

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: P237570

Luminaire Tested: **CTN-10-4-D-E1-T2-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P237570
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-171-25)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: CTN-10-4-D-E1-T2-7050-HSS
Description: CELESTEON HIGH MAST LUMINAIRE
(10) 70 CRI, 5000K LEDS AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 39443 lumens
Efficiency: N/A
Efficacy: 128.1 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

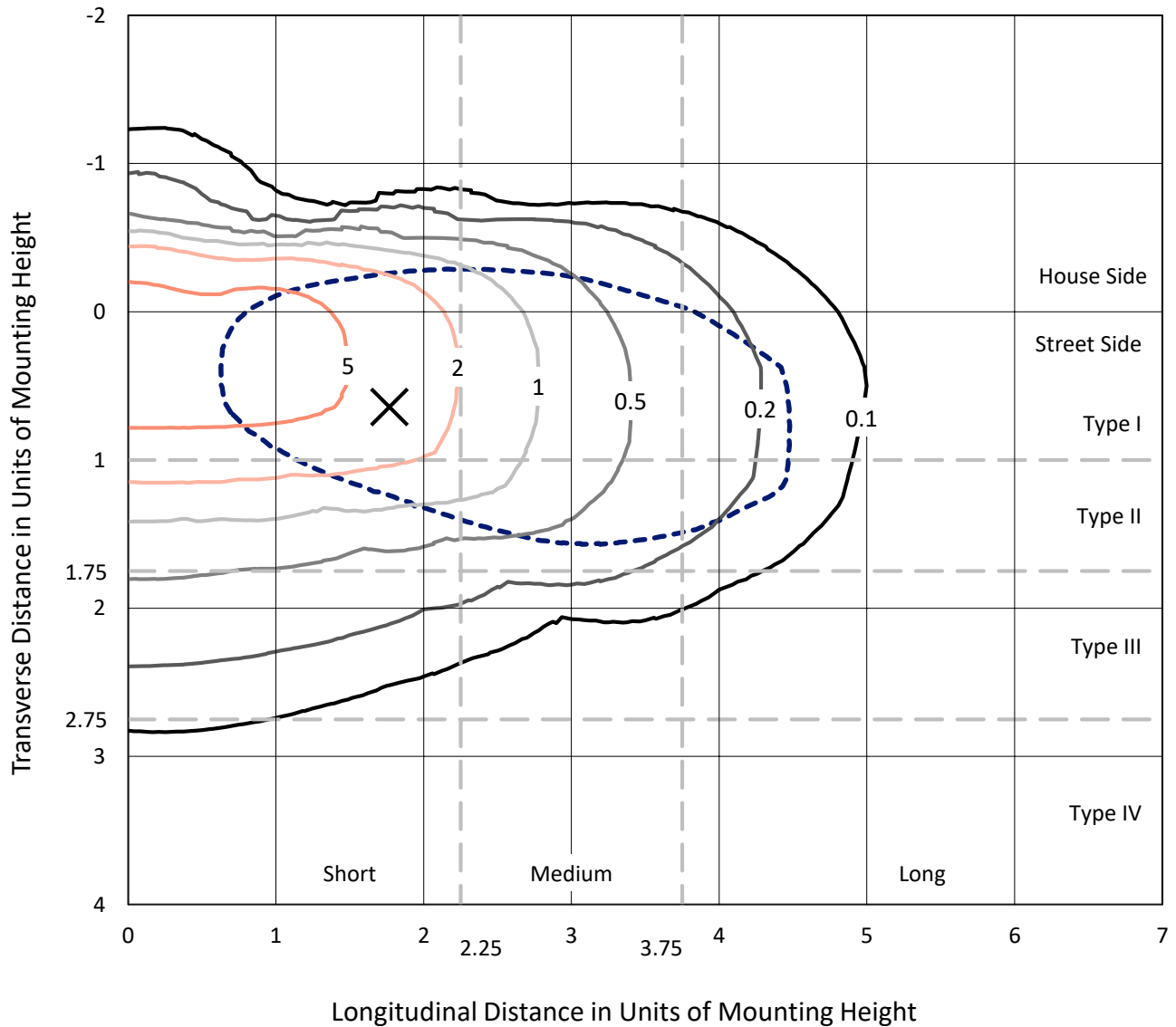
Input Watts (W): 308
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

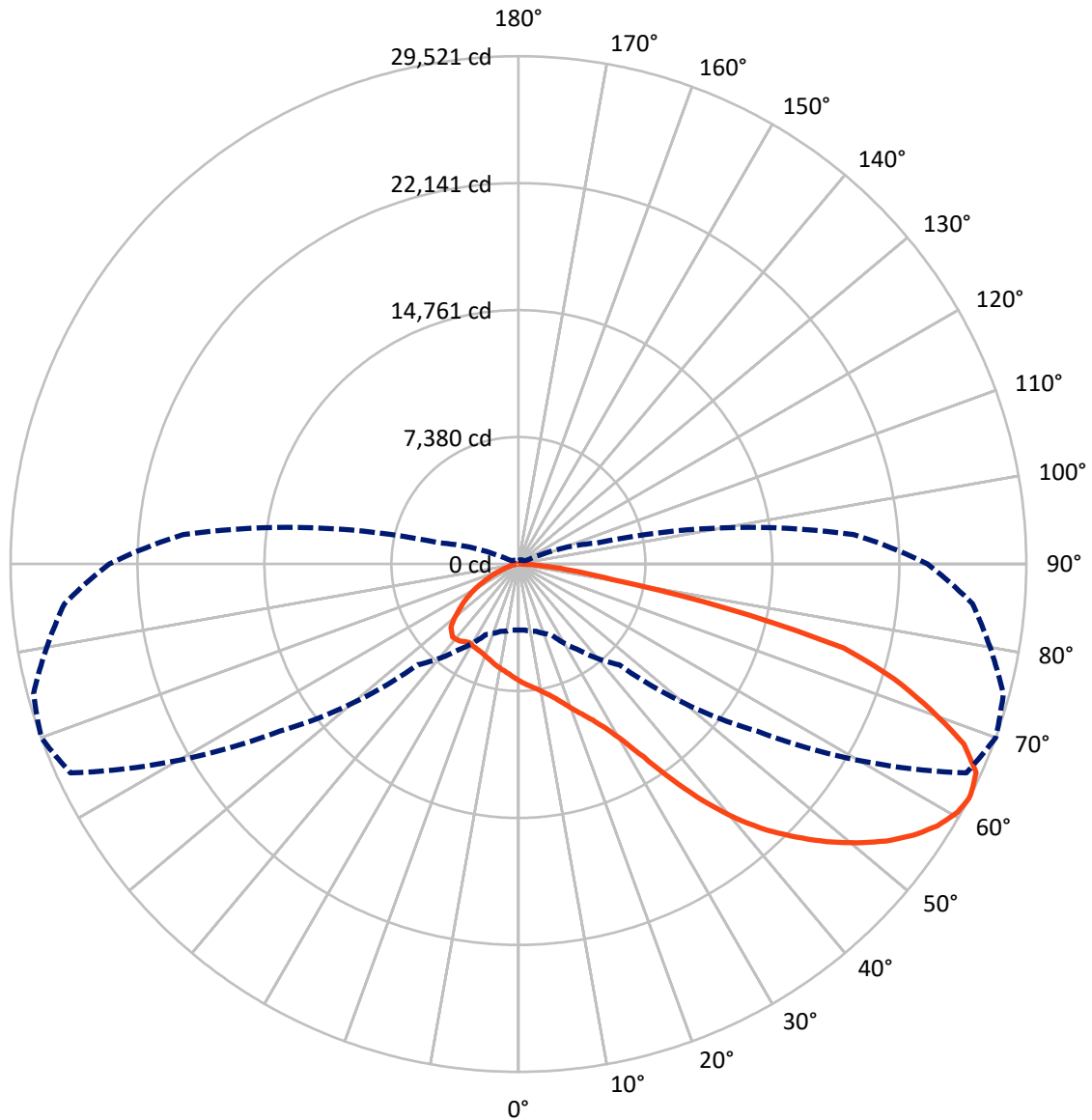
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 9.7 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 62-Deg Vertical

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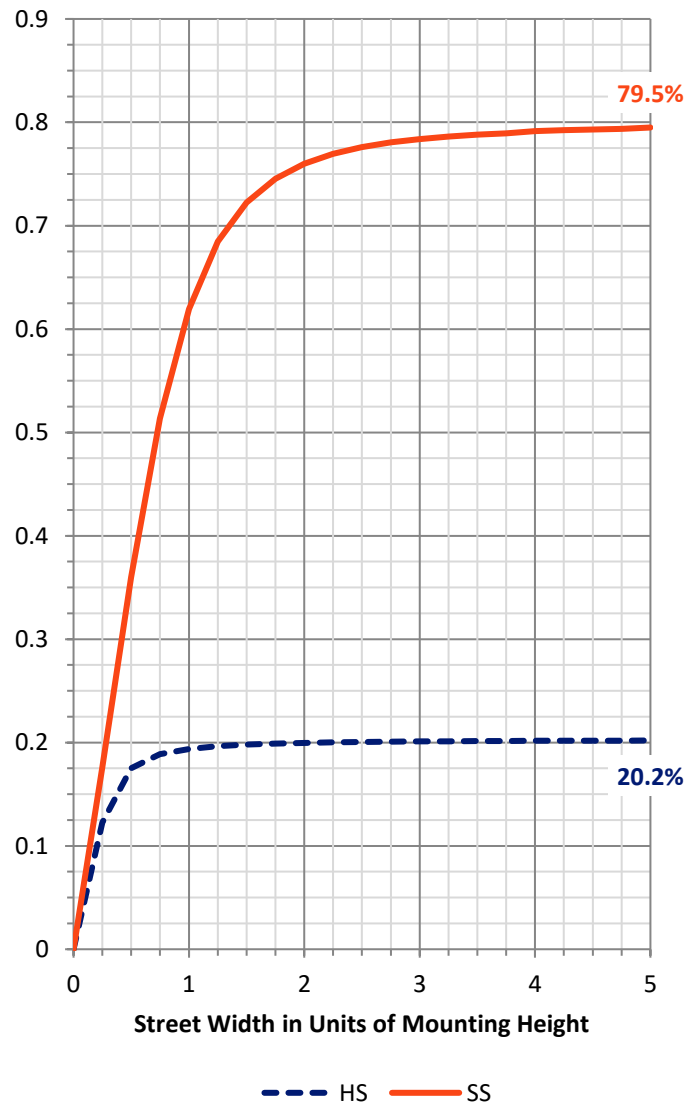
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 8068.4 | 0.0 | 8068.4 |
| | % Fixture | 20.5 | 0.0 | 20.5 |
| Street Side | Lumens | 31374.6 | 0.0 | 31374.6 |
| | % Fixture | 79.5 | 0.0 | 79.5 |
| Total | Lumens | 39443.0 | 0.0 | 39443.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 646.4 | 1.6 |
| 10°-20° | 1966.5 | 5.0 |
| 20°-30° | 3310.9 | 8.4 |
| 30°-40° | 4999.3 | 12.7 |
| 40°-50° | 7010.6 | 17.8 |
| 50°-60° | 8193.7 | 20.8 |
| 60°-70° | 7949.5 | 20.2 |
| 70°-80° | 4647.2 | 11.8 |
| 80°-90° | 718.9 | 1.8 |
| 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° | 39443.0 | 100.0 |
| 0°-180° | 39443.0 | 100.0 |



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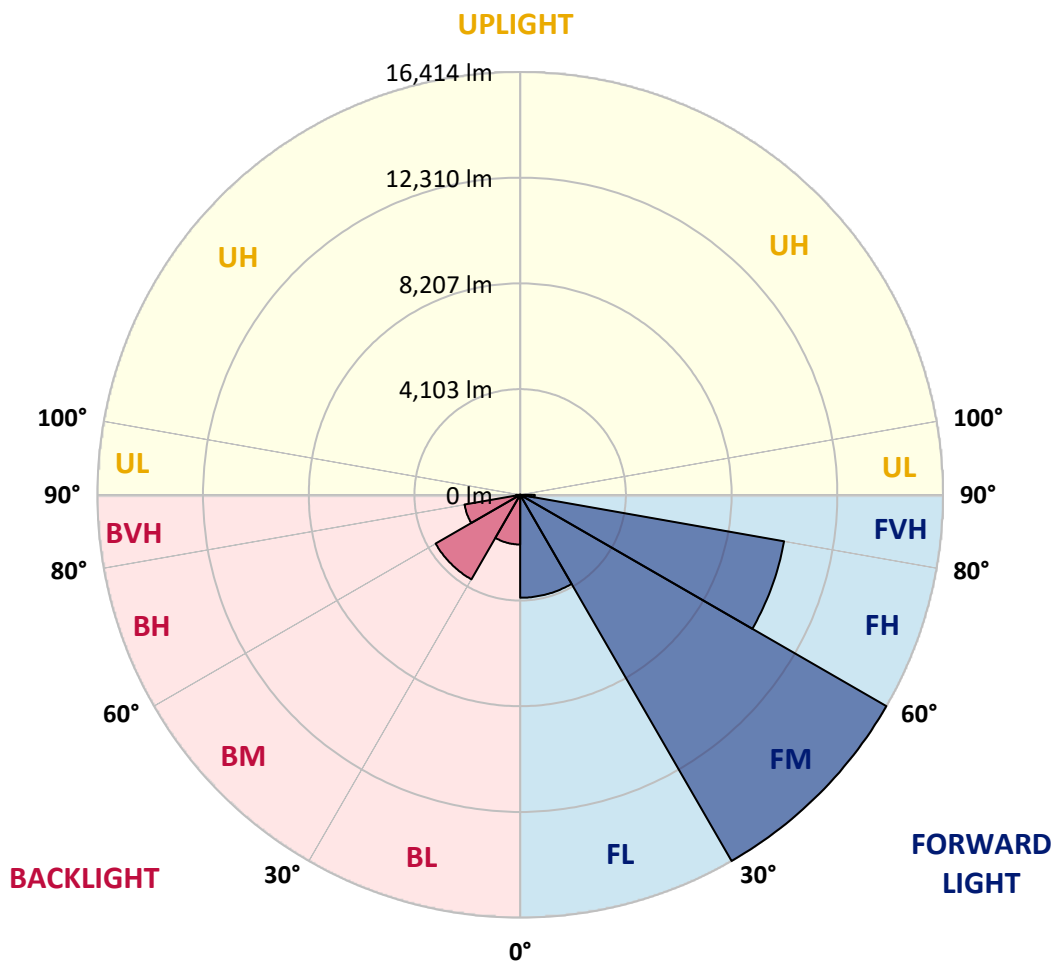
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 3994.7 | 10.1 | | | |
| FM (30°-60°) | 16413.7 | 41.6 | | | |
| FH (60°-80°) | 10402.8 | 26.4 | | | G4/12000 |
| FVH (80°-90°) | 563.3 | 1.4 | | | G4/750 |
| BL (0°-30°) | 1929.1 | 4.9 | B3/2500 | | |
| BM (30°-60°) | 3790.0 | 9.6 | B3/5000 | | |
| BH (60°-80°) | 2193.8 | 5.6 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 155.5 | 0.4 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 70° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 |
| 2.5° | 7364.0 | 7315.2 | 7294.3 | 7324.9 | 7120.1 | 7124.3 | 7025.4 | 7010.0 | 6962.7 | 6895.8 | 6821.9 |
| 5° | 7784.8 | 7727.6 | 7698.4 | 7716.5 | 7500.5 | 7462.9 | 7301.3 | 7221.8 | 7128.5 | 7044.9 | 6884.6 |
| 7.5° | 8188.8 | 8130.3 | 8108.0 | 8098.3 | 7837.7 | 7780.6 | 7574.4 | 7433.6 | 7306.8 | 7199.5 | 6982.2 |
| 10° | 8595.7 | 8535.8 | 8489.8 | 8502.3 | 8229.2 | 8127.5 | 7889.3 | 7695.6 | 7532.6 | 7393.2 | 7093.6 |
| 12.5° | 8999.8 | 8927.3 | 8877.2 | 8877.2 | 8608.2 | 8509.3 | 8241.8 | 7993.8 | 7786.1 | 7610.6 | 7234.4 |
| 15° | 9413.6 | 9318.9 | 9307.7 | 9307.7 | 9022.1 | 8902.2 | 8638.9 | 8364.4 | 8109.4 | 7883.7 | 7404.4 |
| 17.5° | 9841.4 | 9721.5 | 9718.7 | 9736.9 | 9474.9 | 9339.8 | 9091.7 | 8835.4 | 8510.7 | 8225.1 | 7612.0 |
| 20° | 10122.8 | 10015.5 | 9990.5 | 10044.8 | 9838.6 | 9750.8 | 9484.7 | 9304.9 | 8992.8 | 8652.8 | 7879.5 |
| 22.5° | 10337.4 | 10271.9 | 10295.6 | 10384.8 | 10284.5 | 10209.2 | 9929.1 | 9767.5 | 9486.1 | 9137.7 | 8240.4 |
| 25° | 10553.4 | 10510.2 | 10564.5 | 10722.0 | 10730.3 | 10751.2 | 10517.2 | 10310.9 | 10049.0 | 9738.3 | 8710.0 |
| 27.5° | 10486.5 | 10474.0 | 10638.4 | 10963.0 | 11141.4 | 11236.1 | 11105.2 | 11032.7 | 10793.0 | 10465.6 | 9300.7 |
| 30° | 10535.3 | 10504.6 | 10702.5 | 11113.5 | 11510.6 | 11785.1 | 11785.1 | 11949.5 | 11845.0 | 11516.2 | 10202.2 |
| 32.5° | 10390.4 | 10333.2 | 10560.3 | 11149.7 | 11832.5 | 12366.2 | 12603.0 | 13185.5 | 13368.0 | 13249.5 | 11989.9 |
| 35° | 9722.9 | 9766.1 | 10210.6 | 11004.8 | 12054.0 | 12934.6 | 13561.7 | 14810.1 | 15371.6 | 15505.4 | 14047.9 |
| 37.5° | 9306.3 | 9324.4 | 9777.3 | 10768.0 | 12132.1 | 13493.4 | 14610.9 | 16685.6 | 17481.2 | 17563.4 | 15853.8 |
| 40° | 8732.2 | 8800.5 | 9307.7 | 10450.3 | 12087.5 | 13965.7 | 15740.9 | 18534.6 | 19419.4 | 19351.1 | 17433.8 |
| 42.5° | 8279.4 | 8298.9 | 8742.0 | 9945.9 | 11892.4 | 14341.9 | 16880.7 | 20213.6 | 21140.2 | 20949.3 | 18995.8 |
| 45° | 7715.1 | 7751.3 | 8170.7 | 9318.9 | 11545.5 | 14532.8 | 17864.4 | 21788.1 | 22636.7 | 22398.4 | 20348.8 |
| 47.5° | 7032.3 | 7191.2 | 7630.1 | 8643.1 | 10957.5 | 14513.3 | 18697.6 | 23150.8 | 24119.2 | 23752.8 | 21613.9 |
| 50° | 5664.0 | 5857.7 | 6735.5 | 8034.2 | 10186.9 | 14240.2 | 19360.9 | 24651.5 | 25480.5 | 25111.3 | 22769.0 |
| 52.5° | 4947.9 | 4985.5 | 5432.7 | 7350.0 | 9284.0 | 13629.9 | 19812.3 | 25891.6 | 26755.5 | 26366.7 | 23879.6 |
| 55° | 4624.6 | 4663.6 | 4889.3 | 6242.3 | 8455.0 | 12548.7 | 19978.1 | 27074.6 | 27840.9 | 27395.0 | 24795.0 |
| 57.5° | 4341.7 | 4354.3 | 4620.4 | 5279.5 | 7664.9 | 11124.7 | 19628.4 | 28061.1 | 28717.3 | 28111.2 | 25430.4 |
| 60° | 4018.5 | 4068.6 | 4330.6 | 4819.7 | 6774.6 | 9470.7 | 18430.1 | 28692.3 | 29312.3 | 28773.1 | 26089.4 |
| 62° | 3837.3 | 3849.9 | 4054.7 | 4534.0 | 6084.8 | 8275.2 | 16937.8 | 28728.5 | 29521.3 | 29179.9 | 26494.9 |
| 62.5° | 3784.4 | 3792.8 | 3986.4 | 4461.6 | 5942.7 | 8038.3 | 16530.9 | 28699.2 | 29508.8 | 29251.0 | 26584.1 |
| 65° | 3480.6 | 3500.1 | 3674.3 | 4118.8 | 5319.9 | 7114.5 | 14624.8 | 28221.3 | 29239.9 | 29131.2 | 26575.7 |
| 67.5° | 3111.4 | 3117.0 | 3302.3 | 3702.2 | 4677.5 | 6246.5 | 12283.9 | 27307.2 | 27923.1 | 27782.4 | 25412.3 |
| 70° | 2544.3 | 2646.0 | 2848.0 | 3200.6 | 3869.4 | 5181.9 | 9343.9 | 24460.6 | 25470.8 | 25610.1 | 23327.8 |
| 72.5° | 1934.0 | 1927.0 | 1998.1 | 2243.3 | 2818.8 | 3980.9 | 6307.8 | 20495.1 | 22835.9 | 23589.7 | 21027.3 |
| 75° | 1194.1 | 1240.1 | 1538.3 | 1734.7 | 2020.4 | 2807.6 | 3954.4 | 14266.7 | 19526.7 | 20829.5 | 18586.2 |
| 77.5° | 928.0 | 936.3 | 1091.0 | 1431.0 | 1655.3 | 1989.7 | 2466.3 | 7773.6 | 12240.7 | 15480.3 | 14475.7 |
| 80° | 706.4 | 721.8 | 823.5 | 897.3 | 1164.9 | 1212.2 | 1645.6 | 4021.3 | 5574.9 | 7808.4 | 9724.3 |
| 82.5° | 426.4 | 450.1 | 544.8 | 588.0 | 642.3 | 607.5 | 884.8 | 2169.5 | 3090.5 | 3996.2 | 4952.0 |
| 85° | 214.6 | 257.8 | 362.3 | 342.8 | 291.2 | 268.9 | 379.0 | 1049.2 | 1477.0 | 1954.9 | 2272.6 |
| 87.5° | 54.3 | 65.5 | 85.0 | 101.7 | 86.4 | 71.1 | 103.1 | 284.2 | 292.6 | 280.1 | 784.5 |
| 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° | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 | 6785.7 |
| 2.5° | 6796.9 | 6739.7 | 6635.2 | 6575.3 | 6426.2 | 6369.1 | 6261.8 | 6300.8 | 6277.1 | 6253.4 | 6254.8 |
| 5° | 6808.0 | 6704.9 | 6505.6 | 6362.1 | 6146.2 | 6036.1 | 5895.3 | 5873.1 | 5811.7 | 5774.1 | 5778.3 |
| 7.5° | 6831.7 | 6684.0 | 6402.5 | 6174.0 | 5870.3 | 5697.5 | 5509.4 | 5477.3 | 5385.4 | 5343.6 | 5349.1 |
| 10° | 6891.6 | 6717.4 | 6335.6 | 5999.8 | 5657.1 | 5417.4 | 5197.3 | 5126.2 | 5038.4 | 4991.0 | 4988.3 |
| 12.5° | 6983.6 | 6767.6 | 6240.9 | 5867.5 | 5450.9 | 5140.1 | 4886.5 | 4772.3 | 4646.9 | 4605.1 | 4609.3 |
| 15° | 7129.9 | 6831.7 | 6161.5 | 5684.9 | 5201.4 | 4878.2 | 4564.7 | 4426.7 | 4294.4 | 4245.6 | 4241.4 |
| 17.5° | 7308.2 | 6890.2 | 6105.7 | 5470.4 | 4985.5 | 4598.1 | 4322.2 | 4134.1 | 3911.2 | 3879.1 | 3844.3 |
| 20° | 7485.2 | 7007.3 | 6055.6 | 5314.3 | 4729.1 | 4316.7 | 3955.8 | 3763.5 | 3444.4 | 3324.6 | 3281.4 |
| 22.5° | 7743.0 | 7192.6 | 6048.6 | 5129.0 | 4471.3 | 4008.7 | 3522.4 | 3211.7 | 2860.6 | 2657.2 | 2612.6 |
| 25° | 8087.1 | 7396.0 | 6066.7 | 4988.3 | 4182.9 | 3617.2 | 2960.9 | 2512.2 | 2177.8 | 1947.9 | 1900.6 |
| 27.5° | 8534.4 | 7673.3 | 6121.1 | 4833.6 | 3920.9 | 3147.6 | 2331.1 | 1869.9 | 1587.0 | 1394.8 | 1350.2 |
| 30° | 9193.4 | 8138.7 | 6206.1 | 4690.1 | 3539.2 | 2535.9 | 1713.8 | 1347.4 | 1127.2 | 1008.8 | 1007.4 |
| 32.5° | 10731.7 | 9178.1 | 6254.8 | 4511.7 | 3183.8 | 1917.3 | 1233.1 | 975.4 | 799.8 | 755.2 | 792.8 |
| 35° | 12495.7 | 10650.9 | 6631.0 | 4319.4 | 2627.9 | 1410.1 | 880.6 | 693.9 | 621.4 | 632.6 | 653.5 |
| 37.5° | 14123.2 | 12066.6 | 7205.1 | 4007.3 | 2104.0 | 993.5 | 632.6 | 551.8 | 536.4 | 576.9 | 614.5 |
| 40° | 15563.9 | 13290.0 | 7697.0 | 3664.6 | 1488.1 | 693.9 | 507.2 | 510.0 | 494.6 | 512.8 | 525.3 |
| 42.5° | 16976.8 | 14424.2 | 8216.7 | 3203.4 | 992.1 | 512.8 | 458.4 | 483.5 | 465.4 | 468.2 | 450.1 |
| 45° | 18381.3 | 15621.1 | 8441.0 | 2633.5 | 664.6 | 444.5 | 429.2 | 458.4 | 457.0 | 445.9 | 419.4 |
| 47.5° | 19593.6 | 16445.9 | 8725.3 | 1986.9 | 494.6 | 404.1 | 408.3 | 429.2 | 443.1 | 423.6 | 411.0 |
| 50° | 20635.8 | 17321.0 | 8506.5 | 1315.3 | 441.7 | 377.6 | 392.9 | 392.9 | 415.2 | 381.8 | 366.5 |
| 52.5° | 21632.1 | 18191.8 | 7945.0 | 866.7 | 405.5 | 359.5 | 374.8 | 365.1 | 374.8 | 341.4 | 337.2 |
| 55° | 22229.8 | 18641.9 | 7266.4 | 675.8 | 383.2 | 344.2 | 351.1 | 348.3 | 340.0 | 305.1 | 312.1 |
| 57.5° | 22887.5 | 19160.2 | 6422.0 | 567.1 | 373.4 | 326.0 | 327.4 | 323.3 | 298.2 | 274.5 | 275.9 |
| 60° | 23412.8 | 19547.6 | 5519.1 | 500.2 | 362.3 | 316.3 | 296.8 | 289.8 | 255.0 | 241.1 | 242.4 |
| 62° | 23780.6 | 19565.7 | 4731.9 | 465.4 | 348.3 | 309.3 | 278.7 | 263.3 | 224.3 | 213.2 | 211.8 |
| 62.5° | 23821.0 | 19497.4 | 4539.6 | 457.0 | 342.8 | 306.5 | 277.3 | 255.0 | 216.0 | 207.6 | 204.8 |
| 65° | 23670.6 | 18738.0 | 3621.4 | 411.0 | 319.1 | 289.8 | 257.8 | 221.5 | 185.3 | 174.2 | 170.0 |
| 67.5° | 22550.3 | 17378.1 | 2765.8 | 373.4 | 289.8 | 278.7 | 238.3 | 195.1 | 164.4 | 150.5 | 147.7 |
| 70° | 20365.5 | 15537.5 | 1974.4 | 326.0 | 260.6 | 253.6 | 239.7 | 178.4 | 151.9 | 132.4 | 129.6 |
| 72.5° | 17938.2 | 13578.4 | 1343.2 | 289.8 | 231.3 | 209.0 | 177.0 | 168.6 | 142.1 | 117.0 | 114.3 |
| 75° | 15265.8 | 10813.9 | 955.9 | 249.4 | 199.3 | 177.0 | 149.1 | 156.1 | 133.8 | 104.5 | 101.7 |
| 77.5° | 11712.7 | 7953.4 | 709.2 | 204.8 | 154.7 | 143.5 | 125.4 | 137.9 | 121.2 | 94.7 | 93.4 |
| 80° | 7997.9 | 5492.7 | 504.4 | 154.7 | 101.7 | 101.7 | 105.9 | 118.4 | 107.3 | 85.0 | 83.6 |
| 82.5° | 4496.4 | 2891.2 | 298.2 | 111.5 | 69.7 | 69.7 | 82.2 | 96.1 | 89.2 | 73.8 | 72.5 |
| 85° | 1862.9 | 1046.4 | 157.5 | 69.7 | 46.0 | 47.4 | 58.5 | 71.1 | 69.7 | 58.5 | 57.1 |
| 87.5° | 647.9 | 263.3 | 46.0 | 23.7 | 19.5 | 20.9 | 23.7 | 33.4 | 33.4 | 29.3 | 30.7 |
| 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)