

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: P301809

Luminaire Tested: **GLNA-AF-02-LED-E1-SL4-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P301809  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24301)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GLNA-AF-02-LED-E1-SL4-HSS  
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE  
(2) 70 CRI, 4000K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type IV  
w/Spill Control WITH HOUSESIDE SHEILD OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

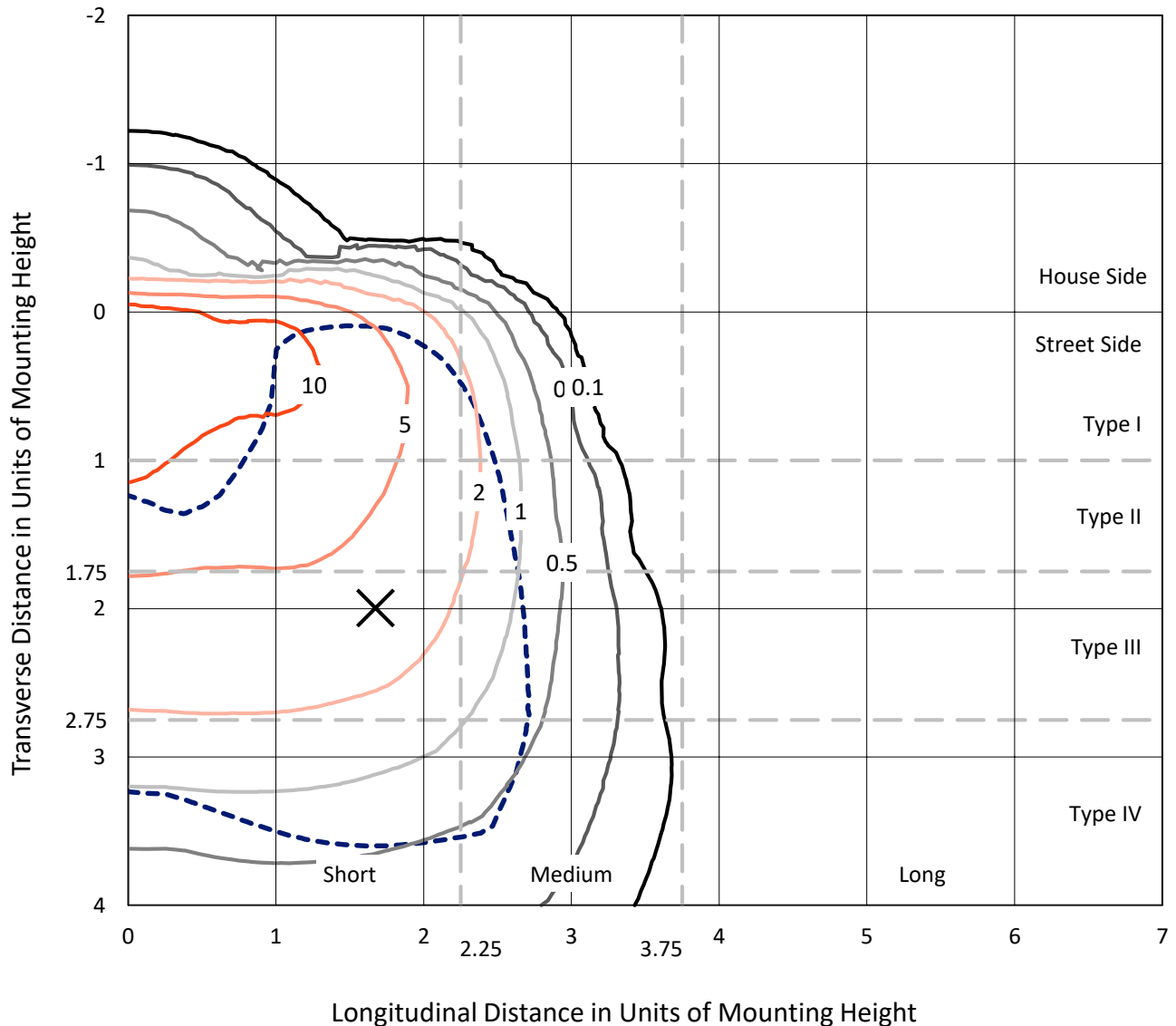
Lumens per Lamp: N/A  
Luminaire Lumens: 8980.6 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (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: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

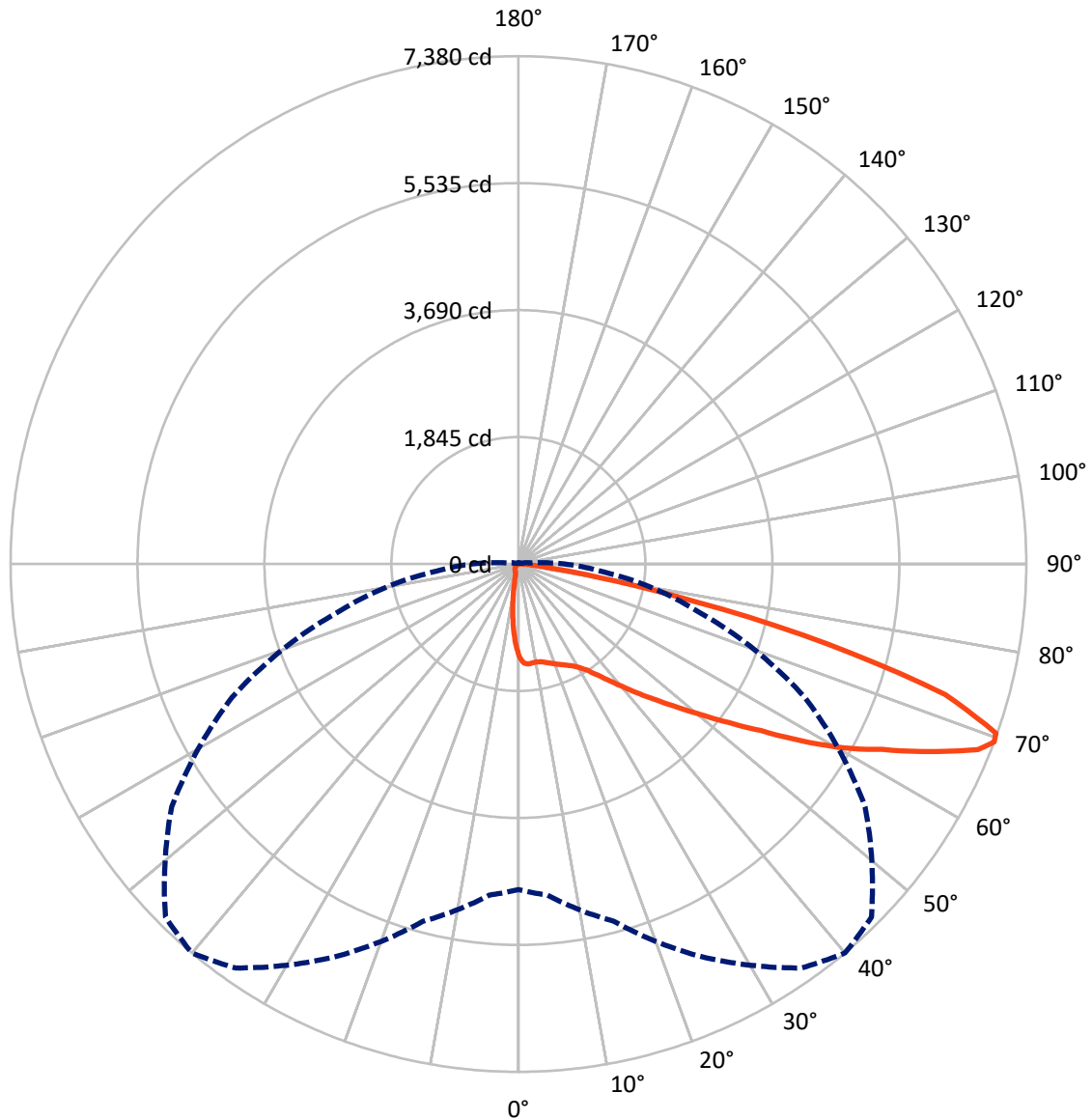
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.7 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 525.4    | 0.0    | 525.4  |
|                    | % Fixture | 5.9      | 0.0    | 5.9    |
| <b>Street Side</b> | Lumens    | 8455.2   | 0.0    | 8455.2 |
|                    | % Fixture | 94.1     | 0.0    | 94.1   |
| <b>Total</b>       | Lumens    | 8980.6   | 0.0    | 8980.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 108.8  | 1.2       |
| 10°-20°   | 267.5  | 3.0       |
| 20°-30°   | 450.6  | 5.0       |
| 30°-40°   | 737.7  | 8.2       |
| 40°-50°   | 1277.3 | 14.2      |
| 50°-60°   | 2011.8 | 22.4      |
| 60°-70°   | 2627.3 | 29.3      |
| 70°-80°   | 1353.2 | 15.1      |
| 80°-90°   | 146.4  | 1.6       |
| 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°    | 8980.6 | 100.0     |
| 0°-180°   | 8980.6 | 100.0     |

**Coefficient of Utilization**



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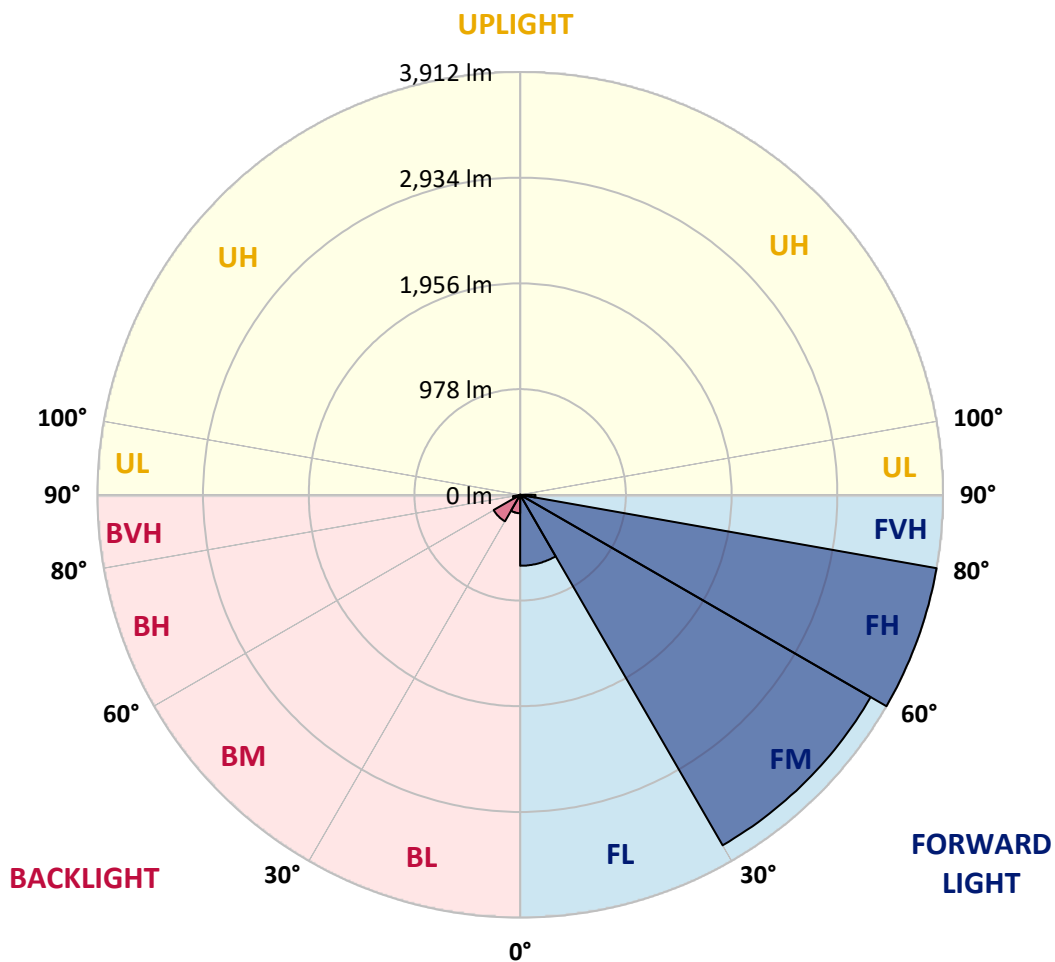
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 656.7  | 7.3       |                         |      |         |
| FM   | (30°-60°)   | 3744.3 | 41.7      |                         |      |         |
| FH   | (60°-80°)   | 3912.3 | 43.6      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 141.8  | 1.6       |                         |      | G2/225  |
| BL   | (0°-30°)    | 170.2  | 1.9       | B1/500                  |      |         |
| BM   | (30°-60°)   | 282.4  | 3.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 68.2   | 0.8       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 4.6    | 0.1       |                         |      | G0/10   |
| 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°    | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 |
| 2.5°  | 1473.2 | 1465.2 | 1460.4 | 1454.0 | 1446.0 | 1439.0 | 1436.4 | 1416.6 | 1397.9 | 1372.2 | 1342.8 |
| 5°    | 1500.5 | 1497.8 | 1489.3 | 1480.7 | 1471.1 | 1460.4 | 1454.5 | 1431.0 | 1404.3 | 1366.9 | 1315.6 |
| 7.5°  | 1503.2 | 1500.0 | 1489.3 | 1477.5 | 1464.2 | 1451.3 | 1441.2 | 1417.7 | 1393.1 | 1355.1 | 1292.6 |
| 10°   | 1498.9 | 1495.2 | 1487.1 | 1474.3 | 1457.7 | 1445.5 | 1435.3 | 1412.8 | 1392.0 | 1357.8 | 1288.3 |
| 12.5° | 1494.1 | 1490.4 | 1486.6 | 1480.2 | 1465.8 | 1457.2 | 1448.7 | 1427.3 | 1408.6 | 1379.7 | 1303.8 |
| 15°   | 1498.9 | 1496.8 | 1501.0 | 1498.4 | 1490.4 | 1482.9 | 1474.3 | 1455.1 | 1438.0 | 1413.9 | 1332.1 |
| 17.5° | 1519.2 | 1519.2 | 1532.6 | 1534.2 | 1526.7 | 1516.0 | 1503.7 | 1484.5 | 1470.0 | 1449.7 | 1365.8 |
| 20°   | 1566.8 | 1565.2 | 1582.3 | 1585.5 | 1567.3 | 1550.8 | 1532.6 | 1509.1 | 1497.8 | 1485.0 | 1398.9 |
| 22.5° | 1648.6 | 1641.1 | 1651.3 | 1648.0 | 1612.2 | 1586.6 | 1564.1 | 1535.3 | 1529.4 | 1523.5 | 1435.8 |
| 25°   | 1755.0 | 1750.7 | 1757.6 | 1726.1 | 1663.0 | 1628.3 | 1601.5 | 1568.9 | 1568.9 | 1574.8 | 1477.5 |
| 27.5° | 1909.4 | 1893.4 | 1869.9 | 1814.3 | 1719.7 | 1675.3 | 1646.4 | 1611.7 | 1620.8 | 1642.7 | 1532.6 |
| 30°   | 2067.7 | 2050.0 | 1996.0 | 1910.5 | 1788.6 | 1742.1 | 1708.5 | 1672.1 | 1693.5 | 1733.6 | 1606.4 |
| 32.5° | 2223.8 | 2204.0 | 2127.6 | 2019.6 | 1887.5 | 1841.0 | 1808.4 | 1768.3 | 1804.1 | 1871.5 | 1714.3 |
| 35°   | 2375.1 | 2357.4 | 2269.2 | 2142.0 | 2019.0 | 1980.5 | 1950.6 | 1915.9 | 1961.8 | 2055.9 | 1866.7 |
| 37.5° | 2545.0 | 2525.8 | 2418.4 | 2280.4 | 2178.9 | 2151.1 | 2129.2 | 2094.4 | 2174.6 | 2312.5 | 2078.9 |
| 40°   | 2754.1 | 2721.4 | 2576.6 | 2439.2 | 2363.8 | 2350.5 | 2335.5 | 2330.7 | 2455.2 | 2646.1 | 2361.7 |
| 42.5° | 2993.5 | 2940.1 | 2742.3 | 2606.5 | 2567.0 | 2576.6 | 2572.8 | 2594.2 | 2806.4 | 3060.9 | 2705.9 |
| 45°   | 3233.0 | 3164.1 | 2926.7 | 2785.1 | 2790.4 | 2824.1 | 2844.9 | 2930.5 | 3246.4 | 3536.7 | 3076.4 |
| 47.5° | 3436.2 | 3368.3 | 3103.7 | 2978.0 | 3042.2 | 3108.5 | 3165.1 | 3327.1 | 3698.6 | 4004.9 | 3364.5 |
| 50°   | 3609.9 | 3545.7 | 3291.3 | 3190.3 | 3334.6 | 3441.5 | 3533.4 | 3773.5 | 4185.1 | 4361.5 | 3566.6 |
| 52.5° | 3752.1 | 3709.3 | 3485.9 | 3433.5 | 3668.7 | 3825.3 | 3960.0 | 4247.6 | 4615.9 | 4651.2 | 3723.7 |
| 55°   | 3890.5 | 3860.1 | 3694.9 | 3722.7 | 4061.1 | 4274.3 | 4444.9 | 4750.6 | 4986.9 | 4892.8 | 3874.5 |
| 57.5° | 4049.8 | 4022.0 | 3933.3 | 4089.4 | 4576.9 | 4845.3 | 5031.3 | 5196.5 | 5313.5 | 5139.8 | 4016.7 |
| 60°   | 4212.3 | 4196.3 | 4198.4 | 4496.7 | 5169.2 | 5426.9 | 5529.5 | 5572.3 | 5634.3 | 5372.3 | 4024.7 |
| 62.5° | 4367.4 | 4397.8 | 4501.5 | 4950.0 | 5736.4 | 5934.2 | 5986.0 | 6028.2 | 5955.5 | 5409.2 | 3718.4 |
| 65°   | 4629.8 | 4679.5 | 4927.0 | 5556.8 | 6360.2 | 6571.9 | 6625.3 | 6480.5 | 6006.3 | 4932.4 | 3024.5 |
| 67.5° | 4758.1 | 4849.0 | 5290.5 | 6122.3 | 6965.3 | 7200.5 | 7180.7 | 6509.9 | 5390.0 | 3761.2 | 1941.0 |
| 69°   | 4731.4 | 4828.1 | 5374.5 | 6295.5 | 7166.3 | 7379.6 | 7254.0 | 6150.1 | 4591.9 | 2724.7 | 1191.5 |
| 70°   | 4625.6 | 4723.4 | 5331.2 | 6289.1 | 7192.0 | 7360.9 | 7118.2 | 5705.9 | 3882.5 | 1992.3 | 745.2  |
| 72.5° | 3862.7 | 3947.2 | 4733.0 | 5684.5 | 6625.3 | 6488.0 | 5955.0 | 3953.1 | 1891.8 | 542.6  | 167.9  |
| 75°   | 2377.7 | 2424.8 | 3396.1 | 4282.4 | 5004.0 | 4651.2 | 3967.5 | 1966.6 | 564.0  | 153.4  | 93.0   |
| 77.5° | 1256.2 | 1277.6 | 1859.2 | 2524.2 | 3172.1 | 2624.7 | 2033.5 | 767.1  | 259.8  | 96.2   | 67.4   |
| 80°   | 742.5  | 758.5  | 1001.2 | 1154.1 | 1372.8 | 1146.6 | 813.1  | 470.9  | 186.0  | 60.4   | 59.9   |
| 82.5° | 425.0  | 435.1  | 725.9  | 641.5  | 541.0  | 461.9  | 404.7  | 446.4  | 111.7  | 40.6   | 62.0   |
| 85°   | 156.1  | 158.2  | 408.4  | 488.1  | 321.8  | 191.4  | 201.0  | 369.9  | 29.9   | 25.7   | 48.6   |
| 87.5° | 72.7   | 71.1   | 210.1  | 298.8  | 188.2  | 121.3  | 156.6  | 81.3   | 11.8   | 16.6   | 13.4   |
| 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°    | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 | 1341.7 |
| 2.5°  | 1325.7 | 1305.9 | 1270.1 | 1233.2 | 1195.8 | 1166.9 | 1138.6 | 1116.2 | 1108.7 | 1094.8 | 1095.8 |
| 5°    | 1285.1 | 1248.7 | 1173.9 | 1098.0 | 1018.9 | 953.7  | 892.2  | 842.5  | 818.4  | 793.8  | 793.8  |
| 7.5°  | 1249.8 | 1196.9 | 1079.8 | 956.3  | 828.6  | 721.1  | 624.4  | 551.7  | 511.6  | 479.5  | 479.0  |
| 10°   | 1236.4 | 1164.8 | 1001.2 | 824.3  | 646.3  | 499.8  | 384.9  | 311.1  | 273.2  | 248.6  | 247.5  |
| 12.5° | 1242.3 | 1153.6 | 940.8  | 702.4  | 479.0  | 321.3  | 222.9  | 175.3  | 159.3  | 151.8  | 151.8  |
| 15°   | 1259.4 | 1150.4 | 880.4  | 583.2  | 338.4  | 201.0  | 148.1  | 135.2  | 134.2  | 134.2  | 134.2  |
| 17.5° | 1280.3 | 1151.4 | 818.4  | 467.2  | 230.4  | 143.8  | 127.8  | 126.2  | 127.2  | 127.2  | 127.2  |
| 20°   | 1301.7 | 1152.0 | 751.6  | 359.8  | 162.5  | 125.1  | 120.3  | 119.7  | 120.8  | 120.8  | 121.3  |
| 22.5° | 1327.8 | 1154.7 | 684.8  | 268.9  | 134.2  | 118.1  | 114.4  | 114.4  | 114.9  | 114.9  | 114.4  |
| 25°   | 1357.8 | 1160.0 | 615.3  | 199.4  | 122.4  | 113.3  | 110.1  | 109.6  | 110.1  | 109.6  | 109.1  |
| 27.5° | 1395.2 | 1167.5 | 537.8  | 156.1  | 117.1  | 108.5  | 105.8  | 105.8  | 105.3  | 104.8  | 104.2  |
| 30°   | 1442.2 | 1176.0 | 450.6  | 132.6  | 111.7  | 104.2  | 101.6  | 101.0  | 100.5  | 99.4   | 99.4   |
| 32.5° | 1513.9 | 1194.7 | 364.6  | 120.3  | 105.8  | 98.4   | 96.2   | 96.2   | 95.2   | 94.1   | 93.5   |
| 35°   | 1624.0 | 1231.6 | 287.6  | 112.8  | 99.4   | 91.9   | 89.3   | 89.3   | 88.2   | 87.7   | 87.1   |
| 37.5° | 1776.3 | 1287.8 | 223.4  | 105.8  | 93.0   | 85.0   | 82.3   | 81.8   | 80.7   | 79.6   | 79.1   |
| 40°   | 1978.9 | 1357.2 | 175.9  | 99.4   | 86.6   | 78.0   | 75.9   | 74.8   | 72.7   | 71.1   | 71.1   |
| 42.5° | 2233.4 | 1436.4 | 142.7  | 92.5   | 79.1   | 71.6   | 70.0   | 68.4   | 64.7   | 63.1   | 62.5   |
| 45°   | 2499.6 | 1507.5 | 120.8  | 84.5   | 71.6   | 65.2   | 64.1   | 61.5   | 56.7   | 55.1   | 55.1   |
| 47.5° | 2691.5 | 1524.0 | 106.4  | 77.0   | 64.7   | 58.3   | 57.7   | 52.9   | 48.6   | 47.6   | 47.0   |
| 50°   | 2811.3 | 1491.4 | 94.6   | 69.5   | 58.3   | 51.9   | 50.2   | 44.4   | 41.7   | 40.6   | 40.1   |
| 52.5° | 2892.0 | 1433.2 | 85.0   | 63.1   | 52.4   | 46.0   | 42.2   | 38.0   | 35.8   | 34.7   | 34.7   |
| 55°   | 2956.7 | 1350.8 | 75.4   | 57.2   | 47.6   | 41.2   | 35.8   | 32.6   | 30.5   | 29.4   | 29.4   |
| 57.5° | 2974.8 | 1239.1 | 65.8   | 52.4   | 42.8   | 36.4   | 30.5   | 28.3   | 25.7   | 25.1   | 25.1   |
| 60°   | 2842.8 | 1037.6 | 58.3   | 46.5   | 38.5   | 31.5   | 26.7   | 24.1   | 21.4   | 20.8   | 20.3   |
| 62.5° | 2494.8 | 802.9  | 51.3   | 41.2   | 33.7   | 27.3   | 23.0   | 19.8   | 17.6   | 17.6   | 17.6   |
| 65°   | 1903.0 | 538.3  | 44.9   | 35.8   | 29.4   | 23.0   | 19.8   | 16.0   | 15.0   | 15.0   | 15.5   |
| 67.5° | 1139.1 | 292.9  | 38.5   | 30.5   | 25.1   | 19.2   | 16.6   | 13.9   | 13.4   | 13.9   | 13.9   |
| 69°   | 667.7  | 172.1  | 34.7   | 27.3   | 21.9   | 17.1   | 14.4   | 12.3   | 13.4   | 13.9   | 13.9   |
| 70°   | 412.1  | 116.0  | 32.1   | 24.6   | 19.8   | 15.5   | 13.4   | 11.8   | 12.8   | 13.4   | 13.4   |
| 72.5° | 114.9  | 59.9   | 25.7   | 19.2   | 16.0   | 12.8   | 10.7   | 10.7   | 12.3   | 12.8   | 12.8   |
| 75°   | 74.8   | 44.4   | 19.8   | 14.4   | 12.3   | 10.2   | 9.1    | 10.2   | 11.8   | 12.3   | 12.3   |
| 77.5° | 62.0   | 36.4   | 16.0   | 11.8   | 10.2   | 9.6    | 8.6    | 9.1    | 10.7   | 11.2   | 11.2   |
| 80°   | 56.7   | 25.7   | 12.8   | 10.7   | 9.1    | 8.6    | 8.0    | 7.5    | 9.6    | 10.2   | 10.2   |
| 82.5° | 54.0   | 20.3   | 11.2   | 9.6    | 8.6    | 7.5    | 6.9    | 7.5    | 8.6    | 9.1    | 9.6    |
| 85°   | 33.7   | 13.4   | 10.2   | 9.1    | 7.5    | 6.9    | 6.9    | 6.9    | 8.0    | 8.6    | 8.6    |
| 87.5° | 12.3   | 10.7   | 9.1    | 7.5    | 6.4    | 6.4    | 6.4    | 6.4    | 6.9    | 8.0    | 8.0    |
| 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)