

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: P591336

Luminaire Tested: **CTN-CA6-230-730-U-T1-SSS-HM-EX180**

Issue Date: 1/19/2022

Test Information

Test Method: LM-79-08
Report Number: P591336
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/19/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA6-230-730-U-T1-SSS-HM-EX180
Description: CELESTEON HIGH MAST LUMINAIRE, 180D FIELD INSTALLED SHIELD ON STREET SIDE
Light Source: (6) 3000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21500 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')
IES Classification: Type I - Short
BUG Rating: B4 - U0 - G4

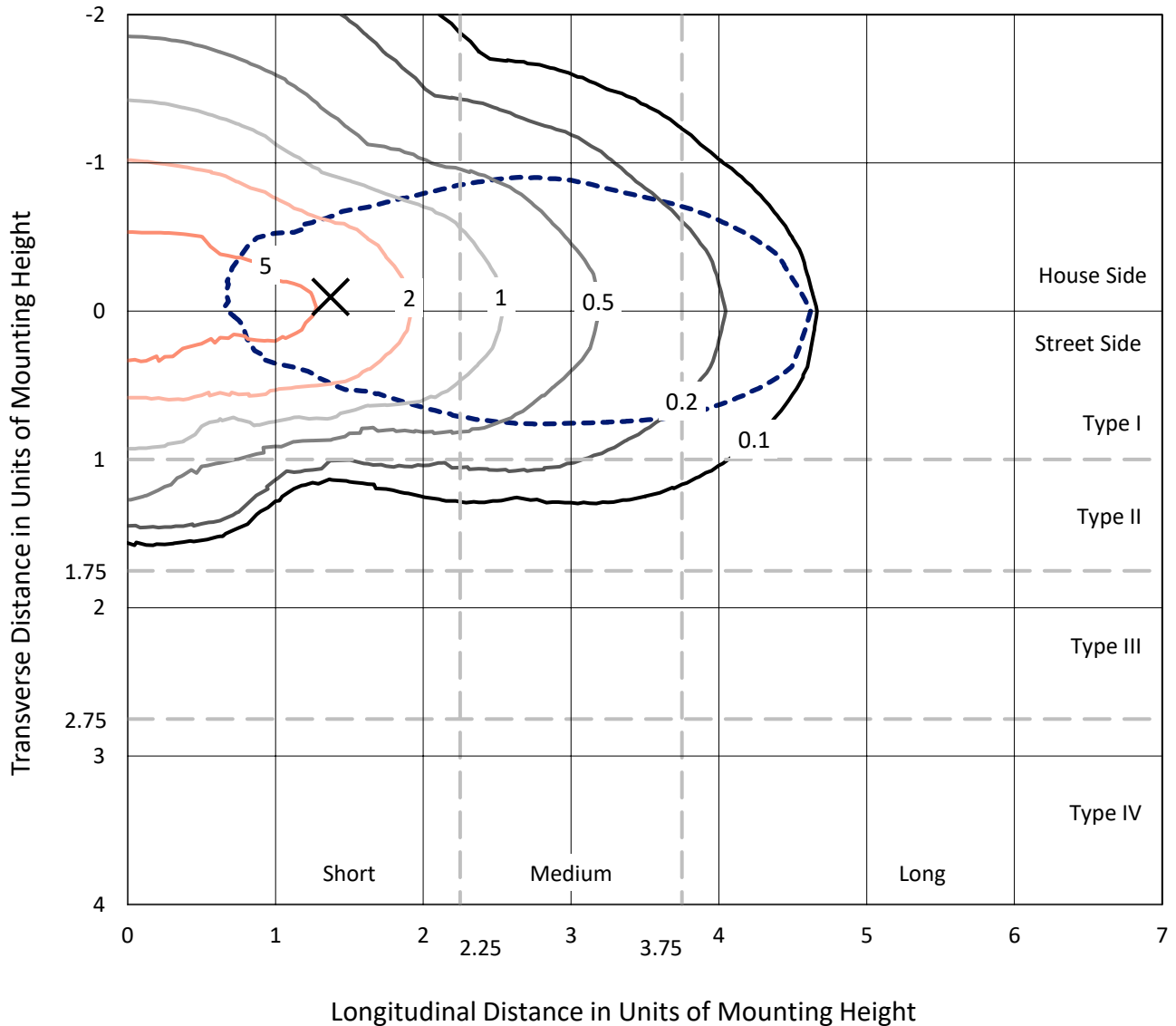
Input Watts (W): 227.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

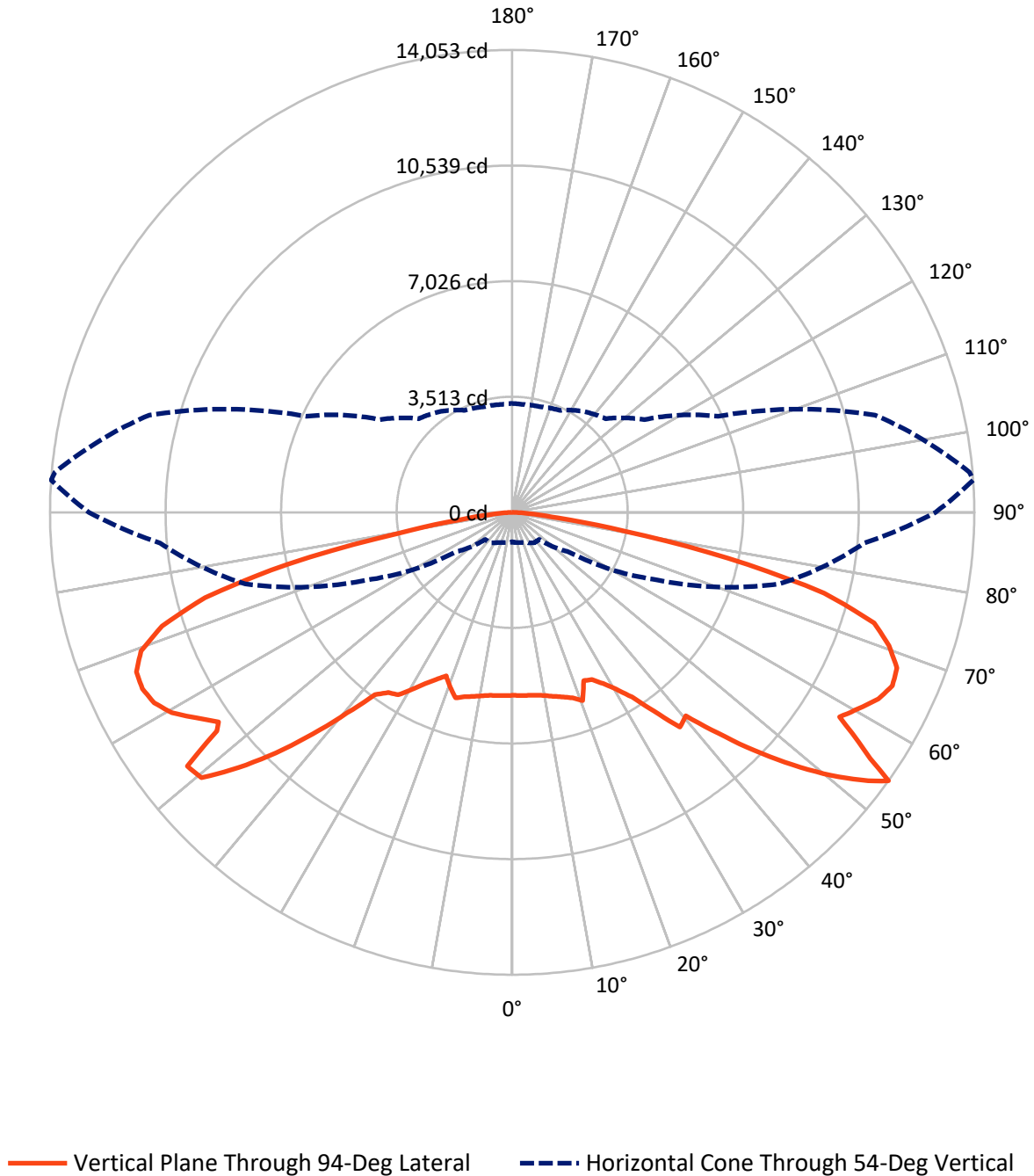
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.9 fc
 Type I - Short - N/A

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Luminous Intensity Polar Plot



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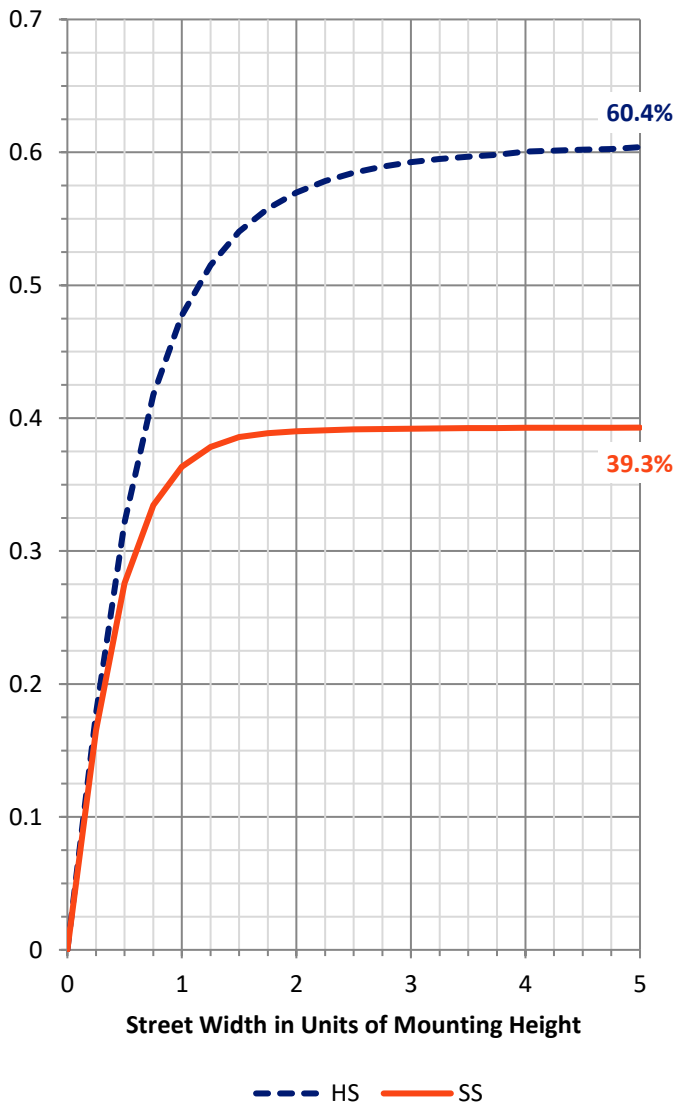
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 13095.3 | 0.0 | 13095.3 |
| | % Fixture | 60.9 | 0.0 | 60.9 |
| Street Side | Lumens | 8404.7 | 0.0 | 8404.7 |
| | % Fixture | 39.1 | 0.0 | 39.1 |
| Total | Lumens | 21500.0 | 0.0 | 21500.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 530.5 | 2.5 |
| 10°-20° | 1518.1 | 7.1 |
| 20°-30° | 2168.2 | 10.1 |
| 30°-40° | 2868.8 | 13.3 |
| 40°-50° | 3776.6 | 17.6 |
| 50°-60° | 4166.6 | 19.4 |
| 60°-70° | 3754.5 | 17.5 |
| 70°-80° | 2374.4 | 11.0 |
| 80°-90° | 342.2 | 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° | 21500.0 | 100.0 |
| 0°-180° | 21500.0 | 100.0 |

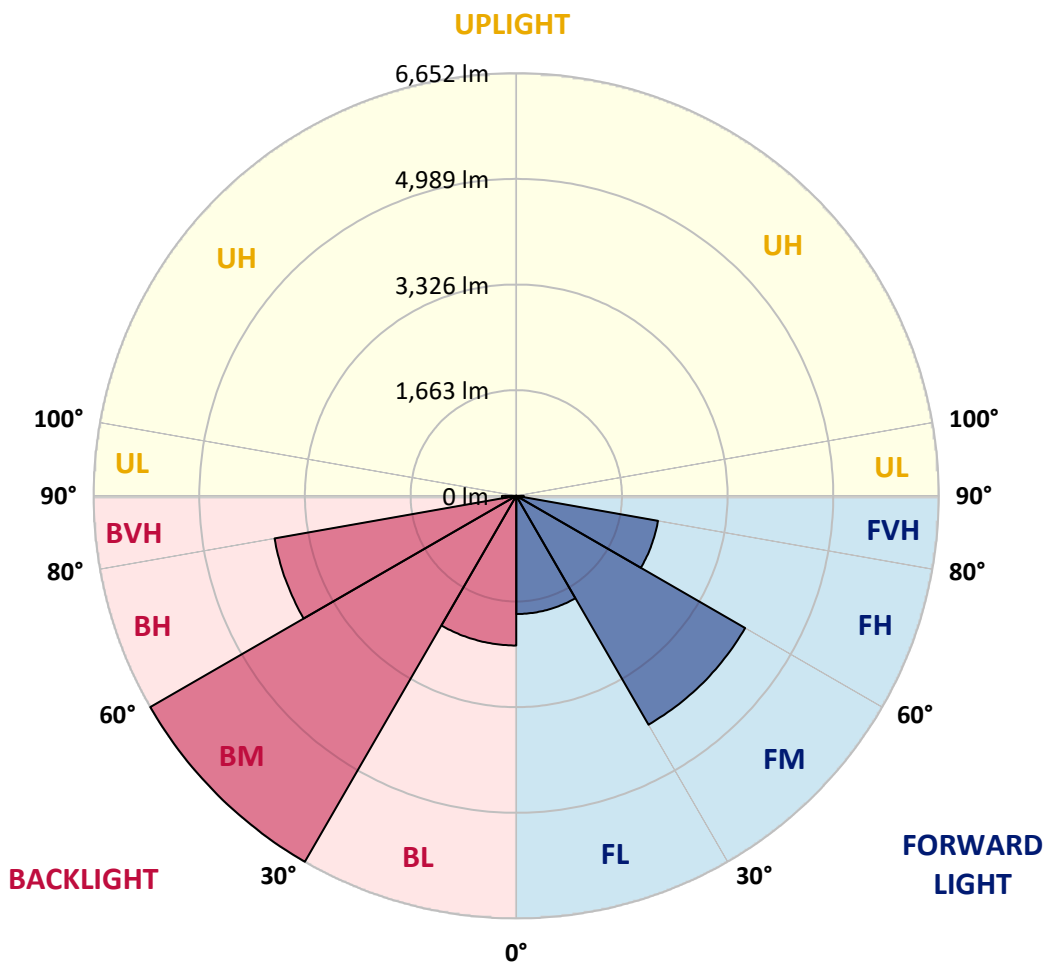


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1860.6 | 8.7 | | | |
| FM (30°-60°) | 4160.0 | 19.3 | | | |
| FH (60°-80°) | 2265.5 | 10.5 | | | G2/5000 |
| FVH (80°-90°) | 118.5 | 0.6 | | | G2/225 |
| BL (0°-30°) | 2356.2 | 11.0 | B3/2500 | | |
| BM (30°-60°) | 6652.0 | 30.9 | B4/8500 | | |
| BH (60°-80°) | 3863.4 | 18.0 | B4/5000 | | G4/5000 |
| BVH (80°-90°) | 223.7 | 1.0 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G4
 Type I Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| 0° | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 |
| 2.5° | 5569.8 | 5531.1 | 5536.3 | 5577.1 | 5490.3 | 5544.7 | 5519.6 | 5564.6 | 5546.8 | 5571.9 | 5590.7 |
| 5° | 5520.7 | 5484.1 | 5493.5 | 5543.7 | 5474.7 | 5536.3 | 5500.8 | 5544.7 | 5551.0 | 5581.3 | 5599.1 |
| 7.5° | 5479.9 | 5444.3 | 5450.6 | 5497.7 | 5453.7 | 5508.1 | 5487.2 | 5545.8 | 5546.8 | 5600.1 | 5613.7 |
| 10° | 5439.1 | 5402.5 | 5410.9 | 5451.7 | 5423.4 | 5482.0 | 5495.6 | 5564.6 | 5580.3 | 5654.5 | 5655.5 |
| 12.5° | 5352.3 | 5319.9 | 5324.1 | 5380.6 | 5381.6 | 5466.3 | 5493.5 | 5600.1 | 5632.5 | 5716.2 | 5724.6 |
| 15° | 5010.4 | 5033.4 | 5121.3 | 5192.4 | 5258.2 | 5372.2 | 5465.2 | 5639.9 | 5683.8 | 5785.2 | 5809.2 |
| 17.5° | 4182.3 | 4146.8 | 3955.4 | 4056.9 | 4373.7 | 4676.9 | 4837.9 | 5202.8 | 5611.6 | 5890.8 | 5922.2 |
| 20° | 2932.9 | 2989.3 | 3289.4 | 3427.4 | 3653.3 | 4202.2 | 4706.2 | 4916.3 | 5049.1 | 5554.1 | 5948.3 |
| 22.5° | 2326.4 | 2343.1 | 2772.9 | 3288.3 | 3457.7 | 3694.0 | 4292.1 | 4993.7 | 5201.8 | 5348.1 | 5413.0 |
| 25° | 2165.4 | 2177.9 | 2247.0 | 2921.4 | 3383.5 | 3634.4 | 3896.9 | 4809.7 | 5381.6 | 5563.5 | 5640.9 |
| 27.5° | 2030.5 | 2044.1 | 2112.1 | 2339.0 | 3315.5 | 3634.4 | 3932.4 | 4353.8 | 5556.2 | 5832.2 | 5898.1 |
| 30° | 1930.1 | 1930.1 | 2000.2 | 2193.6 | 2779.2 | 3645.9 | 4006.7 | 4405.0 | 5284.4 | 6171.0 | 6229.6 |
| 32.5° | 1838.1 | 1839.2 | 1915.5 | 2101.6 | 2408.0 | 3596.8 | 4111.2 | 4593.2 | 5073.2 | 6509.8 | 6661.4 |
| 35° | 1755.5 | 1758.7 | 1827.7 | 2015.9 | 2313.9 | 2899.4 | 4227.3 | 4834.8 | 5478.8 | 6472.1 | 7318.0 |
| 37.5° | 1685.5 | 1687.6 | 1747.2 | 1931.2 | 2234.4 | 2100.6 | 4302.6 | 5125.4 | 6023.6 | 6807.8 | 7455.0 |
| 40° | 1635.3 | 1632.2 | 1675.0 | 1842.3 | 2118.3 | 1919.7 | 3641.8 | 5427.6 | 6670.8 | 7858.6 | 8099.1 |
| 42.5° | 1585.1 | 1579.9 | 1622.7 | 1749.3 | 1449.2 | 1869.5 | 3374.1 | 5722.5 | 7416.3 | 9012.9 | 9227.2 |
| 45° | 1526.5 | 1528.6 | 1570.5 | 1569.4 | 1371.8 | 1802.6 | 3403.4 | 5039.7 | 8214.1 | 10193.4 | 10466.3 |
| 47.5° | 1495.2 | 1485.8 | 1506.7 | 1139.7 | 1308.0 | 1710.6 | 3390.8 | 4679.0 | 8917.8 | 11321.5 | 11592.3 |
| 50° | 1436.6 | 1434.5 | 1056.0 | 1080.1 | 1244.2 | 1605.0 | 3194.2 | 4808.6 | 8046.8 | 12367.1 | 12641.1 |
| 52.5° | 1348.8 | 1190.9 | 979.7 | 1038.3 | 1180.5 | 1480.5 | 2281.5 | 4861.9 | 8024.8 | 12263.6 | 13618.7 |
| 54° | 896.1 | 918.0 | 948.3 | 1009.0 | 1134.5 | 1163.7 | 2087.0 | 4857.8 | 8406.5 | 10743.3 | 12871.1 |
| 55° | 513.4 | 719.4 | 923.2 | 984.9 | 1102.0 | 814.5 | 2011.7 | 4835.8 | 8650.1 | 10809.2 | 11602.8 |
| 57.5° | 444.4 | 446.5 | 508.2 | 821.8 | 565.7 | 698.4 | 1798.4 | 4657.0 | 9106.0 | 11414.6 | 11641.5 |
| 60° | 38.7 | 37.6 | 42.9 | 58.6 | 74.2 | 163.1 | 905.5 | 2987.2 | 8787.1 | 11934.3 | 12286.6 |
| 62.5° | 15.7 | 16.7 | 20.9 | 28.2 | 45.0 | 73.2 | 748.6 | 2647.4 | 8921.9 | 12251.1 | 12636.9 |
| 65° | 3.1 | 3.1 | 5.2 | 9.4 | 16.7 | 43.9 | 637.8 | 2357.8 | 8852.9 | 12354.6 | 12870.0 |
| 67.5° | 0.0 | 0.0 | 3.1 | 7.3 | 13.6 | 35.5 | 552.1 | 2169.6 | 8458.7 | 12319.0 | 12783.3 |
| 70° | 0.0 | 0.0 | 3.1 | 7.3 | 12.5 | 34.5 | 472.6 | 2002.3 | 7481.1 | 11946.8 | 12461.2 |
| 72.5° | 0.0 | 0.0 | 3.1 | 6.3 | 11.5 | 31.4 | 404.6 | 1768.1 | 6341.4 | 11050.7 | 11751.3 |
| 75° | 0.0 | 0.0 | 3.1 | 6.3 | 10.5 | 28.2 | 340.9 | 1517.1 | 5298.0 | 9524.2 | 10365.9 |
| 77.5° | 0.0 | 0.0 | 3.1 | 6.3 | 9.4 | 25.1 | 267.7 | 1211.8 | 4160.4 | 6906.1 | 7357.7 |
| 80° | 0.0 | 0.0 | 3.1 | 6.3 | 8.4 | 19.9 | 197.6 | 765.4 | 2307.6 | 3502.7 | 3688.8 |
| 82.5° | 0.0 | 0.0 | 2.1 | 5.2 | 7.3 | 12.5 | 94.1 | 289.6 | 1087.4 | 1603.9 | 1555.8 |
| 85° | 0.0 | 0.0 | 2.1 | 5.2 | 6.3 | 9.4 | 40.8 | 73.2 | 361.8 | 532.2 | 495.6 |
| 87.5° | 0.0 | 0.0 | 2.1 | 4.2 | 5.2 | 6.3 | 10.5 | 12.5 | 115.0 | 153.7 | 158.9 |
| 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):

| | 94° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 | 5559.4 |
| 2.5° | 5578.2 | 5578.2 | 5577.1 | 5604.3 | 5569.8 | 5572.9 | 5540.5 | 5624.2 | 5614.8 | 5588.6 | 5620.0 |
| 5° | 5584.4 | 5589.7 | 5588.6 | 5602.2 | 5575.0 | 5591.8 | 5546.8 | 5629.4 | 5615.8 | 5594.9 | 5627.3 |
| 7.5° | 5610.6 | 5620.0 | 5612.7 | 5636.7 | 5582.4 | 5599.1 | 5553.1 | 5625.2 | 5611.6 | 5581.3 | 5615.8 |
| 10° | 5667.0 | 5676.5 | 5661.8 | 5673.3 | 5615.8 | 5607.4 | 5551.0 | 5626.3 | 5597.0 | 5574.0 | 5616.9 |
| 12.5° | 5740.2 | 5751.7 | 5722.5 | 5720.4 | 5647.2 | 5630.4 | 5548.9 | 5600.1 | 5557.3 | 5538.4 | 5577.1 |
| 15° | 5821.8 | 5835.4 | 5800.9 | 5793.6 | 5713.1 | 5657.6 | 5540.5 | 5552.0 | 5490.3 | 5465.2 | 5506.0 |
| 17.5° | 5928.4 | 5941.0 | 5914.8 | 5910.7 | 5806.1 | 5712.0 | 5529.0 | 5491.4 | 5404.6 | 5383.7 | 5405.6 |
| 20° | 6107.2 | 6115.6 | 6081.1 | 6049.7 | 5896.0 | 5741.3 | 5510.2 | 5411.9 | 5279.1 | 5235.2 | 5260.3 |
| 22.5° | 5558.3 | 5625.2 | 6303.8 | 6186.7 | 5962.9 | 5771.6 | 5463.2 | 5299.0 | 5112.9 | 5030.3 | 5047.0 |
| 25° | 5630.4 | 5636.7 | 5893.9 | 6348.8 | 6036.1 | 5791.5 | 5407.7 | 5158.9 | 4902.7 | 4782.5 | 4803.4 |
| 27.5° | 5891.8 | 5884.5 | 5783.1 | 6366.5 | 6122.9 | 5803.0 | 5338.7 | 5011.5 | 4694.7 | 4550.4 | 4555.6 |
| 30° | 6230.6 | 6219.1 | 6065.4 | 5755.9 | 6247.3 | 5807.2 | 5278.1 | 4842.1 | 4509.6 | 4355.9 | 4351.7 |
| 32.5° | 6693.8 | 6661.4 | 6423.0 | 5995.4 | 5721.4 | 5835.4 | 5192.4 | 4681.1 | 4332.9 | 4181.3 | 4169.8 |
| 35° | 7404.8 | 7345.2 | 6911.3 | 6299.6 | 5630.4 | 5835.4 | 5075.2 | 4507.5 | 4169.8 | 4025.5 | 4017.1 |
| 37.5° | 8286.2 | 8301.9 | 7535.5 | 6640.5 | 5770.6 | 5288.5 | 4935.1 | 4345.4 | 4028.6 | 3901.1 | 3901.1 |
| 40° | 8128.3 | 8336.4 | 8260.1 | 6989.7 | 5914.8 | 5200.7 | 4784.6 | 4189.6 | 3911.5 | 3814.3 | 3826.8 |
| 42.5° | 9170.8 | 9090.3 | 9100.7 | 7340.0 | 6016.3 | 5110.8 | 4621.5 | 4045.3 | 3808.0 | 3725.4 | 3734.8 |
| 45° | 10327.2 | 10236.2 | 8331.2 | 7653.6 | 6063.3 | 4977.0 | 4456.3 | 3896.9 | 3694.0 | 3625.0 | 3650.1 |
| 47.5° | 11469.0 | 11387.4 | 9148.8 | 7577.3 | 6019.4 | 4772.0 | 4252.4 | 3768.3 | 3573.8 | 3524.7 | 3562.3 |
| 50° | 12574.1 | 12459.1 | 10030.3 | 6773.3 | 5863.6 | 4488.7 | 4044.3 | 3633.4 | 3469.2 | 3440.0 | 3468.2 |
| 52.5° | 13560.1 | 13407.5 | 10923.2 | 6894.6 | 5122.3 | 4202.2 | 3859.2 | 3503.7 | 3374.1 | 3341.7 | 3369.9 |
| 54° | 14052.6 | 13959.5 | 11421.9 | 6908.1 | 4910.0 | 4024.4 | 3748.4 | 3421.1 | 3320.8 | 3293.6 | 3309.3 |
| 55° | 13214.0 | 13400.2 | 11717.8 | 6896.6 | 4756.3 | 3916.7 | 3675.2 | 3366.8 | 3283.1 | 3253.8 | 3269.5 |
| 57.5° | 11734.5 | 11533.8 | 10955.6 | 6755.5 | 4338.1 | 3647.0 | 3460.9 | 3228.8 | 3171.2 | 3133.6 | 3155.6 |
| 60° | 12106.8 | 12070.2 | 10001.0 | 6445.0 | 3881.2 | 3344.8 | 3249.7 | 3067.7 | 3029.0 | 2997.7 | 3027.0 |
| 62.5° | 12495.7 | 12471.7 | 10153.6 | 5962.9 | 3426.4 | 3047.9 | 3007.1 | 2879.5 | 2856.5 | 2842.9 | 2850.3 |
| 65° | 12705.9 | 12552.2 | 10149.4 | 5317.8 | 3009.2 | 2743.6 | 2737.3 | 2642.2 | 2652.6 | 2646.4 | 2676.7 |
| 67.5° | 12617.0 | 12452.9 | 9700.9 | 4852.5 | 2617.1 | 2396.5 | 2416.3 | 2376.6 | 2415.3 | 2426.8 | 2449.8 |
| 70° | 12152.8 | 12206.1 | 8723.3 | 4404.0 | 2227.1 | 2018.0 | 2080.7 | 2075.5 | 2131.9 | 2175.9 | 2212.4 |
| 72.5° | 11510.8 | 11305.9 | 7311.7 | 3743.2 | 1630.1 | 1435.6 | 1544.3 | 1617.5 | 1680.2 | 1732.5 | 1767.0 |
| 75° | 9797.1 | 9556.6 | 5398.3 | 2918.2 | 1180.5 | 990.2 | 1019.4 | 1051.9 | 1092.6 | 1212.9 | 1284.0 |
| 77.5° | 6716.8 | 6616.4 | 3882.2 | 2200.9 | 751.8 | 597.0 | 711.0 | 775.8 | 810.3 | 805.1 | 817.6 |
| 80° | 3444.1 | 3426.4 | 2298.2 | 1316.4 | 507.1 | 437.1 | 517.6 | 523.8 | 579.3 | 622.1 | 624.2 |
| 82.5° | 1388.5 | 1457.5 | 918.0 | 721.5 | 352.4 | 330.4 | 364.9 | 410.9 | 458.0 | 483.1 | 489.3 |
| 85° | 491.4 | 479.9 | 279.2 | 338.8 | 223.8 | 231.1 | 258.3 | 310.5 | 359.7 | 366.0 | 352.4 |
| 87.5° | 131.7 | 137.0 | 59.6 | 124.4 | 122.3 | 133.8 | 148.5 | 169.4 | 204.9 | 215.4 | 204.9 |
| 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)