

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P400606

Luminaire Tested: **TT-D2-827-U-DL**

Issue Date: 6/3/2020

#### Test Information

Test Method: LM-79-08  
Report Number: P400606  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-473-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TT-D2-827-U-DL  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE  
2700K, 80 CRI LEDS AND DRIVE LANE DISTRIBUTION  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

#### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 3739 lumens  
Efficiency: N/A  
Efficacy: 92.3 lumens/watt  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G2

Input Watts (W): 40.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

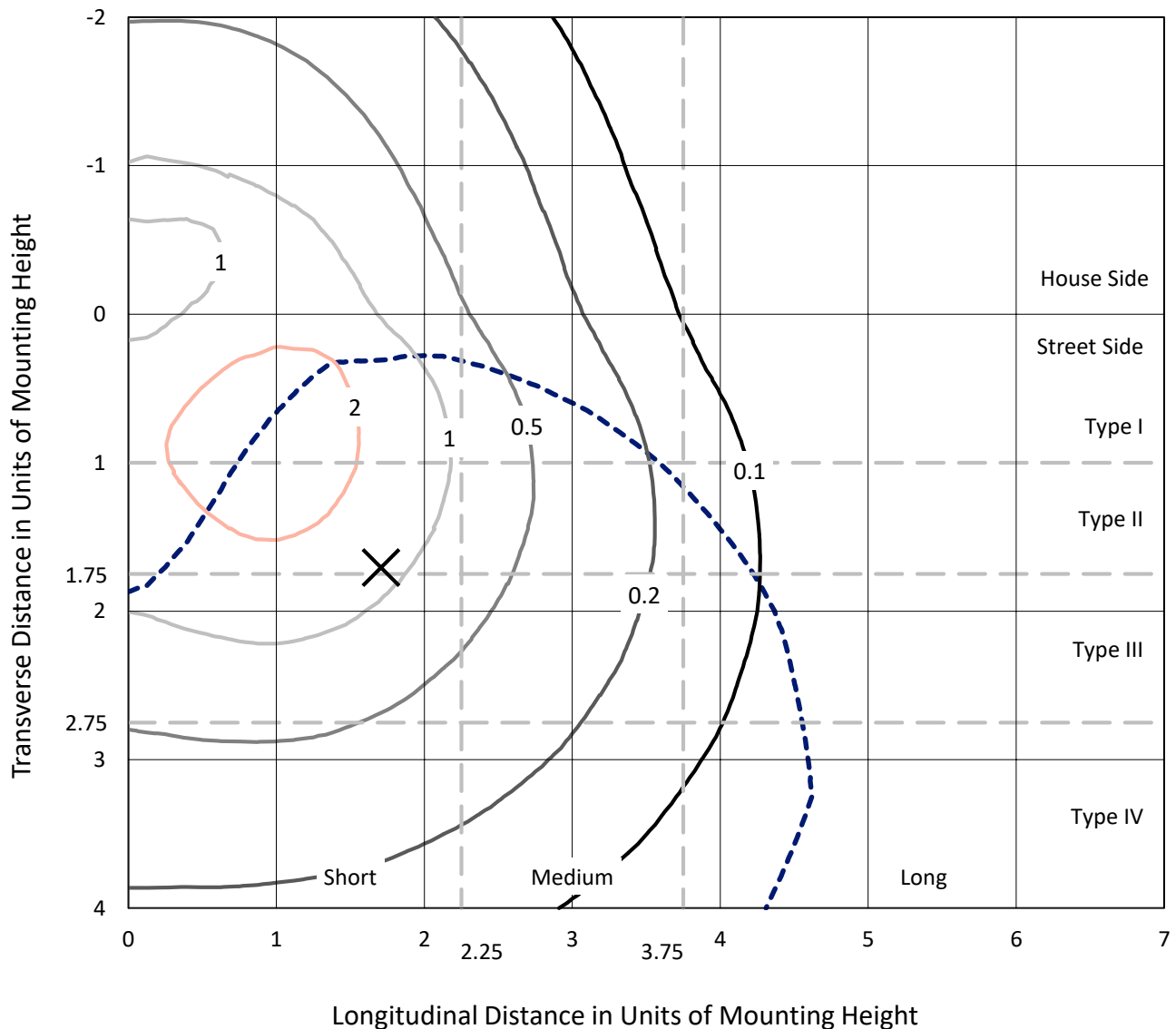


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

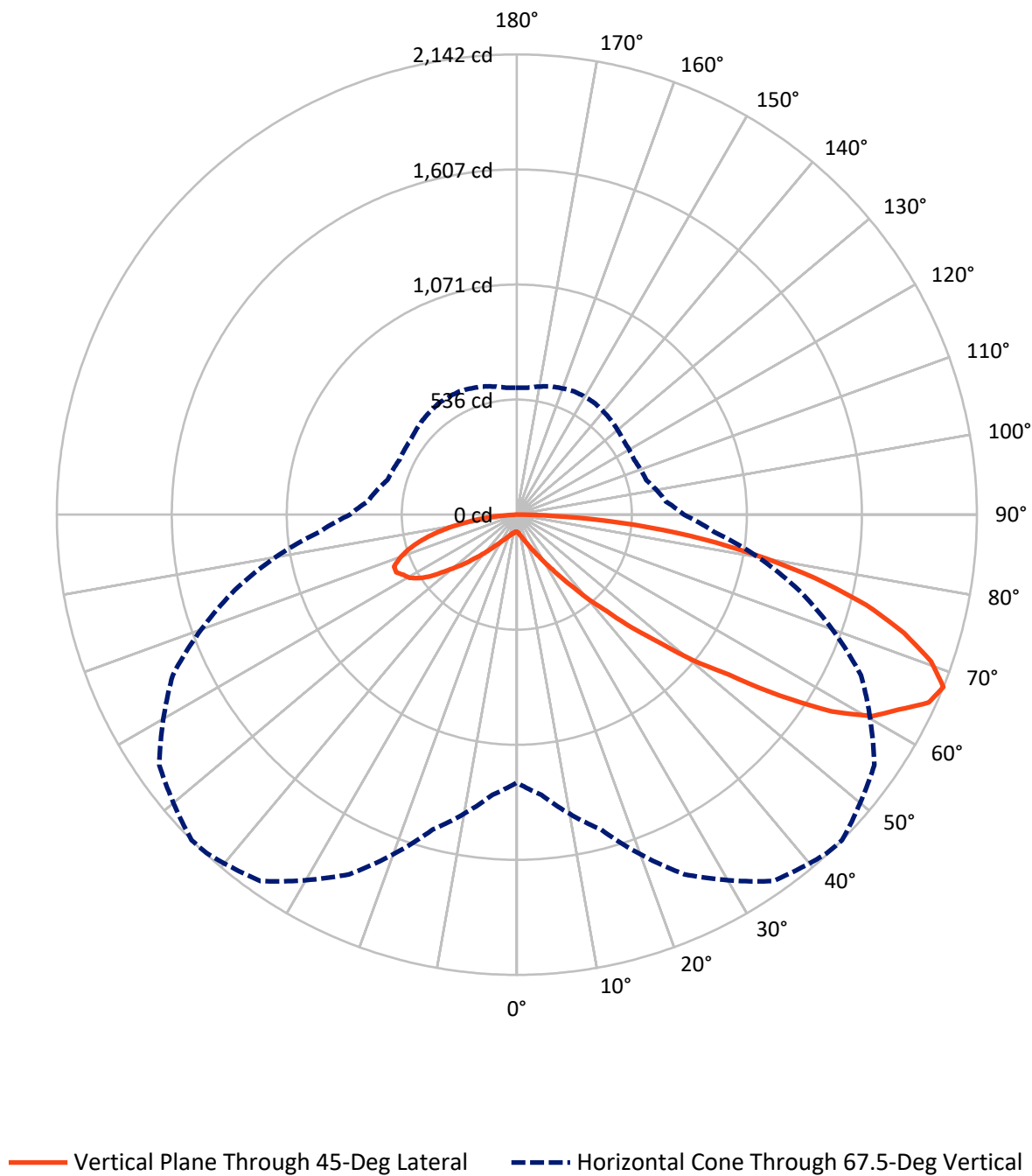


Based on 10 foot mounting height. Maximum calculated value = 2.9 fc  
 Type IV - Short - Non-Cutoff

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## Luminous Intensity Polar Plot



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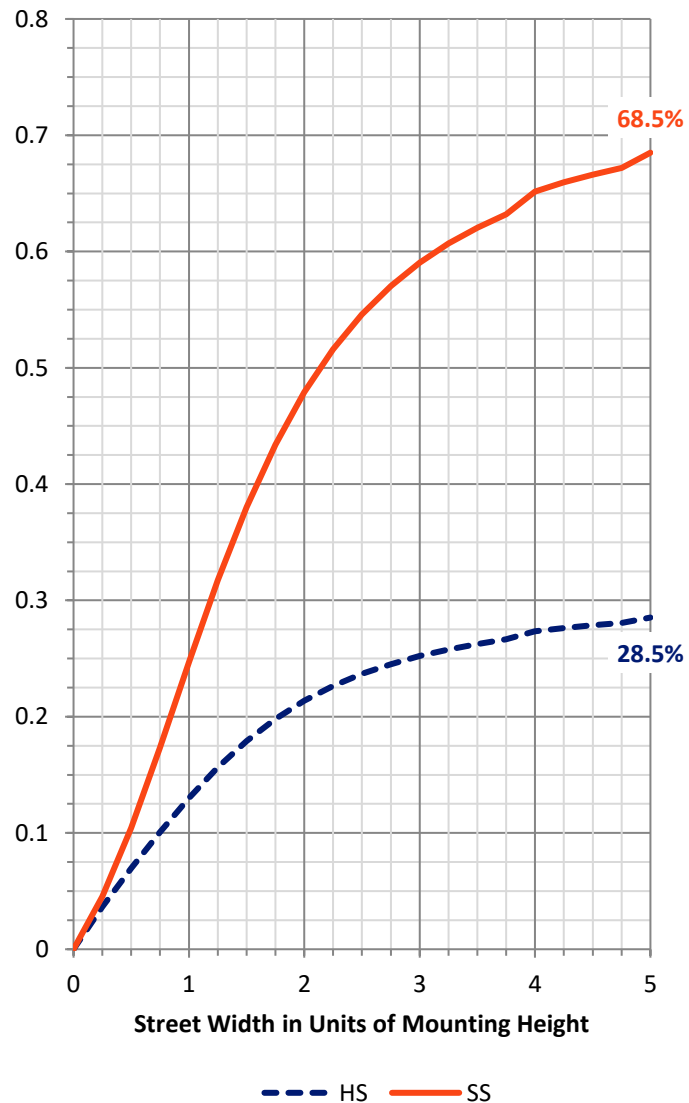
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1089.6   | 0.0    | 1089.6 |
|                    | % Fixture | 29.1     | 0.0    | 29.1   |
| <b>Street Side</b> | Lumens    | 2649.4   | 0.0    | 2649.4 |
|                    | % Fixture | 70.9     | 0.0    | 70.9   |
| <b>Total</b>       | Lumens    | 3739.0   | 0.0    | 3739.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 8.3    | 0.2       |
| 10°-20°   | 31.0   | 0.8       |
| 20°-30°   | 73.4   | 2.0       |
| 30°-40°   | 166.0  | 4.4       |
| 40°-50°   | 370.1  | 9.9       |
| 50°-60°   | 744.0  | 19.9      |
| 60°-70°   | 1092.8 | 29.2      |
| 70°-80°   | 960.9  | 25.7      |
| 80°-90°   | 292.5  | 7.8       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-90°    | 3739.0 | 100.0     |
| 0°-180°   | 3739.0 | 100.0     |

**Coefficient of Utilization**



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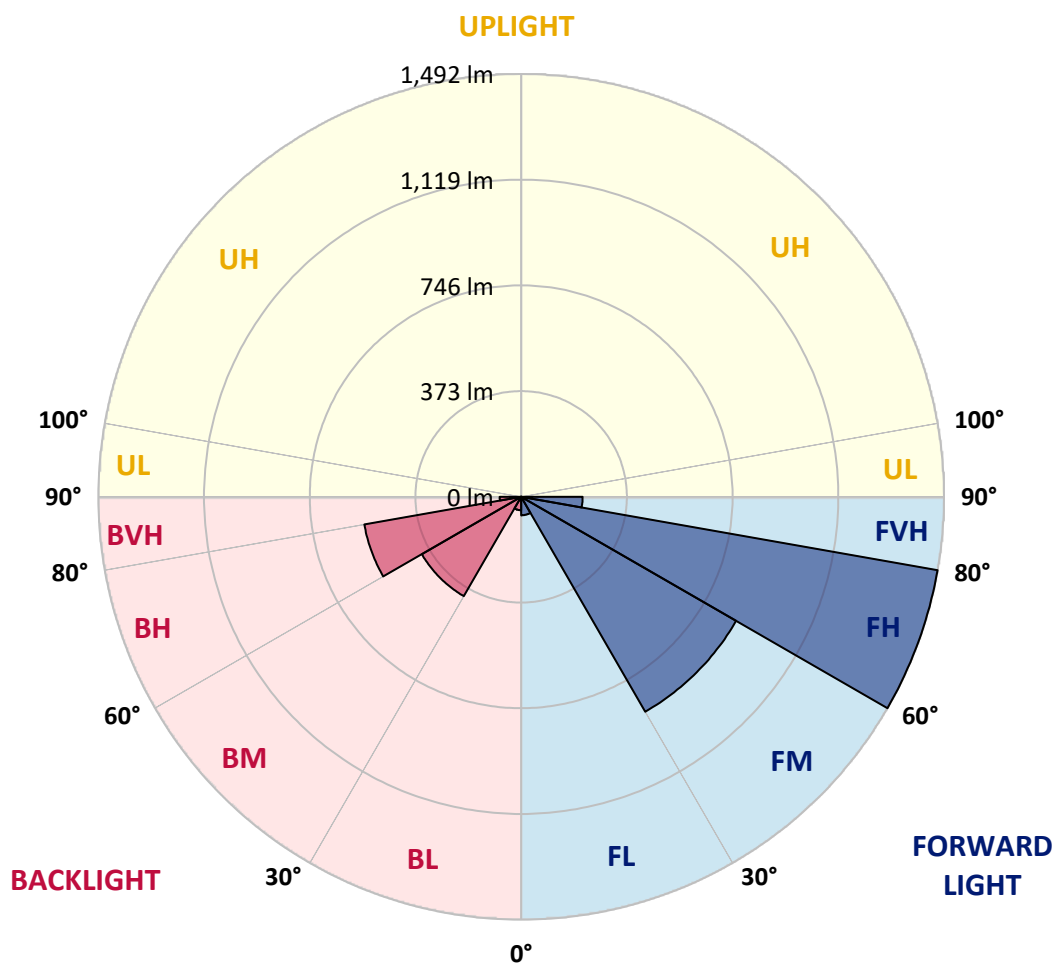
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 65.3   | 1.7       |                         |      |         |
| FM   | (30°-60°)   | 875.6  | 23.4      |                         |      |         |
| FH   | (60°-80°)   | 1491.8 | 39.9      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 216.8  | 5.8       |                         |      | G2/225  |
| BL   | (0°-30°)    | 47.4   | 1.3       | B0/110                  |      |         |
| BM   | (30°-60°)   | 404.5  | 10.8      | B1/1000                 |      |         |
| BH   | (60°-80°)   | 561.9  | 15.0      | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 75.8   | 2.0       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 42.5°  | 45°    | 55°    | 65°    | 75°    | 85°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 0°    | 81.1   | 81.1   | 81.1   | 81.1   | 81.1   | 81.1   | 81.1   | 81.1   | 81.1   | 81.1   | 81.1  |
| 2.5°  | 84.6   | 83.9   | 83.9   | 83.9   | 83.2   | 83.2   | 83.2   | 83.2   | 82.5   | 82.5   | 82.5  |
| 5°    | 89.5   | 88.8   | 89.5   | 88.1   | 87.4   | 87.4   | 86.7   | 86.7   | 86.0   | 85.3   | 84.6  |
| 7.5°  | 96.5   | 95.8   | 95.8   | 94.4   | 93.7   | 93.0   | 93.0   | 91.6   | 90.9   | 89.5   | 88.1  |
| 10°   | 104.2  | 104.2  | 103.5  | 102.8  | 101.4  | 100.0  | 100.0  | 97.9   | 97.2   | 95.1   | 93.0  |
| 12.5° | 113.3  | 113.3  | 113.3  | 111.9  | 110.5  | 109.8  | 108.4  | 107.0  | 104.9  | 101.4  | 99.3  |
| 15°   | 124.5  | 124.5  | 124.5  | 123.1  | 121.7  | 120.3  | 119.6  | 116.8  | 113.3  | 109.8  | 105.6 |
| 17.5° | 138.4  | 137.0  | 137.0  | 135.6  | 134.2  | 133.5  | 132.1  | 129.3  | 124.5  | 120.3  | 114.7 |
| 20°   | 153.8  | 153.1  | 152.4  | 152.4  | 151.0  | 149.6  | 148.9  | 144.7  | 139.1  | 131.4  | 124.5 |
| 22.5° | 171.3  | 170.6  | 170.6  | 172.0  | 171.3  | 169.2  | 169.2  | 162.9  | 155.2  | 146.1  | 135.6 |
| 25°   | 193.0  | 192.3  | 193.7  | 196.5  | 196.5  | 195.1  | 193.0  | 186.7  | 175.5  | 162.9  | 150.3 |
| 27.5° | 216.7  | 216.0  | 218.8  | 223.7  | 225.1  | 223.0  | 221.6  | 214.6  | 202.1  | 185.3  | 167.1 |
| 30°   | 245.4  | 246.1  | 253.8  | 259.4  | 262.9  | 261.5  | 260.8  | 253.1  | 232.8  | 213.2  | 189.5 |
| 32.5° | 280.4  | 278.3  | 288.1  | 297.1  | 303.4  | 306.9  | 304.8  | 295.7  | 278.3  | 247.5  | 217.4 |
| 35°   | 317.4  | 318.1  | 330.0  | 343.3  | 358.0  | 359.4  | 363.6  | 354.5  | 330.7  | 294.3  | 252.4 |
| 37.5° | 365.7  | 360.1  | 375.4  | 400.6  | 418.1  | 433.5  | 430.7  | 425.1  | 397.1  | 348.9  | 291.5 |
| 40°   | 409.0  | 407.6  | 429.3  | 464.2  | 496.4  | 518.8  | 521.6  | 514.6  | 477.5  | 409.0  | 333.5 |
| 42.5° | 458.6  | 462.8  | 492.9  | 541.1  | 590.1  | 622.3  | 614.6  | 611.1  | 567.7  | 480.3  | 390.8 |
| 45°   | 509.0  | 523.0  | 561.4  | 631.3  | 688.7  | 734.8  | 748.1  | 736.2  | 683.1  | 592.9  | 463.5 |
| 47.5° | 569.8  | 588.7  | 636.2  | 730.6  | 824.3  | 878.1  | 880.9  | 916.6  | 836.2  | 701.3  | 539.1 |
| 50°   | 650.2  | 658.6  | 725.0  | 840.4  | 969.0  | 1044.5 | 1066.2 | 1066.9 | 986.5  | 810.3  | 624.3 |
| 52.5° | 729.2  | 735.5  | 822.9  | 971.8  | 1146.6 | 1232.6 | 1237.5 | 1264.8 | 1155.0 | 986.5  | 746.7 |
| 55°   | 824.3  | 821.5  | 941.8  | 1120.8 | 1327.0 | 1452.2 | 1488.5 | 1525.6 | 1385.7 | 1125.6 | 816.6 |
| 57.5° | 916.6  | 912.4  | 1057.1 | 1292.0 | 1573.8 | 1698.3 | 1728.3 | 1701.8 | 1494.1 | 1183.7 | 850.9 |
| 60°   | 1001.9 | 1016.6 | 1192.8 | 1481.5 | 1764.7 | 1883.5 | 1903.8 | 1831.8 | 1564.0 | 1228.4 | 872.5 |
| 62.5° | 1090.7 | 1120.1 | 1333.3 | 1639.5 | 1910.8 | 1996.1 | 1997.5 | 1912.9 | 1680.8 | 1315.1 | 943.2 |
| 65°   | 1173.9 | 1220.7 | 1442.4 | 1774.5 | 2012.9 | 2098.2 | 2108.0 | 2031.8 | 1795.4 | 1390.6 | 955.1 |
| 67.5° | 1247.3 | 1309.5 | 1517.9 | 1847.2 | 2082.1 | 2137.3 | 2142.2 | 2032.5 | 1768.2 | 1359.9 | 922.2 |
| 70°   | 1306.7 | 1357.1 | 1564.7 | 1848.6 | 2033.9 | 2049.2 | 2045.7 | 1929.0 | 1692.7 | 1299.0 | 867.0 |
| 72.5° | 1329.8 | 1371.0 | 1542.3 | 1761.9 | 1891.9 | 1888.4 | 1885.6 | 1778.0 | 1568.2 | 1197.7 | 787.3 |
| 75°   | 1296.9 | 1308.8 | 1420.0 | 1576.6 | 1659.1 | 1678.7 | 1681.5 | 1584.3 | 1375.9 | 1047.3 | 675.4 |
| 77.5° | 1161.3 | 1155.0 | 1240.3 | 1343.8 | 1406.0 | 1420.0 | 1417.2 | 1336.1 | 1153.6 | 870.5  | 566.3 |
| 80°   | 920.8  | 934.1  | 987.2  | 1055.7 | 1118.0 | 1133.3 | 1123.5 | 1062.0 | 897.7  | 678.9  | 434.9 |
| 82.5° | 643.9  | 660.0  | 704.8  | 756.5  | 803.3  | 803.3  | 812.4  | 753.0  | 636.2  | 487.3  | 304.1 |
| 85°   | 347.5  | 338.4  | 387.3  | 446.1  | 479.6  | 485.9  | 489.4  | 469.8  | 393.6  | 294.3  | 180.4 |
| 87.5° | 57.3   | 61.5   | 76.2   | 116.8  | 132.8  | 153.8  | 163.6  | 127.9  | 77.6   | 49.6   | 36.4  |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°   | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  |
| 2.5°  | 82.5  | 81.8  | 81.1  | 80.4  | 80.4  | 79.7  | 79.7  | 79.7  | 80.4  | 80.4  | 80.4  |
| 5°    | 84.6  | 83.9  | 83.2  | 82.5  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  | 81.1  |
| 7.5°  | 88.1  | 86.7  | 86.0  | 84.6  | 83.2  | 83.2  | 82.5  | 82.5  | 82.5  | 83.2  | 82.5  |
| 10°   | 92.3  | 90.9  | 89.5  | 87.4  | 86.7  | 86.0  | 85.3  | 85.3  | 86.0  | 86.0  | 85.3  |
| 12.5° | 97.2  | 96.5  | 93.7  | 91.6  | 90.2  | 89.5  | 88.8  | 89.5  | 88.8  | 89.5  | 89.5  |
| 15°   | 104.2 | 102.1 | 98.6  | 96.5  | 94.4  | 93.7  | 93.0  | 93.7  | 93.7  | 94.4  | 93.7  |
| 17.5° | 111.9 | 109.1 | 105.6 | 102.1 | 99.3  | 98.6  | 98.6  | 98.6  | 99.3  | 100.0 | 99.3  |
| 20°   | 121.0 | 117.5 | 112.6 | 108.4 | 105.6 | 104.9 | 104.9 | 105.6 | 106.3 | 107.0 | 107.0 |
| 22.5° | 130.0 | 127.2 | 120.3 | 114.7 | 113.3 | 112.6 | 111.9 | 113.3 | 114.7 | 115.4 | 116.1 |
| 25°   | 144.0 | 138.4 | 130.0 | 123.8 | 121.0 | 121.0 | 121.7 | 123.1 | 123.8 | 125.1 | 124.5 |
| 27.5° | 158.7 | 152.4 | 141.9 | 133.5 | 131.4 | 130.7 | 132.1 | 133.5 | 136.3 | 136.3 | 135.6 |
| 30°   | 179.0 | 168.5 | 155.2 | 147.5 | 141.9 | 142.6 | 144.7 | 146.8 | 149.6 | 151.0 | 151.0 |
| 32.5° | 202.1 | 190.9 | 172.7 | 160.8 | 158.0 | 158.7 | 159.4 | 162.9 | 165.7 | 168.5 | 166.4 |
| 35°   | 232.1 | 218.1 | 195.8 | 182.5 | 175.5 | 174.8 | 177.6 | 181.8 | 184.6 | 186.0 | 186.0 |
| 37.5° | 265.0 | 246.8 | 218.8 | 207.7 | 199.3 | 198.6 | 199.3 | 202.8 | 206.3 | 207.7 | 210.4 |
| 40°   | 304.8 | 282.5 | 249.6 | 231.4 | 225.1 | 223.7 | 226.5 | 231.4 | 231.4 | 233.5 | 234.2 |
| 42.5° | 353.8 | 325.1 | 288.8 | 265.0 | 257.3 | 257.3 | 256.6 | 260.8 | 260.8 | 260.8 | 259.4 |
| 45°   | 416.0 | 383.8 | 336.3 | 311.8 | 298.5 | 291.5 | 293.6 | 290.8 | 290.2 | 292.2 | 286.0 |
| 47.5° | 476.1 | 435.6 | 379.6 | 353.1 | 339.8 | 335.6 | 327.9 | 325.8 | 322.3 | 322.3 | 313.2 |
| 50°   | 546.0 | 495.7 | 441.9 | 404.1 | 391.5 | 379.6 | 373.4 | 363.6 | 353.1 | 351.0 | 347.5 |
| 52.5° | 662.8 | 599.9 | 515.3 | 474.7 | 442.6 | 430.7 | 416.0 | 403.4 | 390.8 | 381.0 | 386.6 |
| 55°   | 710.3 | 646.0 | 565.6 | 526.5 | 504.1 | 492.9 | 465.6 | 448.9 | 430.0 | 416.0 | 423.7 |
| 57.5° | 734.1 | 664.2 | 589.4 | 560.0 | 553.7 | 543.2 | 523.0 | 494.3 | 472.6 | 455.2 | 456.6 |
| 60°   | 747.4 | 674.0 | 602.0 | 575.4 | 571.9 | 578.9 | 568.4 | 548.8 | 515.3 | 497.8 | 495.7 |
| 62.5° | 798.4 | 721.5 | 637.6 | 599.9 | 592.2 | 597.1 | 599.9 | 588.0 | 560.0 | 537.0 | 530.7 |
| 65°   | 808.9 | 727.1 | 644.6 | 620.2 | 620.9 | 622.3 | 624.3 | 611.8 | 597.8 | 569.1 | 563.5 |
| 67.5° | 777.5 | 697.1 | 623.6 | 603.4 | 604.8 | 620.9 | 633.4 | 632.7 | 617.4 | 592.9 | 590.8 |
| 70°   | 729.9 | 651.6 | 583.8 | 565.6 | 569.1 | 583.8 | 611.1 | 625.0 | 622.3 | 606.2 | 609.7 |
| 72.5° | 655.8 | 585.9 | 526.5 | 512.5 | 520.9 | 534.9 | 560.7 | 585.9 | 600.6 | 604.1 | 611.8 |
| 75°   | 569.1 | 513.2 | 457.2 | 448.9 | 455.2 | 471.2 | 495.0 | 524.4 | 556.5 | 574.0 | 578.9 |
| 77.5° | 469.8 | 418.8 | 377.5 | 372.0 | 381.0 | 395.7 | 419.5 | 442.6 | 478.9 | 509.7 | 516.7 |
| 80°   | 367.8 | 323.7 | 294.3 | 289.5 | 295.0 | 307.6 | 325.8 | 344.7 | 379.6 | 403.4 | 406.9 |
| 82.5° | 255.2 | 228.6 | 209.7 | 207.0 | 210.4 | 215.3 | 230.0 | 247.5 | 267.1 | 286.0 | 288.1 |
| 85°   | 148.2 | 131.4 | 126.5 | 122.4 | 130.0 | 130.0 | 133.5 | 143.3 | 153.1 | 154.5 | 158.7 |
| 87.5° | 27.3  | 25.9  | 26.6  | 19.6  | 24.5  | 17.5  | 17.5  | 22.4  | 16.8  | 19.6  | 16.1  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)