.0 | 21.1 | 14.7 | 11.5 | 7.7 | 5.1 | 5.1 | 3.8 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 1.9 |
| 66 | 33.0 | 21.8 | 15.2 | 11.9 | 7.9 | 5.3 | 5.3 | 4.0 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.0 |
| 68 | 34.0 | 22.4 | 15.6 | 12.2 | 8.2 | 5.4 | 5.4 | 4.1 | 2.7 | 2.7 | 2.7 | 2.0 | 2.0 | 2.0 |
| 70 | 35.0 | 23.1 | 16.1 | 12.6 | 8.4 | 5.6 | 5.6 | 4.2 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.0 |
| 72 | 36.0 | 23.8 | 16.6 | 13.0 | 8.6 | 5.8 | 5.8 | 4.3 | 2.9 | 2.9 | 2.9 | 2.8 | 2.9 | 2.1 |
| 74 | 37.0 | 24.4 | 17.0 | 13.3 | 8.9 | 5.9 | 5.9 | 4.4 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 2.2 |
| 76 | 38.0 | 25.1 | 17.5 | 13.7 | 9.1 | 6.1 | 6.1 | 4.6 | 3.0 | 3.0 | 3.0 | 3. 0 | 3.0 | 2.3 |
| 78 | 39.0 | 25.7 | 17.9 | 14.0 | 9.4 | 6.2 | 6.2 | 4.7 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 2.3 |
| 80 | 40.0 | 26.4 | 18.4 | 14.4 | 9.6 | 6.4 | 6.4 | 4.8 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 2.4 |

Table 2-11. Weighted Wind Speeds (Type 2 Message), Zone 2

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

.

| Wind | | | | | | Line | -Zone N | 0. | | | | | |
|-------------------|--------------|-------------------------|--------------|-------------|--------------|------------|--------------|------------|------------|------------|------------|------------|------------|
| Speed, – Knots | 33 | 43 | 53 | 63 | 73 | 83 | 93 | 03 | 13 | 23 | 33 | 43 | 53 |
| 2 | . 8 | . 8 | . 6 | . 4 | . 3 | . 3 | . 2 | . 2 | . 1 | . 1 | . 1 | . 1 | . 1 |
| 4 | 1.5 | 1.6 | 1.2 | .9 | . 6 | . 5 | . 4 | . 3 | . 2 | . 3 | . 2 | . 2 | . 2 |
| 6 | 2.3 | 2.3 | 1.9 | 1.3 | 1.0 1.3 | .8 1.0 | . 7 | . 5 | .4 .5 | .4 | . 3 | .3 | .3 .4 |
| 8 10 | 3. 0 3. 8 | 3.1 3.9 | 2.5 3.1 | 1.8 2:2 | 1. 5 | 1.0 | . 9 1. 1 | .6 .8 | . 6 | . 7 | .4 .5 | . 5 | . 5 |
| 12 | 3. 8 4. 6 | 3. 8 4. 7 | 3. 7 | 2. 6 | 1.9 | 1.6 | 1.3 | 1.0 | . 7 | . 8 | . 6 | . 6 | . 6 |
| 14 | 5.3 | 5.5 | 4.3 | 3.1 | 2. 2 | 1.8 | 1.5 | 1.1 | . 8 | 1.0 | . 7 | .7 | .7 |
| 16 | 6.1 | 6.2 | 5.0 | 3.5 | 2.6 | 2.1 | 1.8 | 1.3 | 1.0 | 1.1 | . 8 | . 8 | . 8 |
| 18 | 6.8 | 7.0 | 5.6 | 4.0 | 2, 9 | 2.3 | 2.0 | 1.4 | 1.1 | 1.3 | . 9 | . 9 | . 9 |
| 20 | 7.6 | 7.8 | 6.2 | 4.4 | 3. 2 | 2.6 | 2. 2 | 1.6 | 1. 2 | 1.4 | 1.0 | 1.0 | 1. 0 |
| 22 | 8.4 | 8.6 | 6.8 | 4.8 | 3. 5 | 2.9 | 2.4 | 1.8 | 1.3 | 1.5 | 1.1 | 1.1 | 1. 1 |
| 24 | 9.1 | 9. 4 | 7.4 | 5.3 | 3.8 | 3.1 | 2.6 | 1.9 | 1.4 | 1.7 | 1.2 | 1. 2 | 1. 2 |
| 26 | 9.9 | 10. 1 | 8.1 | 5.7 | 4.2 | 3.4 | 2.9 | 2.1 | 1.6 | 1.8 | 1.3 | 1.3 | 1. 3 |
| 28 | 10. 6 | 10. 9 | 8.7 | 6. 2 | 4.5 | 3, 6 | 3.1 | 2. 2 | 1.7 | 2.0 | 1.4 | 1.4 | 1.4 |
| 30 | 11.4 | 11. 7 | 9.3 | 6. 6 | 4.8 | 3.9 | 3.3 | 2.4 | 1.8 | 2.1 | 1.5 | 1.5 | 1. 5 |
| 32 | 12. 2 | 12.5 | 9.9 | 7.0 | 5.1 | 4.2 | 3.5 | 2.6 | 1. 9 | 2. 2 | 1.6 | 1.6 | 1. 6 |
| 34 | 12. 9 | 13 . 3 | 10. 5 | 7.5 | 5.4 | 4.4 | 3. 7 | 2. 7 | 2.0 | 2.4 | 1. 7 | 1. 7 | 1. 7 |
| 36 | 13. 7 | 14.0 | 11. 2 | 7.9 | 5.8 | 4.7 | 4.0 | 2.9 | 2. 2 | 2.5 | 1.8 | 1.8 | 1.8 |
| 38 | 14.4 | 14.8 | 11. 8 | 8.4 | 6. 1 | 4.9 | 4. 2 | 3.0 | 2.3 | 2.7 | 1.9 | 1.9 | 1.9 |
| 40 | 15. 2 | 15.6 | 12.4 | 8.8 | 6.4 | 5. 2 | 4.4 | 3.2 | 2.4 | 2.8 | 2.0 | 2.0 | 2.0 |
| 42 | 16.0 | 16.4 | 13.0 | 9.2 | 6.7 | 5.5 | 4.6 | 3.4 3.5 | 2.5 2.6 | 2.9 3.1 | 2.1 2.2 | 2.1 2.2 | 2.1 2.2 |
| 44 | 16.7 | 17.2 | 13.6 14.3 | 9.7 10.1 | 7.0 7.4 | 5.7 6.0 | 4.8 5.1 | 3. 5 | 2.8 | 3. 1 | 2.2 | 2.2 | 2. 4 |
| 46 | 17.5 18.2 | 17.9 18.7 | 14.3 | 10. 1 | 7.4 | 6.0 6.2 | 5. 1 5. 3 | 3.8 | 2.8 | 3. 4 | 2.3 | 2.3 | 2.3 |
| 48 50 | 18. 2 | 19.5 | 14.9 | 11.0 | 8.0 | 6.5 | 5.5 | 4.0 | 3.0 | 3.5 | 2.5 | 2.5 | 2.5 |
| 52 | 19.0 | 20. 3 | 16.1 | 11. 4 | 8.3 | 6.8 | 5.7 | 4.2 | 3.1 | 3.6 | 2.6 | 2.6 | 2.6 |
| 54 | 20.5 | 20. 3 21. 1 | 16. 7 | 11. 9 | 8.6 | 7.0 | 5.9 | 4.3 | 3. 2 | 3.8 | 2.7 | 2.7 | 2.7 |
| 56 | 21.3 | 21. 8 | 17.4 | 12.3 | 9.0 | 7.3 | 6.2 | 4.5 | 3.4 | 3.9 | 2.8 | 2.8 | 2.8 |
| 58 | 22. 0 | 22. 6 | 18.0 | 12.8 | 9.3 | 7.5 | 6, 4 | 4.6 | 3.5 | 4.1 | 2. 9 | 2.9 | 2. 9 |
| 60 | 22. 8 | 23. 4 | 18.6 | 13. 2 | 9.6 | 7.8 | 6.6 | 4.8 | 3, 6 | 4.2 | 3.0 | 3.0 | 3. 0 |
| 62 | 23. 6 | 24.2 | 19. 2 | 13.6 | 9. 9 | 8.1 | 6.8 | 5.0 | 3.7 | 4.3 | 3.1 | 3.1 | 3. 1 |
| 64 | 24.3 | 25. 0 | 19.8 | 14.1 | 10. 2 | 8.3 | 7.0 | 5.1 | 3. 8 | 4.5 | 3. 2 | 3. 2 | 3. 2 |
| 66 | 25.1 | 25.7 | 20.5 | 14.5 | 10.6 | 8.6 | 7.3 | 5.3 | 4.0 | 4.6 | 3.3 | 3. 3 | 3. 3 |
| 68 | 25. 8 | 26.5 | 21.1 | 15. 0 | 10. 9 | 8.8 | 7.5 | 5.4 | 4.1 | 4.8 | 3.4 | 3.4 | 3. 4 |
| 70 | 26.6 | 27. 3 | 21. 7 | 15.4 | 11. 2 | 9.1 | 7.7 | 5.6 | 4. 2 | 4.9 | 3. 5 | 3.5 | 3. 5 |
| 72 | 27.4 | 28.1 | 22. 3 | 15.8 | 11.5 | 9.4 | 7.9 | 5.8 | 4.3 | 5.0 | 3.6 | 3.6 | 3. 6 |
| 74 | 28.1 | 28. 9 | 22. 9 | 16. 3 | 11. 8 | 9.6 | 8.1 | 5. 9 | 4.4 | 5. 2 | 3. 7 | 3. 7 | 3. 7 |
| 76 | 28.9 | 29.6 | 23. 6 | 16. 7 | 12. 2 | 9. 9 | 8.4 | 6.1 | 4.6 | 5.3 | 3.8 | 3.8 | 3. 8 |
| 78 | 29.6 | 30. 4 | 24. 2 | 17. 2 | 12.5 | 10. 1 | 8.6 | 6. 2 | 4.7 | 5. 5 | 3.9 | 3. 9 | 3.9 |
| 80 | 30. 4 | 31. 2 | 24.8 | 17.6 | 12.8 | 10. 4 | 8.8 | 6.4 | 4.8 | 5.6 | 4.0 | 4.0 | 4.0 |

Table 2-11. Weighted Wind Speeds (Type 2 Message), Zone 3

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| Wind Speed, - | | | | | | Line-Zo | one No. | | | | | |
|------------------|------------|---------------|------------|------------|--------------|------------|--------------|--------------|--------------|--------------|--------------|------------|
| Knots | 44 | 54 | 64 | 74 | 84 | 94 | 04 | 14 | 24 | 34 | 44 | 54 |
| 2 | . 4 | . 5 | . 4 | . 3 | . 2 | . 2 | . 2 | . 1 | . 1 | . 1 | . 1 | .1 |
| 4 | . 8 | 1.1 | . 8 | . 6 | . 5 | . 4 | . 3 | . 3 | . 3 | . 2 | . 2 | . 2 |
| 6 | 1. 2 | 1.6 | 1. 2 | . 9 | . 7 | . 6 | . 5 | . 4 | . 4 | . 4 | . 4 | .2 |
| 8 | 1.6 | 2. 2 | 1.6 | 1. 2 | 1. 0 | . 8 | . 6 | . 6 | .6 | . 5 | . 5 | .3 |
| 10 | 2.0 | 2. 7 | 2.0 | 1.5 | 1. 2 | 1. 0 | . 8 | . 7 | . 7 | . 6 | . 6 | . 4 |
| 12 | 2.4 | 3. 2 | 2.4 | 1. 8 | 1.4 | 1. 2 | 1. 0 | . 8 | . 8 | . 7 | . 7 | . 5 |
| 14 | 2.8 | 3.8 | 2.8 | 2.1 | 1. 7 | 1.4 | 1. 1 | 1. 0 | 1. 0 | . 8 | . 8 | . 6 |
| 16 | 3. 2 | 4.3 | 3. 2 | 2.4 | 1. 9 | 1. 6 | 1. 3 | 1. 1 | 1. 1 | 1. 0 | 1. 0 | . 6 |
| 18 | 3.6 | 4. 9 | 3. 6 | 2. 7 | 2. 2 | 1. 8 | 1.4 | 1. 3 | 1. 3 | 1. 1 | 1. 1 | .7 |
| 20 | 4.0 | 5.4 | 4.0 | 3. 0 | 2.4 | 2.0 | 1. 6 | 1.4 | 1.4 | 1. 2 | 1. 2 | . 8 |
| 22 | 4.4 | 5. 9 | 4.4 | 3. 3 | 2.6 | 2. 2 | 1. 8 | 1. 5 | 1.5 | 1. 3 | 1. 3 | . 9 |
| 24 | 4.8 | 6. 5 | 4.8 | 3. 6 | 2. 9 | 2.4 | 1. 9 | 1.7 | 1. 7 | 1.4 | 1.4 | 1.0 |
| 26 | 5. 2 | 7.0 | 5.2 | 3.9 | 3. 1 | 2.6 | 2.1 | 1.8 | 1.8 | 1.6 | 1.6 | 1.0 |
| 28 | 5.6 | 7.6 | 5.6 | 4.2 | 3.4 | 2.8 | 2. 2 | 2.0 | 2.0 | 1.7 | 1.7 | 1.1 |
| 30 | 6.0 | 8.1 | 6.0 | 4.5 | 3.6 | 3.0 | 2.4 | 2.1 | 2.1 | 1.8 | 1.8 | 1.2 |
| 32 | 6.4 | 8.6 | 6.4 | 4.8 | 3.8 | 3.2 | 2.6 | 2. 2 | 2.2 | 1.9 | 1.9 | 1.3 |
| 34 | 6.8 7.2 | 9. 2 9. 7 | 6.8 | 5.1 | 4.1 | 3.4 | 2.7 | 2.4 | 2.4 2.5 | 2.0 2.2 | 2.0 | 1.4 |
| 36 38 | 7.6 | 9. 7 10. 3 | 7.2 7.6 | 5.4 5.7 | 4.3 4.6 | 3.6 3.8 | 2.9 3.0 | 2.5 2.7 | 2.5 2.7 | 2. 2 2. 3 | 2.2 2.3 | 1.4 1.5 |
| 40 | 8.0 | 10. 3 | 8.0 | 5.7 6.0 | 4.0 | 3.8 4.0 | 3. 0 3. 2 | 2. 7 2. 8 | 2. 1 2. 8 | 2.3 2.4 | 2.3 2.4 | |
| 40 | 8.4 | 11. 3 | 8.4 | 6.3 | 4. 8 5. 0 | 4.0 | 3. 4 | 2. 8 2. 9 | 2.8 | 2.4 2.5 | 2.4 2.5 | 1.6 1.7 |
| 42 | 8.8 | 11. 3 | 8.8 | 6.6 | 5. 0 | 4.4 | 3.5 | 2. 9 3. 1 | 2. 9 3. 1 | 2. 5 2. 6 | 2.5 2.6 | 1.7 |
| 46 | 9.2 | 12.4 | 9.2 | 6.9 | 5.5 | 4.6 | 3. 7 3. 7 | 3. 2 | 3. 2 | 2.8 | 2. 0 2. 8 | 1.8 |
| 48 | 9.6 | 13.0 | 9.6 | 7.2 | 5.8 | 4.8 | 3.8 | 3. 4 | 3.4 | 2.9 | 2.9 | 1.9 |
| 50 | 10.0 | 13. 5 | 10.0 | 7.5 | 6.0 | 5.0 | 4.0 | 3.5 | 3.5 | 3.0 | 3.0 | 2.0 |
| 52 | 10. 4 | 14.0 | 10. 4 | 7.8 | 6.2 | 5. 2 | 4.2 | 3.6 | 3.6 | 3.1 | 3.1 | 2.1 |
| 54 | 10. 8 | 14.6 | 10. 8 | 8.1 | 6.5 | 5.4 | 4.3 | 3.8 | 3.8 | 3.2 | 3. 2 | 2.2 |
| 56 | 11. 2 | 15.1 | 11. 2 | 8.4 | 6.7 | 5.6 | 4.5 | 3. 9 | 3.9 | 3.4 | 3.4 | 2.2 |
| 58 | 11. 6 | 15.7 | 11.6 | 8.7 | 7.0 | 5.8 | 4.6 | 4. 1 | 4.1 | 3.5 | 3.5 | 2.3 |
| 60 | 12.0 | 16. 2 | 12.0 | 9.0 | 7.2 | 6.0 | 4.8 | 4. 2 | 4.2 | 3.6 | 3.6 | 2.4 |
| 62 | 12.4 | 16.7 | 12.4 | 9.3 | 7.4 | 6. 2 | 5.0 | 4.3 | 4.3 | 3. 7 | 3. 7 | 2.5 |
| 64 | 12.8 | 17.3 | 12.8 | 9.6 | 7.7 | 6.4 | 5.1 | 4.5 | 4.5 | 3.8 | 3.8 | 2.6 |
| 66 | 13. 2 | 17.8 | 13. 2 | 9.9 | 7.9 | 6.6 | 5.3 | 4.6 | 4.6 | 4.0 | 4.0 | 2.6 |
| 68 | 13.6 | 18.4 | 13.6 | 10. 2 | 8.2 | 6.8 | 5.4 | 4.8 | 4.8 | 4.1 | 4.1 | 2.7 |
| 70 | 14. 0 | 18.9 | 14. 0 | 10. 5 | 8.4 | 7.0 | £. 6 | 4. 9 | 4.9 | 4.2 | 4. 2 | 2.8 |
| 72 | 14.4 | 19.4 | 14.4 | 10. 8 | 8.6 | 7.2 | 5. 8 | 5.0 | 5. 0 | 4.3 | 4.3 | 2.9 |
| 74 | 14.8 | 20. 0 | 14.8 | 11. 1 | 8.9 | 7.4 | 5.9 | 5. 2 | 5. 2 | 4.4 | 4.4 | 3. 0 |
| 76 | 15. 2 | 20.5 | 15. 2 | 11.4 | 9.1 | 7.6 | 6.1 | 5.3 | 5.3 | 4.6 | 4.6 | 3. 0 |
| 78 | 15.6 | 21. 1 | 15.6 | 11. 7 | 9.4 | 7.8 | 6. 2 | 5. 5 | 5.5 | 4.7 | 4.7 | 3. 1 |
| 80 | 16. 0 | 21. 6 | 16.0 | 12.0 | 9.6 | 8.0 | 6.4 | 5.6 | 5.6 | 4.8 | 4.8 | 3. 2 |

Table 2-11. Weighted Wind Speeds (Type 2 Message), Zone 4

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary. .

| Wind | | | | | Line | -Zone No | | | | | |
|--------|------|-------|-------|------|------|----------|------|------|------|------|------|
| Speed, | 55 | 65 | 75 | 85 | 95 | 05 | 15 | 25 | 35 | 45 | 55 |
| Knots | | | | | | | | | | 40 | |
| 2 | . 2 | . 4 | . 3 | . 3 | . 2 | . 2 | . 1 | . 1 | . 1 | . 1 | . 1 |
| 4 | . 4 | . 8 | . 6 | . 5 | . 4 | . 3 | . 2 | . 3 | . 2 | . 2 | . 2 |
| 6 | . 7 | 1.1 | 1. 0 | . 8 | . 6 | . 5 | . 4 | . 4 | . 4 | . 2 | . 3 |
| 8 | . 9 | 1.5 | 1.3 | 1. 0 | . 8 | . 6 | . 5 | . 6 | . 5 | .3 | . 4 |
| 10 | 1.1 | 1. 9 | 1. 6 | 1.3 | 1. 0 | . 8 | . 6 | . 7 | . 6 | . 4 | . 5 |
| 12 | 1.3 | 2.3 | 1. 9 | 1.6 | 1. 2 | 1. 0 | . 7 | . 8 | . 7 | . 5 | . 6 |
| 14 | 1.5 | 2.7 | 2.2 | 1. 8 | 1.4 | 1. 1 | .8 | 1. 0 | . 8 | . 6 | . 7 |
| 16 | 1.8 | 3.0 | 2.6 | 2.1 | 1.6 | 1.3 | 1.0 | 1.1 | 1.0 | . 6 | . 8 |
| 18 | 2.0 | 3.4 | 2.9 | 2.3 | 1.8 | 1.4 | 1.1 | 1.3 | 1.1 | . 7 | . 9 |
| 20 | 2. 2 | 3.8 | 3. 2 | 2.6 | 2.0 | 1.6 | 1. 2 | 1.4 | 1.2 | . 8 | 1. 0 |
| 22 | 2.4 | 4.2 | 3.5 | 2.9 | 2. 2 | 1.8 | 1.3 | 1.5 | 1.3 | . 9 | 1.1 |
| 24 | 2.6 | 4.6 | 3.8 | 3.1 | 2.4 | 1.9 | 1.4 | 1. 7 | 1.4 | 1.0 | 1. 2 |
| 26 | 2.9 | 4.9 | 4.2 | 3. 4 | 2.6 | 2.1 | 1.6 | 1.8 | 1.6 | 1.0 | 1.3 |
| 28 | 3.1 | 5.3 | 4.5 | 3.6 | 2.8 | 2.2 | 1.7 | 2.0 | 1.7 | 1.1 | 1.4 |
| 30 | 3.3 | 5.7 | 4.8 | 3.9 | 3.0 | 2.4 | 1.8 | 2.1 | 1.8 | 1. 2 | 1.5 |
| 32 | 3.5 | 6.1 | 5.1 | 4.2 | 3.2 | 2.6 | 1. 9 | 2.2 | 1.9 | 1.3 | 1.6 |
| 34 | 3. 7 | 6.5 | 5.4 | 4.4 | 3.4 | 2.7 | 2.0 | 2.4 | 2.0 | 1.4 | 1. 7 |
| 36 | 4.0 | 6.8 | 5.8 | 4.7 | 3.6 | 2.9 | 2. 2 | 2.5 | 2. 2 | 1.4 | 1.8 |
| 38 | 4.2 | 7.2 | 6.1 | 4.9 | 3.8 | 3.0 | 2.3 | 2.7 | 2.3 | 1.5 | 1.9 |
| 40 | 4.4 | 7.6 | 6.4 | 5. 2 | 4.0 | 3. 2 | 2.4 | 2.8 | 2.4 | 1.6 | 2.0 |
| 42 | 4.6 | 8.0 | 6.7 | 5.5 | 4.2 | 3.4 | 2.5 | 2.9 | 2.5 | 1. 7 | 2.1 |
| 44 | 4.8 | 8.4 | 7.0 | 5.7 | 4.4 | 3.5 | 2.6 | 3.1 | 2.6 | 1.8 | 2.2 |
| 46 | _5.1 | 8.7 | 7.4 | 6.0 | 4.6 | 3. 7 | 2.8 | 3. 2 | 2.8 | 1.8 | 2.3 |
| 48 | 5.3 | 9.1 | 7.7 | 6. 2 | 4.8 | 3.8 | 2.9 | 3.4 | 2.9 | 1.9 | 2.4 |
| 50 | 5.5 | 9.5 | 8.0 | 6.5 | 5.0 | 4.0 | 3.0 | 3.5 | 3.0 | 2.0 | 2.5 |
| 52 | 5.7 | 9.9 | 8.3 | 6.8 | 5.2 | 4.2 | 3.1 | 3.6 | 3.1 | 2.1 | 2.6 |
| 54 | 5.9 | 10.3 | 8.6 | 7.0 | 5.4 | 4.3 | 3. 2 | 3.8 | 3. 2 | 2.2 | 2.7 |
| 56 | 6.2 | 10. 6 | 9.0 | 7.3 | 5.6 | 4.5 | 3.4 | 3. 9 | 3.4 | 2.2 | 2.8 |
| 58 | 6.4 | 11. 0 | 9.3 | 7.5 | 5.8 | 4.6 | 3.5 | 4.1 | 3.5 | 2.3 | 2.9 |
| 60 | 6.6 | 11.4 | 9.6 | 7.8 | 6.0 | 4.8 | 3.6 | 4.2 | 3.6 | 2.4 | 3. 0 |
| 62 | 6.8 | 11.8 | 9.9 | 8.1 | 6.2 | 5.0 | 3.7 | 4.3 | 3. 7 | 2.5 | 3.1 |
| 64 | 7.0 | 12.2 | 10. 2 | 8.3 | 6.4 | 5.1 | 3.8 | 4.5 | 3.8 | 2.6 | 3. 2 |
| 66 | 7.3 | 12.5 | 10.6 | 8.6 | 6.6 | 5.3 | 4.0 | 4.6 | 4.0 | 2.6 | 3. 3 |
| 68 | 7.5 | 12.9 | 10. 9 | 8.8 | 6.8 | 5.4 | 4.1 | 4.8 | 4 1 | 2.7 | 3, 4 |
| 70 | 7.7 | 13. 3 | 11.2 | 9.1 | 7.0 | 5.6 | 4.2 | 49 | 4.2 | 2.8 | 3.5 |
| 72 | 7.9 | 13. 7 | 11.5 | 9.4 | 7.2 | 5.8 | 4.3 | 5.0 | 4.3 | 2.9 | 3.6 |
| 74 | 8.1 | 14.1 | 11.8 | 9.6 | 7.4 | 5. 9 | 4.4 | 5. 2 | 4.4 | 3.0 | 3. 7 |
| 76 | 8.4 | 14.4 | 12. 2 | 9. 9 | 7.6 | 6.1 | 4.6 | 5.3 | 4.6 | 3.0 | 3.8 |
| 78 | 8.6 | 14.8 | 12.5 | 10.1 | 7.8 | 6.2 | 4.7 | 5.5 | 4.7 | 3.1 | 3. 9 |
| 80 | 8.8 | 15. 2 | 12.8 | 10.4 | 8.0 | 6.4 | 4.8 | 5. 6 | 4.8 | 3. 2 | 4.0 |

Table 2–11. Weighted Wind Speeds (Type 2 Message), Zone 5

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| Wind Speed, - | | | | | Line-Zone | No. | | | | |
|------------------|-------|-------|-------|-------|-----------|-------|------|------|------|----|
| Knots | 66 | 76 | 86 | 96 | 06 | 16 | 26 | 36 | 46 | 56 |
| 2 | . 4 | . 5 | . 5 | . 4 | . 3 | . 3 | . 2 | . 2 | . 2 | • |
| 4 | . 8 | 1.1 | 1.0 | . 8 | . 6 | . 5 | . 5 | . 4 | . 4 | • |
| 6 | 1.1 | 1.6 | 1.4 | 1.3 | 1.0 | . 8 | . 7 | . 7 | . 5 | |
| 8 | 1.5 | 2. 2 | 1.9 | 1.7 | 1.3 | 1.0 | 1.0 | . 9 | .7 | |
| 10 | 1. 9 | 2. 7 | 2.4 | 2.1 | 1.6 | 1.3 | 1. 2 | 1.1 | . 9 | • |
| 12 | 2.3 | 3. 2 | 2.9 | 2.5 | 1. 9 | 1.6 | 1.4 | 1.3 | 1.1 | 1. |
| 14 | 2. 7 | 3.8 | 3.4 | 2. 9 | 2. 2 | 1.8 | 1.7 | 1.5 | 1.3 | 1. |
| 16 | 3. 0 | 4.3 | 3.8 | 3.4 | 2.6 | 2.1 | 1, 9 | 1.8 | 1.4 | 1. |
| 18 | 3.4 | 4.9 | 4.3 | 3.8 | 2.9 | 2.3 | 2. 2 | 2.0 | 1.6 | 1. |
| 20 | 3.8 | 5.4 | 4.8 | 4.2 | 3. 2 | 2.6 | 2.4 | 2. 2 | 1.8 | 1. |
| 22 | 4. 2 | 5.9 | 5.3 | 4.6 | 3.5 | 2.9 | 2.6 | 2.4 | 2.0 | 2. |
| 24 | 4.6 | 6. 5 | 5.8 | 5.0 | 3.8 | 3.1 | 2.9 | 2.6 | 2. 2 | 2. |
| 26 | 4.9 | 7.0 | 6. 2 | 5. 5 | 4. 2 | 3.4 | 3.1 | 2.9 | 2.3 | 2. |
| 28 | 5.3 | 7.6 | 6. 7 | 5. 9 | 4.5 | 3.6 | 3.4 | 3.1 | 2.5 | 2. |
| 30 | 5. 7 | 8, 1 | 7.2 | 6. 3 | 4.8 | 3. 9 | 3.6 | 3, 3 | 2. 7 | 2. |
| 32 | 6.1 | 8.6 | 7.7 | 6. 7 | 5.1 | 4. 2 | 3.8 | 3.5 | 2.9 | 2. |
| 34 | 6.5 | 9. 2 | 8. 2 | 7.1 | 5.4 | 4.4 | 4.1 | 3. 7 | 3.1 | 3. |
| 36 | 6.8 | 9. 7 | 8.6 | 7.6 | 5.8 | 4.7 | 4.3 | 4.0 | 3. 2 | 3. |
| 38 | 7. 2 | 10. 3 | 9.1 | 8.0 | 6.1 | 4.9 | 4.6 | 4.2 | 3.4 | 3. |
| 40 | 7.6 | 10. 8 | 9. 6 | 8.4 | 6.4 | 5. 2 | 4.8 | 4.4 | 3.6 | 3. |
| 42 | 8.0 | 11. 3 | 10. 1 | 8.8 | 6. 7 | 5.5 | 5.0 | 4.6 | 3.8 | 3. |
| 44 | 8.4 | 11. 9 | 10.6 | 9. 2 | 7.0 | 5, 7 | 5.3 | 4.8 | 4.0 | 4. |
| _ 46 | 8.7 | 12.4 | 11. 0 | 9. 7 | 7.4 | 6.0 | 5. 5 | 5.1 | 4.1 | 4. |
| 48 | 9.1 | 13. 0 | 11. 5 | 10. 1 | 7.7 | 6. 2 | 5.8 | 5.3 | 4.3 | 4. |
| 50 | 9.5 | 13. 5 | 12.0 | 10. 5 | 8.0 | 6.5 | 6.0 | 5.5 | 4.5 | 4. |
| 52 | 9. 9 | 14, 0 | 12.5 | 10. 9 | 8. 3 | 6.8 | 6. 2 | 5.7 | 4. 7 | 4. |
| 54 | 10.3 | 14.6 | 13. 0 | 11. 3 | 8.6 | 7.0 | 6, 5 | 5. 9 | 4. 9 | 4. |
| 56 | 10.6 | 15. 1 | 13. 4 | 11.8 | 9. 0 | 7.3 | 6, 7 | 6. 2 | 5. 0 | 5. |
| 58 | 11. 0 | 15.7 | 13.9 | 12. 2 | 9. 3 | 7.5 | 7.0 | 6. 4 | 5. 2 | 5. |
| 60 | 11. 4 | 16. 2 | 14.4 | 12.6 | 9.6 | 7.8 | 7.2 | 6. 6 | 5.4 | 5. |
| 62 | 11.8 | 16.7 | 14.9 | 13.0 | 9. 9 | 8.1 | 7.4 | 6.8 | 5. 6 | 5. |
| 64 | 12.2 | 17.3 | 15.4 | 13. 4 | 10. 2 | 8.3 | 7.7 | 7.0 | 5.8 | 5. |
| 66 | 12.5 | 17.8 | 15.8 | 13. 9 | 10.6 | 8.6 | 7.9 | 7.3 | 5. 9 | 5. |
| 68 | 12.9 | 18.4 | 16.3 | 14.3 | 10, 9 | 8.8 | 8.2 | 7.5 | 6, 1 | 6. |
| 70 | 13.3 | 18.9 | 16.8 | 14. 7 | 11. 2 | 9. 1 | 8.4 | 7.7 | 6, 3 | 6. |
| 72 | 13. 7 | 19.4 | 17.3 | 15.1 | 11.5 | 9.4 | 8.6 | 7.9 | 6.5 | 6. |
| 74 | 14. 1 | 20.0 | 17.8 | 15.5 | 11.8 | 9.6 | 8.9 | 8.1 | 6. 7 | 6. |
| 76 | 14.4 | 20.5 | 18.2 | 16.0 | 12.2 | 9. 9 | 9.1 | 8.4 | 6, 8 | 6. |
| 78 | 14.8 | 21.1 | 18.7 | 16.4 | 12.5 | 10. 1 | 9.4 | 8.6 | 7.0 | 7. |
| 80 | 15. 2 | 21. 6 | 19. 2 | 16.8 | 12.8 | 10.4 | 9.6 | 8.8 | 7.2 | 7. |

Table 2-11. Weighted Wind Speeds (Type 2 Message), Zone 6

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

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| Wind | Line-Zone No. | | | | | | | | | | | | |
|-------------------|---------------|----------------|--------------|----------------|--------------|------------|--------------|--------------|----------|--|--|--|--|
| Speed, – Knots | 77 | 87 | 97 | 07 | 17 | 27 | 37 | 47 | 57 | | | | |
| 2 | . 2 | . 4 | . 4 | . 3 | . 3 | . 2 | . 2 | . 2 | | | | | |
| 4 | . 4 | . 7 | . 8 | . 6 | . 5 | . 4 | . 4 | . 4 | | | | | |
| 6 | . 7 | 1.1 | 1.2 | . 9 | . 8 | . 7 | . 6 | . 5 | | | | | |
| 8 | . 9 | 1.4 | 1.6 | 1. 2 | 1.0 | . 9 | . 8 | . 7 | | | | | |
| 10 | 1.1 | 1.8 | 2.0 | 1.5 | 1.3 | 1.1 | 1.0 | . 9 | | | | | |
| 12 | 1.3 | 2. 2 | 2.4 | 1.8 | 1.6 | 1.3 | 1.2 | 1.1 | 1. | | | | |
| 14 | 1.5 | 2.5 | 2. 8 | 2.1 | 1.8 | 1.5 | 1.4 | 1.3 | 1. | | | | |
| 16 | 1.8 | 2.9 | 3. 2 | 2.4 | 2.1 | 1.8 | 1.6 | 1.4 | 1. | | | | |
| 18 | 2. 0 | 3. 2 | 3.6 | 2.7 | 2.3 | 2.0 | 1.8 | 1.6 | 1. | | | | |
| 20 | 2. 2 | 3.6 | 4.0 | 3.0 | 2.6 | 2. 2 | 2.0 | 1.8 | 1. | | | | |
| 22 | 2.4 | 4.0 | 4.4 | 3.3 | 2.9 | 2.4 | 2. 2 | 2. 0 | 2. | | | | |
| 24 | 2.6 | 4.3 | 4.8 | 3.6 | 3.1 | 2.6 | 2.4 | 2. 2 | 2. | | | | |
| 26 | 2.9 | 4.7 | 5. 2 | 3.9 | 3.4 | 2.9 | 2.6 | 2.3 | 2. | | | | |
| 28 | 3.1 | 5.0 | 5.6 | 4.2 | 3.6 | 3.1 | 2.8 | 2.5 | 2. | | | | |
| 30 | 3.3 | 5.4 | 6. 0 | 4.5 | 3. 9 | 3.3 | 3. 0 | 2. 7 | 2. | | | | |
| 32 | 3. 5 | 5.8 | 6.4 | 4.8 | 4.2 | 35 | 3. 2 | 2.9 | 2. | | | | |
| 34 | 3. 7 | 6.1 | 6.8 | 5.1 | 4.4 | 3. 7 | 3.4 | 3.1 | 3. | | | | |
| 36 | 4.0 | 6. 5 | 7.2 | 5.4 | 4.7 | 4.0 | 3.6 | 3. 2 | 3. | | | | |
| 38 | 4. 2 | 6.8 | 7.6 | 5. 7 | 4.9 | 4. 2 | 3.8 | 3.4 | 3. | | | | |
| 40 | 4. 4 | 7. 2 | 8.0 | 6. 0 | 5. 2 | 4.4 | 4.0 | 3.6 | 3. | | | | |
| 42 | 4.6 | 7.6 | 8.4 | 6.3 | 5. 5 | 4.6 | 4. 2 | 3.8 | 3. | | | | |
| 44 | 4.8 | 7.9 | 8.8 | 6.6 | 5.7 | 4.8 | 4.4 | 4.0 | 4. | | | | |
| 46 | _ 5.1 | 8.3 | 9. 2 | 6. 9 | 6.0 | 5.1 | 4.6 | 4.1 | 4. | | | | |
| 48 | 5. 3 | 8.6 | 9.6 | 7.2 | 6. 2 | 5.3 | 4.8 | 4.3 | 4. 4. | | | | |
| 50 | 5.5 | 9. 0 | 10. 0 | 7.5 | 6.5 | 5.5 | 5.0 | 4.5 | | | | | |
| 52 | 5.7 | 9.4 | 10. 4 | 7.8 | 6.8 | 5.7 | 5. 2 | 4.7 | 4. | | | | |
| 54 | 5.9 | 9. 7 | 10.8 | 8.1 | 7.0 | 5.9 | 5.4 | 4.9 5.0 | 4. 5. | | | | |
| 56 | 6. 2 | 10. 1 | 11. 2 | 8.4 | 7.3 7.5 | 6. 2 | 5.6 5.8 | 5. 0 5. 2 | э. 5. | | | | |
| 58 | 6.4 | 10.4 | 11.6 | 8.7 | 7. 5 | 6.4 6.6 | 5. 8 6. 0 | 5. 4 | 5. | | | | |
| 60 | 6.6 6.8 | 10.8 | 12.0 | 9.0 9.3 | 7.8 8.1 | 6. 8 | 6. 0 6. 2 | 5.6 | 5. 5. | | | | |
| 62 | 6. 8 7. 0 | | 12.4 12.8 | 9.3 | 8.3 | 7.0 | 6.4 | 5.8 | 5. | | | | |
| 64 | | 11.5 | | | 8. 3 8. 6 | 7.0 | 6.6 | 5. 9 | J. 5. | | | | |
| 66 | 7.3 | 11.9 | 13.2 | 9.9 | 8.8 | 7.5 | 6.8 | 6.1 | 6. | | | | |
| 68 70 | 7.5 | 12. 2 | 13.6 | 10.2 | | 7. 7 | 7.0 | 6.3 | 6. | | | | |
| 70 | 7.7 7.9 | 12.6 | 14.0 | 10.5 10.8 | 9.1 9.4 | 7.9 | 7.0 | 6.5 | 6. | | | | |
| 72 | 8.1 | 13. 0 13. 3 | 14.4 14.8 | 10.8 | 9.4 | 8.1 | 7.4 | 6. 7 | 6. | | | | |
| 74 | 8.1 8.4 | 13. 3 | | 11. 1 | 9.0 | 8.4 | 7.6 | 6.8 | 6. | | | | |
| 76 | | | 15.2 | | 9.9 10.1 | 8.6 | 7.8 | 7.0 | 7. | | | | |
| 78 80 | 8.6 8.8 | 14.0 | 15.6 16.0 | 11. 7 12. 0 | 10. 1 | 8.8 | 8.0 | 7.2 | 7. | | | | |
| 80 | ð. ð | 14.4 | 10. 0 | 12.0 | 10. 4 | 0.0 | 0.0 | 1.4 | 4. | | | | |

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| Wind | Line-Zone No. | | | | | | | | | | | | |
|-------------------|---------------|-------------------|-------|--------------|------|------|------|----|--|--|--|--|--|
| Speed, — Knots | 88 | 98 | 08 | 18 | 28 | 38 | 48 | 58 | | | | | |
| 2 | . 2 | . 2 | . 3 | . 2 | . 2 | . 2 | . 2 | | | | | | |
| 4 | . 3 | . 5 | . 6 | . 5 | .4 | .4 | .4 | | | | | | |
| 6 | . 5 | . 7 | . 8 | . 7 | . 6 | . 5 | . 5 | | | | | | |
| 8 | . 6 | 1. 0 | 1. 1 | 1. 0 | . 8 | . 7 | . 7 | | | | | | |
| 10 | . 8 | 1. 2 | 1.4 | 1. 2 | 1.0 | . 9 | . 9 | | | | | | |
| 12 | 1. 0 | 1.4 | 1. 7 | 1.4 | 1. 2 | 1.1 | 1.1 | 1. | | | | | |
| 14 | 1.1 | 1. 7 _† | 2.0 | 1.7 | 1.4 | 1.3 | 1.3 | 1. | | | | | |
| 16 | 1. 3 | 1. 9 | 2. 2 | 1. 9 | 1.6 | 1.4 | 1.4 | 1. | | | | | |
| 18 | 1.4 | 2. 2 | 2.5 | 2. 2 | 1.8 | 1.6 | 1.6 | 1. | | | | | |
| 20 | 1.6 | 2.4 | 2.8 | 2.4 | 2.0 | 1. 8 | 1. 8 | 1. | | | | | |
| 22 | 1. 8 | 2.6 | 3.1 | 2.6 | 2. 2 | 2.0 | 2. 0 | 1. | | | | | |
| 24 | 1. 9 | 2.9 | 3.4 | 2. 9 | 2.4 | 2. 2 | 2. 2 | 1. | | | | | |
| 26 | 2.1 | 3.1 | 3.6 | 3.1 | 2.6 | 2.3 | 2.3 | 2 | | | | | |
| 28 | 2. 2 | 3. 4 | 3. 9 | 3.4 | 2.8 | 2.5 | 2.5 | 2 | | | | | |
| 30 | 2.4 | 3. 6 | 4. 2 | 3.6 | 3.0 | 2. 7 | 2. 7 | 2 | | | | | |
| 32 | 2. 6 | 3. 8 | 4. 5 | 3. 8 | 3. 2 | 2. 9 | 2.9 | 2 | | | | | |
| 34 | 2. 7 | 4.1 | 4.8 | 4.1 | 3.4 | 3.1 | 3.1 | 2 | | | | | |
| 36 | 2.9 | 4.3 | 5. 0 | 4.3 | 3.6 | 3. 2 | 3. 2 | 2 | | | | | |
| 38 | 3.0 | 4.6 | 5.3 | 4.6 | 3. 8 | 3.4 | 3.4 | 3 | | | | | |
| 40 | 3. 2 | 4.8 | 5.6 | 4.8 | 4.0 | 3.6 | 3.6 | 3 | | | | | |
| 42 | 3.4 | 5.0 | 5.9 | 5.0 | 4.2 | 3. 8 | 3.8 | 3 | | | | | |
| 44 | 3.5 | 5.3 | 6. 2 | 5.3 | 4.4 | 4.0 | 4.0 | 3 | | | | | |
| _ 46 | 3. 7 | 5. 5 | 6.4 | 5 . 5 | 4.6 | 4.1 | 4.1 | 3 | | | | | |
| 48 | 3. 8 | 5.8 | 6. 7 | 5. 8 | 4.8 | 4.3 | 4.3 | 3 | | | | | |
| 50 | 4.0 | 6.0 | 7.0 | 6.0 | 5.0 | 4.5 | 4.5 | 4 | | | | | |
| 52 | 4. 2 | 6. 2 | 7.3 | 6. 2 | 5. 2 | 4.7 | 4.7 | 4 | | | | | |
| 54 | 4.3 | 6.5 | 7.6 | 6.5 | 5.4 | 4.9 | 4.9 | 4 | | | | | |
| 56 | 4.5 | 6. 7 | 7.8 | 6. 7 | 5.6 | 5.0 | 5.0 | 4 | | | | | |
| 58 | 4.6 | 7.0 | 8.1 | 7.0 | 5.8 | 5. 2 | 5. 2 | 4 | | | | | |
| 60 | 4.8 | 7. 2 | 8.4 | 7. 2 | 6.0 | 5.4 | 5.4 | 4 | | | | | |
| 62 | 5.0 | 7.4 | 8.7 | 7.4 | 6. 2 | 5.6 | 5.6 | 5 | | | | | |
| 64 | 5.1 | 7. 7 | 9.0 | 7. 7 | 6.4 | 5.8 | 5.8 | 5 | | | | | |
| 66 | 5. 3 | 7.9 | 9. 2 | 7.9 | 6.6 | 5. 9 | 5. 9 | 5 | | | | | |
| 68 | 5.4 | 8. 2 | 9.5 | 8.2 | 6.8 | 6.1 | 6.1 | 5 | | | | | |
| 70 | 5.6 | 8.4 | 9.8 | 8.4 | 7.0 | 6.3 | 6.3 | 5 | | | | | |
| 72 | 5.8 | 8.6 | 10. 1 | 8.6 | 7. 2 | 6.5 | 6.5 | 5 | | | | | |
| 74 | 5. 9 | 8.9 | 10. 4 | 8.9 | 7.4 | 6.7 | 6. 7 | 5 | | | | | |
| 76 | 6. 1 | 9.1 | 10. 6 | 9.1 | 7.6 | 6.8 | 6.8 | 6 | | | | | |
| 78 | 6. 2 | 9.4 | 10. 9 | 9.4 | 7.8 | 7.0 | 7.0 | 6 | | | | | |
| 80 | 6.4 | 9.6 | 11. 2 | 9.6 | 8.0 | 7. 2 | 7.2 | 6 | | | | | |

Table 2–11. Weighted Wind Speeds (Type 2 Message), Zone 8

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| Table 2-11. V | Neighted Wind S | peeds (Type 2 M | Message), Zone 9 |
|---------------|-----------------|-----------------|------------------|
|---------------|-----------------|-----------------|------------------|

| Wind | | | Line- | Zone No | 0. | | |
|----------|--------------|------------|--------------|------------|--------------|------------|----------|
| Speed, | 99 | 09 | 19 | 29 | 39 | 49 | 59 |
| Knots | | | | | | 40 | |
| 2 | . 1 | . 3 | . 2 | . 2 | . 2 | . 2 | • |
| 4 | . 2 | . 5 | .4 | . 3 | . 3 | . 3 | • |
| 6 | .4 | . 8 | .7 | . 5 | . 5 | .5 | • |
| 8 | . 5 | 1.0 | . 9 | . 6 | . 6 | .6 | • |
| 10 | . 6 | 1.3 | 1.1 | . 8 | . 8 | .8 | |
| 12 | .7 | 1.6 | 1.3 | 1.0 | 1.0 | 1.0 | • |
| 14 | .8 | 1.8 | 1.5 | 1.1 | 1.1 | 1.1 | 1. 1. |
| 16 | 1.0 | 2.1 | 1.8 | 1.3 1.4 | 1.3 1.4 | 1.3 1.4 | 1. |
| 18 20 | 1. 1 1. 2 | 2.3 2.6 | 2.0 2.2 | 1.4 | 1.4 | 1. 4 | 1. |
| 20 22 | 1. 2 | 2.0 | 2. 2 2. 4 | 1.0 | 1.0 | 1.0 | 1. |
| 24 24 | 1. 3 | 2.9 3.1 | 2. 4 | 1.8 | 1. 0 | 1.0 | 1. |
| 26 | 1. 6 | 3.4 | 2.9 | 2.1 | 2.1 | 2.1 | 1. |
| 28 | 1. 7 | 3.6 | 3.1 | 2.2 | 2. 2 | 2.2 | 2. |
| 30 | 1.8 | 3.9 | 3.3 | 2.4 | 2.4 | 2.4 | 2. |
| 32 | 1.9 | 4.2 | 3.5 | 2.6 | 2.6 | 2.6 | 2. |
| 34 | 2.0 | 4.4 | 3.7 | 2.7 | 2.7 | 2.7 | 2. |
| 36 | 2.2 | 4.7 | 4.0 | 2.9 | 2.9 | 2.9 | 2. |
| 38 | 2.3 | 4.9 | 4.2 | 3.0 | 3.0 | 3.0 | 2. |
| 40 | 2.4 | 5.2 | 4.4 | 3.2 | 3. 2 | 3.2 | 2. |
| 42 | 2, 5 | 5.5 | 4.6 | 3.4 | 3. 4 | 3.4 | 2. |
| 44 | 2.6 | 5.7 | 4.8 | 3.5 | 3.5 | 3.5 | 3. |
| 46 | 2.8 | 6.0 | 5.1 | 3.7 | 3. 7 | 3.7 | 3. |
| 48 | 2.9 | 6.2 | 5.3 | 3.8 | 3.8 | 3.8 | 3. |
| 50 | 3. 0 | 6.5 | 5.5 | 4.0 | 4.0 | 4.0 | 3. |
| 52 | 3.1 | 6.8 | 5.7 | 4.2 | 4.2 | 4.2 | 3. |
| 54 | 3. 2 | 7.0 | 5.9 | 4.3 | 4.3 | 4.3 | 3. |
| 56 | 3.4 | 7.3 | 6.2 | 4.5 | 4.5 | 4.5 | 3. |
| 58 | 3.5 | 7.5 | 6.4 | 4.6 | 4.6 | 4.6 | 4. |
| 60 | 3. 6 | 7.8 | 6. 6 | 4.8 | 4.8 | 4.8 | 4. |
| 62 | 3. 7 | 8.1 | 6. 8 | 5. 0 | 5. 0 | 5.0 | 4. |
| 64 | 3. 8 | 8.3 | 7.0 | 5.1 | 5.1 | 5.1 | 4. |
| 66 | 4.0 | 8.6 | 7.3 | 5.3 | 5.3 | 5.3 | 4. |
| 68 | 4.1 | 8.8 | 7.5 | 5.4 | 5.4 | 5.4 | 4. |
| 70 | 4.2 | 9.1 | 7.7 | 5.6 | 5.6 | 5.6 | 4. |
| 72 | 4.3 | 9.4 | 7.9 | 5.8 | 5.8 | 5.8 | 5. |
| 74 | 4.4 | 9.6 | 8.1 | 5.9 | 5.9 | 5.9 | 5. |
| 76 | 4.6 | 9.9 | 8.4 | 6.1 | 6.1 | 6.1 | 5. 3 |
| 78 | 4.7 | 10.1 | 8.6 | 6.2 | 6. 2 0. 4 | 6.2 | 5. |
| 80 | 4.8 | 10. 4 | 8.8 | 6.4 | 6.4 | 6.4 | 5. (|

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| | | 2 | Zone 10 | | | | Zone 11 | | | | | | |
|----------------|------|-------|----------|---------------------|-------|------|----------------|------|------|--------------|------|----|--|
| Wind Speed, | | | Line-zon | e No. | | | Wind Speed. | | L | ine-zone No. | | | |
| Knots | 00 | 10 | 20 | 30 | 40 | 50 | Knots | 11 | 21 | 31 | 41 | 51 | |
| 2 | . 2 | . 4 | . 3 | . 3 | . 3 | . 2 | 2 | . 2 | . 2 | . 2 | . 2 | | |
| 4 | . 4 | . 7 | . 6 | . 6 | . 5 | . 5 | 4 | . 3 | . 4 | . 4 | . 4 | | |
| 6 | . 7 | 1.1 | . 9 | . 8 | . 8 | . 7 | 6 | . 5 | . 6 | . 7 | . 7 | | |
| 8 | . 9 | 1.4 | 1. 2 | 1. 1 | 1. 0 | 1. 0 | 8 | . 6 | . 8 | . 9 | . 9 | | |
| 10 | 1.1 | 1.8 | 1.5 | 1.4 | 1.3 | 1.2 | 10 | . 8 | 1.0 | 1.1 | 1.1 | 1 | |
| 12 | 1.3 | 2. 2 | 1.8 | 1. 7 | 1.6 | 1.4 | 12 | 1.0 | 1.2 | 1.3 | 1.3 | 1. | |
| 14 | 1.5 | 2.5 | 2.1 | 2.0 | 1.8 | 1.7 | 14 | 1.1 | 1.4 | 1.5 | 1.5 | 1 | |
| 16 | 1.8 | 2.9 | 2.4 | 2. 2 | 2.1 | 1.9 | 16 | 1.3 | 1.6 | 1.8 | 1.8 | 1. | |
| 18 | 2.0 | 3. 2 | 2.7 | 2.5 | 2.3 | 2.2 | 18 | 1.4 | 1.8 | 2.0 | 2.0 | 1 | |
| 20 | 2. 2 | 3.6 | 3. 0 | 2.8 | 2.6 | 2.4 | 20 | 1.6 | 2.0 | 2.2 | 2.2 | 2 | |
| 22 | 2.4 | 4.0 | 3. 3 | 3.1 | 2.9 | 2.6 | 22 | 1.8 | 2.2 | 2.4 | 2.4 | 2 | |
| 24 | 2.6 | 4.3 | 3.6 | 3.4 | 3.1 | 2.9 | 24 | 1.9 | 2.4 | 2.6 | 2.6 | 2 | |
| 26 | 2.9 | 4.7 | 3.9 | 3.6 | 3.4 | 3.1 | 26 | 2.1 | 2.6 | 2.9 | 2.9 | 2 | |
| 28 | 3.1 | 5.0 | 4. 2 | 3.9 | 3.6 | 3.4 | 28 | 2. 2 | 2.8 | 3.1 | 3.1 | 2 | |
| 30 | 3.3 | 5.4 | 4.5 | 4.2 | 3. 9 | 3.6 | 30 | 2.4 | 3.0 | 3.3 | 3.3 | 3 | |
| 32 | 3. 5 | 5.8 | 4.8 | 4.5 | 4.2 | 3.8. | 32 | 2.6 | 3. 2 | 3.5 | 3.5 | 3 | |
| 34 | 3. 7 | 6.1 | 5.1 | 4.8 | 4.4 | 4.1 | 34 | 2.7 | 3.4 | 3. 7 | 3. 7 | 3 | |
| 36 | 4.0 | 6.5 | 5.4 | 5.0 | 4.7 | 4.3 | 36 | 2.9 | 3.6 | 4.0 | 4.0 | 3 | |
| 38 | 4.2 | 6.8 | 5.7 | 5.3 | 4.9 | 4.6 | 38 | 3. 0 | 3.8 | 4.2 | 4.2 | 3 | |
| 40 | 4.4 | 7.2 | 6.0 | 5.6 | 5.2 | 4.8 | 40 | 3.2 | 4.0 | 4.4 | 4.4 | 4 | |
| 42 | 4.6 | 7.6 | 6.3 | 5.9 | 5.5 | 5.0 | 42 | 3.4 | 4. 2 | 4.6 | 4.6 | 4 | |
| _44 | 4.8 | 7.9 | 6.6 | 6.2 | 5.7 | 5.3 | 44 | 3.5 | 4.4 | 4.8 | 4.8 | 4 | |
| 46 | 5.1 | 8.3 | 6.9 | 6.4 | 6.0 | 5.5 | 46 | 3. 7 | 4.6 | 5.1 | 5.1 | 4 | |
| 48 | 5.3 | 8.6 | 7.2 | 6.7 | 6.2 | 5.8 | 48 | 3.8 | 4.8 | 5.3 | 5.3 | 4 | |
| 50 | 5.5 | 9.0 | 7.5 | 7.0 | 6.5 | 6.0 | 50 | 4.0 | 5.0 | 5.5 | 5.5 | 5 | |
| 52 | 5.7 | 9.4 | 7.8 | 7.3 | 6.8 | 6.2 | 52 | 4.2 | 5. 2 | 5.7 | 5.7 | 5 | |
| 54 | 5.9 | 9.7 | 8.1 | 7.6 | 7.0 | 6.5 | 54 | 4.3 | 5.4 | 5.9 | 5.9 | 5 | |
| 56 | 6.2 | 10.1 | 8.4 | 7.8 | 7.3 | 6.7 | 56 | 4.5 | 5.6 | 6.2 | 6.2 | 5 | |
| 58 | 6.4 | 10.4 | 8.7 | 8.1 | 7.5 | 7.0 | 58 | 4.6 | 5.8 | 6.4 | 6.4 | 5 | |
| 60 | 6.6 | 10. 8 | 9. 0 | 8.4 | 7.8 | 7.2 | 60 | 4.8 | 6.0 | 6.6 | 6.6 | 6 | |
| 62 | 6.8 | 11. 2 | 9. 3 | 8.7 | 8.1 | 7.4 | 62 | 5.0 | 6. 2 | 6.8 | 6.8 | 6 | |
| 64 | 7.0 | 11.5 | 9.6 | 9. 0 | 8.3 | 7.7 | 64 | 5.1 | 6.4 | 7.0 | 7.0 | 6 | |
| 66 | 7.3 | 11. 9 | 9. 9 | 9 . 2 | 8.6 | 7.9 | 66 | 5.3 | 6.6 | 7.3 | 7.3 | 6 | |
| 68 | 7.5 | 12.2 | 10. 2 | 9.5 | 8.8 | 8.2 | 68 | 5.4 | 6.8 | 7.5 | 7.5 | 6 | |
| 70 | 7.7 | 12.6 | 10. 5 | 9.8 | 9.1 | 8.4 | 70 | 5.6 | 7.0 | 7.7 | 7.7 | 7 | |
| 72 | 7.9 | 13. 0 | 10. 8 | 10. 1 | 9.4 | 8.6 | 72 | 5.8 | 7.2 | 7.9 | 7.9 | 7. | |
| 74 | 8.1 | 13. 3 | 11.1 | 10. 4 | 9.6 | 8.9 | 74 | 5.9 | 7.4 | 8.1 | 8.1 | 7 | |
| 76 | 8.4 | 13. 7 | 11.4 | 10.6 | 9. 9 | 9.1 | 76 | 6.1 | 7.6 | 8.4 | 8.4 | 7 | |
| 78 | 8.6 | 14. 0 | 11. 7 | 10. 9 | 10. 1 | 9.4 | 78 | 6. 2 | 7.8 | 8.6 | 8.6 | 7 | |
| 80 | 8.8 | 14.4 | 12. 0 | 11. 2 | 10.4 | 9.6 | 80 | 6.4 | 8.0 | 8.8 | 8.8 | 8 | |

Table 2–11. Weighted Wind Speeds (Type 2 Message)

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

i

| | | Zone 12 | | | | Zone 1 | 3 | |
|------------------|---------------------------|--------------|--------------|--------------|----------------|--------------|--------------|----|
| Wind Speed, - | Line-Zone No. 22 32 42 52 | | | | Wind Speed, | Liı | ne-Zone No. | |
| Speed, Knots | 22 | 32 | 42 | 52 | Knots | 33 | 43 | 53 |
| 2 | . 1 | . 2 | . 2 | . 2 | 2 | . 1 | . 1 | |
| 4 | . 2 | . 4 | . 4 | .4 | 4 | . 2 | . 2 | |
| 6 | . 4 | . 5 | . 5 | . 5 | 6 | . 3 | . 4 | |
| 8 | . 5 | .7 | .7 | . 7 | 8 | . 4 | . 5 | |
| 10 | . 6 | . 9 | . 9 | . 9 | 10 | . 5 | . 6 | |
| 12 | . 7 | 1.1 | 1.1 | 1.1 | 12 | . 6 | . 7 | 1 |
| 14 | . 8 | 1.3 | 1.3 | 1.3 | 14 | . 7 | . 8 | 1 |
| 16 | 1.0 | 1.4 | 1.4 | 1.4 | 16 | . 8 | 1.0 | 1 |
| 18 | 1.1 | 1.6 | 1.6 | 1.6 | 18 | . 9 | 1.1 | 1 |
| 20 | 1. 2 | 1.8 | 1.8 | 1.8 | 20 | 1.0 | 1. 2 | 1 |
| 22 | 1. 3 | 2.0 | 2.0 | 2.0 | 22 | 1.1 | 1.3 | 1 |
| 24 | 1.4 | 2. 2 | 2. 2 | 2. 2 | 24 | 1.2 | 1.4 | 1 |
| 26 | 1.6 | 2.3 | 2.3 | 2.3 | 26 | 1.3 | 1.6 | 2 |
| 28 | 1.7 | 2.5 | 2.5 | 2.5 | 28 | 1.4 | 1.7 | 2 |
| 30 | 1.8 | 2. 7 | 2. 7 | 2. 7 | 30 | 1.5 | 1.8 | 2 |
| 32 | 1.9 | 2.9 | 2. 9 | 2.9 | 32 | 1.6 | 1.9 | 5 |
| 34 | 2.0 | 3. 1 | 3.1 | 3.1 | 34 | 1.7 | 2.0 | 2 |
| 36 | 2. 2 | 3. 2 | 3. 2 | 3. 2 | 36 | 1.8 | 2. 2 | |
| 38 | 2.3 | 3. 4 | 3.4 | 3.4 | 38 | 1.9 | 2.3 | |
| 40 | 2.4 | 3.6 | 3.6 | 3.6 | 40 | 2.0 | 2.4 | 3 |
| 42 | 2.5 | 3.8 | 3. 8 | 3.8 | 42 | 2.1 | 2.5 | 5 |
| 44 | 2.6 | 4.0 | 4.0 | 4.0 | 44 | 2. 2 | 2.6 | 3 |
| 46 | 2.8 | 4.1 | 4.1 | 4.1 | 46 | 2.3 | 2.8 | 5 |
| 48 | 2.9 | 4.3 | 4.3 | 4.3 | 48 | 2.4 | 2.9 | 8 |
| 50 | 3.0 | 4.5 | 4.5 | 4.5 | 50 | 2.5 2.6 | 3.0 | 4 |
| 52 | 3.1 | 4.7 | 4.7 | 4.7 | 52 | 2. 0 | 3.1 | 4 |
| 54 56 | 3.2 | 4.9 5.0 | 4.9 5.0 | 4.9 5.0 | 54 | 2.7 | 3. 2 3. 4 | 4 |
| | 3.4 | 5. 0 5. 2 | 5. 0 5. 2 | 5. 0 5. 2 | 56 58 | 2.8 | 3. 4 3. 5 | |
| 58 | 3.5 3.6 | 5. 2 5. 4 | 5. 2 5. 4 | 5. 2 5. 4 | 58 60 | 3.0 | 3.6 | |
| 60 62 | 3. 6 | 5.4 5.6 | 5.4 5.6 | 5. 4 5. 6 | 62 | 3. 0 | 3. 0 3. 7 | |
| 62 64 | 3. 7 | 5. 6 5. 8 | 5. 0 5. 8 | 5. 8 | 64 | 3. 1 3. 2 | 3.8 | • |
| 66 | 3. 8 4. 0 | 5.9 | 5. 8 | 5. 8 | 66 | 3.3 | 4 0 | |
| 68 | 4.0 | 5. 9 6. 1 | 5. 9 6. 1 | 5. 9 6. 1 | 68 | 3.4 | 41 | |
| 70 | 4.1 | 6. 3 | 6. 1 6. 3 | 6. 3 | 70 | 3. 5 | 4.2 | |
| 70 | 4.2 | 6. 5 | 6. 3 6. 5 | 6.5 | 70 | 3.6 | 4.3 | • |
| 74 | 4.3 | 6. 5 6. 7 | 6. 5 6. 7 | 6. 7 | 74 | 3. 0 | 4.4 | 1 |
| 74 | 4.4 | 6. 8 | 6. 8 | 6.8 | 76 | 3.8 | 4.6 | |
| 78 | 4.0 | | | | 78 | 3.9 | 4.0 | |
| 80 | 4.7 | 7.0 7.2 | 7.0 7.2 | 7.0 7.2 | 78 80 | 3.9 4.0 | 4.8 | |
| 30 | 2.0 | 1.4 | 1.4 | 1. 4 | 00 | *L U | 20 | |

Table 2–11. Weighted Wind Speeds (Type 2 Message)

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

| | Zone 14 | ` <u>``</u> `` | Zon | e 15 |
|----------------|---------|----------------|----------------|-----------|
| Wind Speed, | Line-Zo | ne No. | Wind Speed, | Line-Zone |
| Knots | 44 | 54 | Knots | No. 55 |
| 2 | .1 | . 1 | 2 | . 1 |
| 4 | 2 | . 2 | 4 | .2 |
| 6 | .3 | .4 | 6 | .2 |
| 8 | .4 | . 5 | 8 | .3 |
| 10 | .5 | . 6 | 10 | .4 |
| 12 | .6 | .7 | 12 | .5 |
| 14 | .7 | . 8 | 14 | . 6 |
| 16 | .8 | 1.0 | 16 | .6 |
| 18 | .9 | 1. 1 | 18 | .7 |
| 20 | 1.0 | 1. 2 | 20 | .8 |
| 22 | 1.1 | 1. 3 | 22 | .9 |
| 24 | 1.2 | 1. 4 | 24 | 1.0 |
| 26 | 1.3 | 1.6 | 26 | 1.0 |
| 28 | 1.4 | 1. 7 | 28 | 1.1 |
| 30 | 1.5 | 1.8 | 30 | 1.2 |
| 32 | 1.6 | 1. 9 | 32 | 1.3 |
| 34 | 1.7 | 2.0 | 34 | 1.4 |
| 36 | 1.8 | 2. 0 | 36 | 1.4 |
| 38 | 1.9 | 2.3 | 38 | 1.5 |
| 40 | 2.0 | 2. 4 | 40 | 1.6 |
| 42 | 2.1 | 2.5 | 42 | 1.0 |
| 44 | 2.2 | 2. 6 | 44 | 1. 1 |
| 46 | 2.3 | 2.8 | 46 | 1.8 |
| 48 | 2.4 | 2. 9 | 48 | 1.9 |
| 50 | 2.5 | 3.0 | 50 | 2.0 |
| 52 | 2.6 | 3. 1 | 52 | 2.0 |
| 54 | 2.7 | 3. 2 | 54 | 2.2 |
| 56 | 2.8 | 3. 4 | 56 | 2.2 |
| 58 | 2.9 | 3.5 | 58 | 2.3 |
| 60 | 3.0 | 3.6 | 60 | 2.4 |
| 62 | 3.1 | 3. 7 | 62 | 2.5 |
| 64 | 3.2 | 3.8 | 64 | 2.6 |
| 66 | 3.3 | 4.0 | 66 | 2.6 |
| 68 | 3.4 | 4.1 | 68 | 2.0 |
| 70 | 3.5 | 4.2 | 70 | 2.8 |
| 72 | 3.6 | 4.3 | 72 | 2.9 |
| 74 | 3. 0 | 4.4 | 74 | 3.0 |
| 76 | 3. 7 | 4.6 | 76 | 3.0 |
| 78 | 3.9 | 4.7 | 78 | 3. 0 |
| 80 | 4.0 | 4.8 | 80 | 3. 2 |
| 80 | 1 20 | ŦO | | 0. # |
| | | | 11 | |

Table 2-11. Weighted Wind Speeds (Type 2 Message)

Enter table with line-zone number and zone wind speed to the nearest knot. Obtain weighted wind to the nearest tenth of a knot. Interpolate if necessary.

-

| | Zone No. | | | | | | | | | | | | | |
|----------|----------|------|------|-------|-------|------|------|------|-------|------|------|------|-------|--|
| Line No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13-15 | |
| | 1. 00 | | | | | | | | | | | | | |
| | . 63 | 0.37 | | | [| Í | | 1 | | 1 | 1 | ł | 1 | |
| | . 37 | . 37 | 0.26 | | | | ļ | | | | | | | |
| | . 25 | . 30 | . 35 | 0. 10 | | | | 1 | | } | } | | { | |
| | . 20 | . 24 | . 30 | . 18 | 0. 08 | | | | l | | | | | |
| | . 13 | . 19 | . 24 | . 18 | . 14 | 0.12 | | 1 | | 1 | } | | 1 | |
| | . 10 | . 14 | . 20 | . 16 | . 14 | . 19 | 0.07 | 1 | | | | | | |
| | . 09 | . 10 | . 17 | . 15 | . 13 | . 20 | . 12 | 0.04 | 1 | | } | | | |
| | . 07 | . 09 | . 14 | . 13 | . 12 | . 19 | . 15 | . 08 | 0. 03 | | | | | |
| 0 | . 05 | . 08 | . 12 | . 10 | . 10 | . 17 | . 14 | . 10 | . 08 | 0.06 | ł | ļ | | |
| 1 | . 05- | . 06 | . 10 | . 09 | . 08 | . 15 | . 13 | . 12 | . 10 | . 12 | 0.00 | | | |
| 2 | . 04 | . 06 | . 10 | . 08 | . 08 | . 14 | . 13 | . 11 | . 10 | . 16 | . 00 | 0.00 |] | |
| 3-15 | . 05 | . 06 | . 10 | . 09 | . 08 | . 16 | . 12 | . 13 | . 11 | . 10 | . 00 | . 00 | 0.00 | |

Table 2-12. Temperature Weighting Factors (Type 2 Message)

2-14. Weighted Temperature Tables (Type 2 Message)

a. The weighted temperature tables may be used to convert zone temperatures in degrees Celsius to zone temperatures in percent of standard for each zone. They may also be used to convert zone temperatures to the weighted effect of temperatures on the various line values of the meteorological message.

b. The zone temperature-percent column is the quotient of the zone temperature divided by the standard zone temperature.

c. The line-zone number values are the product of the weighting factors shown in table 2-12 and the zone temperature-percent values. The line-zone number values of column 21 are the product of the weighting factor (.63), line 2 of zone number 1, table 2-12, and the zone temperature—percent values.

| | one erature | | | | | | Line-Z | one No. | <u> </u> | | | | | |
|------------------|----------------|----------------|---------------------------|----------------|------------------------|----------------|----------------|--------------|--------------|--------------|------------|------------|---------------------|------------|
| •C | % | | 21 | 31 | 41 | 51 | 61 | 71 | 81 | 91 | 01 | 11 | 21 | 31-51 |
| 50 | 77.6 | 77. 6 | 48. 9 | 28. 7 | 19.4 | 15. 5 | 10. 1 | 7.8 | 7. 0 | 5.4 | 3. 9 | 3. 9 | 3. 1 | 3. 9 |
| -49 | 78.0 | 78.0 | 49.1 | 28.9 | 19.5 | 15.6 | 10. 1 | 7.8 | 7.0 | 5.5 | 3.9 | 3.9 | 3.1 | 3.9 |
| -48 | 78.3 | 78.3 | 49.3 | 29.0 | 19.6 | 15.7 | 10. 2 | 7.8 | 7.0 | 5.5 | 3.9 | 3.9 | 3.1 | 3.9 |
| -47 | 78.7 | 78.7 | 49.6 | 29.1 | 19.7 | 15. 7 | 10. 2 | 7.9 | 7.1 | 5.5 | 3.9 | 3.9 | 3.1 | 3.9 |
| -46 | 79.0 | 79.0 | 50.0 | 29. 2 | 19.8 | 15.8 | 10.3 | 7.9 | 7.1 | 5.5 | 3.9 | 3.9 | 3.2 | 3.9 |
| -45 | 79.4 | 79.4 | 50.0 | 29.4 | 19.9 | 15.9 | 10.3 | 7.9 | 7.1 | 5.5 | 4.0 | 4.0 | 3. 2 | 4.0 |
| -44 | 79.7 | 79.7 | 50. 2 | 29.5 | 19.9 | 15.9 | 10. 4 | 8.0 | 7.2 | 5.6 | 4.0 | 4.0 | 3. 2 | 4.0 |
| -43 | 80.1 | 80.1 | 50. 4 | 29.6 | 20.0 | 16. 0 | 10. 4 | 8.0 | 7. 2 7. 2 | 5.6 | 4.0 | 4.0 | 3. 2 | 4.0 |
| -42 | 80.4 | 80.4 | 50. 7 | 2 9. 7 | 20.0 | 16.1 | 10. 4 | 8. 0 | 7.2 | 5.6 | 4.0 | 4.0 | 3. 2 3. 2 | 4.0 |
| -41 | 80. 8 | 80. 8 | 50.9 | 30. 0 | 20. 2 | 16. 1 | 10. 4 | 8.1 | 7.3 | 5. 0 5. 7 | 40 | 4.0 | 3. ⊿ 3. 2 | 4.0 |
| -40 | 81. 1 | 81.1 | 51.1 | 30.0 | 20. 3 | 16. 2 | 10. 5 | 8.1 | 7.3 | 5. 7 5. 7 | 4.1 | 4.1 | 3. 2 3. 2 | 4.1 |
| -39 | 81. 5 | 81. 5 | 51.3 | 30. 1 | 20. 3 | 16. 3 | 10. 5 | 8.1 | 7.3 | 5.7 | 4.1 | 4.1 | 3. 2 3. 3 | 4.1 |
| -38 | 81. 8 | 81. 8 | 51.5 | 30. 1 | 20. 4 | 16. 4 | 10. 6 | 8. 2 | 7.4 | 5.7 | 4.1 | 4.1 | 3.3 3.3 | 4.1 |
| -37 | 82. 2 | 82. 2 | 51. 5 51. 8 | 30. 3 30. 4 | 20. 5 20. 5 | 16.4 | 10. 0 | 8.2 | 7.4 | 5.8 | 4.1 | 4.1 | ა. ა 3. 3 | 4.1 |
| -36 | 82.5 | 82.5 | 52. 0 | 30. 5 | 20. 6 | 16.5 | 10.7 | 8.3 | 7.4 | 5.8 | 4.1 | 4.1 | 3. 3 3. 3 | 4.1 |
| -35 | 82.9 | 82.9 | 52. 2 | 30. 7 | 20. 0 | 16.6 | 10. 8 | 8:3 | 7.5 | 5.8 | 4.1 | 4.1 | 3. 3 3. 3 | 4.1 |
| -34 | 83. 2 | 83. 2 | 52. £ | 30. 8 | 20. 8 | 16.6 | 10.8 | 8.3 | 7.5 | 5.8 | 4.2 | 4.2 | 3. 3 3. 3 | 4.2 |
| -33 | 83. 5 | 83. 5 | 52. 4 52. 6 | 30. 9 | 20. 8 | 16. 7 | 10.8 | 8.4 | 7.5 7.5 | 5.8 | | | | |
| -32 | 83. 9 | 83. 9 | 52. 0 52. 9 | 30. 9 31. 0 | 20. 9 21. 0 | 16. 7 | 10.9 | 8.4 | 7.5 7.6 | - | 4.2 | 4.2 | 3.3 | 4.2 |
| -32 -31 | 84. 2 | 84. 2 | 52.9 53.0 | 31. 0 31. 2 | 21.0 21.1 | 16. 8 | 10.9 | 8.4 8.4 | 7.6 7.6 | 5.9 5.9 | 4.2 4.2 | 4.2 | 3.4 3.4 | 4.2 |
| -30 | 84. 6 | 84.6 | 53. 0 53. 3 | 31. 2 31. 3 | 21. 1 21. 2 | 16. 9 16. 9 | 11. 0 11. 0 | 8.4 8.5 | 7.6 | 5.9 5.9 | 4.2 4.2 | 4.2 | 3.4 3.4 | 4.2 4.2 |
| -29 | 84. 9 | 84.9 | 53. 5 | 31. 3 31. 4 | 21. 2 21. 2 | | | | 7.6 | | 4.2 4.2 | 4.2 4.2 | | |
| -29 -28- | 85. 3 | 85. 3 | 53. 5 53. 7 | 31. 4 31. 6 | 21. 2 21. 3 | 17. 0 17. 1 | 11.0 | 8.5 | 7.0 | 5.9 | | | 3.4 | 4.2 |
| -20^{-} -27 | 85. 6 | 85. 6 | 53. 1 53. 9 | 31. 0 31. 7 | 21. 3 21. 4 | 17.1 | 11. 1 | 8.5 8.6 | 7.7 7.7 | 6.0 | 4.3 | 4.3 | 3.4 | 4.3 |
| -26 | 86. 0 | 86. 0 | 53. 9 54. 2 | 31. 7 31. 8 | | | 11.1 | | | 6.0 | 4.3 | 4.3 | 3.4 | 4.3 |
| $-20 \\ -25$ | 86. 3 | 86.3 | 54.4 | | 21.5 | 17.2 | 11. 2 | 8.6 | 7.7 | 6. O | 4.3 | 4.3 | 3.4 | 4.3 |
| -25 -24 | 86. 3 86. 7 | 86. 7 | 54.4 54.6 | 31. 9 32. 1 | 21.6 21.7 | 17.3 | 11. 2 | 8.6 | 7.8 | 6.0 | 4.3 | 4.3 | 3.5 | 4.3 |
| -24 -23 | 87. 0 | 87.0 | 54.8 | 32. 1 32. 2 | | 17.3 | 11.3 | 8.7 | 7.8 | 6.1 | 4.3 | 4.3 | 3.5 | 4.3 |
| -23 -22 | 87. U 87. 4 | 87. 4 | 54.8 55.1 | 32. 2 32. 3 | 21. 8 21. 8 | 17.4 17.5 | 11.3 | 8.7 | 7.8 | 6.1 | 4.4 | 4.4 | 3.5 | 4.4 |
| -22 -21 | 87. 4 87. 7 | 87. 4 | 55. 3 | 32. 3 32. 5 | 21. 8 21. 9 | | 11.4 | 8.7 | 7.9 | 6.1 | 4.4 | 4.4 | 3.5 | 4.4 |
| $-21 \\ -20$ | 88.1 | 88.1 | 55. 5 | 32. 5 32. 6 | 21. 9 22. 0 | 17.5 17.6 | 11.4 11.5 | 8.8 8.8 | 7.9 7.9 | 6.1 6.2 | 44 44 | 4.4 | 3.5 | 4.4 |
| -19 | 88. 4 | 88. 4 | 55. 7 | 32. 0 32. 7 | 22.0 22.1 | 17. 0 | 11. 5 11. 5 | o. o 8. 8 | 8.0 | 6.2 6.2 | 4.4 | 4.4 | 3.5 3.5 | 4.4 |
| -19 | 88. 8 | 88.8 | 55.9 | 32. 7 32. 8 | 22. 1 22. 2 | 17. 7 | | a. a 8. 9 | | | | 4.4 | | |
| -10 - 17 | 89. 1 | 89.1 | 56. 2 | 32. 8 33. 0 | 22. 2 22. 3 | 17.8 | 11.5 | | 8.0 8.0 | 6.2 6.2 | 4.4 | 4.4 | 3.6 | 4.4 |
| -17 | 89. 1 89. 5 | 89. 1 89. 5 | 56. 2 56. 4 | 33. 1 | 22.3 22.4 | 17. 8 | 11.6 11.6 | 8.9 8.9 | 8.1 | 0. 2 6. 3 | 4.5 4.5 | 4.5 | 3.6 3.6 | 4.5 |
| -10 -15 | 89. 5 89. 8 | 89. 5 89. 8 | 56. 6 | 33. 2 | 22.4 22.5 | 17.9 | 11. 6 | 8.9 9.0 | 8.1 | 6.3 | | 4.5 | | 4.5 |
| -13 -14 | 90. 2 | 90. 2 | 56. 8 | 33. 2 33. 4 | 22. 5 22. 5 | 18.0 | 11. 7 11. 7 | 9.0 | 8.1 | 0.3 6.3 | 4.5 4.5 | 4.5 | 3.6 | 4.5 |
| -14 -13 | 90. 2 90. 5 | 90. 2 90. 5 | 56. 8 57. 0 | 33. 4 33. 5 | <i>22</i> . 5 22. 6 | 18.1 | 11. 7 | 9.0 9.1 | 8.1 | 0. 3 6. 3 | 4.5 4.5 | 4.5 4.5 | 3.6 3.6 | 4.5 |
| -13 -12 | 90. 5 90. 9 | 90. 5 90. 9 | 57. 0 57. 2 | 33. 6 | 22. 0 22. 7 | 18. 2 | 11.8 | 9.1 9.1 | 8.2 | 0.3 6.4 | 4.0 | 4.5 | 3.0 3.6 | 4.5 4.5 |
| -12 -11 | 90. 9 91. 2 | 90. 9 91. 2 | 57. 5 | 33.8 | 22. 7 22. 8 | 18.2 | 11.8 | 9. 1 9. 1 | 8.2 | 0.4 6.4 | 4.6 | 4.6 | | |
| -10 | 91. Z 91. 5 | 91. 2 91. 5 | 57. 5 57. 6 | 33. 9 | 22. 8 22. 9 | 18.3 | 11.9 | 9.1 9.2 | 8.2 | 0.4 6.4 | 4.0 | | 3.6 | 4.6 |
| -10 | 91. 5 91. 9 | 91. 5 91. 9 | 57.9 | 34.0 | 22. 9 23. 0 | 18. 3 | 11.9 | 9. 2 9. 2 | 8.3 | 0.4 6.4 | 4.0 | 4.6 | 3.7 | 4.6 |
| -8 | 91. 9 92. 2 | 91. 9 92. 2 | 58.1 | 34.1 | 23. 0 23. 1 | 18.5 | 11.9 | 9. 2 9. 2 | 8.3 | 0.4 6.5 | 4.6 | 4.6 4.6 | 3.7 3.7 | 4.6 4.6 |
| -7 | 92. 2 92. 6 | 92. 2 92. 6 | 58.3 | 34.3 | 23. 1 23. 2 | 18.5 | 12.0 | 9.2 | 8.3 | 6.5 | 4.6 | 4.6 | 3. 7 3. 7 | 4.6 |
| -6 | 92. 0 92. 9 | 92. 0 92. 9 | 58.5 | 34.4 | 23. 2 23. 2 | 18.6 | 12.0 | 9.3 | 8.4 | 6.5 | | | | |
| -5 | 92. 9 93. 3 | 92. 9 93. 3 | 58.8 | 34.5 | 23. 2 23. 3 | | | | | | 4.6 | 4.6 | 3.7 | 4.6 |
| -3 -4 | 93. 5 93. 6 | 93. 5 93. 6 | 59. 0 | 34.5 | 23. 3 23. 4 | 18.7 18.7 | 12. 1 12. 2 | 9.3 9.4 | 8.4 8.4 | 6.5 6.6 | 4.7 4.7 | 4.7 | 3.7 | 4.7 |
| -4 - 3 | 93.0 | 93. 6 94. 0 | 59. 0 59. 2 | 34.8 | 23. 4 | 18.8 | 12. 2 | 9.4 | 8.4 | 0.0 6.6 | | | 3.7 | 4.7 |
| $-3 \\ -2$ | 94.0 94.3 | 94.0 | 59. 2 59. 4 | 34.8 | 23. 5 23. 6 | | | | 8.5 | 6.6 | 4.7 | 4.7 | 3.8 | 4.7 |
| -2 | 94.3 | 94.3 | 59.4 59.7 | 35.0 | 23. 0 | 18.9 18.9 | 12.3 12.3 | 9.4 9.5 | | | 47 | 4.7 4.7 | 3.8 | 4.7 |
| 0 | 94. 7 95. 0 | | 59.7 59.9 | | 23. 7 23. 8 | | | | 8.5 | 6.6 | 4.7 | | 3.8 | 4.7 |
| V I | 90. U [| 80. U | 0a' a | 35. 2 | 40. O | 19.0 | 12.4 | 9.5 | 8.6 | 6.7 | 4.8 | 4.8 | 3.8 | 4.8 |

FM 6-16-3

| | one erature | | | | | L | ine-Zon | e No. | | | | | | |
|----------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|------------|------------|--------------|----------|
| °C | 9% | 11 | 21 | 31 | 41 | 51 | 61 | 71 | 81 | 91 | 01 | | 21 | 31-5 |
| 1 | 95. 4 | 95.4 | 60. 1 | 35. 3 | 23. 8 | 19. 1 | 12.4 | 9.5 | 8.6 | 6. 7 | 4.8 | 4.8 | 3.8 | 4. 8 |
| 2 | 95.7 | 95. 7 | 60. 3 | 35.4 | 2 3. 9 | 19. 1 | 12.4 | 9.6 | 8.6 | 6.7 | 4.8 | 4.8 | 3.8 | 4.8 |
| 3 | 96. 1 | 96.1 | 60.5 | 35.6 | 24.0 | 19. 2 | 12.5 | 9.6 | 8.6 | 6.7 | 4.8 | 4.8 | 3.8 | 4.8 |
| 4 | 96. 4 | 96.4 | 60. 8 | 35. 7 | 24. 1 | 19.3 | 12.5 | 9.6 | 8.7 | 6.8 | 4.8 | 4.8 | 3.9 | 4. |
| 5 | 96. 8 | 96. 8 | 61. 0 | 35. 8 | 24. 2 | 19.4 | 12.6 | 9.7 | 8.7 | 6.8 | 4.8 | 4.8 | 3.9 | 4. |
| 6 | 97.1 | 97.1 | 61. 2 | 35.9 | 24.3 | 19.4 | 12.6 | 9.7 | 8.7 | 6.8 | 4.9 | 4.9 | 3.9 | 4. |
| 7 | 97.5 | 97.5 | 61.4 | 36.1 | 24.4 | 19.5 | 12.7 | 9.7 | 8.8 | 6, 8 | 4.9 | 4.9 | 3.9 | 4. |
| 8 | 97.8 | 97. 8 | 61. 6 | 36. 2 | 24.5 | 19.6 | 12.7 | 9.8 | 8.8 | 6.8 | 4.9 | 4.9 | 3.9 | 4. |
| 9 | 98. 2 | 98. 2 | 61. 9 | 36.3 | 24.5 | 19.6 | 12.8 | 9.8 | 8.8 | 6.9 6.9 | 4.9 4.9 | 4.9 4.9 | 3, 9 3, 9 | 4. 4. |
| 10 11 | 98.5 98.9 | 98.5 98.9 | 62.1 62.3 | 36, 5 36, 6 | 24.6 24.7 | 19.7 19.8 | 12.8 12.9 | 9.9 9.9 | 8.9 8.9 | 6.9 | 4.9 | 4.9 | 3.9 4.0 | 4. |
| 12 | 98.9 99.2 | 98.9 99.2 | 62. 5 | 36.7 | 24. 7 | 19.8 | 12.9 | 9.9 | 8.9 | 6.9 | 5.0 | 5.0 | 4.0 | 5. |
| 13 | 99. 2 99. 6 | 99. 6 | 62. 7 | 36.8 | 24. 8 24. 9 | 19.8 | 12.9 | 10.0 | 9.0 | 7.0 | 5.0 | 5.0 | 4.0 | 5. |
| 14 | 99. 9 | 99.9 | 62.9 | 37.0 | 25.0 | 20. 0 | 13.0 | 10.0 | 9.0 | 7.0 | 5.0 | 5.0 | 4.0 | 5. |
| 15 | 100. 2 | 100. 2 | 63. 1 | 37.1 | 25. 1 | 20.1 | 13.0 | 10.0 | 9.0 | 7.0 | 5.0 | 5.0 | 4.0 | 5. |
| 16 | 100.6 | 100.6 | 63. 4 | 37. 2 | 25. 2 | 20.1 | 13. 1 | 10.1 | 9.1 | 7. 0 | 5.0 | 5.0 | 4.0 | 5. |
| 17 | 100.9 | 100.9 | 63. 6 | 37.4 | 25. 2 | 20. 2 | 13. 1 | 10. 1 | 9.1 | 7.1 | 5.0 | 5.0 | 4.0 | 5. |
| 18 | 101. 3 | 101.3 | 63. 8 | 37.5 | 25.3 | 20.3 | 13. 2 | 10. 1 | 9.1 | 7.1 | 5.1 | 5.1 | 4.1 | 5. |
| 19 | 101.6 | 101.6 | 64. 0 | 37.6 | 25.4 | 20.3 | 13. 2 | 10. 2 | 9.1 | 7.1 | 5.1 | 5.1 | 4.1 | 5. |
| 20 | 10 2 . 0 | 102.0 | 64.3 | 37. 7 | 25.5 | 20.4 | 13. 3 | 10. 2 | 9.2 | 7.1 | 5.1 | 5.1 | 4.1 | 5. |
| 21 | 102.3 | 102.3 | 64, 4 | 37, 9 | 25.6 | 20.5 | 13. 3 | 10. 2 | 9.2 | 7. 2 | 5.1 | 5.1 | 4.1 | 5. |
| 22 | 102.7 | 102.7 | 64. 7 | 38.0 | 25. 7 | 20.5 | 13.4 | 10. 3 | 9. 2 | 7. 2 | 5.1 | 5.1 | 4.1 | 5. |
| 23 | 103. O | 103. 0 | 64. 9 | 38.1 | 25.8 | 2 0. 6 | 13.4 | 10. 3 | 9.3 | 7.2 | 5. 2 | 5. 2 | 4.1 | 5. |
| 21 | 103. 4 | 103.4 | 65. 1 | 38. 3 | 25. 8 | 20. 7 | 13. 4 | 10.3 | 9.3 | 7.2 | 5.2 | 5. 2 | 4.1 | 5. |
| 25 | 103. 7 | 103. 7 | 65.4 | 38.4 | 25. 9 | 20.7 | 13. 5 | 10.4 | 9.3 | 7.3 | 5.2 | 5. 2 | 4.1 | 5. |
| 26 | 104.1 | 104.1 | 65. 6 | 38.5 | 26.0 | 20.8 | 13.5 | 10.4 | 9.4 | 7.3 | 5.2 | 5.2 | 4.2 | 5. |
| 27 | 104.4 | 104.4 | 65.8 | 38.6 | 26.1 | 20.9 | 13.6 | 10.4 | 9.4 | 7.3 | 5.2 | 5.2 | 4.2 | 5. |
| 28 | 104.8 | 104.8 | 66. 0 | 38.8 | 26. 2 | 21.0 | 13.6 | 10.5 | 9.4 | 7.3 | 5.2 | 5.2 | 4.2 | 5. 5. |
| 29 20 | 105.1 | 105.1 | 66. 2 | 38.9 39.0 | 26.3 26.4 | 21. 0 21. 1 | 13. 7 13. 7 | 10.5 10.5 | 9.5 9.5 | 7.4 7.4 | 5.3 5.3 | 5.3 5.3 | 4.2 4.2 | 5. |
| 30 31 | 105. 5 105. 8 | 105.5 105.8 | 66. 5 66. 7 | 39.0 39.2 | 26. 4 | 21. 1 21, 2 | 13. 7 | 10. 5 | 9.5 9.5 | 7.4 | 5.3 | 5.3 | 4.2 | 5. |
| 32 | 105.8 | 105. 8 | 66.9 | 39. 2 39. 3 | 26.5 | 21, 2 21, 2 | 13.8 | 10. 6 | 9.6 | 7.4 | 5.3 | 5.3 | 4.2 | 5. |
| 33 | 106. 5 | 106. 5 | 67.1 | 39.4 | 26.6 | 21. 2 | 13.8 | 10. 7 | 9.6 | 7.5 | 5.3 | 5.3 | 4.3 | 5. |
| 34 | 106.9 | 106.9 | 67.3 | 39.5 | 26.7 | 21.4 | 13. 9 | 10.7 | 9.6 | 7.5 | 5.3 | 5.3 | 4.3 | 5. |
| 35 | 107. 2 | 107. 2 | 67.6 | 39.7 | 26. 8 | 21. 4 | 13.9 | 10.7 | 9.7 | 7.5 | 5.4 | 5.4 | 4.3 | 5. |
| 36 | 107.5 | 107.5 | 67.7 | 39.8 | 26.9 | 21.5 | 14.0 | 10.8 | 9.7 | 7.5 | 5.4 | 5.4 | 4.3 | 5. |
| 37 | 107.9 | 107. 9 | 68.0 | 39. 9 | 27.0 | 21.6 | 14.0 | 10.8 | 9.7 | 7.6 | 5.4 | 5.4 | 4.3 | 5. |
| 38 | 108. 2 | 108.2 | 68. 2 | 40. 1 | 27.1 | 21. 7 | 14.1 | 10. 8 | 9. 7 | 7.6 | 5.4 | 5.4 | 4.3 | 5. |
| 39 | 108.6 | 108.6 | 68.4 | 40. 2 | 27. 2 | 21.7 | 14. 1 | 10. 9 | 9.8 | 7.6 | 5.4 | 5.4 | 4.3 | 5. |
| 40 | 108.9 | 108. 9 | 68. 6 | 40.3 | 27. 2 | 21. 8 | 14.2 | 10. 9 | 9. 8 | 7.6 | 5.4 | 5.4 | 4.4 | 5. |
| 41 | 109. 3 | 109. 3 | 68. 9 | 40.4 | 27.3 | 21. 9 | 14. 2 | 10. 9 | 9.8 | 7.7 | 5.5 | 5.5 | 4.4 | 5. |
| 42 | 109.6 | 109.6 | 69. 0 | 40.6 | 27.4 | 21. 9 | 14.3 | 11.0 | 9.9 | 7.7 | 5.5 | 5.5 | 4.4 | 5. |
| 43 | 110.0 | 110.0 | 69. 3 | 40.7 | 27.5 | 22.0 | 14.3 | 11.0 | 9.9 | 7.7 | 5.5 | 5.5 | 4.4 | 5. |
| 44 | 110.3 | 110.3 | 69. 5 | 40.8 | 27.6 | 22.1 | 14.3 | 11.0 | 9.9 | 7.7 | 5.5 5 5 | 5.5 | 4.4 | 5. |
| 45 | 110.7 | 110.7 | 69.7 | 41.0 | 27.7 | 22.1 | 14.4 | 11.1 | 10.0 | 7.7 | 5.5 | 5.5 5.6 | 4.4 4.4 | 5. 5. |
| 46 | 111.0 | 111.0 | 69. 9 70. 9 | 41.1 | 27.8 | 22.2 | 14.4 14.5 | 11. 1 | 10. 0 10. 0 | 7.8 7.8 | 5.6 5.6 | 5.6 | 4.5 | 5. |
| 47 48 | 111. 4 111. 7 | 111. 4 111. 7 | 70. 2 70. 4 | 41. 2 41. 3 | 27. 9 27. 9 | 22. 3 22. 3 | 14.5 14.5 | 11. 1 11. 2 | 10.0 | 7.8 | 5.6 | 5.6 | 4.5 | 5. |
| 40 49 | 112.1 | 111.7 | 70.4 | 41. 5 | 27.9 | 22. 3 22. 4 | 14.5 | 11. 2 | 10. 1 | 7.8 | 5.6 | 5.6 | 4.5 | 5. |
| 50 | 112. 1 112. 4 | 112. 4 | 70.8 | 41.6 | 28.1 | 22.5 | 14.6 | 11. 2 | 10.1 | 7.9 | 5.6 | 5.6 | 4.5 | 5. |
| | | | | • | | | | | | | | | | |

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

Table 2–13. Weighted Temperature (Percent), Zone 2

| Z Temp | one perature | | | | | | Line-2 | Zone No. | | | | | |
|--|-----------------|----------------|-------|-------|-------|--------------|--------|----------|------|------|------|--------------|-------|
| °C | % | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 02 | 12 | 22 | 32-52 |
| - 50 | 78.1 | 28. 9 | 28. 9 | 23. 4 | 18.7 | 14.8 | 10. 9 | 7.8 | 7.0 | 6. 2 | 4.7 | 4. 7 | 4.7 |
| - 49 | 78.4 | 29.0 | 29.0 | 23. 5 | 18.8 | 14.9 | 11. 0 | 7.8 | 7.0 | 6.3 | 4.7 | 4.7 | 4.7 |
| - 48 | 78.8 | 29. 2 | 29.2 | 23. 6 | 18.9 | 15.0 | 11. 0 | 7.9 | 7.1 | 6.3 | 4.7 | 4.7 | 4.7 |
| 47 | 79.1 | 29.3 | 29.3 | 23. 7 | 19.0 | 15.0 | 11.1 | 7.9 | 7.1 | 6.3 | 4.7 | 4. 7 | 4.7 |
| - 46 | 79.5 | 29.4 | 29.4 | 23. 9 | 19.0 | 15.1 | 11.1 | 8.0 | 7.2 | 6.3 | 4.8 | 4.8 | 4.8 |
| 45 | 79.8 | 29.5 | 29.5 | 23. 9 | 19. 2 | 15.2 | 11. 2 | 8.0 | 7. 2 | 6.4 | 4.8 | 4.8 | 4.8 |
| - 44 | 80. 2 | 29. 7 | 29. 7 | 24.1 | 19. 2 | 15. 2 | 11. 2 | 8.0 | 7.2 | 6.4 | 4.8 | 4.8 | 4.8 |
| - 43 | 80.5 | 29. 8 | 29.8 | 24. 2 | 19.3 | 15.3 | 11.3 | 8.0 | 7. 2 | 6.4 | 4.8 | 4.8 | 4.8 |
| -42 | 80. 9 | 29. 9 | 29. 9 | 24. 3 | 19.4 | 15.4 | 11.3 | 8.1 | 7.3 | 6. 5 | 4.9 | 4.9 | 4.9 |
| -41 | 81. 2 | 30. 0 | 30. 0 | 24.4 | 19.5 | 15.4 | 11.4 | 8.1 | 7.3 | 6.5 | 4.9 | 4.9 | 4.9 |
| 40 | 81.6 | 30. 2 | 30. 2 | 24.5 | 19.6 | 15.5 | 11.4 | 8.2 | 7.3 | 6.5 | 4.9 | 4.9 | 4.9 |
| -39 | 81. 9 | 30. 3 | 30. 3 | 24.6 | 19.7 | 15.6 | 11.5 | 8.2 | 7.4 | 6.6 | 4.9 | 4.9 | 4.9 |
| -38 | 82.3 | 30. 5 | 30. 5 | 24.7 | 19.8 | 15.6 | 11.5 | 8.2 | 7.4 | 6.6 | 4.9 | 4. 9. | 4.9 |
| -37 | 82.6 | 30. 6 | 30.6 | 24.8 | 19.8 | 15.7 | 11.6 | 8.3 | 7.4 | 6.6 | 5.0 | 5.0 | 5.0 |
| - 36 | 83. 0 | 30. 7 | 30. 7 | 24. 9 | 19. 9 | 15.8 | 11.6 | 8.3 | 7.5 | 6.6 | 5.0 | 5.0 | 5.0 |
| - 35 | 83. 3 | 30.8 | 30. 8 | 25. 0 | 20.0 | 15.8 | 11.7 | 8.3 | 7.5 | 6. 7 | 5.0 | 5.0 | 5.0 |
| -34 | 83. 7 | 31. 0 | 31. 0 | 25. 1 | 20.1 | 15.9 | 11. 7 | 8.4 | 7.5 | 6.7 | 5.0 | 5.0 | 5.0 |
| -33 | 84.0 | 31. 1 | 31. 1 | 25. 2 | 20. 2 | 16.0 | 11. 8 | 8.4 | 7.6 | 6.7 | 5.0 | 5.0 | 5.0 |
| -32 | 84. 4 | 31. 2 | 31. 2 | 25.3 | 20.3 | 16. 0 | 11.8 | 8.4 | 7.6 | 6.8 | 5.1 | 5.1 | 5.1 |
| -31 | 84. 7 | 31. 4 | 31.4 | 25.4 | 20.3 | 16.1 | 11. 9 | 8.5 | 7.6 | 6.8 | 5.1 | 5.1 | 5.1 |
| - 30 | 85. 1 | 31. 5 | 31. 5 | 25.5 | 20.4 | 16. 2 | 11.9 | 8.5 | 7.7 | 6.8 | 5.1 | 5.1 | 5.1 |
| - 29 | 85.4 | 31. 6 | 31.6 | 25.6 | 20.5 | 16. 2 | 12. 0 | 8.5 | 7.7 | 6.8 | 5.1 | 5.1 | 5.1 |
| - 28- | 85. 8 | 31. 8 | 31. 8 | 25.7 | 20.6 | 16. 3 | 12. 0 | 8.6 | 7.7 | 6. 9 | 5.1 | 5 . 1 | 5.1 |
| -27 | 86.1 | 31. 9 | 31. 9 | 25.8 | 20. 7 | 16.4 | 12.1 | 8.6 | 7.8 | 6. 9 | 5. 2 | 5 . 2 | 5. 2 |
| -26 | 86. 5 | 32. 0 | 32. 0 | 26. 0 | 20.8 | 16.4 | 12.1 | 8.7 | 7.8 | 6. 9 | 5. 2 | 5 . 2 | 5. 2 |
| -25 | 86. 8 | 32.1 | 32. 1 | 26. 1 | 20.8 | 16. 5 | 12. 2 | 8.7 | 7.8 | 6. 9 | 5.2 | 5. 2 | 5. 2 |
| -24 | 87. 2 | 32. 3 | 32. 3 | 26. 2 | 20. 9 | 16.6 | 12. 2 | 8.7 | 7.8 | 7.0 | 5. 2 | 5. 2 | 5.2 |
| -23 | 87.5 | 32. 4 | 32. 4 | 26. 3 | 21. 0 | 16. 6 | 12. 3 | 8.8 | 7.9 | 7.0 | 5.3 | 5.3 | 5. 3 |
| -22 | 87. 9 | 32. 5 | 32. 5 | 26.4 | 21. 1 | 16. 7 | 12. 3 | 8.8 | 7.9 | 7.0 | 5.3 | 5.3 | 5. 3 |
| -21 | 88. 2 | 32.7 | 32. 7 | 26.5 | 21. 2 | 16. 8 | 12. 4 | 8.8 | 7.9 | 7.1 | 5.3 | 5.3 | 5.3 |
| -20 | 88.6 | 32. 8 | 32. 8 | 26.6 | 21. 3 | 16. 8 | 12.4 | 8.9 | 8.0 | 7.1 | 5.3 | 5.3 | 5.3 |
| -19 | 88.9 | 32. 9 | 32.9 | 26. 7 | 21. 4 | 16. 9 | 12.5 | 8.9 | 8. 0 | 7.1 | 5.3 | 5.3 | 5.3 |
| -18 | 89. 3 | 33. 0 | 33. 0 | 26. 8 | 21. 4 | 17. 0 | 12.5 | 8.9 | 8.0 | 7.1 | 5.4 | 5.4 | 5.4 |
| -17 | 89.6 | 33. 2 | 33. 2 | 26. 9 | 21. 5 | 17. 0 | 12.6 | 9.0 | 8.1 | 7. 2 | 5.4 | 5.4 | 5.4 |
| -16 | 90.0 | 33. 3 | 33. 3 | 27.0 | 21.6 | 17.1 | 12.6 | 9.0 | 8.1 | 7.2 | 5.4 | 5.4 | 5.4 |
| -15 | 90.3 | 33. 4 | 33. 4 | 27.1 | 21. 7 | 17. 2 | 12. 7 | 9.0 | 8.1 | 7. 2 | 5.4 | 5.4 | 5.4 |
| -14 | 90.7 | 33.6 | 33.6 | 27.2 | 21.8 | 17. 2 | 12.7 | 9.1 | 8.2 | 7.3 | 5.4 | 5.4 | 5.4 |
| -13 | 91. O | 33.7 | 33. 7 | 27.3 | 21. 9 | 17.3 | 12. 7 | 9.1 | 8.2 | 7.3 | 5.5 | 5.5 | 5.5 |
| -12 | 91.4 | 33.8 | 33.8 | 27.4 | 21.9 | 17.4 | 12.8 | 9.1 | 8.2 | 7.3 | 5.5 | 5.5 | 5.5 |
| -11 | 91.7 | 34.0 | 34.0 | 27.5 | 22.0 | 17.4 | 12.8 | 9. 2 | 8.3 | 7.3 | 5.5 | 5.5 | 5.5 |
| - 10 | 92.1 | 34.1 | 34.1 | 27.6 | 22. 1 | 17.5 | 12.9 | 9.2 | 8.3 | 7.4 | 5.5 | 5.5 | 5.5 |
| -9 -8 | 92.4 | 34. 2 | 34.2 | 27.7 | 22. 2 | 17.6 | 12.9 | 9.2 | 8.3 | 7.4 | 5.5 | 5.5 | 5.5 |
| -8 | 92.8 | 34.3 | 34.3 | 27.8 | 22.3 | 17.6 | 13.0 | 9.3 | 8.4 | 7.4 | 5.6 | 5.6 | 5.6 |
| -6 | 93.1 | 34.5 | 34.5 | 27.9 | 22.4 | 17.7 | 13.0 | 9.3 | .8.4 | 7.5 | 5.6 | 5.6 | 5.6 |
| -0 | 93. 5 93. 8 | 34.6 | 34.6 | 28.1 | 22.4 | 17.8 | 13. 1 | 9.4 | 8.4 | 7.5 | 5.6 | 5.6 | 5.6 |
| -3 -4 | 93. 8 94. 2 | 34.7 | 34.7 | 28.2 | 22.5 | 17.8 | 13.1 | 9.4 | 8.4 | 7.5 | 5.6 | 5.6 | 5.6 |
| -3 | 94. 2 94. 5 | 34.9 | 34.9 | 28.3 | 22.6 | 17.9 | 13. 2 | 9.4 | 8.5 | 7.5 | 5.7 | 5.7 | 5.7 |
| $\begin{bmatrix} -3 \\ -2 \end{bmatrix}$ | 94. 5 | 35.0 | 35.0 | 28.4 | 22.7 | 18.0 | 13. 2 | 9.5 | 8.5 | 7.6 | 5.7 | 5.7 | 5.7 |
| $\begin{bmatrix} -2 \\ -1 \end{bmatrix}$ | 94.9 | 35.1 | 35.1 | 28.5 | 22.8 | 18.0 | 13.3 | 9.5 | 8.5 | 7.6 | 5.7 | 5.7 | 5.7 |
| -0 | | 35. 2 35. 4 | 35.2 | 23.6 | 22.9 | 18.1 | 13.3 | 9.5 | 8.6 | 7.6 | 5.7 | 5.7 | 5.7 |
| 01 | 95.6 | 30.4 | 35.4 | 28.7 | 22.9 | 18.2 | 13.4 | 9.6 | 8.6 | 7.6 | 5.7 | 5.7 | 5.7 |

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FM 6-16-3

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| Tem | Zone perature | | | | | _ | Line-Z | one No. | | | | | |
|----------|------------------|----------------|----------------|----------------|----------------|---------------------------|----------------|--------------------------------|----------------|--------------|--------------|--------------|-------------|
| °C | % | 22 | 32 | 42 | 52 | 62 | 72 | 82 | 92 | 02 | 12 | 22 | 32-52 |
| 1 | 95. 9 | 35. 5 | 35. 5 | 28.8 | 23. 0 | 18.2 | 13.4 | 9.6 | 8.6 | 7.7 | 5.8 | 5. 8 | 5.8 |
| 2 | 96.3 | 35.6 | 35.6 | 28.9 | 23.1 | 18.3 | 13. 5 | 9.6 | 8.7 | 7.7 | 5.8 | 5.8 | 5.8 |
| 3 | 96.6 | 35. 7 | 35. 7 | 29.0 | 23. 2 | 18.4 | 13. 5 | 9.7 | 8.7 | 7.7 | 5.8 | 5.8 | 5.8 |
| 4 | 97.0 | 35.9 | 35. 9 | 29.1 | 23. 3 | 18.4 | 13.6 | 9.7 | 8.7 | 7.8 | 5.8 | 5.8 | 5.8 |
| 5 | 97.3 | 36. 0 | 36. 0 | 29.2 | 23.4 | 18.5 | 13. 6 | 9.7 | 8.8 | 7, 8 | 5.8 | 5.8 | 5.8 |
| 6 | 97.7 | 36.1 | 36.1 | 29.3 | 23. 5 | 18.6 | 13. 7 | 9.8 | 8.8 | 7.8 | 5.9 | 5.9 | 5.9 |
| 7 | 98.0 | 36.3 | 36.3 | 29.4 | 23.5 | 18.6 | 13.7 | 9.8 | 8.8 | 7.8 | 5.9 | 5.9 | 5.9 |
| 8 | 98.4 | 36.4 | 36.4 | 29.5 | 23.6 | 18.7 | 13. 8. | 9.8 | 8.9 | 7.9 | 5.9 | 5.9 | 5.9 |
| 9 | 98.7 | 36.5 | 36.5 | 29.6 | 23. 7 | 18.8 | 13. 8 | 9.9 | 8.9 | 7.9- | 5.9 | 5.9 | 5.9 |
| 10 | 99.1 | 36.7 | 36.7 | 29.7 | 23.8 | 18.8 | 13. 9 | 9.9 | 8.9 | 7.9 | 5.9 | 5.9 | 5.9 |
| 11 | 99.4 | 36.8 | 36.8 | 29.8 | 23. 9 23. 9 | 18.9 | 13. 9 | 9.9 | 9.0 | 8.0 | 6.0 | 6. O | 6.0 |
| 12 | 99. 8 | 36.9 | 36. 9 | 29.9 | 23. 5 24. 0 | 19.0 | 13. 3 | 10.0 | 9.0 | 8.0 | 6. 0 | 6. 0 | 6.0 |
| 12 | 100.1 | 37. 0 | 30. 9 37. 0 | 30. 0 | 24. 0 24. 0 | 19.0 | 14.0 | 10.0 | 9. 0 | 8.0 | 6. 0 | 6. 0 | 6.0 |
| 13 | 100. 1 | 37. 2 | 37.0 | 30. 0 30. 2 | 24. 0 24. 1 | 19.0 | 14. 0 | 10. 0 | 9.0 | 8.0 | 6. 0 | 6. 0 | 6.0 |
| 14 | 100. 8 | 37.3 | 37. 2 37. 3 | 30. 2 30. 3 | 24. 1 24. 2 | 19. 1 19. 2 | 14.1 | 10.1 | 9, 1 | 8.1 | 6.1 | 6.1 | 6.1 |
| | | | | 30. 3 30. 4 | 24. 2 24. 3 | 19. 2 19. 2 | 14.1 | 10.1 | 9.1 9.1 | 8, 1 | 6. 1 | 6. 1 | 6.1 |
| 16 17 | 101. 2 101. 5 | 37.4 37.6 | 37.4 37.6 | 30. 4 30. 5 | 24. 3 24. 4 | 19. 2 19. 3 | 14.2 14.2 | 10. 1 | 9.1 9.1 | 8.1 | 6.1 | 6.1 | 6.1 |
| 18 | J I | 37.0 | 37. 0 | 30. 5 30. 6 | 24. 4 24. 5 | 19.3 19.4 | 14. 2 | 10. 2 | 9. 1 9. 2 | 8.2 | 6. 1 | 6. 1 | 6.1 |
| | 101.9 | | | 30. 0 30. 7 | 24. 5 24. 5 | 19.4 19.4 | 14.3 | 10. 2 | 9. 2 | 8.2 | 6.1 | 6.1 | 6.1 |
| 19 | 102.2 | 37.8 | 37.8 | | | | | | 1 | | | 6. 2 | 6. 2 |
| 20 | 102.6 | 38.0 | 38.0 | 30.8 | 24.6 | 19.5 | 14.4 | 10.3 | 9.2 | 8.2 | 6.2 | | 6. 2 |
| 21 | 102.9 | 38.1 | 38.1 | 30.9 | 24.7 | 19.6 | 14.4 | 10.3 | 9.3 | 8.2 | 6.2 | 6. 2 | |
| 22 | 103.3 | 38.2 | 38.2 | 31.0 | 24. 8 | 19.6 | 14.5 | 10.3 | 9.3 | 8.3 | 6.2 | 6. 2 | 6.2 |
| 23 | 103. 6 | 38.3 | 38.3 | 31.1 | 24. 9 25. 0 | 19.7 | 14.5 | 10.4 | 9.3 | 8.3 | 6. 2 6. 2 | 6. 2 | 6. 2 |
| 24 | 104.0 | 38.5 | 38.5 | 31. 2 | 25. 0 | 19.8 | 14.6 | 10.4 | 9.4 | 8.3 | 6. 2 | 6. 2 | 6. 2 |
| 25 | 104. 3 | 38.6 | 38.6 | 31. 3 | 25. 0 | 19.8 | 14.6 | 10.4 | 9.4 | 8.3 | 6.3 | 6.3 | 6.3 |
| 26 | 104.7 | 28.7 | 38.7 | 31.4 | 25.1 | 19.9 | 14.7 | 10.5 | 9.4 | 8.4 | 6.3 | 6.3 | 6.3 |
| 27 | 105. 0 | 38.9 | 38.9 | 31.5 | 25. 2 | 20.0 | 14.7 | 10.5 | 9.5 | 8,4 | 6.3 | 6.3 | 6.3 |
| 28 | 105.4 | 39.0 | 39. O | 31.6 | 25. 3 | 20.0 | 14.8 | 10.5 | 9.5 | 8.4 | 6.3 | 6.3 | 6.3 6.3 |
| 29 | 105.7 | 39.1 | 39.1 | 31.7 | 25. 4 | 20.1 | 14.8 | 10.6 | 9.5 | 8.5 | 6.3 | 6.3 | (|
| 30 | 106.1 | 39.3 | 39.3 | 31.8 | 25.5 | 20.2 | 14, 9 | 10.6 | 9.6 | 8.5 | 6. 4 | 6.4 | 6.4 |
| 31 | 106. 4 | 39.4 | 39. 4 | 31.9 | 25.6 | 20, 2 | 14.9 | 10.6 | 9.6 | 8.5 | 6.4 6.4 | 6.4 6.4 | 6.4 6.4 |
| 32 | 106.8 | 39.5 | 39.5 | 32.0 | 25. 6 | 20.3 | 15.0 | 10.7 | 9.6 | 8.5 | 6.4 | | |
| 33 | 107.1 | 39.6 | 39. 6 | 32.1 | 25.7 | 20.4 | 15.0 | 10.7 | 9.6 0.7 | 8.6 | 6.4 | 6.4 6.5 | 6.4 6.5 |
| 34 | 107.5 | 39.8 | 39.8 | 32.3 | 25. 8 25. 0 | 20.4 | 15.1 | 10.8 | 9. 7 9. 7 | 8.6 | 6. 5 6. 5 | 6.5 6.5 | 6.5 6.5 |
| 35 | 107. 8 | 39.9 | 39.9 | 32.4 | 25. 9 26. 0 | 20.5 | 15. 1 15. 2 | 10.8 | 1 | 8.6 | 6.5 6.5 | | 6.5 |
| 36 | 108.1 | 40.0 | 40.0 | 32, 5 | 26. 0 | 20.6 20.6 | 15. 2 | 10.8 10.9 | 9.7 9.8 | 8.7 8.7 | 0. 5 6. 5 | 6.5 6.5 | 6. 5 |
| 37 | 108.5 | 40.1 | 40.1 | 32.6 | 26. 1 26. 1 | | 15. 2 15. 2 | 10.9 | | 8. 7 8. 7 | 6. 5 6. 5 | 6.5 | 6. 5 |
| 38 | 108.8 | 40.3 | 40.3 | 32.7 | 26. 1 26. 2 | 20.7 | | | 9.8 9.8 | 8. 7 8. 7 | 0. 5 6. 6 | 6. 6 | 6.6 |
| 39 | 109.2 | 40.4 | 40.4 | 32. 8 22. 0 | | 20, 8 20, 8 | 15.3 | 10.9 | 9.8 | | 6. 6 | 6. 6 | 6.6 |
| 40 | 109.5 | 40.5 | 40.5 | 32. 9 22. 0 | 26.3 | | 15.3 | 11.0 | 9. 9 9. 9 | 8.8 | 6. 6 | 6. 6 | 6. 6 |
| 41 | 109.9 | 40.7 | 40.7 | 33.0 | 26.4 | 20. 9 21. 0 | 15.4 15.4 | 11.0 11.0 | 9.9 9.9 | 8.8 8.8 | 6. 6 | 6. 6 | 6.6 |
| 42 | 110.2 | 40.8 | 40.8 | 33.1 | 26.5 | | 15.4 | | | | 6.6 | 0. 0 6. 6 | 6.6 |
| 43 | 110.6 | 40.9 | 40.9 | 33. 2 | 26.6 26.6 | 21. 0 21. 1 | 15.5 | 11.1 11.1 | 10. 0 10. 0 | 8.9 8.9 | 6. 7 | 6. 0 6. 7 | 6.7 |
| 44 | 110.9 | 41.0 | 41.0 | 33. 3 33. 4 | 26. 6 26. 7 | 21. 1 21. 2 | 15. 5 | 11.1 | 10. 0 | 8.9 8.9 | 6. 7 6. 7 | 6. 7 6. 7 | 6.7 |
| 45 | | 41. 2 | 41.2 | 33. 4 33. 5 | 26. 7 | 21. 2 | 15.6 | 11. 1 | 10. 0 | 8.9 | 6.7 | 6. 7 | 6.7 |
| 46 | 111.6 | 41.3 | 41.3 | 33. 6 | 26.8 | 21. 3 | 15. 0 | 11. 2 | 10.1 | 9.0 | 6. 7 | 6.7 | 6.7 |
| 47 | 112.0 | 41.4 | 41.4 | 33. 0 33. 7 | 20.9 | 21. 3 21. 4 | 15.7 | 11. 2 11. 2 | 10. 1 | 9.0 | 6. 7 | 6. 7 | 6.7 |
| 48 | 112.3 | 41.6 | 41.6 | 33. 7 33. 8 | 27.0 | 21. 4 21. 4 | 15. 7 | 11 . 2 11 . 3 | 10. 1 | 9.0 | 6.8 | 6. 8 | 6.8 |
| 49 50 | 112.7 113.0 | 41. 7 41. 8 | 41. 7 41. 8 | 33. 8 33. 9 | 27.1 | 21. 4 21. 5 | 15.8 | 11. 3 11. 3 | 10. 1 | 9.0 | 6.8 | 6.8 | 6. 8 |

 Table 2-13.
 Weighted Temperature (Percent), Zone 2---Continued

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

2 - 1 2 2

| | Zone perature | | | | | Line-2 | Zone No. | | <u> </u> | | | |
|--------------|------------------|--------------|----------------|----------------|----------------|--------------|----------------|--------------|----------------|------------|------------|------------|
| °C | % | 33 | 43 | 53 | 63 | 73 | 83 | 93 | 03 | 13 | 23 | 33-53 |
| - 50 | 78.8 | 20.5 | 27.6 | 23.6 | 18.9 | 15. 8 | 13. 4 | 11. 0 | 9.5 | 7. 9 | 7. 9 | 7.9 |
| -49 | 79.1 | 20.6 | 27.7 | 23. 7 | 19. 0 | 15.8 | 13. 4 | 11. 1 | 9.5 | 7.9 | 7.9 | 7.9 |
| -48 | 79.5 | 20. 7 | 27.8 | 23. 8 | 19.1 | 15.9 | 13. 5 | 11.1 | 9.5 | 8.0 | 8.0 | 8.0 |
| -47 | 79. 8 | 20. 7 | 27. 9 | 23. 9 | 19. 2 | 16. 0 | 13.6 | 11. 2 | 9.6 | 8.0 | 8.0 | 8.0 |
| -46 | 80. 2 | 20. 8 | 28.1 | 24.1 | 19. 2 | 16. 0 | 13. 6 | 11. 2 | 9.6 | 8.0 | 8.0 | 8.0 |
| -45 | 80.6 | 21. 0 | 28. 2 | 24. 2 | 19.3 | 16.1 | 13. 7 | 11. 3 | 9.7 | 8.1 | 8.1 | 8.1 |
| -44 | 80. 9 | 21. 0 | 28.3 | 24. 3 | 19.4 | 16.2 | 13. 8 | 11. 3 | 9. 7 | 8.1 | 8.1 | 8.1 |
| - 43 | 81.3 | 21. 1 | 28.5 | 24.4 | 19. 5 | 16.2 | 13.8 | 11.4 | 9. 7 | 8.1 | 8.1 | 8.1 |
| -42 | 81.6 | 21. 2 | 28.6 | 24.5 | 19.6 | 16.3 | 13. 9 | 11.4 | 9.8 | 8.2 | 8. 2 | 8.2 |
| -41 | 82. 0 | 21. 3 | 28.7 | 24.6 | 19. 7 | 16.4 | 13. 9 | 11. 5 | 9.8 | 8.2 | 8.2 | 8.2 |
| -40 | 82.3 | 21.4 | 28.8 | 24. 7 | 19.8 | 16.5 | 14. 0 | 11.5 | 9. 9 | 8.2 | 8.2 | 8.2 |
| -39 | 82. 7 | 21.5 | 28.9 | 24.8 | 19. 9 | 16. 5 | 14.1 | 11.6 | 9. 9 | 8.3 | 8.3 | 8.3 |
| -38 | 83.0 | 21.6 | 29.1 | 24.9 | 19.9 | 16.6 | 14. 1 | 11.6 | 10. 0 | 8.3 | 8.3 | 8.3 |
| -37 | 83. 4 | 21.7 | 29. 2 | 25. 0 | 20. 0 | 16. 7 | 14. 2 | 11. 7 | 10. 0 | 8.3 | 8.3 | 8.3 |
| -36 | 83.7 | 21.8 | 29.3 | 25.1 | 20. 1 | 16.8 | 14. 2 | 11. 7 | 10.1 | 8.4 | 8.4 | 8.4 |
| -35 | 84.1 | 21.9 | 29.4 | 25. 2 | 20. 2 | 16.8 | 14.3 | 11.8 | 10. 1 | 8.4 | 8.4 | 8.4 |
| -34 | 84.4 | 22.0 | 29.6 | 25.3 | 20. 3 | 16. 9 | 14.4 | 11.8 | 10. 1 | 8.4 | 8.4 | 8.4 |
| -33 | 84.8 | 22.1 | 29.7 | 25.5 | 20.4 | 17.0 | 14.4 | 11. 9 | 10. 2 | 8.5 | 8.5 | 8.5 |
| -32 | 85.1 | 22.1 | 29.8 | 25.6 | 20.4 | 17.0 | 14.5 | 11.9 | 10. 2 | 8.5 | 8.5 | 8.5 |
| -31 | 85.5 | 22. 2 | 29.9 | 25.7 | 20.5 | 17.1 | 14.5 | 12.0 | 10.3 | 8.6 | 8.6 | 8.6 |
| -30 | 85.8 | 22.3 | 30. 1 | 25.8 | 20.6 | 17.2 | 14.6 | 12.0 | 10.3 | 8.6 | 8.6 | 8.6 |
| -29 | 86.2 | 22.4 | 30. 2 | 25.9 | 20.7 | 17.2 | 14.7 | 12.1 | 10.3 | 8.6 | 8.6 | 8.6 |
| $-28 \\ -27$ | 86. 6 86. 9 | 22.5 22.6 | 30.3 | 26.0 | 20.8 | 17.3 | 14.7 | 12.1 | 10.4 | 8.7 | 8.7 | 8.7 |
| -27 -26 | 80. 9 87. 3 | 22. 6 | 30. 4 | 26.1 | 20. 9 | 17.4 | 14.8 | 12.2 | 10.4 | 8.7 | 8.7 | 8.7 |
| $-20 \\ -25$ | 87.6 | 22. 8 | 30. 6 30. 7 | 26.2 | 21.0 | 17.5 | 14.8 | 12.2 | 10.5 | 8.7 | 8.7 | 8.7 |
| -23 -24 | 88.0 | 22. 8 | 30. 7 | 26.3 26.4 | 21. 0 21. 1 | 17.5 17.6 | 14.9 | 12.3 | 10.5 | 8.8 | 8.8 | 8.8 |
| -23 | 88.3 | 23.0 | 30. 8 30. 9 | 26. 5 | 21.1 21.2 | 17. 0 | 15. 0 15. 0 | 12.3 12.4 | 10.6 | 8.8 | 8.8 | 8.8 |
| -23 | 88.7 | 23. 1 | 31.1 | 26. 5 26. 6 | 21. 2 21. 3 | 17.7 | 15.0 | 12.4 | 10. 6 10. 6 | 8.8 8.9 | 8.8 8.9 | 8.8 8.9 |
| -21 | 89.0 | 23. 2 | 31. 2 | 26. 7 | 21. 3 | 17.8 | 15.1 | 12. 4 | 10. 0 | 8.9 | 8.9 | 8.9 |
| -20 | 89.4 | 23. 3 | 31. 3 | 26.8 | 21. 5 | 17.9 | 15. 2 | 12.5 | 10.7 | 8.9 | 8.9 | 8.9 |
| -19 | 89.7 | 23. 3 | 31. 4 | 26.9 | 21.5 | 18.0 | 15. 3 | 12.6 | 10. 8 | 9.0 | 9.0 | 9. 0 |
| -18 | 90.1 | 23. 4 | 31.5 | 27.0 | 21.6 | 18.0 | 15.3 | 12.6 | 10.8 | 9.0 | 9. 0 | 9. 0 |
| -17 | 90. 4 | 23. 5 | 31.7 | 27.1 | 21.7 | 18.1 | 15.4 | 12.7 | 10.9 | 9.0 | 9.0 | 9.0 |
| -16 | 90. 8 | 23. 6 | 31.8 | 27.3 | 21.8 | 18.2 | 15.4 | 12.7 | 10.9 | 9.1 | 9.1 | 9.1 |
| -15 | 91.1 | 23. 7 | 31. 9 | 27.4 | 21. 9 | 18.2 | 15.5 | 12.8 | 10. 9 | 9.1 | 9.1 | 9.1 |
| -14 | 91.5 | 23. 8 | 32. 0 | 27.5 | 22.0 | 18.3 | 15.6 | 12.8 | 11.0 | 9.2 | 9.2 | 9.2 |
| -13 | 91. 8 | 23. 9 | 32. 2 | 27.6 | 22.1 | 18.4 | 15.6 | 12.9 | 11.0 | 9.2 | 9. 2 | 9.2 |
| -12 | 92. 2 | 24. 0 | 32. 3 | 27. 7 | 22.1 | 18.5 | 15.7 | 12.9 | 11. 1 | 9.2 | 9. 2 | 9. 2 |
| -11 | 92.6 | 24.1 | 32.4 | 27.8 | 22. 2 | 18.5 | 15.7 | 13. 0 | 11.1 | 9.3 | 9. 3 | 9.3 |
| -10 | 92. 9 | 24: 2 | 32.5 | 27. 9 | 22.3 | 18.6 | 15.8 | 13.0 | 11. 2 | 9.3 | 9. 3 | 9.3 |
| -9 | 93. 3 | 24.3 | 32. 7 | 28.0 | 22.4 | 18.7 | 15. 9 | 13.1 | 11. 2 | 9.3 | 9.3 | 9.3 |
| -8 | 93. 6 | 24.4 | 32. 8 | 28.1 | 22.5 | 18.7 | 15.9 | 13.1 | 11. 2 | 9.4 | 9.4 | 9.4 |
| -7 | 94. 0 | 24.4 | 32. 9 | 28. 2 | 22. 6 | 18.8 | 16. 0 | 13. 2 | 11.3 | 9.4 | 9.4 | 9.4 |
| -6 | 94. 3 | 24.5 | 33. 0 | 28.3 | 22.6 | 18.9 | 16. 0 | 13. 2 | 11.3 | 9.4 | 9.4 | 9.4 |
| -5 | 94. 7 | 24. 6 | 33. 2 | 28.4 | 22. 7 | 18.9 | 16.1 | 13. 3 | 11.4 | 9.5 | 9.5 | 9.5 |
| -4 | 95. 0 | 24.7 | 33. 3 | 28.5 | 22.8 | 19. 0 | 16. 2 | 13.3 | 11.4 | 9.5 | 9.5 | 9.5 |
| -3 | 95.4 | 24.8 | 33. 4 | 28.6 | 22. 9 | 19.1 | 16. 2 | 13.4 | 11.5 | 9.5 | 9.5 | 9.5 |
| -2 | 95. 7 | 24. 9 | 33. 5 | 28. 7 | 23. 0 | 19. 2 | 16.3 | 13.4 | 11.5 | 9.6 | 9.6 | 9.6 |
| -1 | 96.1 | 25. 0 | 33. 6 | 28.8 | 23.1 | 19. 2 | 16.3 | 13. 5 | 11.5 | 9.6 | 9. 6 | 9.6 |

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Table 2–13. Weighted Temperature (Percent), Zone 3

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

2 - 1 2 3

| | Zone perature | | | | | Line-2 | Zone No. | | | | | |
|----|------------------|---------------|---------------|----------------------|---------------|--------|----------|-------|------|------|-------------|-------|
| °C | 9% | 33 | 43 | 53 | 63 | 73 | 83 | 93 | 03 | 13 | 23 | 33-53 |
| 0 | 96. 4 | 25. 1 | 33. 8 | 28.9 | 23. 2 | 19. 3 | 16.4 | 13.5 | 11.6 | 9.6 | 9. 6 | 9. |
| 1 | 96. 8 | 25. 2 | 33. 9 | 29.1 | 23. 2 | 19.4 | 16.5 | 13.6 | 11.6 | 9.7 | 9.7 | 9. ' |
| 2 | 97.1 | 25. 3 | 34. 0 | 29. 2 | 23.3 | 19.4 | 16.5 | 13.6 | 11.7 | 9.7 | 9.7 | 9. |
| 3 | 97.5 | 25.4 | 34.1 | 29.3 | 23. 4 | 19.5 | 16.6 | 13.7 | 11.7 | 9.8 | 9.8 | 9. |
| 4 | 97.8 | 25.5 | 34. 3 | 29.4 | 23.5 | 19.6 | 16.6 | 13.7 | 11.7 | 9.8 | 9.8 | 9. |
| 5 | 98.2 | 25.5 | 34. 4 | 29.5 | 23. 6 | 19.7 | 16.7 | 13.8 | 11.8 | 9.8 | 9.8 | 9. |
| 6 | 98.6 | 25. 6 | 34.5 | 29.6 | 23. 7 | 19.7 | 16.8 | 13.8 | 11.8 | 9.9 | 9.9 | 9. |
| 7 | 98. 9 | 25.7 | 34.6 | 29. 7 | 23. 8 | 19.8 | 16.8 | 13.9 | 11.9 | 9.9 | 9.9 | 9. |
| 8 | 99. 3 | 25.8 | 34.8 | 29.8 | 23.8 | 19.9 | 16.9 | 13.9 | 11.9 | 9.9 | 9. 9 | 9. |
| 9 | 99.6 | 25.9 | 34. 9 | 29. 9 | 23. 9 | 19.9 | 16.9 | 14.0 | 12.0 | 10.0 | 10.0 | 10. |
| 10 | 100.0 | 26.0 | 35.0 | 30.0 | 24. 0 | 20.0 | 17.0 | 14.0 | 12.0 | 10.0 | 10.0 | 10. |
| 11 | 100.3 | 26.1 | 35. 1 | 30. 1 | 24.1 | 20.1 | 17.1 | 14.1 | 12.0 | 10.0 | 10.0 | 10. |
| 12 | 100.7 | 26. 2 | 35. 3 | 30. 2 | 24.2 | 20.1 | 17.1 | 14.1 | 12.1 | 10.1 | 10.1 | 10. |
| 13 | 101. 0 | 26.3 | 35.4 | 30.3 | 24 . 3 | 20. 2 | 17.2 | 14.2 | 12.1 | 10.1 | 10.1 | 10. |
| 14 | 101.4 | 26.4 | 35.5 | 30.4 | 24 . 3 | 20.3 | 17.2 | 14.2 | 12.2 | 10.1 | 10.1 | 10 |
| 15 | 101.7 | 26.5 | 35.6 | 30.5 | 24.4 | 20.4 | 17.3 | 14.3 | 12.2 | 10.2 | 10 2 | 10. |
| 16 | 102.1 | 26.6 | 35. 7 | 30.6 | 24 . 5 | 20.4 | 17.4 | 14.3 | 12.3 | 10.2 | 10 2 | 10. |
| 17 | 102.4 | 26.6 | 35. 9 | 30. 7 | 24.6 | 20.5 | 17.4 | 14.3 | 12.3 | 10 2 | 10 2 | 10. |
| 18 | 102.8 | 26.7 | 36. 0 | 30.9 | 24.7 | 20.6 | 17.5 | 14.4 | 12.3 | 10.3 | 10.3 | 10 |
| 19 | 103.1 | 26.8 | 36.1 | 31.0 | 24.8 | 20.6 | 17.5 | 14.4 | 12.4 | 10 3 | 10.3 | 10. |
| 20 | 103.5 | 26 . 9 | 36.2 | 31.1 | 24 . 9 | 20.7 | 17.6 | 14.5 | 12.4 | 10.4 | 10.4 | 10. |
| 21 | 103.8 | 27.0 | 36.4 | 31 . 2 | 24.9 | 20.8 | 17.7 | 14.5 | 12.5 | 10.4 | 10.4 | 10. |
| 22 | 104. 2 | 27.1 | 36.5 | 31.3 | 25.0 | 20.9 | 17.7 | 14.6 | 12.5 | 10.4 | 10.4 | 10. |
| 23 | 104.6 | 27. 2 | 36.6 | 31.4 | 25.1 | 20.9 | 17.8 | 14.6 | 12.6 | 10 5 | 10.5 | 10 |
| 24 | 104.9 | 27.3 | 36.7 | 31.5 | 25. 2 | 21.0 | 17.8 | 14.7 | 12.6 | 10 5 | 10.5 | 10 |
| 25 | 105.3 | 27.4 | 36. 9 | 31.6 | 25. 3 | 21.1 | 17.9 | 14.7 | 12 6 | 10 5 | 10 5 | 10 |
| 26 | 105.6 | 27.5 | 37.0 | 31 . 7 | 25.4 | 21.1 | 18.0 | 14.8 | 12.7 | 10 6 | 10 6 | 10 |
| 27 | 106.0 | 27.6 | 37.1 | 31. 8 | 25.4 | 21.2 | 18.0 | 14.8 | 12.7 | 10.6 | 10.6 | 10 |
| 28 | 106.3 | 27.7 | 37. 2 | 31 . 9 | 25.5 | 21. 3 | 18.1 | 14.9 | 12.8 | 10.6 | 10 6 | 10 |
| 29 | 106.7 | 27.8 | 37.4 | 32 . 0 | 25.6 | 21.3 | 18.1 | 14. 9 | 12.8 | 10.7 | 10 7 | 10 |
| 30 | 107.0 | 27.8 | 37.5 | 32 1 | 25.7 | 21.4 | 18.2 | 15.0 | 12.9 | 10.7 | 10 7 | 10 |
| 31 | 107.4 | 27. 9 | 37.6 | 32. 2 | 25.8 | 21.5 | 18.3 | 15.0 | 12.9 | 10.7 | 10.7 | 10 |
| 32 | 107.7 | 28.0 | 37. 7 | 32.3 | 25. 9 | 21.6 | 18.3 | 15.1 | 12.9 | 10.8 | 10.8 | 10 |
| 33 | 108 1 | 28.1 | 37. 9 | 32.4 | 26 . 0 | 21.6 | 18.4 | 15.1 | 13.0 | 10 8 | 10.8 | 10 |
| 34 | 108.4 | 28.2 | 38.0 | 32.6 | 26.0 | 21. 7 | 18.4 | 15.2 | 13.0 | 10.9 | 10.9 | 10 |
| 35 | 108.8 | 28.3 | 38.1 | 32.7 | 26.1 | 21.8 | 18.5 | 15.2 | 13.1 | 10 9 | 10.9 | 10 |
| 36 | 109 1 | 28.4 | 38.2 | 32.8 | 26. 2 | 21.8 | 18.6 | 15.3 | 13.1 | 10.9 | 10.9 | 10 |
| 37 | 109.5 | 28.5 | 38.3 | 32 . 9 | 26.3 | 21.9 | 18.6 | 15.3 | 13.1 | 11.0 | 11.0 | 1 |
| 38 | 109.8 | 28.6 | 38.5 | 3 3. 0 | 26.4 | 22.0 | 18.7 | 15.4 | 13.2 | 11.0 | 11.0 | |
| 39 | 110.2 | 28.7 | 38.6 | 33. 1 | 26.5 | 22.1 | 18.7 | 15.4 | 13.2 | 11.0 | 11.0 | |
| 40 | 110.6 | 28.8 | 38.7 | 33. 2 | 26.5 | 22.1 | 18.8 | 15.5 | 13.3 | 11.1 | 11.1 | 11 |
| 41 | 110.9 | 28.9 | 38.8 | 33. 3 | 26.6 | 22.2 | 18.9 | 15.5 | 13.3 | 11.1 | 11.1 | |
| 42 | 111.3 | 28.9 | 39. O | 33.4 | 26.7 | 22.3 | 18.9 | 15.6 | 13.4 | | 11.1 | |
| 43 | 111.6 | 29.0 | 39 . 1 | 33.5 | 26.8 | 22.3 | 19.0 | 15.6 | 13.4 | 11.2 | 11.2 | |
| 44 | 112.0 | 29.1 | 39. 2 | 33. 6. | 26.9 | 22.4 | 19.0 | 15.7 | 13.4 | 11.2 | 11.2 | |
| 45 | 112.3 | 29.2 | 39.3 | 33.7 | 27.0 | 22.5 | 19.1 | 15.7 | 13.5 | 11.2 | 11.2 | |
| 46 | | 29.3 | 39.5 | 33.8 | 27.1 | 22.5 | 19.2 | 15.8 | 13.5 | 11.3 | 11.3 | 1 |
| 47 | 1 | 29.4 | 39. 6 | 33.9 | 27.1 | 22.6 | 19.2 | 15.8 | 13.6 | 11.3 | 11.3 | 1 |
| 48 | 113.4 | 29.5 | 39.7 | 34.0 | 27.2 | 22.7 | 19.3 | 15.9 | 13.6 | | | |
| 49 | 113.7 | 29.6 | 39.8 | 34.1 | 27.3 | 22.8 | 19.3 | 15.9 | 13.7 | 11.4 | 11.4 | |
| 50 | 114.1 | 29. 7 | 40. 0 | 34. 2 | 27.4 | 22. 8 | 19.4 | 16. 0 | 13.7 | 11.4 | 11.4 | 11 |

Table 2-13. Weighted Temperature (Percent), Zone 3-Continued

| | Zone perature | | | · · · · · · · · · · · · · · · · · · · | I | ine-Zone | No. | | | <u> </u> | |
|--------------|------------------|------------|----------------|---------------------------------------|----------------|----------------|----------------|------------|------------|-------------|------------|
| °C | % | 44 | 54 | 64 | 74 | 84 | 94 | 04 | 14 | 24 | 34-54 |
| -60 | 76. 1 | 7.6 | 13. 7 | 13. 7 | 12. 2 | 11.4 | 9. 9 | 7.6 | 6. 9 | 6. 1 | 6.9 |
| - 59 | 76. 5 | 7.7 | 13. 8 | 13. 8 | 12. 2 | 11. 5 | 9. 9 | 7.7 | 6.9 | 6. 1 | 6.9 |
| - 58 | 76.9 | 7.7 | 13. 8 | 13.8 | 12.3 | 11.5 | 10. 0 | 7.7 | 6. 9 | 6.1 | 6.9 |
| -57 | 77. 2 | 7.7 | 13.9 | 13.9 | 12.4 | 11.6 | 10. 0 | 7.7 | 7.0 | 6. 2 | 7.0 |
| -56 | 77.6 | 7.8 | 14.0 | 14.0 | 12.4 | 11.6 | 10. 1 | 7.8 | 7.0 | 6. 2 | 7.0 |
| -55 - 54 | 77.9 | 7.8 | 14.0 | 14.0 | 12.5 | 11.7 | 10. 1 | 7.8 | 7.0 | 6. 2 | 7.0 |
| -54 -53 | 78.3 78.6 | 7.8 7.9 | 14. 1 14. 2 | 14. 1 14. 2 | 12.5 12.6 | 11.7 | 10. 2 | 7.8 | 7.0 | 6.3 | 7.0 |
| -53 -52 | 78.0 | 7.9 | 14. 2 | 14. 2 | 12.6 | 11.8 | 10. 2 | 7.9 | 7.1 | 6.3 | 7.1 |
| -51 | 79.4 | 7.9 | 14. 2 | 14.3 | 12.0 | 11.9 11.9 | 10. 3 10. 3 | 7.9 7.9 | 7.1 7.1 | 6.3 | 7.1 |
| -50 | 79.7 | 8.0 | 14. 3 | 14. 4 | 12.8 | 11. 9 | 10. 3 | 8.0 | 7.2 | 6.3 6.4 | 7.1 7.2 |
| -49 | 80.1 | 8.0 | 14. 4 | 14.4 | 12.8 | 12.0 | 10. 4 | 8.0 | 7.2 | 6.4 | 7.2 |
| -48 | 80.4 | 8.0 | 14.5 | 14. 5 | 12. 9 | 12. 0 | 10. 4 | 8.0 | 7.2 | 6.4 | 7.2 |
| -47 | 80. 8 | 8.1 | 14.5 | 14.5 | 12. 9 | 12. 1 | 10.5 | 8.1 | 7.3 | 6.5 | 7.3 |
| -46 | 81.1 | 8.1 | 14.6 | 14.6 | 13.0 | 12. 2 | 10.6 | 8.1 | 7.3 | 6. 5 | 7.3 |
| -45 | 81.5 | 8.2 | 14.7 | 14.7 | 13.0 | 12. 2 | 10.6 | 8.2 | 7.3 | 6.5 | 7.3 |
| -44 | 81, 9 | 8.2 | 14.7 | 14.7 | 13.1 | 12.3 | 10.6 | 8.2 | 7.4 | 6.5 | 7.4 |
| -43 | 82. 2 | 8.2 | 14.8 | 14.8 | 13. 2 | 12.3 | 10.7 | 8.2 | 7.4 | 6.6 | 7.4 |
| -42 | 82.6 | 8.3 | 14.9 | 14.9 | 13. 2 | 12.4 | 10.7 | 8.3 | 7.4 | 6.6 | 7.4 |
| -41 | 82.9 | 8.3 | 14.9 | 14.9 | 13.3 | 12.4 | 10.8 | 8.3 | 7.5 | 6.6 | 7.5 |
| - 40 | 83. 3 | 8.3 | 15.0 | 15.0 | 13. 3 | 12.5 | 10.8 | 8.3 | 7.5 | 6.7 | 7.5 |
| -39 | 83.6 | 8.4 | 15.1 | 15.1 | 13.4 | 12.5 | 10. 9 | 8.4 | 7.5 | 6.7 | 7.5 |
| -38- | 84.0 | 8.4 | 15.1 | 15, 1 | 13.4 | 12.6 | 10. 9 | 8.4 | 7.6 | 6.7 | 7.6 |
| -37 | 84.4 | 8.4 | 15. 2 | 15. 2 | 13. 5 | 12.7 | 11.0 | 8.4 | 7.6 | 6. 7 | 7,6 |
| -36 | 84. 7 | 8. 5 | 15.3 | 15.3 | 13. 6 | 12.7 | 11. 0 | 8.5 | 7.6 | 6.8 | 7.6 |
| -35 | 85.1 | 8.5 | 15.3 | 15.3 | 13. 6 | 12.8 | 11. 1 | 8.5 | 7.7 | 6.8 | 7.7 |
| -34 | 85.4 | 8.5 | 15.4 | 15.4 | 13. 7 | 12.8 | 11. 1 | 8.5 | 7.7 | 6.8 | 7.7 |
| -33 | 85. 8 | 8.6 | 15.4 | 15.4 | 13, 7 | 12.9 | 11, 2 | 8.6 | 7.7 | 6. 9 | 7.7 |
| -32 | 86.1 | 8.6 | 15.5 | 15.5 | 13, 8 | 12.9 | 11. 2 | 8.6 | 7.8 | 6. 9 | 7.8 |
| -31 | 86.5 | 8.7 | 15.6 | 15.6 | 13.8 | 13.0 | 11. 2 | 8.7 | 7.8 | 6. 9 | 7.8 |
| -30 | 86.9 | 8.7 | 15.6 | 15.6 | 13.9 | 13.0 | 11.3 | 8.7 | 7.8 | 6.9 | 7.8 |
| -29 | 87. 2 | 8.7 | 15.7 | 15.7 | 14.0 | 13. 1 | 11.3 | 8.7 | 7.9 | 7.0 | 7.9 |
| $-28 \\ -27$ | 87.6 87.9 | 8.8 8.8 | 15.8 | 15.8 | 14.0 | 13.1 | 11.4 | 8.8 | 7.9 | 7.0 | 7.9 |
| -27 -26 | 88.3 | 8.8 | 15.8 15.9 | 15, 8 15, 9 | 14. 1 14. 1 | 13. 2 13. 2 | 11.4 11.5 | 8.8 8.8 | 7.9 7.9 | 7.0 | 7.9 |
| $-20 \\ -25$ | 88.6 | 8.9 | 16.0 | 16.0 | 14. 1 | 13. 2 | 11. 5 | 8.9 | 8.0 | 7.1 7.1 | 7.9 8.0 |
| -24 | 89.0 | 8.9 | 16.0 | 16.0 | 14. 2 | 13. 4 | 11. 6 | 8.9 | 8.0 | 7.1 | 8.0 |
| -23 | 89.4 | 8.9 | 16. 1 | 16. 1 | 14.3 | 13. 4 | 11. 6 | 8.9 | 8.0 | 7.2 | 8.0 |
| -22 | 89.7 | 9.0 | 16. 2 | 16. 2 | 14.4 | 13. 5 | 11. 7 | 9.0 | 8.1 | 7.2 | 8. 1 |
| -21 | 90. 1 | 9.0 | 16. 2 | 16. 2 | 14.4 | 13. 5 | 11.7 | 9.0 | 8, 1 | 7.2 | 8.1 |
| -20 | 90. 4 | 9.0 | 16.3 | 16.3 | 14.5 | 13.6 | 11.8 | 9.0 | 8.1 | 7.2 | 8, 1 |
| -19 | 90. 8 | 9.1 | 16.3 | 16.3 | 14.5 | 13. 6 | 11. 8 | 9.1 | 8.2 | 7.3 | 8.2 |
| -18 | 91.1 | 9.1 | 16. 4 | 16.4 | 14.6 | 13. 7 | 11.9 | 9.1 | 8.2 | 7.3 | 8. 2 |
| -17 | 91. 5 | 9. 2 | 16.5 | 16.5 | 14.6 | 13. 7 | 11. 9 | 9. 2 | 8.2 | 7.3 | 8. 2 |
| -16 | 91. 9 | 9. 2 | 16.5 | 16.5 | 14.7 | 13. 8 | 11. 9 | 9. 2 | 8.3 | 7.4 | 8.3 |
| -15 | 92. 2 | 9. 2 | 16.6 | 16. 6 | 14.8 | 13. 8 | 12.0 | 9. 2 | 8.3 | 7.4 | 8.3 |
| -14 | 92.6 | 9.3 | 16. 7 | 16. 7 | 14. 8 | 13. 9 | 12. 0 | 9.3 | 8.3 | 7.4 | 8. 3 |
| -13 | 92. 9 | 9. 3 | 16. 7 | 16, 7 | 14. 9 | 13. 9 | 12. 1 | 9.3 | 8.4 | 7.4 | 8.4 |
| -12 | 93. 3 | 9. 3 | 16. 8 | 16. 8 | 14. 9 | 14. 0 | 12.1 | 9.3 | 8.4 | 7.5 | 8.4 |
| -11 | 93.6 | 9.4 | 16. 9 | 16. 9 | 15. 0 | 14.0 | 12. 2 | 9.4 | 8.4 | 7.5 | 8.4 |
| -10 | 94. 0 | 9.4 | 16.9 | 16.9 | 15.0 | 14. 1 | 12.2 | 9.4 | 8.5 | 7.5 | 8.5 |

Table 2–13. Weighted Temperature (Percent), Zone 4

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| | Zone perature | | | | I | ine-Zone | No. | | <u></u> | | · <u>····</u> ··· |
|----------|------------------|--------------|--------------|---------------|--------------|------------------------------|--------------|--------------|------------|---------------------|-------------------|
| °C | % | 44 | 54 | 64 | 74 | 84 | 94 | 04 | 14 | 24 | 34-54 |
| -9 | 94. 4 | 9.4 | 17. 0 | 17. 0 | 15. 1 | 14. 2 | 12.3 | 9. 4 | 8.5 | 7.6 | 8, 5 |
| -8 | 94. 7 | 9.5 | 17.1 | 17.1 | 15. 2 | 14. 2 | 12.3 | 9.5 | 8.5 | 7.6 | 8, 5 |
| -7 | 95. 1 | 9.5 | 17.1 | 17.1 | 15.2 | 14. 3 | 12.4 | 9. 5 | 8.6 | 7.6 | 8.6 |
| -6 | 95.4 | 9.5 | 17. 2 | 17.2 | 15.3 | 14.3 | 12.4 | 9.5 | 8.6 | 7.6 | 8.6 |
| -5 | 95. 8 | 9.6 | 17. 2 | 17.2 | 15.3 | 14.4 | 12.5 | 9.6 | 8.6 | 7. 7 | 8.6 |
| -4 | 96. 1 | 9.6 | 17.3 | 17.3 | 15.4 | 14.4 | 12.5 | 9.6 | 8.7 | 7.7 | 8.7 |
| -3 | 96. 5 | 9. 7 | 17.4 | 17.4 | 15.4 | 14.5 | 12.5 | 9.7 | 8.7 | 7.7 | 8.7 |
| -2 | 96. 9 | 9. 7 | 17.4 | 17.4 | 15.5 | 14 5 | 12.6 | 9.7 | 8.7 | 7.8 | 8.7 |
| -1 | 97. 2 | 9. 7 | 17.5 | 17.5 | 15.6 | 14.6 | 12.6 | 9.7 | 8.8 | 7.8 | 8.8 |
| 0 | 97. 6 | 9.8 | 17.6 | 17.6 | 15.6 | 14.6 | 12.7 | 9.8 | 8.8 | 7.8 | 8.8 |
| 1 | 97. 9 | 9.8 | 17.6 | 17.6 | 15.7 | 14.7 | 12.7 | 9.8 | 8.8 | 7.8 | 8.8 |
| 2 | 98.3 | 9.8 | 17.7 | 17.7 | 15.7 | 14.7 | 12.8 | 9.8 | 8.8 | 7.9 | 8,8 |
| 3 | 98. 6 | 9.9 | 17.8 | 17.8 | 15.8 | 14 8 | 12.8 | 9, 9 | 8.9 | 7.9 7.9 | 8.9 8.9 |
| 4 | 99. 0 | 9.9 | 17.8 | 17.8 | 15.8 | 14.9 | 12.9 | 9. 9 9. 9 | 8.9 8.9 | 7.9 8.0 | 8.9 8.9 |
| 5 | 99. 4 | 9.9 | 17.9 | 17.9 | 15.9 | 14.9 | 12.9 13.0 | 10.0 | 9.0 | 8.0 | 9.0 |
| 6 | 99. 7 100. 1 | 10.0 | 18.0 | 18.0 | 16.0 | 15.0 | 13.0 | 10.0 | 9.0 | 8.0 | 9.0 |
| 7 | 100.1 | 10.0 | 18.0 | 18.0 | 16.0 16.1 | 15.0 15.1 | 13.1 | 10.0 | 9.0 | 8.0 8.0 | 9.0 |
| 8 9 | 100.4 100.8 | 10.0 | 18.1 18.1 | 18.1 18.1 | 16.1 | 15.1 | 13.1 | 10.0 | 9.1 | 8.1 | 9.1 |
| | 100.8 | 10.1 10.1 | 18.1 | 18.2 | 16.2 | 15.1 15.2 | 13.2 | 10.1 | 9.1 | 8.1 | 9.1 |
| 10 | | 10.1 | | 18.2 | 16.2 | 15. 2 15. 2 | 13.2 | 10. 2 | 9.1 | 8.1 | 9.1 |
| 11 12 | 101.5 101.9 | 10.2 | 18.3 18.3 | 18.3 18.3 | 16.3 | 15.2 | 13.2 | 10.2 | 9. 2 | 8. 2 | 9. 2 |
| | | | | | 16.4 | 15.3 | 13. 2 | 10. 2 | 9.2 | 8.2 | 9.2 |
| 13 14 | 102.2 102.6 | 10.2 10.3 | 18 4 18 5 | 18.4 18.5 | 16.4 | 15.3 | 13.3 | 10.2 | 9.2 9.2 | 8. 2 | 9.2 |
| 14 | 102.0 | 10.3 | 18.5 | 18.5 | 16 5 | 15.4 | 13.4 | 10.3 | 9.3 | 82 | 9.3 |
| 15 | 102.9 | 10.3 | 18.5 | 18.6 | 16.5 | 15.5 | 13.4 | 10.3 | 9.3 | 8.3 | 9.3 |
| 10 | 103. 3 | 10.3 | 18.7 | 18. 7 | 16.6 | 15.6 | 13 5 | 10.4 | 9.3 | 8.3 | 9.3 |
| 18 | 103.0 | 10.4 | 18.7 | 18.7 | 16.6 | 15.6 | 13.5 | 10.4 | 9.4 | 8.3 | 9.4 |
| 19 | 104.0 | 10.4 | 18.8 | 18.8 | 16.7 | 15.7 | 13.6 | 10.4 | 9.4 | 84 | 9.4 |
| 20 | 104.7 | 10.5 | 18 9 | 18.9 | 16.8 | 15.7 | 13.6 | 10 5 | 9.4 | 8.4 | 9.4 |
| 21 | 105.1 | 10.5 | 18.9 | 18.9 | 16.8 | 15.8 | 13.7 | 10.5 | 9.5 | 8.4 | 9.5 |
| 22 | 105.4 | 10.5 | 19.0 | 19.0 | 16.9 | 15.8 | 13.7 | 10 5 | 9.5 | 8.4 | 9.5 |
| 23 | 105.8 | 10.6 | 19.0 | 19.0 | 16.9 | 15.9 | 13.8 | 10 6 | 9.5 | 8.5 | 9.5 |
| 24 | 106-1 | 10.6 | 19.1 | 19.1 | 17.0 | 15.9 | 13.8 | 10.6 | 9.6 | 8.5 | 9.6 |
| 25 | 106-5 | 10.7 | 19. 2 | 19.2 | 17.0 | 16.0 | 13 8 | 10.7 | 9.6 | 8.5 | 9.6 |
| 26 | 106-9 | 10.7 | 19.2 | 19. 2 | 17.1 | 16.0 | 13.9 | 10 7 | 9.6 | 8.6 | 9.6 |
| 27 | 107.2 | 10.7 | 19.3 | 19.3 | 17.2 | 16.1 | 13.9 | 10 7 | 9.7 | 3.6 | 9. 7 |
| 28 | 107.6 | 10.8 | 19.4 | 19.4 | 17.2 | 16.1 | 14.0 | 10 8 | 9. 7 | 8.6 | 9. 7 |
| 29 | 107.9 | 10.8 | 19.4 | 19.4 | 17.3 | 16.2 | 14.0 | 10.8 | 9. 7 | 8.6 | 9. 7 |
| 30 | 108.3 | 10.8 | 19.5 | 19.5 | 17.3 | 16.2 | 14.1 | 10.8 | 9. 7 | 8 . 7 | 9. 7 |
| 31 | 108.6 | 10.9 | 19.6 | 19.6 | 17.4 | 16.3 | 14.1 | 10. 9 | 9.8 | 8.7 | 9.8 |
| 32 | 109.0 | 10.9 | 19.6 | 19.6 | 17.4 | 16.4 | 14.2 | 10. 9 | 9.8 | 8. 7 | 9. 8 |
| 33 | 109.4 | 10.9 | 19.7 | 19.7 | 17.5 | 16.4 | 14.2 | 10 9 | 9.8 | 8.8 | 9.8 |
| 34 | 109 7 | 11.0 | 19.8 | 19.8 | 17.6 | 16.5 | 14. 3 | 11.0 | 9.9 | 8 . 8 | 9. 9 |
| 35 | 110.1 | 11.0 | 19.8 | 19.8 | 17.6 | 16.5 | 14.3 | 11.0 | 9. 9 | 8.8 | 9. 9 |
| 36 | 110.4 | 11.0 | 19. 9 | 19 . 9 | 17. 7 | 16.6 | 14.4 | 11. 0 | 9.9 | 8.8 | 9. 9 |
| 37 | 110.8 | 11.1 | 19. 9 | 19. 9 | 17. 7 | 16.6 | 14.4 | 11.1 | 10. 0 | 8.9 | 10.0 |
| 38 | 111-1 | 11.1 | 20.0 | 20. 0 | 17.8 | 16.7 | 14.5 | 11.1 | 10. 0 | 8.9 | 10.0 |
| 39 | 111.5 | 11.2 | 20.1 | 20. 1 | 17.8 | 16.7 | 14.5 | 11.2 | 10. 0 | 8.9 | 10.0 |
| 40 | 111.9 | 11.2 | 20.1 | 2 0. 1 | 17. 9 | 16.8 | 14.5 | 11. 2 | 10. 1 | <u>9</u> . 0 | 10.1 |

Table 2–13. Weighted Temperature (Percent), Zone 4—Continued

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

| | one erature | | | ······································ | Li | ine–Zone N | о. | | | |
|--------------|----------------|------------|----------------|--|----------------|----------------|--------------|------------|--------------|--------------|
| °C | % | 55 | 65 | 75 | 85 | 95 | 05 | 15 | 25 | 35-55 |
| -60 | 77. 0 | 6. 2 | 10. 8 | 10. 8 | 10. 0 | 9. 2 | 7. 7 | 6. 2 | 6. 2 | 6. 2 |
| - 59 | 77.4 | 6. 2 | 10. 8 | 10. 8 | 10. 1 | 9.3 | 7. 7 | 6. 2 | 6. 2 | 6. 2 |
| - 58 | 77. 7 | 6. 2 | 10. 9 | 10. 9 | 10. 1 | 9. 3 | 7.8 | 6. 2 | 6. 2 | 6. 2 |
| -57 | 78.1 | 6.3 | 10. 9 | 10. 9 | 10. 2 | 9.4 | 7.8 | 6. 3 | 6. 3 | 6. 3 |
| - 56 | 78.5 | 6.3 | 11.0 | 11.0 | 10. 2 | 9.4 | 7.9 | 6.3 | 6. 3 | 6. 3 |
| - 55 | 78.8 | 6.3 | 11.0 | 11.0 | 10.3 | 9.5 | 7.9 | 6.3 | 6.3 | 6. 3 |
| -54 -53 | 79. 2 79. 6 | 6.3 6.4 | 11. 1 | 11. 1 | 10.3 | 9.5 | 7.9 | 6.3 | 6.3 | 6. 3 |
| -53 | 79. 0 79. 9 | 6.4 6.4 | 11. 1 11. 2 | 11. 1 11. 2 | 10. 3 10. 4 | 9.6 9.6 | 8.0 | 6.4 | 6.4 | 6.4 |
| -51 | 80.3 | 6.4 | 11. 2 | 11. 2 | 10. 4 | 9. 6 9. 6 | 8. 0 8. 0 | 6.4 6.4 | 6.4 6.4 | 6.4 |
| -50 | 80. 6 | 6.5 | 11. 2 | 11. 2 | 10. 4 | 9.0 | 8.1 | 6.5 | 0.4 6.5 | 6. 4 6. 5 |
| - 49 | 81. 0 | 6.5 | 11. 3 | 11. 3 | 10. 5 | 9.7 | 8.1 | 6.5 | 0. 5 6. 5 | 6.5 |
| -48 | 81. 4 | 6.5 | 11. 3 | 11. 4 | 10. 6 | 9.8 | 8.1 | 6.5 | 6. 5 | 6. 5 |
| - 47 | 81. 7 | 6.5 | 11. 4 | 11. 4 | 10. 6 | 9.8 | 8.2 | 6.5 | 6. 5 | 6. <i>5</i> |
| -46 | 82. 1 | 6.6 | 11.5 | 11.5 | 10. 7 | 9.9 | 8.2 | 6.6 | 6.6 | 6.6 |
| -45 | 82.4 | 6.6 | 11.5 | 11. 5 | 10. 7 | 9.9 | 8.2 | 6.6 | 6.6 | 6.6 |
| -44 | 82. 8 | 6. 6 | 11.6 | 11.6 | 10.8 | 9.9 | 8.3 | 6.6 | 6.6 | 6.6 |
| -43 | 83. 2 | 6. 7 | 11. 6 | 11.6 | 10. 8 | 10. 0 | 8.3 | 6.7 | 6.7 | 6.7 |
| -42 | 83. 5 | 6. 7 | 11.7 | 11. 7 | 10. 9 | 10.0 | 8.4 | 6.7 | 6.7 | 6.7 |
| -41 | 83. 9 | 6.7 | 11. 8 | 11.8 | 10. 9 | 10. 1 | 8.4 | 6. 7 | 6. 7 | 6.7 |
| - 40 | 84. 2 | 6.7 | 11.8 | 11.8 | 11.0 | 10. 1 | 8.4 | 6. 7 | 6. 7 | 6. 7 |
| 39 | 84.6 | 6.8 | 11.9 | 11.9 | 11.0 | 10. 2 | 8.5 | 6.8 | 6.8 | 6. 8 |
| -38 | 85. 0 | 6.8 | 11. 9 | 11. 9 | 11. 1 | 10. 2 | 8.5 | 6.8 | 6.8 | 6. 8 |
| -37 | 85. 3 | 6.8 | 12.0 | 12.0 | 11. 1 | 10. 2 | 8.5 | 6.8 | 6.8 | 6.8 |
| -36 | 85. 7 | 6. 9 | 12. 0 | 12.0 | 11. 1 | 10. 3 | 8.6 | 6. 9 | 6. 9 | 6. 9 |
| - 35 | 86.1 | 6. 9 | 12.1 | 12.1 | 11. 2 | 10. 3 | 8.6 | 6.9 | 6.9 | 6. 9 |
| -34 | 86. 4 | 6. 9 | 12.1 | 12.1 | 11. 2 | 10. 4 | 8.6 | 6. 9 | 6.9 | 6. 9 |
| -33 | 86. 8 | 6. 9 | 12. 2 | 12. 2 | 11. 3 | 10. 4 | 8. 7 | 6. 9 | 6. 9 | 6. 9 |
| -32 | 87.1 | 7.0 | 12. 2 | 12.2 | 11. 3 | 10.5 | 8.7 | 7.0 | 7.0 | 7. 0 |
| -31 | 87. 5 | 7.0 | 12.3 | 12.3 | 11. 4 | 10.5 | 8.8 | 7.0 | 7.0 | 7.0 |
| $-30 \\ -29$ | 87.9 | 7.0 | 12.3 | 12.3 | 11. 4 | 10.5 | 8.8 | 7.0 | 7.0 | 7.0 |
| -29 -28 | 88. 2 88. 6 | 7.1 7.1 | 12.4 12.4 | 12.4 12.4 | 11.5 | 10.6 | 8.8 | 7.1 | 7.1 | 7.1 |
| -27 | 88.9 | 7.1 | 12. 4 | 12. 4 | 11.5 11.6 | 10. 6 10. 7 | 8.9 8.9 | 7.1 7.1 | 7.1 7.1 | 7. 1 7. 1 |
| -26 | 89.3 | 7.1 | 12.5 | 12. 5 | 11. 6 | 10. 7 | 8.9 | 7.1 | 7. 1 7. 1 | |
| -25 | 89.7 | 7.2 | 12. 6 | 12. 5 | 11. 0 | 10. 7 | 9.0 | 7.1 | 7.1 7.2 | 7. 1 7. 2 |
| -24 | 90. 0 | 7.2 | 12.6 | 12. 6 | 11. 7 | 10.8 | 9.0 | 7.2 | 7. 2 7. 2 | 7.2 |
| -23 | 90. 4 | 7.2 | 12. 7 | 12. 7 | 11. 8 | 10. 8 | 9.0 | 7.2 | 7. 2 7. 2 | 7.2 |
| -22 | 90. 8 | 7.3 | 12. 7 | 12.7 | 11.8 | 10. 9 | 9.1 | 7.3 | 7.3 | 7.3 |
| -21 | 91. 1 | 7.3 | 12.8 | 12.8 | 11.9 | 10. 9 | 9.1 | 7.3 | 7.3 | 7.3 |
| - 20 | 91. 5 | 7.3 | 12.8 | 12.8 | 11. 9 | 11.0 | 9. 2 | 7.3 | 7.3 | 7.3 |
| -19 | 91. 8 | 7. 4 | 12. 9 | 12.9 | 11. 9 | 11. 0 | 9. 2 | 7.4 | 7.4 | 7.4 |
| -18 | 92. 2 | 7.4 | 12. 9 | 12.9 | 12. 0 | 11. 1 | 9. 2 | 7.4 | 7.4 | 7.4 |
| -17 | 92.6 | 7.4 | 13. 0 | 13. 0 | 12. 0 | 11. 1 | 9.3 | 7.4 | 7.4 | 7.4 |
| -16 | 92. 9 | 7.4 | 13. 0 | 13. 0 | 12.1 | 11. 2 | 9. 3 | 7.4 | 7.4 | 7.4 |
| -15 | 93. 3 | 7.5 | 13. 1 | 13. 1 | 12.1 | 11. 2 | 9.3 | 7.5 | 7.5 | 7.5 |
| -14 | 93. 6 | 7.5 | 13. 1 | 13. 1 | 12. 2 | 11. 2 | 9.4 | 7.5 | 7.5 | 7.5 |
| -13 | 94.0 | 7.5 | 13. 2 | 13. 2 | 12.2 | 11.3 | 9.4 | 7.5 | 7.5 | 7.5 |
| -12 | 94. 4 04. 7 | 7.6 | 13. 2 | 13. 2 | 12.3 | 11. 3 | 9.4 | 7.6 | 7.6 | 7.6 |
| -11 | 94.7 | 7.6 | 13.3 | 13.3 | 12.3 | 11.4 | 9.5 | 7.6 | 7.6 | 7.6 |
| -10 | 95.1 | 7.6 | 13. 3 | 13. 3 | 12.4 | 11.4 | 9.5 | 7.6 | 7.6 | 7.6 |

 Table 2–13.
 Weighted Temperature (Percent), Zone 5

F

| | one erature | | | | Li | ne-Zone N | 0. | <u></u> | | |
|----------|----------------|------------|----------------|----------------|--------------|----------------|----------------|------------|--------------|-------|
| °C | % | 55 | 65 | 75 | 85 | 95 | 05 | 15 | 25 | 35-58 |
| -9 | 95. 4 | 7.6 | 13. 4 | 13. 4 | 12. 4 | 11. 5 | 9.6 | 7.6 | 7.6 | 7. |
| -8 | 95. 8 | 7.7 | 13.4 | 13. 4 | 12.5 | 11. 5 | 9.6 | 7.7 | 7.7 | 7. |
| -7 | 96. 2 | 7.7 | 13. 5 | 13. 5 | 12.5 | 11. 5 | 9.6 | 7.7 | 7.7 | 7. |
| -6 | 96. 5 | 7.7 | 13.5 | 13. 5 | 12.6 | 11.6 | 9.7 | 7.7 | 7.7 | 7. |
| -5 | 96. 9 | 7.8 | 13.6 | 13. 6 | 12.6 | 11. 6 | 9.7 | 7.8 | 7.8 | 7. |
| -4 | 97. 3 | 7.8 | 13. 6 | 13. 6 | 12.7 | 11. 7 | 9.7 | 7.8 | 7.8 | 7. |
| -3 | 97. 6 | 7.8 | 13. 7 | 13. 7 | 12.7 | 11. 7 | 9.8 | 7.8 | 7.8 | 7. |
| -2 | 98. 0 | 7.8 | 13. 7 | 13. 7 | 12.7 | 11. 8 | 9.8 | 7.8 | 7.8 | 7. |
| -1 | 98. 3 | 7.9 | 13.8 | 13. 8 | 12.8 | 11.8 | 9.8 | 7.9 | 7.9 | 7 |
| 0 | 98. 7 | 7.9 | 13. 8 | 13. 8 | 12.8 | 11. 9 | 9.9 | 7.9 | 7.9 | 7 |
| 1 | 99. 1 | 7.9 | 13. 9 | 13. 9 | 12. 9 | 11. 9 | 9.9 | 7.9 | 7. 9 | 7 |
| 2 | 99. 4 | 8.0 | 13. 9 | 13. 9 | 12.9 | 11. 9 | 9. 9 | 8.0 | 8.0 | 8 |
| 3 | 99. 8 | 8.0 | 14.0 | 14.0 | 13. 0 | 12. 0 | 10. 0 | 8.0 | 8.0 | 8 |
| 4 | 100. 1 | 8.0 | 14.0 | 14.0 | 13. 0 | 12.0 | 10. 0 | 8.0 | 8.0 | 8 |
| 5 | 100. 5 | 8.0 | 14.1 | 14.1 | 13. 1 | 12. 1 | 10. 1 | 8.0 | 8.0 | 8 |
| 6 | 100. 9 | 8.1 | 14.1 | 14.1 | 13.1 | 12.1 | 10. 1 | 8.1 | 8.1 | 8 |
| 7 | 101. 2 | 8.1 (| 14. 2 | 14. 2 | 13. 2 | 12. 2 | 10. 1 | 8.1 | 8.1 | 8 |
| 8 | 101. 6 | 8.1 | 14.2 | 14. 2 | 13. 2 | 12. 2 | 10. 2 | 8.1 | 8.1 | 8 |
| 9 | 102. 0 | 8.2 | 14.3 | 14.3 | 13. 3 | 12. 2 | 10. 2 | 8.2 | 8. 2 | 8 |
| 10 | 102. 3 | 8.2 | 14.3 | 14.3 | 13. 3 | 12. 3 | 10. 2 | 8.2 | 8.2 | 8 |
| 11 | 102.7 | 8.2 | 14.4 | 14.4 | 13.4 | 12.3 | 10.3 | 8.2 | 8.2 | 8 |
| 12 | - 103. 0 | 8.2 | 14.4 | 14.4 | 13. 4 | 12.4 | 10.3 | 8.2 | 8. 2 | 8 |
| 13 | 103. 4 | 8.3 | 14.5 | 14. 5 | 13. 4 | 12.4 | 10. 3 | 8.3 | 8.3 | 8 |
| 14 | 103. 8 | 8.3 | 14.5 | 14.5 | 13. 5 | 12, 5 | 10. 4 | 8.3 | 8.3 | 8 |
| 15 | 104.1 | 8.3 | 14.6 | 14.6 | 13. 5 | 12.5 | 10. 4 | 8.3 | 8.3 | 8 |
| 16 | 104. 5 | 8.4 | 14.6 | 14.6 | 13.6 | 12.5 | 10.5 | 8.4 | 8.4 | 8 |
| 17 | 104. 8 | 8.4 | 14.7 | 14. 7 | 13.6 | 12.6 | 10.5 | 8.4 | 8.4 | 8 |
| 18 | 105. 2 | 8.4 | 14.7 | 14. 7 | 13. 7 | 12.6 | 10.5 | 8.4 | 8.4 | 8 |
| 19 | 105.6 | 8.5 | 14.8 | 14.8 | 13. 7 | 12.7 | 10.6 | 8.5 | 8.5 | 8 |
| 20 | 105.9 | 8.5 | 14.8 | 14.8 | 13.8 | 12.7 | 10.6 | 8.5 | 8.5 | 8 |
| 21 | 106.3 | 8.5 | 14.9 | 14.9 | 13.8 | 12.8 | 10.6 | 8.5 | 8.5 | 8 |
| 22 | 106.6 | 8.5 | 14.9 | 14.9 | 13.9 | 12.8 | 10.7 | 8.5 | 8.5 | |
| 23 | 107.0 | 8.6 | 15.0 | 15.0 | 13. 9 | 12.8 | 10.7 | 8.6 | 8.6 | |
| 24 | 107.4 | 8.6 | 15.0 | 15.0 | 14.0 | 12.9 | 10. 7 10. 8 | 8.6 8.6 | 8.6 8.6 | |
| 25 26 | 107.7 | 8.6 8.7 | 15. 1 15. 1 | 15. 1 15. 1 | 14.0 14.1 | 12. 9 13. 0 | 10. 8 | 8.7 | 8. 0 8. 7 | |
| 26 27 | 108. 1 | 8.7 | 15. 1 15. 2 | 15. 1 | 14.1 | 13. 0 | 10. 8 | 8.7 | 8. 7 | |
| 27 | 108.5 | 8.7 | 15. 2 15. 2 | 15. 2 | 14.1 | 13. 0 | 10.9 | 8.7 | 8.7 | 8 |
| 28 29 | 109. 2 | 8.7 | 15. 2 15. 3 | 15. 2 | 14.2 | 13. 1 | 10. 9 | 8.7 | 8.7 | 8 |
| 30 | 109. 2 | 8.8 | 15. 3 | 15. 3 | 14.2 | 13. 2 | 11. 0 | 8.8 | 8.8 | 8 |
| 31 | 109.9 | 8.8 | 15. 4 | 15. 4 | 14.3 | 13. 2 | 11.0 | 8.8 | 8.8 | 8 |
| 32 | 110. 3 | 8.8 | 15. 4 | 15. 4 | 14.3 | 13. 2 | 11.0 | 8.8 | 8.8 | 8 |
| 33 | 110. 6 | 8.9 | 15. 5 | 15. 5 | 14.4 | 13. 3 | 11. 1 | 8.9 | 8.9 | 8 |
| 34 | 111.0 | 8.9 | 15. 5 | 15. 5 | 14.4 | 13. 3 | 11. 1 | 8.9 | 8.9 | 8 |
| 35 | 111. 3 | 8.9 | 15. 6 | 15. 6 | 14.5 | 13. 4 | 11. 1 | 8.9 | 8.9 | 8 |
| 36 | 111.7 | 8.9 | 15. 6 | 15. 6 | 14.5 | 13. 4 | 11. 2 | 8.9 | 8.9 | 8 |
| 37 | 112. 1 | 9.0 | 15. 7 | 15. 7 | 14.6 | 13.5 | 11. 2 | 9.0 | 9.0 | g |
| 38 | 112.4 | 9.0 | 15. 7 | 15.7 | 14.6 | 13. 5 | 11. 2 | 9.0 | 9.0 | 9 |
| 39 | 112.8 | 9.0 | 15.8 | 15.8 | 14.7 | 13.5 | 11.3 | 9.0 | 9. 0 | 9 |
| 40 | 113. 2 | 9.1 | 15.9 | 15.9 | 14.7 | 13.6 | 11.3 | 9.1 | 9.1 | 9 |

 Table 2-13.
 Weighted Temperature (Percent), Zone 5—Continued

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

| | one erature | | | | Line-Zone | No. | | | |
|--------------|----------------|----------------|--------------|--------------------|-----------|-------|-------|-------|-------|
| °C | % | 66 | 76 | 86 | 96 | 06 | 16 | 26 | 36-56 |
| - 60 | 78.4 | 9.4 | 14. 9 | 15.7 | 14. 9 | 13. 3 | 11. 8 | 11. 0 | 12. 5 |
| - 59 | 78.8 | 9. 5 | 15.0 | 15.8 | 15.0 | 13.4 | 11.8 | 11.0 | 12.6 |
| - 58 | 79.1 | 9. 5 | 15.0 | 15.8 | 15. 0 | 13. 5 | 11. 9 | 11.1 | 12.7 |
| - 57 | 79. 5 | 9. 5 | 15.1 | 15.9 | 15.1 | 13. 5 | 11. 9 | 11.1 | 12.7 |
| - 56 | 79.9 | 9.6 | 15.2 | 16.0 | 15. 2 | 13.6 | 12.0 | 11. 2 | 12.8 |
| - 55 | 80. 3 | 9.6 | 15.3 | 16.1 | 15.3 | 13.6 | 12. 0 | 11. 2 | 12.8 |
| 54 | 80.6 | 9.7 | 15.3 | 16.1 | 15.3 | 13.7 | 12.1 | 11.3 | 12.9 |
| - 53 | 81.0 | 9. 7 | 15. 4 | 16. 2 | 15.4 | 13.8 | 12. 2 | 11.3 | 13.0 |
| - 52 | 81.4 | 9.8 | 15.5 | 16.3 | 15.5 | 13. 8 | 12.2 | 11.4 | 13.0 |
| - 51 | 81. 7 | 9.8 | 15. 5 | 16.3 | 15. 5 | 13. 9 | 12.3 | 11.4 | 13.1 |
| 50 | 82.1 | 9.9 | 15.6 | 16.4 | 15.6 | 14.0 | 12.3 | 11.5 | 13.1 |
| - 49 | 82. 5 | 9. 9 | 15. 7 | 16. 5 | 15.7 | 14.0 | 12.4 | 11. 5 | 13. 2 |
| - 48 | 82. 8 | 9.9 | 15.7 | 16.6 | 15.7 | 14.1 | 12.4 | 11.6 | 13. 3 |
| -47 | 83. 2 | 10. 0 | 15.8 | 16.6 | 15.8 | 14.1 | 12. 5 | 11.6 | 13. 3 |
| -46 | 83. 6 | 10. 0 | 15.9 | 16.7 | 15. 9 | 14.2 | 12.5 | 11.7 | 13.4 |
| -45 | 83. 9 | 10. 1 | 15.9 | 16.8 | 15.9 | 14.3 | 12.6 | 11.8 | 13.4 |
| - 44 | 84. 3 | 10. 1 | 16. 0 | 16.9 | 16.0 | 14.3 | 12.6 | 11. 8 | 13. 5 |
| -43 | 84. 7 | 10. 2 | 16.1 | 16. 9 | 16.1 | 14.4 | 12.7 | 11.9 | 13. 5 |
| - 42 | 85. 0 | 10. 2 | 16.2 | 17.0 | 16.2 | 14.5 | 12.8 | 11.9 | 13.6 |
| 41 | 85.4 | 10. 3 | 16. 2 | 17.1 | 16.2 | 14.5 | 12.8 | 12.0 | 13. 7 |
| - 40 | 85. 8 | 10. 3 | 16.3 | 17. 2 | 16.3 | 14.6 | 12.9 | 12. 0 | 13. 7 |
| - 39 | 86. 1 | 10. 3 | 16.4 | 17. 2 | 16.4 | 14.6 | 12.9 | 12.1 | 13.8 |
| - 38 | 86. 5 | 10.4 | 16.4 | 17.3 | 16.4 | 14.7 | 13. 0 | 12.1 | 13. 8 |
| -37 | 86.9 | 10. 4 | 16.5 | 17.4 | 16.5 | 14.8 | 13. 0 | 12. 2 | 13. 9 |
| - 36 | 87.2 | 10.5 | 16.6 | 17.5 | 16.6 | 14. 8 | 13.1 | 12. 2 | 14. 0 |
| -35 | 87.6 | 10. 5 | 16.6 | 17.5 | 16.6 | 14.9 | 13. 1 | 12.3 | 14. 0 |
| -34 | 88.0 | 10.6 | 16.7 | 17.6 | 16. 7 | 15. 0 | 13. 2 | 12.3 | 14.1 |
| -33 | 88.3 | 10. 6 | 16.8 | 17.7 | 16.8 | 15. 0 | 13. 3 | 12.4 | 14. 1 |
| - 32 | 88.7 | 10.6 | 16.9 | 17.7 | 16.9 | 15.1 | 13. 3 | 12.4 | 14.2 |
| -31 | 89.1 | 10. 7 | 16. 9 | 17.8 | 16. 9 | 15.1 | 13. 4 | 12.5 | 14.3 |
| - 30 | 89. 4 | 10. 7 | 17.0 | 17.9 | 17.0 | 15.2 | 13. 4 | 12.5 | 14. 3 |
| -29 | 89. 8 | 10.8 | 17.1 | 18.0 | 17. 1 | 15.3 | 13. 5 | 12.6 | 14. 4 |
| -28 | 90. 2 | 10.8 | 17.1 | 18.0 | 17.1 | 15.3 | 13. 5 | 12.6 | 14.4 |
| -27 | 90. 5 | 10.9 | 17.2 | 18.1 | 17.2 | 15.4 | 13. 6 | 12. 7 | 14.5 |
| -26 | 90. 9 | 10. 9 | 17.3 | 18.2 | 17.3 | 15.5 | 13.6 | 12.7 | 14.6 |
| -25 | 91.3 | 11.0 | 17.3 | 18.3 | 17.3 | 15.5 | 13.7 | 12.8 | 14.6 |
| $-24 \\ -23$ | 91. 7 | 11.0 | 17.4 | 18.3 | 17.4 | 15.6 | 13.8 | 12.8 | 14.7 |
| -23 -22 | 92. 0 | 11.0 | 17.5 | 18.4 | 17.5 | 15.6 | 13.8 | 12.9 | 14.7 |
| -22 -21 | 92. 4 92. 8 | 11. 1 | 17.6 | 18.5 | 17.6 | 15.7 | 13.9 | 12.9 | 14.8 |
| -21 -20 | | 11.1 | 17.6 | 18.6 | 17.6 | 15.8 | 13.9 | 13.0 | 14.8 |
| -19 | 93. 1 93. 5 | 11.2 | 17.7 | 18.6 | 17.7 | 15.8 | 14.0 | 13.0 | 14.9 |
| -19 | 93. 9 | 11. 2 | 17.8 | 18.7 | 17.8 | 15.9 | 14.0 | 13.1 | 15.0 |
| -17 | 93. 9 | 11.3 | 17.8 | 18.8 | 17.8 | 16.0 | 14.1 | 13.1 | 15.0 |
| -16 | 94. 6 | 11.3 | 17.9 | 18.8 | 17.9 | 16.0 | 14.1 | 13.2 | 15.1 |
| -10 -15 | 95.0 | 11.4 | 18.0 | 18.9 | 18.0 | 16.1 | 14.2 | 13.2 | 15.1 |
| -13 -14 | 95. 0 95. 3 | 11.4 | 18.0 | 19.0 | 18.0 | 16.1 | 14.2 | 13.3 | 15.2 |
| -14 -13 | 95. 3 | 11.4 | 18.1 18.2 | 19.1 | 18.1 | 16.2 | 14.3 | 13.3 | 15.3 |
| -13 -12 | 95. 7 | 11.5 | | 19.1 | 18.2 | 16.3 | 14.4 | 13.4 | 15.3 |
| -11 | 96. 1 96. 4 | 11.5 | 18.3 | 19.2 | 18.3 | 16. 3 | 14.4 | 13.5 | 15.4 |
| -10 | 96. 4 96. 8 | 11. 6 11. 6 | 18.3 18.4 | 19.3 | 18.3 | 16.4 | 14.5 | 13.5 | 15.4 |
| -9 | 90. 8 | | | 19.4 | 18.4 | 16.5 | 14.5 | 13.6 | 15.5 |
| | 31.2 | 11.7 | 18.5 | 19. 4 [†] | 18.5 | 16. 5 | 14.6 | 13.6 | 15.6 |

Table 2–13. Weighted Temperature (Percent), Zone 6

| | one erature | | | | Line-Zone | No. | | | |
|----------|----------------|--------------|----------------|--------------------------------|----------------|--------------|--------------|--------------|----------------|
| °C | % | 66 | 76 | 86 | 96 | 06 | 16 | 26 | 36-56 |
| -8 | 97. 5 | 11. 7 | 18. 5 | 19. 5 | 18. 5 | 16. 6 | 14.6 | 13. 7 | 15.6 |
| -7 | 97. 9 | 11.8 | 18.6 | 19.6 | 18.6 | 16. 6 | 14. 7 | 13. 7 | 15.7 |
| -6 | 98. 3 | 11.8 | 18.7 | 19.7 | 18.7 | 16. 7 | 14.7 | 13. 8 | 15.7 |
| -5 | 98.6 | 11. 8 | 18.7 | 19. 7 | 18.7 | 16.8 | 14.8 | 13. 8 | 15.8 |
| -4 | 99. 0 | 11. 9 | 18.8 | 19.8 | 18.8 | 16.8 | 14.9 | 13. 9 | 15.8 |
| -3 | 99.4 | 11. 9 | 18. 9 | 19. 9 | 18. 9 | 16. 9 | 14. 9 | 13. 9 | 15. 9 |
| -2 | 99. 7 | 12.0 | 19. 0 | 20.0 | 19. 0 | 17.0 | 15.0 | 14.0 | 16. 0 |
| -1 | 100. 1 | 12.0 | 19. 0 | 20. 0 | 19. 0 | 17.0 | 15.0 | 14.0 | 16. O |
| 0 | 100. 5 | 12.1 | 19. 1 | 20.1 | 19. 1 | 17.1 | 15.1 | 14.1 | 16. 1 |
| 1 | 100. 8 | 12.1 | 19. 2 | 20. 2 | 19. 2 | 17.1 | 15.1 | 14.1 | 16. 1 |
| 2 | 101. 2 | 12.1 | 19. 2 | 20. 2 | 19. 2 | 17. 2 | 15. 2 | 14.2 | 16. 2 |
| 3 | 101. 6 | 12. 2 | 19. 3 | 20.3 | 19. 3 | 17.3 | 15. 2 | 14.2 | 16. 3 |
| 4 | 101. 9 | 12. 2 | 19.4 | 20.4 | 19.4 | 17.3 | 15.3 | 14.3 | 16. 3 |
| 5 | 102.3 | 12.3 | 19.4 | 20.5 | 19.4 | 17.4 | 15.4 | 14.3 | 16.4 |
| 6 | 102.7 | 12.3 | 19.5 | 20.5 | 19.5 | 17.5 | 15.4 | 14.4 | 16.4 |
| 7 | 103. 1 | 12.4 | 19.6 | 20.6 | 19. 6 | 17. 5 | 15. 5 | 14.4 | 16. 5 |
| 8 | 103. 4 | 12.4 | 19. 7 | 20. 7 | 19. 7 | 17.6 | 15. 5 | 14. 5 | 16.6 |
| 9 | 103. 8 | 12.5 | 19. 7 | 20.8 | 19. 7 | 17.6 | 15.6 | 14.5 | 16.6 |
| 10 | 104. 2 | 12.5 | 19. 8 | 20. 8 | 19. 8 | 17. 7 | 15.6 | 14.6 | 16. 7 |
| 11 | 104.5 | 12. 5 | 19. 9 | 20.9 | 19. 9 | 17. 8 | 15.7 | 14.6 | 16.7 |
| 12 | 104.9 | 12.6 | 19. 9 | 21.0 | 19. 9 | 17. 8 | 15.7 | 14. 7 | 16.8 |
| 13 | 105.3 | 12.6 | 20. 0 | 21. 1 | 20. 0 | 17. 9 | 15.8 | 14.7 | 16.8 |
| 14 | 105. 6 | 12. 7 | 20. 1 | 21.1 | 20.1 | 18.0 | 15. 8 j | 14.8 | 16. 9 |
| 15 | 106. 0 | 12.7 | 20. 1 | 21. 2 | 20. 1 | 18.0 | 15.9 | 14.8 | 17.0 |
| 16 | 106. 4 | 12.8 | 20. 2 | 21. 3 | 20. 2 | 18. 1 | 16. 0 | 14.9 | 17.0 |
| 17 | 106. 7 | 12.8 | 20. 3 | 21.4 | 20.3 | 18. 1 | 16. 0 | 14.9 | 17.1 |
| 18 | 107. 1 | 12.9 | 20. 4 | 21. 4 | 20. 4 | 18.2 | 16. 1 | 15.0 | 17. 1 17. 2 |
| 19 | 107.5 | 12.9 | 20. 4 | 21.5 | 20. 4 | 18.3 | 16.1 | 15.0 | 17. 2 |
| 20 | 107.8 | 12.9 | 20. 5 | 21.6 | 20. 5 | 18.3 | 16.2 | 15.1 15.2 | 17.3 |
| 21 | 108.2 | 13.0 | 20.6 | 21.6 | 20.6 | 18.4 18.5 | 16.2 16.3 | 15. 2 | 17. 4 |
| 22 23 | 108.6 | 13.0 | 20.6 | 21.7 | 20. 6 20. 7 | 18.5 | 16.3 | 15.3 | 17. 4 |
| 23 | 108.9 109.3 | 13.1 13.1 | 20. 7 20. 8 | 21.8 21.9 | 20. 8 | 18.6 | 16. 4 | 15.3 | 17. 5 |
| 23 | 109. 7 | 13. 2 | 20.8 | 21 . 9 21 . 9 | 20.8 | 18.6 | 16. 5 | 15.4 | 17.6 |
| 26 | 110.0 | 13. 2 | 20. 8 | 22. 0 | 20. 9 | 18.7 | 16.5 | 15.4 | 17.6 |
| 27 | 110.4 | 13. 3 | 20. 9 | 22.1 | 21.0 | 18.8 | 16.6 | 15.5 | 17.7 |
| 28 | 110. 8 | 13. 3 | 21. 1 | 22.2 | 21. 0 | 18.8 | 16.6 | 15.5 | 17.7 |
| 29 | 111. 1 | 13. 3 | 21. 1 | 22. 2 | 21. 1 | 18.9 | 16.7 | 15.6 | 17.8 |
| 30 | 111. 5 | 13. 4 | 21. 2 | 22.3 | 21. 2 | 19.0 | 16. 7 | 15.6 | 17.8 |
| 31 | 111. 9 | 13. 4 | 21.3 | 22. 4 | 21.3 | 19. 0 | 16.8 | 15. 7 | 17. 9 |
| 32 | 112.2 | 13.5 | 21.3 | 22.5 | 21. 3 | 19. 1 | 16.8 | 15. 7 | 18.0 |
| 33 | 112.6 | 13. 5 | 21.4 | 22.5 | 21. 4 | 19. 1 | 16. 9 | 15. 8 | 18.0 |
| 34 | 113.0 | 13.6 | 21.5 | 22.6 | 21. 5 | 19. 2 | 17.0 | 15. 8 | 18.1 |
| 35 | 113.4 | 13.6 | 21.5 | 22.7 | 21.5 | 19.3 | 17.0 | 15.9 | 18.1 |
| 36 | 113. 7 | 13. 6 | 21.6 | 22.7 | 21.6 | 19. 3 | 17.1 | 15.9 | 18.2 |
| 37 | 114.1 | 13. 7 | 21. 7 | 22.8 | 21. 7 | 19.4 | 17.1 | 16. 0 | 18.3 |
| 38 | 114.5 | 13. 7 | 21.8 | 22.9 | 21.8 | 19. 5 | 17. 2 | 16. 0 | 18.3 |
| 39 | 114.8 | 13. 8 | 21.8 | 23. 0 | 21.8 | 19. 5 | 17. 2 | 16. 1 | 18.4 |
| 40 | 115. 2 | 13: 8 | 21.9 | 23 . 0 | 21. 9 | 19.6 | 17.3 | 16.1 | 18.4 |

Table 2–13. Weighted Temperature (Percent), Zone 6-Continued

| Zon Tempera | | | | Line- | Zone No. | | | |
|----------------|--------------|------|-------|-------|----------|-------|-------|-------|
| °C | 9% | 77 | 87 | 97 | 07 | 17 | 27 | 37-57 |
| - 60 | 80. 3 | 5.6 | 9.6 | 12. 1 | 11. 2 | 10. 4 | 10. 4 | 9. |
| - 59 | 80. 7 | 5.7 | 9. 7 | 12.1 | 11.3 | 10. 5 | 10.5 | 9. |
| - 58 | 81.1 | 5.7 | 9.7 | 12.2 | 11.4 | 10. 5 | 10. 5 | 9. |
| - 57 | 81. 4 | 3.7 | 9.8 | 12. 2 | 11. 4 | 10. 6 | 10.6 | 9. : |
| - 56 | 81. 8 | 5. 7 | 9.8 | 12.3 | 11. 5 | 10. 6 | 10. 6 | 9. |
| - 55 | 82. 2 | 5.8 | 9. 9 | 12.3 | 11. 5 | 10. 7 | 10. 7 | 9. |
| - 54 | 82.6 | 5.8 | 9.9 | 12.4 | 11.6 | 10. 7 | 10. 7 | 9. |
| - 53 | 82. 9 | 5.8 | 10. 0 | 12.4 | 11.6 | 10. 8 | 10.8 | 10. |
| - 52 | 83. 3 | 5.8 | 10. 0 | 12.5 | 11.7 | 10. 8 | 10.8 | 10. |
| -51 | 83. 7 | 5.9 | 10. 0 | 12.6 | 11. 7 | 10. 9 | 10. 9 | 10. |
| - 50 | 84. 1 | 5. 9 | 10. 1 | 12.6 | 11.8 | 10. 9 | 10. 9 | 10. |
| - 49 | 84. 4 | 5.9 | 10. 1 | 12.7 | 11.8 | 11.0 | 11.0 | 10. |
| -48 | 84.8 | 5. 9 | 10. 2 | 12.7 | 11. 9 | 11.0 | 11.0 | 10. |
| -47 | 85. 2 | 6.0 | 10. 2 | 12.8 | 11, 9 | 11, 1 | 11. 1 | 10. |
| - 46 | 85.6 | 6.0 | 10. 3 | 12.8 | 12.0 | 11. 1 | 11. 1 | 10. |
| - 45 | 86. 0 | 6. 0 | 10.3 | 12.9 | 12. 0 | 11. 2 | 11. 2 | 10. |
| -44 | 86.3 | 6.0 | 10. 4 | 13.0 | 12.1 | 11. 2 | 11. 2 | 10. |
| -43 | 86. 7 | 6. 1 | 10. 4 | 13. 0 | 12.1 | 11.3 | 11. 3 | 10. |
| - 42 | 87.1 | 6.1 | 10. 5 | 13. 1 | 12. 2 | 11.3 | 11.3 | 10. |
| -41 | 87.5 | 6.1 | 10.5 | 13. 1 | 12.3 | 11.4 | 11.4 | 10. |
| - 40 | 87. 8 | 6. 2 | 10. 5 | 13. 2 | 12.3 | 11.4 | 11. 4 | 10, |
| 39 | 88. 2 | 6. 2 | 10. 6 | 13. 2 | 12.4 | 11.5 | 11. 5 | 10. |
| -38 | 88.6 | 6. 2 | 10. 6 | 13.3 | 12.4 | 11.5 | 11.5 | 10. |
| -37 | 89.0 | 6. 2 | 10. 7 | 13. 4 | 12.5 | 11.6 | 11.6 | 10. |
| - 36 | 89. 3 | 6.3 | 10. 7 | 13. 4 | 12.5 | 11.6 | 11.6 | 10. |
| - 35 | 89.7 | 6.3 | 10. 8 | 13. 5 | 12.6 | 11. 7 | 11.7 | 10. |
| -34 | 90.1 | 6.3 | 10. 8 | 13. 5 | 12.6 | 11.7 | 11. 7 | 10. |
| - 33 | 90. 5 | 6.3 | 10. 9 | 13.6 | 12.7 | 11.8 | 11.8 | 10. |
| -32 | 90. 8 | 6.4 | 10. 9 | 13. 6 | 12.7 | 11. 8 | 11.8 | 10. |
| -31 | 91. 2 | 6.4 | 11.0 | 13. 7 | 12.8 | 11. 9 | 11.9 | 11. |
| - 30 | 91. 6 | 6.4 | 11. 0 | 13. 7 | 12.8 | 11.9 | 11. 9 | 11. |
| -29 | 92. 0 | 6.4 | 11.0 | 13.8 | 12.9 | 12.0 | 12.0 | 11. |
| -28 | 92. ± | 6.5 | 11, 1 | 13. 9 | 12.9 | 12.0 | 12.0 | 11. |
| -27 | 92. 7 | 6. 5 | 11, 1 | 13.9 | 13. 0 | 12. 1 | 12.1 | 11. |
| -26 | 93.1 | 6.5 | 11. 2 | 14.0 | 13. 0 | 12.1 | 12.1 | 11. |
| -25 | 935 | 6.5 | 11. 2 | 14.0 | 13. 1 | 12. 2 | 12. 2 | 11. |
| -24 | 93. 9 | 6.6 | 11. 3 | 14.1 | 13. 1 | 12.2 | 12.2 | 11, |
| - 23 | 94. 2 | 6.6 | 11.3 | 14.1 | 13. 2 | 12. 3 | 12.3 | 11. |
| -22 | 94.6 | 6. 6 | 11.4 | 14.2 | 13. 3 | 12.3 | 12.3 | 11. |
| -21 | 95. 0 | 6.7 | 11. 4 | 14.3 | 13. 3 | 12.4 | 12.4 | 11. |
| -20 | 95. 4 | 6. 7 | 11. 5 | 14.3 | 13. 4 | 12.4 | 12.4 | 11, |
| -19 | 95, 7 | 6. 7 | 11. 5 | 14.4 | 13.4 | 12.5 | 12.5 | 11. |
| -18 | 96. 1 | 6. 7 | 11. 5 | 14.4 | 13. 5 | 12. 5 | 12.5 | 11. |
| -17 | 96. 5 | 6.8 | 11. 6 | 14.5 | 13. 5 | 12.6 | 12. 6 | 11. |
| -16 | 96. 9 | 6. 8 | 11. 6 | 14.5 | 13. 6 | 12. 6 | 12. 6 | 11. |
| -15 | 97. 3 | 6. 8 | 11. 7 | 14.6 | 13.6 | 12.7 | 12. 7 | 11. |
| -14 | 97.6 | 6. 8 | 11. 7 | 14.7 | 13. 7 | 12. 7 | 12. 7 | 11. |
| -13 | 98. 0 | 6. 9 | 11. 8 | 14.7 | 13. 7 | 12. 7 | 12. 7 | 11. |
| -12 | 98. 4 | 6. 9 | 11. 8 | 14.8 | 13. 8 | 12. 8 | 12.8 | 11. |
| -11 | 98. 8 | 6. 9 | 11. 9 | 14.8 | 13. 8 | 12.8 | 12.8 | 11. |
| -10 | 99.1 | 6. 9 | 11. 9 | 14.9 | 13. 9 | 12.9 | 12.9 | 11. |

Table 2–13. Weighted Temperature (Percent), Zone 7

ŧ.

| Zone Tempers | | | | Line- | Zone No. | | | |
|-----------------|------------------|------------|----------------|----------------|--------------|--------------|--------------|----------------|
| °C | % | 77 | 87 | 97 | 07 | 17 | 27 | 37-57 |
| -9 | 99. 5 | 7.0 | 11. 9 | 14.9 | 13. 9 | 12. 9 | 12, 9 | 11. 9 |
| -8 | 99. 9 | 7.0 | 12.0 | 15.0 | 14.0 | 13. 0 | 13. 0 | 12. 0 |
| -7 | 100. 3 | 7.0 | 12. 0 | 15. 0 | 14.0 | 13. 0 | 13. 0 | 12. 0 |
| -6 | 100.6 | 7.0 | 12.1 | 15. 1 | 14.1 | 13. 1 | 13. 1 | 12.1 |
| -5 | 101. 0 | 7.1 | 12. 1 | 15. 2 | 14.2 | 13. 1 | 13. 1 | 12. 1 |
| -4 | 101. 4 | 7.1 | 12. 2 | 15. 2 | 14.2 | 13. 2 | 13. 2 | 12. 2 |
| -3 | 101. 8 | 7.1 | 12. 2 | 15.3 | 14.3 | 13. 2 | 13. 2 | 12. 2 |
| -2 | 102.1 | 7. 2 | 12.3 | 15. 3 | 14.3 | 13. 3 | 13. 3 | 12. 3 |
| -1 | 102. 5 | 7. 2 | 12.3 | 15.4 | 14.4 | 13. 3 | 13. 3 | 12. 3 |
| 0 | 102. 9 | 7.2 | 12. 4 | 15.4 | 14.4 | 13.4 | 13. 4 | 12.4 |
| 1 | 103. 3 | 7.2 | 12.4 | 15. 5 | 14.5 | 13. 4 | 13. 4 | 12.4 |
| 2 | 103. 7 | 7.3 | 12.4 | 15.6 | 14.5 | 13. 5 | 13. 5 | 12. 4 |
| 3 | 104.0 | 7.3 | 12.5 | 15.6 | 14.6 | 13. 5 | 13. 5 | 12.5 |
| 4 | 104.4 | 7.3 | 12. 5 | 15.7 | 14.6 | 13. 6 | 13. 6 | 12. 5 |
| 5 | 104.8 | 7.3 | 12.6 | 15. 7 | 14.7 | 13. 6 | 13. 6 | 12.6 |
| 6 (| 105. 2 | 7.4 | 12.6 | 15. 8 | 14.7 | 13. 7 | 13. 7 | 12.6 |
| 7 | 105. 5 | 7.4 | 12. 7 | 15. 8 | 14.8 | 13. 7 | 13. 7 | 12.7 |
| 8 | 105. 9 | 7.4 | 12.7 | 15.9 | 14.8 | 13. 8 | 13. 8 | 12.7 |
| 9 | 106. 3 | 7.4 | 12. 8 | 16.0 | 14.9 | 13. 8 | 13.8 | 12. 8 |
| 10 | 106. 7 | 7.5 | 12.8 | 16. 0 | 14.9 | 13. 9 | 13. 9 | 12. 8 |
| 11 | 107. 0 | 7. 3 | 12.9 | 16. 1 | 15.0 | 13. 9 | 13. 9 | 12. 9 |
| 12 - | 107.4 | 7.5 | 12. 9 | 16. 1 | 15.0 | 14.0 | 14.0 | 12. 9 |
| 13 | 107. 8 | 7.6 | 12.9 | 16. 2 | 15.1 | 14.0 | 14.0 | 12. 9 |
| 14 | 108. 2 | 7.6 | 13. 0 | 16. 2 | 13. 2 | 14.1 | 14.1 | 13. 0 |
| 15 | 108. 5 | 7.6 | 13. 0 | 16. 3 | 15. 2 | 14.1 | 14.1 | 13. 0 |
| 16 | 108. 9 | 7.6 | 13. 1 | 16. 3 | 15.3 | 14.2 | 14.2 | 13. 1 |
| 17 | 109. 3 | 7. 7 | 13. 1 | 16. 4 | 15.3 | 14.2 | 14.2 | 13. 1 |
| 18 | 109. 7 | 7.7 | 13. 2 | 16.5 | 15.4 | 14.3 | 14.3 | 13. 2 |
| 19 | 110. 1 | 7.7 | 13. 2 | 16.5 | 15.4 | 14.3 | 14.3 | 13. 2 |
| 20 | 110. 4 | 7. 7 | 13. 3 | 16. 6 | 15.5 | 14.4 | 14.4 | 13.3 |
| 21 | 110.8 | 7.8 | 13. 3 | 16. 6 | 15.5 | 14.4 | 14.4 | 13.3 |
| 22 | 111. 2 | 7.8 | 13. 4 | 16. 7 | 13.6 | 14.5 | 14.5 | 13. 4 |
| 23 | 111. 6 | 7.8 | 13. 4 | 16.7 | 15.6 | 14.5 | 14.5 | 13. 4 |
| 24 | 111.9 | 7.8 | 13.4 | 16.8 | 15.7 | 14.6 | 14.6 | 13.4 |
| 25 | 112.3 | 7.9 | 13. 5 | 16.9 | 13.7 | 14.6 | 14.6 14.7 | 13. 5 13. 5 |
| 26 | 112.7 | 7.9 | 13.5 | 16.9 | 15.8 | 14.7 | 14.7 | 13. 5 |
| 27 | 113.1 | 7.9 | 13.6 | 17.0 | 15.8 | 14.7 | | 13. 6 |
| 28 | 113. 4 | 7.9 | 13.6 | 17.0 | 15.9 | 14.8 14.8 | 14.8 14.8 | 13. 0 |
| 29 | 113.8 | 8.0 | 13. 7 13. 7 | 17.1 | 15.9 16.0 | 14.9 | 14.9 | 13.7 |
| 30 | 114.2 | 8.0 | | 17. 1 17. 2 | 16. 1 | 14.9 | 14.9 | 13. 8 |
| 31 | 114.6 | . 8.0 | 13.8 13.8 | 17. 2 | 16. 1 | 15.0 | 15.0 | 13. 8 |
| 32 | 115.0 115.3 | 8.1 8.1 | 13. 8 | 17.3 | 16. 2 | 15.0 | 15.0 | 13. 8 |
| 33 | | | 13. 8 | 17. 3 | 16. 1 | 15.0 | 15.0 | 13.8 |
| 34 35 | 115.7 | 8.1 8.1 | 13. 9 | 17.4 | 16.3 | 15. 1 | 15. 1 | 13.9 |
| 36 | 116. 1 116. 5 | 8.2 | 14.0 | 17.5 | 16. 3 | 15.1 | 15. 1 | 14.0 |
| 37 | 116. 8 | 8.2 | 14.0 | 17.5 | 16. 4 | 15. 2 | 15. 2 | 14.0 |
| 38 | 117. 2 | 8.2 | 14.1 | 17.6 | 16. 4 | 15. 2 | 15. 2 | 14.1 |
| 39 | 117.6 | 8.2 | 14.1 | 17.6 | 16. 5 | 15. 3 | 15.3 | 14.1 |
| 40 | 118.0 | 8.3 | 14.2 | 17.7 | 16.5 | 15.3 | 15.3 | 14.2 |

Table 2-13. Weighted Temperature (Percent), Zone 7-Continued

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

| Zon Temper | e ature | | | Line-Zone | No. | | |
|---------------|--------------|--------------|------------|--------------|----------------|--------------|------------------|
| °C | % | 88 | 98 | 08 | 18 | 28 | 38-58 |
| - 60 | 82. 3 | 3. 3 | 6. 6 | 8. 2 | 9. 9 | 9. 1 | 10. 7 |
| - 59 | 82.7 | 3.3 | 6.6 | 8.3 | 9. 9 | 9.1 | 10. 8 |
| - 58 | 83. 1 | 3.3 | 6. 7 | 8.3 | 10. 0 | 9. 1 | 10.8 |
| - 57 | 83. 5 | 3.3 | 6.7 | 8.4 | 10. 0 | 9, 2 | 10. 9 |
| - 56 | 83. 9 | 3.4 | 6.7 | 8.4 | 10. 1 | 9. 2 | 10. 9 |
| - 55 | 84. 2 | 3.4 | 6.7 | 8.4 | 10. 1 | 9.3 | 11. 0 |
| -54 | 84.6 | 3.4 | 6.8 | 8. 5 | 10, 2 | 9.3 | 11. 0 |
| - 53 | 85. 0 | 3.4 | 6.8 | 8.5 | 10. 2 | 9.4 | 11. 1 |
| -52 | 85.4 | 3.4 | 6.8 | 8.5 | 10. 3 | 9.4 | 11. 1 |
| -51 | 85. 8 | 3.4 | 6. 9 | 8.6 | 10.3 | 9.4 | 11. 2 |
| - 50 | 86. 2 | 3.4 | 6. 9 | 8.6 | 10.3 | 9.5 | 11. 2 |
| -49 | 86.6 | 3.5 | 6.9 | 8.7 | 10.4 | 9.5 | 11. 3 |
| -48 | 86. 9 | 3. 5 | 7.0 | 8.7 | 10. 4 | 9.6 | 11. 3 |
| -47 | 87. 3 | 3. 5 | 7.0 | 8.7 | 10.5 | 9.6 | 11.4 |
| -46 | 87. 7 | 3. 5 | 7.0 | 8. 8 | 10.5 | 9. 7 | 11.4 |
| -45 | 88. 1 | 3.5 | 7.1 | 8.8 | 10.6 | 9. 7 | 11. 5 |
| -44 | 88. 5 | 3. 5 | 7.1 | 8. 9 | 10.6 | 9. 7 | 11.5 |
| -43 | 88. 9 | 3. 6 | 7.1 | 8. 9 | 10. 7 | 9.8 | 11.6 |
| -42 | 89. 3 | 3. 6 | 7.1 | 8, 9 | 10. 7 | 9. 8 | 11.6 |
| -41 | 89. 7 | 3. 6 | 7.2 | 9.0 | 10. 8 | 9. 9 | 11. 7 |
| -40 | 90. 0 | 3. 6 | 7.2 | 9. 0 | 10. 8 | 9.9 | 11.7 |
| - 39 | 90. 4 | 3. 6 | 7.2 | 9. 0 | 10. 9 | 10. 0 | 11, 8 |
| -38 | 90. 8 | 3.6 | 7.3 | 9.1 | 10. 9 | 10. 0 | 11.8 |
| -37 | 91. 2 | 3.7 | 7.3 | 9.1 | 11.0 | 10. 0 | 11. 9 |
| $-36 \\ -35$ | 91.6 | 3.7 | 7.3 | 9. 2 | 11.0 | 10. 1 | 11.9 |
| -34 | 92.0 | 3.7 | 7.4 | 9.2 | 11.0 | 10.1 | 12.0 |
| -34 -33 | 92.4 92.7 | 3. 7 3. 7 | 7.4 7.4 | 9. 2 | 11. 1 | 10. 2 | 12.0 |
| -32 | 93. 1 | 3. 7 | 7.5 | 9.3 9.3 | 11. 1 11. 2 | 10.2 | 12. 1 12. 1 |
| -31 | 93. 5 | 3. 7 | 7.5 | 9. 3 9. 4 | 11. 2 | 10.3 10.3 | 12. 1 12. 2 |
| -30 | 93. 9 | 3. 8 | 7.5 | 9.4 | 11. 2 | 10. 3 | 12. 2 |
| -29 | 94. 3 | 3.8 | 7.5 | 9.4 | 11. 3 | 10. 4 | 12. 2 |
| -28 | 94. 7 | 3.8 | 7.6 | 9.5 | 11. 4 | 10. 4 | 12. 3 |
| -27 | 95. 1 | 3.8 | 7.6 | 9.5 | 11. 4 | 10. 5 | 12. 3 |
| -26 | 95.4 | 3.8 | 7.6 | 9.6 | 11.5 | 10.5 | 12.4 |
| -25 | 95. 8 | 3.8 | 7. 7 | 9.6 | 11.5 | 10. 5 | 12.5 |
| -24 | 96. 2 | 3. 9 | 7.7 | 9.6 | 11.6 | 10. 6 | 12.5 |
| -23 | 96. 6 | 3. 9 | 7.7 | 9. 7 | 11.6 | 10. 6 | 12.6 |
| -22 | 97. 0 | 3.9 | 7.8 | 9. 7 | 11.6 | 10.7 | 12.6 |
| -21 | 97.4 | 3. 9 | 7.8 | 9.7 | 11. 7 | 10. 7 | 12. 7 |
| - 20 | 97. 8 | 3.9 | 7.8 | 9.8 | 11.7 | 10.8 | 12, 7 |
| -19 | 98. 1 | 3.9 | 7.9 | 9.8 | 11. 8 | 10. 8 | 12. 8 |
| -18 | 98. 5 | 3. 9 | 7.9 | 9.9 | 11.8 | 10. 8 | 12. 8 |
| -17 | 98.9 | 4.0 | 7.9 | 9. 9 | 11. 9 | 10. 9 | 12. 9 |
| -16 | 99. 3 | 4.0 | 7.9 | 9. 9 | 11. 9 | 10. 9 | 12. 9 |
| -15 | 99. 7 | 4.0 | 8.0 | 10.0 | 12.0 | 11.0 | 13.0 |
| -14 | 100.1 | 4.0 | 8.0 | 10. 0 | 12, 0 | 11.0 | 13. 0 |

Table 2–13. Weighted Temperature (Percent), Zone 8

FM 6-16-3

| Zone Tempera | | Line-Zone No. | | | | | | |
|-----------------|--------|---------------|------|-------|-------|-------|-------|--|
| °C | % | 88 | 98 | 08 | 18 | 28 | 38-58 | |
| -13 | 100. 5 | 4.0 | 8. 0 | 10. 1 | 12. 1 | 11. 1 | 13. | |
| -12 | 100. 8 | 4.0 | 8.1 | 10. 1 | 12.1 | 11.1 | 13. | |
| -11 | 101. 2 | 4.1 | 8.1 | 10. 1 | 12. 2 | 11. 1 | 13. | |
| -10 | 101. 5 | 4, 1 | 8.1 | 10. 2 | 12. 2 | 11. 2 | 13. | |
| -9 | 102. 0 | 4.1 | 8.2 | 10. 2 | 12. 2 | 11. 2 | 13. | |
| -8 | 102. 4 | 4.1 | 8. 2 | 10. 2 | 12.3 | 11. 3 | 13. | |
| -7 | 102.8 | 4.1 | 8.2 | 10. 3 | 12.3 | 11.3 | 13. | |
| -6 | 103. 2 | 4.1 | 8.3 | 10. 3 | 12.4 | 11.4 | 13. | |
| -5 | 103. 6 | 4.1 | 8.3 | 10.4 | 12.4 | 11.4 | 13. | |
| -4 | 103. 9 | 4. 2 | 8.3 | 10.4 | 12.5 | 11.4 | 13. | |
| -3 | 104. 3 | 4.2 | 8.4 | 10. 4 | 12.5 | 11. 5 | 13. | |
| -2 | 104.7 | 4.2 | 8.4 | 10, 5 | 12.6 | 11.5 | 13. | |
| -1 | 105. 1 | 4.2 | 8.4 | 10. 5 | 12.6 | 11.6 | 13. | |
| 0 | 105. 5 | 4.2 | 8.4 | 10.6 | 12. 7 | 11.6 | 13. | |
| 1 | 105. 9 | 4.2 | 8.5 | 10.6 | 12. 7 | 11.7 | 13. | |
| 2 | 106. 3 | 4.3 | 8.5 | 10.6 | 12.8 | 11.7 | 13. | |
| 3 | 106. 7 | 4.3 | 8.5 | 10. 7 | 12.8 | 11. 7 | 13. | |
| 4 | 107. 0 | 4.3 | 8.6 | 10. 7 | 12.9 | 11. 8 | 13. | |
| 5 | 107.4 | 4.3 | 8.6 | 10. 7 | 12.9 | 11.8 | 14. | |
| 6 | 107.8 | 4.3 | 8.6 | 10.8 | 12.9 | 11.9 | 14. | |
| 7 | 108. 2 | 4.3 | 8.7 | 10.8 | 13.0 | 11.9 | 14. | |
| 8 | 108.6 | 4.3 | 8.7 | 10. 9 | 13. 0 | 12.0 | 14. | |
| 9 | 109. 0 | 4.4 | 8.7 | 10. 9 | 13. 1 | 12.0 | 14. | |
| 10 | 109. 4 | 4.4 | 8.8 | 10. 9 | 13. 1 | 12.0 | 14. | |
| 11 | 109. 7 | 4.4 | 8.8 | 11.0 | 13. 2 | 12.1 | 14. | |
| 12 | 110. 1 | 4.4 | 8. 8 | 11.0 | 13.2 | 12.1 | 14. | |
| 13 | 110.5 | 4.4 | 8.8 | 11. 1 | 13.3 | 12. 2 | 14. | |
| 14 | 110. 9 | 4.4 | 8.9 | 11, 1 | 13.3 | 12.2 | 14. | |
| 15 | 111.3 | 4.5 | 8.9 | 11.1 | 13.4 | 12. 2 | 14. | |
| 16 | 111.7 | 4.5 | 8.9 | 11. 2 | 13.4 | 12.3 | 14. | |
| 17 | 112.0 | 4.5 | 9.0 | 11. 2 | 13.5 | 12.3 | 14. | |
| 18 | 112.4 | 4.5 | 9.0 | 11.3 | 13. 5 | 12.4 | 14. | |
| 19 | 112.8 | 4.5 | 9. 0 | 11.3 | 13.5 | 12.4 | 14. | |
| 20 | 113.2 | 4.5 | 9.1 | 11.3 | 13.6 | 12.5 | 14. | |
| 21 | 113.6 | 4.5 | 9.1 | 11.4 | 13.6 | 12.5 | 14. | |
| 22 | 114.0 | 4.6 | 9.1 | 11.4 | 13. 7 | 12.5 | 14. | |
| 23 | 114.4 | 4.6 | 9. 2 | 11.4 | 13. 7 | 12.6 | 14. | |
| 24 | 114.7 | 4.6 | 9.2 | 11.5 | 13. 8 | 12. 6 | 14. | |
| 25 | 115. 1 | 4.6 | 9. 2 | 11.5 | 13. 8 | 12.7 | 15. | |
| 26 | 115.5 | 4.6 | 9. 2 | 11.6 | 13. 9 | 12.7 | 15. | |
| 27 | 115.9 | 4.6 | 9.3 | 11.6 | 13. 9 | 12.8 | 15. | |
| 28 | 116. 3 | 4.7 | 9.3 | 11.6 | 14. 0 | 12.8 | 15. | |
| 29 | 116. 7 | 4.7 | 9.3 | 11. 7 | 14.0 | 12.8 | 15. | |
| 30 | 117.1 | 4.7 | 9.4 | 11.7 | 14.1 | 12.9 | 15. | |

 Table 2-13.
 Weighted Temperature (Percent), Zone 8---Continued

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

| Zone Temperature | | Line-Zone No. | | | | | | |
|---------------------|----------------|---------------|------------|------------|------------|----------------|--|--|
| °C | % | 99 | 09 | 19 | 29 | 39–59 | | |
| - 65 | 82. 5 | 2.4 | 6. 6 | 8.2 | 8.2 | 9. 1 | | |
| - 64 | 82.8 | 2.5 | 6. 6 | 8.3 | 8.3 | 9.1 | | |
| - 63 | 83. 2 | 2.5 | 6.7 | 8.3 | 8.3 | 9. 2 | | |
| - 62 | 83.6 | 2.5 | 6. 7 | 8.4 | 8.4 | 9. 2 | | |
| -61 | 84.0 | 2.5 | 6. 7 | 8.4 | 8.4 | 9. 2 | | |
| - 60 | 84.4 | 2.5 | 6.8 | 8.4 | 8.4 | 9. 3 | | |
| - 59 | 84.8 | 2.5 | 6.8 | 8.5 | 8.5 | 9.3 | | |
| - 58 | 85. 2 | 2.6 | 6.8 | 8.5 | 8.5 | 9.4 | | |
| - 57 | 85.6 | 2.6 | 6. 9 | 8.6 | 8.6 | 9.4 | | |
| - 56 | 86. 0 | 2.6 | 6. 9 | 8.6 | 8.6 | 9.5 | | |
| - 55 | 86.4 | 2.6 | 6. 9 | 8.6 | 8.6 | 9.5 | | |
| - 54 | 86. 8 | 2.6 | 6.9 | 8.7 | 8.7 | 9.6 | | |
| 53 | 87. 2 | 2.6 | 7.0 | 8.7 | 8.7 | 9.6 | | |
| - 52 | 87.6 | 2.6 | 7.0 | 8.8 | 8.8 | 9.6 | | |
| -51 | 88. 0 | 2. 6 | 7.0 | 8.8 | 8.8 | 9. 7 | | |
| - 50 | 88.4 | 2. 7 | 7.1 | 8.8 | 8.8 | 9. 7 | | |
| -49 | 88.8 | 2. 7 | 7.1 | 8.9 | 8.9 | 9. 8 | | |
| -48 | 89. 2 | 2.7 | 7.1 | 8.9 | 8.9 | 9. 8 | | |
| -47 | 89.6 | 2. 7 | 7. 2 | 9. 0 | 9.0 | 9. 9 | | |
| -46 | 90. 0 | 2.7 | 7. 2 | 9.0 | 9. 0 | 9. 9 | | |
| -45 | 90. 4 | 2.7 | 7. 2 | 9.0 | 9.0 | 9. 9 | | |
| -44 | 90. 8 | 2.7 | 7.3 | 9. 1 | 9.1 | 10. 0 | | |
| - 43 - 42 | 91. 2 | 2.7 | 7.3 | 9.1 | 9.1 | 10. 0 | | |
| | 91. 6 | 2.7 | 7.3 | 9. 2 | 9. 2 | 10. 1 | | |
| -41 - 40 | 92. 0 92. 4 | 2.8 2.8 | 7.4 | 9.2 | 9. 2 | 10. 1 | | |
| - 39 | 92. 8 | 2.8 | 7.4 | 9. 2 | 9. 2 | 10. 2 | | |
| - 39 | 93. 1 | 2.8 | 7.4 | 9.3 | 9.3 | 10. 2 | | |
| -37 | 93.5 | 2.8 | 7.5 | 9.3 | 9.3 | 10, 3 | | |
| -36 | 93. 9 | 2.8 | 7.5 7.5 | 9.4 9.4 | 9.4 9.4 | 10.3 | | |
| -35 | 94.3 | 2.8 | 7.6 | 9.4 | 9.4 | 10. 3 10. 4 | | |
| -34 | 94.7 | 2.8 | 7.6 | 9.5 | 9.5 | 10. 4 | | |
| -33 | 95.1 | 2.9 | 7.6 | 9.5 | 9.5 | 10. 4 | | |
| -32 | 95. 5 | 2.9 | 7.6 | 9.6 | 9.6 | 10. 5 | | |
| -31 | 95. 9 | 2.9 | 7.7 | 9.6 | 9.6 | 10. 6 | | |
| -30 | 96. 3 | 2.9 | 7.7 | 9.6 | 9.6 | 10. 6 | | |
| -29 | 96. 7 | 2.9 | 7. 7 | 9. 7 | 9.7 | 10. 6 | | |
| - 28 | 97. 1 | 2.9 | 7.8 | 9.7 | 9.7 | 10. 7 | | |
| -27 | 97. 5 | 2.9 | 7.8 | 9.8 | 9.8 | 10. 7 | | |
| - 26 | 97. 9 | 2.9 | 7.8 | 9.8 | 9.8 | 10. 8 | | |
| -25 | 98. 3 | 3. 0 | 7.9 | 9.8 | 9.8 | 10. 8 | | |
| -24 | 98.7 | 3. 0 | 7.9 | 9.9 | 9.9 | 10, 9 | | |
| -23 | 99. 1 | 3.0 | 7.9 | 9. 9 | 9. 9 | 10. 9 | | |
| -22 | 99.5 | 3.0 | 8.0 İ | 10.0 | 10. 0 | 11. 0 | | |

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Table 2–13. Weighted Temperature (Percent), Zone 9

Enter table with zone temperature to the nearest one-tenth of a degree. Obtain zone temperature and weighted temperature to the nearest tenth of a percent. Interpolate as necessary.

2 - 1 3 5

| Zone Temperature | | Line-Zone No. | | | | | | |
|---------------------|--------|---------------|------------|-------|----------------|----------|--|--|
| °C | % | 99 | 09 | 19 | 29 | 39-59 | | |
| -21 | 99. 9 | 3.0 | 8.0 | 10. 0 | 10. 0 | 11. | | |
| - 20 | 100. 3 | 3. 0 | 8.0 | 10. 0 | 10. 0 | 11. | | |
| -19 | 100. 7 | 3.0 | 8.1 | 10. 1 | 10. 1 | 11. | | |
| -18 | 101. 1 | 3.0 | 8.1 | 10. 1 | 10. 1 | 11. | | |
| -17 | 101. 5 | 3.0 | 8.1 | 10. 2 | 10. 2 | 11. | | |
| -16 | 101. 9 | 3.1 | 8.2 | 10. 2 | 10. 2 | 11. | | |
| -15 | 102.3 | 3.1 | 8.2 | 10. 2 | 10. 2 | 11. | | |
| -14 | 102.7 | 3.1 | 8.2 | 10. 3 | 10. 3 | 11. | | |
| -13 | 103. 0 | 3.1 | 8.2 | 10. 3 | 10. 3 | 11. | | |
| -12 | 103. 5 | 3.1 | 8.3 | 10. 4 | 10. 4 | 11. | | |
| -11 | 103. 9 | 3.1 | 8.3 | 10. 4 | 10. 4 | 11. | | |
| -10 | 104.2 | 3.1 | 8.3 | 10.4 | 10. 4 | 11. | | |
| -9 | 104.6 | 3.1 | 8.4 | 10. 5 | 10. 5 | 11. | | |
| -8 | 105.0 | 3. 2 | 8.4 | 10. 5 | 10. 5 | 11. | | |
| -7 | 105. 4 | 3. 2 | 8.4 | 10. 5 | 10. 5 | 11. | | |
| -6 | 105. 8 | 3. 2 | 8.5 | 10. 6 | 10. 6 | 11. | | |
| -5 | 106. 2 | 3. 2 | 8.5 | 10. 6 | 10. 6 | 11. | | |
| -4 | 106. 6 | 3. 2 | 8.5 | 10. 7 | 10. 7 | 11. | | |
| -3 | 107. 0 | 3. 2 | 8.6 | 10. 7 | 10. 7 | 11. | | |
| -2 | 107. 4 | 3. 2 | 8.6 | 10. 7 | 10. 7 | 11. | | |
| -1 | 107.8 | 3.2 | 8.6 | 10. 8 | 10. 8 | 11. | | |
| 0 | 108. 2 | 3. 2 | 8.7 | 10. 8 | 10. 8 | 11. | | |
| 1 } | 108.6 | 3.3 | 8.7 | 10. 9 | 10. 9 | 12. | | |
| 2 | 109. 0 | 3. 3 | 8.7 | 10. 9 | 10. 9 | 12. | | |
| 3 | 109. 4 | 3. 3 | 8.8 | 10. 9 | 10. 9 | 12. | | |
| 4 | 109. 8 | 3. 3 | 8.8 | 11.0 | 11. 0 | 12. | | |
| 5 | 110. 2 | 3. 3 | 8.8 | 11. 0 | 11. 0 | 12. | | |
| 6 | 110. 6 | 3. 3 | 8.9 | 11. 1 | 11. 1 | 12. | | |
| 7 | 111. 0 | 3.3 | 8.9 | 11. 1 | 11. 1 | 12. | | |
| 8 | 111. 4 | 3. 3 | 8.9 | 11. 1 | 11. 1 | 12. | | |
| 9 | 111. 8 | 3. 4 | 8.9 | 11. 2 | 11. 2 | 12. | | |
| 10 | 112. 2 | 3. 4 | 9.0 | 11. 2 | 11. 2 | 12. | | |
| 11 | 112.6 | 3. 4 | 9.0 | 11. 3 | 11. 3 | 12 | | |
| 12 | 113. 0 | 3.4 | 9.0 | 11.3 | 11. 3 | 12 | | |
| 13 | 113. 4 | 3. 4 | 9. 1 | 11. 3 | H. 3 | 12 | | |
| 14 | 113. 7 | 3.4 | 9.1 | 11. 4 | 11. 4 | 12 | | |
| 15 | 114.2 | 3.4 | 9.1 | 11.4 | 11. 4 | 12 | | |
| 16 | 114.5 | 3.4 | 9.2 | 11.5 | 11.5 | 12 | | |
| 17 | 114.9 | 3.5 | 9.2 | 11.5 | 11.5 | 12 | | |
| 18 | 115.3 | 3.5 | 9.2 | 11.5 | 11.5 | 12 12 | | |
| 19 | 115.7 | 3.5 | 9.3 | 11.6 | 11. 6 11. 6 | 12 | | |
| 20 | 116. 1 | 3.5 | 9.3 | 11.6 | | 12 | | |
| 21 | 116.5 | 3.5 | 9.3 | 11.7 | 11. 7 | 12 | | |

Table 2-13. Weighted Temperature (Percent), Zone 9-Continued

| Zo: Tempe | | | Line-Zo | ne No. | |
|--------------|---------|------|---------|--------|---------------------|
| °C | % | 00 | 10 | 20 | 30-50 |
| -65 | 85. 8 | 5. 1 | 10.3 | 13. 7 | 8.6 |
| -64 | 86. 2 | 5. 2 | 10.3 | 13.8 | 8.6 |
| 63 | 86.6 | 5. 2 | 10. 4 | 13.9 | 8. 7 |
| -62 | 87. 0 | 5. 2 | 10.4 | 13.9 | 8. 7 |
| -61 | 87.4 | 5. 2 | 10.5 | 14.0 | 8. 7 |
| -60 | 87. 8 | 5.3 | 10.5 | 14.1 | 8. 8 |
| - 59 | 88. 3 | 5.3 | 10.6 | 14.1 | 8. 8 |
| 58 | 88. 7 | 5. 3 | 10. 6 | 14. 2 | 8. 9 |
| -57 | 89. 1 | 5. 3 | 10. 7 | 14. 3 | 8.9 |
| -56 | 89. 5 | 5.4 | 10. 7 | 14. 3 | 9. 0 |
| -55 | 89. 9 | 5.4 | 10. 8 | 14.4 | 9. O |
| -54 | 90. 3 | 5.4 | 10.8 | 14.5 | 9 . 0 |
| -53 | 90. 7 j | 5.4 | 10. 9 | 14.5 | 9. 1 |
| - 52 | 91. 1 | 5.5 | 10.9 | 14.6 | 9. 1 |
| -51 | 91.6 | 5.5 | 11.0 | 14. 7 | 9. 2 |
| -50 | 92. 0 | 5.5 | 11. 0 | 14.7 | 9. 2 |
| -49 | 92.4 | 5.5 | 11.1 | 14.8 | 9 . 2 |
| -48 | 92. 8 | 5.6 | 11.1 | 14. 9 | 9. 3 |
| -47 | 93. 2 | 5.6 | 11. 2 | 14. 9 | 9 . 3 |
| -46 | 93. 6 | 5.6 | 11. 2 | 15.0 | 9.4 |
| -45 | 94. 0 | 5.6 | 11. 3 | 15.1 | 9.4 |
| -44 | 94. 4 | 5.7 | 11. 3 | 15.1 | 9.4 |
| -43 | 94. 8 | 5. 7 | 11.4 | 15.2 | 9. 5 |
| -42 | 95. 3 | 5. 7 | 11.4 | 15.3 | 9.5 |
| -41 | 95. 7 | 5. 7 | 11.5 | 15.3 | 9.6 |
| -40 | 96. 1 | 6.8 | 11.5 | 15.4 | 9 . 6 |
| 39 | 96. 5 | 5.8 | 11.6 | 15.5 | 9 . 7 |
| 38 | 96. 9 | 5.8 | 11.6 | 15.5 | 9. 7 |
| -37 | 97. 3 | 5.8 | 11. 7 | 15.6 | 9. 7 |
| -36 | 97. 7 | 5.9 | 11.7 | 15.6 | 9. 8 |
| - 35 | 98.1 | 5. 9 | 11. 8 | 15.7 | 9. 8 |
| -34 | 98.6 | 5.9 | 11. 8 | 15.8 | 9 . 9 |
| -33 | 99. 0 | 5. 9 | 11. 9 | 15.8 | 9. 9 |
| -32 | 99.4 | 6. 0 | 11. 9 | 15.9 | 9. 9 |
| -31 | 99. 8 | 6.0 | 12.0 | 16.0 | 10. O |
| 30 | 100. 2 | 6.0 | 12.0 | 16.0 | 10. O |
| -29 | 100.6 | 6.0 | 12.1 | 16.1 | 10. 1 |
| -28 | 101. 0 | 6. 1 | 12.1 | 16.2 | 10. 1 |
| -27 | 101. 4 | 6. 1 | 12.2 | 16.2 | 10. 2 |

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Table 2-13. Weighted Temperature (Percent), Zone 10

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| | Zone Temperature | | Line-Zone No. | | | | | |
|---|---------------------|--------|---------------|-------|-------|--------------|--|--|
| | °C | % | 00 | 10 | 20 | 30-50 | | |
| | -26 | 101. 9 | 6. 1 | 12. 2 | 16. 3 | 10. 2 | | |
| | -25 | 102. 3 | 6.1 | 12. 3 | 16.4 | 10. 2 | | |
| | -24 | 102. 7 | 6. 2 | 12.3 | 16. 4 | 10. 3 | | |
| | -23 | 103. 1 | 6. 2 | 12.4 | 16.5 | 10. 3 | | |
| | -22 | 103. 5 | 6. 2 | 12.4 | 16. 6 | 10. 4 | | |
| | -21 | 103. 9 | 6. 2 | 12.5 | 16. 6 | 10. 4 | | |
| | -20 | 104.3 | 6.3 | 12.5 | 16. 7 | 10. 4 | | |
| | 19 | 104.7 | 6.3 | 12.6 | 16.8 | 10. 5 | | |
| | -18 | 105. 2 | 6.3 | 12.6 | 16. 8 | 10. 5 | | |
| | -17 | 105. 6 | 6.3 | 12.7 | 16. 9 | 10. 6 | | |
| | -16 | 106. 0 | 6.4 | 12.7 | 17.0 | 10. 6 | | |
| | -15 | 106. 4 | 6.4 | 12.8 | 17.0 | 10. 6 | | |
| | 14 | 106. 8 | 6.4 | 12.8 | 17.1 | 10. 7 | | |
| | -13 | 107. 2 | 6.4 | 12. 9 | 17. 2 | 10. 7 | | |
| | -12 | 107. 6 | 6.5 | 12.9 | 17. 2 | 10. 8 | | |
| | 11 | 108.0 | 6.5 | 13. 0 | 17. 3 | 10. 8 | | |
| | -10 | 108.4 | 6.5 | 13. 0 | 17.4 | 10. 9 | | |
| | -9 | 108.9 | 6.5 | 13. 1 | 17.4 | 10. 9 | | |
| | -8 | 109. 3 | 6.6 | 13. 1 | 17.5 | 10. 9 | | |
| | -7 | 109. 7 | 6.6 | 13. 2 | 17.6 | 11. 0 | | |
| | -6 | 110. 1 | 6.6 | 13. 2 | 17.6 | 11. 0 | | |
| - | -5 | 110. 5 | 6.6 | 13. 3 | 17. 7 | 11. 1 | | |
| | -4 | 110. 9 | 6. 7 | 13. 3 | 17. 8 | 11. 1 | | |
| | -3 | 111. 3 | 6.7 | 13. 4 | 17. 8 | 11. 1 | | |
| | -2 | 111.7 | 6. 7 | 13. 4 | 17. 9 | 11. 2 | | |
| | -1 | 112.2 | 6. 7 | 13. 5 | 18.0 | 11. 2 | | |
| | 0 | 112.6 | 6. 8 | 13. 5 | 18.0 | 11. 3 | | |
| | 1 | 113.0 | 6.8 | 13. 6 | 18.1 | 11. 3 | | |
| | 2 | 113. 4 | 6.8 | 13.6 | 18. 2 | 11. 3 | | |
| | 3 | 113. 8 | 6.8 | 13. 7 | 18. 2 | 11. 4 | | |
| | 4 | 114. 2 | 6. 9 | 13. 7 | 18.3 | 11. 4 | | |
| | 5 | 114.6 | 6.9 | 13. 8 | 18.4 | 11. 5 | | |
| | 6 | 115. 0 | 6. 9 | 13. 8 | 18.4 | 11. 5 | | |
| | 7 | 115. 5 | 6. 9 | 13. 9 | 18.5 | 11. 6 | | |
| • | 8 | 115. 9 | 7.0 | 13. 9 | 18.6 | 11. 6 | | |
| | 9 | 116. 3 | 7.0 | 14.0 | 18.6 | 11. 6 | | |
| | 10 | 116. 7 | 7.0 | 14.0 | 18.7 | 11. 7 | | |

Table 2-13. Weighted Temperature (Percent), Zone 10-Continued

SECTION III DEPARTURE TABLES FOR TYPE 2 (VISUAL) BALLISTIC MESSAGE FOR SURFACE-TO-AIR TRAJECTORIES

2-15. General

The tables and charts contained in this section are used to determine the departure from mean surface density for the computation of a ballistic meteorological message (visual).

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| | | | n | epartures f | rom mean | eurface d | loneity ne | ercent af | ternoon | | | <u> </u> |
|---|--|--|--|--|--|--|--|--|--|---|--|---|
| Line No. | -13.0 | -12.0 | | 10.0 -9 | | | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -12.4 \\ -12.4 \\ -12.2 \\ -12.1 \\ -12.2 \\ -12.1 \\ -11.5 \\ -11.5 \\ -09.6 \\ 0.08.0 \\ -04.4 \\ -00.8 \\ 10.5 \\ 23.0 \\ 36.9 \\ \end{array}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c} -05.7\\ -05.6\\ -05.5\\ -05.6\\ -05.7\\ -05.7\\ -05.7\\ -05.7\\ -05.4\\ -04.9\\ -03.7\\ -00.4\\ 03.0\\ 14.3\\ 26.6\end{array}$ | $\begin{array}{c} -04.7\\ -04.7\\ -04.7\\ -04.9\\ -05.0\\ -05.0\\ -05.0\\ -05.0\\ -04.3\\ -03.1\\ 00.1\\ 03.5\\ 14.9\\ 27.0\\ 40.8\end{array}$ | $\begin{array}{c} -03.7\\ -03.7\\ -03.8\\ -04.0\\ -04.2\\ -04.2\\ -04.2\\ -04.2\\ -04.2\\ -04.3\\ -03.7\\ -02.6\\ 00.5\\ 03.9\\ 15.4\\ 27.5\\ 41.3\end{array}$ | $\begin{array}{c} -02.7\\ -02.8\\ -02.9\\ -03.1\\ -03.2\\ -03.5\\ -03.5\\ -03.5\\ -03.5\\ -03.1\\ -02.1\\ 01.0\\ 04.5\\ 15.7\\ 27.8\\ 41.4 \end{array}$ | $\begin{array}{c} -01. \ 6\\ -01. \ 7\\ -01. \ 8\\ -02. \ 1\\ -02. \ 4\\ -02. \ 7\\ -02. \ 8\\ -02. \ 9\\ -02. \ 6\\ -01. \ 7\\ 01. \ 5\\ 04. \ 8\\ 16. \ 0\\ 28. \ 1\\ 41. \ 7\end{array}$ | $\begin{array}{c} -00.8\\ -00.8\\ -00.9\\ -01.3\\ -01.6\\ -01.9\\ -02.2\\ -02.2\\ -02.2\\ -02.0\\ 102.0\\ -01.1\\ 02.0\\ 05.2\\ 16.3\\ 28.3\\ 42.0 \end{array}$ |
| Line | | | D | epartures f | rom mean | surface d | ensity, pe | ercent, tr | ansition | | | |
| No. | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0 | +1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 12 13 14 15 | $\begin{array}{c} -09.\ 6\\ -09.\ 7\\ -09.\ 7\\ -09.\ 7\\ -09.\ 8\\ -09.\ 2\\ -08.\ 9\\ -08.\ 1\\ -06.\ 5\\ -03.\ 1\\ 00.\ 3\\ 11.\ 7\\ 24.\ 3\\ 38.\ 2\end{array}$ | $\begin{array}{c} -08.7\\ -08.7\\ -08.8\\ -08.8\\ -08.8\\ -08.6\\ -08.4\\ -08.0\\ -07.3\\ -05.9\\ -02.5\\ -01.0\\ 01.0\\ 01.2\\ 4\\ 24.8\end{array}$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c} -06.8\\ -06.9\\ -07.0\\ -07.1\\ -07.0\\ -06.9\\ -06.8\\ -06.1\\ -04.8\\ -01.5\\ 02.0\\ 13.5\\ 25.8\end{array}$ | $\begin{array}{c} -05.8\\ -05.9\\ -06.0\\ -06.2\\ -06.4\\ -06.5\\ -06.3\\ -06.0\\ -05.5\\ -04.3\\ -00.9\\ 02.5\\ 14.0\\ 26.2\\ 40.1 \end{array}$ | $\begin{array}{c} -04.\ 8\\ -05.\ 0\\ -05.\ 2\\ -05.\ 5\\ -05.\ 6\\ -05.\ 6\\ -05.\ 6\\ -05.\ 6\\ -05.\ 6\\ -05.\ 6\\ -04.\ 8\\ -03.\ 7\\ -00.\ 5\\ 03.\ 1\\ 14.\ 4\\ 26.\ 8\\ 40.\ 5\end{array}$ | $\begin{array}{r} -03.8\\ -04.1\\ -04.3\\ -04.5\\ -04.7\\ -04.9\\ -04.9\\ -04.3\\ -03.2\\ 00.0\\ 03.4\\ 14.9\\ 27.1\\ 40.8\end{array}$ | $\begin{array}{c} -02.8\\ -03.1\\ -03.4\\ -03.7\\ -03.9\\ -04.1\\ -04.2\\ -04.0\\ -03.7\\ -02.7\\ 00.5\\ 03.9\\ 15.1\\ 27.3\\ 41.1\end{array}$ | $\begin{array}{c} -01. \ 8\\ -02. \ 1\\ -02. \ 4\\ -02. \ 7\\ -02. \ 9\\ -03. \ 5\\ -03. \ 5\\ -03. \ 1\\ -02. \ 1\\ 01. \ 0\\ 04. \ 5\\ 15. \ 7\\ 27. \ 9\\ 41. \ 7\end{array}$ | $\begin{array}{c} -01. \ 0\\ -01. \ 2\\ -01. \ 5\\ -01. \ 8\\ -02. \ 2\\ -02. \ 5\\ -02. \ 7\\ -02. \ 8\\ -02. \ 5\\ -01. \ 5\\ 01. \ 5\\ 01. \ 5\\ 01. \ 5\\ 04. \ 9\\ 16. \ 2\\ 28. \ 3\\ 42. \ 0\end{array}$ | $\begin{array}{c} -00. \ 1 \\ -00. \ 4 \\ -00. \ 7 \\ -01. \ 0 \\ -01. \ 3 \\ -02. \ 2 \\ -02. \ 2 \\ -02. \ 2 \\ -01. \ 9 \\ -01. \ 0 \\ 02. \ 0 \\ 02. \ 0 \\ 16. \ 6 \\ 28. \ 6 \\ 42. \ 1 \end{array}$ | $\begin{array}{c} 00. \ 9\\ 00. \ 6\\ 00. \ 3\\ -\ 00. \ 1\\ -\ 00. \ 5\\ -\ 01. \ 4\\ -\ 01. \ 5\\ -\ 01. \ 4\\ -\ 01. \ 5\\ 02. \ 4\\ 05. \ 6\\ 16. \ 8\\ 28. \ 7\\ 42. \ 3\end{array}$ |
| Line | | | | Departure | from me | an surface | e density, | percent, | night | | | |
| No. | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0 | +1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -09.\ 7\\ -09.\ 9\\ -09.\ 9\\ -10.\ 2\\ -10.\ 3\\ -10.\ 2\\ -10.\ 0\\ -09.\ 6\\ -08.\ 7\\ -07.\ 2\\ -03.\ 8\\ -00.\ 3\\ 11.\ 1\\ 23.\ 6\\ 37.\ 5\end{array}$ | $\begin{array}{c c} -08.8\\ -08.9\\ -09.2\\ -09.2\\ -09.1\\ -09.0\\ -08.6\\ -07.9\\ -06.5\\ -03.0\\ 00.4\\ 11.8\\ 24.3\end{array}$ | $\begin{array}{c} 3 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$ | $ \begin{array}{r} -07. \ 3 \\ -07. \ 5 \\ -07. \ 7 \\ -07. \ 7 \\ -07. \ 6 \end{array} $ | $\begin{array}{r} - 05. 9 \\ - 06. 1 \\ - 06. 9 \\ - 06. 9 \\ - 07. 0 \\ - 06. 9 \\ - 07. 0 \\ - 06. 9 \\ - 06. 1 \\ - 04. 9 \\ - 01. 5 \\ 02. 0 \\ 13. 5 \\ 25. 8 \\ 39. 6 \end{array}$ | $\begin{array}{r} -05.\ 0\\ -05.\ 3\\ -05.\ 6\\ -05.\ 9\\ -06.\ 2\\ -06.\ 3\\ -06.\ 3\\ -06.\$ | $\begin{array}{r} -04. \ 1\\ -04. \ 5\\ -05. \ 1\\ -05. \ 3\\ -05. \ 5\\ -05. \ 6\\ -05. \ 6\\ -05. \ 4\\ -04. \ 9\\ -03. \ 8\\ -00. \ 5\\ 03. \ 0\\ 14. \ 4\\ 26. \ 6\\ 40. \ 5\end{array}$ | $\begin{array}{c} -03. \ 1\\ -03. \ 5\\ -03. \ 9\\ -04. \ 3\\ -04. \ 5\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 7\\ -04. \ 8\\ -03. \ 2\\ -03. \ 4\\ 14. \ 8\\ 27. \ 0\\ 40. \ 8\end{array}$ | $\begin{array}{c} - 02. 1 \\ - 02. 5 \\ - 02. 9 \\ - 03. 3 \\ - 03. 6 \\ - 03. 9 \\ - 04. 1 \\ - 04. 1 \\ - 03. 7 \\ - 02. 7 \\ 00. 5 \\ 03. 9 \\ 15. 3 \\ 27. 4 \\ 41. 3 \end{array}$ | $\begin{array}{c} -01. \ 2\\ -01. \ 6\\ -02. \ 0\\ -02. \ 4\\ -03. \ 2\\ -03. \ 4\\ -03. \ 4\\ -03. \ 1\\ -02. \ 1\\ 00. \ 9\\ 04. \ 3\\ 15. \ 7\\ 27. \ 9\\ 41. \ 5\end{array}$ | $\begin{array}{c} - 00. \ 3\\ - 00. \ 6\\ - 01. \ 1\\ - 02. \ 0\\ - 02. \ 5\\ - 02. \ 5\\ - 02. \ 5\\ - 02. \ 5\\ - 02. \ 5\\ - 01. \ 6\\ 01. \ 5\\ 04. \ 8\\ 16. \ 1\\ 28. \ 2\\ 41. \ 8\end{array}$ | $\begin{array}{c} 00. \ 7\\ 00. \ 3\\ -00. \ 2\\ -00. \ 7\\ -01. \ 2\\ -01. \ 7\\ -02. \ 0\\ -02. \ 1\\ -01. \ 9\\ -01. \ 1\\ 02. \ 0\\ 05. \ 2\\ 16. \ 4\\ 28. \ 5\\ 42. \ 0\end{array}$ |

Table 2-14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 1

Enter table with line number and departures from mean surface density to the nearest percent. Obtain departure from mean ballistic density to the nearest tenth of a percent. Do not interpolate.

2-140

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| Line | | | · | Departu | res from | mean su | rface der | nsity, pe | rcent, af | ternoon | | | |
|--|--|--|---|---|---|---|---|--|---|--|---|---|---|
| No. | 0 | +1.0 | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 | +8.0 | +9.0 | +10.0 | +11.0 | +12.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 00. \ 0\\ -00. \ 1\\ -00. \ 2\\ -00. \ 4\\ -00. \ 6\\ -01. \ 0\\ -01. \ 4\\ -01. \ 4\\ -01. \ 1\\ -00. \ 3\\ 02. \ 6\\ 05. \ 9\\ 17. \ 4\\ 29. \ 2\\ 42. \ 9\end{array}$ | $\begin{array}{c} 01. \ 1\\ 00. \ 9\\ 00. \ 7\\ 00. \ 5\\ 00. \ 2\\ -00. \ 3\\ -00. \ 6\\ -00. \ 7\\ -00. \ 5\\ 00. \ 2\\ 03. \ 0\\ 06. \ 4\\ 17. \ 7\\ 29. \ 5\\ 43. \ 0 \end{array}$ | $\begin{array}{c} 02. \ 1\\ 01. \ 9\\ 01. \ 3\\ 00. \ 9\\ 00. \ 4\\ -00. \ 2\\ -00. \ 2\\ -00. \ 6\\ 03. \ 4\\ 06. \ 7\\ 18. \ 0\\ 29. \ 9\\ 43. \ 4\end{array}$ | 03. 1 02. 8 02. 6 02. 2 01. 7 01. 1 00. 6 00. 4 00. 5 01. 1 03. 9 07. 1 18. 3 30. 2 43. 6 | 04. 1 03. 8 03. 5 03. 0 02. 5 01. 8 01. 2 01. 0 01. 0 01. 0 01. 6 04. 3 07. 5 18. 7 30. 4 43. 9 | 04. 9 04. 6 04. 3 03. 8 03. 3 02. 6 01. 9 01. 7 01. 6 02. 1 04. 8 07. 9 19. 1 30. 8 44. 3 | $\begin{array}{c} 05. \ 9\\ 05. \ 5\\ 05. \ 1\\ 04. \ 6\\ 04. \ 0\\ 03. \ 1\\ 02. \ 5\\ 02. \ 2\\ 02. \ 1\\ 02. \ 5\\ 05. \ 2\\ 08. \ 4\\ 19. \ 9\\ 44. \ 5 \end{array}$ | $\begin{array}{c} 06. \ 9\\ 06. \ 5\\ 06. \ 0\\ 05. \ 4\\ 04. \ 6\\ 03. \ 7\\ 03. \ 1\\ 02. \ 5\\ 02. \ 8\\ 05. \ 5\\ 08. \ 6\\ 19. \ 5\\ 31. \ 1\\ 44. \ 5\\ \end{array}$ | 07. 7 07. 3 06. 8 06. 1 05. 4 04. 4 03. 7 03. 2 03. 1 03. 2 05. 8 08. 9 19. 9 31. 3 44. 8 | 08.7 07.8 07.8 07.8 07.8 06.2 03.6 03.7 06.3 03.7 06.3 20.2 31.6 44.9 | 3 09. 2 3 08. 5 0 07. 8 2 06. 9 1 05. 8 3 04. 9 3 04. 4 5 03. 9 7 04. 1 8 06. 6 8 09. 5 2 20. 3 3 31. 9 | 10. 6 10. 0 09. 4 08. 6 07. 7 06. 4 05. 5 04. 9 04. 4 07. 0 09. 8 20. 4 31. 9 45. 2 | 11. 6 11. 0 10. 4 09. 5 08. 3 07. 0 06. 1 05. 4 04. 7 07. 3 10. 1 20. 6 32. 0 45. 3 |
| Line | | | | Departu | res from | mean sur | face den | sity, per | cent, tra | insition | | | |
| No. | +2.0 | +3.0 |) . | 4.0 | +5.0 | +6.0 | +7.0 | +8. | 0 + | 9.0 | +10.0 | +11.0 | +12.0 |
| 1 3 4 5 6 7 8 9 10 11 12 13 13 14 15 | $\begin{array}{c} 02.\\ 01.\\ 01.\\ 00.\\ 00.\\ -00.\\ -00.\\ -00.\\ -00.\\ 03.\\ 06.\\ 17.\\ 29.\\ 43.\\ \end{array}$ | 7 0: 3 0: 8 0 6 0 1 0 5 0 7 -0 5 0 0 0 4 0 8 2 | 3. 0 2. 7 2. 3 1. 8 1. 3 0. 7 0. 2 0. 1 0. 1 0. 8 3. 6 8. 9 9. 9 3. 4 | 04. 0 03. 7 03. 2 02. 6 02. 0 01. 3 00. 7 00. 5 00. 6 01. 2 03. 9 07. 2 18. 3 30. 2 43. 7 | 04. 8 04. 4 03. 4 02. 8 02. 1 01. 4 01. 1 01. 6 04. 3 07. 5 18. 7 30. 6 44. 0 | 05. 8 05. 4 04. 9 04. 2 03. 6 02. 1 01. 7 02. 2 04. 9 07. 9 19. 1 30. 8 44. 3 | 06. 05. 05. 04. 03. 02. 02. 02. 02. 02. 02. 02. 02. 02. 03. 03. 04. 19. 31. 34. | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | .2 .6 .6 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .9 .6 .2 .2 | 08. 7 08. 1 07. 4 06. 6 05. 7 03. 8 03. 3 03. 1 03. 3 05. 9 09. 0 19. 9 31. 5 14. 8 | $\begin{array}{c} 09. \ 5\\ 09. \ 0\\ 08 \ 2\\ 07. \ 4\\ 06. \ 5\\ 05. \ 4\\ 03. \ 9\\ 03. \ 6\\ 03. \ 6\\ 03. \ 7\\ 06. \ 3\\ 09. \ 3\\ 20. \ 2\\ 31. \ 7\\ 45. \ 0 \end{array}$ | $\begin{array}{c} 10.\ 5\\ 09.\ 9\\ 09.\ 1\\ 08.\ 3\\ 07.\ 3\\ 06.\ 1\\ 05.\ 0\\ 04.\ 5\\ 04.\ 3\\ 06.\ 8\\ 09.\ 6\\ 32.\ 0\\ 45.\ 2 \end{array}$ | 11. 4 10. 7 10. 0 09. 1 08. 0 06. 6 05. 6 05. 0 04. 5 04. 6 07. 1 10. 0 20. 7 32. 1 45. 3 |
| Line | | | | Depar | tures from | m mean s | surface d | ensity, p | ercent, | night | | | |
| No. | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 | +8.0 | +9.0 | +10.0 | +11.0 | +12.0 | +13.0 | +14.0 |
| 1 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 01. \ 9\\ 01. \ 5\\ 00. \ 9\\ 00. \ 4\\ 00. \ 0\\ -00. \ 6\\ -01. \ 1\\ -01. \ 2\\ -01. \ 1\\ -01. \ 2\\ 02. \ 6\\ 05. \ 9\\ 17. \ 4\\ 29. \ 4\\ 43. \ 0 \end{array}$ | $\begin{array}{c} 02. \ 9\\ 02. \ 5\\ 01. \ 9\\ 01. \ 4\\ 00. \ 8\\ 00. \ 1\\ -00. \ 4\\ -00. \ 6\\ -00. \ 4\\ 03. \ 1\\ 06. \ 5\\ 17. \ 7\\ 29. \ 6\\ 43. \ 2\\ \end{array}$ | 03. 9 03. 4 02. 9 02. 2 01. 6 00. 8 00. 2 00. 1 00. 0 00. 7 03. 5 06. 8 18. 0 29. 9 43. 4 | 04. 7 04. 3 03. 6 03. 0 02. 4 01. 6 00. 9 00. 6 01. 2 03. 9 07. 1 18. 3 30. 2 43. 7 | $\begin{array}{c} 05.\ 7\\ 05.\ 2\\ 04.\ 6\\ 03.\ 9\\ 03.\ 1\\ 02.\ 2\\ 01.\ 5\\ 01.\ 2\\ 01.\ 1\\ 01.\ 7\\ 04.\ 4\\ 07.\ 5\\ 18.\ 8\\ 30.\ 6\\ 44.\ 0 \end{array}$ | 06. 7 06. 2 05. 5 04. 7 03. 9 02. 2 01. 9 01. 7 02. 2 04. 8 07. 9 19. 1 30. 8 44. 3 | $\begin{array}{c} 07. \ 6\\ 07. \ 0\\ 06. \ 3\\ 05. \ 5\\ 04. \ 6\\ 03. \ 5\\ 02. \ 8\\ 02. \ 4\\ 02. \ 2\\ 02. \ 6\\ 05. \ 2\\ 08. \ 4\\ 19. \ 4\\ 31. \ 1\\ 44. \ 6\end{array}$ | 08. 6 07. 9 07. 1 06. 2 03. 4 03. 0 02. 8 03. 0 05. 7 08. 8 19. 7 31. 3 44. 8 | 09. 5 08. 8 07. 9 07. 0 06. 1 04. 9 03. 9 03. 4 03. 2 03. 4 03. 2 03. 3 05. 9 09. 0 20. 0 31. 5 44. 8 | 10. 4 09. 7 08. 8 07. 9 06. 8 04. 0 04. 0 03. 7 03. 8 06. 4 09. 3 20. 2 31. 7 45. 0 | 10. 4 09. 5 08. 6 07. 5 06. 1 05. 1 04. 5 04. 0 04. 2 06. 7 09. 5 20. 3 31. 9 | $\begin{array}{c} 12. \ 1\\ 11. \ 3\\ 10. \ 4\\ 09. \ 4\\ 08. \ 0\\ 06. \ 6\\ 05. \ 7\\ 05. \ 0\\ 04. \ 5\\ 07. \ 0\\ 09. \ 8\\ 20. \ 6\\ 32. \ 0\\ 45. \ 3\end{array}$ | 13. 0 12. 1 11. 2 10. 0 08. 7 07. 3 06. 3 05. 5 04. 8 04. 7 07. 4 10. 1 20. 6 32. 0 45. 3 |

Table 2-14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 1-Continued

| Ling | <u></u> | <u> </u> | | Depa | rtures f | from me | an surf | ace dens | ity, per | cent, afte | rnoor | | | <u></u> | |
|---|---|--|--|--|--|--|--|--|---|--|--|---|---|--|---|
| Line No. | -13.0 | -12.0 | -11.0 | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0 | +1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 , 15 | $\begin{array}{r} -12.4\\ -12.4\\ -12.2\\ -12.1\\ -12.0\\ -11.7\\ -11.3\\ -0.9\\ -08.2\\ -04.6\\ -01.1\\ 10.3\\ 22.8\\ 36.7\end{array}$ | $\begin{array}{r} -11.5\\ -11.4\\ -11.2\\ -11.2\\ -11.1\\ -10.8\\ -10.4\\ -10.0\\ -09.1\\ -07.5\\ -03.9\\ -00.3\\ 11.1\\ 23.6\\ 37.6\end{array}$ | $\begin{array}{c} -10. \ 4 \\ -10. \ 3 \\ -10. \ 3 \\ -10. \ 1 \\ -09. \ 9 \\ -09. \ 5 \\ -09. \ 1 \\ -08. \ 3 \\ -06. \ 6 \\ \end{array}$ | - 09. 4 - 09. 3 - 09. 3 - 09. 2 - 09. 0 - 08. 7 - 08. 2 - 07. 5 - 05. 9 | -08.5 -08.4 -08.4 -08.3 -08.1 -07.9 -07.4 -06.7 | $\begin{array}{c} -07.5 \\ -07.4 \\ -07.5 \\ -07.4 \\ -07.2 \\ -07.1 \\ -06.8 \\ -06.0 \\ -04.7 \\ -01.2 \\ 02.2 \\ 13.7 \\ 26.1 \end{array}$ | $\begin{array}{c} -06.\ 6\\ -06.\ 5\\ -06.\ 5\\ -06.\ 5\\ -06.\ 3\\ -06.\ 0\\ -05.\ 3\\ -06.\ 0\\ -05.\ 3\\ -04.\ 1\\ -00.\ 7\\ 02.\ 8\\ 14.\ 2\\ 26.\ 5\end{array}$ | $\begin{array}{r} -05. \ 6\\ -05. \ 5\\ -05. \ 6\\ -05. \ 7\\ -05. \ 7\\ -05. \ 3\\ -04. \ 7\\ -04. \ 7\\ -00. \ 1\\ 03. \ 3\\ 14. \ 7\\ 26. \ 9\end{array}$ | $\begin{array}{r} -04.7 \\ -04.8 \\ -04.8 \\ -04.8 \\ -04.9 \\ -04.9 \\ -04.9 \\ -04.6 \\ -04.1 \end{array}$ | $\begin{array}{c} -03.7 \\ -03.8 \\ -03.8 \\ -04.0 \\ -04.0 \\ -04.1 \\ -04.1 \\ -04.1 \\ -03.9 \\ -03.5 \\ -02.3 \\ -02.3 \\ -02.3 \\ -02.8 \\ -0.8 \\ -0$ | 02. 8 02. 9 03. 1 03. 2 03. 4 03. 4 03. 3 02. 9 | $-01.8 \\ -01.9 \\ -02.2 \\ -02.5 \\ -02.7 \\ -02.8 \\ -02.8 \\ -02.4 $ | $\begin{array}{r} -00.\ 9\\ -01.\ 0\\ -01.\ 4\\ -01.\ 7\\ -02.\ 0\\ -02.\ 3\\ -02.\ 2\\ -01.\ 9\\ -01.\ 9\\ -02.\ 1\\ 05.\ 4\\ 16.\ 6\\ 28.\ 5\end{array}$ | $\begin{array}{c} -00. \ 1 \\ -00. \ 3 \\ -00. \ 6 \\ -00. \ 9 \\ -01. \ 3 \\ -01. \ 6 \\ -01. \ 6 \\ -01. \ 6 \\ -02. \ 5 \\ 05. \ 6 \\ 16. \ 7 \\ 28. \ 6 \end{array}$ | $\begin{array}{c} 00.2\\ -00.2\\ -00.7\\ -01.1\\ -01.1\\ -00.9\\ -00.2\\ 02.9\\ 05.9\\ 16.8\\ 28.7 \end{array}$ |
| Line | | | | Depar | tures fi | rom mei | an surfa | ce densi | ty, perc | ent, tran | sition | | | | |
| No. | -10.0 | -9.0 | -8.0 | | .0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -10 | .0 | 0 | +1.0 | +2.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -09.7 \\ -09.6 \\ -09.8 \\ -10.0 \\ -10.0 \\ -10.0 \\ -10.0 \\ -09.4 \\ -08.4 \\ -08.4 \\ -08.6 \\ -03.4 \\ -08.5 \\ -08.5 \\$ | $\begin{array}{c c} & -08. \\ -09. \\ 0 & -09. \\ -09. \\ -09. \\ -09. \\ -09. \\ -08. \\ -08. \\ -07. \\ -08. \\ -08. \\ -07. \\ 0 & -08. \\ -02. \\ 00. \\ 12. \\ 24. \end{array}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c c} 9 & -0 \\ 1 & -0 \\ 2 & -0 \\ 3 & -0 \\ 3 & -0 \\ 1 & -0 \\ 3 & -0 \\ 1 & -0 \\ 0 & -0 \\ 0 & -0 \\ 0 & -0 \\ 4 & 0 \\ 4 & -0 \\ 4 & $ |)7. 0 -)7. 1 -)7. 4 -)7. 4 -)7. 4 -)7. 3 -)7. 3 -)7. 0 -)6. 2 -)4. 9 - | - 06. 1 - 06. 1 - 06. 4 - 06. 5 - 06. 7 - 06. 5 - 06. 2 - 06. 2 - 05. 5 - 04. 2 | - 04. 9 - 05. 2 - 05. 3 - 05. 5 - 05. 7 - 05. 8 - 05. 4 - 04. 9 - 04. 9 - 04. 9 - 04. 9 - 00. 3 03. 2 14. 7 27. 0 27. 0 27. 0 40. 7 | $\begin{array}{c} -04.\ 0\\ -04.\ 2\\ -04.\ 4\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -04.\ 8\\ -03.\ 0\\ 00.\ 2\\ 03.\ 6\\ 15.\ 0\\ 27.\ 3\\ 41.\ 0\end{array}$ | 02. 00. 04. 15. 27. | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 01. 6 02. 0 02. 2 02. 2 01. 9 | 00. 8 00. 4 00. 0 -00. 4 -01. 3 -01. 6 -01. 7 -01. 5 -01. 5 -02. 5 05. 7 16. 8 28. 7 42. 3 | $\begin{array}{c} 01.8\\01.4\\01.0\\-00.1\\-00.7\\-01.1\\-01.2\\-01.0\\-00.2\\02.8\\06.0\\17.0\\29.0\\42.4\end{array}$ |
| Line | | | | Dep | oarture | s from r | nean su | rface de | nsity, p | ercent, ni | ight | | | | |
| No. | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0 | +1.0 | +2.0 | +3.0 | +4.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 5 | $\begin{array}{r} -09.\ 8\\ -10.\ 2\\ -10.\ 4\\ -10.\ 7\\ -10.\ 8\\ -10.\ 7\\ -10.\ 3\\ -09.\ 4\\ -07.\ 9\\ -04.\ 3\\ -00.\ 7\\ 10.\ 7\\ 23.\ 1\\ 37.\ 0\end{array}$ | $\begin{array}{r} -09.2 \\ -09.6 \\ -09.8 \\ -09.9 \\ -10.0 \\ -09.8 \\ -09.4 \end{array}$ | $\begin{array}{c} -08.3 \\ -08.6 \\ -08.9 \\ -09.1 \\ -09.1 \\ -09.0 \\ -08.6 \\ -07.8 \\ -06.3 \\ -06.3 \\ -\end{array}$ | -07.3 -07.7 -08.0 -08.2 -08.3 -08.3 -08.3 -07.8 | $\begin{array}{r} -06. \ 4\\ -06. \ 7\\ -07. \ 3\\ -07. \ 3\\ -07. \ 3\\ -07. \ 3\\ -07. \ 3\\ -07. \ 3\\ -01. \ 3\\ 01. \ 3\\ 25. \ 8\end{array}$ | $\begin{array}{c} -05. \ 4 \\ -05. \ 8 \\ -06. \ 2 \\ -06. \ 4 \\ -06. \ 5 \\ -06. \ 3 \\ -05. \ 7 \\ -04. \ 4 \\ -01. \ 0 \\ 02. \ 5 \\ 14. \ 0 \\ 26. \ 4 \end{array}$ | $\begin{array}{c} -04.7 \\ -05.0 \\ -05.8 \\ -05.8 \\ -05.8 \\ -05.8 \\ -05.8 \\ -04.9 \\ -03.7 \\ -00.4 \\ 9 \\ -03.1 \\ 14.6 \\ 26.8 \end{array}$ | $\begin{array}{r} -03.7\\ -04.1\\ -04.5\\ -04.7\\ -05.0\\ -05.0\\ -04.8\\ -04.8\\ -04.3\\ 200.1\\ 03.5\\ 14.9\\ 27.1\end{array}$ | $\begin{array}{r} -02. \ 7\\ -03. \ 1\\ -03. \ 5\\ -03. \ 8\\ -04. \ 1\\ -04. \ 3\\ -04. \ 1\\ -03. \ 7\end{array}$ | $ \begin{array}{c} -03. 4 \\ -03. 5 \\ -03. 5 \\ -03. 1 \\ -02. 1 \\ -01. 1 \\ 04. 6 \end{array} $ | 00. 8 01. 3 01. 8 02. 3 02. 7 02. 8 02. 9 02. 6 | $\begin{array}{r} -01.\ 0\\ -01.\ 5\\ -02.\ 0\\ -02.\ 3\\ -02.\ 3\\ -02.\ 0\\ -01.\ 1\\ 02.\ 0\\ 05.\ 3\\ 16.\ 4\\ 28.\ 5\end{array}$ | $\begin{array}{c} 01. \\ 00. \\ 4\\ -00. \\ 2\\ -00. \\ 7\\ -01. \\ 3\\ -01. \\ 7\\ -01. \\ 5\\ -00. \\ 6\\ 02. \\ 4\\ 05. \\ 6\\ 16. \\ 8\\ 28. \\ 7\end{array}$ | $\begin{array}{c} 01.8\\ 01.3\\ 00.6\\ -00.1\\ -00.6\\ -01.0\\ -01.0\\ -01.3\\ 02.8\\ 02.8\\ 05.9\\ 16.9\\ 28.9\end{array}$ | $\begin{array}{c} 02.\ 7\\ 02.\ 1\\ 01.\ 5\\ 00.\ 7\\ -00.\ 1\\ -00.\ 5\\ -00.\ 6\\ 00.\ 1\\ 03.\ 1\\ 03.\ 1\\ 17.\ 0\\ 29.\ 0 \end{array}$ |

 Table 2–14.
 Departures from Mean Surface Density (Percent), Type 2 Message, Region 2

Table 2-14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 2-Continued

| Line | | | | Depa | rtures f | rom me | an sur | face o | densi | | ercent, | afternoc | on | | | |
|---|--|---|---|--|---|---|---|--|--|--|--|---|---|---|---|---|
| No. | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 | +8.0 | +9. | 0 + | 10.0 | +11.0 | +12.0 | +13.0 | +14.0 | +15.0 | +16.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 02.\ 0\\ 01.\ 8\\ 01.\ 5\\ 01.\ 1\\ 00.\ 7\\ 00.\ 1\\ -00.\ 3\\ -00.\ 4\\ 00.\ 6\\ 03.\ 4\\ 06.\ 8\\ 18.\ 2\\ 29.\ 9\\ 43.\ 4\end{array}$ | 02. 7 02. 3 01. 9 01. 3 00. 7 00. 3 00. 1 00. 2 01. 0 03. 8 07. 1 18. 4 | 03. 7 03. 2 02. 6 02. 0 01. 3 00. 7 00. 5 00. 6 | 04. 4 03. 8 03. 2 02. 7 01. 9 01. 2 01. 0 01. 0 01. 6 04. 4 07. 6 18. 8 30. 4 | 05. 8 05. 3 04. 0 03. 3 02. 5 01. 8 01. 5 01. 4 02. 0 04. 7 07. 9 030. 8 44. 2 | 06. 7 06. 2 05. 5 04. 8 04. 0 03. 0 02. 3 02. 0 01. 9 02. 5 05. 1 08. 3 19. 4 30. 9 44. 5 | $\begin{array}{c} 07.\ 6\\ 07.\ 0\\ 06.\ 2\\ 05.\ 4\\ 04.\ 5\\ 03.\ 5\\ 02.\ 4\\ 02.\ 3\\ 02.\ 7\\ 05.\ 3\\ 02.\ 7\\ 05.\ 3\\ 08.\ 5\\ 19.\ 5\\ 30.\ 9\\ 44.\ 5\end{array}$ | 07 07 06 05 04 03 02 02 03 05 08 19 31 | . 8 . 0 . 1 . 1 . 3 . 9 . 7 . 0 . 6 . 2 | 09. 5 08. 8 07. 9 06. 9 04. 8 03. 9 03. 5 03. 3 03. 5 06. 1 09. 1 20. 1 31. 6 44. 9 | 09. 7 08. 8 07. 8 06. 7 05. 8 04. 6 04. 1 03. 9 04. 0 04. 0 04. 0 04. 0 04. 0 04. 3 20. 4 32. 0 | 10. 6 09. 6 08. 6 07. 5 06. 2 04. 7 04. 3 07. 04. 3 04. 3 07. 03. 32. 3 | 11. 5 10. 5 09. 4 08. 1 06. 8 05. 9 05. 3 04. 8 04. 9 07. 4 10. 3 20. 9 | 12. 4 11. 5 10. 3 09. 0 07. 6 06. 6 06. 0 05. 4 05. 3 07. 9 10. 6 21. 2 32. 7 | 13. 2 12. 1 10. 9 09. 6 08. 2 07. 1 06. 5 05. 9 05. 7 08. 3 10. 3 21. 4 | 12. 9 11. 8 10. 3 08. 8 07. 7 07. 0 06. 4 06. 2 08. 8 11. 3 21. 6 33. 3 |
| Line No. | | | · · · · · · · · · · · · · · · · · · · | Depa | rtures f | rom me | an sur | face o | lensi | y, pe | ercent, | transitio | n | · · · · · · · · · · · · · · · · · · · | | |
| | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 | +8.0 | +9 | .0 | +10. |) + | 11.0 | +12.0 | +13.0 | +14.0 | +15.0 | +16.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 02. \ 9\\ 02. \ 5\\ 01. \ 9\\ 01. \ 4\\ 00. \ 7\\ 00. \ 1\\ -00. \ 3\\ -00. \ 3\\ -00. \ 3\\ -00. \ 6\\ 03. \ 4\\ 06. \ 7\\ 18. \ 1\\ 30. \ 0\\ 43. \ 4\\ \end{array}$ | 03. 9 03. 4 02. 8 02. 2 01. 6 00. 9 00. 3 00. 0 01. 0 03. 8 07. 0 18. 3 30. 2 43. 6 | $\begin{array}{c} 04. \ 7\\ 04. \ 2\\ 03. \ 5\\ 02. \ 8\\ 02. \ 2\\ 01. \ 4\\ 00. \ 7\\ 00. \ 5\\ 00. \ 6\\ 01. \ 3\\ 04. \ 1\\ 07. \ 4\\ 18. \ 6\\ 30. \ 4\\ 43. \ 9\end{array}$ | 05. 6 05. 1 04. 4 03. 6 02. 9 02. 0 01. 3 01. 1 01. 6 04. 3 07. 5 18. 7 30. 6 44. 0 | 06. 05. 04. 02. 01. 01. 01. 02. 04. 07. 19. 30. | 0 06. 2 06. 4 05. 6 04. 6 03. 5 02. 5 01. 1 02. 7 05. 9 08. 1 19. 8 30. | 9 0 1 0 2 0 1 0 5 0 1 0 5 0 1 0 3 0 4 1 9 3 | 8.57 6.5987 5.4.3795 2.2.589 1.554.5 | 09 08 07 06 05 04 03 03 02 03 05 08 19 31 | 5754240807862 | $\begin{array}{c} 10.\ 2\\ 09.\ 4\\ 07.\ 3\\ 06.\ 2\\ 04.\ 9\\ 04.\ 0\\ 03.\ 5\\ 03.\ 4\\ 03.\ 5\\ 06.\ 1\\ 09.\ 1\\ 20.\ 1\\ 31.\ 6\\ 45.\ 0\\ \end{array}$ | 11. 2 10. 4 09. 2 08. 1 05. 7 04. 6 04. 1 03. 9 04. 1 06. 6 09. 5 20. 4 32. 0 45. 3 | 11. 2 10. 1 08. 9 07. 7 06. 3 05. 3 04. 7 04. 2 04. 4 07. 0 09. 8 20. 7 32. 3 | 09.7 08.3 06.9 05.9 05.3 04.8 04.8 | 11. 6 10. 3 08. 8 07. 4 06. 5 05. 8 05. 3 05. 2 07. 8 10. 5 | 14. 7 13. 5 12. 3 11. 0 09. 5 08. 1 07. 0 06. 3 05. 7 05. 5 08. 1 10. 8 21. 4 32. 9 46. 4 |
| Line | | | | De | eparture | es from 1 | mean s | urfac | ce der | sity, | , percer | ıt, night | | | | |
| No. | +5.0 | +6.0 | +7.0 | +8.0 | +9.0 | +10.0 | +11.0 | +12. | 0 . +1 | 3.0 | +14.0 | +15.0 | +16.0 | +17.0 | +18.0 | +19.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | 04. 6 04. 1 03. 4 02. 5 01. 9 01. 0 00. 4 00. 1 00. 2 01. 0 03. 8 07. 1 18. 4 30. 3 43. 7 | $\begin{array}{c} 05. \ 6\\ 05. \ 0\\ 04. \ 2\\ 03. \ 4\\ 02. \ 5\\ 01. \ 6\\ 00. \ 9\\ 00. \ 7\\ 00. \ 7\\ 01. \ 3\\ 04. \ 1\\ 07. \ 3\\ 18. \ 7\\ 30. \ 4\\ 43. \ 9\end{array}$ | 06. 4 05. 8 04. 9 04. 1 03. 3 02. 2 01. 4 01. 1 01. 1 01. 1 01. 8 04. 4 07. 7 18. 9 30. 7 44. 2 | 04. 8 03. 9 02. 8 02. 0 01. 6 | 08. 3 07. 6 06. 6 05. 6 04. 5 03. 3 02. 5 02. 1 02. 0 02. 5 05. 1 08. 3 19. 4 31. 1 44. 5 | 09. 3 08. 5 07. 5 06. 3 05. 2 03. 9 03. 1 02. 5 02. 8 05. 4 08. 6 19. 6 31. 2 44. 8 | 10. 0 09. 3 08. 1 06. 9 05. 8 04. 4 03. 6 03. 1 02. 8 03. 1 05. 7 08. 8 19. 7 31. 3 44. 8 | 10. 10. 08. 07. 06. 03. 03. 03. 03. 04. 03. 03. 03. 19. 31. 44. | 8 6 4 0 0 4 2 4 0 0 9 5 | 11. 9 10. 9 99. 7 105. 7 105. 7 105. 7 104. 0 103. 8 103. 9 104. 5 105. 5 105. 4 20. 3 11. 9 15. 2 | 10. 5 09. 2 07. 8 06. 3 05. 2 04. 6 04. 2 04 4 | 11. 2 09. 9 08. 4 06. 8 05. 8 05. 2 04. 7 04. 8 | 14. 5 13. 2 11. 8 10. 4 06. 3 05. 1 05. 1 07. 6 10. 4 21. 2 32. 7 45. 9 | 15. 2 13. 8 12. 3 11. 1 09. 5 08. 0 06. 9 06. 9 05. 6 05. 5 08. 0 10. 7 21. 3 32. 8 46. 2 | 15. 9 14. 4 13. 0 11. 7 10. 1 08. 5 07. 4 06. 7 06. 1 05. 9 08. 4 11. 0 5 33. 0 46. 5 | 16. 7 15. 1 13. 6 12. 3 10. 7 09. 1 08. 0 07. 2 06. 6 06. 3 08. 9 11. 4 21. 7 33. 4 46. 8 |

| Line | | <u> </u> | De | partures f | rom mear | n surface | density | , perce | ent, aft | ernoon | | | | | |
|--|--|--|--|--|---|---|---|--|--|---|--|--|--|--|--|
| No. | -14.0 | -13.0 | -12.0 | -11.0 | -10.0 | -9.0 | -8.0 | | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | | |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 4 , 15 | $\begin{array}{c} -13. \ 4 \\ -13. \ 4 \\ -13. \ 3 \\ -13. \ 2 \\ -13. \ 1 \\ -12. \ 7 \\ -12. \ 1 \\ -11. \ 5 \\ -10. \ 5 \\ -08. \ 8 \\ -05. \ 0 \\ -01. \ 5 \\ 10. \ 0 \\ 22. \ 6 \\ 36. \ 6 \end{array}$ | $\begin{array}{c} -12.4\\ -12.3\\ -12.2\\ -12.1\\ -11.7\\ -11.2\\ -10.6\\ -09.7\\ -08.0\\ -04.3\\ -00.7\\ 10.8\\ 23.3\\ 37.3 \end{array}$ | $\begin{array}{c} -11.5\\ -11.4\\ -11.3\\ -11.2\\ -11.0\\ -10.7\\ -10.2\\ -09.7\\ -08.8\\ -07.1\\ -03.6\\ 00.0\\ 11.5\\ 24.0\\ 38.0 \end{array}$ | $\begin{array}{c} -10.5\\ -10.3\\ -10.2\\ -10.2\\ -10.0\\ -09.8\\ -09.3\\ -08.8\\ -08.0\\ -06.4\\ -02.8\\ 00.6\\ 12.2\\ 24.7\\ 38.5\end{array}$ | $\begin{array}{c} - 09.5 \\ - 09.4 \\ - 09.3 \\ - 09.3 \\ - 09.2 \\ - 08.9 \\ - 08.5 \\ - 08.5 \\ - 07.2 \\ - 05.7 \\ - 02.1 \\ 01.4 \\ 12.9 \\ 25.3 \\ 39.2 \end{array}$ | $\begin{array}{c} - 08.5 \\ - 08.4 \\ - 08.3 \\ - 08.3 \\ - 08.2 \\ - 07.9 \\ - 07.6 \\ - 07.6 \\ - 07.6 \\ - 07.1 \\ - 06.4 \\ - 05.0 \\ - 01.4 \\ 02.0 \\ 13.5 \\ 25.8 \\ 39.8 \end{array}$ | $\begin{array}{c} -07. \\ -07. \\ -07. \\ -07. \\ -07. \\ -06. \\ -06. \\ -05. \\ -04. \\ -00. \\ 02. \\ 14. \\ 26. \\ 40. \end{array}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c} 06. \ 5\\ 06. \ 5\\ 06. \ 4\\ 06. \ 4\\ 06. \ 3\\ 05. \ 9\\ 05. \ 6\\ 04. \ 9\\ 03. \ 7\\ 00. \ 3\\ 03. \ 2\\ 14. \ 6\\ 26. \ 9\\ 40. \ 5 \end{array}$ | $\begin{array}{c} - \ 05. \ 6\\ - \ 05. \ 5\\ - \ 05. \ 4\\ - \ 05. \ 5\\ - \ 05. \ 5\\ - \ 05. \ 4\\ - \ 05. \ 2\\ - \ 04. \ 9\\ - \ 04. \ 9\\ - \ 04. \ 3\\ - \ 03. \ 0\\ 00. \ 3\\ 03. \ 7\\ 15. \ 1\\ 27. \ 4\\ 41. \ 1\end{array}$ | 00. 8 04. 2 15. 6 | $\begin{array}{c} -03. \ 7\\ -03. \ 7\\ -03. \ 8\\ -03. \ 8\\ -03. \ 8\\ -03. \ 8\\ -03. \ 6\\ -03. \ 0\\ -01. \ 8\\ 01. \ 3\\ 04. \ 8\\ 16. \ 1\\ 28. \ 1\\ 41. \ 8\end{array}$ | $\begin{array}{c} - 02. \ 6 \\ - 02. \ 7 \\ - 02. \ 7 \\ - 02. \ 9 \\ - 02. \ 9 \\ - 03. \ 1 \\ - 03. \ 0 \\ - 02. \ 9 \\ - 02. \ 5 \\ - 01. \ 4 \\ 01. \ 8 \\ 05. \ 1 \\ 16. \ 3 \\ 28. \ 3 \\ 42. \ 0 \end{array}$ | | |
| Line | | Departures from mean surface density, percent, transition -11.0 -10.0 -9.0 -8.0 -7.0 -6.0 -5.0 -4.0 -3.0 -2.0 -1.0 | | | | | | | | | | | | | |
| No. | -11.0 | -10.0 | -9.0 | -8.0 |)7 | .0 - | 6.0 | -5.0 | | 4.0 | -3.0 | -2.0 | -1.0 | | |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -10.\ 7\\ -10.\ 8\\ -10.\ 9\\ -11.\ 1\\ -10.\ 9\\ -10.\ 7\\ -09.\ 9\\ -08.\ 9\\ -07.\ 3\\ -03.\ 7\\ -00.\ 1\\ 11.\ 4\\ 24.\ 0\\ 37.\ 9\end{array}$ | $\begin{array}{c} - 09.\ 7\\ - 09.\ 9\\ - 09.\ 9\\ - 10.\ 1\\ - 10.\ 0\\ - 09.\ 9\\ - 09.\ 4\\ - 09.\ 4\\ - 09.\ 0\\ - 08.\ 2\\ - 06.\ 5\\ - 02.\ 9\\ 00.\ 5\\ 12.\ 1\\ 24.\ 7\\ 38.\ 6\end{array}$ | $ \begin{array}{c c} -08. \\ -08. \\ -08. \\ -07. \\ -05. \\ -02. \\ 01. \\ 12. \\ 25. \\ \end{array} $ | $\begin{array}{c c c} 9 & -07 \\ 0 & -08 \\ 2 & -08 \\ 0 & -08 \\ 8 & -07 \\ 6 & -07 \\ 0 & -07 \\ 3 & -06 \\ 7 & -05 \\ 2 & -01 \\ 3 & 01 \\ 3 & 01 \\ 3 & 25 \end{array}$ | $\begin{array}{c} 9 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$ | $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 05. 8 05. 9 06. 1 06. 2 06. 3 06. 2 06. 0 05. 7 05. 1 03. 8 00. 3 03. 2 14. 7 27. 0 40. 7 | $\begin{array}{c} -04. \\ -05. \\ -05. \\ -05. \\ -05. \\ -05. \\ -04. \\ -04. \\ -04. \\ -03. \\ 00. \\ 03. \\ 15. \\ 27. \\ 41. \end{array}$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ |)4. 1)4. 2)4. 4)4. 4)4. 5)4. 5)4. 5)4. 5)4. 2)4. 2 | - 02. 9 - 03. 2 - 03. 3 - 03. 6 - 03. 6 - 03. 6 - 03. 7 - 03. 8 - 03. 6 - 03. 0 - 01. 9 01. 2 04. 7 16. 1 28. 2 41. 8 | $\begin{array}{c} -01. \ 9\\ -02. \ 2\\ -02. \ 4\\ -02. \ 7\\ -02. \ 8\\ -03. \ 0\\ -03. \ 0\\ -03. \ 0\\ -02. \ 9\\ -02. \ 5\\ -01. \ 4\\ 01. \ 8\\ 05. \ 1\\ 16. \ 4\\ 28. \ 6\\ 42. \ 3\end{array}$ | $\begin{array}{c} - 01. \ 0\\ - 01. \ 2\\ - 01. \ 5\\ - 01. \ 9\\ - 02. \ 1\\ - 02. \ 3\\ - 02. \ 3\\ - 02. \ 3\\ - 01. \ 9\\ - 00. \ 9\\ 02. \ 3\\ 05. \ 5\\ 16. \ 8\\ 28. \ 9\\ 42. \ 4\end{array}$ | | |
| Line | | | I | Departure | s from me | an surfa | ce dens | ity, pe | cent, 1 | night | | | | | |
| No. | -11.0 | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 |) | -4.0 | -3.0 | -2.0 | -1.0 | 0 | | |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -11. \ 0\\ -11. \ 2\\ -11. \ 5\\ -11. \ 8\\$ | $\begin{array}{c} -10.\ 0\\ -10.\ 2\\ -10.\ 5\\ -10.\ 8\\ -10.\ 8\\ -10.\ 7\\ -10.\ 3\\ -09.\ 9\\ -09.\ 0\\ -07.\ 4\\ -03.\ 8\\ -00.\ 2\\ 11.\ 3\\ 23.\ 9\\ 37.\ 9\end{array}$ | $\begin{array}{c} - \ 09. \ 0 \\ - \ 09. \ 3 \\ - \ 09. \ 8 \\ - \ 09. \ 8 \\ - \ 09. \ 9 \\ - \ 09. \ 9 \\ - \ 09. \ 9 \\ - \ 09. \ 4 \\ - \ 08. \ 9 \\ - \ 08. \ 1 \\ - \ 08. \ 5 \\ - \ 03. \ 5 \\ 12. \ 1 \\ 24. \ 5 \\ 38. \ 5 \end{array}$ | $\begin{array}{c} - 08. \ 0 \\ - 08. \ 3 \\ - 08. \ 6 \\ - 08. \ 9 \\ - 08. \ 9 \\ - 08. \ 9 \\ - 08. \ 5 \\ - 08. \ 0 \\ - 07. \ 3 \\ - 05. \ 7 \\ - 02. \ 3 \\ 01. \ 2 \\ 12. \ 8 \\ 25. \ 2 \\ 29. \ 1 \end{array}$ | $\begin{array}{c} -\ 07.\ 0\\ -\ 07.\ 3\\ -\ 07.\ 9\\ -\ 07.\ 9\\ -\ 07.\ 9\\ -\ 07.\ 9\\ -\ 07.\ 2\\ -\ 06.\ 5\\ -\ 07.\ 7\\ -\ 07.\ 2\\ -\ 06.\ 5\\ -\ 05.\ 1\\ -\ 01.\ 6\\ 01.\ 9\\ 13.\ 4\\ 25.\ 7\\ 39.\ 6\end{array}$ | $\begin{array}{c} -06. \ 1\\ -06. \ 3\\ -06. \ 6\\ -06. \ 9\\ -07. \ 0\\ -06. \ 9\\ -06. \ 5\\ -06. \ 5\\ -05. \ 8\\ -04. \ 5\\ -01. \ 0\\ 02. \ 5\\ 14. \ 0\\ 26. \ 4\\ 40. \ 2\end{array}$ | $ \begin{array}{c c} -05 \\ -06 \\ -06 \\ -05 \\ -05 \\ -05 \\ -03 \\ -00 \\ 03 \\ 14 \\ 26 \\ \end{array} $ | . 3 . 9 . 1 . 9 . 9 . 9 . 7 . 8 . 8 | -04. 1 -04. 5 -05. 1 -05. 2 -05. 3 -05. 2 -04. 9 -04. 9 -04. 9 -03. 1 -00. 2 03. 6 15. 0 27. 1 41. 0 | $\begin{array}{c} - 03. \ 2 \\ - 03. \ 2 \\ - 03. \ 8 \\ - 04. \ 2 \\ - 04. \ 3 \\ - 04. \ 4 \\ - 04. \ 2 \\ - 03. \ 7 \\ - 02. \ 5 \\ 00. \ 8 \\ 04. \ 2 \\ 15. \ 6 \\ 27. \ 8 \\ 41. \ 5 \end{array}$ | $\begin{array}{c} - 02. \ 6 \\ - 02. \ 9 \\ - 03. \ 3 \\ - 03. \ 5 \\ - 03. \ 5 \\ - 03. \ 7 \\ - 03. \ 5 \\ - 03. \ 0 \\ - 01. \ 9 \\ 01. \ 2 \\ 04. \ 7 \\ 16. \ 1 \\ 28. \ 2 \end{array}$ | $\begin{array}{c} -01. \ 2 \\ -01. \ 6 \\ -02. \ 0 \\ -02. \ 4 \\ -02. \ 7 \\ -02. \ 9 \\ -02. \ 9 \\ -02. \ 9 \\ -02. \ 9 \\ -02. \ 4 \\ -01. \ 4 \\ 01. \ 8 \\ 05. \ 1 \\ 16. \ 4 \\ 28. \ 5 \\ 42. \ 1 \end{array}$ | $\begin{array}{c} -00. \ 4\\ -00. \ 7\\ -01. \ 1\\ -01. \ 6\\ -02. \ 3\\ -02. \ 3\\ -02. \ 3\\ -01. \ 9\\ -00. \ 2\\ 05. \ 5\\ 16. \ 7\\ 28. \ 7\\ 42. \ 4\end{array}$ | | |

Table 2–14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 3

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| Line | | | | Depar | rtures | fron | n mean | n su | rface | dens | sity, p | ercei | nt, a | fterno | on | | | | <u></u> |
|--|--|--|--|---|---|---|---|-----------------|--|---|--|---|---|--|---------------|---|---------------------------------------|---|---|
| No. | -2.0 | -1.0 | 0 | +1.0 | +2 | 2.0 | +3.0 | | +4.0 | | +5.0 | +(| 6.0 | +7.0 |) | +8.0 | | +9.0 | +10.0 |
| 1 2 3 4 5 6 7 8 9 9 10 11 12 13 14 15 | $ \begin{array}{r} -02.1 \\ -02.3 \\ -02.4 \\ -02.5 \\ -02.3 \\ -01.8 \\ \end{array} $ | $\begin{array}{c c} -01. \ 4 \\ -01. \ 5 \\ -01. \ 7 \\ -01. \ 9 \\ -01. \ 7 \end{array}$ | -01.3 | $\begin{array}{c} 01. 1\\ 00. 9\\ 00. 6\\ 00. 3\\ 00. 0\\ -00. 4\\ -00. 7\\ -00. 6\\ -00. 4\\ 00. 5\\ 03. 5\\ 03. 5\\ 06. 8\\ 18. 1\\ 30. 0\\ 43. 6\end{array}$ | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c} 2. 1 \\ 1. 5 \\ 1. 5 \\ 1. 7 \\ 0. 1 \\ 0. 2 \\ 0. 9 \\ 3. 8 \\ 1. 4 \\ 0. 3 \\ 3. 9 \\ 0. 3 \\ 0.$ | 03. 02. 01. 01. 00. 00. 00. 00. 01. 04. 07. 18. 30. 44. | 7393742431364 | 04_0 03. 6 03. 1 02. 5 02. 0 01. 4 00. 9 00. 7 00. 8 01. 6 04. 4 07. 6 18. 8 30. 6 44. 0 | | $\begin{array}{c} 04. \ 8\\ 04. \ 4\\ 03. \ 9\\ 03. \ 2\\ 02. \ 6\\ 01. \ 9\\ 01. \ 2\\ 01. \ 2\\ 01. \ 9\\ 04. \ 6\\ 18. \ 8\\ 18. \ 6\\ 44. \ 0 \end{array}$ | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 5.73.714.3.608.390183 | 06. 06. 05. 04. 03. 02. 02. 02. 02. 02. 02. 02. 03. 04. 03. 04. 04. 04. 04. 04. 04. 04. 04. 04. 04 | 2691163262449 | 07. 07. 05. 03. 03. 02. 02. 05. 08. 19. 30. 44. | 04 67 71 86 84 54 9 | 08. 5 07. 9 07. 1 06. 2 05. 4 03. 2 03. 0 03. 2 03. 0 03. 2 05. 7 08. 7 19. 4 30. 9 44. 3 | 08. 7 07. 9 07. 0 06. 1 05. 0 04. 2 03. 7 03. 4 06. 0 08. 8 19. 5 31. 1 |
| Line No. | | | | | | | · | | 1 | | | | t, tr | ansitio | on | | | | |
| | 0 | +1.0 | +2 | .0 | +3.(| 0 | +4. | 0 | +5. | 0 | +6.0 | <u>)</u> | +7 | .0 | +; | 8.0 | + | 9.0 | +10.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -00. \ 1 \\ -00. \ 4 \\ -00. \ 7 \\ -01. \ 1 \\ -01. \ 6 \\ -01. \ 9 \\ -01. \ 7 \\ -01. \ 3 \\ -00. \ 3 \\ 02. \ 8 \\ 06. \ 1 \\ 17. \ 6 \\ 29. \ 5 \\ 43. \ 3 \end{array}$ | 00 -00 -00 -01 -01 -01 -01 -00 | $\begin{array}{c ccccc} 5 & 0 \\ 1 & 2 \\ 2 & 6 \\ 0 & -6 \\ 1 & -6 \\ 2 & -6 \\ 1 & -6 \\ 2 $ | 01. 9 01. 5 01. 1 00. 6 00. 3 00. 6 00. 3 00. 5 00. 5 06. 8 8. 2 03. 7 | 0: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | 03 02 01 00 00 00 00 01 04 07 18 30 | 837159534314760 | 04 03 02 01 00 00 01 01 01 04 07 18 30 | 625825980757973 | 04 04 02 02 01 01 01 01 01 04 07 18 | 9 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 6.5 15.8 15.1 14.3 13.6 12.0 1.8 2.20 1.8 2.39 9.00 8.3 9.00 4.3 | | 07. 4 06. 7 06. 0 05. 1 04. 2 03. 2 02. 6 02. 3 02. 2 02. 6 02. 3 02. 2 02. 6 02. 3 02. 2 03. 4 19. 4 30. 9 14. 5 | | 08. 4 07. 7 06. 8 05. 9 04. 9 03. 2 02. 8 02. 7 03. 0 05. 6 08. 7 19. 6 31. 2 44. 6 | 09. 3 08. 5 07. 5 06. 5 05. 6 04. 6 03. 8 03. 2 03. 1 03. 2 05. 8 19. 6 31. 2 44. 6 |
| Line | | . | | Dep | arture | s fro | m me | an s | urface | e der | nsity, | perc | ent, | night | | | | | |
| No. | +5.0 | +6.0 | +7.0 | | 8.0 | + | 9.0 | +1 | 0.0 | +1 | 1.0 | +12 | .0 | +13.0 | | +14.0 | _ | +15.0 | +16.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 00.\ 7\\ 00.\ 2\\ -00.\ 3\\ -00.\ 8\\ -01.\ 1\\ -01.\ 5\\ -01.\ 7\\ -01.\ 6\\ -01.\ 3\\ -02.\ 8\\ 06.\ 1\\ 17.\ 6\\ 29.\ 6\\ 43.\ 3\end{array}$ | $\begin{array}{c} 01. \ 7\\ 01. \ 2\\ 00. \ 6\\ 00. \ 1\\ -\ 00. \ 3\\ -\ 00. \ 3\\ -\ 01. \ 1\ 0\ 1\\ -\ 01. \ 1\ 0\ 0\ 1\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\$ | 02.0 01.2 00.2 -00.2 -00.2 -00.2 -00.2 -00.2 00.2 | | 03. 6 03. 0 02. 3 01. 6 01. 0 00. 4 00. 0 00. 2 00. 0 00. 9 03. 8 07. 1 18. 3 30. 3 43. 9 | | 04. 4 03. 9 03. 1 10. 3 11. 7 10. 6 10. 3 10. 5 11. 3 14. 2 17. 4 8. 7 0. 6 4. 2 | | 05. 4 04. 7 03. 9 03. 1 02. 4 01. 6 01. 0 00. 8 01. 0 01. 7 94. 5 07. 7 8. 9 00. 8 14. 3 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | $\begin{array}{c} 16. \ 3 \\ 15. \ 6 \\ 13. \ 8 \\ 13. \ 1 \\ 21. \ 6 \\ 11. \ 4 \\ 12. \ 6 \\ 11. \ 4 \\ 12. \ 7 \\ 9. \ 0 \\ 8 \\ 3 \\ 4 \\ 3 \\ 4 \\ 3 \\ 1 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1$ | 07 06 05 04 03 02 01 01 02 05 05 08 19 30 44 | 3457718730008 | 08. 07. 06. 05. 04. 02. 02. 02. 02. 02. 02. 02. 02. 02. 02 | 3444444 | 09. 2 08. 2 07. 2 06. 1 05. 1 05. 1 03. 3 02. 9 02. 7 03. 0 05. 6 08. 7 19. 6 31. 2 44. 6 | | 09. 9 09. 0 07. 9 05. 7 04. 6 03. 8 03. 3 03. 1 03. 3 05. 8 08. 8 19. 6 31. 2 44. 6 | 10. 8 09. 7 08. 6 07. 5 06. 4 05. 2 04. 3 03. 8 03. 5 03. 5 04. 6 07. 1 08. 9 19. 6 08. 9 19. 6 08. 9 19. 6 08. 9 19. 6 08. 6 07. 5 08. 6 03. 5 08. 6 03. 5 08. 6 03. 5 08. 6 09. 7 08. 6 03. 5 09. 6 08. 6 07. 5 08. 6 09. 7 08. 6 00. 5 08. 6 08. 7 08. 6 08. 6 08. 6 08. 6 08. 7 08. 6 08. 6 |

 Table 2-14.
 Departures from Mean Surface Density (Percent), Type 2 Message, Region 3---Continued

| Line | | | De | epartures 1 | from mean | a surface | lensity, pe | ercent, aft | ernoon | | | |
|---|---|--|---|---|---|--|---|--|---|--|---|--|
| No. | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0 | +1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -09.\ 6\\ -09.\ 7\\ -09.\ 7\\ -09.\ 9\\ -10.\ 0\\ -09.\ 7\\ -09.\ 9\\ -10.\ 0\\ -09.\ 7\\ -09.\ 7\\ -09.\ 7\\ -09.\ 7\\ -09.\ 3\\ -08.\ 5\\ -07.\ 0\\ -03.\ 4\\ 00.\ 2\\ 11.\ 7\\ 24.\ 1\\ 38.\ 0\end{array}$ | $\begin{array}{c} - 08. \ 6 \\ - 08. \ 7 \\ - 08. \ 8 \\ - 09. \ 0 \\ - 09. \ 0 \\ - 09. \ 1 \\ - 08. \ 9 \\ - 08. \ 5 \\ - 07. \ 8 \\ - 06. \ 2 \\ - 02. \ 7 \\ 00. \ 9 \\ 12. \ 4 \\ 24. \ 8 \\ 38. \ 8 \end{array}$ | $\begin{array}{c} -07.\ 6\\ -07.\ 7\\ -07.\ 8\\ -08.\ 0\\ -08.\ 0\\ -08.\ 1\\ -08.\ 0\\ -07.\ 6\\ -06.\ 9\\ -05.\ 6\\ -02.\ 0\\ 01.\ 5\\ 13.\ 1\\ 25.\ 6\\ 39.\ 4\end{array}$ | $\begin{array}{c} -06.\ 6\\ -06.\ 7\\ -06.\ 8\\ -07.\ 0\\ -07.\ 0\\ -07.\ 1\\ -07.\ 0\\ -06.\ 8\\ -06.\ 1\\ -04.\ 8\\ -01.\ 3\\ 02.\ 2\\ 13.\ 7\\ 26.\ 1\\ 39.\ 9\end{array}$ | $\begin{array}{c} -05.7\\ -05.8\\ -06.0\\ -06.2\\ -06.3\\ -06.3\\ -06.1\\ -05.3\\ -04.1\\ -05.3\\ -04.1\\ -00.7\\ 02.9\\ 14.3\\ 26.8\\ 40.7\end{array}$ | $\begin{array}{c} -04.7\\ -04.8\\ -04.9\\ -05.1\\ -05.3\\ -05.4\\ -05.4\\ -05.1\\ -04.6\\ -03.4\\ 00.0\\ 03.5\\ 15.0\\ 02.7\\ 41.3\end{array}$ | $\begin{array}{c} -03.8\\ -03.9\\ -04.1\\ -04.3\\ -04.4\\ -04.6\\ -04.6\\ -04.4\\ -04.0\\ -02.7\\ 00.5\\ 04.0\\ 15.5\\ 27.8\\ 41.7\end{array}$ | $\begin{array}{c} -02.8\\ -03.0\\ -03.2\\ -03.4\\ -03.6\\ -03.8\\ -03.9\\ -03.3\\ -02.2\\ 01.0\\ 04.5\\ 16.0\\ 28.3\\ 42.1 \end{array}$ | $\begin{array}{r} -02.0\\ -02.2\\ -02.6\\ -02.8\\ -03.2\\ -03.3\\ -03.2\\ -03.8\\ -03.2\\ -02.8\end{array}$ | $\begin{array}{c} -01.\ 0\\ -01.\ 2\\ -01.\ 5\\ -01.\ 8\\ -02.\ 3\\ -02.\ 6\\ -02.\ 8\\ -02.\ 8\\ -02.\ 4\\ -01.\ 4\\ 01.\ 8\\ 05.\ 2\\ 16.\ 7\\ 29.\ 0\\ 42.\ 9\end{array}$ | $\begin{array}{c} 00. \ 0\\ -00. \ 4\\ -00. \ 9\\ -01. \ 3\\ -01. \ 7\\ -02. \ 1\\ -02. \ 4\\ -02. \ 1\\ -02. \ 1\\ -01. \ 1\\ 05. \ 4\\ 16. \ 8\\ 29. \ 1\\ 43. \ 0 \end{array}$ | $\begin{array}{c} 00.8\\ 00.3\\ -00.2\\ -00.7\\ -01.2\\ -01.6\\ -01.9\\ -01.7\\ -00.8\\ 02.3\\ 05.7\\ 17.0\\ 29.4\\ 43.2\end{array}$ |
| Line | | | De | partures f | rom mean | surface d | lensity, pe | rcent, tra | nsition | | | |
| No. | -8.0 | -7.0 |) | 6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | · | 0 | +1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -07.\\ -07.\\ -08.\\ -08.\\ -08.\\ -08.\\ -08.\\ -08.\\ -08.\\ -07.\\ -06.\\ -02.\\ 01.\\ 01.\\ 01.\\ 01.\\ 38.\\ \end{array}$ | $\begin{array}{c c c} 0 & -0 \\ 0 & -0 \\ 1 & -0 \\ 6 & -0 \\ 6 & -0 \\ 7$ | 6.9 - 7.1 - 7.4 - 7.6 - 7.7 - 7.7 - 7.3 - 6.7 - 5.4 - | -05.9 -06.1 -06.4 -06.6 -06.8 -06.7 -06.6 -05.9 -04.6 | $\begin{array}{c} -04.8\\ -05.0\\ -05.2\\ -05.5\\ -05.7\\ -05.9\\ -05.9\\ -05.2\\ -04.0\\ -00.5\\ 03.0\\ 14.4\\ 26.9\\ 40.7\end{array}$ | $\begin{array}{c} -03.8\\ -04.0\\ -04.3\\ -04.7\\ -04.9\\ -05.1\\ -05.2\\ -05.0\\ -04.5\\ -03.2\\ 00.1\\ 03.6\\ 15.1\\ 27.4\\ 41.3 \end{array}$ | $\begin{array}{c} -02. \ 8\\ -03. \ 1\\ -03. \ 4\\ -03. \ 7\\ -04. \ 0\\ -04. \ 3\\ -04. \ 3\\ -04. \ 2\\ -03. \ 8\\ -02. \ 6\\ 00. \ 7\\ 04. \ 1\\ 15. \ 6\\ 28. \ 1\\ 41. \ 8\end{array}$ | $ \begin{array}{c c} -01.9\\ -02.2\\ -02.5\\ -02.9\\ -03.2\\ -03.6\\ -03.8\\ -03.8\\ -03.2\\ -02.1\\ 01.0\\ 04.5\\ 16.0\\ 28.3\\ 42.3\\ \end{array} $ | $\begin{array}{c} -01. \\ -02. \\ -02. \\ -03. \\ -03. \\ -03. \\ -03. \\ -03. \\ -03. \\ -04. \\ -0$ | 5 | 00. 2 00. 5 01. 1 01. 6 02. 1 02. 5 02. 7 02. 3 01. 3 01. 9 05. 3 16. 7 29. 0 42. 9 | $\begin{array}{c} 00.\ 7\\ 00.\ 1\\ -00.\ 5\\ -01.\ 1\\ -01.\ 5\\ -02.\ 2\\ -02.\ 2\\ -02.\ 2\\ -01.\ 9\\ -01.\ 0\\ 02.\ 1\\ 05.\ 5\\ 17.\ 0\\ 29.\ 2\\ 43.\ 2\end{array}$ |
| Line | | | | Departur | es from m | ean surfa | ce density | , percent, | night | | | |
| No. | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | -2.0 | -1.0 | 0 | +1.0 | +2.0 | +3.0 |
| 1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 | $\begin{array}{r} -07.8 \\ -08.0 \\ -08.3 \\ -09.1 \\ -09.3 \\ -09.2 \\ -08.9 \\ -08.2 \\ -08.6 \\ -03.1 \\ 12.0 \\ 24.4 \\ 38.3 \end{array}$ | $\begin{array}{r} -06.8 \\ -07.0 \\ -07.3 \\ -07.8 \\ -08.1 \\ -08.3 \\ -08.0 \\ -07.4 \\ -05.9 \\ -02.4 \\ 01.1 \\ 12.7 \\ 25.0 \\ 39.1 \end{array}$ | $\begin{array}{r} -05.9\\ -06.0\\ -06.3\\ -06.8\\ -07.1\\ -07.3\\ -07.4\\ -07.1\\ \cdot -06.6\\ -05.2\\ -01.7\\ 01.8\\ 13.4\\ 25.7\\ 39.5\end{array}$ | $\begin{array}{c} -04. \ 9 \\ -05. \ 1 \\ -05. \ 4 \\ -05. \ 8 \\ -06. \ 2 \\ -06. \ 5 \\ -06. \ 3 \\ -05. \ 8 \\ -04. \ 5 \\ -01. \ 1 \\ 02. \ 4 \\ 14. \ 0 \\ 26. \ 4 \\ 40. \ 2 \end{array}$ | $\begin{array}{c} -03. \ 9 \\ -04. \ 2 \\ -04. \ 5 \\ -05. \ 0 \\ -05. \ 3 \\ -05. \ 6 \\ -05. \ 7 \\ -05. \ 5 \\ -05. \ 0 \\ -03. \ 8 \\ -00. \ 4 \\ 03. \ 1 \\ 14. \ 6 \\ 26. \ 9 \\ 40. \ 8 \end{array}$ | $\begin{array}{r} -02. \ 9 \\ -03. \ 3 \\ -03. \ 7 \\ -04. \ 1 \\ -04. \ 4 \\ -04. \ 7 \\ -04. \ 3 \\ -03. \ 1 \\ 00. \ 2 \\ 03. \ 7 \\ 15. \ 1 \\ 27. \ 5 \\ 41. \ 4 \end{array}$ | $\begin{array}{r} -02. \ 1\\ -02. \ 5\\ -02. \ 9\\ -03. \ 3\\ -03. \ 7\\ -04. \ 0\\ -04. \ 2\\ -04. \ 0\\ -03. \ 7\\ -02. \ 5\\ 00. \ 7\\ -02. \ 5\\ 00. \ 7\\ -41. \ 8\end{array}$ | $\begin{array}{r} -01. \ 2\\ -01. \ 6\\ -02. \ 1\\ -02. \ 6\\ -03. \ 0\\ -03. \ 5\\ -03. \ 5\\ -03. \ 1\\ -02. \ 0\\ 01. \ 2\\ 04. \ 7\\ 16. \ 1\\ 28. \ 5\\ 42. \ 3\end{array}$ | $\begin{array}{r} -01.4\\ -01.9\\ -02.4\\ -02.8\\ -03.0\\ -03.0\\ -02.6\end{array}$ | $\begin{array}{c} 00. \ 6\\ -\ 00. \ 1\\ -\ 00. \ 8\\ -\ 01. \ 4\\ -\ 01. \ 8\\ -\ 02. \ 6\\ -\ 02. \ 3\\ -\ 01. \ 3\\ 01. \ 9\\ 01. \ 3\\ 01. \ 9\\ 16. \ 8\\ 29. \ 1\\ 43. \ 0\end{array}$ | $\begin{array}{c} 01. \ 4\\ 00. \ 6\\ -00. \ 2\\ -00. \ 8\\ -01. \ 3\\ -01. \ 3\\ -02. \ 2\\ -02. \ 2\\ -02. \ 2\\ -05. \ 5\\ 16. \ 9\\ 29. \ 2\\ 43. \ 0\end{array}$ | $\begin{array}{c} 02. \ 1\\ 01. \ 2\\ 00. \ 4\\ -00. \ 3\\ -00. \ 8\\ -01. \ 4\\ -01. \ 7\\ -01. \ 8\\ -01. \ 6\\ -00. \ 7\\ 02. \ 4\\ 05. \ 7\\ 17. \ 1\\ 29. \ 4\\ 43. \ 2\end{array}$ |

Table 2-14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 4

| Line | | | Depa | rtures from | n mean su | rface de | ensity | , percent | ; | <u>+_</u> _ | |
|---|---|--|---|---|--|---|---|--|--|---|--|
| No. | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 | | -2.0 | -1.0 | 0 | +1.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{r} -07.5 \\ -07.6 \\ -07.5 \\ -07.5 \\ -07.3 \\ -07.0 \\ -06.6 \\ -05.9 \\ -04.6 \\ -01.1 \\ 02.3 \\ 13.8 \\ 26.2 \\ 39.9 \end{array}$ | $\begin{array}{c} -06. \ 6\\ -06. \ 7\\ -06. \ 6\\ -06. \ 7\\ -06. \ 7\\ -06. \ 3\\ -06. \ 3\\ -06. \ 0\\ -05. \ 3\\ -04. \ 0\\ -00. \ 7\\ 02. \ 9\\ 14. \ 3\\ 26. \ 5\\ 40. \ 2\end{array}$ | $\begin{array}{r} - \ 05. \ 7 \\ - \ 05. \ 7 \\ - \ 05. \ 7 \\ - \ 05. \ 8 \\ - \ 05. \ 9 \\ - \ 05. \ 8 \\ - \ 05. \ 3 \\ - \ 05. \ 3 \\ - \ 05. \ 3 \\ - \ 04. \ 7 \\ - \ 03. \ 5 \\ - \ 00. \ 2 \\ 03. \ 3 \\ 14. \ 7 \\ 26. \ 8 \\ 40. \ 4 \end{array}$ | - 04. 7 - 04. 9 - 05. 0 - 05. 0 - 05. 0 - 05. 0 - 04. 6 - 04. 2 - 02. 9 - 00. 3 03. 7 15. 0 27. 0 40. 5 | $\begin{array}{r} -03.8\\ -03.9\\ -04.0\\ -04.2\\ -04.3\\ -04.3\\ -04.3\\ -04.3\\ -04.3\\ -04.4\\ 3\\ -04.0\\ -03.6\\ -02.4\\ 00.8\\ 04.1\\ 15.4\\ 27.3\\ 40.8\end{array}$ | 04 | . 0 . 1 . 3 . 5 . 6 . 6 . 5 . 0 . 8 . 2 . 6 . 8 . 7 | $\begin{array}{c} -01.\ 8\\ -02.\ 0\\ -02.\ 2\\ -02.\ 7\\ -02.\ 9\\ -02.\ 9\\ -02.\ 8\\ -02.\ 4\\ -01.\ 4\\ 01.\ 7\\ 05.\ 0\\ 16.\ 1\\ 27.\ 8\\ 41.\ 3\end{array}$ | $\begin{array}{c} -00.9\\ -01.1\\ -01.3\\ -01.6\\ -01.9\\ -02.2\\ -02.3\\ -02.2\\ -02.3\\ -02.2\\ -02.3\\ 105.3\\ 16.3\\ 28.1\\ 41.4\end{array}$ | $\begin{array}{c} 00. \ 0\\ -00. \ 3\\ -00. \ 6\\ -00. \ 9\\ -01. \ 2\\ -01. \ 4\\ -01. \ 6\\ -01. \ 3\\ -00. \ 4\\ 02. \ 6\\ 05. \ 7\\ 16. \ 8\\ 28. \ 5\\ 41. \ 7\end{array}$ | $\begin{array}{c} 01.\ 0\\ 00.\ 6\\ 00.\ 8\\ -00.\ 1\\ -00.\ 4\\ -00.\ 8\\ -01.\ 1\\ -01.\ 0\\ -00.\ 7\\ 00.\ 0\\ 03.\ 0\\ 06.\ 1\\ 17.\ 1\\ 28.\ 7\\ 42.\ 0\end{array}$ |
| Line No. | | | Depa | rtures from | n mean su | rface de | ensity | , percen | : | · · · · · · · · · · · · · · · · · · · | |
| | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 | · | +8.0 | +9.0 | +10.0 | +11.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 01. \ 9\\ 01. \ 6\\ 01. \ 1\\ 00. \ 7\\ 00. \ 3\\ - \ 00. \ 2\\ - \ 00. \ 4\\ - \ 00. \ 4\\ - \ 00. \ 2\\ 00. \ 7\\ 03. \ 5\\ 06. \ 7\\ 17. \ 9\\ 29. \ 4\\ 42. \ 7\end{array}$ | 02. 9 02. 5 02. 0 01. 5 00. 9 00. 4 00. 1 00. 0 00. 2 01. 0 03. 8 07. 0 18. 2 29. 6 42. 9 | 03. 8 03. 2 02. 7 02. 1 01. 4 00. 8 00. 5 01. 3 04. 0 07. 2 18. 3 29. 6 43. 0 | 04. 6 04. 1 03. 4 02. 6 01. 3 00. 7 00. 6 01. 5 04. 3 07. 3 18. 2 29. 6 43. 0 | 05. 5 04. 8 04. 0 03. 2 02. 6 01. 8 01. 2 01. 0 01. 1 01. 7 04. 5 07. 5 18. 6 29. 9 43. 2 | 05 04 03 02 01 01 01 01 02 04 07 18 30 | 4 6 8 9 1 2 5 3 4 0 7 7 0 3 | 07. 2 06. 4 05. 4 02. 6 01. 9 01. 6 01. 6 01. 8 02. 6 01. 8 01. 8 02. 8 01. 9 01. 8 01. 8 02. 4 3. 3 | 08. 0 07. 1 06. 0 04. 9 04. 9 03. 0 02. 2 01. 9 01. 8 02. 3 04. 9 07. 9 18. 7 30. 2 43. 3 | 09. 0 08. 0 06. 8 05. 7 04. 5 03. 3 02. 6 02. 3 02. 6 02. 3 02. 2 02. 6 05. 2 08. 3 19. 0 30. 4 3. 6 | 09. 8 08. 8 07. 5 06. 1 05. 0 03. 8 03. 1 02. 6 02. 5 02. 9 05. 5 08. 5 19. 3 30. 7 43. 7 |
| Line | | | Depa | artures fro | m mean su | rface d | ensity | , percen | t | | |
| No. | +12.0 | +13.0 | +14.0 | +15.0 |) +1 | 6.0 | +17 | .0 | +18.0 | +19.0 | +20.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} 11. \ 0\\ 10. \ 0\\ 08. \ 5\\ 07. \ 1\\ 06. \ 0\\ 04. \ 6\\ 03. \ 7\\ 03. \ 2\\ 03. \ 1\\ 03. \ 4\\ 05. \ 9\\ 09. \ 0\\ 20. \ 0\\ 31. \ 3\\ 44. \ 6\end{array}$ | 11. 8 10. 8 09. 2 07. 8 06. 7 05. 2 04. 1 03. 6 03. 5 03. 8 06. 3 09. 3 20. 3 31. 6 44. 8 | 11. 10. 08. 07. 06. 04. 04. 04. 04. 04. 04. 04. 04 | 8 1 0 1 7 0 0 0 0 0 3 0 3 0 3 0 3 0 7 1 7 2 2 3 | 3. 7 2.0.8 99.5 88.2 65.6 15.0 14.7 94.7 94.7 94.7 3 1.3 12.5 6 | 14. 7 13. 4 11. 9 10. 4 09. 1 07. 6 06. 5 05. 8 05. 5 05. 8 08. 0 11. 0 22. 0 33. 3 46. 5 | | 15. 6 14. 2 12. 6 11. 3 10. 0 08. 4 08. 4 08. 2 06. 6 08. 7 11. 6 22. 6 34. 0 47. 2 | 16.5 15.1 13.5 12.2 10.9 09.2 08.0 07.3 06.9 09.3 12.3 23.2 34.5 48.0 | 17. 4 16. 0 14. 4 13. 1 11. 6 10. 0 08. 8 08. 1 07. 7 07. 6 10. 0 12. 8 23. 6 35. 1 48. 6 | 18.5 17.1 15.5 14.1 12.7 11.0 09.8 09.0 08.5 08.5 08.5 10.8 13.7 24.6 36.1 49.4 |

 Table 2-14.
 Departures from Mean Surface Density (Percent), Type 2 Message, Region 5

2 - 1 4 7

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| Line | | Depa | rtures from me | ean surface | densi | ty, perce | nt, afterno | on | |
|---|--|---|--|--|--|--|--|---|---|
| No. | -11.0 | -10.0 | -9.0 | -8.0 | 7 | .0 | -6.0 | -5.0 | -4.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -10.5 \\ -10.4 \\ -10.1 \\ -09.9 \\ -09.7 \\ -09.3 \\ -08.9 \\ -08.3 \\ -08.3 \\ -06.8 \\ -03.4 \\ 00.0 \\ 11.5 \\ 23.9 \\ 37.7 \end{array}$ | $\begin{array}{c} - & 09. \ 5 \\ - & 09. \ 5 \\ - & 09. \ 5 \\ - & 09. \ 3 \\ - & 09. \ 3 \\ - & 09. \ 1 \\ - & 08. \ 9 \\ - & 08. \ 7 \\ - & 08. \ 2 \\ - & 07. \ 6 \\ - & 06. \ 2 \\ - & 07. \ 6 \\ - & 06. \ 2 \\ - & 02. \ 8 \\ 00. \ 6 \\ 12. \ 1 \\ 24. \ 5 \\ 38. \ 5 \end{array}$ | $\begin{array}{c} - 08.5 \\ - 08.5 \\ - 08.3 \\ - 08.3 \\ - 08.1 \\ - 08.0 \\ - 07.4 \\ - 06.8 \\ - 07.4 \\ - 06.8 \\ - 05.6 \\ - 02.2 \\ 01.3 \\ 12.8 \\ 25.2 \\ 39.2 \\ \end{array}$ | $\begin{array}{c} -07.5\\ -07.4\\ -07.3\\ -07.3\\ -07.2\\ -07.0\\ -06.9\\ -06.1\\ -04.9\\ -01.5\\ 01.9\\ 13.5\\ 25.8\\ 39.9 \end{array}$ | | - 06. 5 - 06. 4 - 06. 3 - 06. 3 - 06. 3 - 06. 2 - 06. 0 - 05. 8 - 05. 8 - 05. 3 - 04. 2 - 00. 9 02. 5 14. 1 26. 5 40. 5 | $\begin{array}{c} -05. \ 6\\ -05. \ 3\\ -05. \ 3\\ -05. \ 3\\ -05. \ 3\\ -05. \ 3\\ -05. \ 3\\ -04. \ 9\\ -04. \ 4\\ -03. \ 4\\ -00. \ 2\\ 03. \ 3\\ 14. \ 3\end{array}$ | $\begin{array}{c} -04. \\ -04. \\ -04. \\ -04. \\ -04. \\ -04. \\ -04. \\ -04. \\ -03. \\ -02. \\ -00. \\ 03. \\ 15. \\ 27. \end{array}$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| Line No. | | | tures from me | | | | | | |
| | -9.0 | -8.0 | | 7.0 | | -6.0 | | .0 | -4.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 07. 5 07. 6 07. 6 07. 6 07. 6 07. 6 07. 6 07. 4 07. 1 06. 4 05. 4 01. 5 13. 0 25. 6 39. 5 | $\begin{array}{c} - \ 06. \ 5 \\ - \ 06. \ 6 \\ - \ 06. \ 6 \\ - \ 06. \ 7 \\ - \ 06. \ 6 \\ - \ 06. \ 7 \\ - \ 06. \ 5 \\ - \ 06. \ 5 \\ - \ 06. \ 5 \\ - \ 06. \ 5 \\ - \ 06. \ 5 \\ - \ 06. \ 1 \\ - \ 05. \ 7 \\ - \ 04. \ 6 \\ - \ 01. \ 3 \\ 02. \ 1 \\ 13. \ 6 \\ 26. \ 1 \\ 40. \ 2 \end{array}$ | | $\begin{array}{c} -05. \\ -05. \\ -05. \\ -05. \\ -05. \\ -05. \\ -05. \\ -05. \\ -04. \\ -03. \\ -00. \\ 02. \\ 14. \\ 26. \\ 40. \end{array}$ | 7677774987938 | $\begin{array}{c} -04. \ 6\\ -04. \ 8\\ -04. \ 8\\ -04. \ 9\\ -04. \ 8\\ -04. \ 8\\ -04. \ 8\\ -04. \ 8\\ -04. \ 8\\ -04. \ 6\\ -04. \ 2\\ -03. \ 2\\ 00. \ 0\\ 03. \ 5\\ 14. \ 9\\ 27. \ 3\\ 41. \ 4\end{array}$ | $\begin{array}{c} -03. \ 6\\ -03. \ 8\\ -03. \ 8\\ -03. \ 9\\ -03. \ 9\\ -03. \ 9\\ -03. \ 9\\ -03. \ 7\\ -03. \ 4\\ -02. \ 4\\ 00. \ 7\\ 04. \ 1\\ 15. \ 6\\ 28. \ 1\\ 42. \ 1\end{array}$ |
| Line | | Dep | artures from r | nean surfa | ce den | sity, perc | cent, night | | |
| No. | -9.0 | -8.0 | -7.0 | -6.0 | | -5.0 | | -4.0 | -3.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | $\begin{array}{c} - 06. \ 6 \\ - 06. \ 7 \\ - 06. \ 8 \\ - 07. \ 0 \\$ | | 05. 7 05. 8 05. 9 06. 2 06. 2 06. 2 06. 1 05. 9 05. 4 04. 3 01. 1 02. 4 02. 4 13. 8 26. 4 40. 4 | | - 04. 7 - 04. 9 - 05. 0 - 05. 2 - 05. 3 - 05. 3 - 05. 3 - 05. 3 - 05. 1 - 04. 6 - 03. 6 - 00. 4 03. 1 14. 6 26. 9 41. 0 | $\begin{array}{c} - 03. 7 \\ - 03. 9 \\ - 04. 3 \\ - 04. 3 \\ - 04. 4 \\ - 04. 4 \\ - 04. 4 \\ - 04. 4 \\ - 03. 9 \\ - 02. 9 \\ 00. 2 \\ 03. 7 \\ 15. 1 \\ 27. 7 \\ 41. 7 \end{array}$ | $ \begin{array}{c} -02.7\\ -02.9\\ -03.1\\ -03.3\\ -03.5\\ -03.5\\ -03.5\\ -03.5\\ -03.2\\ -02.3\\ 00.8\\ 04.2\\ 15.8\\ 28.3\\ 42.4\\ \end{array} $ |

Table 2–14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 6

Enter table with line number and departures from mean surface density to the nearest percent. Obtain departure from mean ballistic density to the nearest tenth of a percent. Do not interpolate.

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| Line | | Dep | artures from | mean surfa | ce density, p | percent, after | moon | | |
|---|--|--|--|---|--|---|---|---|--|
| No. | -11.0 | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -10. \ 9 \\ -11. \ 0 \\ -10. \ 8 \\ -10. \ 7 \\ -10. \ 4 \\ -09. \ 9 \\ -09. \ 4 \\ -08. \ 2 \\ -06. \ 7 \\ -03. \ 4 \\ 00. \ 1 \\ 11. \ 5 \\ 23. \ 7 \\ 37. \ 3 \end{array}$ | $\begin{array}{c} -09. \ 9\\ -10. \ 1\\ -09. \ 9\\ -09. \ 8\\ -09. \ 6\\ -09. \ 1\\ -08. \ 7\\ -08. \ 2\\ -07. \ 6\\ -06. \ 2\\ -02. \ 8\\ 00. \ 5\\ 12. \ 0\\ 24. \ 1\\ 37. \ 7\end{array}$ | $\begin{array}{c} -08. \ 6\\ -09. \ 0\\ -09. \ 1\\ -09. \ 1\\ -08. \ 9\\ -08. \ 5\\ -08. \ 2\\ -07. \ 7\\ -07. \ 0\\ -05. \ 6\\ -02. \ 1\\ 01. \ 3\\ 12. \ 8\\ 24. \ 9\\ 38. \ 5\end{array}$ | $\begin{array}{c} -07.7\\ -07.9\\ -08.0\\ -08.0\\ -07.9\\ -07.7\\ -07.5\\ -07.1\\ -06.6\\ -05.3\\ -01.9\\ 01.5\\ 12.7\\ 24.5\\ 38.0 \end{array}$ | $\begin{array}{c} -06.7\\ -06.8\\ -07.0\\ -07.0\\ -06.9\\ -06.9\\ -06.5\\ -06.5\\ -05.9\\ -04.7\\ -01.4\\ 02.0\\ 13.3\\ 25.2\\ 38.6 \end{array}$ | $\begin{array}{c} -05.8\\ -05.8\\ -05.8\\ -06.0\\ -06.2\\ -06.2\\ -06.1\\ -05.3\\ -04.2\\ -01.0\\ 02.4\\ 13.7\\ 25.6\\ 39.1 \end{array}$ | $\begin{array}{r} -05.\ 0\\ -05.\ 1\\ -05.\ 2\\ -05.\ 3\\ -05.\ 3\\ -05.\ 4\\ -05.\ 4\\ -05.\ 4\\ -05.\ 4\\ -05.\ 4\\ -05.\ 4\\ -05.\ 4\\ -05.\ 6\\ -03.\ 6\\ -00.\ 5\\ 02.\ 9\\ 14.\ 0\\ 25.\ 6\\ 38.\ 9\end{array}$ | $\begin{array}{r} -03.9\\ -03.9\\ -03.9\\ -04.1\\ -04.2\\ -04.3\\ -04.4\\ -04.3\\ -04.4\\ -04.0\\ 0.2\\ 03.6\\ 14.6\\ 26.2\\ 39.8 \end{array}$ | $\begin{array}{r} -03.0\\ -03.0\\ -03.2\\ -03.3\\ -03.5\\ -03.5\\ -03.5\\ -03.5\\ -03.5\\ -03.5\\ 2-03.5\\ -03.5\\ 2-03.5\\ -03.5\\ 2-03.5\\ -03.5\\ 2-03.5\\ -03.5$ |
| Line | | Dep | artures from | mean surfa | ce density, p | percent, tran | sition | | |
| No. | -11.0 | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -11.3\\ -10.8\\ -10.4\\ -10.3\\ -09.8\\ -09.3\\ -08.9\\ -08.3\\ -08.9\\ -08.3\\ -08.5\\ 00.0\\ 11.4\\ 23.5\\ 37.0 \end{array}$ | $\begin{array}{c} -10. \ 3\\ -10. \ 0\\ -09. \ 7\\ -09. \ 4\\ -09. \ 4\\ -09. \ 0\\ -08. \ 7\\ -08. \ 3\\ -07. \ 7\\ -06. \ 3\\ -02. \ 9\\ 00. \ 4\\ 11. \ 7\\ 24. \ 0\\ 37. \ 6\end{array}$ | $\begin{array}{c} -09.\ 0\\ -08.\ 8\\ -08.\ 7\\ -08.\ 7\\ -08.\ 7\\ -08.\ 3\\ -08.\ 1\\ -07.\ 7\\ -07.\ 1\\ -05.\ 7\\ -02.\ 3\\ 01.\ 0\\ 12.\ 4\\ 24.\ 5\\ 38.\ 0\end{array}$ | $\begin{array}{c} - 08.5 \\ - 08.2 \\ - 07.8 \\ - 07.8 \\ - 07.6 \\ - 07.5 \\ - 07.1 \\ - 06.5 \\ - 05.4 \\ - 02.1 \\ 01.4 \\ 12.5 \\ 24.5 \\ 38.0 \end{array}$ | $\begin{array}{c} -07.5 \\ -07.2 \\ -07.1 \\ -07.2 \\ -07.0 \\ -06.9 \\ -06.6 \\ -06.0 \\ -04.8 \\ -01.5 \\ 01.9 \\ 13.1 \\ 25.2 \\ 38.6 \end{array}$ | $\begin{array}{c} - \ 06. \ 0 \\ - \ 05. \ 9 \\ - \ 05. \ 9 \\ - \ 06. \ 2 \\ - \ 06. \ 3 \\ - \ 06. \ 3 \\ - \ 06. \ 1 \\ - \ 05. \ 5 \\ - \ 04. \ 3 \\ - \ 01. \ 3 \\ 02. \ 2 \\ 13. \ 4 \\ 25. \ 2 \\ 38. \ 6 \end{array}$ | $\begin{array}{r} -04.9\\ -04.9\\ -05.0\\ -05.2\\ -05.4\\ -05.4\\ -05.4\\ -05.2\\ -03.8\\ -03.8\\ -03.8\\ -03.8\\ -03.8\\ 38.8\\ 38.8\\ 38.8\end{array}$ | $\begin{array}{c} -03.9\\ -03.9\\ -03.9\\ -04.1\\ -04.4\\ -04.6\\ -04.4\\ -04.6\\ 1\\ -03.1\\ -03.1\\ 00.0\\ 03.3\\ 14.3\\ 26.0\\ 39.5\end{array}$ | $\begin{array}{c} - 02. \ 9 \\ - 03. \ 0 \\ - 03. \ 1 \\ - 03. \ 3 \\ - 03. \ 4 \\ - 03. \ 6 \\ - 03. \ 7 \\ - 03. \ 6 \\ - 03. \ 4 \\ - 02. \ 6 \\ 00. \ 6 \\ 04. \ 0 \\ 15. \ 0 \\ 26. \ 6 \\ 40. \ 1 \end{array}$ |
| Line | | Ι | Departures fr | om mean su | rface densit | y, percent, n | ight | | |
| No. | -11.0 | -10.0 | -9.0 | -8.0 | -7.0 | -6.0 | -5.0 | -4.0 | -3.0 |
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | $\begin{array}{c} -11. \ 6\\ -10. \ 7\\ -10. \ 0\\ -09. \ 8\\ -09. \ 8\\ -09. \ 8\\ -09. \ 2\\ -08. \ 9\\ -08. \ 9\\ -08. \ 9\\ -08. \ 9\\ -03. \ 6\\ -00. \ 1\\ 11. \ 3\\ 23. \ 3\\ 36. \ 9\end{array}$ | $\begin{array}{c} -10.5\\ -09.8\\ -09.3\\ -09.1\\ -09.0\\ -08.7\\ -08.3\\ -07.7\\ -08.3\\ -07.7\\ -06.3\\ 1-03.1\\ 00.3\\ 11.6\\ 23.7\\ 37.3\end{array}$ | $\begin{array}{r} - 09.5 \\ - 08.8 \\ - 08.3 \\ - 08.2 \\ - 08.1 \\ - 08.0 \\ - 07.6 \\ - 07.6 \\ - 07.1 \\ - 05.8 \\ - 02.6 \\ 00.7 \\ 12.1 \\ 24.1 \\ 37.6 \end{array}$ | $\begin{array}{c} -09. \ 2 \\ -08. \ 4 \\ -07. \ 8 \\ -07. \ 6 \\ -07. \ 5 \\ -07. \ 5 \\ -07. \ 1 \\ -06. \ 5 \\ -07. \ 1 \\ -06. \ 5 \\ -02. \ 2 \\ 01. \ 2 \\ 12. \ 4 \\ 24. \ 5 \\ 38. \ 0 \end{array}$ | $\begin{array}{c} -08. \ 3\\ -07. \ 7\\ -07. \ 3\\ -07. \ 3\\ -07. \ 3\\ -07. \ 2\\ -07. \ 1\\ -06. \ 8\\ -06. \ 1\\ -04. \ 9\\ -01. \ 6\\ 01. \ 8\\ 13. \ 0\\ 25. \ 0\\ 38. \ 6\end{array}$ | $\begin{array}{c} -06. \ 2 \\ -06. \ 1 \\ -06. \ 3 \\ -06. \ 4 \\ -06. \ 5 \\ -06. \ 3 \\ -05. \ 8 \\ -04. \ 7 \\ -01. \ 5 \\ 01. \ 9 \\ 13. \ 0 \\ 24. \ 7 \\ 38. \ 2 \end{array}$ | $\begin{array}{r} -04.8\\ -04.8\\ -04.9\\ -05.1\\ -05.2\\ -05.5\\ -05.3\\ -04.9\\ -04.9\\ -04.0\\ -00.8\\ 02.5\\ 13.6\\ 25.3\\ 38.8 \end{array}$ | $\begin{array}{r} -03.9\\ -03.9\\ -04.0\\ -04.2\\ -04.3\\ -04.5\\ -04.5\\ -04.3\\ -03.3\\ -03.3\\ -03.3\\ -03.3\\ -03.3\\ -03.3\\ 2.3\\ -03.$ | $\begin{array}{r} -02.9\\ -03.0\\ -03.1\\ -03.3\\ -03.5\\ -03.7\\ -03.9\\ -03.8\\ -03.6\\ -02.7\\ 00.3\\ 03.7\\ 14.7\\ 26.1\\ 39.6\end{array}$ |

 Table 2–14.
 Departures from Mean Surface Density (Percent), Type 2 Message, Region 7

| Line | | | Depart | ures from | mean surfac | e density, j | percent, aft | ernoon | | |
|------|--------|--------|---------|------------|-------------|--------------|---------------|--------------|------|------|
| No. | -2.0 | -1.0 | 0 | +1.0 | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 |
| 1 | -01.8 | -00.9 | 00.0 | 01.0 | 01.7 | 03.0 | 04.0 | 04.8 | 05.8 | 06.8 |
| 2 | -02.0 | -00.9 | -00.2 | 00.8 | 01.5 | 02.6 | 03.7 | 04.4 | 05.3 | 06.3 |
| 3 | -02.0 | -00.9 | - 00.2 | 00.7 | 01.2 | 02.3 | 03.4 | 04.0 | 04.8 | 05.7 |
| 4 | -02.2 | - 01.2 | -00.4 | 00.5 | 00.9 | 01.9 | 02.9 | 03.6 | 04.4 | 05.2 |
| 5 | -02.4 | -01.4 | - 00.6 | 00.4 | 00.5 | 01.5 | 02.4 | 03.1 | 03.9 | 04.6 |
| 6 | -02.6 | -01.7 | -01.0 | -00.2 | -00.1 | 00.9 | 01.7 | 02.3 | 03.0 | 03.8 |
| 7 | -02.7 | - 02.0 | -01.3 | -00.4 | -00.5 | 00.5 | 01.1 | 01.7 | 02.4 | 03.1 |
| 8 | -02.2 | -02.0 | -01.3 | - 00.5 | -00.6 | 00.1 | 00.8 | 01.3 | 02.0 | 02.7 |
| 9 | -02.4 | -01.7 | -01.2 | -00.3 | -00.5 | 00.1 | 00.7 | 01.2 | 01.8 | 02.4 |
| 10 | -01.5 | -00.8 | -00.4 | 00.3 | 00.2 | 00.7 | 01.2 | 01.6 | 02.2 | 02.6 |
| 11 | 01.5 | 02.1 | 02.6 | 03.1 | 03.0 | 03.4 | 03.9 | 04.3 | 04.7 | 05.2 |
| 12 | 04.9 | 05.4 | 05.8 | 06.2 | 06.4 | 06.6 | 07.0 | 07.3 | 07.8 | 08.4 |
| 13 | 16.2 | 16.7 | 17.0 | 17.3 | 17.5 | 17.6 | 17.9 | 18.2 | 18.8 | 19.3 |
| 14 | 27.5 | 27.5 | 28.2 | 28.5 | 29.0 | 29.1 | 29.5 | 29.8 | 30.4 | 30.9 |
| 15 | 41.1 | 41.0 | 41.5 | 41.7 | 42.4 | 42.6 | 43.0 | 43.3 | 44.0 | 44.5 |
| Line | | | Departu | res from n | nean surfac | e density, p | ercent, tran | sition | | |
| No. | -2.0 | -1.0 | • 0 | +1.0 | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 |
| 1 | -01.8 | -00.9 | 00.1 | 00.9 | 01.8 | 03.1 | 04.1 | 04.9 | 05.8 | 06.7 |
| 2 | -02.0 | -01.0 | -00.1 | 00.7 | 01.6 | 02.8 | 03.8 | 04.5 | 05.4 | 06.3 |
| 3 | - 02.0 | -01.0 | -00.3 | 00.6 | 01.4 | 02.6 | 03.5 | 04.2 | 05.1 | 05.9 |
| 4 | -02.3 | -01.4 | -00.5 | 00.4 | 01.1 | 02.2 | 03.1 | 03.8 | 04.6 | 05.4 |
| · 5 | -02.6 | -01.6 | -00.7 | 00.2 | 00.7 | 01.9 | 02.8 | 03.4 | 04.2 | 04.9 |
| 6 | -02.9 | -01.8 | -01.0 | -00.3 | 00.3 | 01.4 | 02.2 | 02.8 | 03.4 | 04.2 |
| 7 (| -703.0 | -02.1 | -01.3 | - 00.5 | 00.1 | 00.9 | 01.7 | 02.2 | 02.9 | 03.6 |
| 8 | - 02.7 | -02.1 | -01.3 | -00.5 | -00.1 | 00.7 | 01.4 | 01.9 | 02.6 | 03.2 |
| 9 | -02.6 | -01.8 | -01.2 | - 00.3 | 00.0 | 00.7 | 01.2 | 01.8 | 02.4 | 03.0 |
| 10 | -01.7 | -00.9 | -00.4 | 00.3 | 00.6 | 01.2 | 01.7 | 02.2 | 02.6 | 03.1 |
| 11 | 01.3 | 02.0 | 02.6 | 03.1 | 03.4 | 03.9 | 04.3 | 04.7 | 05.2 | 05.6 |
| 12 | 04.7 | 05.4 | 05.8 | 06.4 | 06.6 | 07.0 | 07.4 | 07.7 | 08.3 | 08.7 |
| 13 | 16.0 | 16.6 | 17.1 | 17.4 | 17.7 | 18.0 | 18.2 | 18.6 | 19.1 | 19.6 |
| 14 | 27.3 | 27.7 | 28.3 | 28.7 | 29.1 | 29.6 | 29.9 | 30.3 | 30.8 | 31.3 |
| 15 | 40.8 | 41.1 | 41.7 | 42.0 | 42.6 | 43.2 | 43.4 | 4 3.9 | 44.5 | 44.9 |
| Line | | | Depar | tures from | mean surfa | ace density, | , percent, ni | ght | | |
| No. | -2.0 | -1.0 | 0 | +1.0 | +2.0 | +3.0 | +4.0 | +5.0 | +6.0 | +7.0 |
| 1 | -02.8 | -00.9 | 00.1 | 00.7 | 01.9 | 03.2 | 04.1 | 05.0 | 05.9 | 06.8 |
| 2 | -02.0 | -01.0 | -00.1 | 00.6 | 01.7 | 03.0 | 04.0 | 04.7 | 05.6 | 06.4 |
| 3 | -02.1 | -01.1 | -00.3 | 00.5 | 01.6 | 02.9 | 03.6 | 04.4 | 05.3 | 06.1 |
| 4 (| -02.5 | -01.5 | -00.6 | 00.2 | 01.3 | 02.5 | 03.3 | 04.1 | 04.9 | 05.7 |
| 5 | -02.8 | -01.7 | -00.8 | 00.1 | 01.0 | 02.3 | 03.0 | 03.7 | 04.4 | 05.2 |
| 6 | -03.2 | -02.0 | -01.1 | -00.3 | 00.8 | 01.9 | 02.6 | 03.2 | 03.9 | 04.6 |
| 7 | -03.3 | -02.2 | -01.4 | -00.5 | 00.6 | 01.5 | 02.2 | 02.8 | 03.5 | 04.0 |
| 8 | -03.3 | -02.2 | -01.4 | -00.5 | 00.4 | 01.4 | 01.9 | 02.5 | 03.2 | 03.7 |
| 9 | - 02.9 | -01.9 | -01.2 | -00.3 | 00.5 | 01.4 | 01.8 | 02.3 | 03.0 | 03.5 |
| 10 | -01.9 | -01.0 | -00.4 | 00.4 | 01.1 | 01.8 | 02.2 | 02.5 | 03.1 | 03.6 |
| 11 | 01.1 | 02.0 | 02.6 | 03.2 | 03.8 | 04.4 | 04.7 | 05.1 | 05.6 | 06.1 |
| 12 | 04.5 | 05.3 | 05.8 | 06.5 | 06.9 | 07.4 | 07.7 | 08.2 | 08.7 | 09.1 |
| 13 | 15.7 | 16.6 | 17.1 | 17.5 | 18.0 | 18.4 | 18.7 | 19.0 | 19.6 | 20.1 |
| 14 | 27.0 | 27.8 | 28.3 | 28.9 | 29.2 | 30.2 | 30.4 | 30.7 | 31.2 | 31.7 |
| 15 | 40.5 | 41.3 | 41.8 | 42.4 | 42.7 | 43.6 | 43.9 | 44.3 | 44.8 | 45.3 |

Table 2-14. Departures from Mean Surface Density (Percent), Type 2 Message, Region 7-Continued

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15 JUNE 1982

By Order of the Secretary of the Army:

E. C. MEYER General, United States Army Chief of Staff

Official:

ROBERT M. JOYCE Brigadier General, United States Army The Adjutant General

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