

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: P232792

Luminaire Tested: **CTN-8-3-D-E1-T2**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P232792
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-171-7)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: CTN-8-3-D-E1-T2
Description: CELESTEON HIGH MAST LUMINAIRE
(8) 70 CRI, 4000K LEDS AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 31220 lumens
Efficiency: N/A
Efficacy: 138.1 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

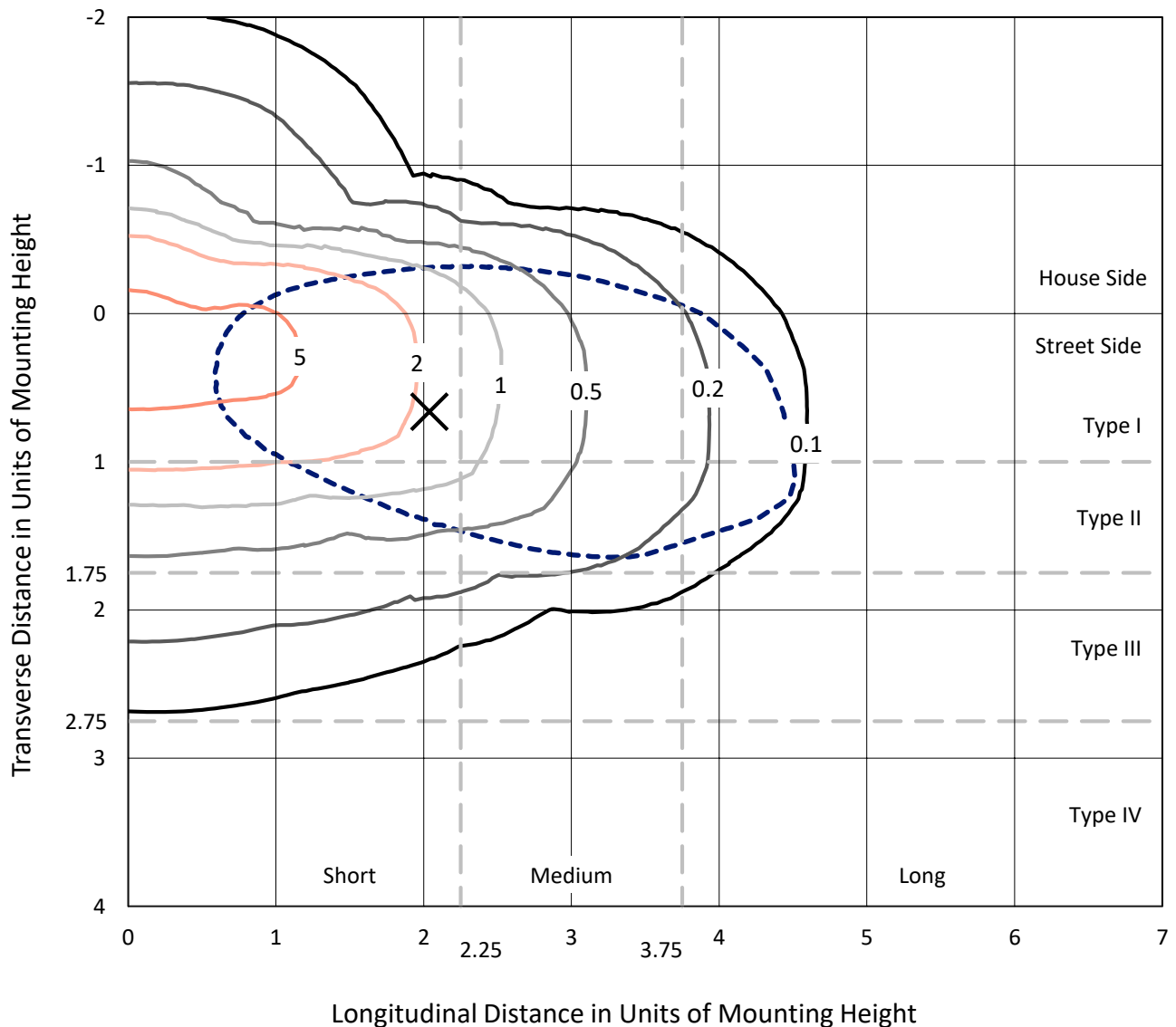
Input Watts (W): 226
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

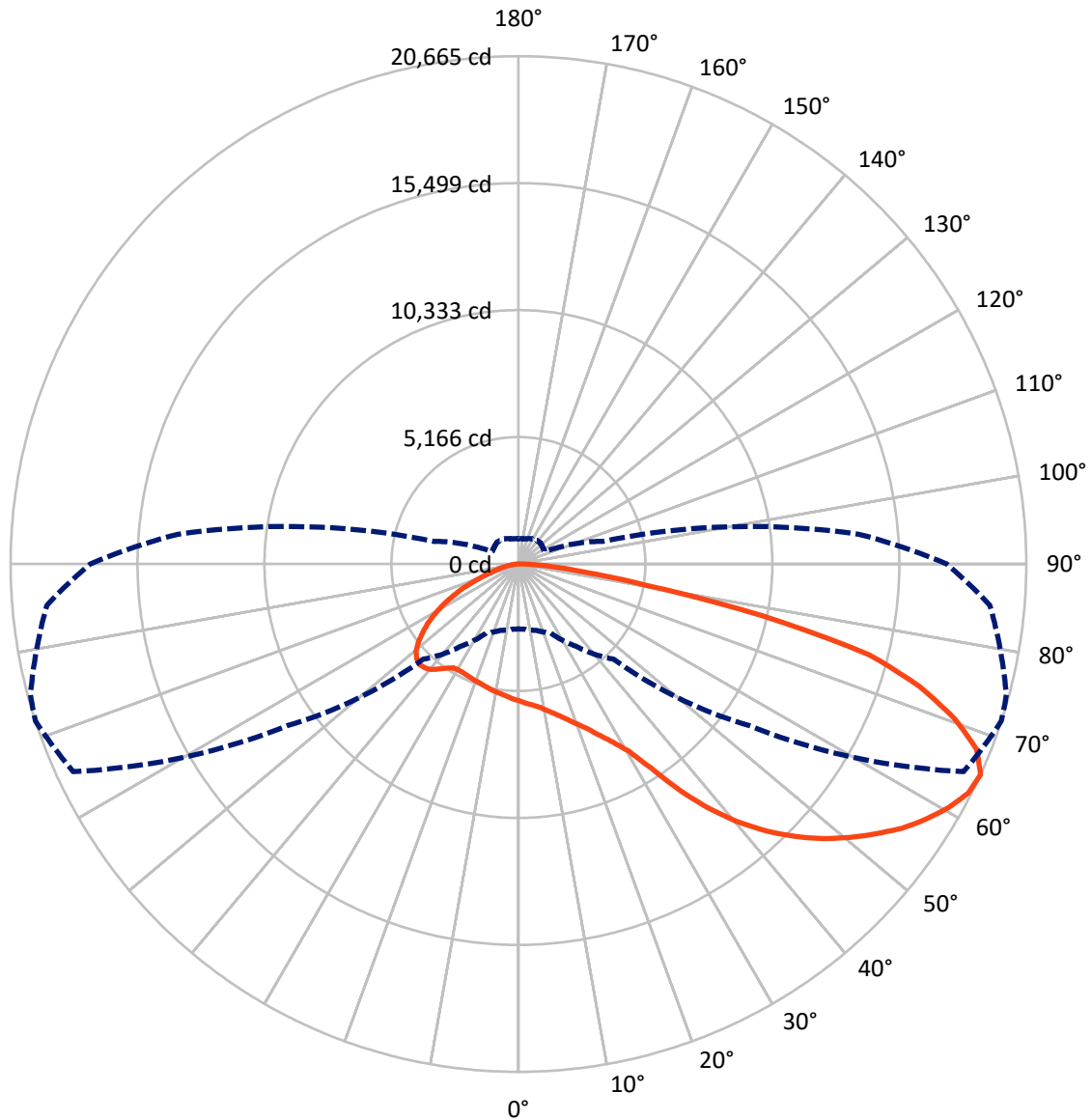
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 7.2 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 72-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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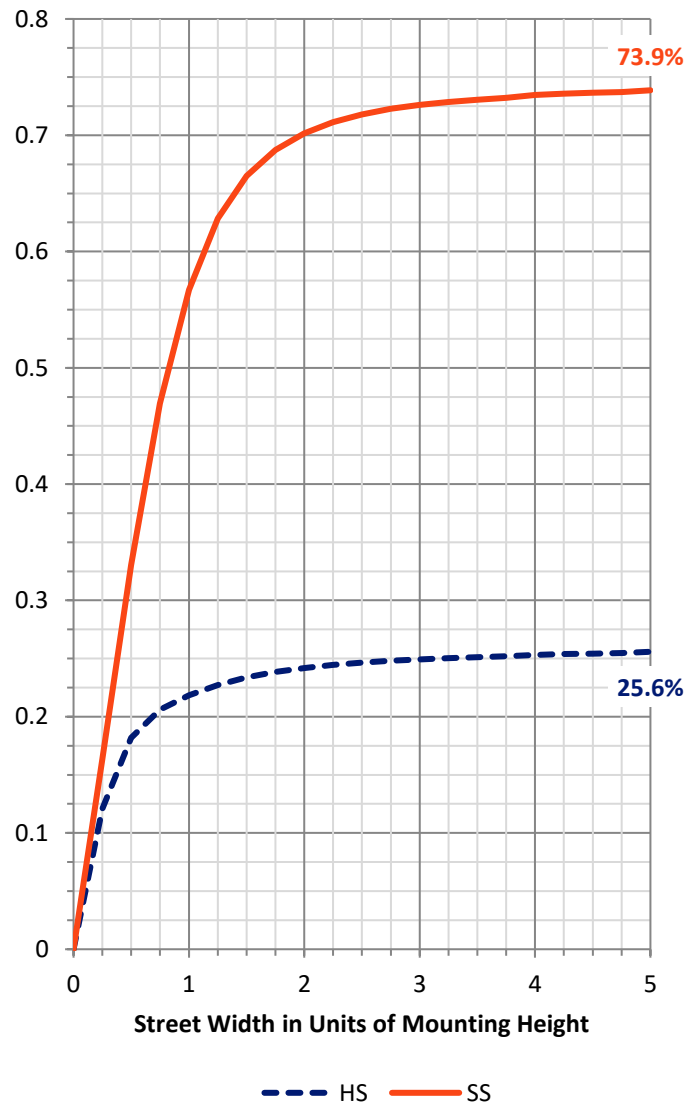
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 8132.5 | 0.0 | 8132.5 |
| | % Fixture | 26.0 | 0.0 | 26.0 |
| Street Side | Lumens | 23087.5 | 0.0 | 23087.5 |
| | % Fixture | 74.0 | 0.0 | 74.0 |
| Total | Lumens | 31220.0 | 0.0 | 31220.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 535.8 | 1.7 |
| 10°-20° | 1633.2 | 5.2 |
| 20°-30° | 2735.7 | 8.8 |
| 30°-40° | 3970.8 | 12.7 |
| 40°-50° | 5369.4 | 17.2 |
| 50°-60° | 6267.5 | 20.1 |
| 60°-70° | 6240.4 | 20.0 |
| 70°-80° | 3784.1 | 12.1 |
| 80°-90° | 683.1 | 2.2 |
| 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° | 31220.0 | 100.0 |
| 0°-180° | 31220.0 | 100.0 |



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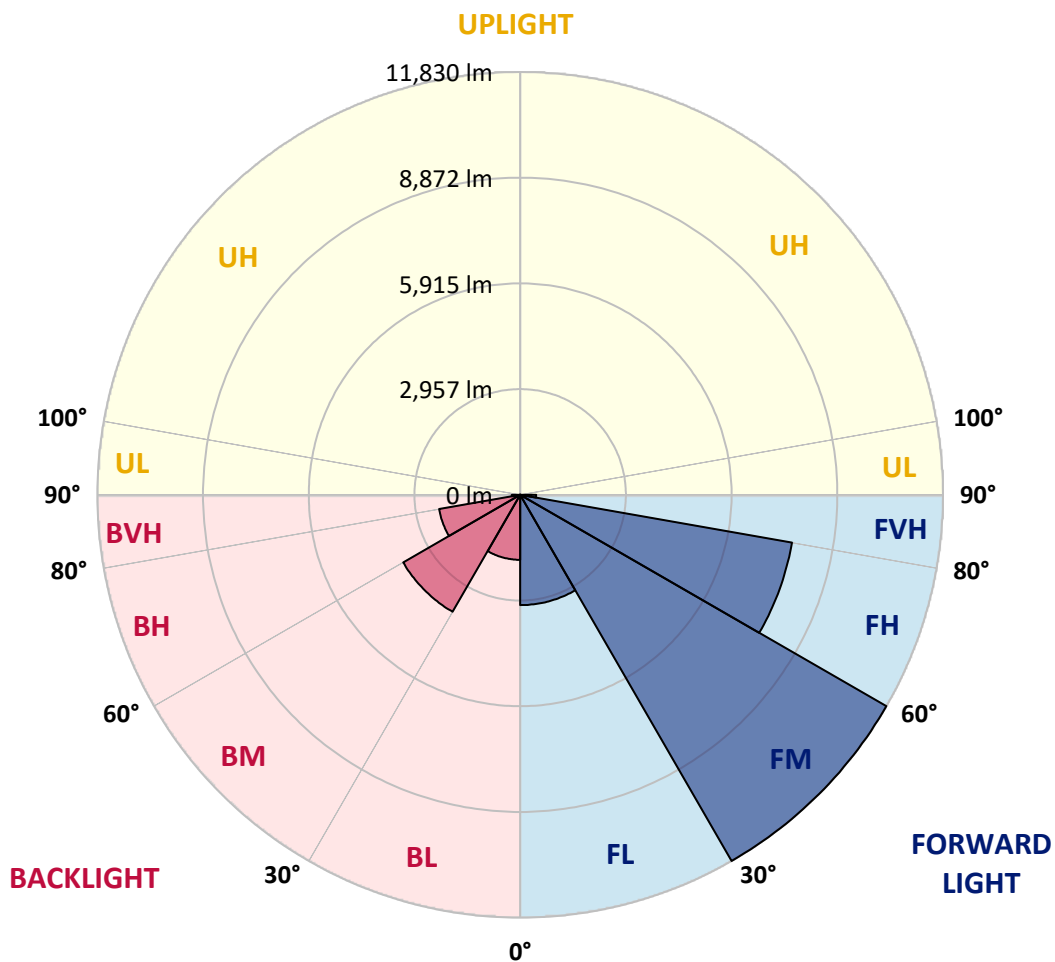
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 3085.6 | 9.9 | | | |
| FM | (30°-60°) | 11830.0 | 37.9 | | | |
| FH | (60°-80°) | 7722.5 | 24.7 | | | G4/12000 |
| FVH | (80°-90°) | 449.3 | 1.4 | | | G3/500 |
| BL | (0°-30°) | 1819.1 | 5.8 | B3/2500 | | |
| BM | (30°-60°) | 3777.7 | 12.1 | B3/5000 | | |
| BH | (60°-80°) | 2302.0 | 7.4 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 233.7 | 0.7 | | | G3/500 |
| 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° | 72° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 |
| 2.5° | 5862.5 | 5851.3 | 5855.0 | 5860.4 | 5793.9 | 5782.7 | 5727.6 | 5699.6 | 5668.8 | 5647.2 | 5598.6 |
| 5° | 6164.2 | 6163.2 | 6139.2 | 6139.5 | 6035.1 | 5994.9 | 5893.2 | 5818.2 | 5753.0 | 5719.2 | 5617.8 |
| 7.5° | 6437.9 | 6409.5 | 6407.1 | 6400.4 | 6282.5 | 6218.3 | 6083.4 | 5969.6 | 5869.9 | 5817.9 | 5660.7 |
| 10° | 6695.0 | 6675.1 | 6675.4 | 6667.3 | 6546.4 | 6466.3 | 6304.1 | 6160.8 | 6027.7 | 5960.4 | 5731.7 |
| 12.5° | 6969.4 | 6946.8 | 6943.0 | 6914.7 | 6803.5 | 6726.5 | 6549.1 | 6373.0 | 6211.8 | 6135.8 | 5839.1 |
| 15° | 7250.9 | 7229.2 | 7218.4 | 7185.7 | 7061.6 | 6979.5 | 6830.9 | 6613.3 | 6429.8 | 6335.2 | 5980.4 |
| 17.5° | 7510.4 | 7497.2 | 7478.9 | 7453.6 | 7345.1 | 7255.3 | 7106.6 | 6899.8 | 6680.5 | 6559.5 | 6142.9 |
| 20° | 7670.5 | 7659.0 | 7671.2 | 7671.2 | 7608.7 | 7543.5 | 7393.8 | 7216.4 | 6979.5 | 6829.8 | 6329.8 |
| 22.5° | 7793.2 | 7781.4 | 7835.4 | 7862.8 | 7869.2 | 7854.7 | 7707.7 | 7552.9 | 7306.3 | 7151.9 | 6560.9 |
| 25° | 7823.3 | 7824.6 | 7916.2 | 8039.2 | 8130.4 | 8173.0 | 8059.8 | 7945.9 | 7733.0 | 7539.8 | 6876.8 |
| 27.5° | 7814.5 | 7823.3 | 7940.5 | 8160.1 | 8378.8 | 8482.2 | 8441.3 | 8375.0 | 8206.4 | 8041.9 | 7298.8 |
| 30° | 7801.6 | 7824.6 | 7979.4 | 8249.3 | 8565.6 | 8770.4 | 8811.3 | 8911.6 | 8828.8 | 8716.6 | 7968.2 |
| 32.5° | 7642.1 | 7662.8 | 7884.4 | 8282.5 | 8724.8 | 9096.4 | 9316.4 | 9741.8 | 9876.6 | 9854.7 | 9004.2 |
| 35° | 7268.8 | 7309.3 | 7638.1 | 8195.6 | 8847.4 | 9428.6 | 9950.6 | 10841.3 | 11308.0 | 11270.5 | 10199.3 |
| 37.5° | 6888.3 | 6938.0 | 7332.3 | 8033.8 | 8902.8 | 9782.0 | 10644.7 | 12070.6 | 12634.5 | 12579.8 | 11347.8 |
| 40° | 6543.3 | 6600.4 | 6998.5 | 7791.2 | 8888.0 | 10112.5 | 11373.8 | 13225.8 | 13815.8 | 13718.5 | 12372.0 |
| 42.5° | 6144.6 | 6227.4 | 6589.9 | 7467.8 | 8772.1 | 10345.3 | 12095.2 | 14329.7 | 14864.0 | 14715.3 | 13303.9 |
| 45° | 5773.3 | 5839.8 | 6188.2 | 7024.8 | 8595.3 | 10516.6 | 12755.2 | 15352.5 | 15817.2 | 15643.8 | 14162.5 |
| 47.5° | 5370.8 | 5455.3 | 5805.4 | 6569.0 | 8244.3 | 10555.1 | 13359.3 | 16261.1 | 16698.4 | 16517.9 | 14963.3 |
| 50° | 4309.2 | 4445.3 | 5236.0 | 6123.0 | 7699.3 | 10415.2 | 13895.9 | 17113.3 | 17490.4 | 17347.8 | 15791.8 |
| 52.5° | 3757.0 | 3783.7 | 4183.8 | 5611.1 | 7035.6 | 10049.3 | 14283.1 | 17949.3 | 18235.1 | 18089.8 | 16525.0 |
| 55° | 3510.0 | 3517.5 | 3696.6 | 4749.1 | 6391.9 | 9352.2 | 14470.6 | 18749.7 | 18964.6 | 18763.2 | 17219.1 |
| 57.5° | 3256.3 | 3297.8 | 3477.9 | 4007.8 | 5786.8 | 8346.3 | 14340.6 | 19449.8 | 19577.9 | 19351.2 | 17856.3 |
| 60° | 3046.5 | 3080.2 | 3260.0 | 3619.9 | 5122.8 | 7176.9 | 13734.4 | 20007.7 | 20120.6 | 19889.1 | 18454.4 |
| 62.5° | 2856.2 | 2880.9 | 3020.1 | 3357.3 | 4523.0 | 6139.9 | 12603.1 | 20157.1 | 20535.8 | 20351.7 | 19007.2 |
| 65° | 2640.3 | 2662.9 | 2792.0 | 3092.7 | 4084.1 | 5476.2 | 11465.1 | 19989.1 | 20665.3 | 20553.7 | 19255.9 |
| 67.5° | 2383.8 | 2414.3 | 2530.8 | 2790.0 | 3632.0 | 4904.9 | 10121.6 | 19563.0 | 20113.1 | 19941.8 | 18719.7 |
| 70° | 2047.0 | 2096.6 | 2228.7 | 2453.4 | 3103.9 | 4168.6 | 8074.3 | 18162.5 | 18816.0 | 18620.3 | 17287.7 |
| 72.5° | 1613.8 | 1624.6 | 1720.2 | 1907.1 | 2458.2 | 3316.1 | 5449.2 | 15368.4 | 17075.1 | 17019.7 | 15292.4 |
| 75° | 1203.2 | 1240.1 | 1393.5 | 1537.4 | 1795.9 | 2379.1 | 3312.4 | 11201.2 | 14742.0 | 14742.0 | 12887.9 |
| 77.5° | 981.9 | 1001.2 | 1103.2 | 1224.2 | 1400.6 | 1669.5 | 2105.8 | 6329.1 | 10161.1 | 11191.7 | 9687.1 |
| 80° | 767.4 | 760.6 | 767.7 | 822.1 | 988.7 | 1103.9 | 1399.9 | 3252.9 | 5249.5 | 5967.2 | 6345.6 |
| 82.5° | 420.3 | 420.7 | 466.6 | 439.9 | 545.4 | 620.4 | 849.1 | 1829.7 | 2743.0 | 3045.8 | 3399.6 |
| 85° | 212.9 | 207.8 | 231.5 | 215.9 | 252.4 | 283.2 | 385.5 | 908.9 | 1399.9 | 1517.5 | 1602.0 |
| 87.5° | 76.0 | 72.3 | 83.1 | 99.7 | 93.3 | 99.0 | 133.1 | 326.7 | 541.0 | 578.8 | 567.3 |
| 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° | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 | 5572.5 |
| 2.5° | 5584.7 | 5552.3 | 5513.1 | 5480.3 | 5411.0 | 5374.9 | 5346.2 | 5354.3 | 5323.2 | 5278.2 | 5277.6 |
| 5° | 5581.0 | 5519.2 | 5435.0 | 5365.4 | 5253.9 | 5196.5 | 5142.4 | 5128.2 | 5081.9 | 5037.3 | 5035.0 |
| 7.5° | 5593.8 | 5511.7 | 5375.2 | 5264.0 | 5118.8 | 5029.2 | 4945.4 | 4912.6 | 4858.2 | 4811.3 | 4808.9 |
| 10° | 5629.3 | 5520.8 | 5334.0 | 5179.9 | 4998.1 | 4875.5 | 4767.0 | 4701.1 | 4638.3 | 4590.0 | 4589.3 |
| 12.5° | 5692.8 | 5547.9 | 5297.8 | 5096.8 | 4880.9 | 4718.4 | 4579.8 | 4494.7 | 4406.8 | 4371.0 | 4369.0 |
| 15° | 5782.4 | 5587.4 | 5250.9 | 4986.3 | 4736.6 | 4551.4 | 4380.1 | 4267.6 | 4170.3 | 4135.8 | 4143.3 |
| 17.5° | 5897.3 | 5652.0 | 5213.0 | 4864.3 | 4577.4 | 4354.1 | 4176.0 | 4062.8 | 3919.6 | 3887.8 | 3896.6 |
| 20° | 6039.9 | 5751.6 | 5204.9 | 4752.8 | 4403.1 | 4137.2 | 3918.6 | 3838.5 | 3657.0 | 3614.5 | 3608.7 |
| 22.5° | 6224.3 | 5869.2 | 5201.5 | 4633.5 | 4198.7 | 3887.8 | 3628.6 | 3526.9 | 3374.5 | 3302.9 | 3286.7 |
| 25° | 6452.8 | 6005.4 | 5195.8 | 4514.3 | 3970.9 | 3603.6 | 3288.4 | 3145.5 | 3050.2 | 2941.7 | 2939.3 |
| 27.5° | 6753.5 | 6188.2 | 5209.3 | 4396.0 | 3722.6 | 3272.2 | 2923.1 | 2749.8 | 2695.0 | 2624.8 | 2588.3 |
| 30° | 7271.8 | 6513.9 | 5246.1 | 4253.1 | 3450.9 | 2890.7 | 2523.1 | 2391.6 | 2324.4 | 2253.1 | 2240.9 |
| 32.5° | 8141.9 | 7218.8 | 5360.0 | 4098.3 | 3148.5 | 2478.1 | 2195.6 | 2058.1 | 1946.6 | 1909.8 | 1900.0 |
| 35° | 9231.6 | 8055.7 | 5652.6 | 3932.7 | 2821.4 | 2151.4 | 1926.0 | 1744.5 | 1638.1 | 1629.3 | 1628.6 |
| 37.5° | 10210.5 | 8948.4 | 6034.1 | 3728.7 | 2460.9 | 1918.2 | 1658.4 | 1501.9 | 1421.9 | 1430.0 | 1451.3 |
| 40° | 11157.3 | 9740.5 | 6438.6 | 3525.2 | 2110.8 | 1671.6 | 1398.5 | 1323.5 | 1287.7 | 1316.8 | 1331.0 |
| 42.5° | 12046.6 | 10463.9 | 6729.8 | 3249.2 | 1807.7 | 1406.7 | 1219.5 | 1263.7 | 1276.6 | 1300.6 | 1310.4 |
| 45° | 12877.8 | 11205.2 | 6946.4 | 2916.7 | 1535.1 | 1219.8 | 1193.8 | 1270.1 | 1306.6 | 1325.2 | 1324.2 |
| 47.5° | 13682.0 | 11913.8 | 7011.3 | 2477.1 | 1324.2 | 1199.2 | 1217.4 | 1261.0 | 1318.1 | 1352.3 | 1349.9 |
| 50° | 14484.5 | 12558.5 | 6956.9 | 2030.4 | 1281.6 | 1239.1 | 1240.1 | 1233.0 | 1299.5 | 1327.2 | 1316.8 |
| 52.5° | 15203.9 | 13160.6 | 6649.4 | 1699.3 | 1310.0 | 1281.0 | 1266.8 | 1230.9 | 1249.9 | 1269.1 | 1259.7 |
| 55° | 15850.6 | 13663.1 | 6167.2 | 1536.1 | 1334.3 | 1308.0 | 1326.9 | 1257.3 | 1219.8 | 1203.6 | 1206.6 |
| 57.5° | 16452.4 | 14050.6 | 5613.1 | 1434.7 | 1329.3 | 1301.6 | 1350.9 | 1250.2 | 1195.5 | 1127.2 | 1114.0 |
| 60° | 17023.1 | 14305.1 | 4989.0 | 1347.2 | 1305.3 | 1292.1 | 1298.9 | 1250.5 | 1172.8 | 1084.3 | 1062.7 |
| 62.5° | 17426.5 | 14318.6 | 4272.7 | 1269.1 | 1259.0 | 1277.6 | 1258.0 | 1240.7 | 1178.9 | 1111.7 | 1098.2 |
| 65° | 17418.4 | 13897.9 | 3564.1 | 1179.6 | 1201.2 | 1238.7 | 1204.9 | 1147.8 | 1054.2 | 1034.3 | 1027.5 |
| 67.5° | 16662.6 | 12833.2 | 2876.8 | 1046.8 | 1107.6 | 1186.3 | 1128.9 | 1036.0 | 955.2 | 931.6 | 936.0 |
| 70° | 15019.0 | 11327.9 | 2124.7 | 848.5 | 967.1 | 1097.1 | 1061.3 | 957.9 | 869.4 | 850.8 | 870.8 |
| 72.5° | 13071.1 | 9731.0 | 1510.4 | 672.7 | 803.2 | 970.8 | 956.6 | 867.4 | 789.7 | 797.4 | 815.3 |
| 75° | 10912.6 | 7746.2 | 1108.0 | 578.8 | 630.5 | 827.5 | 863.3 | 806.2 | 756.9 | 781.5 | 780.9 |
| 77.5° | 8133.1 | 5720.5 | 843.7 | 485.6 | 522.0 | 644.0 | 760.9 | 739.3 | 873.8 | 1062.0 | 1068.1 |
| 80° | 5344.5 | 3714.1 | 569.4 | 398.7 | 427.1 | 483.2 | 621.0 | 712.3 | 894.7 | 775.5 | 766.0 |
| 82.5° | 2961.3 | 1971.3 | 353.1 | 310.2 | 320.7 | 350.4 | 450.1 | 743.7 | 657.2 | 609.9 | 612.3 |
| 85° | 1313.1 | 763.3 | 208.5 | 208.1 | 208.8 | 212.5 | 288.9 | 563.9 | 462.2 | 447.7 | 455.1 |
| 87.5° | 454.8 | 201.0 | 65.6 | 52.0 | 58.8 | 73.7 | 150.4 | 344.0 | 241.3 | 200.0 | 200.7 |
| 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)