

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: P823322

Luminaire Tested: **TTN-D1-735-U-DL**

Issue Date: 4/16/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P823322  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-254-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TTN-D1-735-U-DL  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE  
3500K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

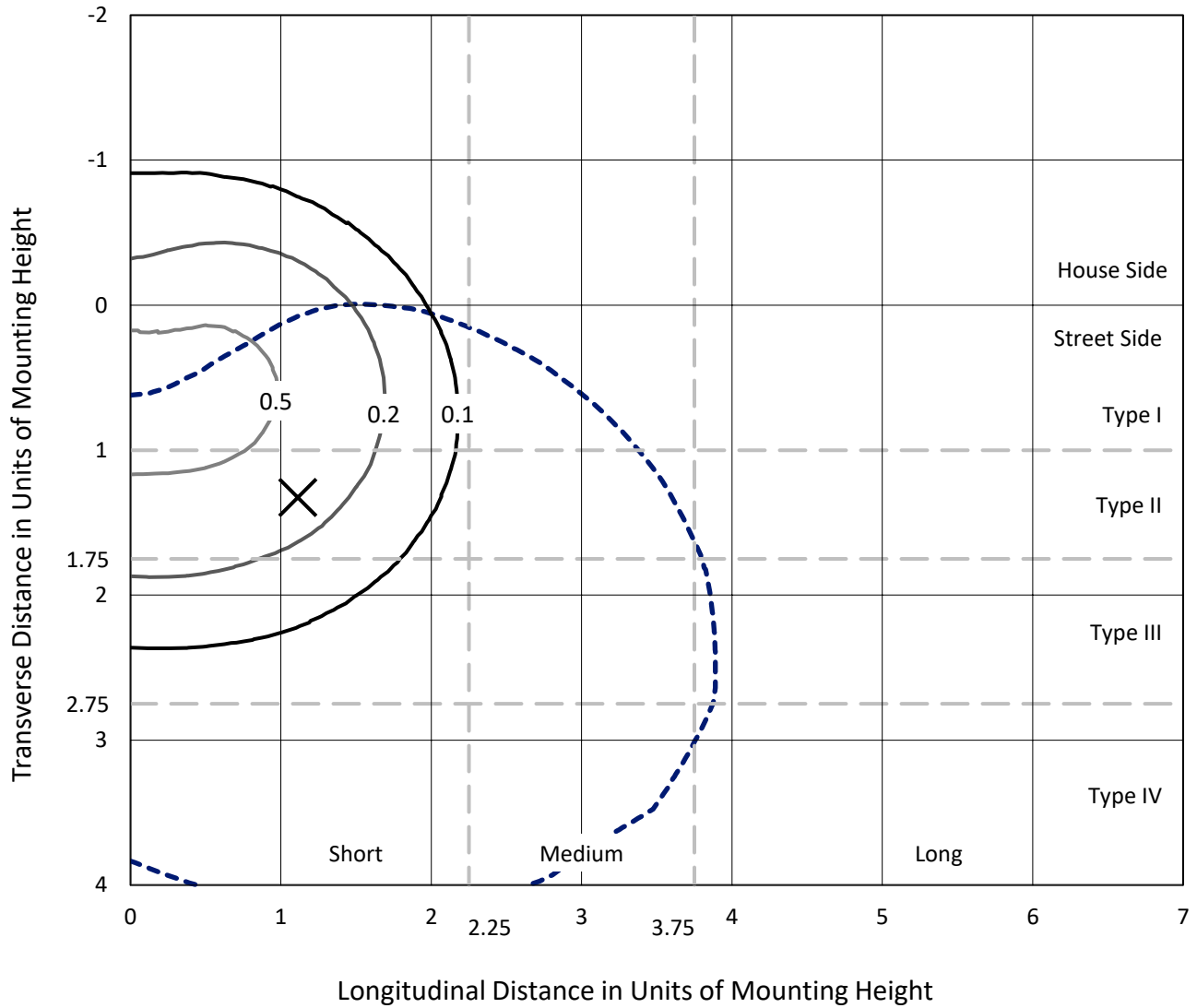
Lumens per Lamp: N/A  
Luminaire Lumens: 3021 lumens  
Efficiency: N/A  
Efficacy: 114.4 lumens/watt  
Luminous Opening: Circular (Dia: 0.71' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 26.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

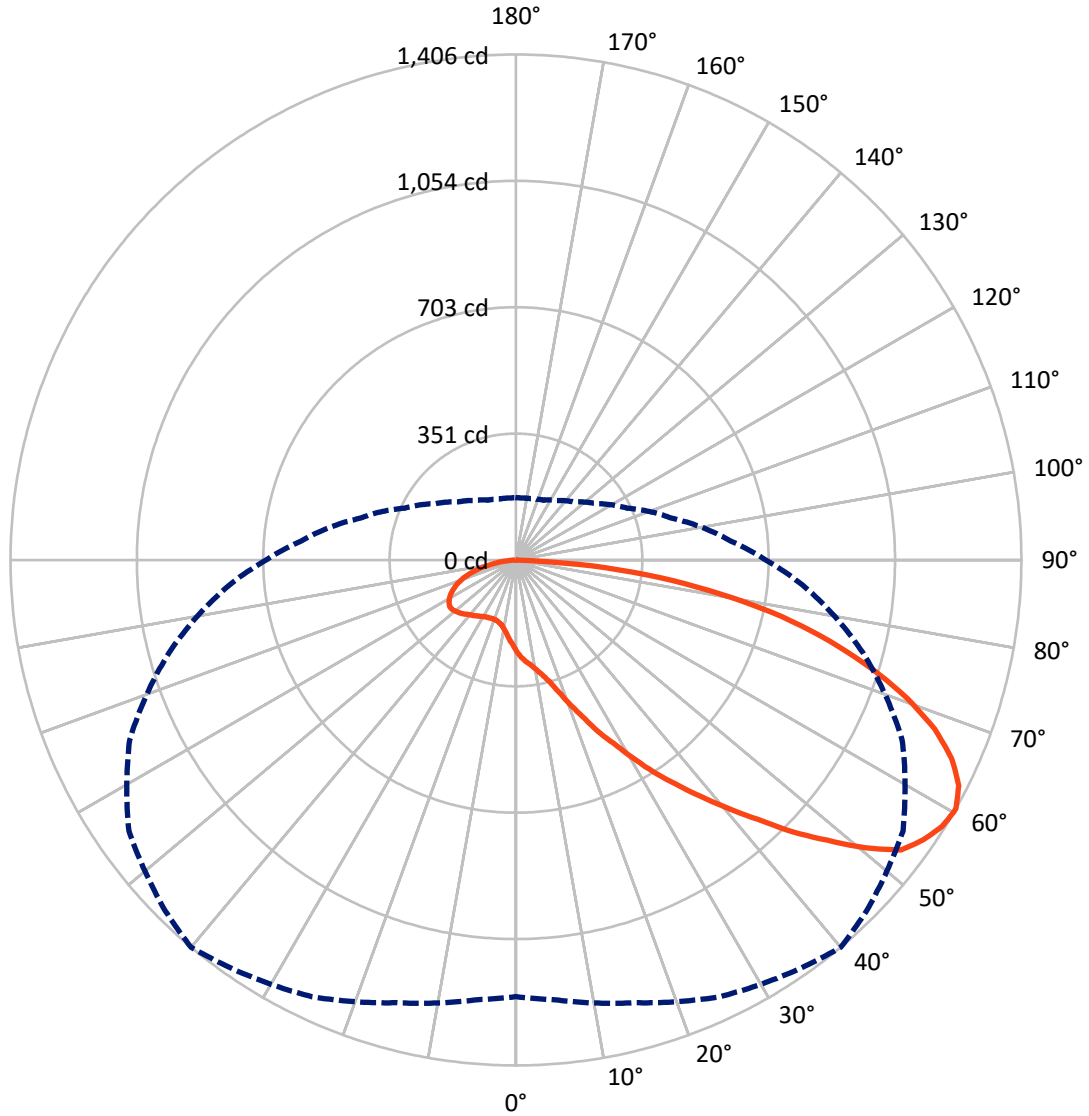
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral      - - - Horizontal Cone Through 60-Deg Vertical

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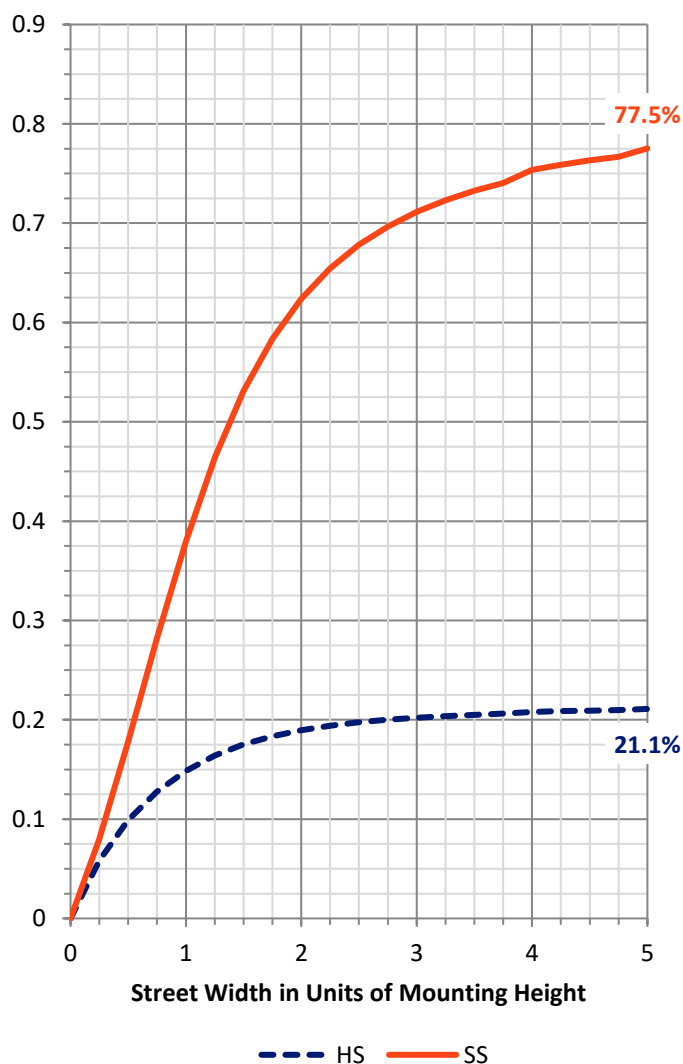
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 643.3    | 0.0    | 643.3  |
|                    | % Fixture | 21.3     | 0.0    | 21.3   |
| <b>Street Side</b> | Lumens    | 2377.7   | 0.0    | 2377.7 |
|                    | % Fixture | 78.7     | 0.0    | 78.7   |
| <b>Total</b>       | Lumens    | 3021.0   | 0.0    | 3021.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 24.0   | 0.8       |
| 10°-20°   | 76.6   | 2.5       |
| 20°-30°   | 161.8  | 5.4       |
| 30°-40°   | 295.7  | 9.8       |
| 40°-50°   | 480.4  | 15.9      |
| 50°-60°   | 667.8  | 22.1      |
| 60°-70°   | 692.3  | 22.9      |
| 70°-80°   | 496.0  | 16.4      |
| 80°-90°   | 126.5  | 4.2       |
| 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°    | 3021.0 | 100.0     |
| 0°-180°   | 3021.0 | 100.0     |

**Coefficient of Utilization**

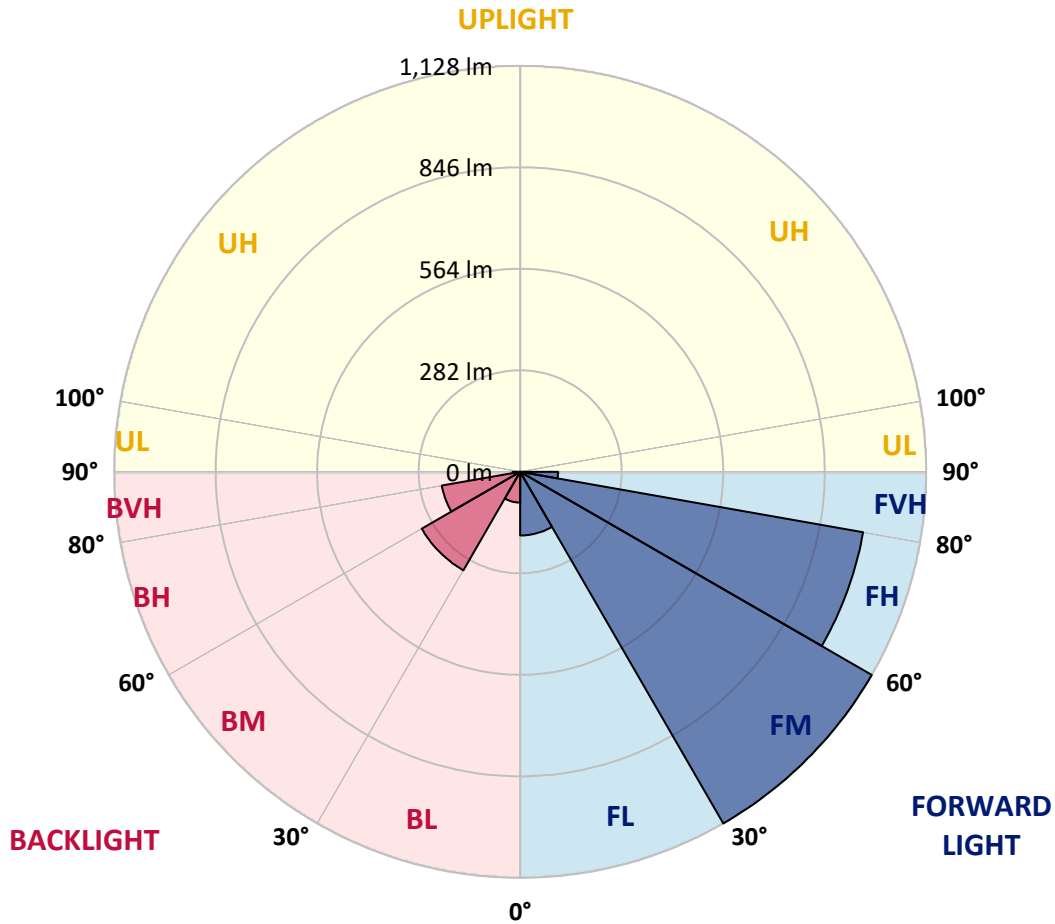


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 176.8  | 5.9       |                         |      |         |
| FM (30°-60°)   | 1128.0 | 37.3      |                         |      |         |
| FH (60°-80°)   | 967.5  | 32.0      |                         |      | G1/1800 |
| FVH (80°-90°)  | 105.4  | 3.5       |                         |      | G2/225  |
| BL (0°-30°)    | 85.6   | 2.8       | B0/110                  |      |         |
| BM (30°-60°)   | 315.8  | 10.5      | B1/1000                 |      |         |
| BH (60°-80°)   | 220.8  | 7.3       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 21.1   | 0.7       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 40°    | 45°    | 55°    | 65°    | 75°    | 85°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 0°    | 254.4  | 254.4  | 254.4  | 254.4  | 254.4  | 254.4  | 254.4  | 254.4  | 254.4  | 254.4  | 254.4 |
| 2.5°  | 272.8  | 272.8  | 272.8  | 272.8  | 270.2  | 270.2  | 267.6  | 264.9  | 262.3  | 259.7  | 254.4 |
| 5°    | 296.4  | 296.4  | 293.8  | 291.2  | 285.9  | 283.3  | 280.7  | 275.4  | 270.2  | 264.9  | 257.1 |
| 7.5°  | 306.9  | 306.9  | 306.9  | 304.3  | 296.4  | 293.8  | 288.5  | 280.7  | 272.8  | 264.9  | 254.4 |
| 10°   | 325.3  | 325.3  | 322.6  | 320.0  | 312.1  | 309.5  | 304.3  | 293.8  | 280.7  | 267.6  | 254.4 |
| 12.5° | 348.9  | 346.2  | 343.6  | 341.0  | 333.1  | 327.9  | 320.0  | 309.5  | 293.8  | 278.0  | 262.3 |
| 15°   | 377.7  | 372.5  | 372.5  | 367.2  | 359.4  | 351.5  | 346.2  | 330.5  | 314.8  | 293.8  | 272.8 |
| 17.5° | 409.2  | 406.6  | 403.9  | 398.7  | 390.8  | 385.6  | 377.7  | 359.4  | 338.4  | 312.1  | 288.5 |
| 20°   | 448.5  | 443.3  | 445.9  | 438.0  | 430.2  | 427.6  | 414.4  | 393.5  | 367.2  | 338.4  | 309.5 |
| 22.5° | 495.8  | 490.5  | 490.5  | 482.6  | 477.4  | 472.1  | 459.0  | 435.4  | 401.3  | 369.8  | 333.1 |
| 25°   | 548.2  | 543.0  | 543.0  | 537.7  | 532.5  | 527.2  | 511.5  | 485.3  | 445.9  | 406.6  | 364.6 |
| 27.5° | 605.9  | 600.7  | 600.7  | 598.1  | 584.9  | 577.1  | 564.0  | 535.1  | 495.8  | 445.9  | 396.1 |
| 30°   | 666.3  | 661.0  | 666.3  | 661.0  | 653.1  | 637.4  | 621.7  | 590.2  | 545.6  | 490.5  | 430.2 |
| 32.5° | 713.5  | 713.5  | 716.1  | 721.3  | 716.1  | 703.0  | 684.6  | 658.4  | 598.1  | 529.9  | 461.7 |
| 35°   | 768.6  | 768.6  | 773.8  | 781.7  | 779.0  | 765.9  | 747.6  | 718.7  | 655.8  | 574.4  | 495.8 |
| 37.5° | 828.9  | 828.9  | 834.1  | 847.2  | 842.0  | 834.1  | 821.0  | 784.3  | 713.5  | 619.0  | 532.5 |
| 40°   | 894.5  | 891.8  | 897.1  | 915.4  | 918.1  | 907.6  | 891.8  | 855.1  | 773.8  | 676.7  | 571.8 |
| 42.5° | 960.0  | 957.4  | 967.9  | 986.3  | 988.9  | 986.3  | 970.5  | 928.6  | 836.7  | 734.5  | 611.2 |
| 45°   | 1025.6 | 1025.6 | 1041.3 | 1070.2 | 1083.3 | 1078.1 | 1065.0 | 1012.5 | 915.4  | 794.8  | 663.6 |
| 47.5° | 1093.8 | 1093.8 | 1114.8 | 1151.5 | 1167.3 | 1164.6 | 1159.4 | 1096.4 | 991.5  | 857.7  | 708.2 |
| 50°   | 1146.3 | 1146.3 | 1180.4 | 1222.3 | 1248.6 | 1259.1 | 1232.8 | 1175.1 | 1057.1 | 912.8  | 744.9 |
| 52.5° | 1198.7 | 1198.7 | 1232.8 | 1298.4 | 1324.6 | 1340.4 | 1306.3 | 1245.9 | 1130.5 | 962.7  | 779.0 |
| 55°   | 1225.0 | 1230.2 | 1277.4 | 1340.4 | 1382.3 | 1374.5 | 1387.6 | 1306.3 | 1177.7 | 999.4  | 800.0 |
| 57.5° | 1227.6 | 1235.5 | 1287.9 | 1353.5 | 1400.7 | 1398.1 | 1400.7 | 1327.3 | 1196.1 | 1007.2 | 802.7 |
| 60°   | 1214.5 | 1227.6 | 1274.8 | 1340.4 | 1385.0 | 1405.9 | 1379.7 | 1314.1 | 1185.6 | 999.4  | 800.0 |
| 62.5° | 1183.0 | 1209.2 | 1259.1 | 1308.9 | 1374.5 | 1382.3 | 1361.4 | 1306.3 | 1156.8 | 991.5  | 786.9 |
| 65°   | 1112.2 | 1141.0 | 1211.8 | 1269.6 | 1322.0 | 1332.5 | 1308.9 | 1261.7 | 1127.9 | 954.8  | 744.9 |
| 67.5° | 1041.3 | 1059.7 | 1120.0 | 1209.2 | 1245.9 | 1256.4 | 1248.6 | 1193.5 | 1078.1 | 881.3  | 695.1 |
| 70°   | 960.0  | 983.6  | 1030.9 | 1122.7 | 1159.4 | 1156.8 | 1180.4 | 1117.4 | 1002.0 | 818.4  | 642.6 |
| 72.5° | 849.9  | 884.0  | 931.2  | 1007.2 | 1051.8 | 1036.1 | 1072.8 | 1020.4 | 902.3  | 739.7  | 571.8 |
| 75°   | 721.3  | 750.2  | 810.5  | 870.8  | 920.7  | 902.3  | 931.2  | 894.5  | 786.9  | 645.3  | 490.5 |
| 77.5° | 577.1  | 611.2  | 666.3  | 721.3  | 755.4  | 755.4  | 768.6  | 737.1  | 653.1  | 529.9  | 401.3 |
| 80°   | 427.6  | 459.0  | 508.9  | 548.2  | 579.7  | 582.3  | 595.4  | 579.7  | 503.6  | 411.8  | 306.9 |
| 82.5° | 283.3  | 299.0  | 343.6  | 375.1  | 406.6  | 403.9  | 424.9  | 414.4  | 351.5  | 283.3  | 204.6 |
| 85°   | 120.7  | 131.2  | 167.9  | 194.1  | 223.0  | 212.5  | 241.3  | 238.7  | 188.9  | 136.4  | 91.8  |
| 87.5° | 5.2    | 7.9    | 7.9    | 5.2    | 7.9    | 2.6    | 7.9    | 10.5   | 7.9    | 5.2    | 5.2   |
| 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°    | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 | 254.4 |
| 2.5°  | 254.4 | 251.8 | 246.6 | 243.9 | 241.3 | 236.1 | 236.1 | 233.5 | 233.5 | 233.5 | 230.8 |
| 5°    | 254.4 | 249.2 | 243.9 | 236.1 | 230.8 | 225.6 | 220.3 | 215.1 | 212.5 | 212.5 | 209.8 |
| 7.5°  | 249.2 | 243.9 | 236.1 | 228.2 | 220.3 | 209.8 | 204.6 | 194.1 | 191.5 | 188.9 | 188.9 |
| 10°   | 249.2 | 243.9 | 230.8 | 220.3 | 209.8 | 199.4 | 191.5 | 181.0 | 173.1 | 170.5 | 170.5 |
| 12.5° | 251.8 | 243.9 | 230.8 | 217.7 | 204.6 | 191.5 | 181.0 | 170.5 | 162.6 | 157.4 | 157.4 |
| 15°   | 262.3 | 251.8 | 236.1 | 217.7 | 202.0 | 186.2 | 175.7 | 162.6 | 154.8 | 149.5 | 149.5 |
| 17.5° | 275.4 | 264.9 | 241.3 | 220.3 | 202.0 | 183.6 | 170.5 | 157.4 | 149.5 | 144.3 | 141.6 |
| 20°   | 293.8 | 278.0 | 251.8 | 223.0 | 202.0 | 183.6 | 167.9 | 154.8 | 144.3 | 139.0 | 139.0 |
| 22.5° | 314.8 | 296.4 | 262.3 | 228.2 | 204.6 | 183.6 | 167.9 | 152.1 | 141.6 | 136.4 | 136.4 |
| 25°   | 341.0 | 317.4 | 278.0 | 238.7 | 209.8 | 186.2 | 167.9 | 152.1 | 141.6 | 136.4 | 136.4 |
| 27.5° | 369.8 | 343.6 | 293.8 | 249.2 | 215.1 | 188.9 | 167.9 | 152.1 | 141.6 | 136.4 | 136.4 |
| 30°   | 396.1 | 367.2 | 309.5 | 259.7 | 223.0 | 191.5 | 170.5 | 154.8 | 144.3 | 139.0 | 136.4 |
| 32.5° | 424.9 | 388.2 | 325.3 | 270.2 | 228.2 | 196.7 | 173.1 | 157.4 | 144.3 | 139.0 | 139.0 |
| 35°   | 453.8 | 414.4 | 341.0 | 283.3 | 236.1 | 202.0 | 175.7 | 160.0 | 146.9 | 141.6 | 141.6 |
| 37.5° | 485.3 | 443.3 | 359.4 | 293.8 | 243.9 | 207.2 | 181.0 | 162.6 | 149.5 | 144.3 | 144.3 |
| 40°   | 522.0 | 472.1 | 377.7 | 306.9 | 251.8 | 212.5 | 183.6 | 167.9 | 154.8 | 149.5 | 149.5 |
| 42.5° | 556.1 | 498.4 | 396.1 | 317.4 | 259.7 | 217.7 | 188.9 | 170.5 | 160.0 | 154.8 | 154.8 |
| 45°   | 590.2 | 529.9 | 414.4 | 330.5 | 267.6 | 225.6 | 194.1 | 178.4 | 165.3 | 160.0 | 160.0 |
| 47.5° | 629.5 | 558.7 | 435.4 | 341.0 | 275.4 | 230.8 | 199.4 | 183.6 | 170.5 | 167.9 | 165.3 |
| 50°   | 661.0 | 579.7 | 448.5 | 351.5 | 280.7 | 236.1 | 204.6 | 186.2 | 175.7 | 170.5 | 170.5 |
| 52.5° | 689.9 | 600.7 | 459.0 | 356.7 | 283.3 | 238.7 | 209.8 | 191.5 | 181.0 | 175.7 | 175.7 |
| 55°   | 705.6 | 608.5 | 466.9 | 356.7 | 285.9 | 241.3 | 209.8 | 191.5 | 181.0 | 178.4 | 175.7 |
| 57.5° | 705.6 | 608.5 | 461.7 | 351.5 | 280.7 | 236.1 | 207.2 | 188.9 | 181.0 | 175.7 | 175.7 |
| 60°   | 695.1 | 600.7 | 448.5 | 341.0 | 272.8 | 228.2 | 202.0 | 183.6 | 175.7 | 173.1 | 173.1 |
| 62.5° | 679.4 | 587.6 | 438.0 | 327.9 | 262.3 | 217.7 | 194.1 | 175.7 | 170.5 | 170.5 | 167.9 |
| 65°   | 637.4 | 548.2 | 414.4 | 309.5 | 246.6 | 204.6 | 183.6 | 167.9 | 162.6 | 160.0 | 157.4 |
| 67.5° | 592.8 | 511.5 | 377.7 | 288.5 | 225.6 | 191.5 | 170.5 | 157.4 | 149.5 | 149.5 | 146.9 |
| 70°   | 548.2 | 472.1 | 343.6 | 259.7 | 202.0 | 175.7 | 154.8 | 141.6 | 136.4 | 136.4 | 136.4 |
| 72.5° | 487.9 | 422.3 | 304.3 | 228.2 | 178.4 | 154.8 | 139.0 | 125.9 | 123.3 | 123.3 | 120.7 |
| 75°   | 417.1 | 359.4 | 257.1 | 194.1 | 149.5 | 131.2 | 118.0 | 104.9 | 104.9 | 104.9 | 104.9 |
| 77.5° | 341.0 | 291.2 | 204.6 | 154.8 | 118.0 | 104.9 | 97.1  | 86.6  | 86.6  | 86.6  | 86.6  |
| 80°   | 257.1 | 215.1 | 149.5 | 112.8 | 86.6  | 76.1  | 70.8  | 65.6  | 68.2  | 68.2  | 65.6  |
| 82.5° | 167.9 | 141.6 | 94.4  | 70.8  | 55.1  | 49.8  | 49.8  | 44.6  | 47.2  | 47.2  | 47.2  |
| 85°   | 73.4  | 63.0  | 39.3  | 31.5  | 26.2  | 26.2  | 26.2  | 23.6  | 26.2  | 26.2  | 26.2  |
| 87.5° | 5.2   | 5.2   | 5.2   | 5.2   | 5.2   | 5.2   | 5.2   | 0.0   | 2.6   | 5.2   | 2.6   |
| 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)