

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: P237560

Luminaire Tested: **CTN-10-3-D-E1-T2-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P237560
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-10-3-D-E1-T2-HSS
Description: CELESTEON HIGH MAST LUMINAIRE
(10) 70 CRI, 4000K LEDS AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28716 lumens
Efficiency: N/A
Efficacy: 135.5 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

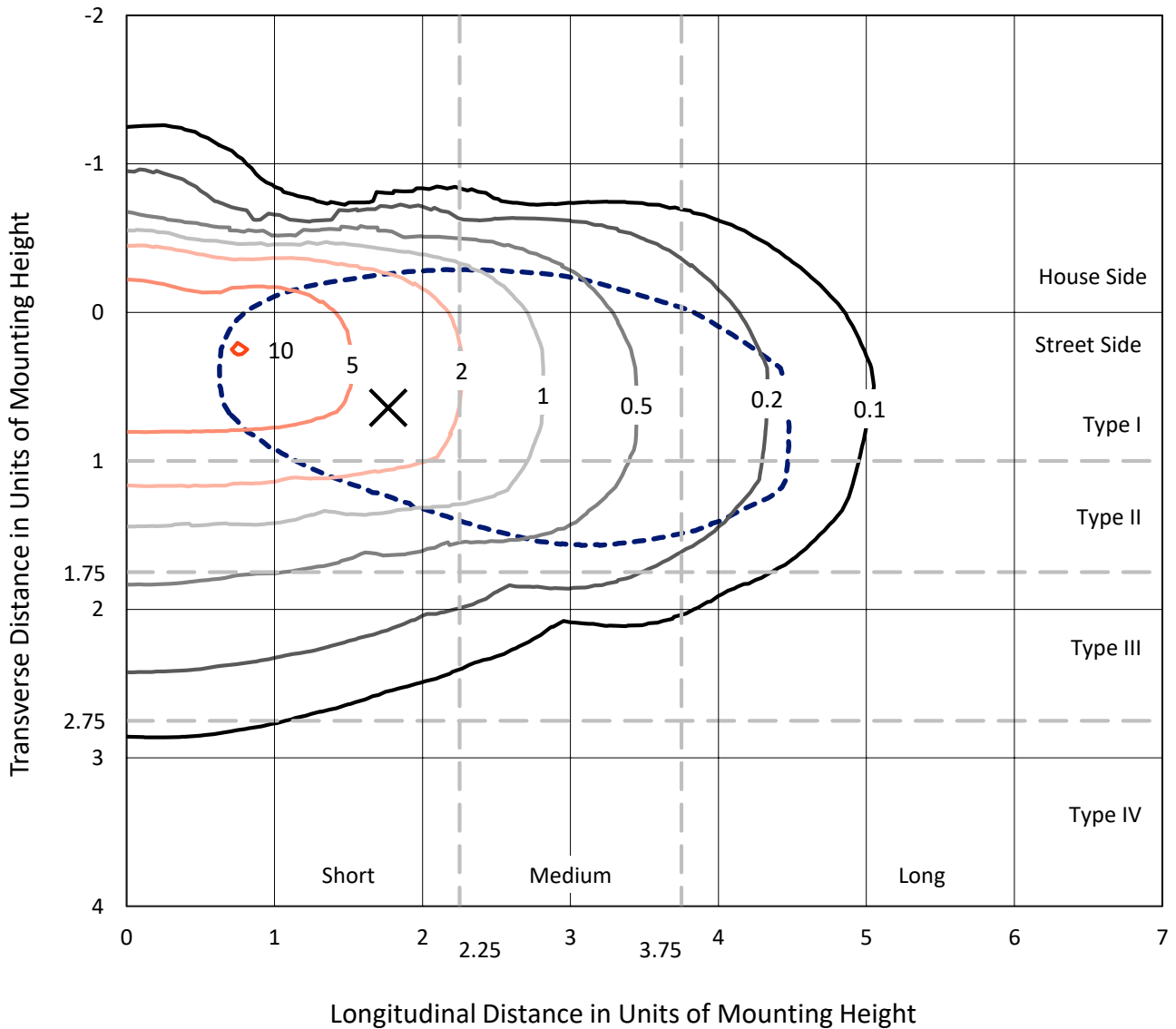
Input Watts (W): 212
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

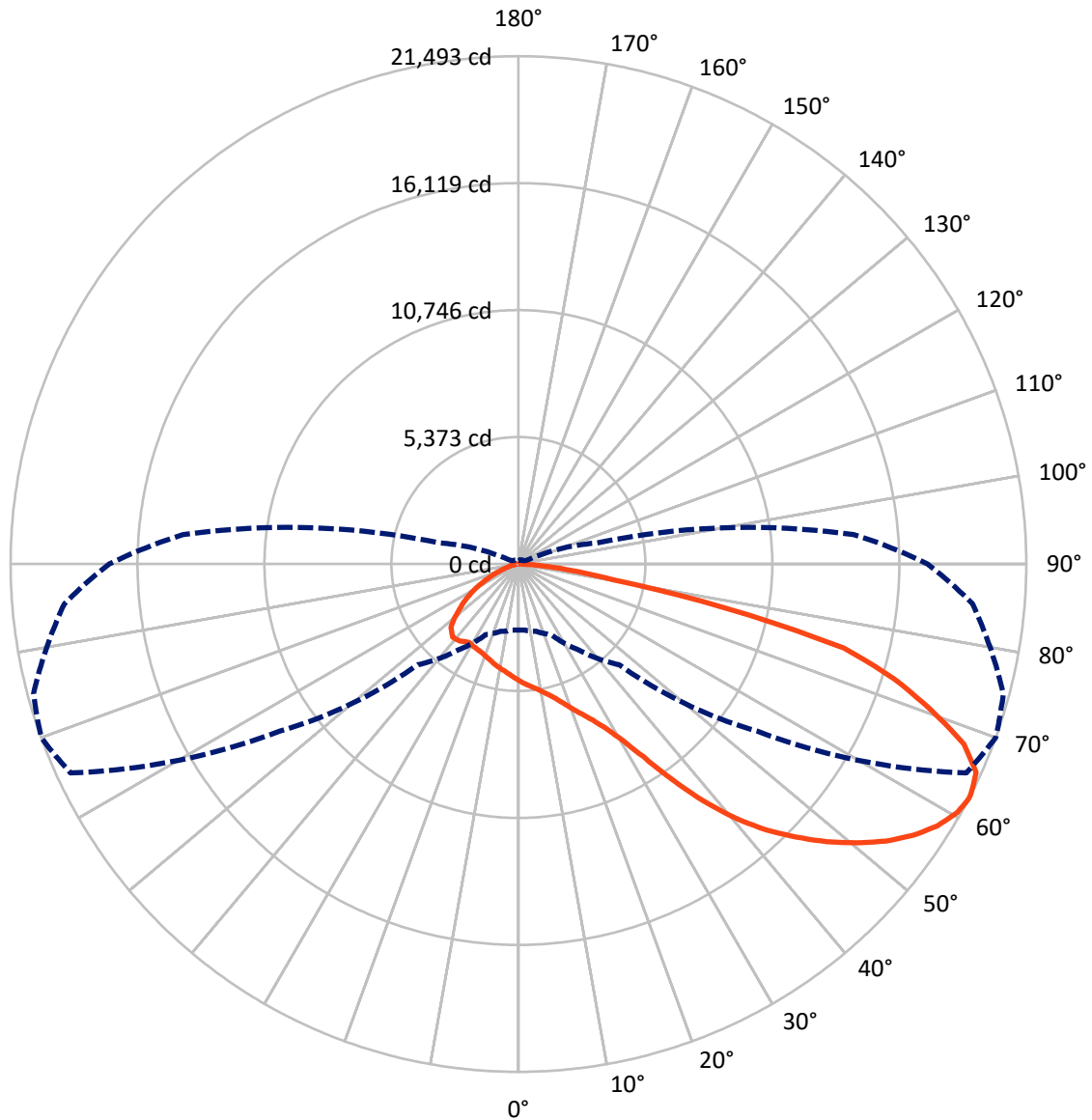
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.2 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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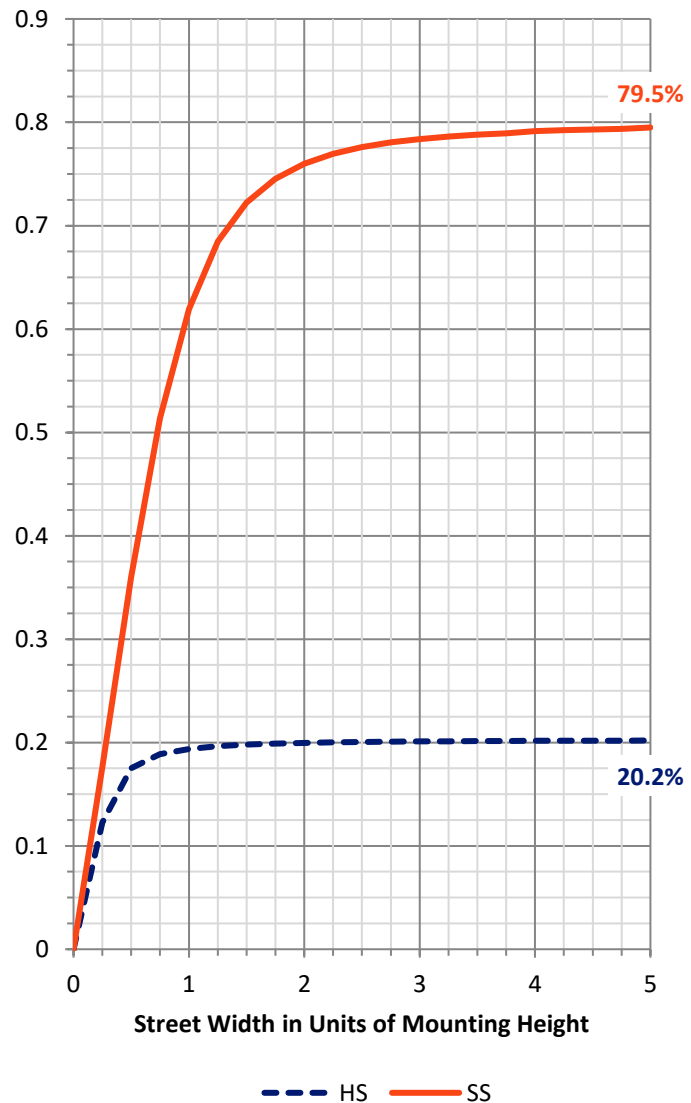
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 5874.1 | 0.0 | 5874.1 |
| | % Fixture | 20.5 | 0.0 | 20.5 |
| Street Side | Lumens | 22841.9 | 0.0 | 22841.9 |
| | % Fixture | 79.5 | 0.0 | 79.5 |
| Total | Lumens | 28716.0 | 0.0 | 28716.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 470.6 | 1.6 |
| 10°-20° | 1431.7 | 5.0 |
| 20°-30° | 2410.4 | 8.4 |
| 30°-40° | 3639.7 | 12.7 |
| 40°-50° | 5104.0 | 17.8 |
| 50°-60° | 5965.4 | 20.8 |
| 60°-70° | 5787.5 | 20.2 |
| 70°-80° | 3383.3 | 11.8 |
| 80°-90° | 523.4 | 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° | 28716.0 | 100.0 |
| 0°-180° | 28716.0 | 100.0 |



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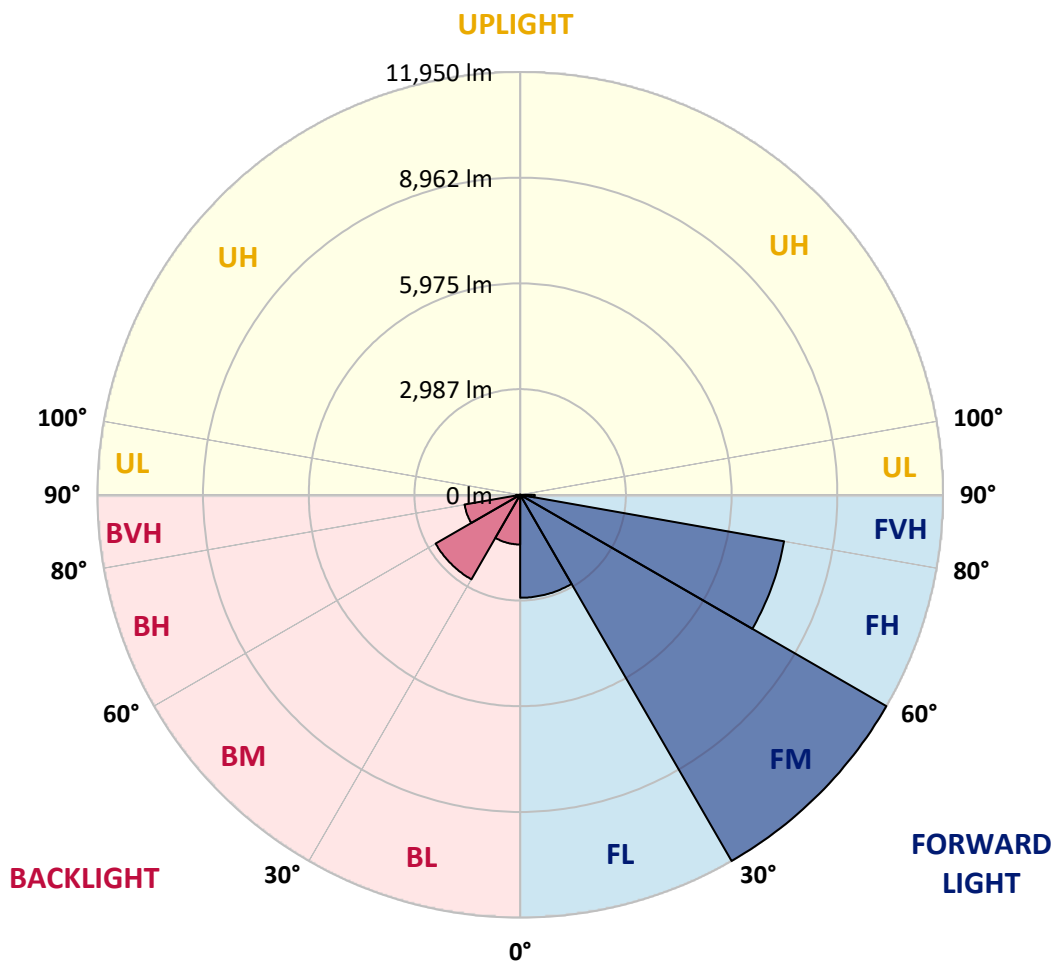
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 2908.3 | 10.1 | | | |
| FM | (30°-60°) | 11949.8 | 41.6 | | | |
| FH | (60°-80°) | 7573.7 | 26.4 | | | G4/12000 |
| FVH | (80°-90°) | 410.1 | 1.4 | | | G3/500 |
| BL | (0°-30°) | 1404.4 | 4.9 | B3/2500 | | |
| BM | (30°-60°) | 2759.3 | 9.6 | B3/5000 | | |
| BH | (60°-80°) | 1597.2 | 5.6 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 113.2 | 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° | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 |
| 2.5° | 5361.2 | 5325.7 | 5310.5 | 5332.8 | 5183.7 | 5186.8 | 5114.7 | 5103.6 | 5069.1 | 5020.4 | 4966.6 |
| 5° | 5667.6 | 5626.0 | 5604.7 | 5617.9 | 5460.7 | 5433.3 | 5315.6 | 5257.8 | 5189.8 | 5128.9 | 5012.3 |
| 7.5° | 5961.8 | 5919.2 | 5902.9 | 5895.8 | 5706.1 | 5664.6 | 5514.4 | 5412.0 | 5319.6 | 5241.5 | 5083.3 |
| 10° | 6258.0 | 6214.4 | 6180.9 | 6190.0 | 5991.2 | 5917.1 | 5743.7 | 5602.7 | 5484.0 | 5382.5 | 5164.4 |
| 12.5° | 6552.2 | 6499.4 | 6462.9 | 6462.9 | 6267.1 | 6195.1 | 6000.3 | 5819.8 | 5668.6 | 5540.8 | 5266.9 |
| 15° | 6853.5 | 6784.5 | 6776.4 | 6776.4 | 6568.4 | 6481.2 | 6289.4 | 6089.6 | 5904.0 | 5739.6 | 5390.7 |
| 17.5° | 7164.9 | 7077.6 | 7075.6 | 7088.8 | 6898.1 | 6799.7 | 6619.1 | 6432.5 | 6196.1 | 5988.2 | 5541.8 |
| 20° | 7369.8 | 7291.7 | 7273.4 | 7313.0 | 7162.9 | 7099.0 | 6905.2 | 6774.3 | 6547.1 | 6299.6 | 5736.6 |
| 22.5° | 7526.0 | 7478.3 | 7495.6 | 7560.5 | 7487.5 | 7432.7 | 7228.8 | 7111.1 | 6906.2 | 6652.6 | 5999.3 |
| 25° | 7683.3 | 7651.8 | 7691.4 | 7806.0 | 7812.1 | 7827.3 | 7656.9 | 7506.7 | 7316.0 | 7089.8 | 6341.2 |
| 27.5° | 7634.6 | 7625.4 | 7745.1 | 7981.5 | 8111.3 | 8180.3 | 8085.0 | 8032.2 | 7857.7 | 7619.4 | 6771.3 |
| 30° | 7670.1 | 7647.8 | 7791.8 | 8091.1 | 8380.2 | 8580.0 | 8580.0 | 8699.7 | 8623.6 | 8384.2 | 7427.6 |
| 32.5° | 7564.6 | 7523.0 | 7688.3 | 8117.4 | 8614.5 | 9003.0 | 9175.5 | 9599.5 | 9732.4 | 9646.2 | 8729.1 |
| 35° | 7078.7 | 7110.1 | 7433.7 | 8011.9 | 8775.8 | 9416.9 | 9873.4 | 10782.3 | 11191.1 | 11288.5 | 10227.4 |
| 37.5° | 6775.3 | 6788.5 | 7118.2 | 7839.5 | 8832.6 | 9823.7 | 10637.3 | 12147.7 | 12727.0 | 12786.8 | 11542.1 |
| 40° | 6357.4 | 6407.1 | 6776.4 | 7608.2 | 8800.1 | 10167.6 | 11460.0 | 13493.9 | 14138.0 | 14088.3 | 12692.5 |
| 42.5° | 6027.7 | 6041.9 | 6364.5 | 7241.0 | 8658.1 | 10441.5 | 12289.8 | 14716.3 | 15390.9 | 15251.9 | 13829.7 |
| 45° | 5616.9 | 5643.2 | 5948.6 | 6784.5 | 8405.5 | 10580.5 | 13006.0 | 15862.6 | 16480.4 | 16306.9 | 14814.7 |
| 47.5° | 5119.8 | 5235.5 | 5555.0 | 6292.5 | 7977.4 | 10566.3 | 13612.6 | 16854.7 | 17559.7 | 17292.9 | 15735.8 |
| 50° | 4123.6 | 4264.6 | 4903.7 | 5849.2 | 7416.5 | 10367.4 | 14095.4 | 17947.2 | 18550.8 | 18282.0 | 16576.7 |
| 52.5° | 3602.2 | 3629.6 | 3955.2 | 5351.1 | 6759.1 | 9923.1 | 14424.1 | 18850.1 | 19479.0 | 19196.0 | 17385.2 |
| 55° | 3366.9 | 3395.3 | 3559.6 | 4544.6 | 6155.5 | 9135.9 | 14544.8 | 19711.3 | 20269.2 | 19944.6 | 18051.7 |
| 57.5° | 3161.0 | 3170.1 | 3363.8 | 3843.7 | 5580.4 | 8099.2 | 14290.2 | 20429.5 | 20907.3 | 20466.0 | 18514.3 |
| 60° | 2925.6 | 2962.1 | 3152.8 | 3508.9 | 4932.1 | 6895.1 | 13417.8 | 20889.1 | 21340.5 | 20947.9 | 18994.1 |
| 62° | 2793.7 | 2802.9 | 2952.0 | 3300.9 | 4430.0 | 6024.7 | 12331.4 | 20915.4 | 21492.6 | 21244.1 | 19289.3 |
| 62.5° | 2755.2 | 2761.3 | 2902.3 | 3248.2 | 4326.5 | 5852.2 | 12035.1 | 20894.1 | 21483.5 | 21295.8 | 19354.2 |
| 65° | 2534.0 | 2548.2 | 2675.0 | 2998.6 | 3873.1 | 5179.7 | 10647.4 | 20546.2 | 21287.7 | 21208.6 | 19348.1 |
| 67.5° | 2265.2 | 2269.3 | 2404.2 | 2695.3 | 3405.4 | 4547.7 | 8943.2 | 19880.7 | 20329.1 | 20226.6 | 18501.1 |
| 70° | 1852.3 | 1926.4 | 2073.5 | 2330.1 | 2817.1 | 3772.6 | 6802.7 | 17808.2 | 18543.7 | 18645.1 | 16983.5 |
| 72.5° | 1408.0 | 1403.0 | 1454.7 | 1633.2 | 2052.2 | 2898.2 | 4592.3 | 14921.2 | 16625.4 | 17174.2 | 15308.7 |
| 75° | 869.4 | 902.8 | 1119.9 | 1263.0 | 1470.9 | 2044.1 | 2878.9 | 10386.7 | 14216.2 | 15164.6 | 13531.4 |
| 77.5° | 675.6 | 681.7 | 794.3 | 1041.8 | 1205.1 | 1448.6 | 1795.5 | 5659.5 | 8911.7 | 11270.3 | 10538.9 |
| 80° | 514.3 | 525.5 | 599.5 | 653.3 | 848.1 | 882.6 | 1198.0 | 2927.6 | 4058.7 | 5684.8 | 7079.7 |
| 82.5° | 310.4 | 327.7 | 396.6 | 428.1 | 467.7 | 442.3 | 644.2 | 1579.5 | 2250.0 | 2909.4 | 3605.3 |
| 85° | 156.2 | 187.7 | 263.8 | 249.5 | 212.0 | 195.8 | 275.9 | 763.9 | 1075.3 | 1423.2 | 1654.5 |
| 87.5° | 39.6 | 47.7 | 61.9 | 74.1 | 62.9 | 51.7 | 75.1 | 206.9 | 213.0 | 203.9 | 571.1 |
| 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° | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 | 4940.3 |
| 2.5° | 4948.4 | 4906.8 | 4830.7 | 4787.1 | 4678.5 | 4636.9 | 4558.8 | 4587.2 | 4570.0 | 4552.7 | 4553.8 |
| 5° | 4956.5 | 4881.4 | 4736.4 | 4631.9 | 4474.6 | 4394.5 | 4292.0 | 4275.8 | 4231.2 | 4203.8 | 4206.8 |
| 7.5° | 4973.7 | 4866.2 | 4661.3 | 4494.9 | 4273.8 | 4148.0 | 4011.0 | 3987.7 | 3920.8 | 3890.3 | 3894.4 |
| 10° | 5017.3 | 4890.5 | 4612.6 | 4368.1 | 4118.6 | 3944.1 | 3783.8 | 3732.1 | 3668.2 | 3633.7 | 3631.6 |
| 12.5° | 5084.3 | 4927.1 | 4543.6 | 4271.7 | 3968.4 | 3742.2 | 3557.6 | 3474.4 | 3383.1 | 3352.7 | 3355.7 |
| 15° | 5190.8 | 4973.7 | 4485.8 | 4138.9 | 3786.9 | 3551.5 | 3323.3 | 3222.8 | 3126.5 | 3091.0 | 3087.9 |
| 17.5° | 5320.7 | 5016.3 | 4445.2 | 3982.6 | 3629.6 | 3347.6 | 3146.7 | 3009.8 | 2847.5 | 2824.2 | 2798.8 |
| 20° | 5449.5 | 5101.5 | 4408.7 | 3869.0 | 3443.0 | 3142.7 | 2880.0 | 2740.0 | 2507.7 | 2420.4 | 2389.0 |
| 22.5° | 5637.2 | 5236.5 | 4403.6 | 3734.1 | 3255.3 | 2918.5 | 2564.5 | 2338.3 | 2082.6 | 1934.5 | 1902.0 |
| 25° | 5887.7 | 5384.6 | 4416.8 | 3631.6 | 3045.3 | 2633.4 | 2155.7 | 1829.0 | 1585.5 | 1418.2 | 1383.7 |
| 27.5° | 6213.4 | 5586.4 | 4456.4 | 3519.0 | 2854.6 | 2291.6 | 1697.1 | 1361.4 | 1155.4 | 1015.4 | 983.0 |
| 30° | 6693.2 | 5925.3 | 4518.3 | 3414.6 | 2576.6 | 1846.3 | 1247.7 | 980.9 | 820.7 | 734.4 | 733.4 |
| 32.5° | 7813.1 | 6682.0 | 4553.8 | 3284.7 | 2318.0 | 1395.8 | 897.8 | 710.1 | 582.3 | 549.8 | 577.2 |
| 35° | 9097.4 | 7754.3 | 4827.7 | 3144.7 | 1913.2 | 1026.6 | 641.1 | 505.2 | 452.4 | 460.5 | 475.8 |
| 37.5° | 10282.2 | 8784.9 | 5245.6 | 2917.5 | 1531.8 | 723.3 | 460.5 | 401.7 | 390.6 | 420.0 | 447.4 |
| 40° | 11331.1 | 9675.6 | 5603.7 | 2667.9 | 1083.4 | 505.2 | 369.3 | 371.3 | 360.1 | 373.3 | 382.4 |
| 42.5° | 12359.8 | 10501.3 | 5982.1 | 2332.2 | 722.3 | 373.3 | 333.7 | 352.0 | 338.8 | 340.8 | 327.7 |
| 45° | 13382.3 | 11372.7 | 6145.4 | 1917.3 | 483.9 | 323.6 | 312.4 | 333.7 | 332.7 | 324.6 | 305.3 |
| 47.5° | 14264.9 | 11973.3 | 6352.3 | 1446.6 | 360.1 | 294.2 | 297.2 | 312.4 | 322.6 | 308.4 | 299.3 |
| 50° | 15023.6 | 12610.3 | 6193.1 | 957.6 | 321.6 | 274.9 | 286.1 | 286.1 | 302.3 | 278.0 | 266.8 |
| 52.5° | 15749.0 | 13244.3 | 5784.3 | 631.0 | 295.2 | 261.7 | 272.9 | 265.8 | 272.9 | 248.5 | 245.5 |
| 55° | 16184.1 | 13572.0 | 5290.2 | 492.0 | 279.0 | 250.6 | 255.6 | 253.6 | 247.5 | 222.2 | 227.2 |
| 57.5° | 16663.0 | 13949.4 | 4675.5 | 412.9 | 271.9 | 237.4 | 238.4 | 235.3 | 217.1 | 199.8 | 200.9 |
| 60° | 17045.4 | 14231.4 | 4018.1 | 364.2 | 263.8 | 230.3 | 216.1 | 211.0 | 185.6 | 175.5 | 176.5 |
| 62° | 17313.2 | 14244.6 | 3445.0 | 338.8 | 253.6 | 225.2 | 202.9 | 191.7 | 163.3 | 155.2 | 154.2 |
| 62.5° | 17342.6 | 14194.9 | 3305.0 | 332.7 | 249.5 | 223.2 | 201.9 | 185.6 | 157.2 | 151.1 | 149.1 |
| 65° | 17233.1 | 13642.0 | 2636.5 | 299.3 | 232.3 | 211.0 | 187.7 | 161.3 | 134.9 | 126.8 | 123.8 |
| 67.5° | 16417.5 | 12651.9 | 2013.6 | 271.9 | 211.0 | 202.9 | 173.5 | 142.0 | 119.7 | 109.6 | 107.5 |
| 70° | 14826.8 | 11311.9 | 1437.4 | 237.4 | 189.7 | 184.6 | 174.5 | 129.8 | 110.6 | 96.4 | 94.3 |
| 72.5° | 13059.7 | 9885.6 | 977.9 | 211.0 | 168.4 | 152.2 | 128.8 | 122.7 | 103.5 | 85.2 | 83.2 |
| 75° | 11114.0 | 7873.0 | 695.9 | 181.6 | 145.1 | 128.8 | 108.5 | 113.6 | 97.4 | 76.1 | 74.1 |
| 77.5° | 8527.3 | 5790.3 | 516.3 | 149.1 | 112.6 | 104.5 | 91.3 | 100.4 | 88.3 | 69.0 | 68.0 |
| 80° | 5822.8 | 3998.9 | 367.2 | 112.6 | 74.1 | 74.1 | 77.1 | 86.2 | 78.1 | 61.9 | 60.9 |
| 82.5° | 3273.6 | 2104.9 | 217.1 | 81.2 | 50.7 | 50.7 | 59.9 | 70.0 | 64.9 | 53.8 | 52.8 |
| 85° | 1356.3 | 761.8 | 114.6 | 50.7 | 33.5 | 34.5 | 42.6 | 51.7 | 50.7 | 42.6 | 41.6 |
| 87.5° | 471.7 | 191.7 | 33.5 | 17.2 | 14.2 | 15.2 | 17.2 | 24.3 | 24.3 | 21.3 | 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 |

(END OF REPORT)