

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: P299986

Luminaire Tested: **GLNA-AF-09-LED-E1-SL3-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299986
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24288)
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-SL3-600
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 4000K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND Type V
Square Medium OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 34937.4 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G5

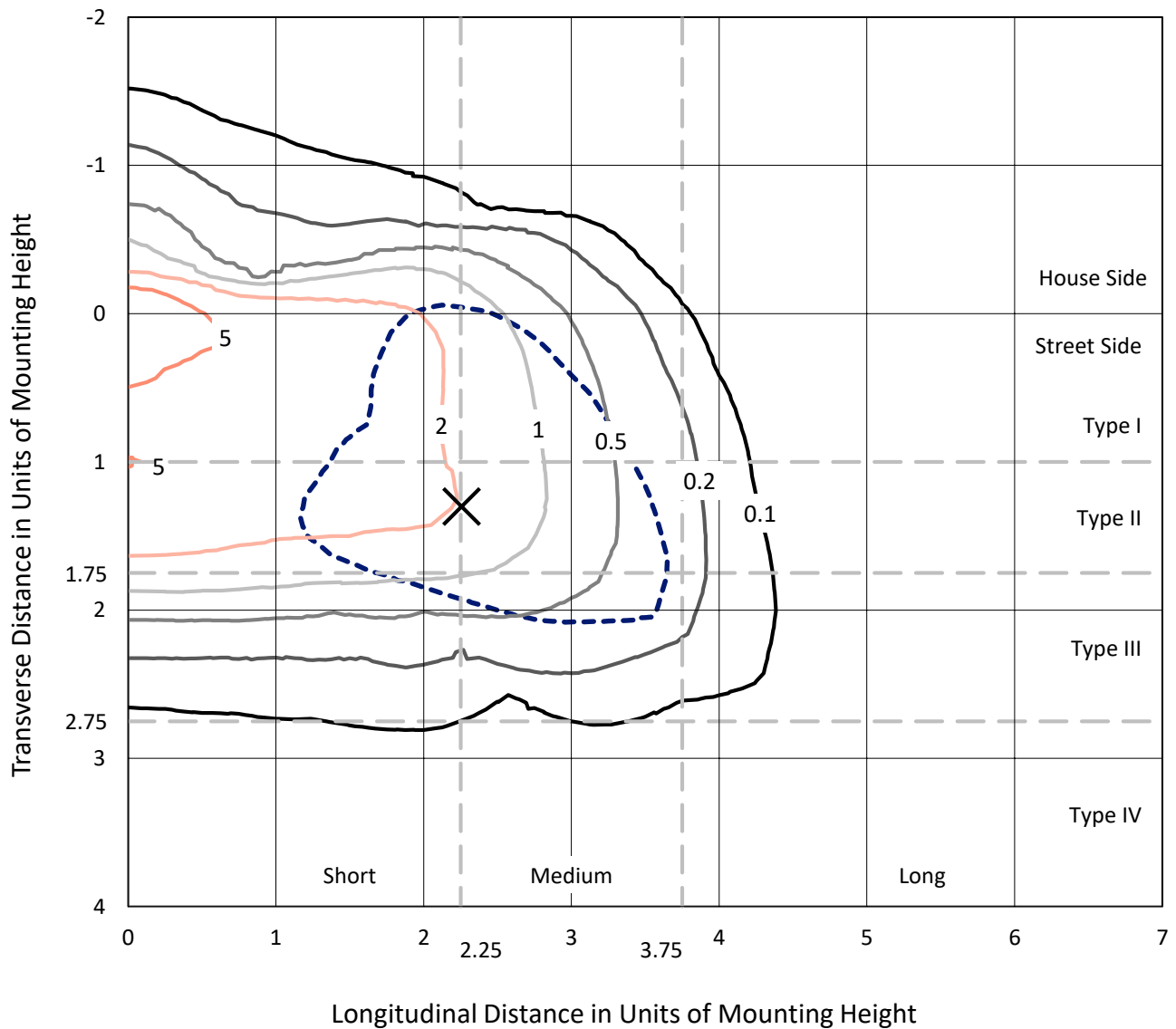
Input Watts (W): 290
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

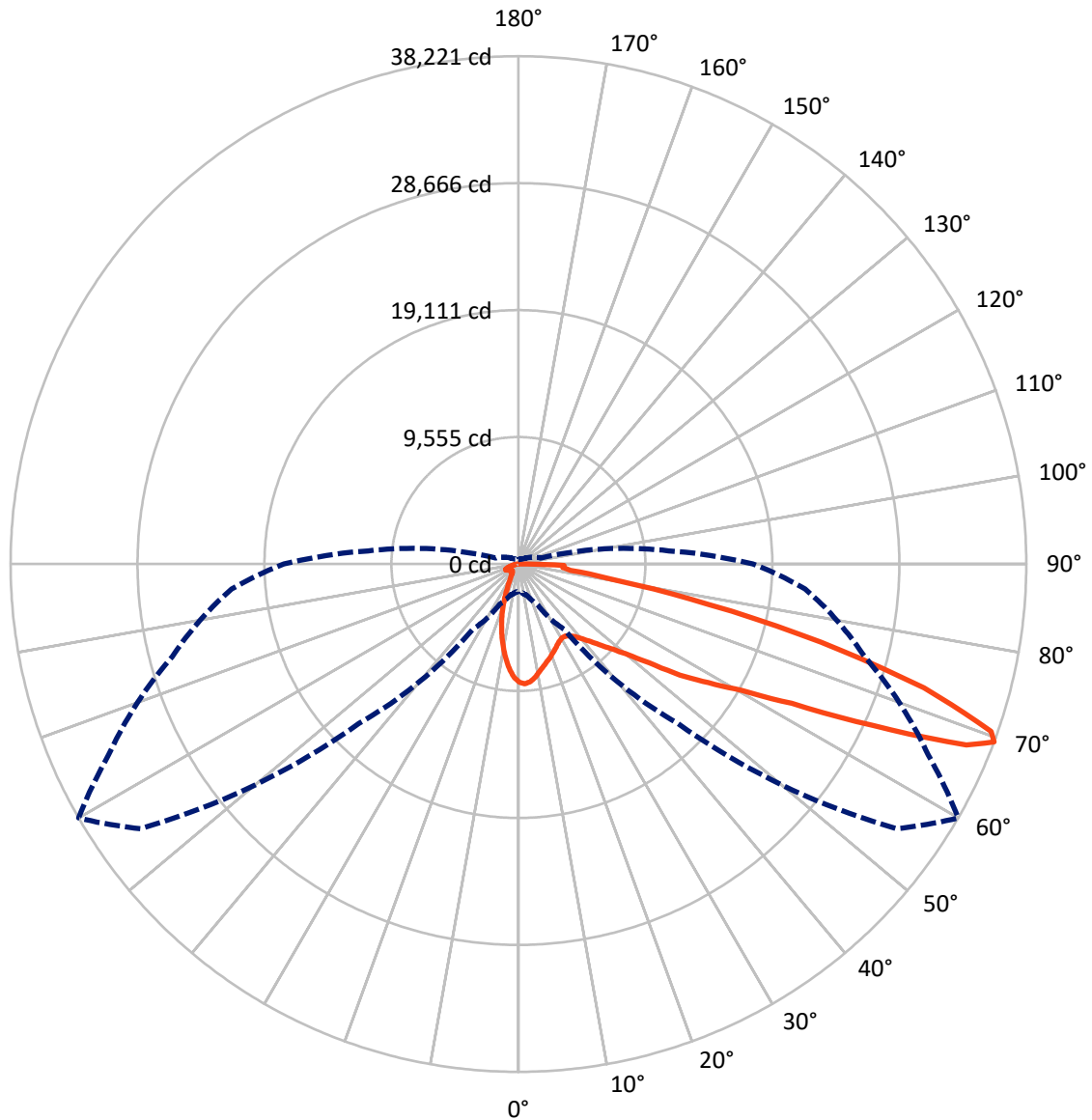
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 9.9 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4970.5 | 0.0 | 4970.5 |
| | % Fixture | 14.2 | 0.0 | 14.2 |
| Street Side | Lumens | 29966.9 | 0.0 | 29966.9 |
| | % Fixture | 85.8 | 0.0 | 85.8 |
| Total | Lumens | 34937.4 | 0.0 | 34937.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 752.7 | 2.2 |
| 10°-20° | 1603.8 | 4.6 |
| 20°-30° | 2043.5 | 5.8 |
| 30°-40° | 2809.3 | 8.0 |
| 40°-50° | 4558.3 | 13.0 |
| 50°-60° | 7310.4 | 20.9 |
| 60°-70° | 9729.6 | 27.8 |
| 70°-80° | 5253.2 | 15.0 |
| 80°-90° | 876.5 | 2.5 |
| 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° | 34937.4 | 100.0 |
| 0°-180° | 34937.4 | 100.0 |

Coefficient of Utilization



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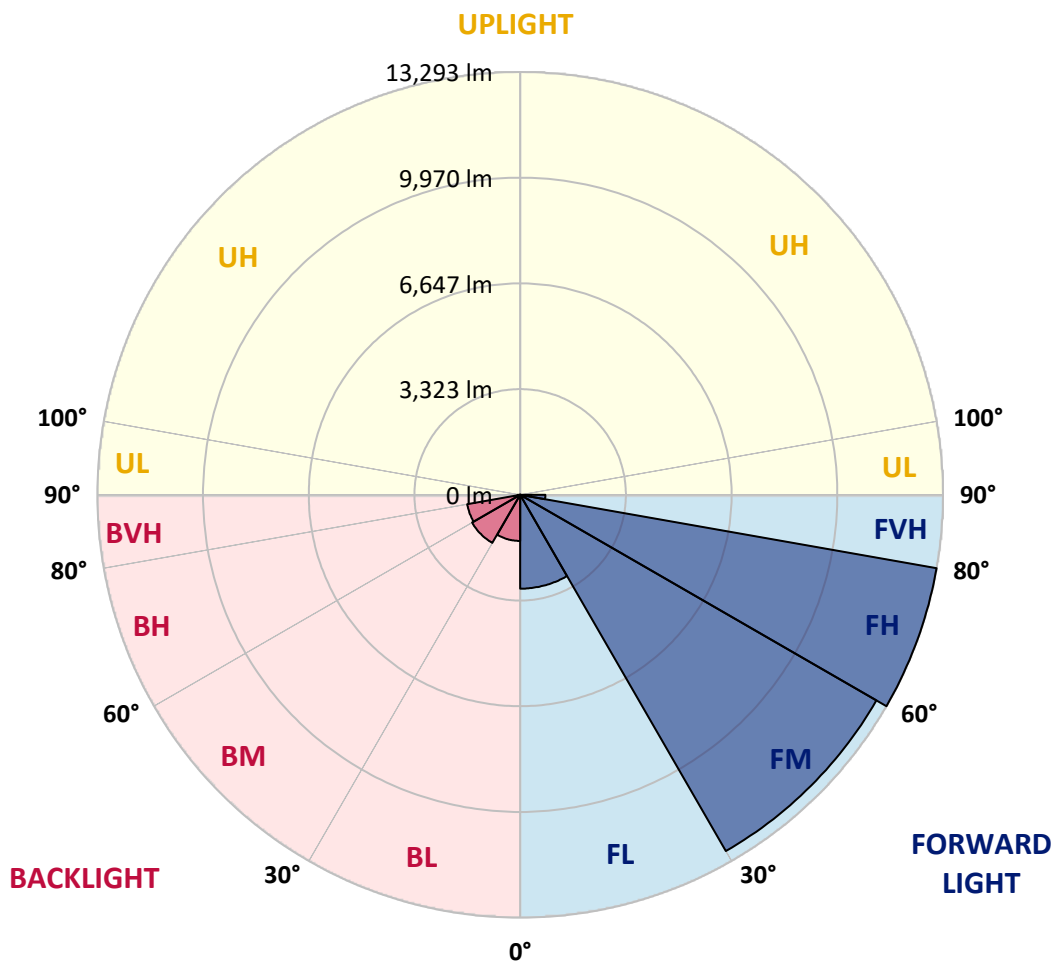
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 2950.0 | 8.4 | | | |
| FM | (30°-60°) | 12931.8 | 37.0 | | | |
| FH | (60°-80°) | 13293.0 | 38.0 | | | G5 |
| FVH | (80°-90°) | 792.1 | 2.3 | | | G5 |
| BL | (0°-30°) | 1450.0 | 4.2 | B3/2500 | | |
| BM | (30°-60°) | 1746.2 | 5.0 | B2/2500 | | |
| BH | (60°-80°) | 1689.8 | 4.8 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 84.4 | 0.2 | | | G1/100 |
| 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 Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 60° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 |
| 2.5° | 9084.9 | 9105.1 | 9096.7 | 9091.6 | 9106.8 | 9083.2 | 9034.2 | 9019.0 | 8995.4 | 8939.7 | 8845.2 |
| 5° | 8743.9 | 8804.7 | 8801.3 | 8846.9 | 8922.8 | 8943.1 | 8921.2 | 8924.5 | 8880.6 | 8811.5 | 8654.5 |
| 7.5° | 8154.9 | 8180.3 | 8193.8 | 8293.3 | 8431.7 | 8543.1 | 8637.6 | 8668.0 | 8647.7 | 8588.7 | 8386.2 |
| 10° | 7547.4 | 7567.6 | 7599.7 | 7716.1 | 7891.7 | 8045.2 | 8224.1 | 8327.1 | 8371.0 | 8360.8 | 8134.7 |
| 12.5° | 7025.9 | 7046.1 | 7088.3 | 7220.0 | 7429.2 | 7618.3 | 7878.2 | 8006.4 | 8111.1 | 8173.5 | 7930.5 |
| 15° | 6558.4 | 6602.3 | 6642.8 | 6794.7 | 7029.2 | 7277.3 | 7571.0 | 7733.0 | 7895.0 | 8035.1 | 7749.9 |
| 17.5° | 6193.8 | 6237.7 | 6261.3 | 6399.7 | 6649.5 | 6953.3 | 7297.6 | 7488.3 | 7690.8 | 7920.3 | 7571.0 |
| 20° | 5982.9 | 6003.1 | 5993.0 | 6070.6 | 6295.1 | 6617.4 | 7025.9 | 7247.0 | 7491.7 | 7812.3 | 7392.1 |
| 22.5° | 5923.8 | 5925.5 | 5888.4 | 5879.9 | 6025.1 | 6296.8 | 6735.6 | 7003.9 | 7304.3 | 7741.5 | 7238.5 |
| 25° | 6067.3 | 6062.2 | 5960.9 | 5878.2 | 5893.4 | 6052.1 | 6455.4 | 6767.7 | 7147.4 | 7726.3 | 7120.4 |
| 27.5° | 6386.2 | 6401.4 | 6251.2 | 6096.0 | 5942.4 | 5937.3 | 6242.8 | 6571.9 | 7019.1 | 7795.5 | 7069.8 |
| 30° | 6833.5 | 6858.8 | 6698.5 | 6501.0 | 6212.4 | 5974.4 | 6160.1 | 6455.4 | 6939.8 | 7938.9 | 7061.3 |
| 32.5° | 7322.9 | 7349.9 | 7228.4 | 7020.8 | 6642.8 | 6204.0 | 6217.5 | 6465.6 | 6936.4 | 8139.7 | 7118.7 |
| 35° | 7844.4 | 7874.8 | 7812.3 | 7636.8 | 7216.6 | 6627.6 | 6436.9 | 6629.3 | 7046.1 | 8446.9 | 7272.3 |
| 37.5° | 8426.7 | 8473.9 | 8490.8 | 8323.7 | 7874.8 | 7186.2 | 6796.3 | 6939.8 | 7294.2 | 8873.9 | 7554.1 |
| 40° | 9265.4 | 9331.3 | 9326.2 | 9086.5 | 8629.2 | 7940.6 | 7351.6 | 7388.7 | 7680.7 | 9444.3 | 8004.7 |
| 42.5° | 10872.1 | 10885.6 | 10465.4 | 9943.9 | 9459.5 | 8733.8 | 8006.4 | 7976.0 | 8214.0 | 10166.7 | 8668.0 |
| 45° | 12915.9 | 12860.2 | 11925.2 | 10917.7 | 10327.0 | 9645.2 | 8858.7 | 8710.2 | 8890.8 | 11047.6 | 9498.3 |
| 47.5° | 14612.1 | 14483.8 | 13302.4 | 11911.7 | 11245.1 | 10635.8 | 9859.5 | 9599.6 | 9699.2 | 12046.8 | 10571.7 |
| 50° | 15201.1 | 15104.9 | 14126.0 | 12738.7 | 12114.3 | 11844.2 | 11091.5 | 10723.6 | 10750.6 | 13238.3 | 11829.0 |
| 52.5° | 15074.5 | 15061.0 | 14407.8 | 13283.8 | 12927.7 | 13113.4 | 12836.6 | 12338.7 | 12075.5 | 14561.4 | 13186.0 |
| 55° | 14775.8 | 14804.5 | 14568.2 | 13918.4 | 13857.7 | 14338.7 | 15116.7 | 14748.8 | 13930.2 | 15896.4 | 14588.4 |
| 57.5° | 13737.8 | 13812.1 | 14331.9 | 14716.7 | 15354.6 | 16070.2 | 16952.9 | 16848.3 | 15926.8 | 17339.4 | 16255.9 |
| 60° | 11067.9 | 11240.0 | 12634.1 | 14561.4 | 16895.5 | 19133.4 | 19528.3 | 19285.3 | 17985.8 | 19130.0 | 18458.3 |
| 62.5° | 7755.0 | 7933.9 | 9591.2 | 12607.1 | 16642.4 | 22593.2 | 24132.3 | 23084.3 | 20942.6 | 21767.9 | 21308.8 |
| 65° | 4151.7 | 4237.8 | 5503.6 | 8747.3 | 14050.1 | 23307.1 | 30861.2 | 29266.3 | 25624.3 | 25020.1 | 23747.5 |
| 67.5° | 2290.2 | 2337.5 | 2821.8 | 4416.7 | 8998.8 | 20524.1 | 35147.9 | 36352.9 | 31475.5 | 27185.4 | 23303.7 |
| 69° | 2070.8 | 2114.7 | 2432.0 | 3345.0 | 6021.7 | 16969.8 | 34729.4 | 38221.2 | 34040.8 | 26971.0 | 21663.2 |
| 70° | 2025.2 | 2065.7 | 2351.0 | 3083.4 | 4874.1 | 13987.6 | 33326.9 | 37743.6 | 34651.7 | 26203.1 | 20232.1 |
| 72.5° | 1822.7 | 1866.6 | 2143.4 | 2769.5 | 4165.2 | 6973.6 | 26398.9 | 31912.6 | 31460.3 | 22719.7 | 15346.2 |
| 75° | 1699.5 | 1740.0 | 2209.2 | 2712.1 | 3988.0 | 4413.3 | 17403.5 | 23519.7 | 23126.5 | 15893.0 | 8274.8 |
| 77.5° | 727.4 | 724.0 | 1024.4 | 2295.3 | 4047.1 | 4273.2 | 9351.5 | 14693.1 | 13405.4 | 6793.0 | 2376.3 |
| 80° | 486.1 | 477.6 | 486.1 | 675.1 | 3711.2 | 4296.9 | 4899.4 | 7457.9 | 5633.5 | 1731.6 | 1171.3 |
| 82.5° | 418.5 | 411.8 | 427.0 | 411.8 | 1304.6 | 4904.4 | 4165.2 | 3966.1 | 2678.4 | 983.9 | 580.6 |
| 85° | 281.8 | 270.0 | 367.9 | 369.6 | 616.0 | 4357.6 | 4691.8 | 3350.1 | 2167.0 | 583.9 | 286.9 |
| 87.5° | 135.0 | 131.6 | 214.3 | 261.6 | 361.2 | 1770.4 | 5263.9 | 3432.8 | 2185.6 | 298.7 | 136.7 |
| 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: GLNA-AF-09-LED-E1-SL3-600

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 | 8902.6 |
| 2.5° | 8816.5 | 8747.3 | 8679.8 | 8598.8 | 8514.4 | 8419.9 | 8372.7 | 8325.4 | 8313.6 | 8300.1 | 8252.8 |
| 5° | 8573.5 | 8475.6 | 8306.8 | 8121.2 | 7925.4 | 7734.7 | 7589.6 | 7498.4 | 7429.2 | 7393.8 | 7331.3 |
| 7.5° | 8259.6 | 8116.1 | 7820.8 | 7500.1 | 7171.0 | 6870.6 | 6610.7 | 6447.0 | 6291.7 | 6219.2 | 6136.5 |
| 10° | 7960.9 | 7746.5 | 7287.5 | 6814.9 | 6342.4 | 5888.4 | 5461.4 | 5159.3 | 4890.9 | 4740.7 | 4634.4 |
| 12.5° | 7704.3 | 7410.7 | 6774.4 | 6134.8 | 5486.7 | 4840.3 | 4200.7 | 3697.7 | 3277.5 | 3056.4 | 2943.3 |
| 15° | 7454.5 | 7100.1 | 6286.7 | 5474.9 | 4642.8 | 3763.6 | 2923.1 | 2352.6 | 2005.0 | 1866.6 | 1819.3 |
| 17.5° | 7228.4 | 6774.4 | 5797.2 | 4809.9 | 3772.0 | 2708.7 | 1964.5 | 1650.6 | 1517.2 | 1471.7 | 1456.5 |
| 20° | 6983.7 | 6445.3 | 5289.2 | 4114.6 | 2864.0 | 1893.6 | 1534.1 | 1395.7 | 1341.7 | 1328.2 | 1321.5 |
| 22.5° | 6747.4 | 6121.3 | 4803.2 | 3370.3 | 2057.3 | 1461.5 | 1318.1 | 1260.7 | 1252.3 | 1264.1 | 1264.1 |
| 25° | 6546.6 | 5831.0 | 4278.3 | 2592.3 | 1510.5 | 1230.3 | 1179.7 | 1166.2 | 1198.3 | 1242.1 | 1250.6 |
| 27.5° | 6396.4 | 5593.0 | 3719.7 | 1913.8 | 1203.3 | 1070.0 | 1068.3 | 1090.3 | 1169.6 | 1254.0 | 1270.8 |
| 30° | 6293.4 | 5366.9 | 3122.2 | 1380.5 | 1009.2 | 941.7 | 968.7 | 1016.0 | 1132.4 | 1252.3 | 1284.3 |
| 32.5° | 6241.1 | 5199.8 | 2499.5 | 1068.3 | 864.1 | 827.0 | 872.5 | 929.9 | 1044.7 | 1156.1 | 1198.3 |
| 35° | 6281.6 | 5076.6 | 1912.2 | 891.1 | 762.8 | 734.1 | 781.4 | 837.1 | 904.6 | 951.9 | 983.9 |
| 37.5° | 6433.5 | 5027.6 | 1443.0 | 798.3 | 693.6 | 666.6 | 703.8 | 735.8 | 762.8 | 776.3 | 791.5 |
| 40° | 6760.9 | 5080.0 | 1156.1 | 751.0 | 654.8 | 621.1 | 636.3 | 648.1 | 665.0 | 678.5 | 685.2 |
| 42.5° | 7243.6 | 5236.9 | 1036.2 | 732.5 | 634.6 | 585.6 | 582.3 | 587.3 | 609.3 | 634.6 | 639.6 |
| 45° | 7918.7 | 5513.7 | 1027.8 | 744.3 | 624.4 | 556.9 | 541.7 | 548.5 | 582.3 | 621.1 | 627.8 |
| 47.5° | 8781.1 | 5935.6 | 1095.3 | 779.7 | 632.9 | 541.7 | 516.4 | 524.9 | 567.1 | 619.4 | 627.8 |
| 50° | 9825.8 | 6524.6 | 1208.4 | 832.0 | 670.0 | 545.1 | 508.0 | 513.1 | 556.9 | 614.3 | 622.8 |
| 52.5° | 11059.5 | 7360.0 | 1331.6 | 882.7 | 708.8 | 567.1 | 514.7 | 502.9 | 543.4 | 594.1 | 604.2 |
| 55° | 12431.6 | 8431.7 | 1458.2 | 928.2 | 729.1 | 594.1 | 528.2 | 489.4 | 518.1 | 560.3 | 568.8 |
| 57.5° | 14115.9 | 9930.4 | 1677.6 | 972.1 | 742.6 | 612.6 | 541.7 | 475.9 | 486.1 | 516.4 | 523.2 |
| 60° | 16395.9 | 12050.1 | 2064.1 | 1044.7 | 773.0 | 619.4 | 540.1 | 464.1 | 454.0 | 470.9 | 474.2 |
| 62.5° | 19128.3 | 14352.2 | 2386.4 | 1135.8 | 823.6 | 624.4 | 529.9 | 455.7 | 427.0 | 427.0 | 430.4 |
| 65° | 20750.2 | 14968.2 | 2207.5 | 1211.8 | 865.8 | 619.4 | 518.1 | 447.2 | 406.7 | 388.2 | 389.9 |
| 67.5° | 19374.7 | 13164.0 | 1891.9 | 1227.0 | 864.1 | 595.8 | 499.6 | 432.0 | 386.5 | 357.8 | 356.1 |
| 69° | 17651.6 | 11358.2 | 1750.1 | 1186.4 | 823.6 | 565.4 | 475.9 | 415.2 | 371.3 | 340.9 | 339.2 |
| 70° | 16262.6 | 10256.1 | 1657.3 | 1142.6 | 779.7 | 543.4 | 457.4 | 400.0 | 359.5 | 330.8 | 327.4 |
| 72.5° | 11824.0 | 6720.4 | 1416.0 | 982.2 | 643.0 | 455.7 | 394.9 | 351.0 | 320.7 | 303.8 | 300.4 |
| 75° | 5908.6 | 3204.9 | 1149.3 | 796.6 | 492.8 | 364.5 | 324.0 | 293.7 | 278.5 | 275.1 | 273.4 |
| 77.5° | 1940.8 | 1468.3 | 821.9 | 594.1 | 366.2 | 285.2 | 261.6 | 239.7 | 236.3 | 246.4 | 243.0 |
| 80° | 1066.6 | 854.0 | 521.5 | 393.2 | 249.8 | 209.3 | 205.9 | 194.1 | 199.1 | 216.0 | 212.6 |
| 82.5° | 543.4 | 443.9 | 322.3 | 236.3 | 168.8 | 150.2 | 163.7 | 157.0 | 163.7 | 178.9 | 177.2 |
| 85° | 268.3 | 243.0 | 204.2 | 143.5 | 111.4 | 96.2 | 116.5 | 121.5 | 124.9 | 136.7 | 136.7 |
| 87.5° | 155.3 | 143.5 | 108.0 | 67.5 | 55.7 | 50.6 | 67.5 | 65.8 | 77.6 | 84.4 | 82.7 |
| 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)