

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: P591204

Luminaire Tested: **CTN-CA10-310-727-U-T1-SSS-HM-EX180**

Issue Date: 1/19/2022

Test Information

Test Method: LM-79-08
Report Number: P591204
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/19/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA10-310-727-U-T1-SSS-HM-EX180
Description: CELESTEON HIGH MAST LUMINAIRE, 180D 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: 26075 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')
IES Classification: Type I - Short
BUG Rating: B4 - U0 - G4

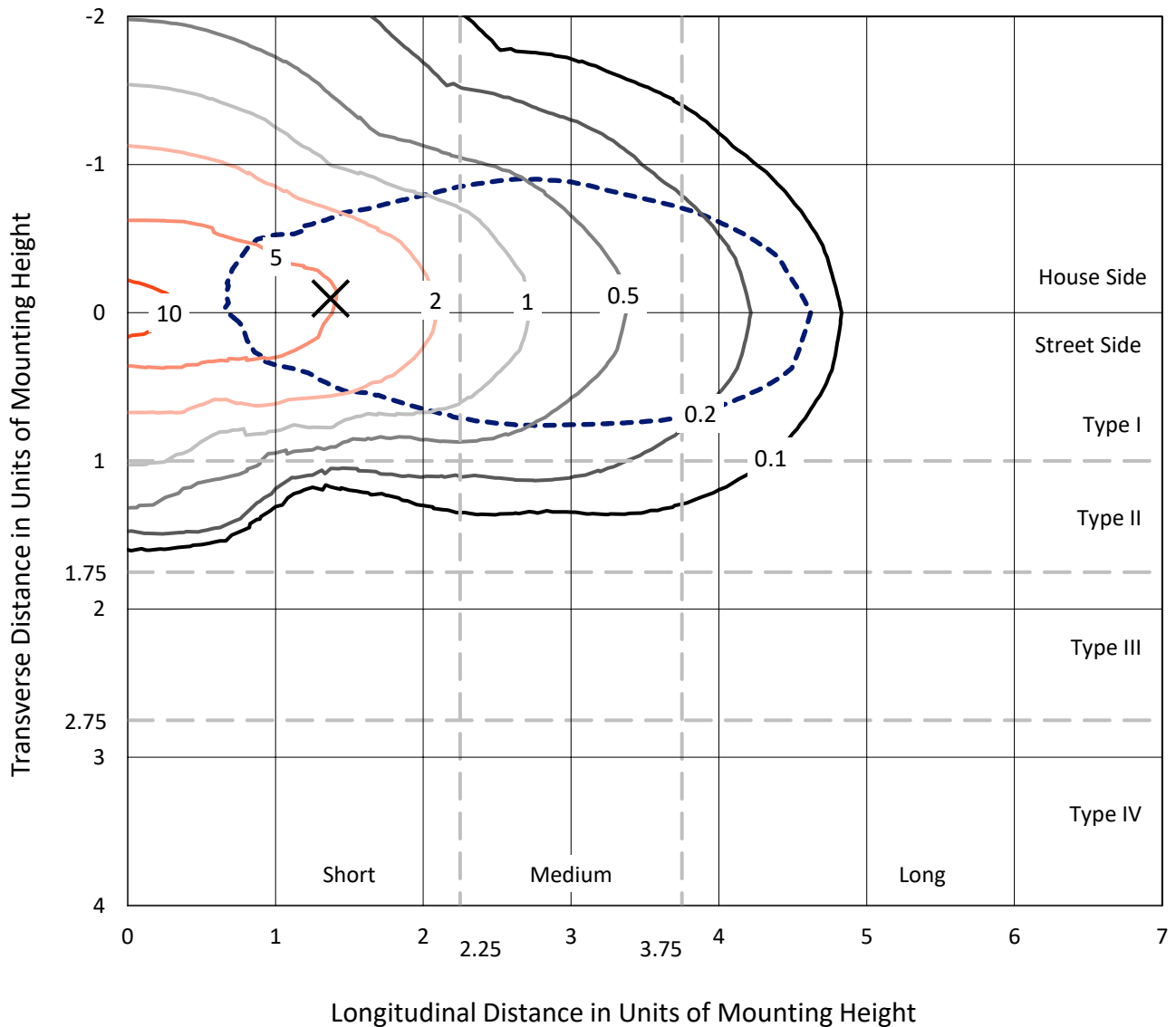
Input Watts (W): 312.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

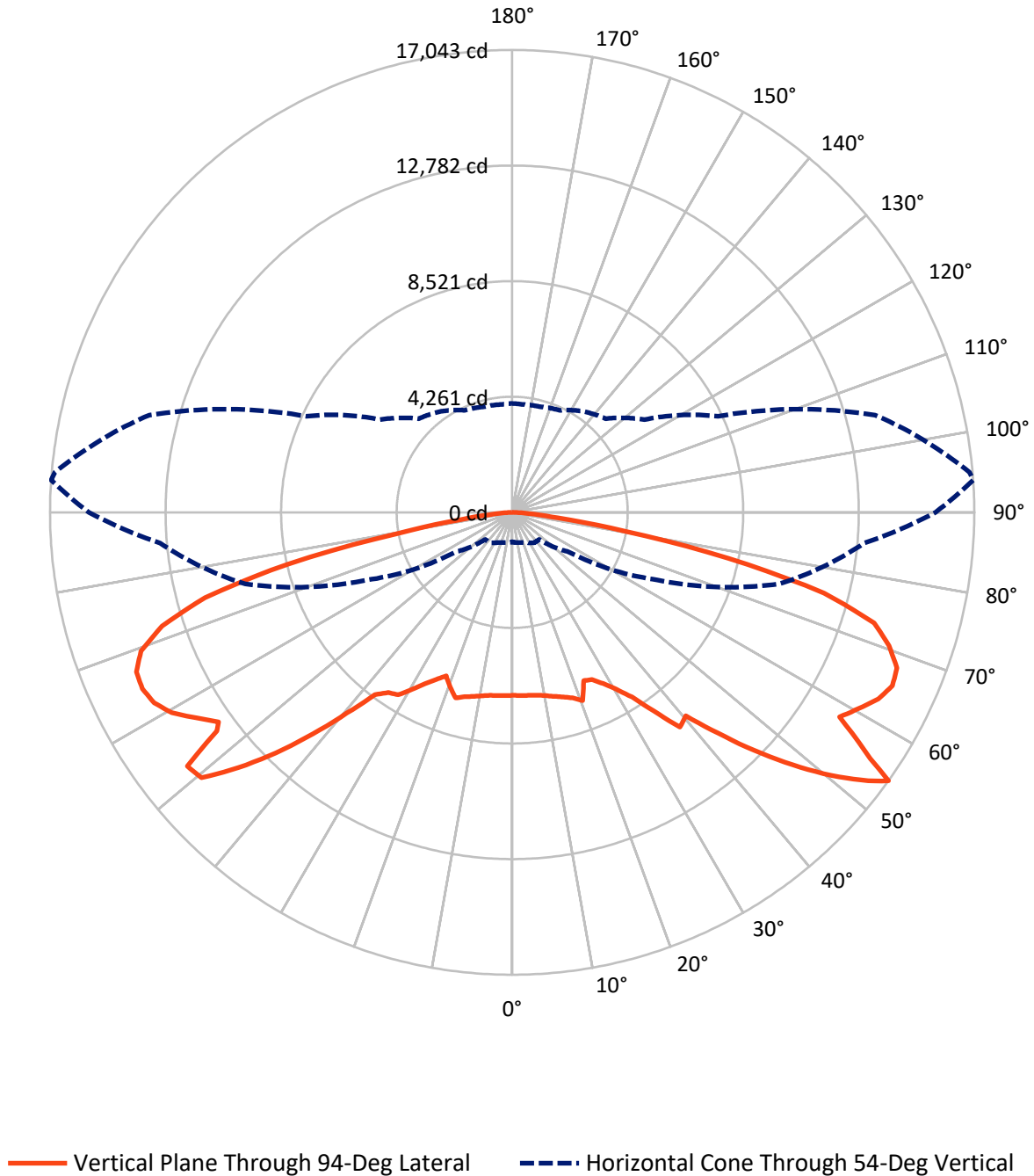
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.8 fc
 Type I - Short - N/A

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Luminous Intensity Polar Plot



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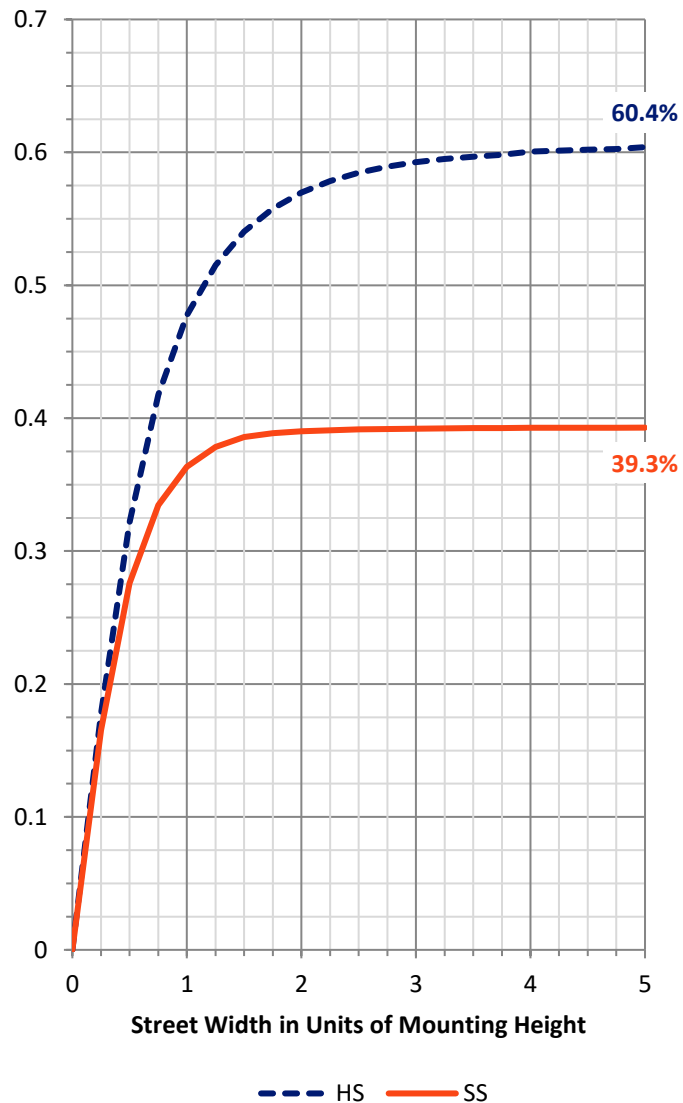
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 15881.8 | 0.0 | 15881.8 |
| | % Fixture | 60.9 | 0.0 | 60.9 |
| Street Side | Lumens | 10193.2 | 0.0 | 10193.2 |
| | % Fixture | 39.1 | 0.0 | 39.1 |
| Total | Lumens | 26075.0 | 0.0 | 26075.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 643.4 | 2.5 |
| 10°-20° | 1841.1 | 7.1 |
| 20°-30° | 2629.6 | 10.1 |
| 30°-40° | 3479.3 | 13.3 |
| 40°-50° | 4580.2 | 17.6 |
| 50°-60° | 5053.3 | 19.4 |
| 60°-70° | 4553.4 | 17.5 |
| 70°-80° | 2879.7 | 11.0 |
| 80°-90° | 415.0 | 1.6 |
| 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° | 26075.0 | 100.0 |
| 0°-180° | 26075.0 | 100.0 |

Coefficient of Utilization



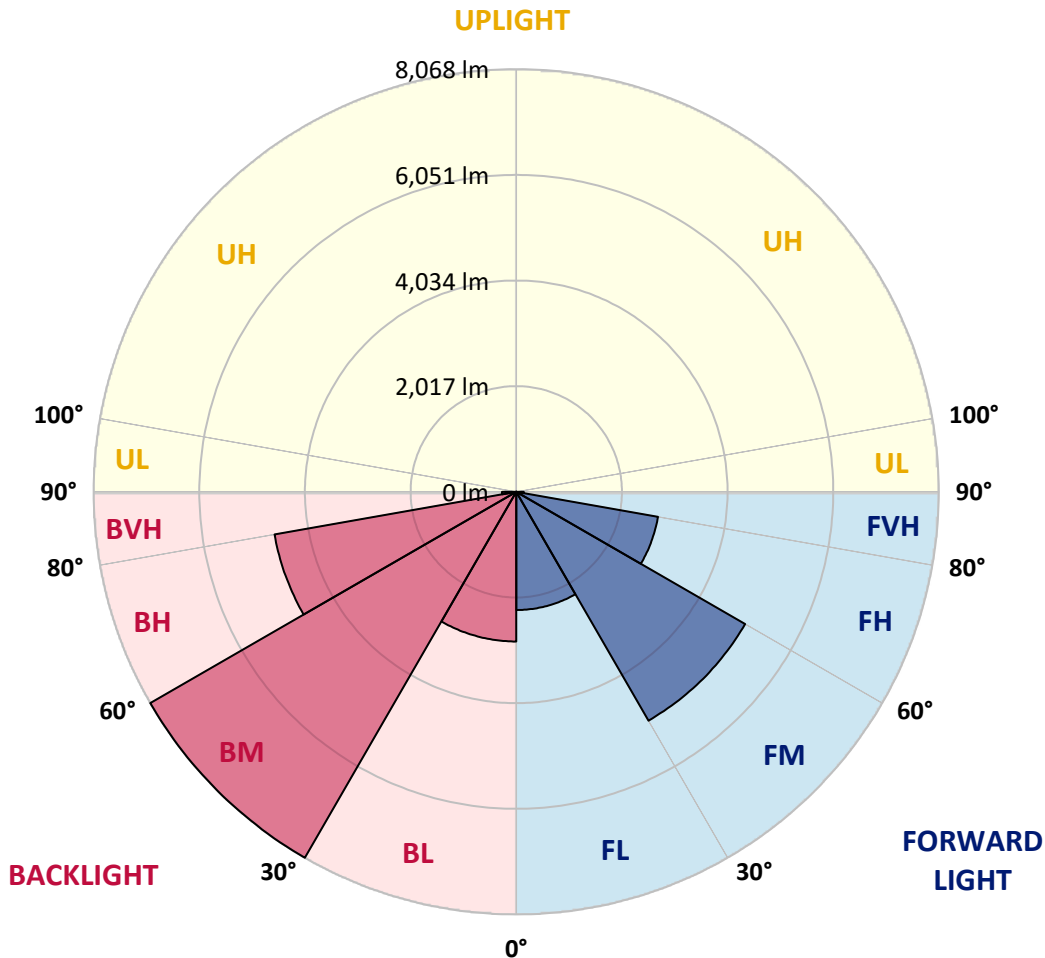
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2256.6 | 8.7 | | | |
| FM (30°-60°) | 5045.3 | 19.3 | | | |
| FH (60°-80°) | 2747.6 | 10.5 | | | G2/5000 |
| FVH (80°-90°) | 143.7 | 0.6 | | | G2/225 |
| BL (0°-30°) | 2857.6 | 11.0 | B4/5000 | | |
| BM (30°-60°) | 8067.5 | 30.9 | B4/8500 | | |
| BH (60°-80°) | 4685.5 | 18.0 | B4/5000 | | G4/5000 |
| BVH (80°-90°) | 271.3 | 1.0 | | | G3/500 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G4

Type I Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0° | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 |
| 2.5° | 6755.0 | 6708.1 | 6714.4 | 6763.9 | 6658.6 | 6724.6 | 6694.1 | 6748.7 | 6727.1 | 6757.5 | 6780.4 |
| 5° | 6695.4 | 6651.0 | 6662.4 | 6723.3 | 6639.6 | 6714.4 | 6671.3 | 6724.6 | 6732.2 | 6769.0 | 6790.5 |
| 7.5° | 6646.0 | 6602.8 | 6610.4 | 6667.5 | 6614.3 | 6680.2 | 6654.8 | 6725.8 | 6727.1 | 6791.8 | 6808.3 |
| 10° | 6596.5 | 6552.1 | 6562.3 | 6611.7 | 6577.5 | 6648.5 | 6665.0 | 6748.7 | 6767.7 | 6857.7 | 6859.0 |
| 12.5° | 6491.3 | 6451.9 | 6457.0 | 6525.5 | 6526.8 | 6629.5 | 6662.4 | 6791.8 | 6831.1 | 6932.5 | 6942.7 |
| 15° | 6076.6 | 6104.5 | 6211.0 | 6297.2 | 6377.1 | 6515.3 | 6628.2 | 6840.0 | 6893.2 | 7016.2 | 7045.4 |
| 17.5° | 5072.3 | 5029.2 | 4797.1 | 4920.1 | 5304.3 | 5672.1 | 5867.4 | 6309.9 | 6805.7 | 7144.3 | 7182.3 |
| 20° | 3556.9 | 3625.4 | 3989.3 | 4156.7 | 4430.6 | 5096.4 | 5707.6 | 5962.5 | 6123.5 | 6736.0 | 7214.1 |
| 22.5° | 2821.5 | 2841.7 | 3362.9 | 3988.1 | 4193.5 | 4480.1 | 5205.4 | 6056.3 | 6308.6 | 6486.2 | 6564.8 |
| 25° | 2626.2 | 2641.4 | 2725.1 | 3543.0 | 4103.5 | 4407.8 | 4726.1 | 5833.1 | 6526.8 | 6747.4 | 6841.2 |
| 27.5° | 2462.6 | 2479.1 | 2561.5 | 2836.7 | 4021.0 | 4407.8 | 4769.2 | 5280.2 | 6738.5 | 7073.3 | 7153.2 |
| 30° | 2340.9 | 2340.9 | 2425.8 | 2660.4 | 3370.5 | 4421.8 | 4859.2 | 5342.4 | 6408.8 | 7484.1 | 7555.2 |
| 32.5° | 2229.3 | 2230.5 | 2323.1 | 2548.8 | 2920.4 | 4362.2 | 4986.1 | 5570.6 | 6152.7 | 7895.0 | 8078.9 |
| 35° | 2129.1 | 2132.9 | 2216.6 | 2444.8 | 2806.2 | 3516.4 | 5126.8 | 5863.6 | 6644.7 | 7849.4 | 8875.2 |
| 37.5° | 2044.1 | 2046.7 | 2118.9 | 2342.1 | 2709.9 | 2547.6 | 5218.1 | 6216.1 | 7305.4 | 8256.4 | 9041.3 |
| 40° | 1983.3 | 1979.5 | 2031.4 | 2234.3 | 2569.1 | 2328.2 | 4416.7 | 6582.6 | 8090.3 | 9530.8 | 9822.5 |
| 42.5° | 1922.4 | 1916.1 | 1968.0 | 2121.5 | 1757.5 | 2267.3 | 4092.1 | 6940.1 | 8994.4 | 10930.8 | 11190.7 |
| 45° | 1851.4 | 1853.9 | 1904.6 | 1903.4 | 1663.7 | 2186.2 | 4127.6 | 6112.1 | 9962.0 | 12362.4 | 12693.4 |
| 47.5° | 1813.3 | 1801.9 | 1827.3 | 1382.2 | 1586.4 | 2074.6 | 4112.4 | 5674.6 | 10815.4 | 13730.7 | 14059.1 |
| 50° | 1742.3 | 1739.8 | 1280.8 | 1309.9 | 1509.0 | 1946.5 | 3874.0 | 5831.9 | 9759.1 | 14998.7 | 15331.0 |
| 52.5° | 1635.8 | 1444.3 | 1188.2 | 1259.2 | 1431.7 | 1795.6 | 2766.9 | 5896.5 | 9732.4 | 14873.2 | 16516.6 |
| 54° | 1086.7 | 1113.4 | 1150.1 | 1223.7 | 1375.9 | 1411.4 | 2531.1 | 5891.5 | 10195.3 | 13029.4 | 15609.9 |
| 55° | 622.6 | 872.4 | 1119.7 | 1194.5 | 1336.5 | 987.8 | 2439.8 | 5864.8 | 10490.7 | 13109.3 | 14071.8 |
| 57.5° | 538.9 | 541.5 | 616.3 | 996.7 | 686.0 | 847.1 | 2181.1 | 5648.0 | 11043.6 | 13843.5 | 14118.7 |
| 60° | 46.9 | 45.7 | 52.0 | 71.0 | 90.0 | 197.8 | 1098.1 | 3622.9 | 10656.9 | 14473.8 | 14901.1 |
| 62.5° | 19.0 | 20.3 | 25.4 | 34.2 | 54.5 | 88.8 | 907.9 | 3210.8 | 10820.4 | 14858.0 | 15325.9 |
| 65° | 3.8 | 3.8 | 6.3 | 11.4 | 20.3 | 53.3 | 773.5 | 2859.5 | 10736.7 | 14983.5 | 15608.7 |
| 67.5° | 0.0 | 0.0 | 3.8 | 8.9 | 16.5 | 43.1 | 669.5 | 2631.2 | 10258.7 | 14940.4 | 15503.4 |
| 70° | 0.0 | 0.0 | 3.8 | 8.9 | 15.2 | 41.8 | 573.2 | 2428.4 | 9073.0 | 14489.0 | 15112.9 |
| 72.5° | 0.0 | 0.0 | 3.8 | 7.6 | 13.9 | 38.0 | 490.7 | 2144.3 | 7690.8 | 13402.2 | 14251.8 |
| 75° | 0.0 | 0.0 | 3.8 | 7.6 | 12.7 | 34.2 | 413.4 | 1840.0 | 6425.3 | 11550.8 | 12571.6 |
| 77.5° | 0.0 | 0.0 | 3.8 | 7.6 | 11.4 | 30.4 | 324.6 | 1469.7 | 5045.7 | 8375.6 | 8923.4 |
| 80° | 0.0 | 0.0 | 3.8 | 7.6 | 10.1 | 24.1 | 239.7 | 928.2 | 2798.6 | 4248.0 | 4473.8 |
| 82.5° | 0.0 | 0.0 | 2.5 | 6.3 | 8.9 | 15.2 | 114.1 | 351.3 | 1318.8 | 1945.2 | 1886.9 |
| 85° | 0.0 | 0.0 | 2.5 | 6.3 | 7.6 | 11.4 | 49.5 | 88.8 | 438.8 | 645.4 | 601.1 |
| 87.5° | 0.0 | 0.0 | 2.5 | 5.1 | 6.3 | 7.6 | 12.7 | 15.2 | 139.5 | 186.4 | 192.7 |
| 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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CATALOG NUMBER: CTN-CA10-310-727-U-T1-SSS-HM-EX180

CANDELA DISTRIBUTION (continued):

| | 94° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 | 6742.3 |
| 2.5° | 6765.2 | 6765.2 | 6763.9 | 6796.9 | 6755.0 | 6758.8 | 6719.5 | 6820.9 | 6809.5 | 6777.8 | 6815.9 |
| 5° | 6772.8 | 6779.1 | 6777.8 | 6794.3 | 6761.3 | 6781.6 | 6727.1 | 6827.3 | 6810.8 | 6785.4 | 6824.8 |
| 7.5° | 6804.5 | 6815.9 | 6807.0 | 6836.2 | 6770.2 | 6790.5 | 6734.7 | 6822.2 | 6805.7 | 6769.0 | 6810.8 |
| 10° | 6872.9 | 6884.4 | 6866.6 | 6880.5 | 6810.8 | 6800.7 | 6732.2 | 6823.5 | 6788.0 | 6760.1 | 6812.1 |
| 12.5° | 6961.7 | 6975.7 | 6940.1 | 6937.6 | 6848.8 | 6828.6 | 6729.6 | 6791.8 | 6739.8 | 6717.0 | 6763.9 |
| 15° | 7060.6 | 7077.1 | 7035.3 | 7026.4 | 6928.7 | 6861.5 | 6719.5 | 6733.5 | 6658.6 | 6628.2 | 6677.7 |
| 17.5° | 7190.0 | 7205.2 | 7173.5 | 7168.4 | 7041.6 | 6927.5 | 6705.6 | 6659.9 | 6554.7 | 6529.3 | 6555.9 |
| 20° | 7406.8 | 7416.9 | 7375.1 | 7337.1 | 7150.6 | 6963.0 | 6682.7 | 6563.5 | 6402.5 | 6349.2 | 6379.7 |
| 22.5° | 6741.1 | 6822.2 | 7645.2 | 7503.2 | 7231.8 | 6999.7 | 6625.7 | 6426.6 | 6200.9 | 6100.7 | 6121.0 |
| 25° | 6828.6 | 6836.2 | 7148.1 | 7699.7 | 7320.6 | 7023.8 | 6558.5 | 6256.7 | 5946.0 | 5800.2 | 5825.5 |
| 27.5° | 7145.6 | 7136.7 | 7013.7 | 7721.3 | 7425.8 | 7037.8 | 6474.8 | 6077.9 | 5693.6 | 5518.6 | 5525.0 |
| 30° | 7556.4 | 7542.5 | 7356.1 | 6980.7 | 7576.7 | 7042.9 | 6401.2 | 5872.4 | 5469.2 | 5282.8 | 5277.7 |
| 32.5° | 8118.2 | 8078.9 | 7789.8 | 7271.1 | 6938.9 | 7077.1 | 6297.2 | 5677.1 | 5254.9 | 5071.0 | 5057.1 |
| 35° | 8980.5 | 8908.2 | 8381.9 | 7640.1 | 6828.6 | 7077.1 | 6155.2 | 5466.6 | 5057.1 | 4882.1 | 4871.9 |
| 37.5° | 10049.5 | 10068.5 | 9139.0 | 8053.5 | 6998.5 | 6413.9 | 5985.3 | 5270.1 | 4885.9 | 4731.2 | 4731.2 |
| 40° | 9858.0 | 10110.3 | 10017.8 | 8477.0 | 7173.5 | 6307.4 | 5802.7 | 5081.2 | 4743.8 | 4625.9 | 4641.1 |
| 42.5° | 11122.2 | 11024.6 | 11037.3 | 8901.9 | 7296.5 | 6198.3 | 5604.9 | 4906.2 | 4618.3 | 4518.1 | 4529.5 |
| 45° | 12524.7 | 12414.4 | 10104.0 | 9282.3 | 7353.5 | 6036.0 | 5404.5 | 4726.1 | 4480.1 | 4396.4 | 4426.8 |
| 47.5° | 13909.5 | 13810.6 | 11095.6 | 9189.7 | 7300.3 | 5787.5 | 5157.2 | 4570.1 | 4334.3 | 4274.7 | 4320.3 |
| 50° | 15249.8 | 15110.3 | 12164.6 | 8214.6 | 7111.3 | 5443.8 | 4904.9 | 4406.5 | 4207.5 | 4172.0 | 4206.2 |
| 52.5° | 16445.6 | 16260.5 | 13247.5 | 8361.7 | 6212.3 | 5096.4 | 4680.4 | 4249.3 | 4092.1 | 4052.8 | 4087.0 |
| 54° | 17042.9 | 16930.0 | 13852.4 | 8378.1 | 5954.9 | 4880.8 | 4546.0 | 4149.1 | 4027.4 | 3994.4 | 4013.4 |
| 55° | 16025.9 | 16251.6 | 14211.3 | 8364.2 | 5768.5 | 4750.2 | 4457.3 | 4083.2 | 3981.7 | 3946.2 | 3965.3 |
| 57.5° | 14231.5 | 13988.1 | 13286.8 | 8193.0 | 5261.2 | 4423.0 | 4197.3 | 3915.8 | 3846.1 | 3800.4 | 3827.0 |
| 60° | 14683.0 | 14638.6 | 12129.1 | 7816.4 | 4707.1 | 4056.6 | 3941.2 | 3720.5 | 3673.6 | 3635.6 | 3671.1 |
| 62.5° | 15154.7 | 15125.5 | 12314.2 | 7231.8 | 4155.5 | 3696.4 | 3647.0 | 3492.3 | 3464.4 | 3447.9 | 3456.8 |
| 65° | 15409.6 | 15223.2 | 12309.2 | 6449.4 | 3649.5 | 3327.4 | 3319.8 | 3204.4 | 3217.1 | 3209.5 | 3246.3 |
| 67.5° | 15301.8 | 15102.7 | 11765.2 | 5885.1 | 3174.0 | 2906.4 | 2930.5 | 2882.3 | 2929.2 | 2943.2 | 2971.1 |
| 70° | 14738.8 | 14803.4 | 10579.5 | 5341.1 | 2701.0 | 2447.4 | 2523.5 | 2517.1 | 2585.6 | 2638.9 | 2683.2 |
| 72.5° | 13960.2 | 13711.6 | 8867.6 | 4539.7 | 1976.9 | 1741.1 | 1872.9 | 1961.7 | 2037.8 | 2101.2 | 2143.0 |
| 75° | 11881.8 | 11590.2 | 6547.0 | 3539.2 | 1431.7 | 1200.9 | 1236.4 | 1275.7 | 1325.1 | 1471.0 | 1557.2 |
| 77.5° | 8146.1 | 8024.3 | 4708.3 | 2669.3 | 911.7 | 724.1 | 862.3 | 940.9 | 982.8 | 976.4 | 991.6 |
| 80° | 4177.0 | 4155.5 | 2787.2 | 1596.5 | 615.0 | 530.1 | 627.7 | 635.3 | 702.5 | 754.5 | 757.0 |
| 82.5° | 1684.0 | 1767.7 | 1113.4 | 875.0 | 427.3 | 400.7 | 442.6 | 498.4 | 555.4 | 585.8 | 593.5 |
| 85° | 596.0 | 582.0 | 338.6 | 410.9 | 271.4 | 280.2 | 313.2 | 376.6 | 436.2 | 443.8 | 427.3 |
| 87.5° | 159.8 | 166.1 | 72.3 | 150.9 | 148.4 | 162.3 | 180.1 | 205.4 | 248.5 | 261.2 | 248.5 |
| 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)