

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: P591258

Luminaire Tested: **CTN-CA8-230-727-U-T3-SSS-HM-EX180**

Issue Date: 1/19/2022

Test Information

Test Method: LM-79-08
Report Number: P591258
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-9)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/19/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA8-230-727-U-T3-SSS-HM-EX180
Description: CELESTEON HIGH MAST LUMINAIRE, 180D FIELD INSTALLED SHIELD ON STREET SIDE
Light Source: (8) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15676 lumens
Efficiency: N/A
Efficacy: 68.6 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

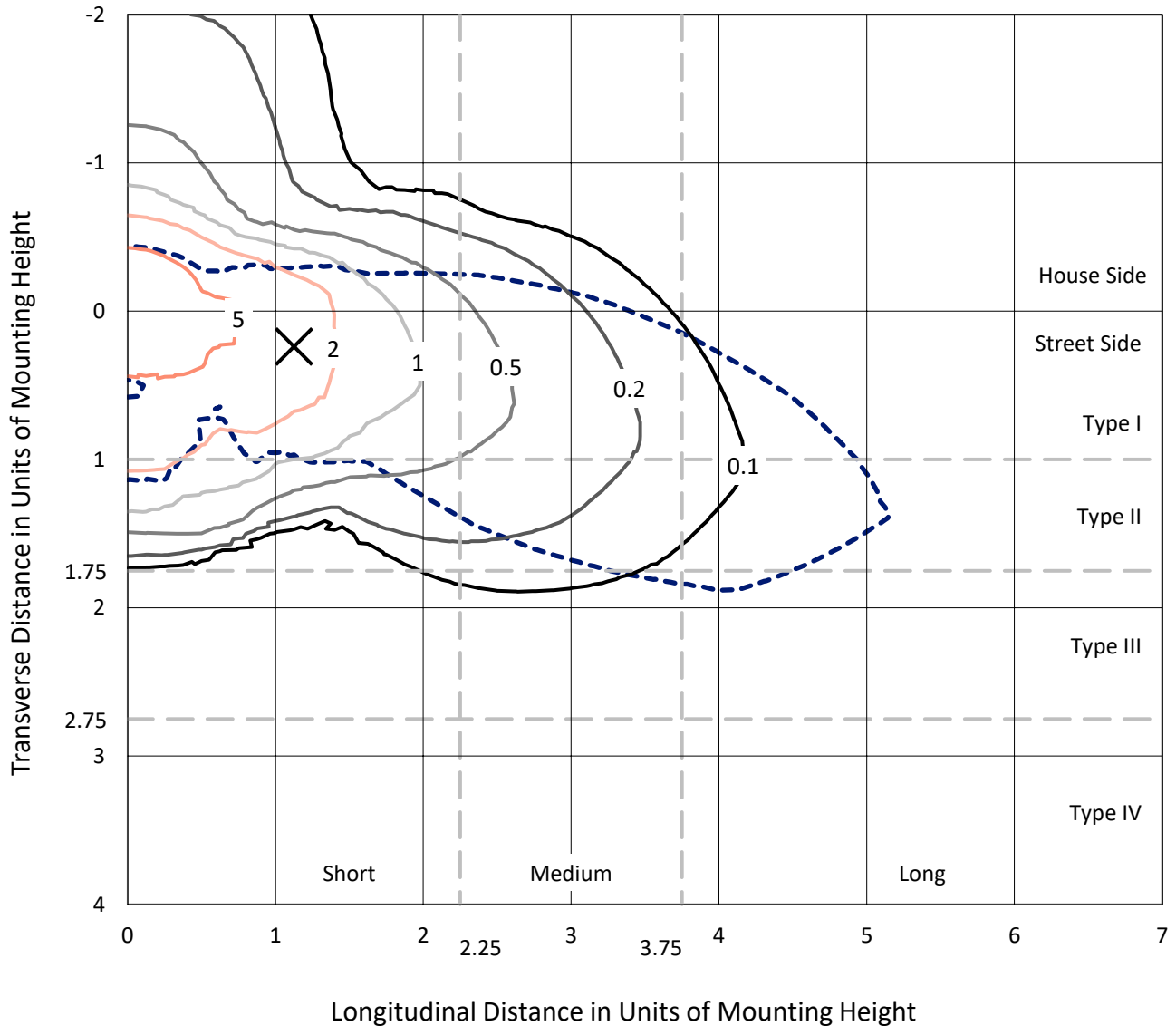
Input Watts (W): 228.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

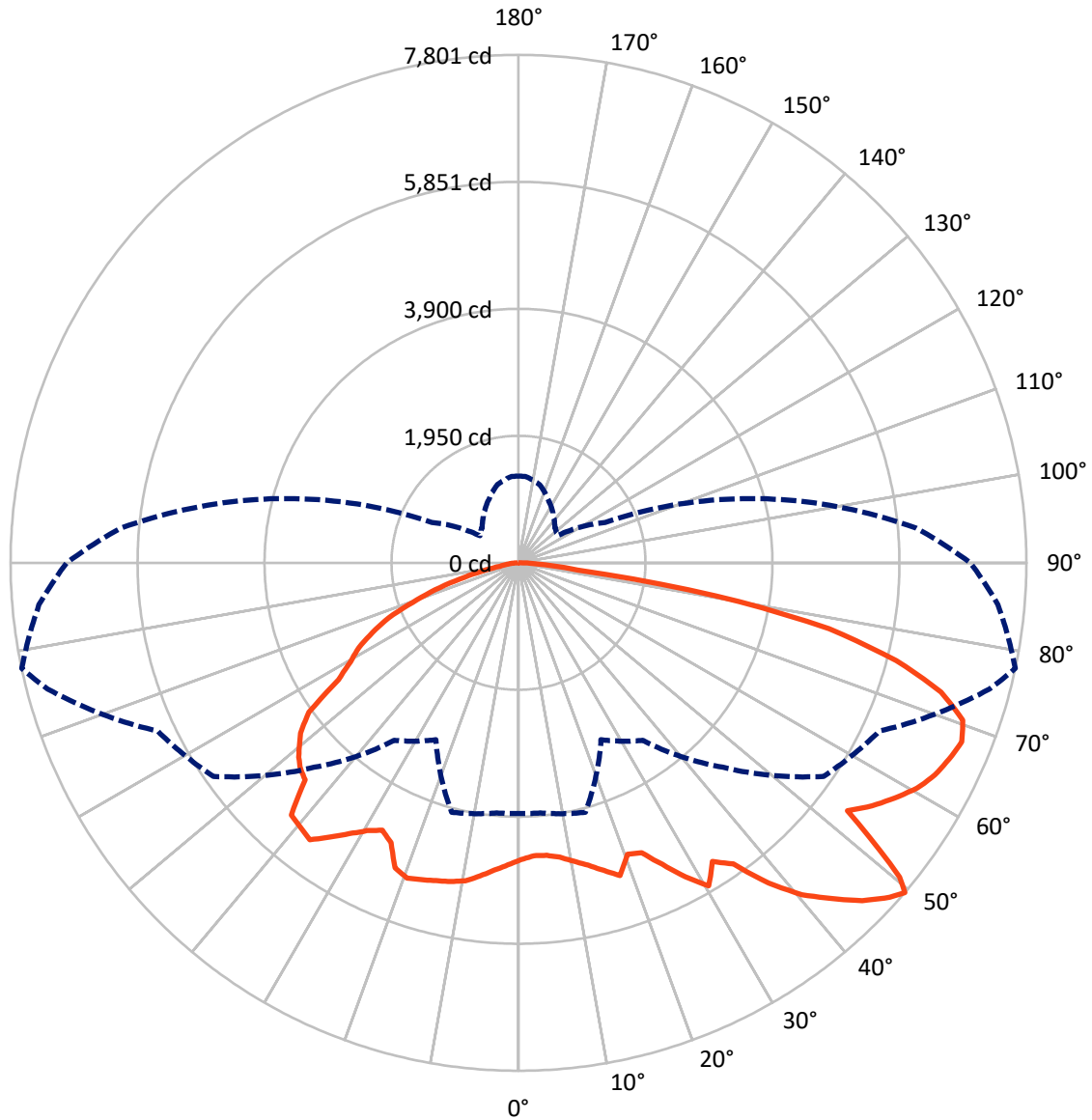
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.2 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral - - - Horizontal Cone Through 49-Deg Vertical

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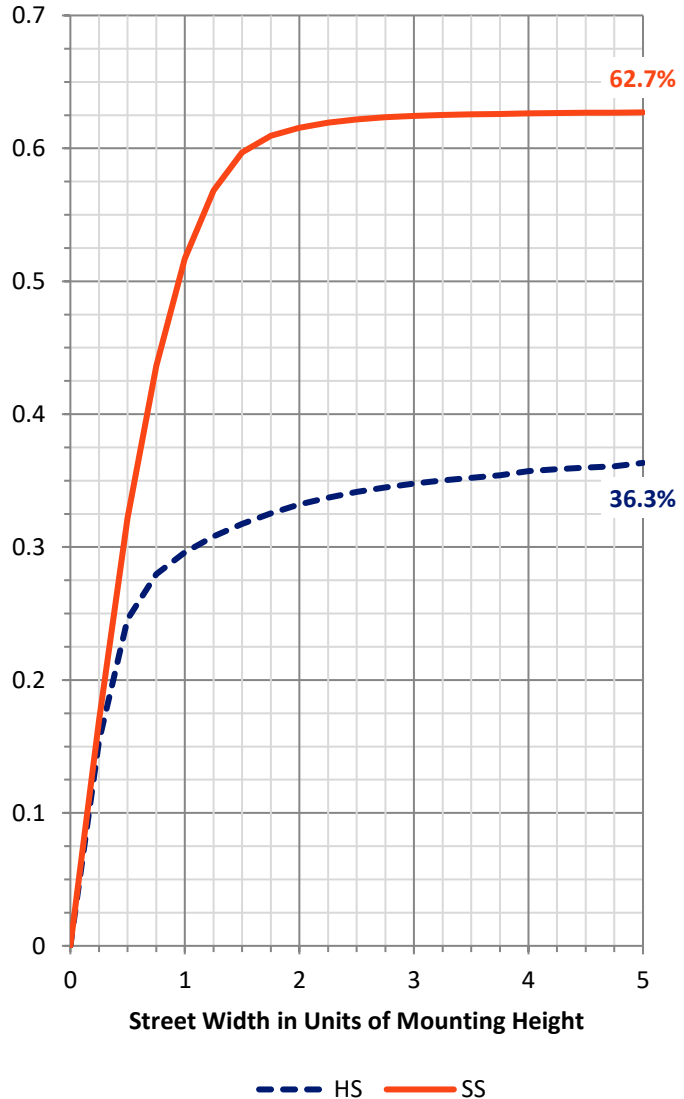
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 5863.2 | 0.0 | 5863.2 |
| | % Fixture | 37.4 | 0.0 | 37.4 |
| Street Side | Lumens | 9812.8 | 0.0 | 9812.8 |
| | % Fixture | 62.6 | 0.0 | 62.6 |
| Total | Lumens | 15676.0 | 0.0 | 15676.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 456.3 | 2.9 |
| 10°-20° | 1400.6 | 8.9 |
| 20°-30° | 2029.7 | 12.9 |
| 30°-40° | 2494.0 | 15.9 |
| 40°-50° | 2814.9 | 18.0 |
| 50°-60° | 2674.9 | 17.1 |
| 60°-70° | 1997.7 | 12.7 |
| 70°-80° | 1483.6 | 9.5 |
| 80°-90° | 324.2 | 2.1 |
| 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° | 15676.0 | 100.0 |
| 0°-180° | 15676.0 | 100.0 |

Coefficient of Utilization



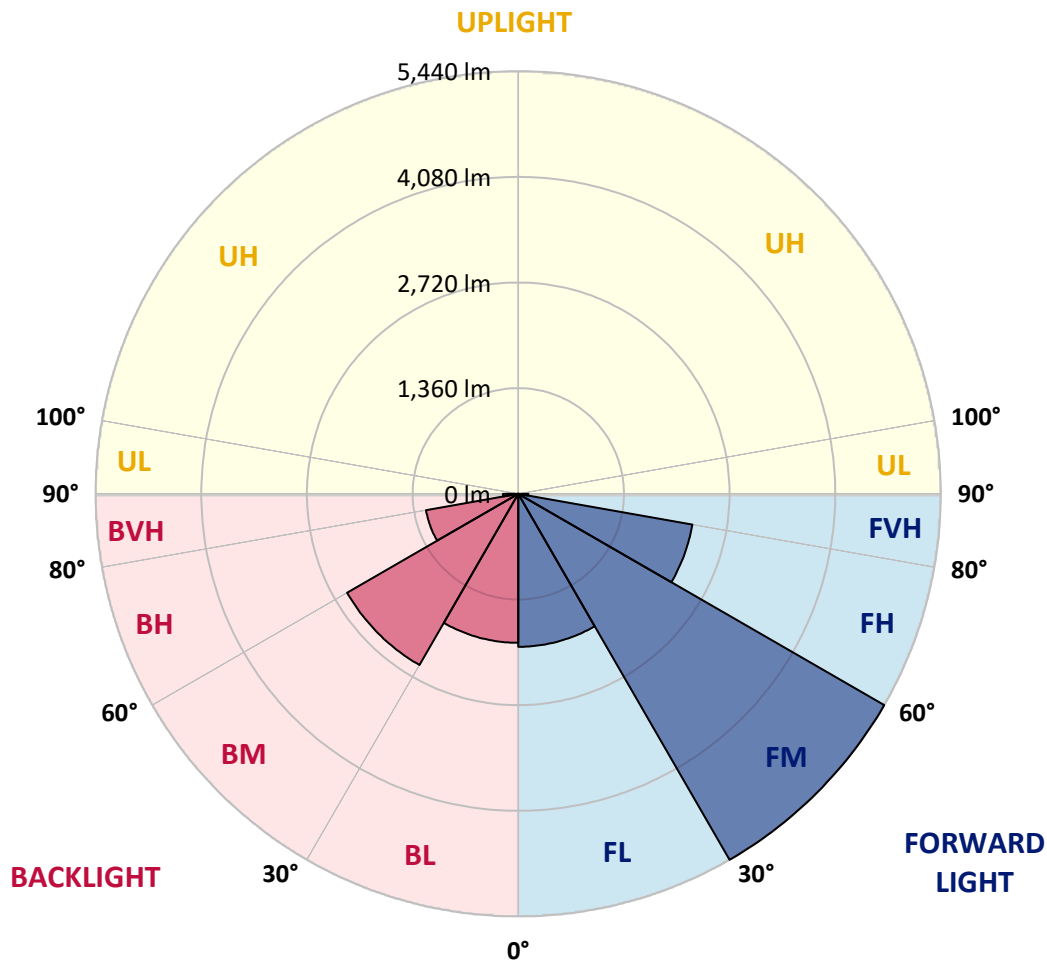
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1969.0 | 12.6 | | | |
| FM (30°-60°) | 5439.6 | 34.7 | | | |
| FH (60°-80°) | 2276.0 | 14.5 | | | G2/5000 |
| FVH (80°-90°) | 128.2 | 0.8 | | | G2/225 |
| BL (0°-30°) | 1917.6 | 12.2 | B3/2500 | | |
| BM (30°-60°) | 2544.2 | 16.2 | B3/5000 | | |
| BH (60°-80°) | 1205.3 | 7.7 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 196.0 | 1.3 | | | 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° | 78° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 |
| 2.5° | 4460.0 | 4435.6 | 4442.2 | 4479.7 | 4407.5 | 4460.0 | 4438.4 | 4489.1 | 4506.0 | 4504.1 | 4577.3 |
| 5° | 4496.6 | 4464.7 | 4474.1 | 4499.4 | 4420.6 | 4460.9 | 4444.0 | 4498.5 | 4512.5 | 4513.5 | 4612.9 |
| 7.5° | 4630.7 | 4594.1 | 4584.8 | 4586.6 | 4512.5 | 4542.5 | 4499.4 | 4541.6 | 4566.9 | 4564.1 | 4674.8 |
| 10° | 4825.9 | 4785.5 | 4764.9 | 4758.3 | 4668.3 | 4655.1 | 4602.6 | 4617.6 | 4655.1 | 4659.8 | 4772.4 |
| 12.5° | 5026.6 | 4994.7 | 4964.7 | 4949.7 | 4825.9 | 4796.8 | 4719.9 | 4733.0 | 4761.1 | 4766.8 | 4884.0 |
| 15° | 5203.9 | 5173.9 | 5169.2 | 5152.4 | 5026.6 | 4970.3 | 4877.5 | 4863.4 | 4885.0 | 4902.8 | 5005.1 |
| 17.5° | 5030.4 | 4991.9 | 4967.5 | 4973.2 | 4909.4 | 4766.8 | 4709.5 | 4806.2 | 4986.3 | 5049.2 | 5145.8 |
| 20° | 4540.7 | 4587.6 | 4567.9 | 4491.9 | 4423.4 | 4654.2 | 4605.4 | 4584.8 | 4696.4 | 4777.1 | 5010.7 |
| 22.5° | 3989.0 | 3989.0 | 4176.7 | 4308.0 | 4334.3 | 4463.7 | 4730.2 | 4823.1 | 4835.3 | 4835.3 | 4767.7 |
| 25° | 3552.8 | 3676.6 | 3994.7 | 4493.8 | 4496.6 | 4470.3 | 4544.4 | 5053.8 | 5138.3 | 5128.9 | 5015.4 |
| 27.5° | 3721.7 | 3701.0 | 3914.9 | 4262.0 | 4752.7 | 4722.7 | 4578.2 | 4808.0 | 5504.2 | 5461.0 | 5315.6 |
| 30° | 3870.8 | 3850.2 | 3888.7 | 4319.3 | 4825.9 | 4996.6 | 4872.8 | 4804.3 | 5523.9 | 5758.4 | 5671.2 |
| 32.5° | 4010.6 | 3987.2 | 4031.3 | 4096.9 | 4592.3 | 5268.7 | 5181.4 | 5136.4 | 5242.4 | 5470.4 | 6073.6 |
| 35° | 4123.2 | 4126.9 | 4177.6 | 4274.2 | 4501.3 | 5176.7 | 5491.0 | 5507.9 | 5693.7 | 5679.6 | 5984.5 |
| 37.5° | 4206.7 | 4214.2 | 4258.3 | 4372.7 | 4457.2 | 4276.1 | 5785.6 | 5980.7 | 6266.9 | 6238.7 | 6014.5 |
| 40° | 4211.4 | 4228.3 | 4316.5 | 4457.2 | 4556.6 | 3808.0 | 5731.2 | 6502.4 | 6785.7 | 6703.1 | 6424.5 |
| 42.5° | 4124.1 | 4132.6 | 4279.9 | 4518.2 | 3458.0 | 3960.9 | 5314.7 | 7022.1 | 7148.7 | 7047.4 | 6737.8 |
| 45° | 4046.3 | 4044.4 | 4202.0 | 4415.9 | 3267.6 | 4140.1 | 5303.4 | 6871.1 | 7482.7 | 7403.9 | 7009.0 |
| 47.5° | 3936.5 | 3935.6 | 4089.4 | 3322.9 | 3308.9 | 4333.3 | 5583.0 | 5958.2 | 7759.5 | 7675.1 | 7255.7 |
| 49° | 3848.3 | 3857.7 | 3966.5 | 2997.4 | 3327.6 | 4441.2 | 5719.0 | 6114.0 | 7488.4 | 7800.8 | 7392.7 |
| 50° | 3800.5 | 3809.8 | 3544.4 | 2964.6 | 3333.3 | 4503.1 | 5790.3 | 6228.4 | 6739.7 | 7587.8 | 7480.9 |
| 52.5° | 3582.8 | 3500.3 | 2747.9 | 2896.1 | 3335.1 | 4576.3 | 4978.8 | 6471.4 | 6423.6 | 6325.0 | 7083.1 |
| 55° | 2158.7 | 2443.0 | 2488.0 | 2818.2 | 3305.1 | 3323.9 | 4863.4 | 6753.8 | 6733.1 | 6589.6 | 6098.9 |
| 57.5° | 1308.7 | 1295.6 | 1921.3 | 2601.5 | 2213.1 | 2787.3 | 5053.8 | 7127.2 | 7005.2 | 6813.8 | 6203.1 |
| 60° | 461.6 | 408.1 | 411.9 | 443.7 | 823.7 | 2085.5 | 4031.3 | 5367.2 | 7061.5 | 7031.5 | 6297.8 |
| 62.5° | 36.6 | 34.7 | 34.7 | 36.6 | 52.5 | 783.4 | 3196.3 | 5384.1 | 7256.6 | 7178.8 | 6319.4 |
| 65° | 4.7 | 4.7 | 4.7 | 10.3 | 27.2 | 708.3 | 3201.0 | 5471.3 | 7402.0 | 7268.8 | 6262.2 |
| 67.5° | 0.0 | 0.0 | 2.8 | 7.5 | 21.6 | 626.7 | 3107.2 | 5522.9 | 7532.5 | 7343.9 | 6209.7 |
| 70° | 0.0 | 0.0 | 1.9 | 6.6 | 18.8 | 518.8 | 2992.7 | 5568.0 | 7471.5 | 7237.9 | 5945.1 |
| 72.5° | 0.0 | 0.0 | 1.9 | 5.6 | 15.9 | 342.4 | 2653.1 | 5234.9 | 7037.1 | 6783.8 | 5401.9 |
| 75° | 0.0 | 0.0 | 1.9 | 4.7 | 15.0 | 195.1 | 2173.7 | 4625.1 | 6262.2 | 5993.9 | 4551.9 |
| 77.5° | 0.0 | 0.0 | 0.9 | 3.8 | 13.1 | 106.9 | 1502.0 | 3828.6 | 5173.0 | 4878.4 | 3410.2 |
| 80° | 0.0 | 0.0 | 0.9 | 3.8 | 12.2 | 73.2 | 683.0 | 2487.1 | 3447.7 | 3079.0 | 1868.8 |
| 82.5° | 0.0 | 0.0 | 0.9 | 3.8 | 9.4 | 49.7 | 275.8 | 697.0 | 1066.7 | 911.9 | 594.8 |
| 85° | 0.0 | 0.0 | 0.9 | 2.8 | 6.6 | 31.9 | 136.0 | 286.1 | 430.6 | 413.7 | 301.1 |
| 87.5° | 0.0 | 0.0 | 0.9 | 2.8 | 4.7 | 9.4 | 40.3 | 93.8 | 167.9 | 170.7 | 128.5 |
| 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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CATALOG NUMBER: CTN-CA8-230-727-U-T3-SSS-HM-EX180

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 | 4558.5 |
| 2.5° | 4612.0 | 4620.4 | 4648.6 | 4690.8 | 4697.3 | 4754.6 | 4745.2 | 4852.1 | 4862.5 | 4887.8 | 4915.9 |
| 5° | 4660.8 | 4689.8 | 4753.6 | 4850.3 | 4920.6 | 5006.9 | 4998.5 | 5119.5 | 5131.7 | 5125.1 | 5168.3 |
| 7.5° | 4732.1 | 4775.2 | 4874.7 | 5005.1 | 5028.5 | 5135.5 | 5121.4 | 5226.5 | 5228.3 | 5214.3 | 5256.5 |
| 10° | 4836.2 | 4886.9 | 4978.8 | 5052.9 | 5109.2 | 5173.9 | 5164.5 | 5258.4 | 5249.0 | 5233.0 | 5277.1 |
| 12.5° | 4936.6 | 4964.7 | 5021.0 | 5108.3 | 5118.6 | 5144.8 | 5128.9 | 5216.1 | 5206.8 | 5184.2 | 5225.5 |
| 15° | 5026.6 | 5040.7 | 5041.6 | 5084.8 | 5061.3 | 5081.1 | 5038.8 | 5101.7 | 5080.1 | 5071.7 | 5100.8 |
| 17.5° | 5142.0 | 5115.8 | 5077.3 | 5074.5 | 4994.7 | 4967.5 | 4900.0 | 4916.9 | 4871.8 | 4868.1 | 4884.0 |
| 20° | 5157.0 | 5211.5 | 5100.8 | 4986.3 | 4852.1 | 4783.7 | 4656.1 | 4657.0 | 4606.3 | 4586.6 | 4596.0 |
| 22.5° | 4746.1 | 4880.3 | 5128.0 | 4909.4 | 4681.4 | 4527.5 | 4363.4 | 4313.6 | 4217.9 | 4177.6 | 4161.7 |
| 25° | 4906.6 | 4732.1 | 4713.3 | 4779.9 | 4460.0 | 4225.5 | 3987.2 | 3840.8 | 3727.3 | 3635.4 | 3641.9 |
| 27.5° | 5155.2 | 4928.1 | 4469.4 | 4496.6 | 4181.4 | 3852.1 | 3492.8 | 3286.4 | 3171.0 | 3081.8 | 3071.5 |
| 30° | 5484.5 | 5199.3 | 4521.9 | 3897.1 | 3861.4 | 3383.0 | 2942.1 | 2714.1 | 2596.8 | 2564.9 | 2545.2 |
| 32.5° | 5893.5 | 5522.0 | 4640.1 | 3760.1 | 3195.4 | 2875.4 | 2381.0 | 2197.2 | 2141.8 | 2139.0 | 2116.5 |
| 35° | 6379.5 | 5948.8 | 4748.9 | 3578.1 | 2755.4 | 2341.6 | 1902.6 | 1781.6 | 1790.0 | 1790.9 | 1809.7 |
| 37.5° | 6068.9 | 6352.3 | 4885.0 | 3405.5 | 2326.6 | 1740.3 | 1530.1 | 1454.1 | 1478.5 | 1517.9 | 1536.7 |
| 40° | 6073.6 | 5782.8 | 5043.5 | 3117.5 | 1807.8 | 1327.5 | 1197.1 | 1180.2 | 1284.3 | 1364.1 | 1383.8 |
| 42.5° | 6317.5 | 5745.3 | 4985.4 | 2789.1 | 1323.7 | 1009.5 | 997.3 | 1088.3 | 1238.4 | 1327.5 | 1343.4 |
| 45° | 6579.3 | 5923.5 | 4141.0 | 2323.8 | 959.7 | 853.7 | 947.5 | 1074.2 | 1237.4 | 1332.2 | 1341.6 |
| 47.5° | 6827.9 | 6036.1 | 3969.3 | 1816.3 | 771.2 | 804.9 | 932.5 | 1074.2 | 1244.0 | 1340.6 | 1346.3 |
| 49° | 6938.6 | 6127.1 | 3809.8 | 1469.2 | 723.3 | 786.2 | 924.1 | 1076.1 | 1245.9 | 1328.4 | 1331.2 |
| 50° | 7004.3 | 6178.7 | 3681.3 | 1362.2 | 699.9 | 774.0 | 920.3 | 1078.9 | 1243.1 | 1314.4 | 1317.2 |
| 52.5° | 7106.5 | 6262.2 | 3385.8 | 1085.4 | 655.8 | 745.8 | 914.7 | 1090.1 | 1232.7 | 1275.0 | 1273.1 |
| 55° | 5860.7 | 5853.2 | 3139.1 | 910.9 | 622.0 | 720.5 | 912.8 | 1099.5 | 1237.4 | 1280.6 | 1278.7 |
| 57.5° | 5616.7 | 4806.2 | 2644.7 | 744.9 | 593.9 | 698.9 | 914.7 | 1113.6 | 1321.9 | 1396.9 | 1387.5 |
| 60° | 5634.6 | 4733.0 | 2250.6 | 646.4 | 561.0 | 681.1 | 920.3 | 1176.4 | 1527.3 | 1603.3 | 1579.9 |
| 62.5° | 5572.6 | 4553.8 | 2014.2 | 580.7 | 526.3 | 665.2 | 924.1 | 1263.7 | 1553.6 | 1560.2 | 1519.8 |
| 65° | 5425.4 | 4328.6 | 1696.2 | 508.5 | 489.7 | 650.1 | 923.1 | 1295.6 | 1433.5 | 1380.0 | 1366.9 |
| 67.5° | 5152.4 | 4089.4 | 1342.5 | 445.6 | 450.3 | 627.6 | 944.7 | 1240.2 | 1356.6 | 1313.4 | 1293.7 |
| 70° | 4828.7 | 3579.1 | 946.6 | 387.5 | 414.7 | 602.3 | 941.9 | 1227.1 | 1316.2 | 1252.4 | 1225.2 |
| 72.5° | 4252.7 | 3008.7 | 637.0 | 334.0 | 369.6 | 573.2 | 894.1 | 1187.7 | 1290.0 | 1247.7 | 1210.2 |
| 75° | 3380.2 | 2251.6 | 369.6 | 288.0 | 325.5 | 531.0 | 847.2 | 1163.3 | 1304.0 | 1223.4 | 1145.5 |
| 77.5° | 2310.7 | 1282.5 | 275.8 | 241.1 | 280.5 | 476.6 | 768.3 | 1081.7 | 1260.9 | 1191.5 | 1087.3 |
| 80° | 1035.7 | 463.4 | 211.1 | 196.1 | 235.5 | 386.5 | 662.3 | 956.9 | 1194.3 | 1194.3 | 1121.1 |
| 82.5° | 411.9 | 291.8 | 146.4 | 153.9 | 192.3 | 294.6 | 524.4 | 825.6 | 1052.6 | 1100.5 | 1176.4 |
| 85° | 232.7 | 170.7 | 93.8 | 111.6 | 147.3 | 228.0 | 381.8 | 641.7 | 857.5 | 950.4 | 1030.1 |
| 87.5° | 91.9 | 64.7 | 37.5 | 62.9 | 85.4 | 117.3 | 167.0 | 314.3 | 461.6 | 568.5 | 628.6 |
| 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)