

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: P591247

Luminaire Tested: **CTN-CA6-230-727-U-T3-SSS-HM-EX90**

Issue Date: 1/19/2022

Test Information

Test Method: LM-79-08
Report Number: P591247
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2201-495-7)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/19/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA6-230-727-U-T3-SSS-HM-EX90
Description: CELESTEON HIGH MAST LUMINAIRE, 90D FIELD INSTALLED SHIELD ON STREET SIDE
Light Source: (6) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20208 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 2.08' x H: 1')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

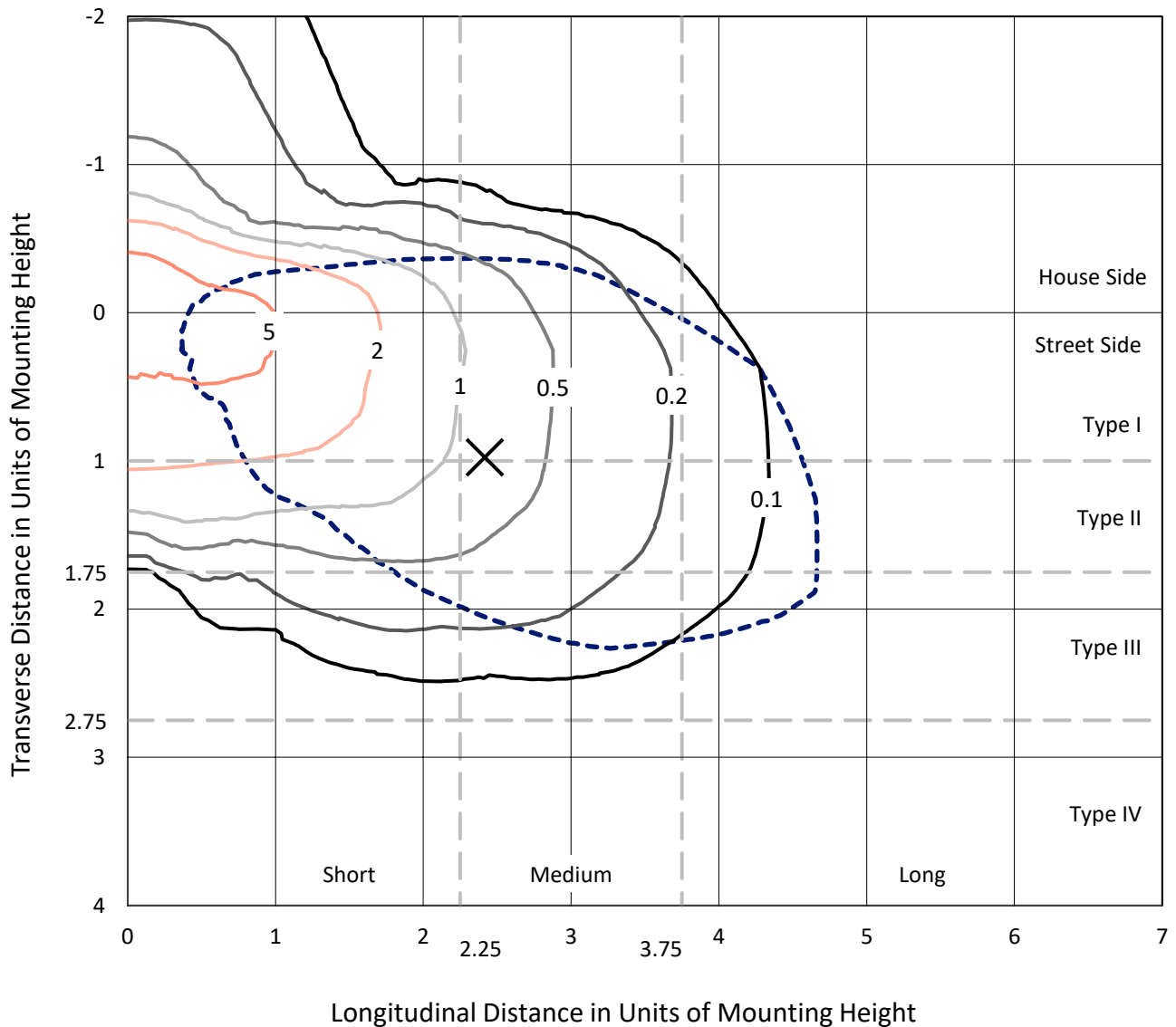
Input Watts (W): 227.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

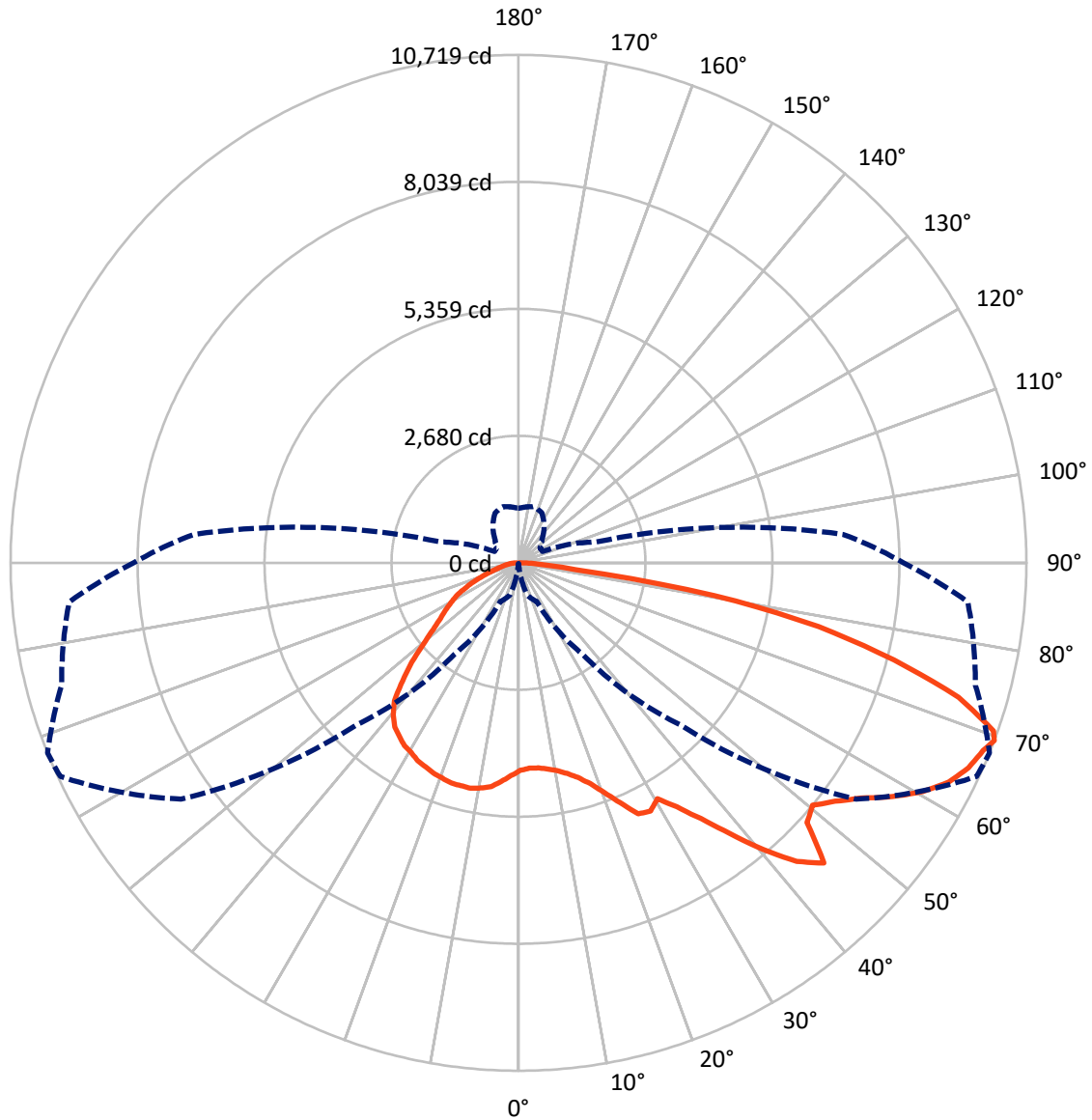
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.8 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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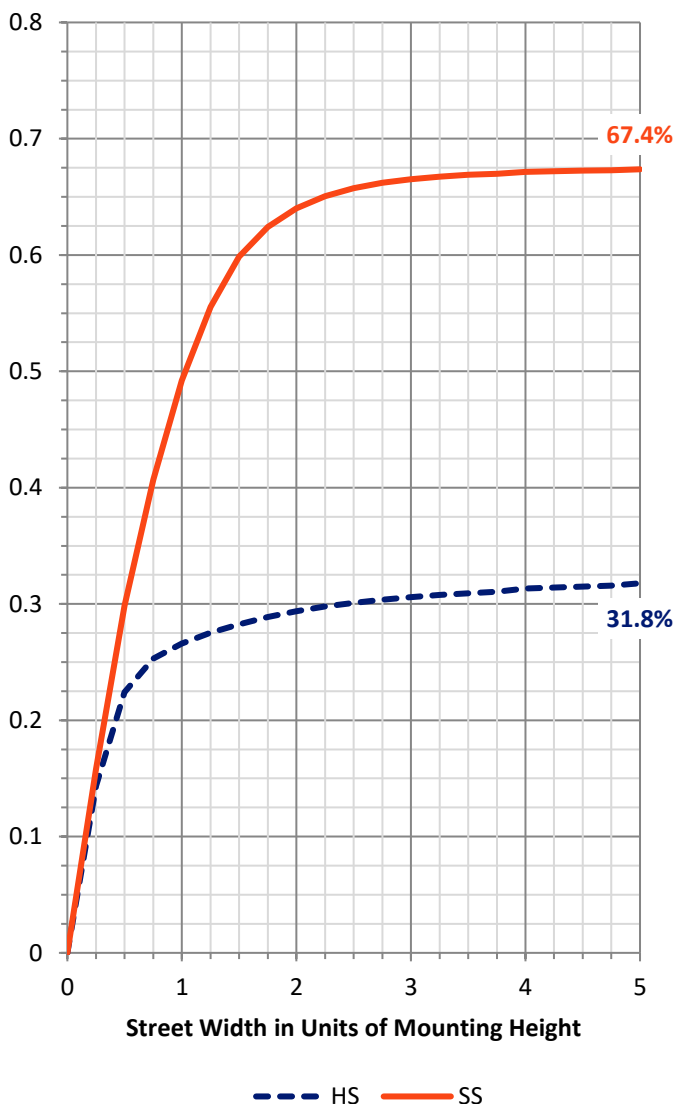
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6591.5 | 0.0 | 6591.5 |
| | % Fixture | 32.6 | 0.0 | 32.6 |
| Street Side | Lumens | 13616.5 | 0.0 | 13616.5 |
| | % Fixture | 67.4 | 0.0 | 67.4 |
| Total | Lumens | 20208.0 | 0.0 | 20208.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 437.5 | 2.2 |
| 10°-20° | 1353.7 | 6.7 |
| 20°-30° | 2081.3 | 10.3 |
| 30°-40° | 2703.2 | 13.4 |
| 40°-50° | 3336.7 | 16.5 |
| 50°-60° | 3747.4 | 18.5 |
| 60°-70° | 3662.3 | 18.1 |
| 70°-80° | 2459.4 | 12.2 |
| 80°-90° | 426.6 | 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° | 20208.0 | 100.0 |
| 0°-180° | 20208.0 | 100.0 |

Coefficient of Utilization



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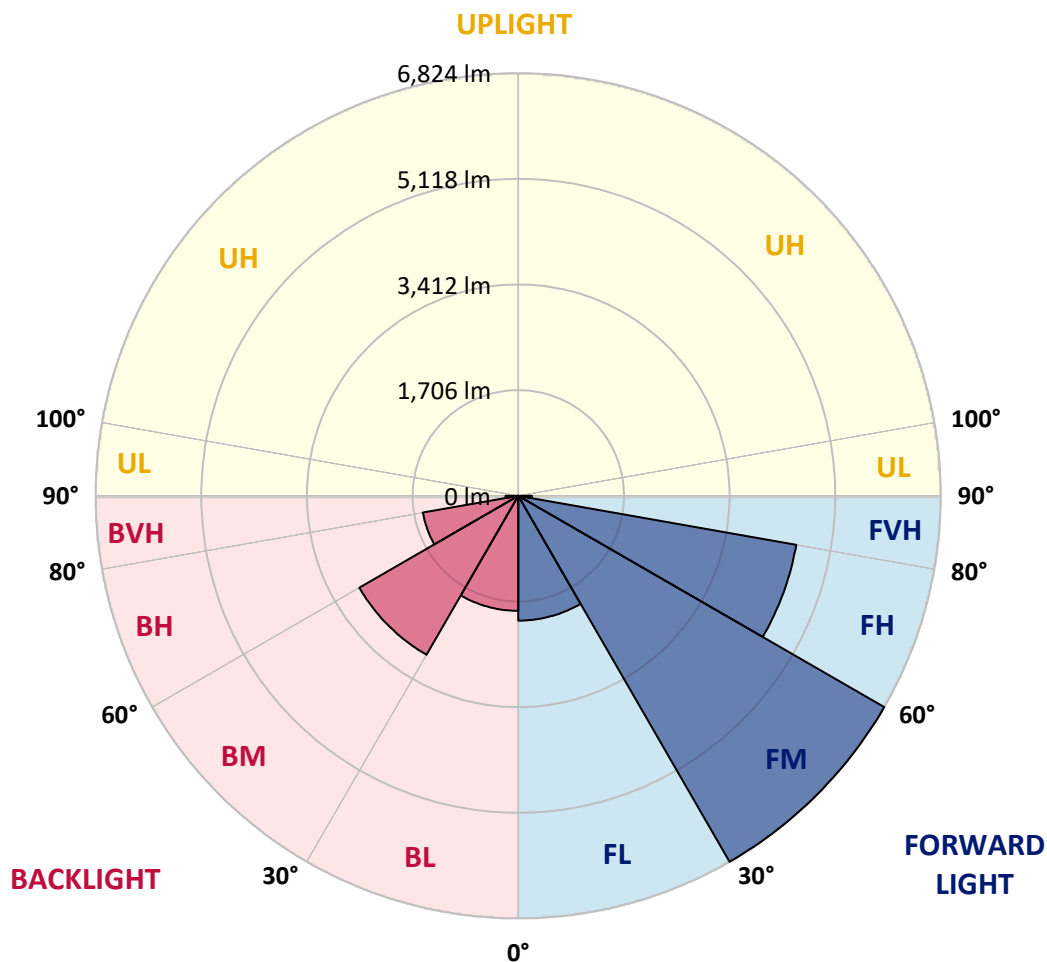
CATALOG NUMBER: CTN-CA6-230-727-U-T3-SSS-HM-EX90

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2014.9 | 10.0 | | | |
| FM (30°-60°) | 6823.7 | 33.8 | | | |
| FH (60°-80°) | 4557.9 | 22.6 | | | G2/5000 |
| FVH (80°-90°) | 219.9 | 1.1 | | | G2/225 |
| BL (0°-30°) | 1857.5 | 9.2 | B3/2500 | | |
| BM (30°-60°) | 2963.5 | 14.7 | B3/5000 | | |
| BH (60°-80°) | 1563.8 | 7.7 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 206.7 | 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 III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 68° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|
| 0° | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 |
| 2.5° | 4292.1 | 4266.0 | 4275.9 | 4312.0 | 4238.9 | 4286.7 | 4264.2 | 4312.9 | 4338.1 | 4327.3 | 4395.8 |
| 5° | 4332.7 | 4303.8 | 4305.6 | 4330.9 | 4252.4 | 4293.0 | 4267.8 | 4320.1 | 4348.0 | 4332.7 | 4424.7 |
| 7.5° | 4456.2 | 4424.7 | 4415.7 | 4413.9 | 4339.9 | 4370.6 | 4320.1 | 4362.5 | 4391.3 | 4383.2 | 4486.9 |
| 10° | 4645.6 | 4607.7 | 4590.6 | 4580.7 | 4492.3 | 4483.3 | 4420.2 | 4439.1 | 4460.7 | 4469.8 | 4581.6 |
| 12.5° | 4853.9 | 4802.5 | 4791.7 | 4761.9 | 4648.3 | 4628.5 | 4551.8 | 4560.8 | 4560.8 | 4581.6 | 4692.5 |
| 15° | 5030.6 | 4988.2 | 4988.2 | 4957.6 | 4846.7 | 4818.7 | 4713.2 | 4702.4 | 4700.6 | 4716.8 | 4816.0 |
| 17.5° | 4917.0 | 4893.6 | 4872.8 | 4857.5 | 4686.2 | 4641.1 | 4926.9 | 4908.0 | 4899.0 | 4915.2 | 4972.9 |
| 20° | 4535.6 | 4598.7 | 4465.3 | 4276.8 | 4303.8 | 4846.7 | 5201.9 | 5167.7 | 5173.1 | 5189.3 | 5173.1 |
| 22.5° | 3991.9 | 3835.9 | 4081.1 | 4148.8 | 4261.5 | 4662.7 | 5452.6 | 5488.7 | 5499.5 | 5500.4 | 5415.6 |
| 25° | 3421.1 | 3507.6 | 3840.4 | 4356.1 | 4341.7 | 4676.3 | 5300.2 | 5813.3 | 5867.4 | 5862.0 | 5715.0 |
| 27.5° | 3585.2 | 3569.0 | 3825.9 | 4165.0 | 4593.3 | 4963.0 | 5394.0 | 5622.1 | 5932.3 | 6275.9 | 6076.6 |
| 30° | 3728.6 | 3715.0 | 3742.1 | 4216.4 | 4759.2 | 5249.7 | 5744.8 | 5707.8 | 5773.6 | 6395.8 | 6503.1 |
| 32.5° | 3856.6 | 3846.7 | 3878.2 | 3930.5 | 4483.3 | 5559.0 | 6120.8 | 6113.6 | 6136.1 | 6184.8 | 7006.3 |
| 35° | 3977.4 | 3978.3 | 4017.1 | 4102.8 | 4518.5 | 5623.0 | 6492.3 | 6568.9 | 6628.4 | 6735.7 | 6919.7 |
| 37.5° | 4060.4 | 4062.2 | 4092.8 | 4196.5 | 4370.6 | 5306.5 | 6868.3 | 7141.5 | 7247.9 | 7440.9 | 7180.3 |
| 40° | 4059.5 | 4073.0 | 4146.9 | 4282.2 | 4514.8 | 5097.3 | 6984.6 | 7790.7 | 7962.1 | 8102.7 | 7664.5 |
| 42.5° | 3974.7 | 3981.9 | 4119.9 | 4364.3 | 4642.9 | 5256.0 | 6623.0 | 8423.7 | 8614.0 | 8575.2 | 8064.9 |
| 45° | 3897.2 | 3895.4 | 4052.3 | 4353.4 | 4757.4 | 5474.3 | 6671.7 | 8405.7 | 9037.8 | 8990.9 | 8432.8 |
| 47.5° | 3793.5 | 3796.2 | 3962.1 | 4306.6 | 4862.0 | 5707.8 | 7032.4 | 7643.8 | 8191.1 | 9348.0 | 8732.1 |
| 50° | 3663.6 | 3679.9 | 3848.5 | 4235.3 | 4914.3 | 5926.0 | 7344.4 | 7978.3 | 8043.2 | 8395.8 | 9025.2 |
| 52.5° | 3448.1 | 3419.3 | 3726.8 | 4153.3 | 4951.3 | 6084.7 | 7642.0 | 8299.3 | 8360.6 | 8232.6 | 9323.6 |
| 55° | 1957.6 | 2429.2 | 3574.4 | 4057.7 | 4962.1 | 6180.3 | 7872.8 | 8664.5 | 8760.1 | 8639.3 | 9566.2 |
| 57.5° | 1229.9 | 1267.8 | 3096.5 | 3804.3 | 4871.0 | 6239.8 | 8155.9 | 9165.8 | 9307.4 | 9019.8 | 9750.2 |
| 60° | 435.5 | 469.8 | 1505.9 | 1746.6 | 3992.8 | 6075.7 | 8587.0 | 9756.5 | 9803.4 | 9377.7 | 9885.4 |
| 62.5° | 46.0 | 60.4 | 1020.7 | 1282.2 | 3100.1 | 5606.8 | 8884.5 | 10231.7 | 10189.3 | 9642.9 | 9958.4 |
| 65° | 16.2 | 22.5 | 897.2 | 1147.0 | 2885.5 | 5460.7 | 8982.8 | 10434.5 | 10433.6 | 9812.4 | 9906.1 |
| 67.5° | 12.6 | 17.1 | 780.0 | 996.4 | 2575.3 | 5147.8 | 8819.6 | 10586.9 | 10572.5 | 9980.1 | 9768.2 |
| 69° | 12.6 | 18.0 | 702.4 | 898.1 | 2350.7 | 4848.5 | 8693.4 | 10667.2 | 10718.6 | 9982.8 | 9518.4 |
| 70° | 12.6 | 18.0 | 652.8 | 829.6 | 2167.7 | 4574.4 | 8512.1 | 10605.9 | 10632.0 | 9896.2 | 9259.6 |
| 72.5° | 12.6 | 18.0 | 505.9 | 642.0 | 1648.3 | 3521.2 | 7457.1 | 9664.5 | 9714.1 | 9136.1 | 8321.9 |
| 75° | 12.6 | 18.0 | 356.2 | 467.1 | 1082.0 | 2362.5 | 5937.7 | 8049.5 | 8183.9 | 7721.3 | 6818.7 |
| 77.5° | 12.6 | 18.0 | 212.8 | 319.2 | 679.0 | 1296.7 | 4085.6 | 6169.5 | 6473.4 | 6042.3 | 4873.7 |
| 80° | 12.6 | 17.1 | 100.1 | 174.0 | 386.8 | 687.1 | 1871.9 | 3798.0 | 4193.8 | 3780.0 | 2549.1 |
| 82.5° | 12.6 | 17.1 | 82.1 | 125.3 | 195.7 | 341.7 | 731.3 | 1244.4 | 1221.8 | 1097.4 | 821.5 |
| 85° | 11.7 | 15.3 | 67.6 | 92.0 | 140.7 | 216.4 | 407.6 | 506.8 | 483.3 | 427.4 | 430.1 |
| 87.5° | 8.1 | 9.0 | 23.4 | 41.5 | 56.8 | 107.3 | 197.5 | 214.6 | 219.1 | 183.0 | 192.1 |
| 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° | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 | 4380.5 |
| 2.5° | 4428.3 | 4433.7 | 4459.8 | 4506.7 | 4505.8 | 4556.3 | 4542.8 | 4660.0 | 4664.5 | 4662.7 | 4671.7 |
| 5° | 4468.9 | 4499.5 | 4557.2 | 4657.3 | 4715.0 | 4790.8 | 4776.3 | 4894.5 | 4901.7 | 4891.8 | 4917.0 |
| 7.5° | 4539.2 | 4577.1 | 4671.7 | 4795.3 | 4810.6 | 4906.2 | 4886.3 | 4981.9 | 4977.4 | 4959.4 | 5002.7 |
| 10° | 4638.4 | 4683.5 | 4769.1 | 4839.5 | 4883.6 | 4939.5 | 4917.9 | 4999.1 | 4983.7 | 4963.9 | 5005.4 |
| 12.5° | 4739.4 | 4761.0 | 4808.8 | 4888.2 | 4891.8 | 4904.4 | 4879.1 | 4945.0 | 4927.8 | 4898.1 | 4941.4 |
| 15° | 4835.9 | 4838.6 | 4830.4 | 4866.5 | 4828.6 | 4836.8 | 4781.8 | 4823.2 | 4793.5 | 4779.9 | 4807.9 |
| 17.5° | 4961.2 | 4928.7 | 4871.0 | 4855.7 | 4766.4 | 4728.5 | 4647.4 | 4645.6 | 4593.3 | 4574.4 | 4593.3 |
| 20° | 5111.8 | 5041.4 | 4908.0 | 4780.8 | 4626.7 | 4549.1 | 4411.1 | 4374.2 | 4331.8 | 4291.2 | 4313.8 |
| 22.5° | 5320.1 | 5183.9 | 4954.0 | 4716.8 | 4461.6 | 4309.3 | 4139.7 | 4035.1 | 3955.8 | 3877.3 | 3900.8 |
| 25° | 5557.2 | 5367.0 | 5018.9 | 4607.7 | 4264.2 | 3994.6 | 3774.5 | 3596.0 | 3482.4 | 3367.9 | 3419.3 |
| 27.5° | 5878.2 | 5615.8 | 5058.6 | 4526.6 | 4007.2 | 3645.6 | 3294.8 | 3062.2 | 2944.1 | 2862.0 | 2835.9 |
| 30° | 6252.4 | 5937.7 | 5129.8 | 4367.0 | 3705.1 | 3216.4 | 2770.9 | 2511.3 | 2385.9 | 2347.1 | 2363.4 |
| 32.5° | 6708.7 | 6329.1 | 5275.0 | 4233.5 | 3398.5 | 2761.0 | 2241.6 | 2038.8 | 1948.6 | 1942.3 | 1940.5 |
| 35° | 7319.2 | 6828.6 | 5399.4 | 4026.1 | 2992.8 | 2229.9 | 1783.6 | 1615.9 | 1612.3 | 1609.5 | 1615.9 |
| 37.5° | 7788.0 | 7337.2 | 5532.0 | 3823.2 | 2511.3 | 1741.2 | 1426.5 | 1324.6 | 1313.8 | 1345.3 | 1353.5 |
| 40° | 8157.7 | 7701.5 | 5730.3 | 3480.6 | 1946.8 | 1300.3 | 1095.6 | 1057.7 | 1134.3 | 1203.8 | 1218.2 |
| 42.5° | 8491.4 | 8008.1 | 5773.6 | 3115.4 | 1418.4 | 998.2 | 908.0 | 971.1 | 1089.3 | 1168.6 | 1183.9 |
| 45° | 8804.3 | 8330.0 | 5608.6 | 2572.6 | 1014.4 | 845.8 | 863.8 | 958.5 | 1091.1 | 1175.8 | 1184.8 |
| 47.5° | 9146.0 | 8545.5 | 5430.1 | 2068.5 | 834.1 | 810.6 | 854.8 | 963.0 | 1101.9 | 1187.5 | 1192.1 |
| 50° | 9371.4 | 8699.7 | 4983.7 | 1617.7 | 781.8 | 789.0 | 851.2 | 972.9 | 1103.7 | 1165.0 | 1168.6 |
| 52.5° | 9463.4 | 8823.2 | 4579.8 | 1294.9 | 755.6 | 772.8 | 855.7 | 990.1 | 1099.2 | 1133.4 | 1131.6 |
| 55° | 9521.1 | 8880.0 | 4232.6 | 1077.5 | 732.2 | 760.1 | 863.8 | 1002.7 | 1109.1 | 1144.3 | 1144.3 |
| 57.5° | 9484.2 | 8752.9 | 3974.7 | 917.9 | 708.7 | 751.1 | 873.8 | 1021.6 | 1202.9 | 1265.1 | 1258.8 |
| 60° | 9457.1 | 8514.8 | 3608.6 | 810.6 | 680.8 | 741.2 | 886.4 | 1087.5 | 1403.1 | 1466.2 | 1445.4 |
| 62.5° | 9317.3 | 8313.7 | 3211.9 | 742.1 | 649.2 | 735.8 | 897.2 | 1175.8 | 1431.0 | 1427.4 | 1386.8 |
| 65° | 8961.2 | 7904.4 | 2586.1 | 672.7 | 616.8 | 728.6 | 900.8 | 1214.6 | 1316.5 | 1259.7 | 1248.0 |
| 67.5° | 8456.2 | 7313.7 | 2040.6 | 603.2 | 580.7 | 713.2 | 930.6 | 1168.6 | 1252.5 | 1203.8 | 1185.7 |
| 69° | 8126.2 | 6876.4 | 1695.2 | 560.0 | 557.3 | 700.6 | 942.3 | 1164.1 | 1229.0 | 1174.0 | 1150.6 |
| 70° | 7860.2 | 6497.7 | 1463.5 | 532.0 | 539.2 | 690.7 | 930.6 | 1163.2 | 1219.1 | 1150.6 | 1124.4 |
| 72.5° | 6718.6 | 5264.2 | 945.0 | 465.3 | 486.0 | 664.6 | 886.4 | 1133.4 | 1198.4 | 1153.3 | 1117.2 |
| 75° | 5206.5 | 3832.3 | 611.4 | 402.2 | 430.1 | 620.4 | 842.2 | 1114.5 | 1217.3 | 1135.2 | 1057.7 |
| 77.5° | 3340.8 | 2050.5 | 473.4 | 338.1 | 369.7 | 558.2 | 762.8 | 1037.9 | 1182.1 | 1108.2 | 1008.1 |
| 80° | 1455.4 | 761.0 | 365.2 | 274.1 | 299.4 | 453.6 | 654.6 | 922.4 | 1120.8 | 1112.7 | 1045.1 |
| 82.5° | 617.7 | 490.5 | 281.3 | 210.1 | 238.1 | 335.4 | 513.1 | 790.8 | 990.1 | 1028.8 | 1102.8 |
| 85° | 349.9 | 294.0 | 187.6 | 144.3 | 176.7 | 247.1 | 365.2 | 606.8 | 806.1 | 893.6 | 955.8 |
| 87.5° | 150.6 | 122.6 | 86.6 | 77.5 | 100.1 | 128.0 | 156.9 | 284.9 | 430.1 | 524.8 | 564.5 |
| 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)