

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: P301188

Luminaire Tested: **GLNA-AF-09-LED-E1-T3R-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P301188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P194839)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-09-LED-E1-T3R-7027-800
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 2700K CCT 800mA LIGHTSQUARE WITH 16 LEDS EACH AND Type III
Roadway OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 38056.4 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type III - Short - Full Cutoff
BUG Rating: B3 - U0 - G5

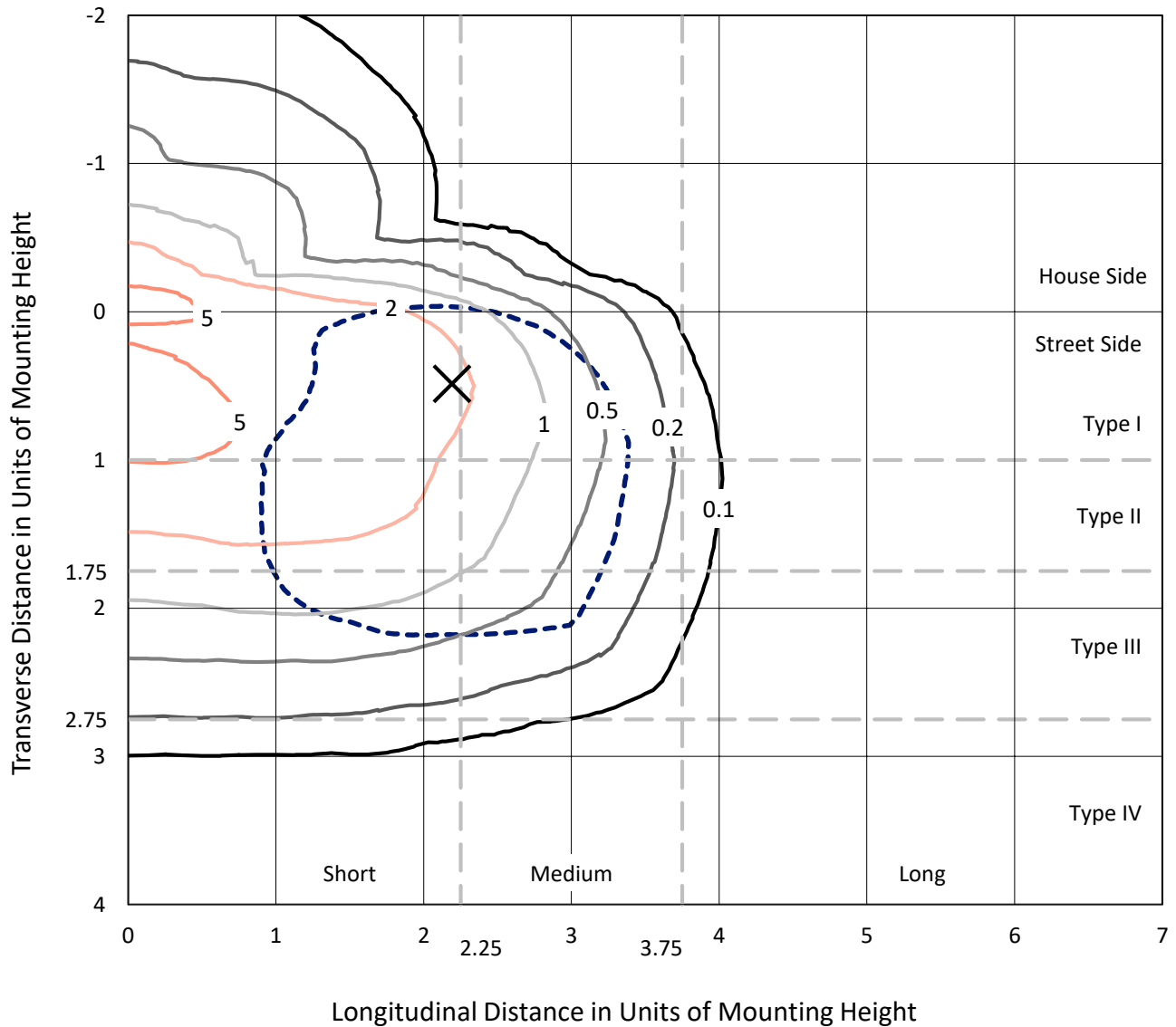
Input Watts (W): 374
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

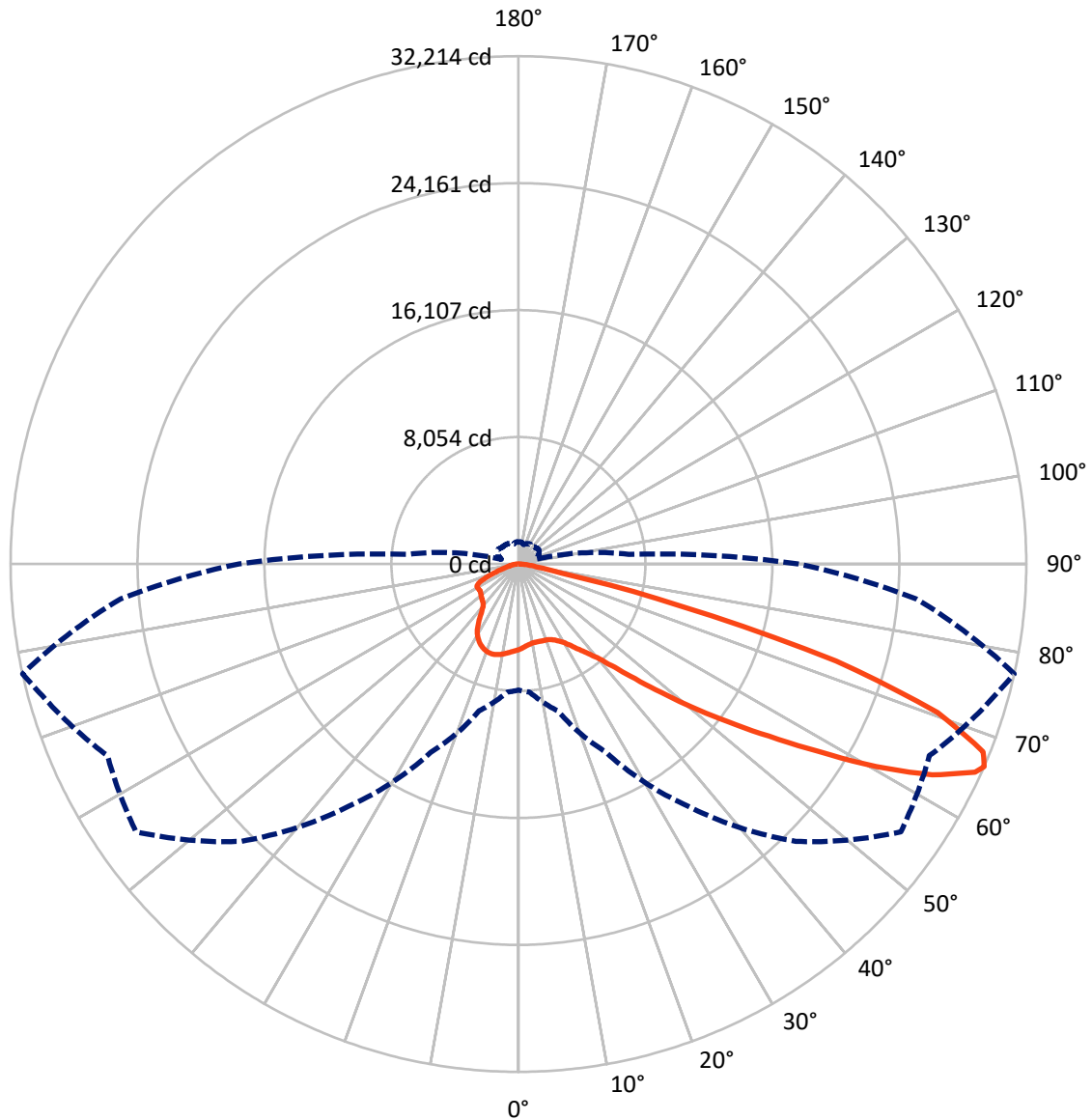
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 7.4 fc
 Type III - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6501.7 | 0.0 | 6501.7 |
| | % Fixture | 17.1 | 0.0 | 17.1 |
| Street Side | Lumens | 31554.7 | 0.0 | 31554.7 |
| | % Fixture | 82.9 | 0.0 | 82.9 |
| Total | Lumens | 38056.4 | 0.0 | 38056.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 484.5 | 1.3 |
| 10°-20° | 1366.9 | 3.6 |
| 20°-30° | 2332.8 | 6.1 |
| 30°-40° | 3734.5 | 9.8 |
| 40°-50° | 5769.4 | 15.2 |
| 50°-60° | 8183.0 | 21.5 |
| 60°-70° | 10946.6 | 28.8 |
| 70°-80° | 4753.9 | 12.5 |
| 80°-90° | 484.7 | 1.3 |
| 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° | 38056.4 | 100.0 |
| 0°-180° | 38056.4 | 100.0 |



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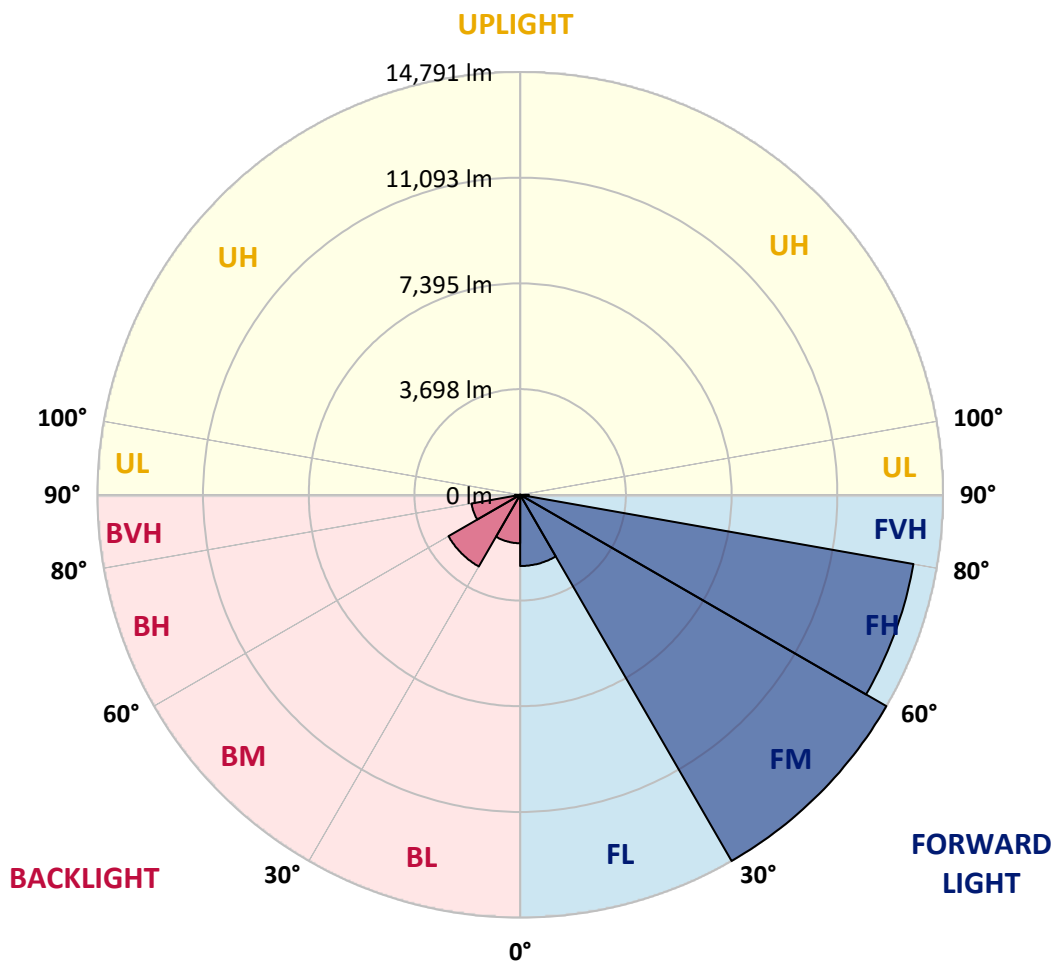
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2491.0 | 6.5 | | | |
| FM (30°-60°) | 14790.7 | 38.9 | | | |
| FH (60°-80°) | 13969.0 | 36.7 | | | G5 |
| FVH (80°-90°) | 304.0 | 0.8 | | | G3/500 |
| BL (0°-30°) | 1693.3 | 4.4 | B3/2500 | | |
| BM (30°-60°) | 2896.1 | 7.6 | B3/5000 | | |
| BH (60°-80°) | 1731.5 | 4.5 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 180.7 | 0.5 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G5

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 77.5° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 |
| 2.5° | 4797.6 | 4829.7 | 4857.0 | 4882.0 | 4932.1 | 5014.8 | 5110.1 | 5187.4 | 5299.0 | 5320.8 | 5380.2 |
| 5° | 4357.2 | 4357.2 | 4378.4 | 4416.5 | 4484.6 | 4608.7 | 4738.3 | 4910.8 | 5153.7 | 5210.8 | 5369.3 |
| 7.5° | 4143.2 | 4144.8 | 4157.3 | 4189.5 | 4248.8 | 4362.1 | 4504.2 | 4707.8 | 5036.6 | 5131.9 | 5401.4 |
| 10° | 4222.1 | 4204.2 | 4176.9 | 4161.2 | 4169.9 | 4236.3 | 4371.3 | 4597.8 | 4964.7 | 5086.7 | 5473.8 |
| 12.5° | 4664.2 | 4630.5 | 4536.8 | 4412.7 | 4294.0 | 4245.5 | 4324.5 | 4545.5 | 4934.3 | 5076.4 | 5569.1 |
| 15° | 5387.2 | 5373.1 | 5198.3 | 4941.3 | 4653.9 | 4412.7 | 4358.8 | 4525.9 | 4937.5 | 5088.9 | 5682.3 |
| 17.5° | 6293.7 | 6273.6 | 6043.8 | 5669.8 | 5200.5 | 4731.2 | 4479.1 | 4542.3 | 4950.0 | 5110.1 | 5791.8 |
| 20° | 7208.9 | 7147.4 | 6899.7 | 6453.8 | 5851.1 | 5164.0 | 4678.9 | 4583.6 | 4966.4 | 5133.5 | 5907.2 |
| 22.5° | 7892.2 | 7841.6 | 7618.9 | 7185.5 | 6491.4 | 5666.0 | 4946.8 | 4655.5 | 5018.6 | 5202.1 | 6048.7 |
| 25° | 8492.7 | 8496.0 | 8274.9 | 7856.3 | 7138.7 | 6198.5 | 5292.0 | 4847.7 | 5151.5 | 5342.0 | 6243.1 |
| 27.5° | 9235.3 | 9192.3 | 8985.4 | 8570.0 | 7779.0 | 6735.8 | 5709.0 | 5112.3 | 5349.7 | 5541.9 | 6498.4 |
| 30° | 10123.3 | 10092.8 | 9853.8 | 9382.9 | 8488.9 | 7312.9 | 6185.4 | 5419.4 | 5605.0 | 5804.3 | 6832.7 |
| 32.5° | 11168.1 | 11153.9 | 10905.7 | 10299.7 | 9308.8 | 7992.9 | 6745.1 | 5826.1 | 5986.1 | 6193.0 | 7312.9 |
| 35° | 12394.7 | 12396.4 | 12103.4 | 11375.0 | 10206.1 | 8784.0 | 7379.3 | 6349.3 | 6450.0 | 6665.6 | 7885.1 |
| 37.5° | 13149.9 | 13241.3 | 13131.9 | 12389.3 | 11222.0 | 9668.7 | 8203.1 | 7043.4 | 6978.6 | 7196.4 | 8498.2 |
| 40° | 13311.6 | 13423.2 | 13770.0 | 13392.7 | 12358.8 | 10643.3 | 8933.2 | 7710.4 | 7629.8 | 7895.5 | 9287.6 |
| 42.5° | 13085.1 | 13239.7 | 13973.6 | 14239.3 | 13565.3 | 11844.3 | 9914.8 | 8701.2 | 8598.9 | 8956.6 | 10269.2 |
| 45° | 12950.1 | 13065.5 | 13914.3 | 14680.3 | 14611.7 | 13202.1 | 11164.8 | 9945.3 | 9907.7 | 10377.0 | 11402.2 |
| 47.5° | 12716.5 | 12821.0 | 13637.1 | 14782.6 | 15226.9 | 14446.2 | 12666.4 | 11467.0 | 11540.5 | 12155.7 | 12680.6 |
| 50° | 12842.3 | 12885.3 | 13327.9 | 14521.9 | 15404.9 | 15358.1 | 14343.8 | 13228.8 | 13480.9 | 14248.5 | 14128.2 |
| 52.5° | 12824.3 | 12935.9 | 13292.0 | 14093.9 | 15428.3 | 15921.1 | 15996.2 | 15194.2 | 15725.1 | 16606.0 | 15733.8 |
| 55° | 10368.3 | 10573.0 | 12869.5 | 13986.1 | 15510.6 | 16472.6 | 17467.3 | 17265.8 | 18254.5 | 19281.3 | 17546.2 |
| 57.5° | 9900.6 | 10030.2 | 11303.1 | 14212.6 | 15949.4 | 17526.6 | 19103.3 | 19545.9 | 21200.0 | 22392.3 | 19754.5 |
| 60° | 9808.6 | 9968.7 | 11286.8 | 14489.7 | 16839.5 | 19243.8 | 21529.3 | 22306.3 | 24784.0 | 26089.6 | 22315.0 |
| 62.5° | 9522.8 | 9695.4 | 11180.6 | 14453.3 | 18103.7 | 21619.2 | 24634.8 | 25240.8 | 28182.4 | 29452.0 | 24456.8 |
| 65° | 8616.9 | 8778.6 | 10316.1 | 13872.9 | 18956.3 | 24154.6 | 28309.8 | 27930.9 | 30865.4 | 31819.8 | 25524.4 |
| 66° | 7996.2 | 8154.6 | 9634.4 | 13189.6 | 18758.1 | 24873.8 | 29612.1 | 28763.3 | 31465.9 | 32214.0 | 25315.9 |
| 67.5° | 6861.6 | 6985.7 | 8310.9 | 11659.2 | 17706.3 | 25075.3 | 30707.0 | 29388.9 | 31528.5 | 31793.1 | 24124.1 |
| 70° | 4335.4 | 4371.3 | 5401.4 | 8048.5 | 13403.6 | 21746.6 | 29039.9 | 27835.6 | 28928.8 | 28212.9 | 20223.8 |
| 72.5° | 1881.0 | 1868.5 | 2593.2 | 4094.2 | 7588.4 | 14592.1 | 23491.0 | 22967.8 | 22692.8 | 21060.0 | 14157.1 |
| 75° | 1046.4 | 1061.1 | 1346.9 | 1900.6 | 3083.7 | 7167.6 | 15366.8 | 14705.3 | 12416.0 | 10594.8 | 6419.5 |
| 77.5° | 839.5 | 859.7 | 1116.6 | 1348.6 | 1384.5 | 2499.5 | 7191.0 | 5851.1 | 3522.5 | 2826.7 | 1783.6 |
| 80° | 663.7 | 699.6 | 974.5 | 1050.2 | 933.2 | 1030.1 | 2323.1 | 1857.6 | 1393.8 | 1278.3 | 924.5 |
| 82.5° | 524.8 | 550.4 | 836.3 | 794.9 | 652.8 | 694.2 | 1112.8 | 1084.5 | 906.5 | 825.4 | 534.1 |
| 85° | 377.8 | 424.1 | 687.1 | 598.9 | 427.9 | 467.7 | 738.8 | 708.3 | 519.4 | 424.1 | 235.7 |
| 87.5° | 154.6 | 201.4 | 485.6 | 397.4 | 239.0 | 217.8 | 368.6 | 346.8 | 246.1 | 179.7 | 117.1 |
| 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° | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 | 5423.2 |
| 2.5° | 5417.7 | 5460.7 | 5516.8 | 5551.1 | 5569.1 | 5581.6 | 5601.2 | 5599.6 | 5605.0 | 5606.6 | 5613.7 |
| 5° | 5453.7 | 5525.5 | 5606.6 | 5628.4 | 5628.4 | 5608.3 | 5588.7 | 5556.0 | 5543.5 | 5540.2 | 5543.5 |
| 7.5° | 5547.3 | 5626.2 | 5696.5 | 5671.4 | 5617.5 | 5538.0 | 5435.7 | 5345.9 | 5297.4 | 5281.1 | 5277.8 |
| 10° | 5666.0 | 5761.3 | 5790.1 | 5694.8 | 5536.4 | 5345.9 | 5142.8 | 4995.2 | 4910.8 | 4887.4 | 4880.4 |
| 12.5° | 5809.7 | 5899.6 | 5860.4 | 5658.9 | 5365.5 | 5058.4 | 4777.5 | 4542.3 | 4365.9 | 4310.3 | 4306.5 |
| 15° | 5968.2 | 6038.4 | 5899.6 | 5547.3 | 5110.1 | 4657.1 | 4157.3 | 3751.2 | 3531.8 | 3461.6 | 3456.1 |
| 17.5° | 6115.7 | 6151.6 | 5876.1 | 5352.9 | 4734.5 | 4001.1 | 3337.4 | 3024.4 | 2949.2 | 2967.2 | 2970.5 |
| 20° | 6241.5 | 6241.5 | 5797.2 | 5074.2 | 4143.2 | 3136.0 | 2716.8 | 2711.9 | 2765.8 | 2819.7 | 2830.5 |
| 22.5° | 6379.7 | 6297.0 | 5658.9 | 4680.6 | 3304.8 | 2565.9 | 2505.0 | 2555.1 | 2616.0 | 2675.4 | 2684.6 |
| 25° | 6550.7 | 6342.2 | 5466.2 | 4083.8 | 2598.1 | 2330.2 | 2353.6 | 2395.0 | 2425.5 | 2463.6 | 2469.0 |
| 27.5° | 6741.3 | 6399.3 | 5213.0 | 3261.7 | 2255.1 | 2183.2 | 2201.2 | 2215.3 | 2211.5 | 2226.2 | 2229.5 |
| 30° | 6969.4 | 6466.3 | 4865.7 | 2549.6 | 2113.0 | 2056.9 | 2024.8 | 2012.3 | 2012.3 | 2035.7 | 2044.4 |
| 32.5° | 7275.4 | 6564.9 | 4367.5 | 2184.8 | 2044.4 | 1967.1 | 1863.1 | 1816.3 | 1834.2 | 1913.2 | 1931.1 |
| 35° | 7611.8 | 6671.0 | 3693.5 | 2060.7 | 2030.2 | 1925.7 | 1764.0 | 1677.4 | 1679.6 | 1753.1 | 1776.5 |
| 37.5° | 7978.2 | 6806.0 | 2954.1 | 2037.3 | 2062.3 | 1927.9 | 1711.7 | 1593.0 | 1544.6 | 1544.6 | 1553.8 |
| 40° | 8447.5 | 6944.3 | 2391.7 | 2053.6 | 2130.9 | 1949.1 | 1685.0 | 1526.6 | 1390.0 | 1393.8 | 1400.8 |
| 42.5° | 9058.9 | 7063.0 | 2089.6 | 2087.4 | 2213.7 | 1978.0 | 1682.9 | 1438.4 | 1319.7 | 1400.8 | 1474.3 |
| 45° | 9738.9 | 7122.4 | 1956.2 | 2118.4 | 2280.1 | 1995.9 | 1654.6 | 1424.3 | 1329.0 | 1569.6 | 1710.1 |
| 47.5° | 10520.8 | 7088.1 | 1882.7 | 2128.8 | 2296.4 | 1995.9 | 1621.9 | 1458.6 | 1391.6 | 1817.9 | 1981.8 |
| 50° | 11378.8 | 6989.5 | 1810.8 | 2107.5 | 2291.0 | 1992.1 | 1652.4 | 1492.3 | 1415.0 | 1860.9 | 1974.1 |
| 52.5° | 12387.6 | 6906.8 | 1735.1 | 2060.7 | 2252.9 | 1972.5 | 1688.3 | 1478.2 | 1341.5 | 1692.1 | 1771.1 |
| 55° | 13538.0 | 6930.2 | 1650.7 | 1994.3 | 2193.5 | 1934.9 | 1675.8 | 1420.4 | 1264.2 | 1490.7 | 1539.1 |
| 57.5° | 15009.1 | 7208.9 | 1550.0 | 1909.9 | 2113.0 | 1871.8 | 1631.1 | 1393.8 | 1240.8 | 1352.4 | 1381.2 |
| 60° | 16650.6 | 7694.0 | 1424.3 | 1825.0 | 2012.3 | 1771.1 | 1596.8 | 1406.3 | 1251.7 | 1341.5 | 1355.7 |
| 62.5° | 17855.5 | 7976.6 | 1316.5 | 1700.8 | 1875.6 | 1659.5 | 1553.8 | 1422.1 | 1280.5 | 1379.1 | 1375.8 |
| 65° | 18182.7 | 7512.7 | 1181.4 | 1519.5 | 1690.5 | 1542.9 | 1499.4 | 1440.0 | 1293.0 | 1409.6 | 1393.8 |
| 66° | 17724.2 | 7012.9 | 1122.1 | 1435.1 | 1596.8 | 1485.2 | 1472.7 | 1438.4 | 1287.6 | 1413.4 | 1386.1 |
| 67.5° | 16611.4 | 5987.8 | 1019.7 | 1311.0 | 1447.7 | 1399.2 | 1429.7 | 1422.1 | 1272.9 | 1409.6 | 1372.0 |
| 70° | 13547.3 | 4085.5 | 872.2 | 1091.6 | 1204.8 | 1231.5 | 1346.9 | 1364.9 | 1226.1 | 1346.9 | 1264.2 |
| 72.5° | 9465.6 | 2488.6 | 771.5 | 847.1 | 974.5 | 1050.2 | 1233.7 | 1285.4 | 1163.5 | 1176.0 | 1097.0 |
| 75° | 4574.4 | 1321.9 | 699.6 | 656.6 | 756.8 | 877.6 | 1097.0 | 1177.6 | 1064.4 | 983.8 | 954.9 |
| 77.5° | 1425.9 | 807.4 | 593.4 | 528.7 | 593.4 | 708.3 | 916.8 | 1032.3 | 947.9 | 823.7 | 812.8 |
| 80° | 766.0 | 593.4 | 456.8 | 424.1 | 469.3 | 555.9 | 720.8 | 861.3 | 814.5 | 738.8 | 659.9 |
| 82.5° | 505.2 | 384.9 | 338.1 | 328.8 | 357.7 | 424.1 | 535.7 | 713.8 | 713.8 | 633.2 | 460.6 |
| 85° | 260.8 | 235.7 | 231.9 | 231.9 | 249.9 | 282.6 | 364.8 | 550.4 | 586.4 | 334.3 | 277.1 |
| 87.5° | 129.6 | 135.0 | 125.8 | 131.2 | 140.5 | 138.3 | 174.2 | 277.1 | 331.0 | 203.1 | 168.8 |
| 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)