

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: P299207

Luminaire Tested: **GLNA-AF-09-LED-E1-SL2-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299207
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24286)
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-SL2-7050-800
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 5000K CCT 800mA LIGHTSQUARE WITH 16 LEDS EACH AND Type V
Narrow OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 41969.8 lumens
Efficiency: N/A
Efficacy: 112.2 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B4 - U0 - G5

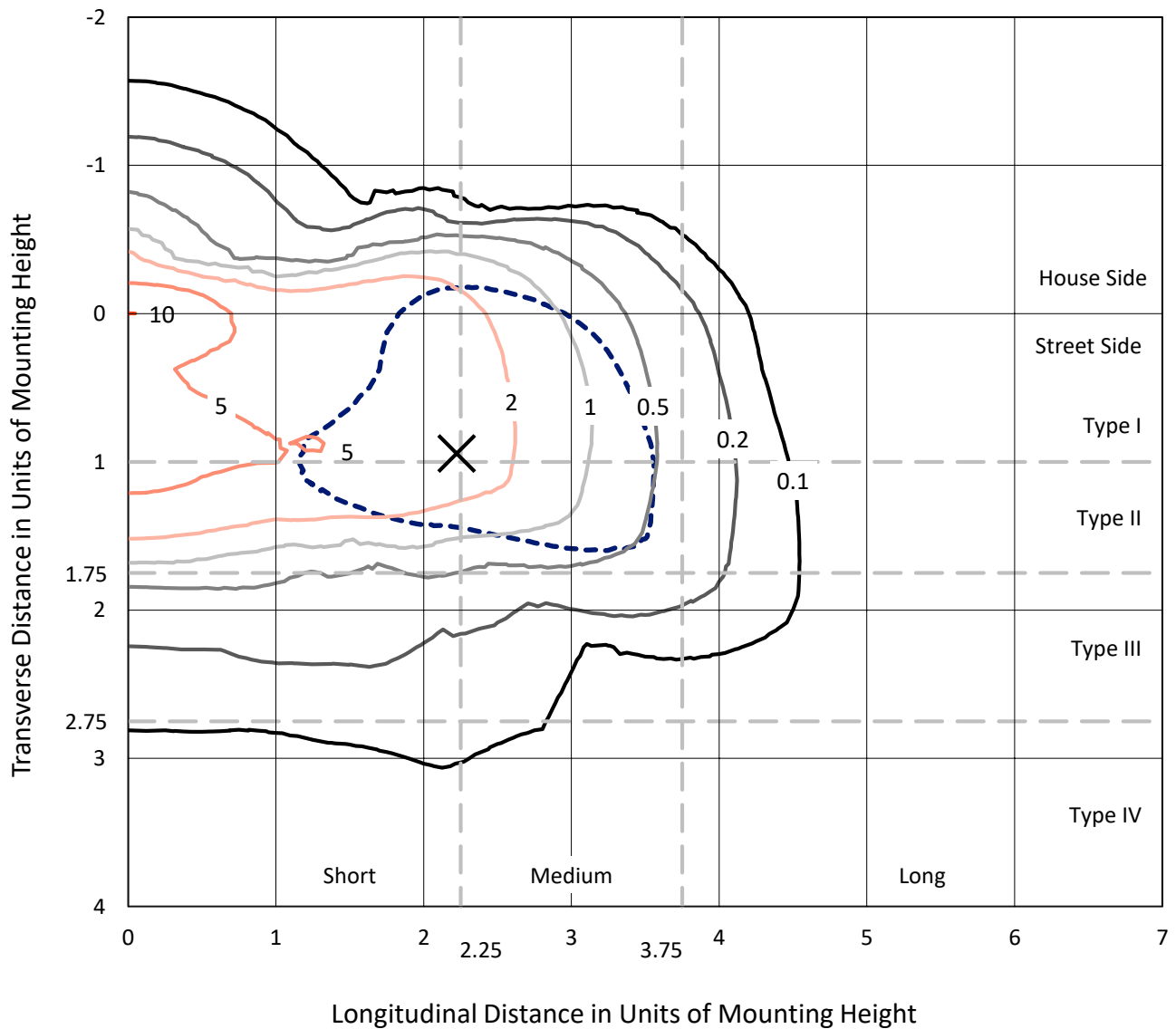
Input Watts (W): 374
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

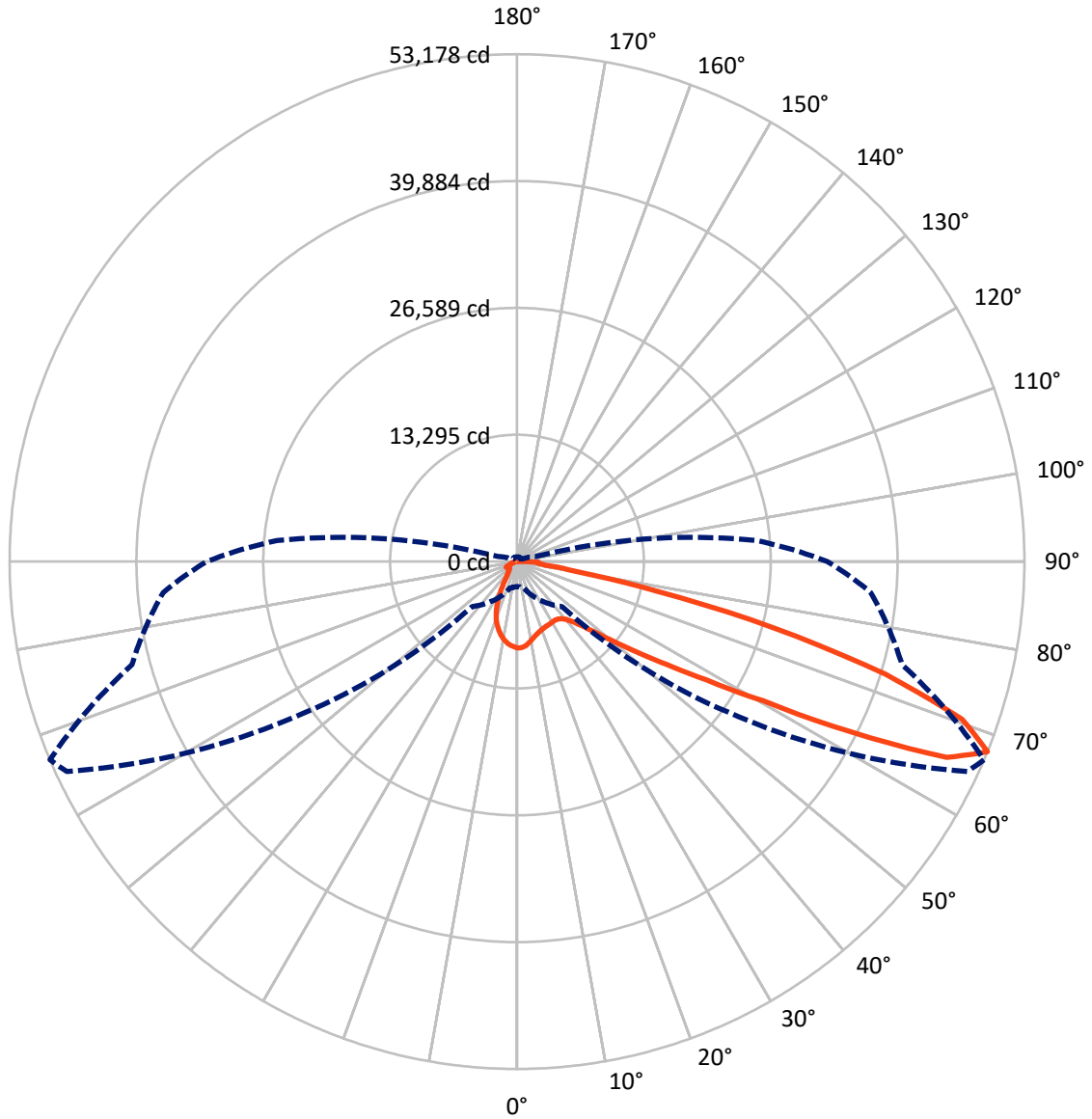
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10.1 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6953.9 | 0.0 | 6953.9 |
| | % Fixture | 16.6 | 0.0 | 16.6 |
| Street Side | Lumens | 35015.9 | 0.0 | 35015.9 |
| | % Fixture | 83.4 | 0.0 | 83.4 |
| Total | Lumens | 41969.8 | 0.0 | 41969.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 772.3 | 1.8 |
| 10°-20° | 1787.1 | 4.3 |
| 20°-30° | 2422.4 | 5.8 |
| 30°-40° | 3443.7 | 8.2 |
| 40°-50° | 5761.4 | 13.7 |
| 50°-60° | 9114.6 | 21.7 |
| 60°-70° | 11611.0 | 27.7 |
| 70°-80° | 6081.8 | 14.5 |
| 80°-90° | 975.4 | 2.3 |
| 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° | 41969.8 | 100.0 |
| 0°-180° | 41969.8 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P299207

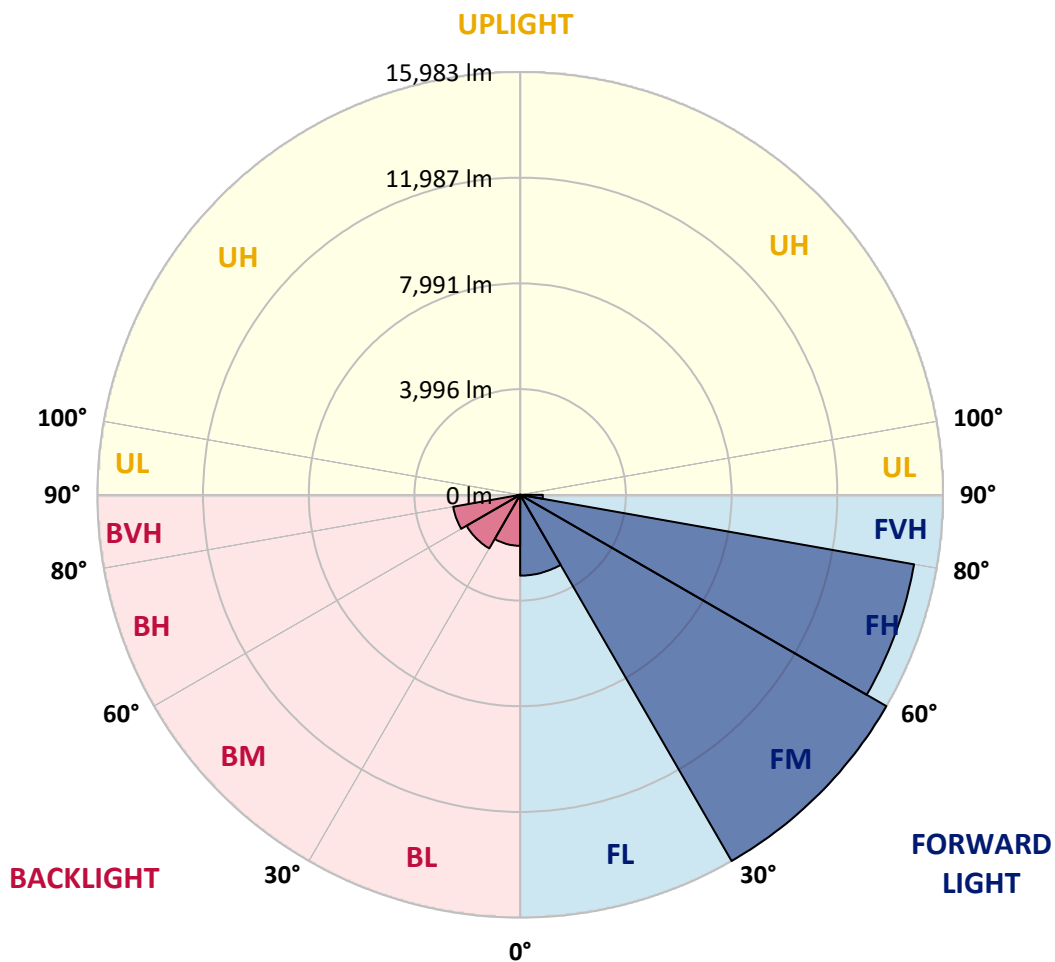
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 3054.4 | 7.3 | | | |
| FM | (30°-60°) | 15983.0 | 38.1 | | | |
| FH | (60°-80°) | 15120.8 | 36.0 | | | G5 |
| FVH | (80°-90°) | 857.7 | 2.0 | | | G5 |
| BL | (0°-30°) | 1927.4 | 4.6 | B3/2500 | | |
| BM | (30°-60°) | 2336.7 | 5.6 | B2/2500 | | |
| BH | (60°-80°) | 2572.0 | 6.1 | B4/5000 | | G4/5000 |
| BVH | (80°-90°) | 117.7 | 0.3 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G5

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 67° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 |
| 2.5° | 8680.2 | 8694.7 | 8740.3 | 8769.2 | 8899.6 | 8955.5 | 8994.8 | 9034.2 | 9040.4 | 9059.0 | 9040.4 |
| 5° | 7769.6 | 7800.6 | 7885.5 | 7980.7 | 8233.2 | 8431.9 | 8640.9 | 8858.2 | 8897.6 | 9038.3 | 9077.6 |
| 7.5° | 7063.8 | 7055.5 | 7125.9 | 7239.7 | 7498.5 | 7773.7 | 8140.1 | 8572.6 | 8657.5 | 8974.1 | 9127.3 |
| 10° | 6548.5 | 6542.3 | 6616.8 | 6734.7 | 6981.0 | 7241.8 | 7655.7 | 8247.7 | 8367.7 | 8872.7 | 9174.9 |
| 12.5° | 6167.6 | 6169.7 | 6244.2 | 6374.6 | 6625.0 | 6887.9 | 7308.0 | 7933.1 | 8086.2 | 8754.7 | 9224.6 |
| 15° | 5915.1 | 5931.7 | 5991.7 | 6130.4 | 6374.6 | 6637.5 | 7049.3 | 7697.1 | 7868.9 | 8661.6 | 9280.4 |
| 17.5° | 5830.3 | 5857.2 | 5877.9 | 5979.3 | 6188.3 | 6451.2 | 6854.8 | 7523.3 | 7705.4 | 8597.5 | 9330.1 |
| 20° | 5908.9 | 5940.0 | 5900.7 | 5935.8 | 6068.3 | 6300.1 | 6701.6 | 7386.7 | 7573.0 | 8525.0 | 9336.3 |
| 22.5° | 6246.3 | 6275.3 | 6159.4 | 6058.0 | 6049.7 | 6190.4 | 6575.4 | 7279.1 | 7471.5 | 8471.2 | 9338.4 |
| 25° | 6840.3 | 6858.9 | 6664.4 | 6428.4 | 6198.7 | 6151.1 | 6486.4 | 7204.6 | 7409.5 | 8423.6 | 9299.1 |
| 27.5° | 7568.8 | 7583.3 | 7359.8 | 7012.1 | 6550.5 | 6244.2 | 6455.3 | 7161.1 | 7374.3 | 8382.2 | 9232.8 |
| 30° | 8454.6 | 8522.9 | 8222.8 | 7784.1 | 7111.4 | 6519.5 | 6517.4 | 7138.3 | 7334.9 | 8311.8 | 9102.5 |
| 32.5° | 9361.2 | 9390.1 | 9183.2 | 8738.2 | 7866.9 | 7003.8 | 6691.3 | 7154.9 | 7324.6 | 8227.0 | 8936.9 |
| 35° | 10280.1 | 10317.4 | 10182.8 | 9824.8 | 8899.6 | 7713.7 | 7030.7 | 7252.2 | 7388.8 | 8198.0 | 8821.0 |
| 37.5° | 11470.2 | 11519.8 | 11333.6 | 10919.6 | 10155.9 | 8676.1 | 7595.7 | 7496.4 | 7585.4 | 8280.8 | 8785.8 |
| 40° | 13351.5 | 13328.7 | 12784.4 | 12167.7 | 11530.2 | 9907.6 | 8402.9 | 7910.3 | 7962.1 | 8547.8 | 8893.4 |
| 42.5° | 15541.2 | 15485.3 | 14547.8 | 13579.2 | 13041.1 | 11397.7 | 9470.9 | 8628.5 | 8618.1 | 9073.5 | 9272.2 |
| 45° | 17288.0 | 17242.5 | 16398.1 | 15203.9 | 14773.4 | 13094.9 | 10851.3 | 9698.5 | 9621.9 | 9907.6 | 9971.7 |
| 47.5° | 18233.9 | 18236.0 | 17749.6 | 16774.8 | 16764.4 | 15251.5 | 12625.1 | 11246.6 | 11114.2 | 11248.7 | 11180.4 |
| 50° | 17902.7 | 17946.2 | 17894.5 | 17584.0 | 18581.6 | 18078.7 | 14941.0 | 13405.3 | 13138.3 | 13270.8 | 13007.9 |
| 52.5° | 16300.8 | 16356.7 | 16663.0 | 17139.0 | 19345.3 | 21495.7 | 18343.6 | 16087.6 | 15777.2 | 15729.6 | 15437.7 |
| 55° | 13461.2 | 13529.5 | 14154.5 | 15448.1 | 18709.9 | 23791.0 | 23712.3 | 19506.7 | 19012.1 | 18563.0 | 18438.8 |
| 57.5° | 9278.4 | 9392.2 | 10398.1 | 12318.7 | 16654.7 | 24484.3 | 30105.6 | 24380.8 | 23375.0 | 21806.2 | 21835.1 |
| 60° | 5230.1 | 5362.5 | 6548.5 | 8293.2 | 12507.1 | 23731.0 | 34969.3 | 31763.4 | 29639.9 | 25604.0 | 25819.3 |
| 62.5° | 3326.0 | 3468.8 | 4369.1 | 5762.0 | 7504.7 | 19674.4 | 36962.4 | 42026.9 | 39330.1 | 30285.6 | 30496.7 |
| 65° | 2692.7 | 2754.7 | 3179.0 | 4756.1 | 5449.5 | 11853.1 | 35449.5 | 50481.6 | 49475.7 | 36227.7 | 35242.5 |
| 67.5° | 2628.5 | 2649.2 | 2868.6 | 3992.4 | 5225.9 | 6662.3 | 28276.0 | 52062.8 | 53178.4 | 41776.5 | 37219.1 |
| 70° | 2597.4 | 2669.9 | 3232.8 | 3810.3 | 5004.5 | 5619.2 | 16992.1 | 47728.9 | 49490.2 | 43227.3 | 34588.5 |
| 72.5° | 1260.4 | 1256.3 | 1626.8 | 3446.0 | 5637.8 | 5828.2 | 8729.9 | 38618.2 | 40385.7 | 37450.9 | 28422.9 |
| 75° | 1016.2 | 929.3 | 887.9 | 1262.5 | 5420.5 | 6018.6 | 5563.3 | 26572.6 | 27851.7 | 25109.4 | 17472.2 |
| 77.5° | 964.5 | 861.0 | 788.5 | 790.6 | 2291.1 | 6382.9 | 4712.7 | 14707.1 | 15079.7 | 11341.8 | 4787.2 |
| 80° | 798.9 | 703.7 | 651.9 | 734.7 | 1109.3 | 6078.7 | 5095.6 | 6656.1 | 6107.6 | 2785.8 | 1593.7 |
| 82.5° | 554.7 | 505.0 | 490.5 | 616.8 | 887.9 | 4331.8 | 5925.5 | 3576.4 | 2999.0 | 1395.0 | 983.1 |
| 85° | 353.9 | 302.2 | 335.3 | 449.1 | 691.3 | 1999.3 | 6103.5 | 2787.9 | 2216.6 | 885.8 | 554.7 |
| 87.5° | 163.5 | 132.5 | 165.6 | 248.4 | 451.2 | 689.2 | 5807.5 | 3131.4 | 2282.9 | 467.7 | 349.8 |
| 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° | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 | 9052.8 |
| 2.5° | 9056.9 | 9017.6 | 8986.6 | 8928.6 | 8864.4 | 8802.4 | 8746.5 | 8676.1 | 8655.4 | 8636.8 | 8665.8 |
| 5° | 9085.9 | 9046.6 | 8932.7 | 8754.7 | 8558.1 | 8373.9 | 8189.7 | 8032.4 | 7935.2 | 7881.3 | 7912.4 |
| 7.5° | 9129.4 | 9073.5 | 8837.5 | 8510.5 | 8156.6 | 7833.7 | 7500.5 | 7233.5 | 7036.9 | 6943.8 | 6970.7 |
| 10° | 9168.7 | 9061.1 | 8676.1 | 8185.6 | 7668.2 | 7188.0 | 6662.3 | 6227.7 | 5904.8 | 5735.1 | 5776.5 |
| 12.5° | 9185.2 | 9013.5 | 8450.5 | 7779.9 | 7070.0 | 6366.3 | 5592.3 | 4942.4 | 4478.8 | 4309.1 | 4273.9 |
| 15° | 9201.8 | 8959.6 | 8202.1 | 7318.4 | 6347.7 | 5352.2 | 4267.7 | 3489.5 | 3104.5 | 3019.7 | 3001.0 |
| 17.5° | 9205.9 | 8866.5 | 7920.7 | 6817.5 | 5501.2 | 4145.6 | 2918.2 | 2423.6 | 2425.7 | 2562.3 | 2578.8 |
| 20° | 9162.5 | 8727.8 | 7579.2 | 6194.6 | 4487.1 | 2866.5 | 2003.5 | 1918.6 | 2231.1 | 2572.6 | 2614.0 |
| 22.5° | 9063.1 | 8543.6 | 7192.1 | 5468.1 | 3326.0 | 1887.5 | 1550.2 | 1643.3 | 2046.9 | 2465.0 | 2512.6 |
| 25° | 8936.9 | 8320.1 | 6734.7 | 4625.7 | 2202.1 | 1349.4 | 1299.8 | 1413.6 | 1686.8 | 1966.2 | 1993.1 |
| 27.5° | 8765.1 | 8055.2 | 6221.5 | 3661.3 | 1430.1 | 1111.4 | 1144.5 | 1221.1 | 1332.9 | 1457.1 | 1469.5 |
| 30° | 8543.6 | 7738.5 | 5673.0 | 2669.9 | 1080.4 | 999.7 | 1047.3 | 1088.7 | 1136.3 | 1206.6 | 1212.8 |
| 32.5° | 8289.1 | 7434.3 | 5110.0 | 1844.1 | 958.3 | 941.7 | 979.0 | 999.7 | 1036.9 | 1080.4 | 1084.5 |
| 35° | 8075.9 | 7144.5 | 4526.4 | 1303.9 | 906.5 | 898.2 | 923.1 | 931.4 | 966.5 | 1014.1 | 1018.3 |
| 37.5° | 7953.8 | 6908.6 | 3924.1 | 1051.4 | 871.3 | 858.9 | 873.4 | 873.4 | 923.1 | 993.4 | 1003.8 |
| 40° | 7962.1 | 6778.2 | 3321.8 | 950.0 | 842.4 | 825.8 | 827.9 | 827.9 | 892.0 | 968.6 | 974.8 |
| 42.5° | 8187.7 | 6811.3 | 2787.9 | 910.7 | 819.6 | 801.0 | 790.6 | 796.8 | 850.6 | 900.3 | 904.5 |
| 45° | 8717.5 | 7045.2 | 2287.0 | 885.8 | 796.8 | 790.6 | 767.9 | 765.8 | 786.5 | 809.2 | 809.2 |
| 47.5° | 9586.8 | 7506.7 | 1947.6 | 869.3 | 778.2 | 776.1 | 749.2 | 722.3 | 720.2 | 728.5 | 728.5 |
| 50° | 11000.4 | 8301.5 | 1719.9 | 850.6 | 765.8 | 749.2 | 718.2 | 676.8 | 662.3 | 668.5 | 668.5 |
| 52.5° | 13119.7 | 9719.2 | 1633.0 | 825.8 | 738.9 | 712.0 | 676.8 | 635.4 | 623.0 | 625.0 | 625.0 |
| 55° | 15899.3 | 11896.5 | 1620.6 | 796.8 | 709.9 | 666.4 | 637.5 | 606.4 | 591.9 | 596.1 | 596.1 |
| 57.5° | 19295.6 | 14907.9 | 1842.0 | 751.3 | 670.6 | 620.9 | 604.3 | 583.6 | 573.3 | 579.5 | 577.4 |
| 60° | 23424.6 | 18848.6 | 2732.0 | 703.7 | 631.3 | 579.5 | 579.5 | 563.0 | 554.7 | 560.9 | 558.8 |
| 62.5° | 28180.8 | 23375.0 | 3841.3 | 668.5 | 589.9 | 546.4 | 554.7 | 546.4 | 538.1 | 542.3 | 540.2 |
| 65° | 32398.8 | 26324.3 | 3597.1 | 641.6 | 548.5 | 515.4 | 529.8 | 525.7 | 519.5 | 523.6 | 521.6 |
| 67.5° | 32520.9 | 25231.5 | 2020.0 | 612.6 | 509.1 | 484.3 | 505.0 | 502.9 | 498.8 | 502.9 | 500.9 |
| 70° | 29023.1 | 21305.3 | 1138.3 | 558.8 | 467.7 | 447.1 | 476.0 | 474.0 | 469.8 | 478.1 | 476.0 |
| 72.5° | 23252.9 | 15460.5 | 832.0 | 492.6 | 426.4 | 407.7 | 440.8 | 438.8 | 438.8 | 451.2 | 445.0 |
| 75° | 13380.5 | 7955.9 | 664.4 | 422.2 | 382.9 | 368.4 | 397.4 | 399.4 | 403.6 | 420.1 | 407.7 |
| 77.5° | 3814.4 | 2479.5 | 542.3 | 358.1 | 329.1 | 322.9 | 351.8 | 356.0 | 358.1 | 376.7 | 360.1 |
| 80° | 1417.7 | 1142.5 | 447.1 | 300.1 | 269.1 | 271.1 | 298.0 | 304.2 | 306.3 | 324.9 | 304.2 |
| 82.5° | 904.5 | 753.4 | 362.2 | 231.8 | 211.1 | 209.0 | 242.2 | 250.4 | 250.4 | 252.5 | 240.1 |
| 85° | 527.8 | 451.2 | 273.2 | 167.6 | 149.0 | 142.8 | 180.1 | 194.5 | 188.3 | 184.2 | 175.9 |
| 87.5° | 353.9 | 310.5 | 167.6 | 93.1 | 80.7 | 76.6 | 105.6 | 115.9 | 111.8 | 105.6 | 99.3 |
| 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)