

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: P591310

Luminaire Tested: **CTN-CA10-310-730-U-T4-SSS-HM-EX90**

Issue Date: 1/19/2022

Test Information

Test Method: LM-79-08
Report Number: P591310
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-10)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/19/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA10-310-730-U-T4-SSS-HM-EX90
Description: CELESTEON HIGH MAST LUMINAIRE, 90D FIELD INSTALLED SHIELD ON STREET SIDE
Light Source: (10) 3000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30178 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')
IES Classification: Type IV - Short
BUG Rating: B4 - U0 - G5

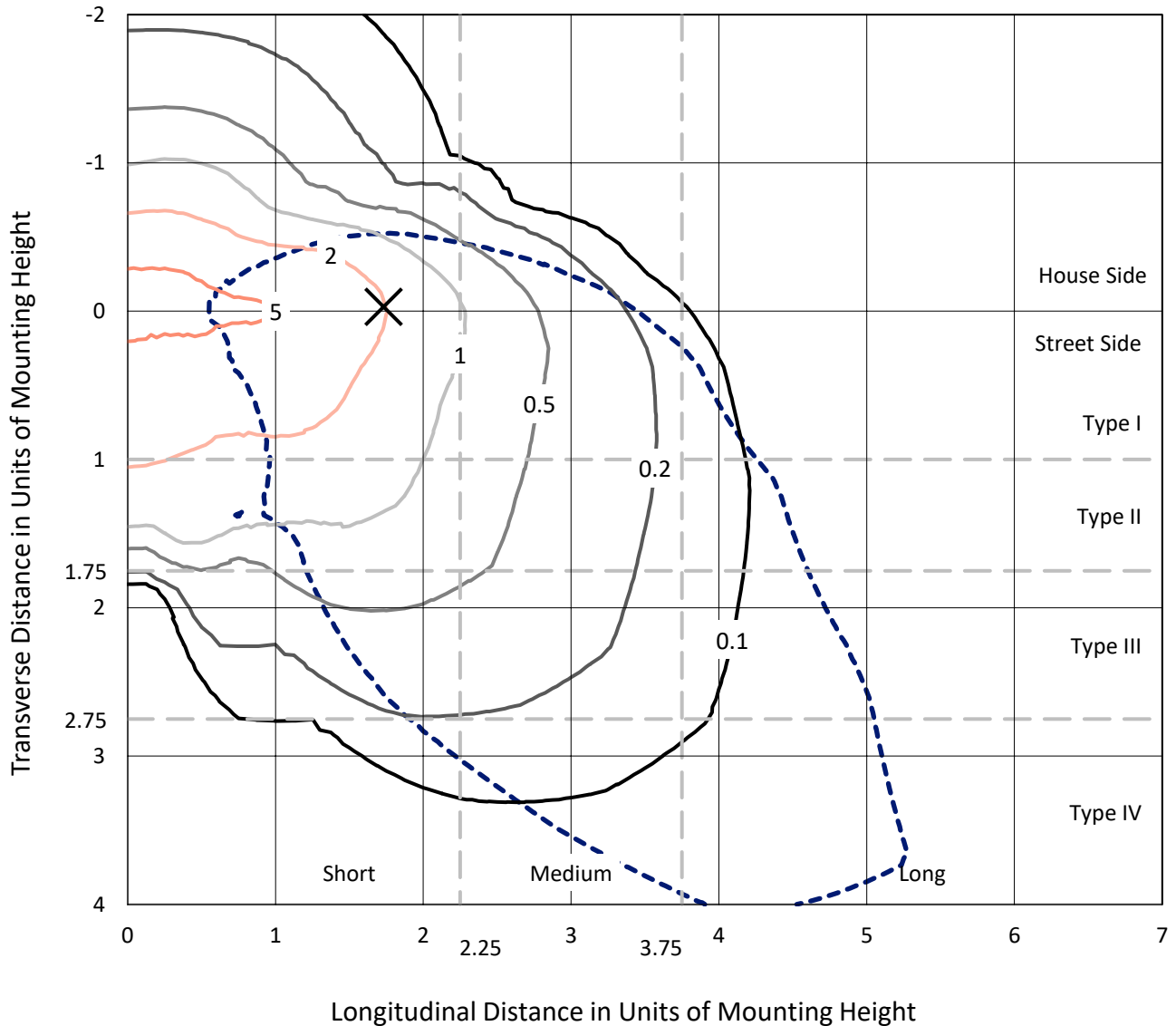
Input Watts (W): 312.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

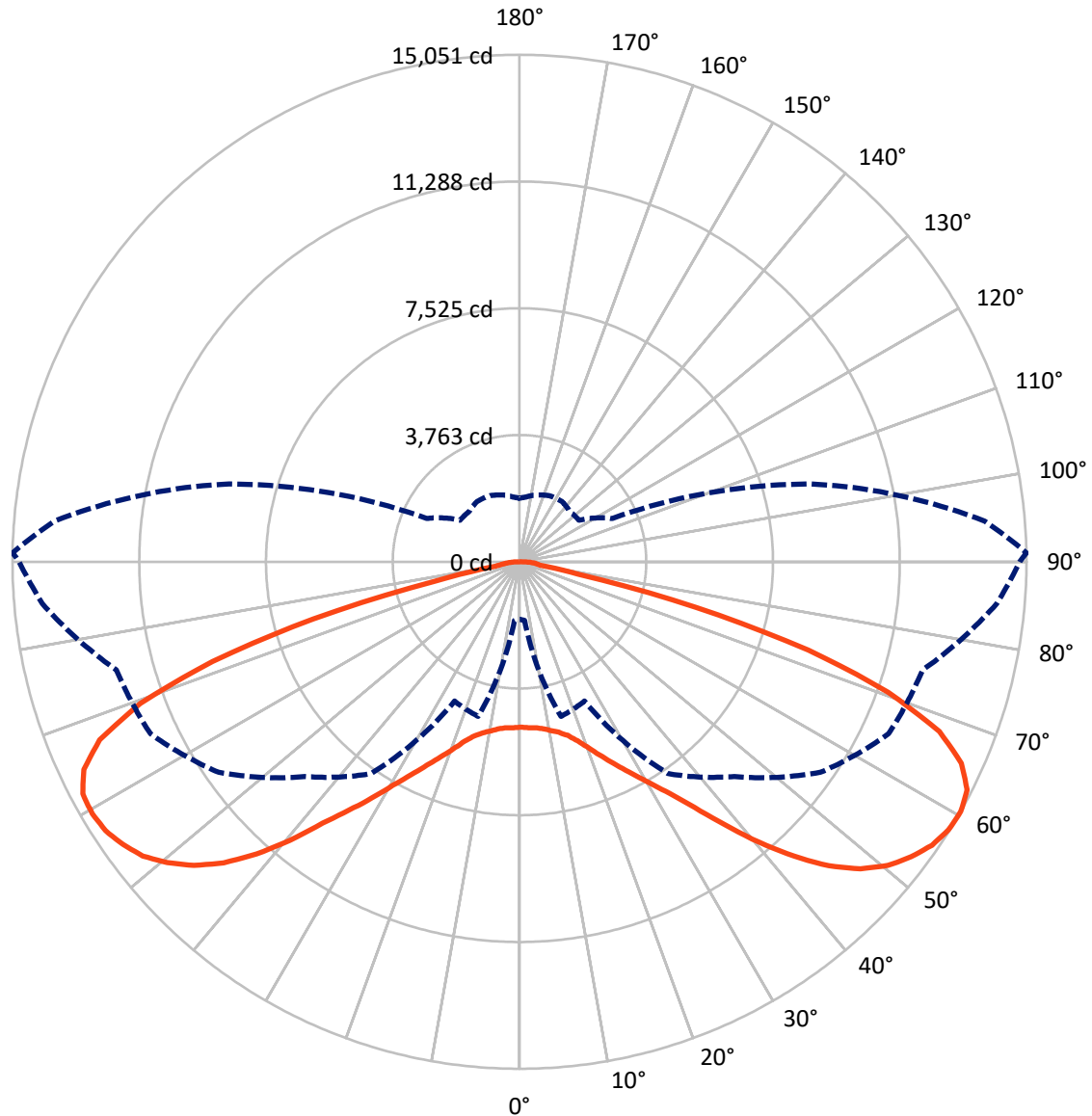
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 91-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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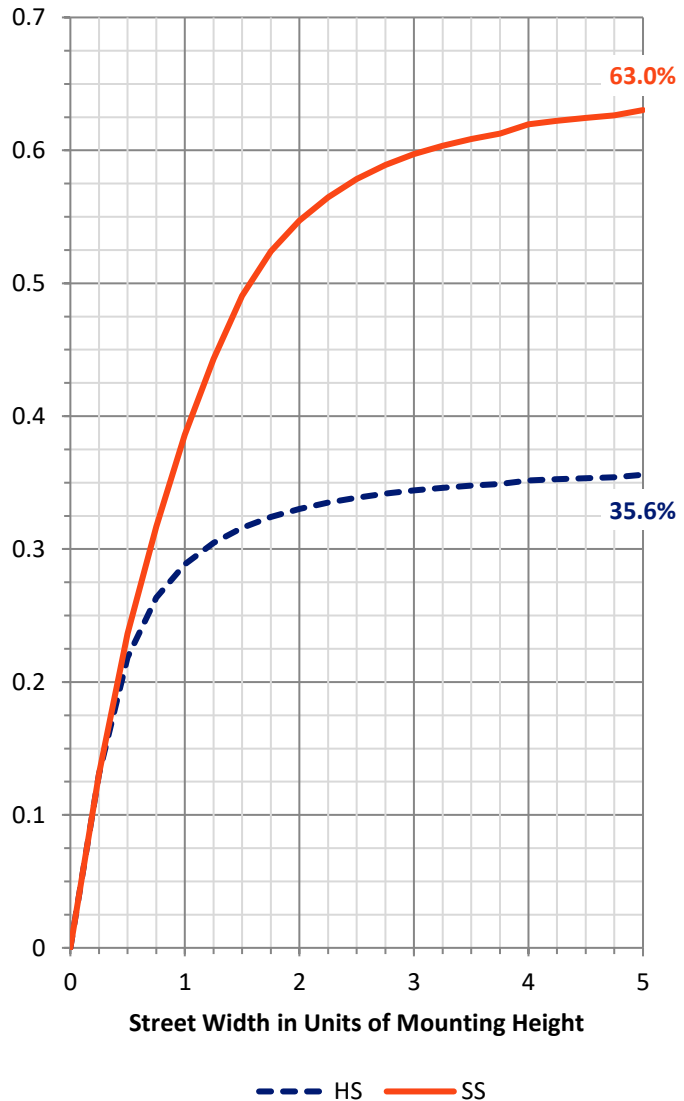
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 10959.5 | 0.0 | 10959.5 |
| | % Fixture | 36.3 | 0.0 | 36.3 |
| Street Side | Lumens | 19218.5 | 0.0 | 19218.5 |
| | % Fixture | 63.7 | 0.0 | 63.7 |
| Total | Lumens | 30178.0 | 0.0 | 30178.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 478.5 | 1.6 |
| 10°-20° | 1467.6 | 4.9 |
| 20°-30° | 2405.7 | 8.0 |
| 30°-40° | 3397.7 | 11.3 |
| 40°-50° | 4782.9 | 15.8 |
| 50°-60° | 6018.4 | 19.9 |
| 60°-70° | 6057.9 | 20.1 |
| 70°-80° | 4456.7 | 14.8 |
| 80°-90° | 1112.5 | 3.7 |
| 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° | 30178.0 | 100.0 |
| 0°-180° | 30178.0 | 100.0 |

Coefficient of Utilization

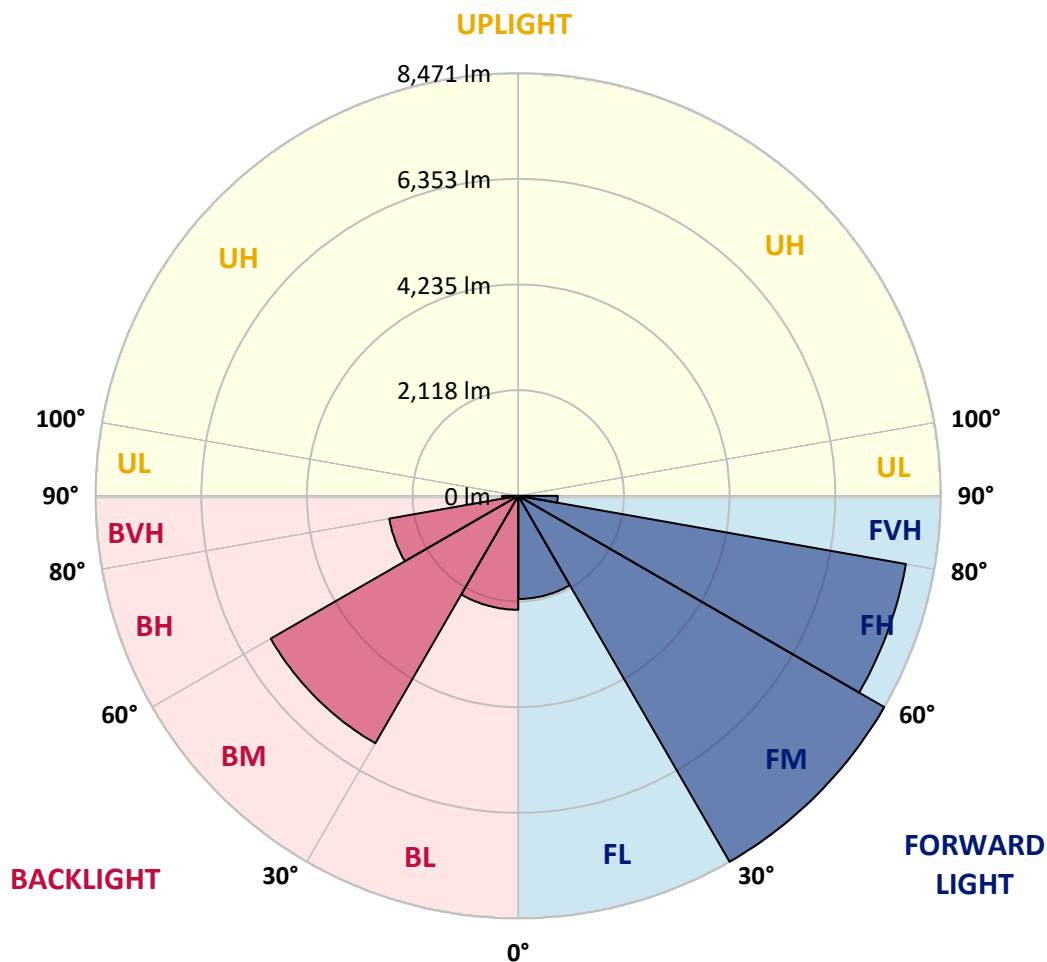


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 2067.5 | 6.9 | | | |
| FM | (30°-60°) | 8470.9 | 28.1 | | | |
| FH | (60°-80°) | 7889.8 | 26.1 | | | G4/12000 |
| FVH | (80°-90°) | 790.2 | 2.6 | | | G5 |
| BL | (0°-30°) | 2284.4 | 7.6 | B3/2500 | | |
| BM | (30°-60°) | 5728.0 | 19.0 | B4/8500 | | |
| BH | (60°-80°) | 2624.8 | 8.7 | B4/5000 | | G4/5000 |
| BVH | (80°-90°) | 322.3 | 1.1 | | | G3/500 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G5
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 |
| 2.5° | 4859.5 | 4828.7 | 4830.1 | 4875.7 | 4806.6 | 4850.7 | 4840.4 | 4911.0 | 4897.8 | 4922.8 | 4928.7 |
| 5° | 4825.7 | 4800.7 | 4800.7 | 4855.1 | 4808.1 | 4846.3 | 4814.0 | 4875.7 | 4897.8 | 4934.5 | 4941.9 |
| 7.5° | 4839.0 | 4812.5 | 4822.8 | 4869.8 | 4816.9 | 4856.6 | 4853.7 | 4908.1 | 4921.3 | 4983.1 | 4991.9 |
| 10° | 4862.5 | 4839.0 | 4841.9 | 4881.6 | 4846.3 | 4919.8 | 4906.6 | 4984.5 | 4983.1 | 5080.1 | 5087.5 |
| 12.5° | 4821.3 | 4803.7 | 4803.7 | 4856.6 | 4877.2 | 4955.1 | 4981.6 | 5062.5 | 5071.3 | 5180.1 | 5188.9 |
| 15° | 4756.6 | 4727.2 | 4771.3 | 4850.7 | 4893.4 | 5015.4 | 5061.0 | 5188.9 | 5212.4 | 5315.4 | 5337.4 |
| 17.5° | 4621.4 | 4634.6 | 4758.1 | 4702.2 | 4508.1 | 4689.0 | 5190.4 | 5353.6 | 5405.1 | 5527.1 | 5580.0 |
| 20° | 4202.3 | 4039.1 | 3715.6 | 3803.8 | 4203.8 | 4719.9 | 5371.2 | 5562.4 | 5675.6 | 5819.7 | 5909.4 |
| 22.5° | 3174.5 | 3277.4 | 3881.8 | 3945.0 | 3962.6 | 4306.7 | 5624.1 | 5818.2 | 5968.2 | 6150.5 | 6269.6 |
| 25° | 3292.1 | 3281.9 | 3489.2 | 4137.6 | 4155.2 | 4352.3 | 5294.8 | 6152.0 | 6287.3 | 6540.2 | 6659.3 |
| 27.5° | 3400.9 | 3400.9 | 3389.2 | 3906.8 | 4355.2 | 4549.3 | 5466.8 | 5906.4 | 6706.3 | 6981.3 | 7121.0 |
| 30° | 3581.8 | 3587.7 | 3521.5 | 3520.0 | 4519.9 | 4730.2 | 5799.1 | 6016.7 | 7076.9 | 7597.4 | 7629.7 |
| 32.5° | 3940.6 | 3920.0 | 3837.6 | 3711.2 | 3909.7 | 4940.4 | 6124.1 | 6415.2 | 6719.6 | 8289.9 | 8260.5 |
| 35° | 4199.4 | 4183.2 | 4124.4 | 4036.1 | 3945.0 | 5036.0 | 6428.4 | 6832.8 | 7331.2 | 8494.3 | 9058.9 |
| 37.5° | 4512.5 | 4486.1 | 4419.9 | 4315.5 | 4256.7 | 4347.9 | 6741.6 | 7304.8 | 8095.8 | 8736.9 | 9960.2 |
| 40° | 4855.1 | 4847.8 | 4746.3 | 4611.1 | 4530.2 | 4597.8 | 6981.3 | 7892.9 | 9044.2 | 9767.6 | 10954.2 |
| 42.5° | 5118.3 | 5112.5 | 5028.6 | 4950.7 | 4912.5 | 5049.2 | 6385.8 | 8672.2 | 10129.3 | 10704.2 | 11911.4 |
| 45° | 5355.1 | 5346.2 | 5343.3 | 5316.8 | 5347.7 | 5680.0 | 7038.6 | 9153.0 | 11195.3 | 11510.0 | 12781.9 |
| 47.5° | 5534.4 | 5508.0 | 5433.0 | 5440.3 | 5527.1 | 6087.3 | 7717.9 | 8428.1 | 12059.9 | 12220.2 | 13461.2 |
| 50° | 5960.9 | 5934.4 | 5675.6 | 5684.4 | 5852.0 | 6593.1 | 8303.1 | 9267.7 | 11255.6 | 12834.8 | 13981.7 |
| 52.5° | 6341.7 | 6122.6 | 5981.4 | 5987.3 | 6216.7 | 7131.3 | 8967.7 | 10136.7 | 11064.5 | 13321.5 | 14402.2 |
| 55° | 5477.1 | 5335.9 | 6709.3 | 6518.1 | 6644.6 | 7717.9 | 9613.2 | 10889.5 | 11589.4 | 13693.5 | 14643.3 |
| 57.5° | 3214.2 | 3196.6 | 7384.2 | 7550.3 | 7403.3 | 8351.7 | 10266.1 | 11515.9 | 12049.6 | 14040.5 | 14805.1 |
| 60° | 1705.6 | 1746.8 | 4749.3 | 4564.0 | 7673.8 | 9013.3 | 10898.3 | 12084.9 | 12390.7 | 14219.9 | 14849.2 |
| 62.5° | 157.3 | 139.7 | 3121.6 | 3546.5 | 6878.4 | 9877.9 | 11648.2 | 12664.2 | 12621.6 | 14315.5 | 14771.3 |
| 65° | 30.9 | 41.2 | 3062.8 | 3503.9 | 7642.9 | 11311.5 | 12873.0 | 13109.8 | 12746.6 | 14200.8 | 14362.5 |
| 67.5° | 23.5 | 35.3 | 2893.7 | 3465.6 | 8112.0 | 11862.9 | 14283.1 | 13267.1 | 12753.9 | 13834.6 | 13462.6 |
| 70° | 23.5 | 36.8 | 2554.0 | 3239.2 | 8334.0 | 11886.4 | 14616.9 | 13205.3 | 12589.2 | 13005.4 | 11767.3 |
| 72.5° | 23.5 | 36.8 | 2145.3 | 2806.9 | 7956.1 | 11376.2 | 14031.7 | 12862.7 | 11976.1 | 11198.3 | 9178.0 |
| 75° | 23.5 | 33.8 | 1683.6 | 2280.5 | 6876.9 | 10589.6 | 13027.4 | 11371.8 | 10080.8 | 8194.3 | 5888.8 |
| 77.5° | 23.5 | 32.3 | 1241.0 | 1785.0 | 5738.8 | 9339.7 | 11329.1 | 9347.1 | 7598.8 | 4290.5 | 2167.3 |
| 80° | 22.1 | 32.3 | 755.8 | 1258.6 | 4421.4 | 7534.1 | 8903.0 | 6906.3 | 3993.5 | 1079.2 | 626.4 |
| 82.5° | 22.1 | 30.9 | 360.2 | 805.8 | 3106.9 | 5383.0 | 5809.4 | 2958.4 | 849.9 | 498.5 | 498.5 |
| 85° | 19.1 | 27.9 | 192.6 | 438.2 | 2030.6 | 3528.9 | 2802.5 | 501.4 | 332.3 | 336.7 | 383.8 |
| 87.5° | 11.8 | 14.7 | 91.2 | 197.0 | 1170.4 | 1886.5 | 1079.2 | 183.8 | 138.2 | 145.6 | 217.6 |
| 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):

| | 91° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 | 4908.1 |
| 2.5° | 4933.1 | 4925.7 | 4941.9 | 4993.4 | 4984.5 | 5021.3 | 4991.9 | 5043.3 | 5053.6 | 5038.9 | 5062.5 |
| 5° | 4949.2 | 4959.5 | 5013.9 | 5062.5 | 5036.0 | 5094.8 | 5111.0 | 5183.0 | 5181.6 | 5168.3 | 5197.7 |
| 7.5° | 5002.2 | 5030.1 | 5084.5 | 5144.8 | 5158.0 | 5205.1 | 5199.2 | 5290.4 | 5280.1 | 5274.2 | 5303.6 |
| 10° | 5093.3 | 5136.0 | 5187.4 | 5287.4 | 5255.1 | 5334.5 | 5280.1 | 5341.8 | 5335.9 | 5321.2 | 5347.7 |
| 12.5° | 5194.8 | 5253.6 | 5315.4 | 5406.5 | 5393.3 | 5391.8 | 5343.3 | 5362.4 | 5346.2 | 5311.0 | 5333.0 |
| 15° | 5347.7 | 5419.8 | 5505.0 | 5563.9 | 5485.9 | 5456.5 | 5380.1 | 5338.9 | 5283.0 | 5200.7 | 5213.9 |
| 17.5° | 5585.9 | 5671.2 | 5762.4 | 5772.6 | 5652.1 | 5575.6 | 5390.4 | 5243.3 | 5097.7 | 4987.5 | 4997.8 |
| 20° | 5906.4 | 5984.4 | 6052.0 | 6003.5 | 5840.3 | 5669.7 | 5390.4 | 5158.0 | 4886.0 | 4683.1 | 4668.4 |
| 22.5° | 6281.4 | 6304.9 | 6369.6 | 6250.5 | 5969.7 | 5731.5 | 5375.6 | 5030.1 | 4587.5 | 4317.0 | 4284.6 |
| 25° | 6685.7 | 6682.8 | 6654.9 | 6407.8 | 6050.5 | 5697.7 | 5263.9 | 4811.0 | 4246.4 | 3964.1 | 3940.6 |
| 27.5° | 7125.4 | 7088.6 | 6897.5 | 6540.2 | 6016.7 | 5575.6 | 5052.2 | 4442.0 | 3936.2 | 3693.6 | 3686.2 |
| 30° | 7620.9 | 7523.8 | 7137.1 | 6553.4 | 5890.3 | 5334.5 | 4708.1 | 4070.0 | 3659.7 | 3443.6 | 3423.0 |
| 32.5° | 8198.7 | 8009.1 | 7328.3 | 6510.8 | 5662.4 | 4966.9 | 4289.0 | 3777.4 | 3433.3 | 3196.6 | 3151.0 |
| 35° | 8953.0 | 8620.7 | 7504.7 | 6371.1 | 5324.2 | 4530.2 | 3902.3 | 3517.1 | 3223.0 | 2980.4 | 2931.9 |
| 37.5° | 9901.4 | 9413.3 | 7770.9 | 6166.7 | 4937.5 | 4140.5 | 3634.7 | 3345.1 | 3077.5 | 2790.7 | 2731.9 |
| 40° | 10954.2 | 10345.5 | 8082.6 | 5968.2 | 4569.9 | 3850.9 | 3459.8 | 3264.2 | 2983.4 | 2668.7 | 2612.8 |
| 42.5° | 11951.1 | 11283.6 | 8550.2 | 5710.9 | 4219.9 | 3618.6 | 3396.5 | 3240.7 | 2939.3 | 2615.8 | 2555.5 |
| 45° | 12871.6 | 12108.4 | 9032.4 | 5452.1 | 3864.1 | 3428.9 | 3343.6 | 3171.6 | 2871.6 | 2554.0 | 2484.9 |
| 47.5° | 13622.9 | 12758.3 | 9458.8 | 5184.5 | 3550.9 | 3280.4 | 3242.2 | 3039.2 | 2752.5 | 2454.0 | 2389.3 |
| 50° | 14168.4 | 13256.8 | 9708.8 | 4936.0 | 3249.5 | 3131.9 | 3064.2 | 2851.0 | 2584.9 | 2336.4 | 2289.4 |
| 52.5° | 14555.1 | 13687.6 | 9833.8 | 4908.1 | 2976.0 | 2931.9 | 2856.9 | 2656.9 | 2443.7 | 2251.1 | 2195.3 |
| 55° | 14853.6 | 13922.9 | 9726.5 | 4744.9 | 2717.2 | 2680.5 | 2602.5 | 2479.0 | 2351.1 | 2171.7 | 2135.0 |
| 57.5° | 15015.3 | 14030.2 | 9480.9 | 4002.3 | 2442.3 | 2379.0 | 2368.8 | 2342.3 | 2230.5 | 2052.6 | 2024.7 |
| 60° | 15050.6 | 13859.6 | 8925.1 | 3043.7 | 2154.1 | 2112.9 | 2190.8 | 2157.0 | 2057.0 | 1924.7 | 1885.0 |
| 62.5° | 14912.4 | 13495.0 | 7870.9 | 2276.1 | 1914.4 | 1982.0 | 2061.4 | 2010.0 | 1893.8 | 1764.4 | 1739.4 |
| 65° | 14414.0 | 12658.4 | 6343.1 | 1771.8 | 1804.1 | 1920.3 | 1990.9 | 1929.1 | 1788.0 | 1640.9 | 1624.8 |
| 67.5° | 13439.1 | 11355.6 | 4175.8 | 1593.9 | 1752.7 | 1868.8 | 1948.2 | 1849.7 | 1707.1 | 1548.3 | 1529.2 |
| 70° | 11611.5 | 8976.6 | 1989.4 | 1486.5 | 1654.2 | 1768.8 | 1832.1 | 1720.3 | 1582.1 | 1426.3 | 1405.7 |
| 72.5° | 8967.7 | 6100.5 | 1098.4 | 1368.9 | 1532.1 | 1638.0 | 1683.6 | 1551.2 | 1423.3 | 1358.6 | 1352.7 |
| 75° | 5397.7 | 2621.7 | 992.5 | 1252.7 | 1374.8 | 1473.3 | 1554.2 | 1454.2 | 1342.4 | 1216.0 | 1183.6 |
| 77.5° | 1782.1 | 761.6 | 933.7 | 1114.5 | 1252.7 | 1371.8 | 1410.1 | 1313.0 | 1173.3 | 1066.0 | 1057.2 |
| 80° | 624.9 | 638.1 | 870.5 | 927.8 | 1091.0 | 1191.0 | 1233.6 | 1121.9 | 1055.7 | 944.0 | 921.9 |
| 82.5° | 508.7 | 572.0 | 702.8 | 699.9 | 861.6 | 979.3 | 1044.0 | 1016.0 | 929.3 | 839.6 | 830.8 |
| 85° | 416.1 | 523.4 | 445.5 | 489.6 | 617.6 | 745.5 | 869.0 | 871.9 | 805.8 | 714.6 | 654.3 |
| 87.5° | 247.0 | 267.6 | 222.0 | 250.0 | 326.4 | 419.1 | 485.2 | 463.2 | 379.4 | 320.5 | 313.2 |
| 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)