

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: P300981

Luminaire Tested: **GLNA-AF-04-LED-E1-SL4-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P300981  
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-04-LED-E1-SL4-600  
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE  
(4) 70 CRI, 4000K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND Type V  
Square Wide OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14977.7 lumens  
Efficiency: N/A  
Efficacy: 116.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G3

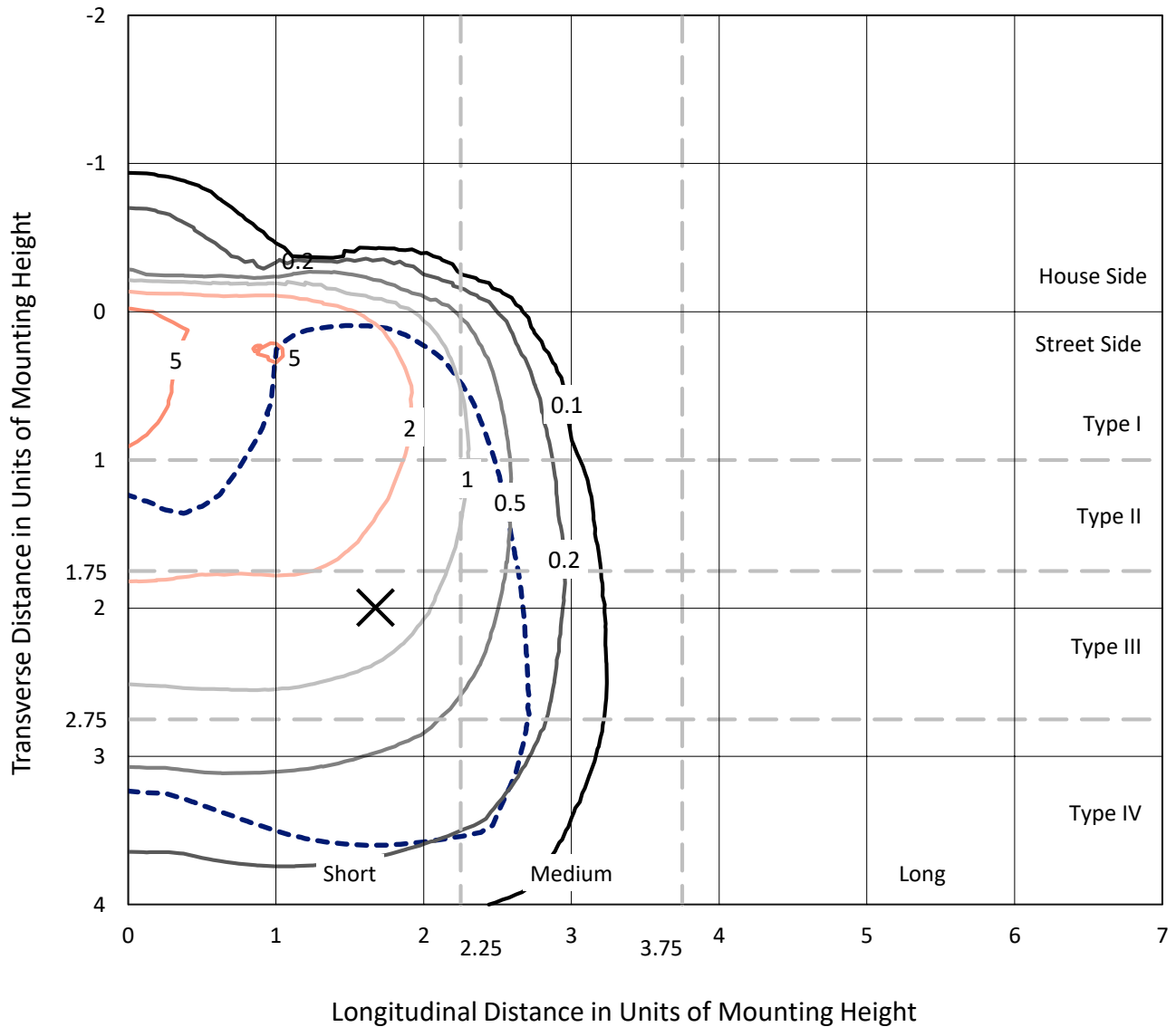
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

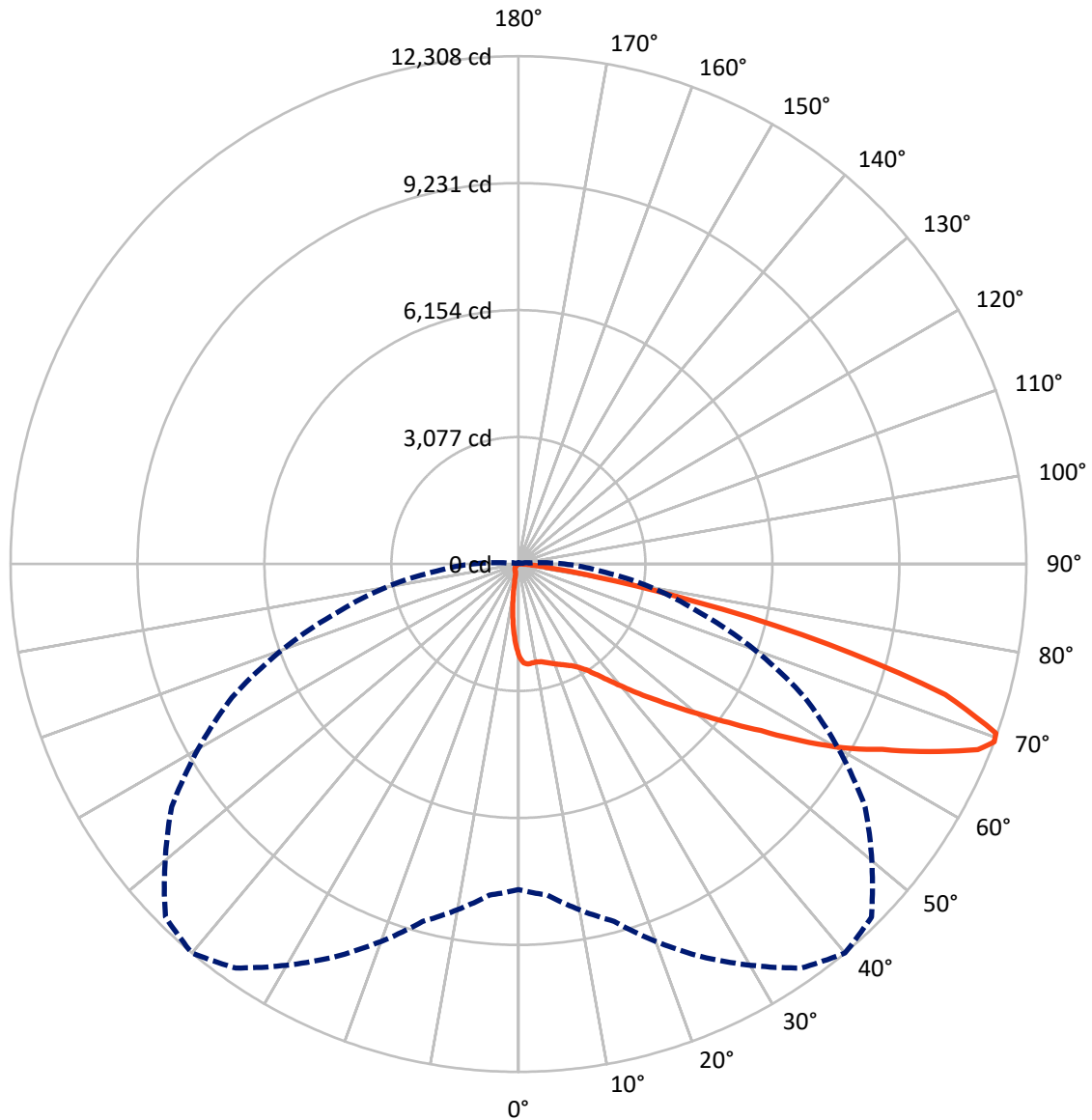
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.1 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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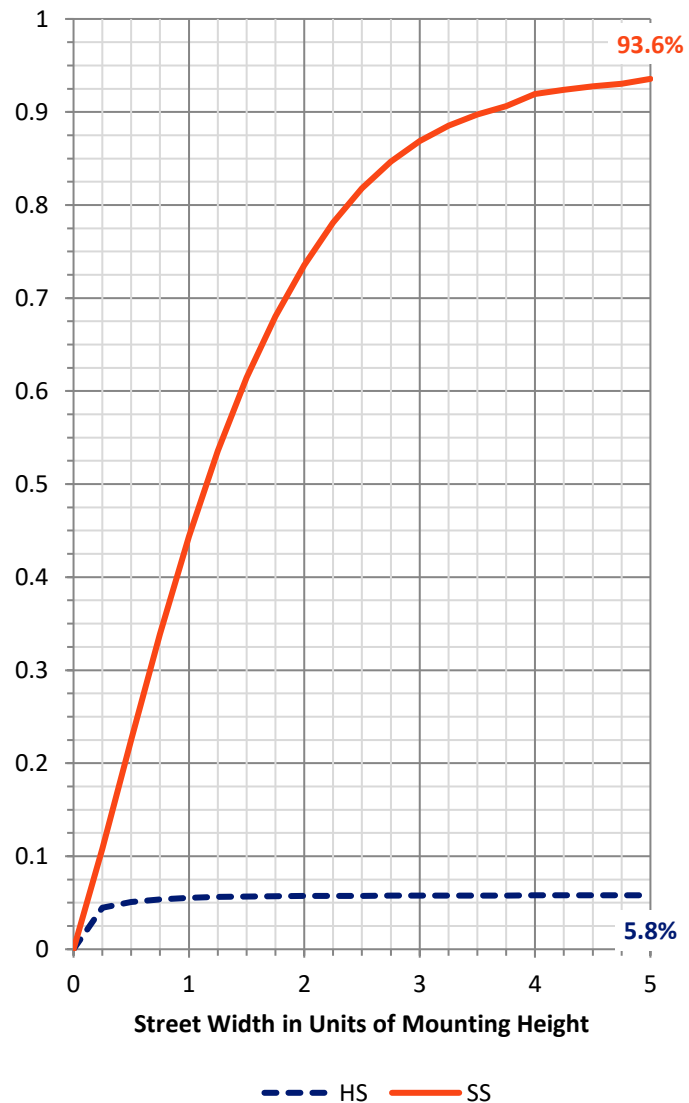
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 876.3    | 0.0    | 876.3   |
|                    | % Fixture | 5.9      | 0.0    | 5.9     |
| <b>Street Side</b> | Lumens    | 14101.4  | 0.0    | 14101.4 |
|                    | % Fixture | 94.1     | 0.0    | 94.1    |
| <b>Total</b>       | Lumens    | 14977.7  | 0.0    | 14977.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 181.4   | 1.2       |
| 10°-20°   | 446.2   | 3.0       |
| 20°-30°   | 751.5   | 5.0       |
| 30°-40°   | 1230.3  | 8.2       |
| 40°-50°   | 2130.2  | 14.2      |
| 50°-60°   | 3355.3  | 22.4      |
| 60°-70°   | 4381.9  | 29.3      |
| 70°-80°   | 2256.8  | 15.1      |
| 80°-90°   | 244.1   | 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°    | 14977.7 | 100.0     |
| 0°-180°   | 14977.7 | 100.0     |



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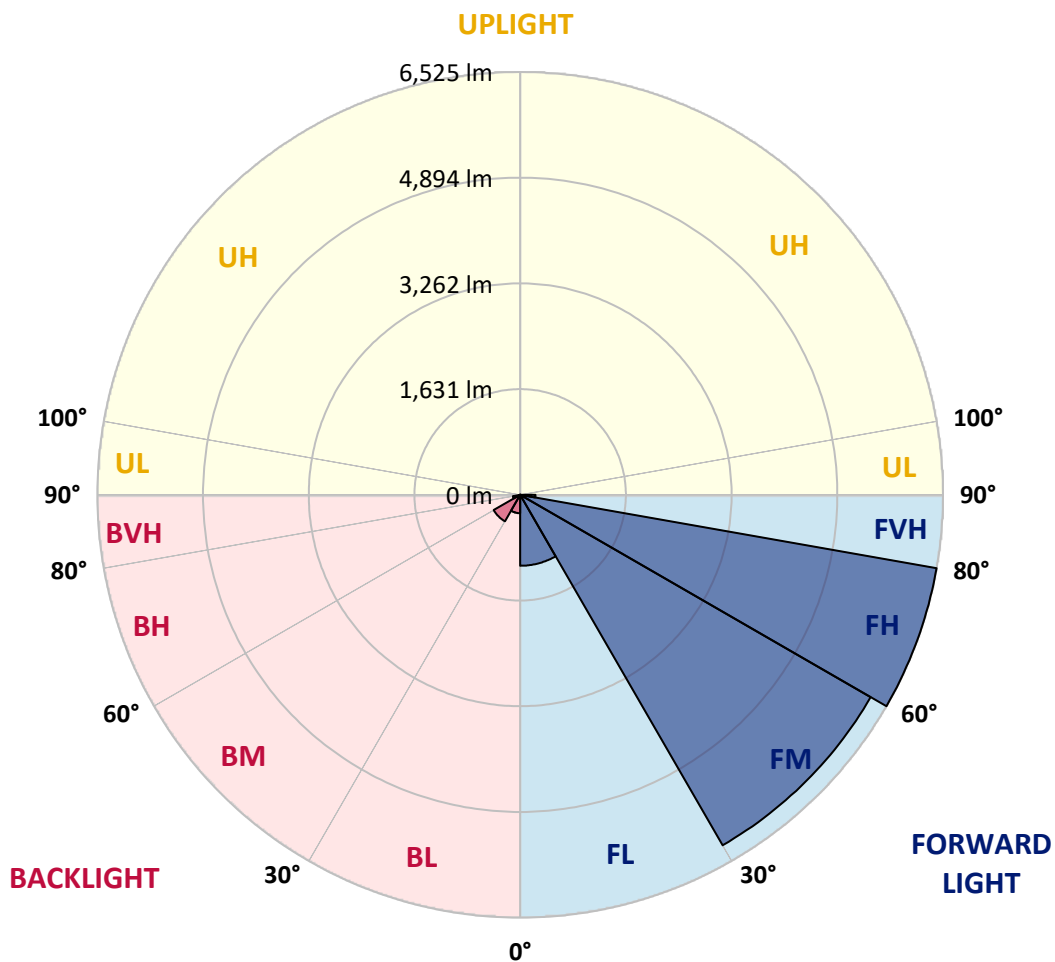
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1095.3 | 7.3       |                         |      |         |
| FM   | (30°-60°)   | 6244.8 | 41.7      |                         |      |         |
| FH   | (60°-80°)   | 6524.9 | 43.6      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 236.5  | 1.6       |                         |      | G3/500  |
| BL   | (0°-30°)    | 283.9  | 1.9       | B1/500                  |      |         |
| BM   | (30°-60°)   | 471.0  | 3.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 113.8  | 0.8       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 7.7    | 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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°     | 35°     | 40°     | 45°     | 55°     | 65°     | 75°    | 85°    |
|-------|--------|--------|--------|---------|---------|---------|---------|---------|---------|--------|--------|
| 0°    | 2237.7 | 2237.7 | 2237.7 | 2237.7  | 2237.7  | 2237.7  | 2237.7  | 2237.7  | 2237.7  | 2237.7 | 2237.7 |
| 2.5°  | 2457.1 | 2443.7 | 2435.7 | 2425.0  | 2411.6  | 2400.0  | 2395.5  | 2362.6  | 2331.4  | 2288.6 | 2239.5 |
| 5°    | 2502.5 | 2498.1 | 2483.8 | 2469.5  | 2453.5  | 2435.7  | 2425.9  | 2386.6  | 2342.1  | 2279.7 | 2194.1 |
| 7.5°  | 2507.0 | 2501.6 | 2483.8 | 2464.2  | 2441.9  | 2420.5  | 2403.6  | 2364.3  | 2323.3  | 2260.0 | 2155.7 |
| 10°   | 2499.9 | 2493.6 | 2480.2 | 2458.8  | 2431.2  | 2410.7  | 2393.8  | 2356.3  | 2321.6  | 2264.5 | 2148.6 |
| 12.5° | 2491.8 | 2485.6 | 2479.4 | 2468.7  | 2444.6  | 2430.3  | 2416.1  | 2380.4  | 2349.2  | 2301.0 | 2174.4 |
| 15°   | 2499.9 | 2496.3 | 2503.4 | 2499.0  | 2485.6  | 2473.1  | 2458.8  | 2426.8  | 2398.2  | 2358.1 | 2221.7 |
| 17.5° | 2533.7 | 2533.7 | 2556.0 | 2558.7  | 2546.2  | 2528.4  | 2507.9  | 2475.8  | 2451.7  | 2417.8 | 2277.9 |
| 20°   | 2613.1 | 2610.4 | 2638.9 | 2644.3  | 2614.0  | 2586.3  | 2556.0  | 2516.8  | 2498.1  | 2476.7 | 2333.1 |
| 22.5° | 2749.5 | 2737.0 | 2753.9 | 2748.6  | 2688.9  | 2646.1  | 2608.6  | 2560.5  | 2550.7  | 2540.9 | 2394.7 |
| 25°   | 2926.9 | 2919.8 | 2931.4 | 2878.8  | 2773.6  | 2715.6  | 2671.0  | 2616.6  | 2616.6  | 2626.5 | 2464.2 |
| 27.5° | 3184.6 | 3157.8 | 3118.6 | 3025.9  | 2868.1  | 2794.1  | 2745.9  | 2688.0  | 2703.1  | 2739.7 | 2556.0 |
| 30°   | 3448.5 | 3419.0 | 3329.0 | 3186.3  | 2983.1  | 2905.5  | 2849.3  | 2788.7  | 2824.4  | 2891.2 | 2679.1 |
| 32.5° | 3708.8 | 3675.8 | 3548.3 | 3368.2  | 3148.0  | 3070.4  | 3016.1  | 2949.2  | 3008.9  | 3121.3 | 2859.1 |
| 35°   | 3961.1 | 3931.7 | 3784.6 | 3572.4  | 3367.3  | 3303.1  | 3253.2  | 3195.3  | 3271.9  | 3428.8 | 3113.2 |
| 37.5° | 4244.6 | 4212.5 | 4033.3 | 3803.3  | 3633.9  | 3587.5  | 3551.0  | 3493.0  | 3626.8  | 3856.8 | 3467.2 |
| 40°   | 4593.2 | 4538.8 | 4297.2 | 4068.1  | 3942.4  | 3920.1  | 3895.1  | 3887.1  | 4094.8  | 4413.1 | 3938.8 |
| 42.5° | 4992.6 | 4903.4 | 4573.6 | 4347.1  | 4281.1  | 4297.2  | 4290.9  | 4326.6  | 4680.5  | 5104.9 | 4512.9 |
| 45°   | 5392.0 | 5277.0 | 4881.1 | 4644.9  | 4653.8  | 4710.0  | 4744.7  | 4887.4  | 5414.3  | 5898.4 | 5130.8 |
| 47.5° | 5730.8 | 5617.6 | 5176.2 | 4966.7  | 5073.7  | 5184.3  | 5278.8  | 5548.9  | 6168.5  | 6679.4 | 5611.3 |
| 50°   | 6020.5 | 5913.5 | 5489.2 | 5320.7  | 5561.4  | 5739.7  | 5893.0  | 6293.3  | 6979.8  | 7274.0 | 5948.3 |
| 52.5° | 6257.7 | 6186.3 | 5813.7 | 5726.3  | 6118.6  | 6379.8  | 6604.5  | 7084.1  | 7698.4  | 7757.2 | 6210.4 |
| 55°   | 6488.6 | 6437.8 | 6162.3 | 6208.6  | 6773.0  | 7128.7  | 7413.1  | 7923.1  | 8317.1  | 8160.2 | 6461.8 |
| 57.5° | 6754.3 | 6707.9 | 6559.9 | 6820.2  | 7633.3  | 8080.9  | 8391.1  | 8666.6  | 8861.8  | 8572.1 | 6699.0 |
| 60°   | 7025.3 | 6998.5 | 7002.1 | 7499.6  | 8621.1  | 9050.8  | 9222.0  | 9293.3  | 9396.8  | 8959.9 | 6712.4 |
| 62.5° | 7283.8 | 7334.6 | 7507.6 | 8255.6  | 9567.0  | 9896.9  | 9983.4  | 10053.8 | 9932.6  | 9021.4 | 6201.5 |
| 65°   | 7721.6 | 7804.5 | 8217.3 | 9267.5  | 10607.5 | 10960.5 | 11049.7 | 10808.1 | 10017.3 | 8226.2 | 5044.3 |
| 67.5° | 7935.5 | 8087.1 | 8823.5 | 10210.7 | 11616.7 | 12009.0 | 11976.0 | 10857.1 | 8989.3  | 6272.8 | 3237.2 |
| 69°   | 7891.0 | 8052.3 | 8963.5 | 10499.6 | 11951.9 | 12307.6 | 12098.1 | 10257.1 | 7658.3  | 4544.1 | 1987.2 |
| 70°   | 7714.4 | 7877.6 | 8891.3 | 10488.9 | 11994.7 | 12276.4 | 11871.7 | 9516.2  | 6475.2  | 3322.7 | 1242.8 |
| 72.5° | 6442.2 | 6583.1 | 7893.6 | 9480.6  | 11049.7 | 10820.5 | 9931.7  | 6592.9  | 3155.1  | 904.9  | 279.9  |
| 75°   | 3965.5 | 4044.0 | 5663.9 | 7142.1  | 8345.6  | 7757.2  | 6617.0  | 3280.0  | 940.6   | 255.9  | 155.1  |
| 77.5° | 2095.1 | 2130.8 | 3100.8 | 4209.8  | 5290.4  | 4377.4  | 3391.4  | 1279.4  | 433.3   | 160.5  | 112.3  |
| 80°   | 1238.3 | 1265.1 | 1669.8 | 1924.8  | 2289.5  | 1912.3  | 1356.0  | 785.4   | 310.3   | 100.7  | 99.9   |
| 82.5° | 708.8  | 725.7  | 1210.7 | 1069.8  | 902.2   | 770.3   | 674.9   | 744.4   | 186.3   | 67.8   | 103.4  |
| 85°   | 260.3  | 263.9  | 681.1  | 814.0   | 536.7   | 319.2   | 335.2   | 616.9   | 49.9    | 42.8   | 81.1   |
| 87.5° | 121.2  | 118.6  | 350.4  | 498.4   | 313.8   | 202.4   | 261.2   | 135.5   | 19.6    | 27.6   | 22.3   |
| 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°    | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 | 2237.7 |
| 2.5°  | 2211.0 | 2178.0 | 2118.3 | 2056.8 | 1994.4 | 1946.2 | 1899.0 | 1861.5 | 1849.0 | 1825.9 | 1827.6 |
| 5°    | 2143.2 | 2082.6 | 1957.8 | 1831.2 | 1699.3 | 1590.5 | 1488.0 | 1405.1 | 1364.9 | 1323.9 | 1323.9 |
| 7.5°  | 2084.4 | 1996.1 | 1800.9 | 1595.0 | 1381.9 | 1202.7 | 1041.3 | 920.1  | 853.2  | 799.7  | 798.8  |
| 10°   | 2062.1 | 1942.7 | 1669.8 | 1374.7 | 1077.9 | 833.6  | 641.9  | 518.9  | 455.6  | 414.6  | 412.8  |
| 12.5° | 2071.9 | 1923.9 | 1569.1 | 1171.5 | 798.8  | 535.8  | 371.8  | 292.4  | 265.7  | 253.2  | 253.2  |
| 15°   | 2100.5 | 1918.6 | 1468.4 | 972.7  | 564.3  | 335.2  | 247.0  | 225.6  | 223.8  | 223.8  | 223.8  |
| 17.5° | 2135.2 | 1920.4 | 1364.9 | 779.2  | 384.3  | 239.8  | 213.1  | 210.4  | 212.2  | 212.2  | 212.2  |
| 20°   | 2170.9 | 1921.3 | 1253.5 | 600.0  | 271.0  | 208.6  | 200.6  | 199.7  | 201.5  | 201.5  | 202.4  |
| 22.5° | 2214.6 | 1925.7 | 1142.1 | 448.4  | 223.8  | 197.0  | 190.8  | 190.8  | 191.7  | 191.7  | 190.8  |
| 25°   | 2264.5 | 1934.6 | 1026.2 | 332.5  | 204.2  | 189.0  | 183.7  | 182.8  | 183.7  | 182.8  | 181.9  |
| 27.5° | 2326.9 | 1947.1 | 896.9  | 260.3  | 195.2  | 181.0  | 176.5  | 176.5  | 175.6  | 174.7  | 173.8  |
| 30°   | 2405.4 | 1961.4 | 751.6  | 221.1  | 186.3  | 173.8  | 169.4  | 168.5  | 167.6  | 165.8  | 165.8  |
| 32.5° | 2524.8 | 1992.6 | 608.0  | 200.6  | 176.5  | 164.0  | 160.5  | 160.5  | 158.7  | 156.9  | 156.0  |
| 35°   | 2708.5 | 2054.1 | 479.6  | 188.1  | 165.8  | 153.3  | 148.9  | 148.9  | 147.1  | 146.2  | 145.3  |
| 37.5° | 2962.6 | 2147.7 | 372.7  | 176.5  | 155.1  | 141.8  | 137.3  | 136.4  | 134.6  | 132.8  | 131.9  |
| 40°   | 3300.5 | 2263.6 | 293.3  | 165.8  | 144.4  | 130.2  | 126.6  | 124.8  | 121.2  | 118.6  | 118.6  |
| 42.5° | 3724.8 | 2395.5 | 238.0  | 154.2  | 131.9  | 119.5  | 116.8  | 114.1  | 107.9  | 105.2  | 104.3  |
| 45°   | 4168.8 | 2514.1 | 201.5  | 140.9  | 119.5  | 108.8  | 107.0  | 102.5  | 94.5   | 91.8   | 91.8   |
| 47.5° | 4488.9 | 2541.8 | 177.4  | 128.4  | 107.9  | 97.2   | 96.3   | 88.3   | 81.1   | 79.3   | 78.5   |
| 50°   | 4688.6 | 2487.4 | 157.8  | 115.9  | 97.2   | 86.5   | 83.8   | 74.0   | 69.5   | 67.8   | 66.9   |
| 52.5° | 4823.2 | 2390.2 | 141.8  | 105.2  | 87.4   | 76.7   | 70.4   | 63.3   | 59.7   | 57.9   | 57.9   |
| 55°   | 4931.1 | 2252.9 | 125.7  | 95.4   | 79.3   | 68.6   | 59.7   | 54.4   | 50.8   | 49.0   | 49.0   |
| 57.5° | 4961.4 | 2066.6 | 109.7  | 87.4   | 71.3   | 60.6   | 50.8   | 47.3   | 42.8   | 41.9   | 41.9   |
| 60°   | 4741.2 | 1730.5 | 97.2   | 77.6   | 64.2   | 52.6   | 44.6   | 40.1   | 35.7   | 34.8   | 33.9   |
| 62.5° | 4160.8 | 1339.1 | 85.6   | 68.6   | 56.2   | 45.5   | 38.3   | 33.0   | 29.4   | 29.4   | 29.4   |
| 65°   | 3173.9 | 897.8  | 74.9   | 59.7   | 49.0   | 38.3   | 33.0   | 26.7   | 25.0   | 25.0   | 25.9   |
| 67.5° | 1899.9 | 488.6  | 64.2   | 50.8   | 41.9   | 32.1   | 27.6   | 23.2   | 22.3   | 23.2   | 23.2   |
| 69°   | 1113.5 | 287.1  | 57.9   | 45.5   | 36.6   | 28.5   | 24.1   | 20.5   | 22.3   | 23.2   | 23.2   |
| 70°   | 687.4  | 193.5  | 53.5   | 41.0   | 33.0   | 25.9   | 22.3   | 19.6   | 21.4   | 22.3   | 22.3   |
| 72.5° | 191.7  | 99.9   | 42.8   | 32.1   | 26.7   | 21.4   | 17.8   | 17.8   | 20.5   | 21.4   | 21.4   |
| 75°   | 124.8  | 74.0   | 33.0   | 24.1   | 20.5   | 16.9   | 15.2   | 16.9   | 19.6   | 20.5   | 20.5   |
| 77.5° | 103.4  | 60.6   | 26.7   | 19.6   | 16.9   | 16.0   | 14.3   | 15.2   | 17.8   | 18.7   | 18.7   |
| 80°   | 94.5   | 42.8   | 21.4   | 17.8   | 15.2   | 14.3   | 13.4   | 12.5   | 16.0   | 16.9   | 16.9   |
| 82.5° | 90.0   | 33.9   | 18.7   | 16.0   | 14.3   | 12.5   | 11.6   | 12.5   | 14.3   | 15.2   | 16.0   |
| 85°   | 56.2   | 22.3   | 16.9   | 15.2   | 12.5   | 11.6   | 11.6   | 11.6   | 13.4   | 14.3   | 14.3   |
| 87.5° | 20.5   | 17.8   | 15.2   | 12.5   | 10.7   | 10.7   | 10.7   | 10.7   | 11.6   | 13.4   | 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    |

(END OF REPORT)