

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: P591196

Luminaire Tested: **CTN-CA10-210-727-U-T2-SSS-HM-EX90**

Issue Date: 1/19/2022

Test Information

Test Method: LM-79-08
Report Number: P591196
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/19/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA10-210-727-U-T2-SSS-HM-EX90
Description: CELESTEON HIGH MAST LUMINAIRE, 90D FIELD INSTALLED SHIELD ON STREET SIDE
Light Source: (10) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21475 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

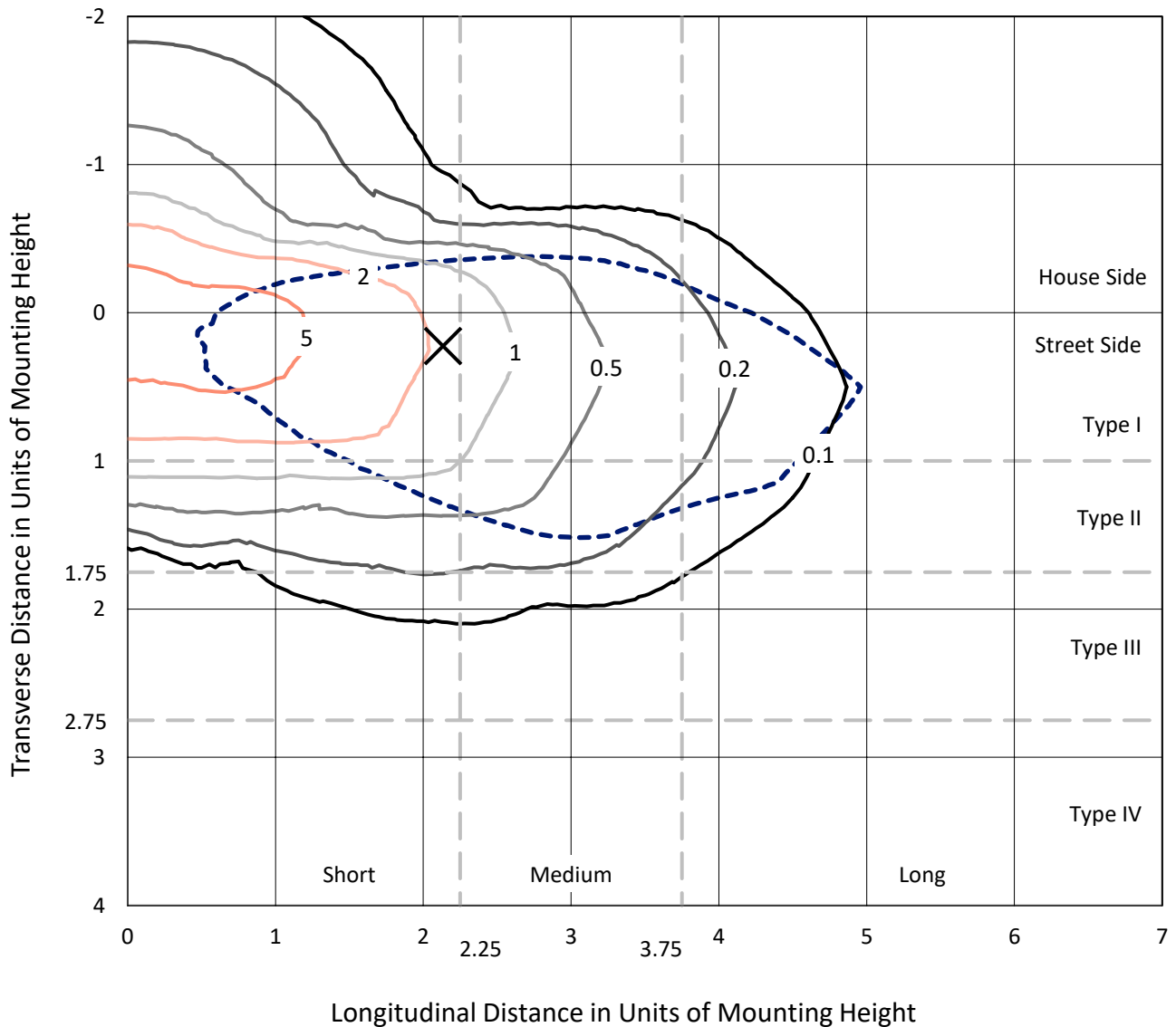
Input Watts (W): 212.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

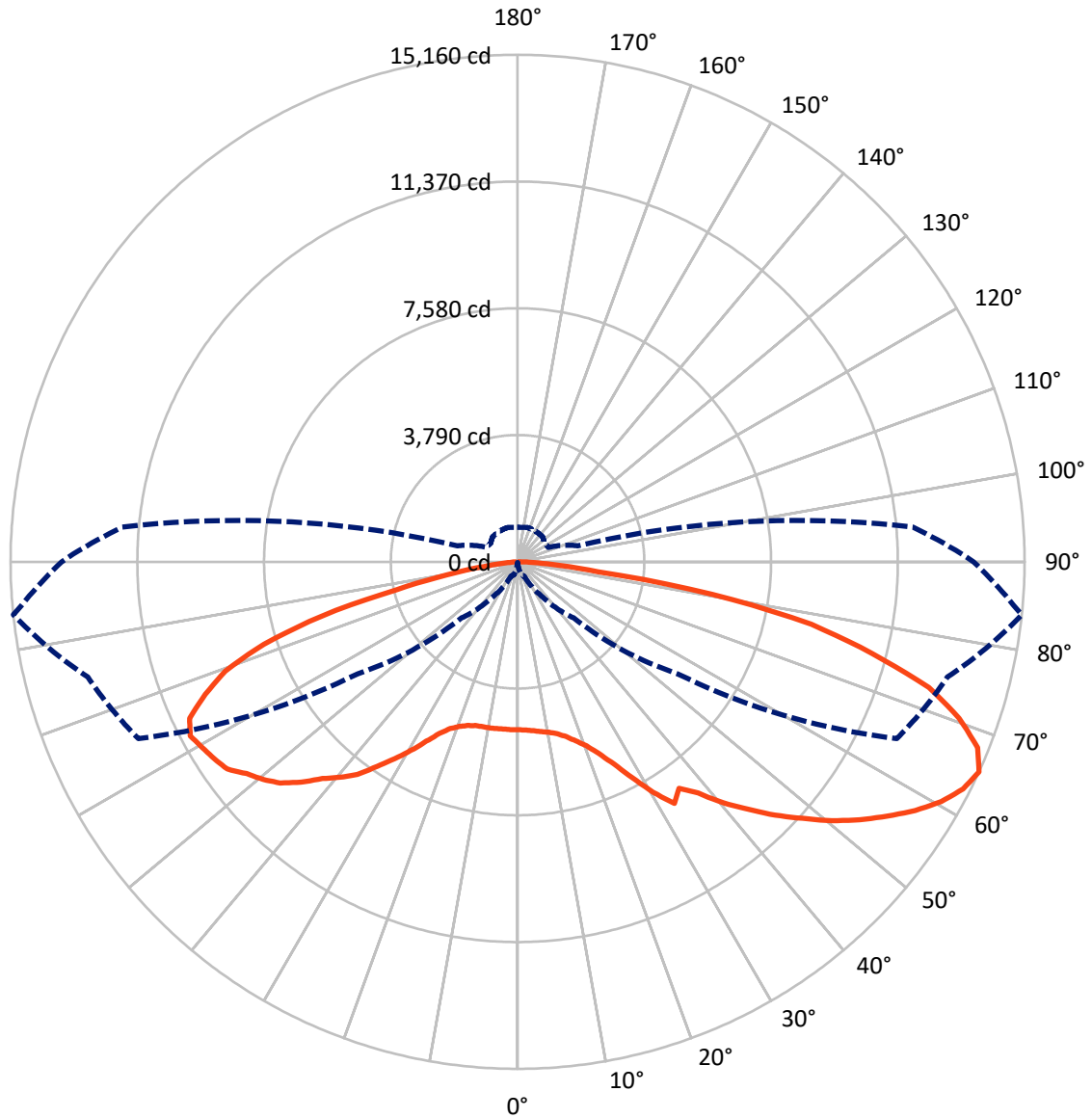
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.3 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 84-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical



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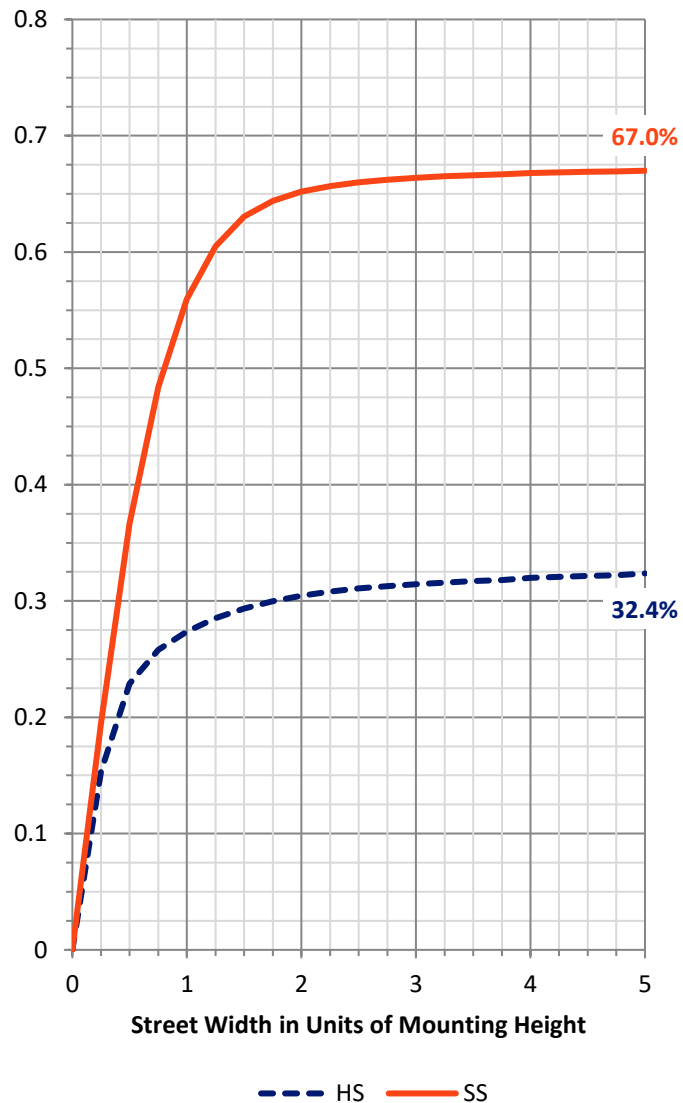
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 7109.3 | 0.0 | 7109.3 |
| | % Fixture | 33.1 | 0.0 | 33.1 |
| Street Side | Lumens | 14365.7 | 0.0 | 14365.7 |
| | % Fixture | 66.9 | 0.0 | 66.9 |
| Total | Lumens | 21475.0 | 0.0 | 21475.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 484.6 | 2.3 |
| 10°-20° | 1442.6 | 6.7 |
| 20°-30° | 2167.4 | 10.1 |
| 30°-40° | 2882.2 | 13.4 |
| 40°-50° | 3558.7 | 16.6 |
| 50°-60° | 3999.0 | 18.6 |
| 60°-70° | 3922.1 | 18.3 |
| 70°-80° | 2550.3 | 11.9 |
| 80°-90° | 468.0 | 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° | 21475.0 | 100.0 |
| 0°-180° | 21475.0 | 100.0 |

Coefficient of Utilization

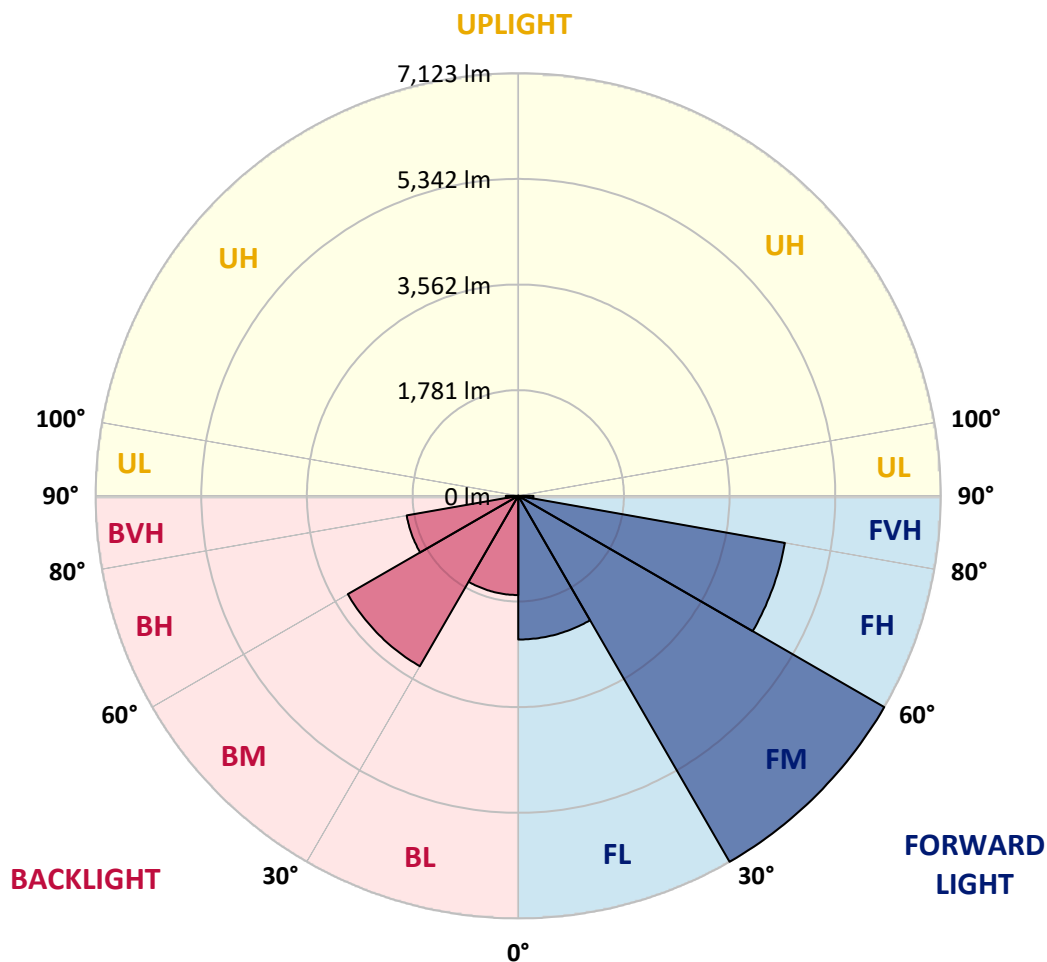


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2422.3 | 11.3 | | | |
| FM (30°-60°) | 7123.2 | 33.2 | | | |
| FH (60°-80°) | 4563.1 | 21.2 | | | G2/5000 |
| FVH (80°-90°) | 257.1 | 1.2 | | | G3/500 |
| BL (0°-30°) | 1672.4 | 7.8 | B3/2500 | | |
| BM (30°-60°) | 3316.8 | 15.4 | B3/5000 | | |
| BH (60°-80°) | 1909.2 | 8.9 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 210.9 | 1.0 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 84° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0° | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 |
| 2.5° | 5235.8 | 5186.5 | 5191.9 | 5215.7 | 5124.3 | 5154.5 | 5103.3 | 5112.5 | 5051.3 | 5040.3 | 5046.7 |
| 5° | 5603.9 | 5550.9 | 5550.9 | 5565.5 | 5412.1 | 5371.0 | 5228.5 | 5204.7 | 5114.3 | 5074.1 | 5075.9 |
| 7.5° | 5793.9 | 5741.8 | 5731.8 | 5745.5 | 5635.0 | 5644.1 | 5497.9 | 5358.2 | 5197.4 | 5126.2 | 5122.5 |
| 10° | 6073.4 | 6014.9 | 5980.2 | 5981.1 | 5832.3 | 5775.6 | 5667.8 | 5570.1 | 5324.4 | 5185.5 | 5168.2 |
| 12.5° | 6299.0 | 6254.3 | 6236.0 | 6222.3 | 6057.9 | 6020.4 | 5817.6 | 5738.2 | 5476.0 | 5276.0 | 5253.1 |
| 15° | 6429.6 | 6387.6 | 6361.1 | 6330.1 | 6238.7 | 6177.5 | 6089.8 | 5909.0 | 5656.0 | 5421.2 | 5392.9 |
| 17.5° | 6088.9 | 6016.8 | 5891.6 | 5836.8 | 5815.8 | 5904.4 | 6281.7 | 6189.4 | 5888.0 | 5627.6 | 5597.5 |
| 20° | 5190.1 | 5255.9 | 5350.9 | 5135.3 | 5202.0 | 5860.6 | 6568.5 | 6560.3 | 6212.2 | 5875.2 | 5835.9 |
| 22.5° | 4415.5 | 4242.0 | 4541.6 | 4870.4 | 5080.5 | 5701.6 | 6679.9 | 6988.7 | 6651.6 | 6223.2 | 6177.5 |
| 25° | 3619.9 | 3718.6 | 4122.3 | 4784.6 | 5078.7 | 5581.1 | 6618.7 | 7317.5 | 7213.4 | 6697.3 | 6643.4 |
| 27.5° | 3512.1 | 3514.0 | 3902.2 | 4409.1 | 5179.2 | 5860.6 | 6685.4 | 7330.3 | 7848.2 | 7310.2 | 7206.1 |
| 30° | 3489.3 | 3478.3 | 3583.4 | 4199.0 | 5001.9 | 6121.8 | 7114.7 | 7444.5 | 8002.6 | 7995.3 | 7856.4 |
| 32.5° | 3382.4 | 3376.0 | 3485.7 | 3765.2 | 4622.9 | 6398.6 | 7521.2 | 7977.0 | 7946.8 | 8612.7 | 8575.3 |
| 35° | 3229.9 | 3252.7 | 3388.8 | 3679.3 | 4444.8 | 6168.4 | 7938.6 | 8587.2 | 8638.3 | 8313.1 | 8462.0 |
| 37.5° | 3071.0 | 3083.7 | 3215.3 | 3566.0 | 4147.0 | 5765.6 | 8256.5 | 9185.5 | 9360.8 | 8773.5 | 8654.8 |
| 40° | 2854.5 | 2881.0 | 3035.3 | 3429.9 | 4086.7 | 5392.0 | 8031.8 | 9866.9 | 10140.0 | 9475.9 | 9293.2 |
| 42.5° | 2625.2 | 2638.0 | 2826.2 | 3208.9 | 3986.2 | 5397.5 | 7570.5 | 10455.1 | 10858.0 | 10117.2 | 9931.7 |
| 45° | 2424.2 | 2427.9 | 2604.2 | 2946.7 | 3788.0 | 5363.7 | 7279.1 | 10478.9 | 11717.5 | 10804.1 | 10571.1 |
| 47.5° | 2178.5 | 2213.2 | 2387.7 | 2729.3 | 3535.0 | 5250.4 | 7415.2 | 9741.7 | 12579.8 | 11459.0 | 11246.2 |
| 50° | 1670.7 | 1698.1 | 2036.0 | 2516.5 | 3258.2 | 5061.3 | 7508.4 | 10335.5 | 11618.8 | 12169.6 | 12017.1 |
| 52.5° | 1436.8 | 1390.2 | 1633.2 | 2277.2 | 3005.2 | 4746.2 | 7547.7 | 11168.5 | 11617.0 | 12812.7 | 12660.2 |
| 55° | 614.7 | 942.7 | 1471.5 | 1869.8 | 2774.1 | 4326.0 | 7519.4 | 11983.3 | 12183.3 | 13419.2 | 13366.2 |
| 57.5° | 485.9 | 508.8 | 1081.5 | 1512.6 | 2500.1 | 3829.1 | 7391.5 | 12522.2 | 12680.2 | 14026.6 | 13875.9 |
| 60° | 89.5 | 101.4 | 531.6 | 639.4 | 1810.4 | 3087.4 | 6925.6 | 12599.0 | 13042.9 | 14555.5 | 14362.8 |
| 62.5° | 41.1 | 48.4 | 427.5 | 532.5 | 1447.8 | 2539.3 | 6526.5 | 12574.3 | 13378.1 | 14948.3 | 14778.4 |
| 65° | 19.2 | 24.7 | 382.7 | 483.2 | 1253.2 | 2369.4 | 5835.0 | 12507.6 | 13304.1 | 15160.2 | 14884.4 |
| 67.5° | 14.6 | 21.0 | 351.7 | 433.9 | 1042.2 | 2200.5 | 5178.2 | 11807.9 | 12947.9 | 14832.3 | 14449.6 |
| 70° | 14.6 | 21.0 | 321.5 | 394.6 | 884.2 | 1985.8 | 4203.6 | 10931.9 | 12134.9 | 14003.8 | 13685.0 |
| 72.5° | 15.5 | 21.0 | 285.9 | 357.2 | 766.4 | 1714.5 | 3283.8 | 9533.5 | 11160.3 | 12860.2 | 12525.0 |
| 75° | 15.5 | 21.0 | 246.6 | 316.0 | 645.8 | 1435.9 | 2198.6 | 6814.2 | 9612.9 | 10945.6 | 10573.0 |
| 77.5° | 15.5 | 21.0 | 204.6 | 264.0 | 526.1 | 1147.3 | 1422.2 | 3673.8 | 7563.2 | 8976.3 | 8498.6 |
| 80° | 15.5 | 21.0 | 152.5 | 200.0 | 395.5 | 809.3 | 849.5 | 1852.4 | 4069.3 | 5897.1 | 5980.2 |
| 82.5° | 15.5 | 20.1 | 106.0 | 146.1 | 258.5 | 443.9 | 469.5 | 894.2 | 1501.7 | 2418.8 | 2452.6 |
| 85° | 14.6 | 17.4 | 75.8 | 96.8 | 141.6 | 167.2 | 228.4 | 444.8 | 719.8 | 1032.2 | 1024.0 |
| 87.5° | 9.1 | 9.1 | 24.7 | 38.4 | 57.5 | 65.8 | 102.3 | 164.4 | 248.5 | 340.7 | 321.5 |
| 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° | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 | 5020.2 |
| 2.5° | 5045.8 | 5024.8 | 4998.3 | 4991.0 | 4928.9 | 4899.6 | 4840.3 | 4866.8 | 4836.6 | 4812.0 | 4840.3 |
| 5° | 5053.1 | 5022.0 | 4966.3 | 4900.6 | 4768.1 | 4707.8 | 4623.8 | 4632.9 | 4589.1 | 4555.3 | 4574.5 |
| 7.5° | 5071.4 | 5033.0 | 4945.3 | 4797.3 | 4639.3 | 4544.3 | 4456.6 | 4525.1 | 4495.0 | 4469.4 | 4488.6 |
| 10° | 5080.5 | 5050.4 | 4895.1 | 4738.9 | 4511.4 | 4459.4 | 4349.8 | 4341.5 | 4344.3 | 4341.5 | 4371.7 |
| 12.5° | 5105.2 | 5062.2 | 4836.6 | 4637.5 | 4443.8 | 4305.9 | 4238.3 | 4237.4 | 4150.6 | 4113.2 | 4129.6 |
| 15° | 5178.2 | 5085.1 | 4797.3 | 4516.9 | 4303.2 | 4211.8 | 3998.1 | 3999.0 | 3962.5 | 3919.5 | 3918.6 |
| 17.5° | 5324.4 | 5153.6 | 4797.3 | 4435.6 | 4173.5 | 3989.0 | 3802.6 | 3701.2 | 3676.6 | 3682.0 | 3678.4 |
| 20° | 5517.1 | 5268.7 | 4795.5 | 4316.0 | 3990.8 | 3799.9 | 3531.3 | 3445.5 | 3367.8 | 3373.3 | 3373.3 |
| 22.5° | 5793.9 | 5438.6 | 4799.2 | 4206.3 | 3816.3 | 3556.9 | 3254.6 | 3145.9 | 3062.7 | 3065.5 | 3065.5 |
| 25° | 6191.2 | 5730.0 | 4842.1 | 4139.7 | 3582.5 | 3271.0 | 2965.9 | 2796.9 | 2712.0 | 2712.9 | 2714.7 |
| 27.5° | 6697.3 | 6136.4 | 4991.0 | 3998.1 | 3387.9 | 2933.0 | 2598.7 | 2474.5 | 2389.5 | 2367.6 | 2367.6 |
| 30° | 7270.0 | 6624.2 | 5183.7 | 3905.8 | 3086.5 | 2552.1 | 2274.4 | 2182.2 | 2079.9 | 2049.7 | 2049.7 |
| 32.5° | 7904.8 | 7113.8 | 5382.8 | 3792.6 | 2802.4 | 2225.1 | 1994.0 | 1909.1 | 1781.2 | 1743.7 | 1731.0 |
| 35° | 8565.2 | 7619.8 | 5624.9 | 3633.6 | 2445.3 | 1955.7 | 1751.0 | 1647.8 | 1555.6 | 1506.2 | 1494.4 |
| 37.5° | 8921.5 | 8196.2 | 5843.2 | 3472.9 | 2169.4 | 1742.8 | 1514.5 | 1434.1 | 1372.9 | 1338.2 | 1331.8 |
| 40° | 9411.1 | 8615.5 | 5956.5 | 3207.1 | 1872.5 | 1526.3 | 1296.2 | 1292.5 | 1300.7 | 1269.7 | 1267.8 |
| 42.5° | 9909.8 | 9029.3 | 5925.4 | 2850.8 | 1641.4 | 1305.3 | 1186.5 | 1249.6 | 1295.2 | 1267.8 | 1269.7 |
| 45° | 10533.7 | 9586.5 | 6038.7 | 2476.3 | 1413.1 | 1182.9 | 1163.7 | 1237.7 | 1300.7 | 1294.3 | 1294.3 |
| 47.5° | 11164.9 | 10125.4 | 5829.5 | 2017.8 | 1259.6 | 1147.3 | 1166.5 | 1218.5 | 1297.1 | 1318.1 | 1313.5 |
| 50° | 11679.1 | 10494.4 | 5700.7 | 1628.6 | 1172.8 | 1148.2 | 1175.6 | 1194.8 | 1280.6 | 1314.4 | 1313.5 |
| 52.5° | 12094.7 | 10846.1 | 5220.3 | 1374.7 | 1123.5 | 1151.8 | 1204.8 | 1191.1 | 1251.4 | 1287.0 | 1308.0 |
| 55° | 12683.0 | 11332.9 | 4673.1 | 1277.0 | 1097.9 | 1148.2 | 1214.9 | 1203.9 | 1228.6 | 1245.0 | 1260.5 |
| 57.5° | 13137.9 | 11575.0 | 3940.5 | 1213.9 | 1075.1 | 1142.7 | 1206.6 | 1207.6 | 1219.4 | 1213.0 | 1206.6 |
| 60° | 13519.7 | 11796.0 | 3223.5 | 1152.7 | 1045.9 | 1130.8 | 1171.9 | 1184.7 | 1181.1 | 1172.8 | 1156.4 |
| 62.5° | 13706.0 | 12035.4 | 2503.7 | 1087.9 | 1014.8 | 1096.1 | 1115.3 | 1129.9 | 1121.7 | 1094.3 | 1092.5 |
| 65° | 13635.7 | 11863.6 | 1856.1 | 1017.6 | 977.4 | 1057.8 | 1056.8 | 1063.2 | 1066.9 | 1032.2 | 1035.8 |
| 67.5° | 13241.1 | 11109.1 | 1414.0 | 928.0 | 934.4 | 1002.9 | 998.4 | 1002.0 | 992.0 | 968.2 | 971.9 |
| 70° | 12093.8 | 10252.3 | 1002.9 | 777.3 | 846.8 | 917.1 | 923.5 | 939.0 | 916.2 | 874.2 | 876.9 |
| 72.5° | 10397.6 | 8779.9 | 703.3 | 619.3 | 743.5 | 833.0 | 829.4 | 828.5 | 797.4 | 813.9 | 834.0 |
| 75° | 8868.5 | 6723.8 | 534.4 | 498.7 | 587.3 | 717.0 | 758.1 | 760.9 | 765.5 | 929.9 | 941.7 |
| 77.5° | 6827.0 | 4067.5 | 454.9 | 393.7 | 455.8 | 594.6 | 671.4 | 702.4 | 964.6 | 999.3 | 981.0 |
| 80° | 4068.4 | 2349.3 | 351.7 | 306.9 | 368.1 | 454.0 | 573.6 | 741.7 | 969.2 | 865.9 | 828.5 |
| 82.5° | 1980.3 | 1089.7 | 255.8 | 233.8 | 271.3 | 329.7 | 450.3 | 864.1 | 820.3 | 669.5 | 660.4 |
| 85° | 739.0 | 368.1 | 153.5 | 159.9 | 180.9 | 216.5 | 342.5 | 824.8 | 629.4 | 545.3 | 515.2 |
| 87.5° | 184.5 | 67.6 | 62.1 | 63.9 | 81.3 | 108.7 | 175.4 | 397.3 | 305.1 | 253.0 | 247.5 |
| 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)