

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: P591366

Luminaire Tested: **CTN-CA8-330-730-U-T3-SSS-HM-EX180**

Issue Date: 1/19/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P591366  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-9)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/19/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: CTN-CA8-330-730-U-T3-SSS-HM-EX180  
Description: CELESTEON HIGH MAST LUMINAIRE, 180D FIELD INSTALLED SHIELD ON STREET SIDE  
Light Source: (8) 3000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24821 lumens  
Efficiency: N/A  
Efficacy: 74.9 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')  
IES Classification: Type II - Short  
BUG Rating: B4 - U0 - G3

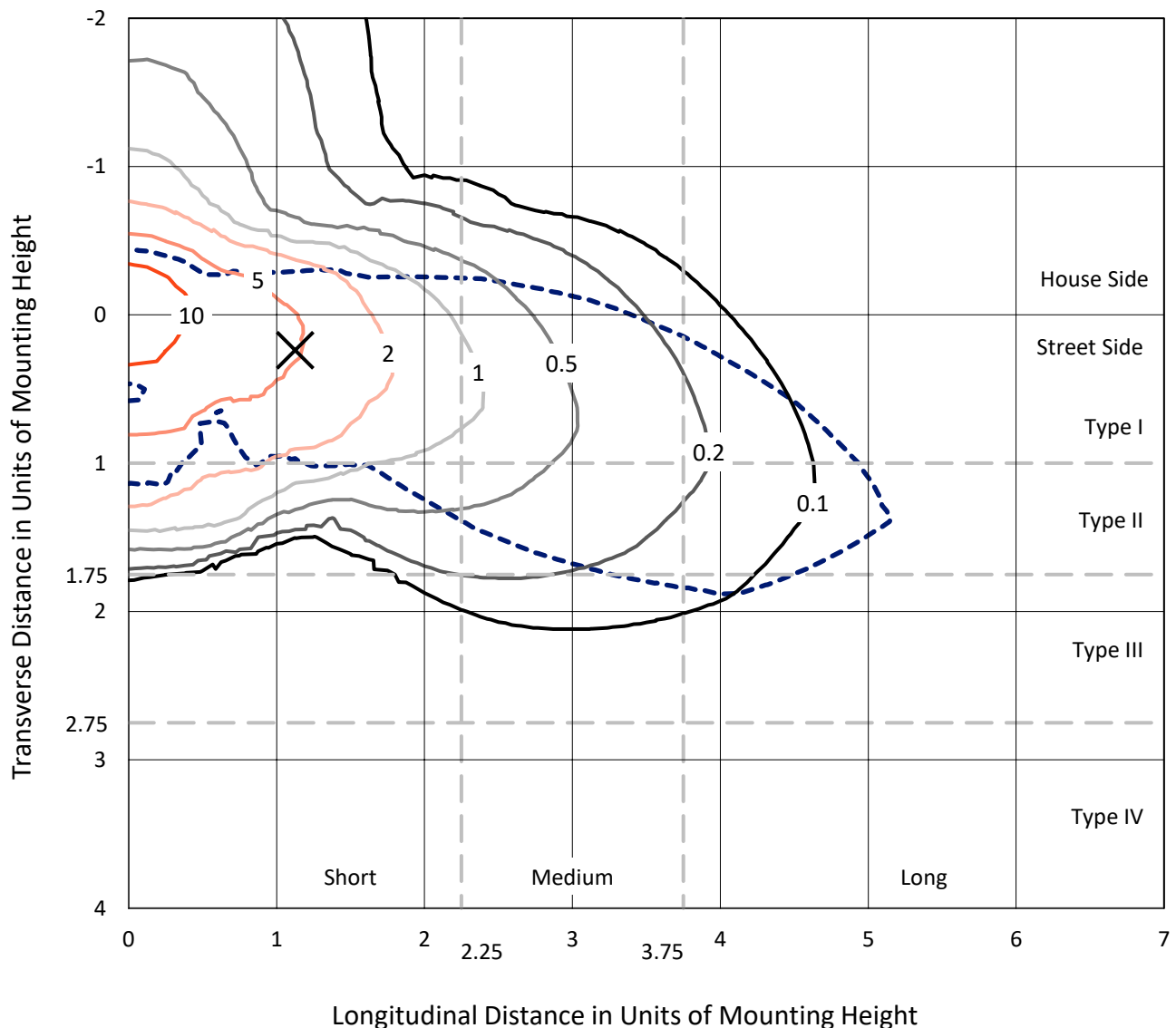
Input Watts (W): 331.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

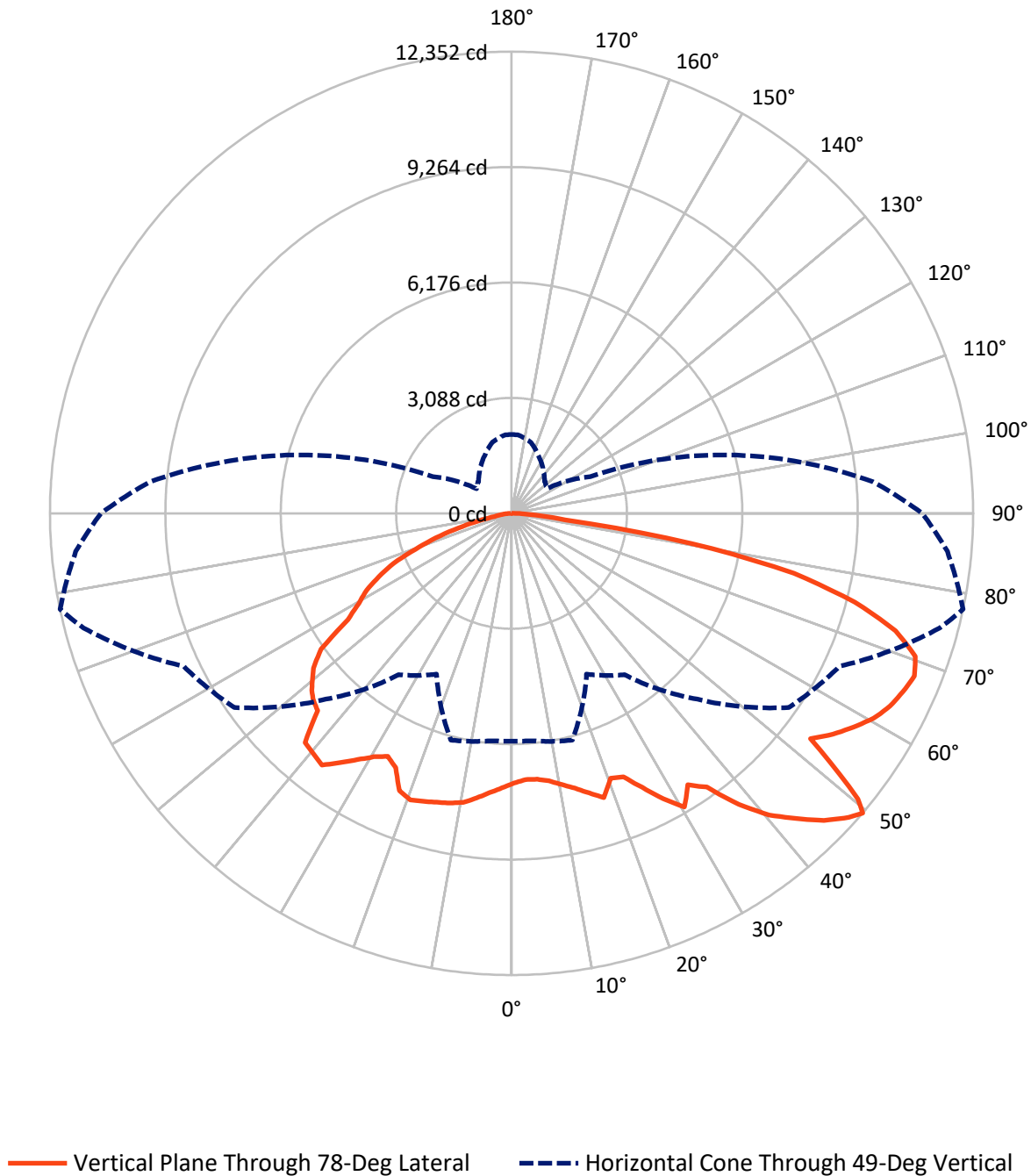
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13 fc  
 Type II - Short - N/A

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## Luminous Intensity Polar Plot



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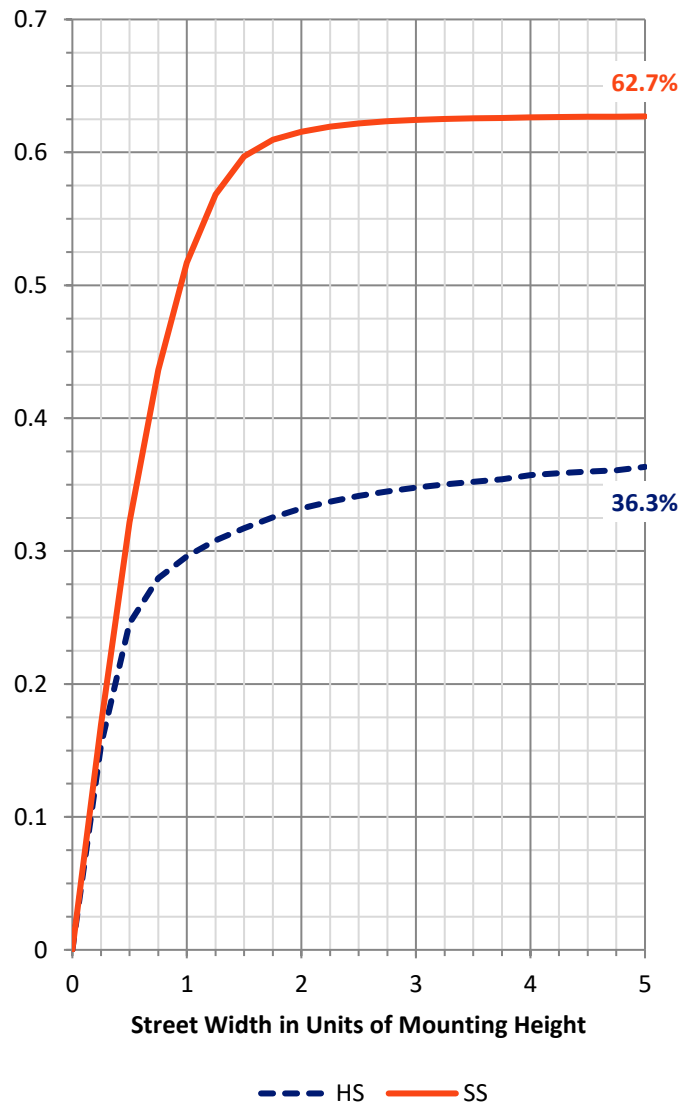
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 9283.6   | 0.0    | 9283.6  |
|                    | % Fixture | 37.4     | 0.0    | 37.4    |
| <b>Street Side</b> | Lumens    | 15537.4  | 0.0    | 15537.4 |
|                    | % Fixture | 62.6     | 0.0    | 62.6    |
| <b>Total</b>       | Lumens    | 24821.0  | 0.0    | 24821.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 722.5   | 2.9       |
| 10°-20°   | 2217.7  | 8.9       |
| 20°-30°   | 3213.8  | 12.9      |
| 30°-40°   | 3949.0  | 15.9      |
| 40°-50°   | 4457.1  | 18.0      |
| 50°-60°   | 4235.3  | 17.1      |
| 60°-70°   | 3163.2  | 12.7      |
| 70°-80°   | 2349.2  | 9.5       |
| 80°-90°   | 513.3   | 2.1       |
| 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°    | 24821.0 | 100.0     |
| 0°-180°   | 24821.0 | 100.0     |

**Coefficient of Utilization**



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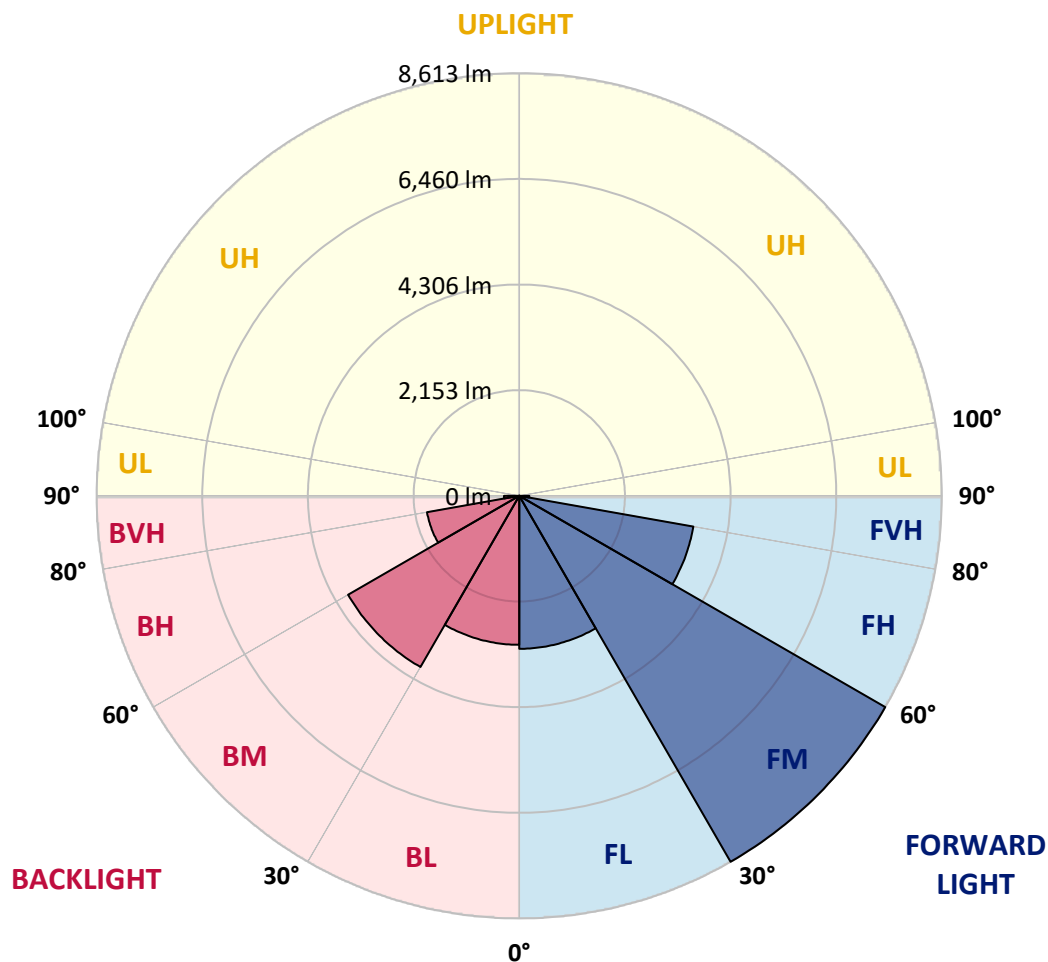
CATALOG NUMBER: CTN-CA8-330-730-U-T3-SSS-HM-EX180

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 3117.7 | 12.6      |                         |      |         |
| FM   | (30°-60°)   | 8613.0 | 34.7      |                         |      |         |
| FH   | (60°-80°)   | 3603.8 | 14.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 202.9  | 0.8       |                         |      | G2/225  |
| BL   | (0°-30°)    | 3036.3 | 12.2      | B4/5000                 |      |         |
| BM   | (30°-60°)   | 4028.4 | 16.2      | B3/5000                 |      |         |
| BH   | (60°-80°)   | 1908.5 | 7.7       | B3/2500                 |      | G3/2500 |
| BVH  | (80°-90°)   | 310.4  | 1.3       |                         |      | G3/500  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G3**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°     | 75°     | 78°     | 85°     |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0°    | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8  | 7217.8  | 7217.8  | 7217.8  |
| 2.5°  | 7061.8 | 7023.2 | 7033.6 | 7093.0 | 6978.7 | 7061.8 | 7027.7 | 7107.9  | 7134.6  | 7131.7  | 7247.5  |
| 5°    | 7119.8 | 7069.3 | 7084.1 | 7124.2 | 6999.5 | 7063.3 | 7036.6 | 7122.7  | 7145.0  | 7146.5  | 7304.0  |
| 7.5°  | 7332.2 | 7274.3 | 7259.4 | 7262.4 | 7145.0 | 7192.6 | 7124.2 | 7191.1  | 7231.2  | 7226.7  | 7402.0  |
| 10°   | 7641.2 | 7577.3 | 7544.6 | 7534.2 | 7391.6 | 7370.8 | 7287.6 | 7311.4  | 7370.8  | 7378.2  | 7556.5  |
| 12.5° | 7959.1 | 7908.6 | 7861.0 | 7837.2 | 7641.2 | 7595.1 | 7473.3 | 7494.1  | 7538.7  | 7547.6  | 7733.3  |
| 15°   | 8239.8 | 8192.3 | 8184.8 | 8158.1 | 7959.1 | 7869.9 | 7722.9 | 7700.6  | 7734.8  | 7763.0  | 7924.9  |
| 17.5° | 7965.0 | 7904.1 | 7865.5 | 7874.4 | 7773.4 | 7547.6 | 7457.0 | 7610.0  | 7895.2  | 7994.7  | 8147.7  |
| 20°   | 7189.6 | 7263.9 | 7232.7 | 7112.3 | 7003.9 | 7369.3 | 7292.1 | 7259.4  | 7436.2  | 7563.9  | 7933.8  |
| 22.5° | 6316.1 | 6316.1 | 6613.2 | 6821.2 | 6862.8 | 7067.8 | 7489.7 | 7636.7  | 7656.0  | 7656.0  | 7549.1  |
| 25°   | 5625.4 | 5821.5 | 6325.1 | 7115.3 | 7119.8 | 7078.2 | 7195.5 | 8002.1  | 8135.8  | 8121.0  | 7941.2  |
| 27.5° | 5892.8 | 5860.1 | 6198.8 | 6748.4 | 7525.3 | 7477.8 | 7249.0 | 7612.9  | 8715.2  | 8646.8  | 8416.6  |
| 30°   | 6129.0 | 6096.3 | 6157.2 | 6839.0 | 7641.2 | 7911.5 | 7715.4 | 7607.0  | 8746.3  | 9117.7  | 8979.6  |
| 32.5° | 6350.3 | 6313.2 | 6383.0 | 6487.0 | 7271.3 | 8342.3 | 8204.2 | 8132.9  | 8300.7  | 8661.7  | 9616.8  |
| 35°   | 6528.6 | 6534.5 | 6614.7 | 6767.7 | 7127.2 | 8196.7 | 8694.4 | 8721.1  | 9015.2  | 8992.9  | 9475.7  |
| 37.5° | 6660.8 | 6672.7 | 6742.5 | 6923.7 | 7057.4 | 6770.7 | 9160.8 | 9469.8  | 9922.8  | 9878.3  | 9523.2  |
| 40°   | 6668.2 | 6694.9 | 6834.6 | 7057.4 | 7214.8 | 6029.5 | 9074.6 | 10295.7 | 10744.3 | 10613.6 | 10172.4 |
| 42.5° | 6530.1 | 6543.4 | 6776.6 | 7153.9 | 5475.4 | 6271.6 | 8415.1 | 11118.6 | 11319.2 | 11158.7 | 10668.5 |
| 45°   | 6406.8 | 6403.8 | 6653.3 | 6992.0 | 5173.8 | 6555.3 | 8397.3 | 10879.5 | 11848.0 | 11723.2 | 11097.8 |
| 47.5° | 6233.0 | 6231.5 | 6475.1 | 5261.5 | 5239.2 | 6861.3 | 8839.9 | 9434.1  | 12286.2 | 12152.5 | 11488.5 |
| 49°   | 6093.3 | 6108.2 | 6280.5 | 4746.0 | 5268.9 | 7032.1 | 9055.3 | 9680.7  | 11856.9 | 12351.5 | 11705.4 |
| 50°   | 6017.6 | 6032.4 | 5612.0 | 4694.0 | 5277.8 | 7130.2 | 9168.2 | 9861.9  | 10671.5 | 12014.3 | 11845.0 |
| 52.5° | 5672.9 | 5542.2 | 4350.9 | 4585.6 | 5280.8 | 7246.0 | 7883.3 | 10246.7 | 10170.9 | 10014.9 | 11215.2 |
| 55°   | 3418.0 | 3868.1 | 3939.4 | 4462.3 | 5233.3 | 5263.0 | 7700.6 | 10693.8 | 10661.1 | 10433.8 | 9656.9  |
| 57.5° | 2072.2 | 2051.4 | 3042.2 | 4119.2 | 3504.2 | 4413.3 | 8002.1 | 11285.0 | 11091.9 | 10788.8 | 9821.8  |
| 60°   | 730.8  | 646.2  | 652.1  | 702.6  | 1304.2 | 3302.2 | 6383.0 | 8498.3  | 11181.0 | 11133.5 | 9971.8  |
| 62.5° | 57.9   | 55.0   | 55.0   | 57.9   | 83.2   | 1240.4 | 5060.9 | 8525.0  | 11490.0 | 11366.7 | 10006.0 |
| 65°   | 7.4    | 7.4    | 7.4    | 16.3   | 43.1   | 1121.5 | 5068.4 | 8663.2  | 11720.2 | 11509.3 | 9915.4  |
| 67.5° | 0.0    | 0.0    | 4.5    | 11.9   | 34.2   | 992.3  | 4919.8 | 8744.9  | 11926.7 | 11628.1 | 9832.2  |
| 70°   | 0.0    | 0.0    | 3.0    | 10.4   | 29.7   | 821.5  | 4738.6 | 8816.2  | 11830.1 | 11460.3 | 9413.3  |
| 72.5° | 0.0    | 0.0    | 3.0    | 8.9    | 25.3   | 542.2  | 4200.9 | 8288.8  | 11142.4 | 10741.3 | 8553.2  |
| 75°   | 0.0    | 0.0    | 3.0    | 7.4    | 23.8   | 309.0  | 3441.8 | 7323.3  | 9915.4  | 9490.6  | 7207.4  |
| 77.5° | 0.0    | 0.0    | 1.5    | 5.9    | 20.8   | 169.3  | 2378.2 | 6062.1  | 8190.8  | 7724.4  | 5399.6  |
| 80°   | 0.0    | 0.0    | 1.5    | 5.9    | 19.3   | 115.9  | 1081.4 | 3937.9  | 5459.0  | 4875.3  | 2959.0  |
| 82.5° | 0.0    | 0.0    | 1.5    | 5.9    | 14.9   | 78.7   | 436.7  | 1103.7  | 1689.0  | 1443.9  | 941.8   |
| 85°   | 0.0    | 0.0    | 1.5    | 4.5    | 10.4   | 50.5   | 215.4  | 453.1   | 681.8   | 655.1   | 476.8   |
| 87.5° | 0.0    | 0.0    | 1.5    | 4.5    | 7.4    | 14.9   | 63.9   | 148.5   | 265.9   | 270.4   | 203.5   |
| 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°    | 7217.8  | 7217.8  | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 | 7217.8 |
| 2.5°  | 7302.5  | 7315.9  | 7360.4 | 7427.3 | 7437.7 | 7528.3 | 7513.4 | 7682.8 | 7699.1 | 7739.2 | 7783.8 |
| 5°    | 7379.7  | 7425.8  | 7526.8 | 7679.8 | 7791.2 | 7927.9 | 7914.5 | 8106.1 | 8125.4 | 8115.0 | 8183.4 |
| 7.5°  | 7492.6  | 7561.0  | 7718.4 | 7924.9 | 7962.0 | 8131.4 | 8109.1 | 8275.5 | 8278.4 | 8256.1 | 8323.0 |
| 10°   | 7657.5  | 7737.7  | 7883.3 | 8000.6 | 8089.8 | 8192.3 | 8177.4 | 8326.0 | 8311.1 | 8285.9 | 8355.7 |
| 12.5° | 7816.5  | 7861.0  | 7950.1 | 8088.3 | 8104.6 | 8146.2 | 8121.0 | 8259.1 | 8244.3 | 8208.6 | 8274.0 |
| 15°   | 7959.1  | 7981.3  | 7982.8 | 8051.2 | 8014.0 | 8045.2 | 7978.4 | 8077.9 | 8043.7 | 8030.4 | 8076.4 |
| 17.5° | 8141.8  | 8100.2  | 8039.3 | 8034.8 | 7908.6 | 7865.5 | 7758.5 | 7785.3 | 7714.0 | 7708.0 | 7733.3 |
| 20°   | 8165.5  | 8251.7  | 8076.4 | 7895.2 | 7682.8 | 7574.3 | 7372.3 | 7373.8 | 7293.6 | 7262.4 | 7277.2 |
| 22.5° | 7514.9  | 7727.3  | 8119.5 | 7773.4 | 7412.4 | 7168.8 | 6908.8 | 6830.1 | 6678.6 | 6614.7 | 6589.5 |
| 25°   | 7768.9  | 7492.6  | 7462.9 | 7568.4 | 7061.8 | 6690.5 | 6313.2 | 6081.4 | 5901.7 | 5756.1 | 5766.5 |
| 27.5° | 8162.6  | 7803.1  | 7076.7 | 7119.8 | 6620.7 | 6099.3 | 5530.3 | 5203.5 | 5020.8 | 4879.7 | 4863.4 |
| 30°   | 8684.0  | 8232.4  | 7159.9 | 6170.6 | 6114.1 | 5356.5 | 4658.4 | 4297.4 | 4111.7 | 4061.2 | 4030.0 |
| 32.5° | 9331.6  | 8743.4  | 7347.0 | 5953.7 | 5059.5 | 4552.9 | 3770.1 | 3478.9 | 3391.3 | 3386.8 | 3351.2 |
| 35°   | 10101.1 | 9419.3  | 7519.4 | 5665.5 | 4362.8 | 3707.7 | 3012.5 | 2820.9 | 2834.2 | 2835.7 | 2865.4 |
| 37.5° | 9609.4  | 10058.0 | 7734.8 | 5392.2 | 3683.9 | 2755.5 | 2422.8 | 2302.5 | 2341.1 | 2403.5 | 2433.2 |
| 40°   | 9616.8  | 9156.3  | 7985.8 | 4936.2 | 2862.5 | 2101.9 | 1895.4 | 1868.7 | 2033.6 | 2159.8 | 2191.0 |
| 42.5° | 10003.0 | 9096.9  | 7893.7 | 4416.3 | 2096.0 | 1598.3 | 1579.0 | 1723.1 | 1960.8 | 2101.9 | 2127.2 |
| 45°   | 10417.5 | 9379.1  | 6556.8 | 3679.5 | 1519.6 | 1351.8 | 1500.3 | 1700.8 | 1959.3 | 2109.3 | 2124.2 |
| 47.5° | 10811.1 | 9557.4  | 6285.0 | 2875.8 | 1221.0 | 1274.5 | 1476.5 | 1700.8 | 1969.7 | 2122.7 | 2131.6 |
| 49°   | 10986.4 | 9701.5  | 6032.4 | 2326.2 | 1145.3 | 1244.8 | 1463.2 | 1703.8 | 1972.7 | 2103.4 | 2107.9 |
| 50°   | 11090.4 | 9783.2  | 5828.9 | 2156.9 | 1108.1 | 1225.5 | 1457.2 | 1708.3 | 1968.2 | 2081.1 | 2085.6 |
| 52.5° | 11252.3 | 9915.4  | 5361.0 | 1718.7 | 1038.3 | 1180.9 | 1448.3 | 1726.1 | 1951.9 | 2018.7 | 2015.8 |
| 55°   | 9279.6  | 9267.7  | 4970.3 | 1442.4 | 984.9  | 1140.8 | 1445.3 | 1741.0 | 1959.3 | 2027.6 | 2024.7 |
| 57.5° | 8893.4  | 7610.0  | 4187.5 | 1179.4 | 940.3  | 1106.7 | 1448.3 | 1763.2 | 2093.0 | 2211.8 | 2197.0 |
| 60°   | 8921.6  | 7494.1  | 3563.6 | 1023.5 | 888.3  | 1078.4 | 1457.2 | 1862.8 | 2418.3 | 2538.6 | 2501.5 |
| 62.5° | 8823.6  | 7210.4  | 3189.3 | 919.5  | 833.3  | 1053.2 | 1463.2 | 2000.9 | 2459.9 | 2470.3 | 2406.4 |
| 65°   | 8590.4  | 6853.9  | 2685.7 | 805.1  | 775.4  | 1029.4 | 1461.7 | 2051.4 | 2269.8 | 2185.1 | 2164.3 |
| 67.5° | 8158.1  | 6475.1  | 2125.7 | 705.6  | 713.0  | 993.8  | 1495.9 | 1963.8 | 2148.0 | 2079.6 | 2048.4 |
| 70°   | 7645.6  | 5667.0  | 1498.8 | 613.5  | 656.6  | 953.7  | 1491.4 | 1943.0 | 2084.1 | 1983.1 | 1940.0 |
| 72.5° | 6733.6  | 4763.8  | 1008.6 | 528.8  | 585.3  | 907.6  | 1415.6 | 1880.6 | 2042.5 | 1975.7 | 1916.2 |
| 75°   | 5352.1  | 3565.1  | 585.3  | 456.0  | 515.5  | 840.8  | 1341.4 | 1842.0 | 2064.8 | 1937.0 | 1813.7 |
| 77.5° | 3658.7  | 2030.6  | 436.7  | 381.8  | 444.2  | 754.6  | 1216.6 | 1712.7 | 1996.4 | 1886.5 | 1721.6 |
| 80°   | 1639.9  | 733.8   | 334.2  | 310.5  | 372.8  | 612.0  | 1048.7 | 1515.2 | 1891.0 | 1891.0 | 1775.1 |
| 82.5° | 652.1   | 462.0   | 231.7  | 243.6  | 304.5  | 466.4  | 830.4  | 1307.2 | 1666.7 | 1742.4 | 1862.8 |
| 85°   | 368.4   | 270.4   | 148.5  | 176.8  | 233.2  | 361.0  | 604.6  | 1016.0 | 1357.7 | 1504.8 | 1631.0 |
| 87.5° | 145.6   | 102.5   | 59.4   | 99.5   | 135.2  | 185.7  | 264.4  | 497.6  | 730.8  | 900.2  | 995.3  |
| 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)