

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: P591261

Luminaire Tested: **CTN-CA8-230-727-U-T4-SSS-HM-EX180**

Issue Date: 1/19/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P591261  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-12)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/19/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: CTN-CA8-230-727-U-T4-SSS-HM-EX180  
Description: CELESTEON HIGH MAST LUMINAIRE, 180D FIELD INSTALLED SHIELD ON STREET SIDE  
Light Source: (8) 2700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13345 lumens  
Efficiency: N/A  
Efficacy: 58.4 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3

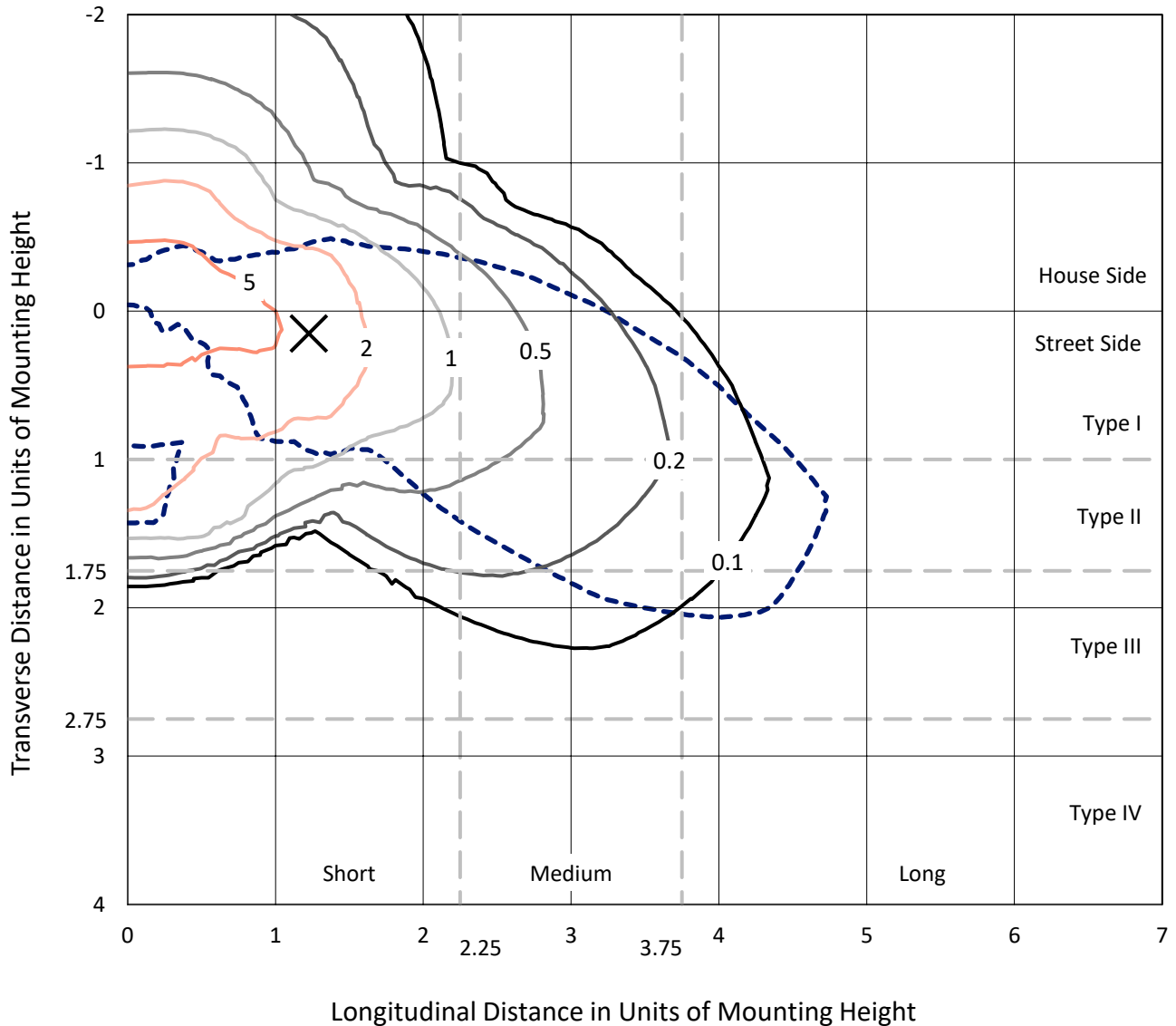
Input Watts (W): 228.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

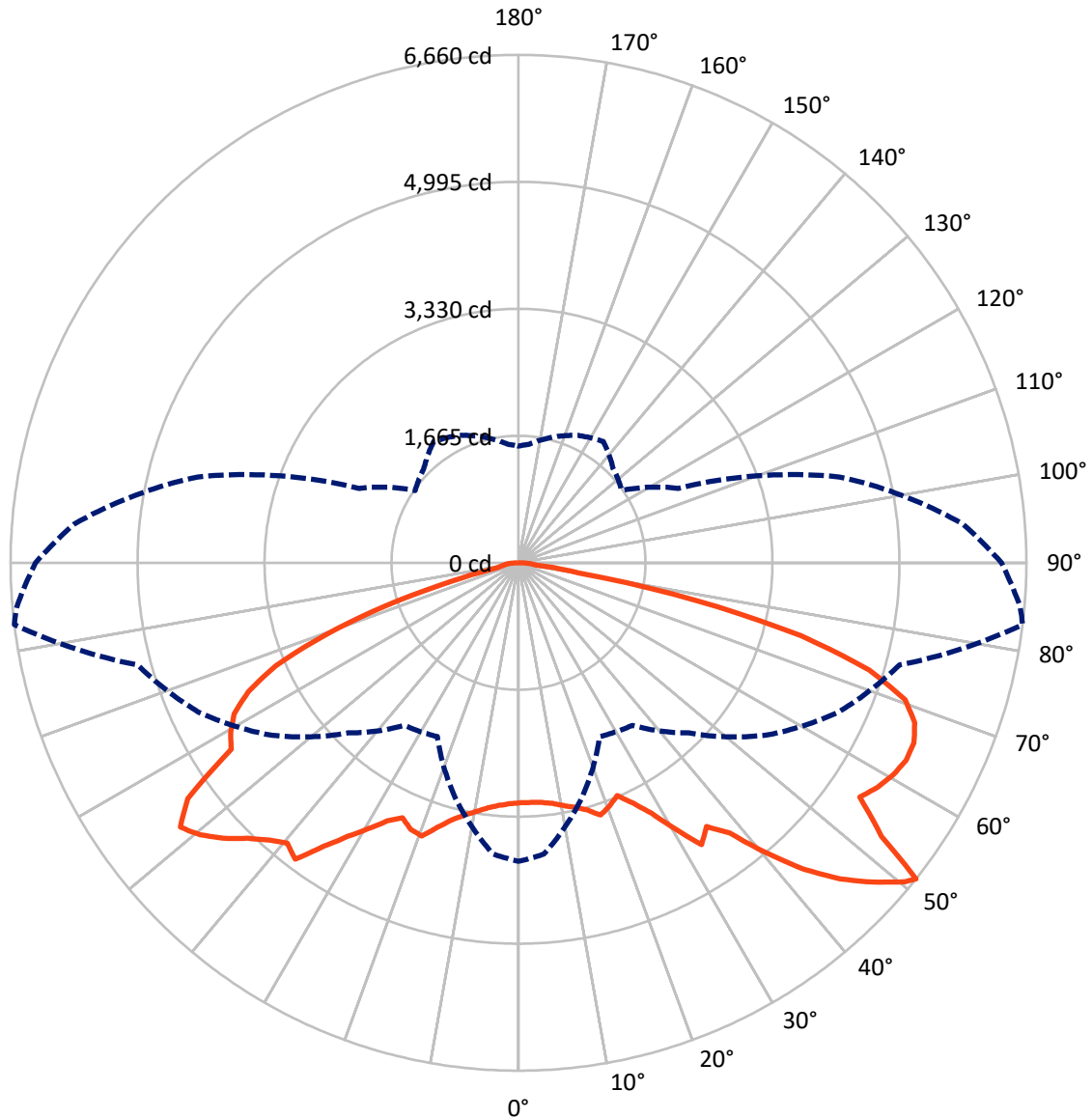
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.4 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 83-Deg Lateral      - - - Horizontal Cone Through 51-Deg Vertical

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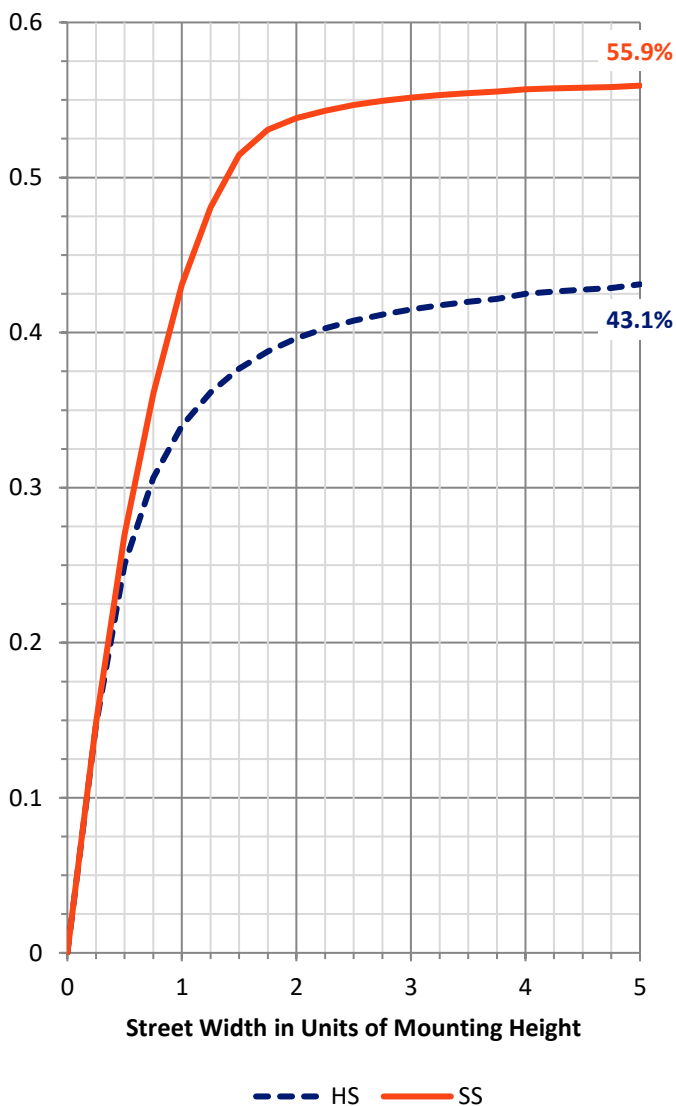
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 5881.9   | 0.0    | 5881.9  |
|                    | % Fixture | 44.1     | 0.0    | 44.1    |
| <b>Street Side</b> | Lumens    | 7463.1   | 0.0    | 7463.1  |
|                    | % Fixture | 55.9     | 0.0    | 55.9    |
| <b>Total</b>       | Lumens    | 13345.0  | 0.0    | 13345.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 307.3   | 2.3       |
| 10°-20°   | 935.1   | 7.0       |
| 20°-30°   | 1452.6  | 10.9      |
| 30°-40°   | 1943.7  | 14.6      |
| 40°-50°   | 2521.7  | 18.9      |
| 50°-60°   | 2685.6  | 20.1      |
| 60°-70°   | 1870.8  | 14.0      |
| 70°-80°   | 1305.2  | 9.8       |
| 80°-90°   | 322.9   | 2.4       |
| 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°    | 13345.0 | 100.0     |
| 0°-180°   | 13345.0 | 100.0     |

**Coefficient of Utilization**

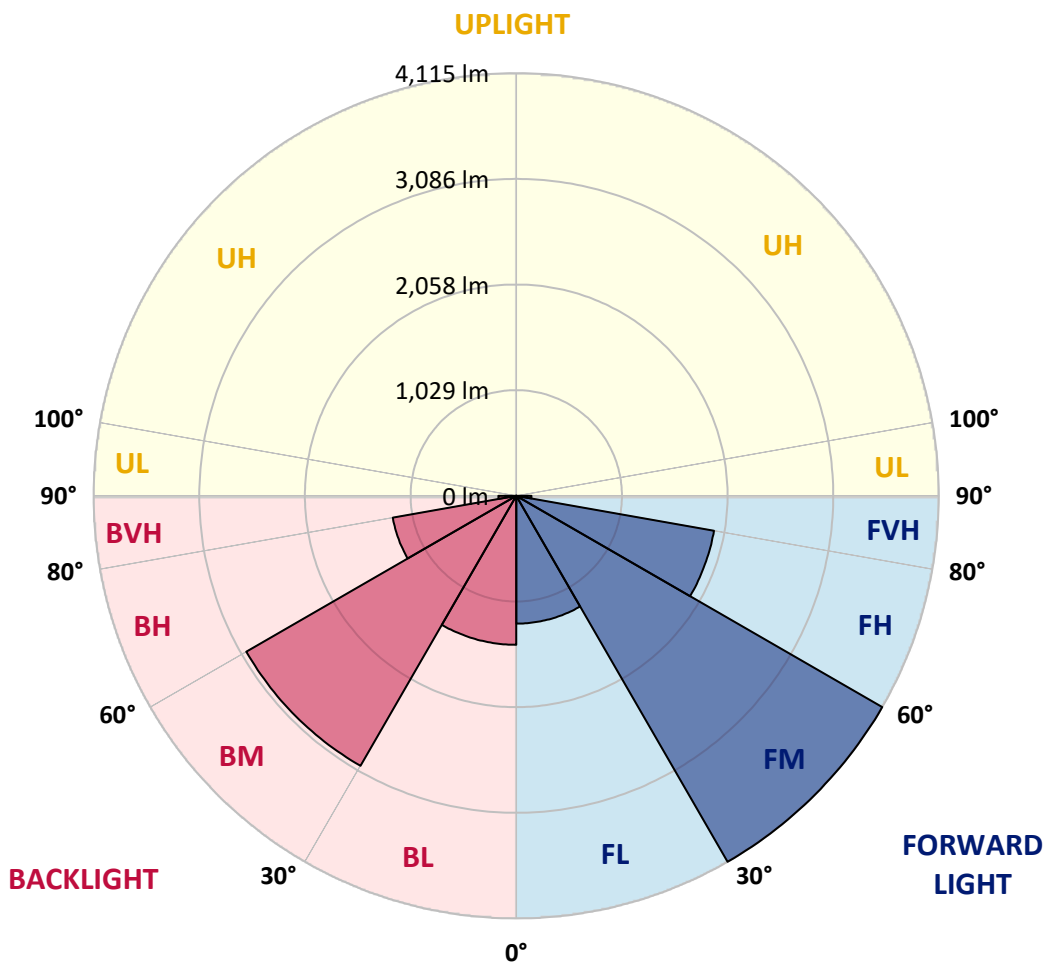


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1244.3 | 9.3       |                         |      |         |
| FM (30°-60°)   | 4115.2 | 30.8      |                         |      |         |
| FH (60°-80°)   | 1955.3 | 14.7      |                         |      | G2/5000 |
| FVH (80°-90°)  | 148.3  | 1.1       |                         |      | G2/225  |
| BL (0°-30°)    | 1450.7 | 10.9      | B3/2500                 |      |         |
| BM (30°-60°)   | 3035.8 | 22.7      | B3/5000                 |      |         |
| BH (60°-80°)   | 1220.7 | 9.1       | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 174.7  | 1.3       |                         |      | G2/225  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 83°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 |
| 2.5°  | 3107.9 | 3086.4 | 3088.2 | 3117.3 | 3078.8 | 3104.2 | 3100.4 | 3145.5 | 3137.0 | 3146.4 | 3153.0 |
| 5°    | 3080.7 | 3063.8 | 3063.8 | 3102.3 | 3075.1 | 3102.3 | 3083.5 | 3122.9 | 3136.1 | 3156.7 | 3164.2 |
| 7.5°  | 3086.4 | 3068.5 | 3076.0 | 3109.8 | 3079.8 | 3107.9 | 3107.0 | 3144.5 | 3149.2 | 3185.8 | 3198.0 |
| 10°   | 3102.3 | 3082.6 | 3086.4 | 3113.6 | 3096.7 | 3145.5 | 3137.0 | 3188.6 | 3188.6 | 3237.4 | 3256.2 |
| 12.5° | 3069.5 | 3056.3 | 3063.8 | 3100.4 | 3115.4 | 3166.1 | 3177.3 | 3229.9 | 3237.4 | 3289.9 | 3313.4 |
| 15°   | 3033.8 | 3015.1 | 3039.4 | 3092.0 | 3117.3 | 3190.5 | 3214.9 | 3295.6 | 3306.8 | 3361.2 | 3387.5 |
| 17.5° | 2861.2 | 2849.0 | 2894.0 | 2936.3 | 2950.3 | 3021.6 | 3069.5 | 3203.6 | 3365.0 | 3478.5 | 3509.4 |
| 20°   | 2517.9 | 2516.0 | 2432.5 | 2414.7 | 2633.3 | 2894.0 | 2926.9 | 3041.3 | 3228.0 | 3405.3 | 3468.2 |
| 22.5° | 2102.3 | 2158.6 | 2429.7 | 2516.0 | 2510.4 | 2613.6 | 3033.8 | 3141.7 | 3224.3 | 3314.3 | 3351.8 |
| 25°   | 2102.3 | 2097.6 | 2258.0 | 2629.5 | 2630.4 | 2674.5 | 2768.3 | 3308.7 | 3387.5 | 3490.7 | 3520.7 |
| 27.5° | 2168.9 | 2173.6 | 2163.3 | 2434.4 | 2759.9 | 2801.2 | 2841.5 | 3121.1 | 3604.2 | 3718.6 | 3768.4 |
| 30°   | 2281.5 | 2289.0 | 2247.7 | 2248.6 | 2803.0 | 2926.9 | 3003.8 | 3113.6 | 3755.2 | 4048.8 | 4071.4 |
| 32.5° | 2503.8 | 2501.0 | 2449.4 | 2382.8 | 2459.7 | 3049.8 | 3162.3 | 3304.9 | 3516.9 | 4405.3 | 4457.9 |
| 35°   | 2681.1 | 2668.9 | 2633.3 | 2587.3 | 2486.0 | 3015.1 | 3313.4 | 3510.4 | 3780.5 | 4246.8 | 4524.5 |
| 37.5° | 2878.1 | 2860.3 | 2819.9 | 2763.6 | 2671.7 | 2104.2 | 3462.5 | 3744.9 | 4164.2 | 4495.4 | 4513.2 |
| 40°   | 3100.4 | 3080.7 | 3025.4 | 2942.8 | 2825.6 | 2155.8 | 3529.1 | 4034.8 | 4664.2 | 4997.3 | 4994.5 |
| 42.5° | 3271.2 | 3251.5 | 3222.4 | 3135.1 | 2484.1 | 2378.1 | 3077.9 | 4441.9 | 5205.5 | 5494.5 | 5470.1 |
| 45°   | 3415.6 | 3398.7 | 3401.6 | 3309.6 | 2330.2 | 2651.1 | 3428.8 | 4654.9 | 5715.9 | 5912.9 | 5881.0 |
| 47.5° | 3528.2 | 3501.9 | 3430.6 | 2784.3 | 2390.3 | 2839.6 | 3713.9 | 4060.1 | 6146.4 | 6258.1 | 6222.4 |
| 50°   | 3802.1 | 3758.0 | 3334.0 | 2471.9 | 2542.3 | 3070.4 | 3985.1 | 4478.5 | 5598.6 | 6572.3 | 6509.5 |
| 51°   | 3913.8 | 3834.0 | 3195.2 | 2515.1 | 2602.3 | 3153.9 | 3944.7 | 4630.5 | 5171.8 | 6659.6 | 6603.3 |
| 52.5° | 4031.0 | 3873.4 | 2814.3 | 2580.7 | 2675.5 | 3269.3 | 3350.9 | 4864.1 | 5290.9 | 5959.8 | 6291.8 |
| 55°   | 3400.6 | 3462.5 | 2906.2 | 2820.9 | 2814.3 | 2825.6 | 3422.2 | 5212.1 | 5539.5 | 5426.9 | 5361.3 |
| 57.5° | 2000.0 | 2036.6 | 2952.2 | 3158.6 | 2435.3 | 2243.9 | 3610.8 | 5474.8 | 5754.3 | 5551.7 | 5478.5 |
| 60°   | 1005.6 | 1052.5 | 1075.1 | 980.3  | 1313.3 | 2046.9 | 3041.3 | 3968.2 | 5885.6 | 5645.5 | 5557.3 |
| 62.5° | 44.1   | 73.2   | 29.1   | 31.9   | 53.5   | 713.9  | 2234.6 | 4076.1 | 5996.3 | 5702.7 | 5586.4 |
| 65°   | 3.8    | 3.8    | 4.7    | 9.4    | 23.5   | 749.5  | 2486.9 | 4225.2 | 6041.4 | 5697.1 | 5541.4 |
| 67.5° | 0.9    | 0.9    | 1.9    | 6.6    | 16.9   | 811.5  | 2783.3 | 4286.2 | 6043.2 | 5601.4 | 5411.0 |
| 70°   | 0.0    | 0.9    | 1.9    | 5.6    | 15.0   | 849.0  | 2848.1 | 4274.0 | 5966.3 | 5376.3 | 5114.5 |
| 72.5° | 0.0    | 0.0    | 0.9    | 4.7    | 13.1   | 801.1  | 2773.0 | 4249.6 | 5703.7 | 4809.6 | 4438.2 |
| 75°   | 0.0    | 0.0    | 0.9    | 3.8    | 11.3   | 815.2  | 2780.5 | 3975.7 | 4980.4 | 3829.3 | 3378.1 |
| 77.5° | 0.0    | 0.0    | 0.9    | 3.8    | 10.3   | 752.4  | 2546.0 | 3442.8 | 3936.3 | 2383.7 | 1890.3 |
| 80°   | 0.0    | 0.0    | 0.9    | 3.8    | 9.4    | 645.4  | 2093.8 | 2687.7 | 2202.7 | 808.6  | 521.6  |
| 82.5° | 0.0    | 0.0    | 0.9    | 3.8    | 7.5    | 437.2  | 1391.2 | 1343.4 | 443.7  | 231.7  | 208.3  |
| 85°   | 0.0    | 0.0    | 0.9    | 2.8    | 5.6    | 260.8  | 697.0  | 182.9  | 171.7  | 147.3  | 133.2  |
| 87.5° | 0.0    | 0.0    | 0.9    | 1.9    | 3.8    | 110.7  | 214.8  | 56.3   | 71.3   | 60.0   | 53.5   |
| 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°    | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 | 3145.5 |
| 2.5°  | 3158.6 | 3158.6 | 3168.9 | 3203.6 | 3199.9 | 3228.0 | 3212.1 | 3246.8 | 3249.6 | 3243.0 | 3259.0 |
| 5°    | 3170.8 | 3182.0 | 3216.8 | 3253.3 | 3238.3 | 3279.6 | 3299.3 | 3345.3 | 3343.4 | 3337.8 | 3356.5 |
| 7.5°  | 3205.5 | 3228.9 | 3263.7 | 3307.7 | 3323.7 | 3357.5 | 3359.3 | 3422.2 | 3418.4 | 3415.6 | 3434.4 |
| 10°   | 3263.7 | 3294.6 | 3333.1 | 3399.7 | 3390.3 | 3439.1 | 3418.4 | 3464.4 | 3463.5 | 3461.6 | 3480.4 |
| 12.5° | 3323.7 | 3368.7 | 3415.6 | 3480.4 | 3479.4 | 3481.3 | 3463.5 | 3486.9 | 3482.2 | 3469.1 | 3483.2 |
| 15°   | 3408.1 | 3468.2 | 3532.9 | 3579.8 | 3538.5 | 3530.1 | 3490.7 | 3476.6 | 3449.4 | 3411.9 | 3423.1 |
| 17.5° | 3547.9 | 3607.0 | 3689.6 | 3714.9 | 3647.3 | 3608.9 | 3501.9 | 3424.1 | 3339.6 | 3282.4 | 3294.6 |
| 20°   | 3673.6 | 3783.4 | 3862.2 | 3860.3 | 3774.0 | 3672.7 | 3506.6 | 3375.3 | 3212.1 | 3101.4 | 3092.0 |
| 22.5° | 3516.9 | 3701.7 | 4045.1 | 4004.8 | 3853.7 | 3710.2 | 3501.0 | 3297.4 | 3026.3 | 2854.6 | 2848.1 |
| 25°   | 3607.0 | 3610.8 | 3918.4 | 4085.4 | 3889.4 | 3694.2 | 3433.5 | 3161.4 | 2814.3 | 2636.1 | 2625.7 |
| 27.5° | 3836.8 | 3816.2 | 3730.8 | 3999.1 | 3856.5 | 3612.6 | 3297.4 | 2929.7 | 2621.1 | 2466.3 | 2458.8 |
| 30°   | 4109.8 | 4046.0 | 3845.3 | 3580.7 | 3721.4 | 3454.1 | 3088.2 | 2692.4 | 2446.6 | 2305.9 | 2294.6 |
| 32.5° | 4436.3 | 4302.1 | 3949.4 | 3534.8 | 3278.7 | 3214.9 | 2818.1 | 2504.7 | 2302.1 | 2155.8 | 2126.7 |
| 35°   | 4823.7 | 4623.0 | 4049.8 | 3456.9 | 2933.4 | 2860.3 | 2563.8 | 2335.9 | 2166.1 | 2017.9 | 1988.8 |
| 37.5° | 4822.8 | 5032.0 | 4198.0 | 3350.0 | 2719.6 | 2462.5 | 2379.0 | 2223.3 | 2071.3 | 1892.2 | 1859.3 |
| 40°   | 4858.4 | 4865.0 | 4361.2 | 3245.8 | 2519.7 | 2258.0 | 2269.3 | 2168.0 | 2011.3 | 1814.3 | 1780.5 |
| 42.5° | 5291.8 | 4972.9 | 4561.0 | 3106.1 | 2331.2 | 2107.0 | 2222.4 | 2148.3 | 1979.4 | 1777.7 | 1740.2 |
| 45°   | 5668.9 | 5301.2 | 4123.0 | 2953.1 | 2133.2 | 1989.7 | 2184.8 | 2102.3 | 1934.4 | 1733.6 | 1691.4 |
| 47.5° | 5997.3 | 5562.0 | 4234.6 | 2685.8 | 1940.0 | 1894.0 | 2112.6 | 2014.1 | 1853.7 | 1667.0 | 1629.5 |
| 50°   | 6246.8 | 5777.8 | 4332.2 | 2326.5 | 1752.4 | 1798.3 | 1995.3 | 1895.0 | 1740.2 | 1589.1 | 1557.2 |
| 51°   | 6332.2 | 5847.2 | 4351.9 | 2310.5 | 1652.9 | 1753.3 | 1940.0 | 1842.4 | 1703.6 | 1559.1 | 1530.0 |
| 52.5° | 6424.1 | 5937.2 | 4380.9 | 2346.2 | 1512.2 | 1679.2 | 1849.9 | 1764.6 | 1649.2 | 1525.4 | 1492.5 |
| 55°   | 5341.5 | 5578.9 | 4306.8 | 2271.1 | 1349.0 | 1531.9 | 1684.8 | 1646.4 | 1582.6 | 1472.8 | 1449.4 |
| 57.5° | 5146.4 | 4720.5 | 3572.3 | 1923.1 | 1205.5 | 1356.5 | 1524.4 | 1549.7 | 1501.0 | 1389.3 | 1372.4 |
| 60°   | 5188.6 | 4677.4 | 3181.1 | 1434.4 | 1062.9 | 1199.8 | 1404.3 | 1426.9 | 1384.6 | 1300.2 | 1276.8 |
| 62.5° | 5181.1 | 4566.7 | 2836.8 | 1010.3 | 939.0  | 1118.2 | 1318.0 | 1327.4 | 1269.3 | 1198.9 | 1177.3 |
| 65°   | 5057.3 | 4312.5 | 2366.8 | 764.6  | 870.6  | 1073.2 | 1267.4 | 1272.1 | 1199.8 | 1109.8 | 1098.5 |
| 67.5° | 4781.5 | 3910.0 | 1646.4 | 671.7  | 832.1  | 1038.5 | 1233.6 | 1213.0 | 1143.5 | 1048.8 | 1031.9 |
| 70°   | 4253.4 | 3185.8 | 769.2  | 618.2  | 773.9  | 974.7  | 1151.1 | 1126.7 | 1050.7 | 962.5  | 947.5  |
| 72.5° | 3410.0 | 2213.9 | 364.9  | 565.7  | 713.0  | 894.9  | 1049.7 | 1011.3 | 948.4  | 915.6  | 907.1  |
| 75°   | 2231.7 | 1039.4 | 304.9  | 509.4  | 632.3  | 798.3  | 962.5  | 948.4  | 890.3  | 824.6  | 792.7  |
| 77.5° | 905.3  | 273.9  | 275.8  | 452.2  | 567.6  | 735.5  | 869.6  | 858.4  | 781.4  | 722.3  | 709.2  |
| 80°   | 228.0  | 205.4  | 252.3  | 373.4  | 494.4  | 640.7  | 762.7  | 730.8  | 702.6  | 638.8  | 618.2  |
| 82.5° | 173.5  | 165.1  | 197.9  | 288.9  | 406.2  | 528.2  | 651.0  | 664.2  | 617.3  | 568.5  | 558.2  |
| 85°   | 121.0  | 150.1  | 120.1  | 205.4  | 301.1  | 416.5  | 546.0  | 569.4  | 537.5  | 482.2  | 444.7  |
| 87.5° | 66.6   | 78.8   | 49.7   | 107.9  | 159.5  | 228.0  | 313.3  | 316.1  | 261.7  | 240.2  | 226.1  |
| 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)