

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P437769

Luminaire Tested: **ISC-SA1E-830-U-SLR-HSS**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437769  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISC-SA1E-830-U-SLR-HSS  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE  
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4249 lumens  
Efficiency: N/A  
Efficacy: 73.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

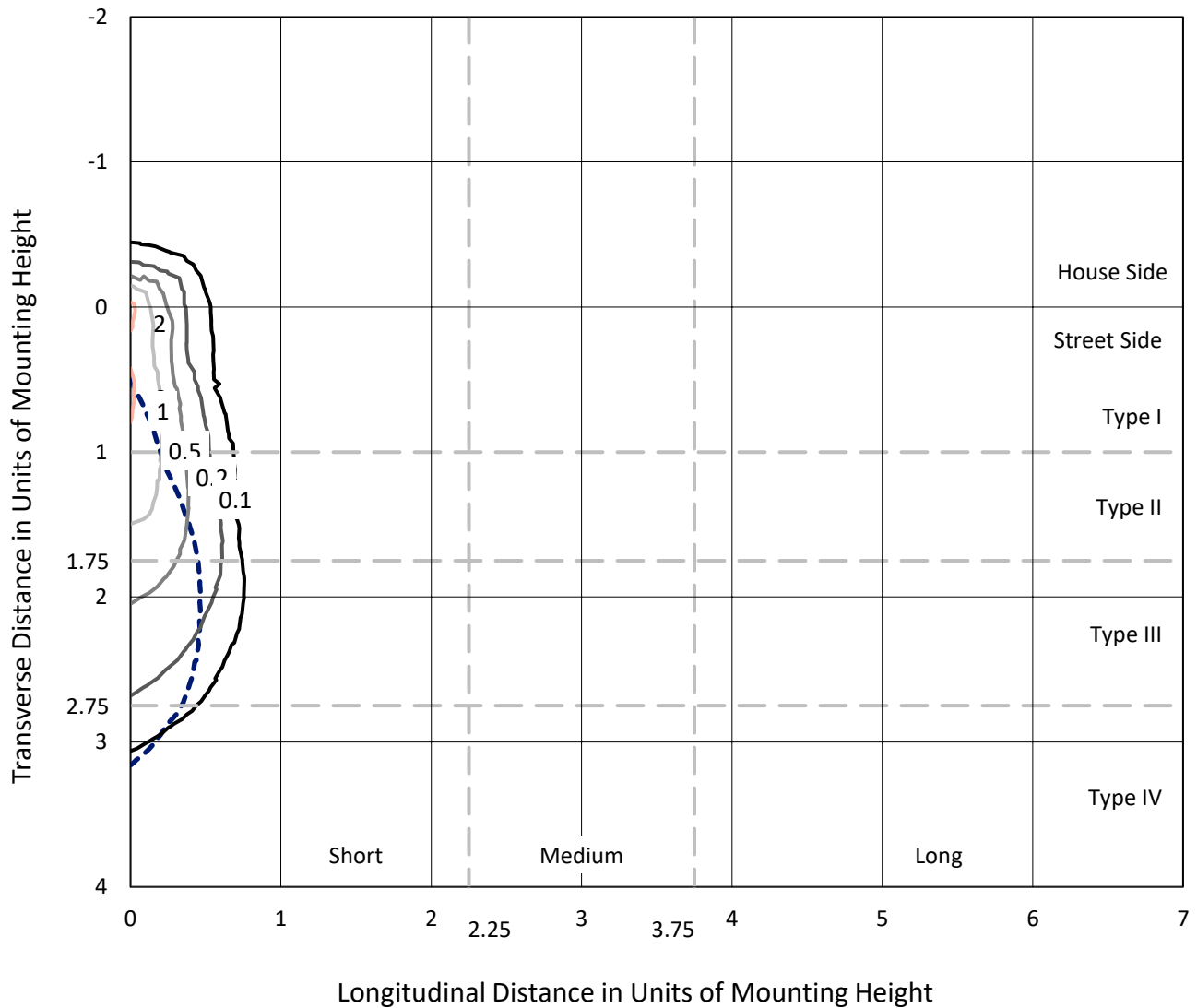
Input Watts (W): 58.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

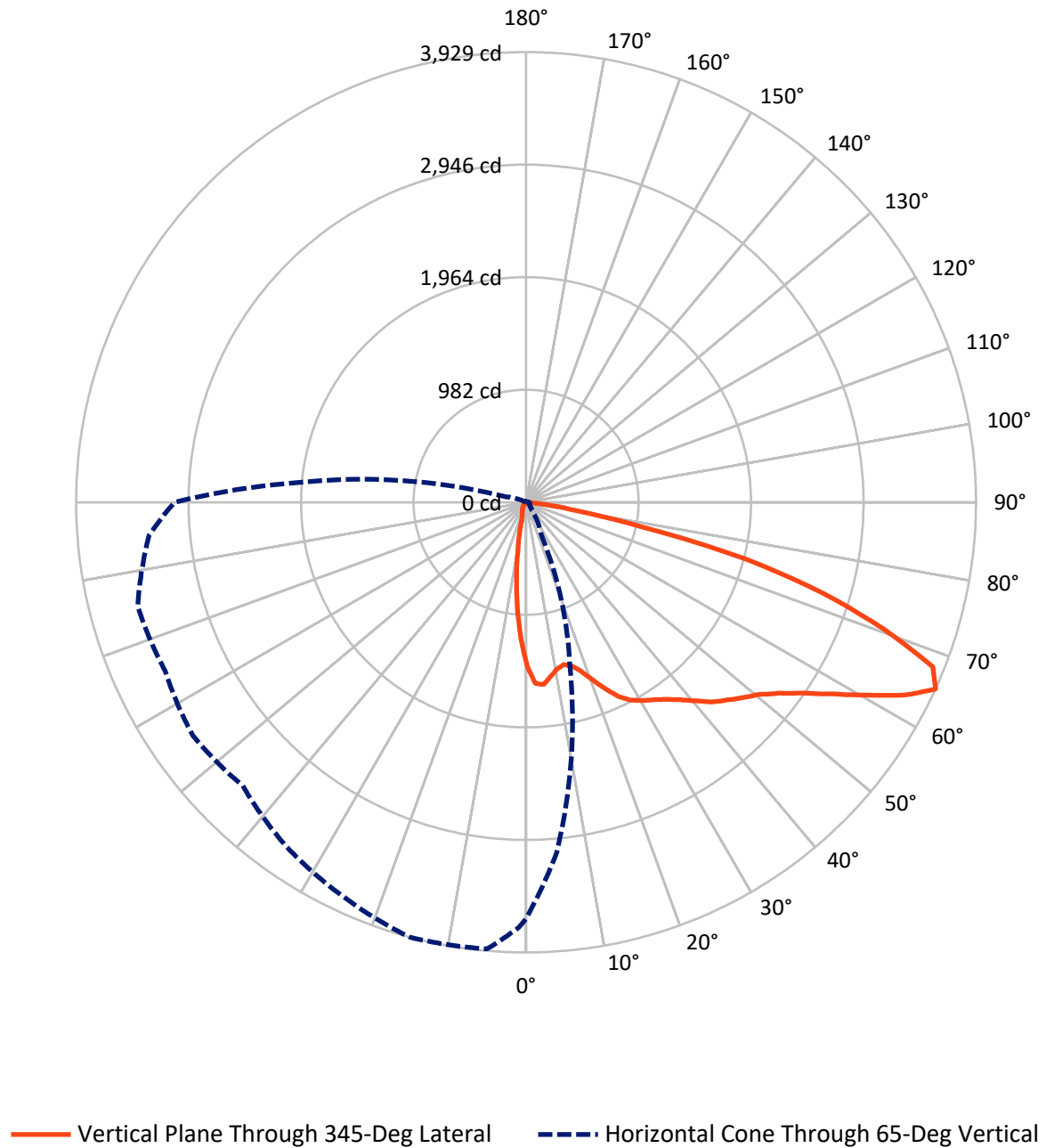
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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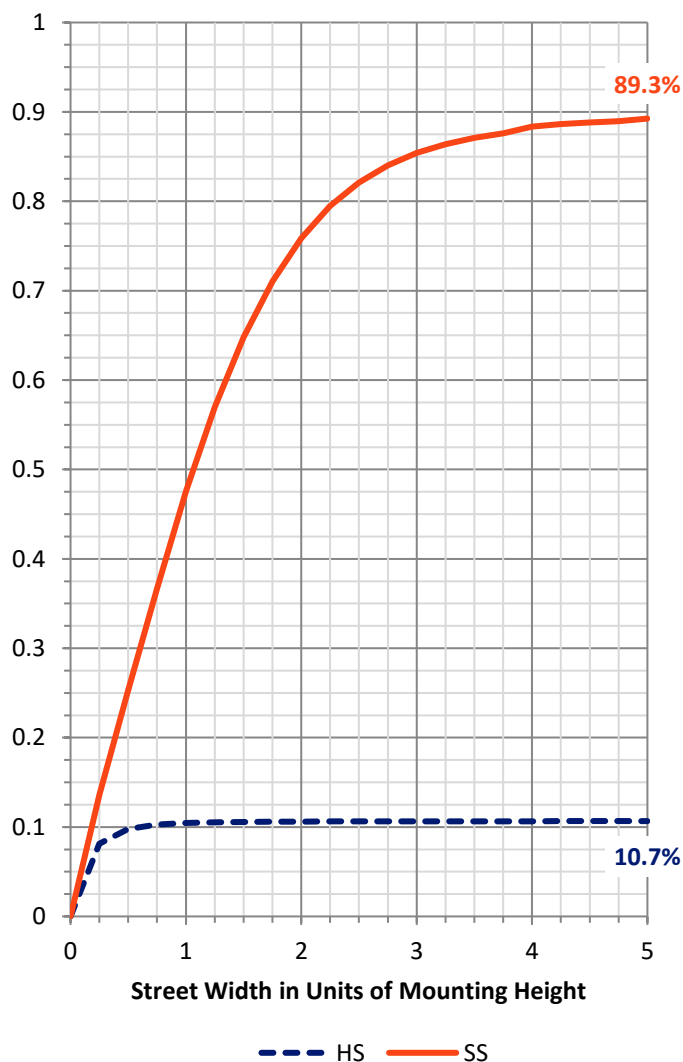
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 458.1    | 0.0    | 458.1  |
|                    | % Fixture | 10.8     | 0.0    | 10.8   |
| <b>Street Side</b> | Lumens    | 3790.9   | 0.0    | 3790.9 |
|                    | % Fixture | 89.2     | 0.0    | 89.2   |
| <b>Total</b>       | Lumens    | 4249.0   | 0.0    | 4249.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 106.4  | 2.5       |
| 10°-20°   | 207.2  | 4.9       |
| 20°-30°   | 302.2  | 7.1       |
| 30°-40°   | 449.1  | 10.6      |
| 40°-50°   | 658.4  | 15.5      |
| 50°-60°   | 947.4  | 22.3      |
| 60°-70°   | 1062.9 | 25.0      |
| 70°-80°   | 466.3  | 11.0      |
| 80°-90°   | 49.1   | 1.2       |
| 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°    | 4249.0 | 100.0     |
| 0°-180°   | 4249.0 | 100.0     |

**Coefficient of Utilization**



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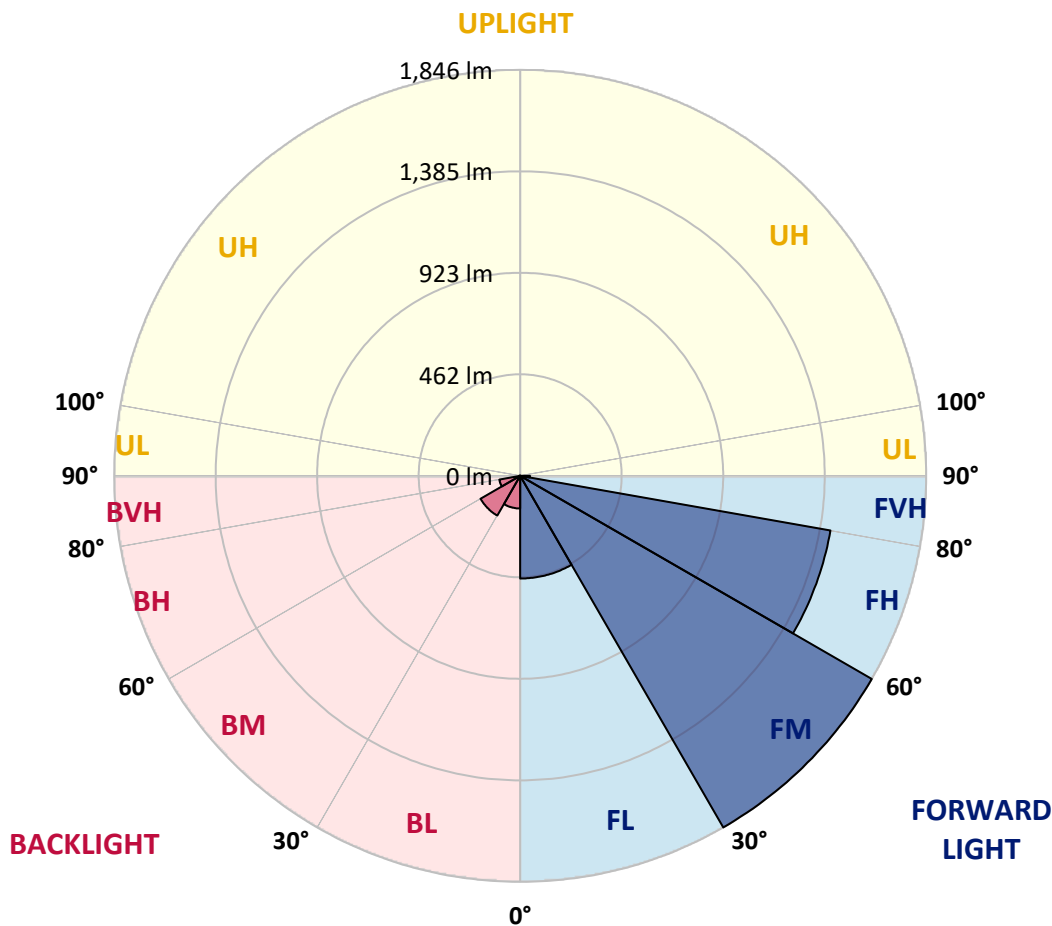
CATALOG NUMBER: ISC-SA1E-830-U-SLR-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 467.2  | 11.0      |                         |      |         |
| FM (30°-60°)   | 1846.5 | 43.5      |                         |      |         |
| FH (60°-80°)   | 1432.9 | 33.7      |                         |      | G1/1800 |
| FVH (80°-90°)  | 44.3   | 1.0       |                         |      | G1/100  |
| BL (0°-30°)    | 148.6  | 3.5       | B1/500                  |      |         |
| BM (30°-60°)   | 208.5  | 4.9       | B0/220                  |      |         |
| BH (60°-80°)   | 96.3   | 2.3       | B0/110                  |      | G0/110  |
| BVH (80°-90°)  | 4.8    | 0.1       |                         |      | G0/10   |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 |
| 2.5°  | 1517.6 | 1517.6 | 1495.1 | 1442.1 | 1393.1 | 1334.0 | 1301.3 | 1270.7 | 1238.1 | 1215.7 | 1181.0 |
| 5°    | 1446.2 | 1431.9 | 1399.2 | 1301.3 | 1197.3 | 1128.0 | 1074.9 | 981.1  | 936.2  | 903.6  | 889.3  |
| 7.5°  | 1327.9 | 1319.7 | 1266.7 | 1152.4 | 1028.0 | 915.8  | 844.4  | 766.9  | 705.7  | 681.3  | 638.4  |
| 10°   | 1246.3 | 1238.1 | 1170.8 | 1015.8 | 871.0  | 789.4  | 732.3  | 677.2  | 618.0  | 558.9  | 514.0  |
| 12.5° | 1205.5 | 1189.2 | 1123.9 | 948.5  | 824.0  | 744.5  | 679.2  | 611.9  | 538.5  | 473.2  | 420.2  |
| 15°   | 1215.7 | 1189.2 | 1115.7 | 936.2  | 789.4  | 691.5  | 607.8  | 509.9  | 436.5  | 359.0  | 310.0  |
| 17.5° | 1287.1 | 1258.5 | 1168.8 | 946.4  | 744.5  | 620.1  | 509.9  | 399.8  | 301.9  | 230.5  | 206.0  |
| 20°   | 1419.6 | 1389.0 | 1266.7 | 968.9  | 715.9  | 548.7  | 393.7  | 275.4  | 199.9  | 167.3  | 153.0  |
| 22.5° | 1588.9 | 1548.1 | 1403.3 | 1005.6 | 683.3  | 477.3  | 297.8  | 195.8  | 153.0  | 132.6  | 122.4  |
| 25°   | 1766.4 | 1725.6 | 1564.5 | 1060.7 | 662.9  | 416.1  | 230.5  | 153.0  | 124.4  | 112.2  | 106.1  |
| 27.5° | 1927.5 | 1876.5 | 1709.3 | 1142.2 | 638.4  | 361.0  | 191.7  | 132.6  | 112.2  | 97.9   | 93.8   |
| 30°   | 2074.4 | 2015.2 | 1854.1 | 1211.6 | 603.8  | 312.1  | 165.2  | 122.4  | 104.0  | 91.8   | 85.7   |
| 32.5° | 2198.8 | 2151.9 | 1972.4 | 1260.5 | 575.2  | 285.6  | 146.9  | 108.1  | 89.7   | 79.5   | 75.5   |
| 35°   | 2347.7 | 2302.8 | 2086.6 | 1301.3 | 556.8  | 273.3  | 134.6  | 102.0  | 83.6   | 73.4   | 65.3   |
| 37.5° | 2549.7 | 2484.4 | 2213.1 | 1338.1 | 536.4  | 263.1  | 124.4  | 95.9   | 79.5   | 67.3   | 61.2   |
| 40°   | 2731.2 | 2659.8 | 2360.0 | 1364.6 | 526.2  | 255.0  | 122.4  | 91.8   | 75.5   | 63.2   | 57.1   |
| 42.5° | 2892.3 | 2827.1 | 2478.3 | 1374.8 | 518.1  | 240.7  | 120.3  | 89.7   | 75.5   | 61.2   | 53.0   |
| 45°   | 2994.3 | 2935.2 | 2619.0 | 1401.3 | 518.1  | 230.5  | 112.2  | 89.7   | 73.4   | 59.2   | 51.0   |
| 47.5° | 3088.1 | 3031.0 | 2741.4 | 1429.8 | 509.9  | 222.3  | 102.0  | 97.9   | 73.4   | 57.1   | 46.9   |
| 50°   | 3224.8 | 3179.9 | 2896.4 | 1515.5 | 495.7  | 210.1  | 91.8   | 95.9   | 75.5   | 55.1   | 46.9   |
| 52.5° | 3398.2 | 3377.8 | 3124.9 | 1631.8 | 475.3  | 187.7  | 81.6   | 89.7   | 75.5   | 53.0   | 44.9   |
| 55°   | 3589.9 | 3581.7 | 3363.5 | 1737.8 | 450.8  | 161.1  | 75.5   | 81.6   | 73.4   | 49.0   | 40.8   |
| 57.5° | 3706.2 | 3706.2 | 3518.5 | 1797.0 | 430.4  | 128.5  | 67.3   | 67.3   | 71.4   | 44.9   | 36.7   |
| 60°   | 3749.0 | 3704.1 | 3500.2 | 1790.9 | 395.7  | 106.1  | 61.2   | 55.1   | 75.5   | 38.8   | 32.6   |
| 62.5° | 3744.9 | 3647.0 | 3328.8 | 1693.0 | 348.8  | 97.9   | 53.0   | 46.9   | 55.1   | 34.7   | 28.6   |
| 65°   | 3634.8 | 3516.5 | 3067.7 | 1474.7 | 314.1  | 97.9   | 44.9   | 38.8   | 36.7   | 30.6   | 22.4   |
| 67.5° | 3330.9 | 3259.5 | 2686.3 | 1250.3 | 289.6  | 97.9   | 38.8   | 32.6   | 28.6   | 24.5   | 20.4   |
| 70°   | 2829.1 | 2735.3 | 2164.1 | 964.8  | 271.3  | 97.9   | 32.6   | 28.6   | 26.5   | 20.4   | 16.3   |
| 72.5° | 1843.9 | 1790.9 | 1323.8 | 662.9  | 222.3  | 95.9   | 28.6   | 26.5   | 24.5   | 18.4   | 14.3   |
| 75°   | 1003.5 | 928.1  | 728.2  | 236.6  | 159.1  | 69.4   | 24.5   | 22.4   | 18.4   | 16.3   | 12.2   |
| 77.5° | 434.5  | 418.1  | 371.2  | 63.2   | 46.9   | 20.4   | 14.3   | 14.3   | 12.2   | 12.2   | 8.2    |
| 80°   | 57.1   | 42.8   | 49.0   | 18.4   | 16.3   | 10.2   | 8.2    | 6.1    | 6.1    | 6.1    | 4.1    |
| 82.5° | 2.0    | 2.0    | 0.0    | 2.0    | 6.1    | 4.1    | 0.0    | 0.0    | 2.0    | 2.0    | 2.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 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°    | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 |
| 2.5°  | 1197.3 | 1172.8 | 1154.5 | 1154.5 | 1179.0 | 1164.7 | 1181.0 | 1170.8 | 1199.4 | 1213.6 | 1209.6 |
| 5°    | 858.7  | 868.9  | 858.7  | 875.0  | 901.6  | 915.8  | 924.0  | 944.4  | 942.4  | 950.5  | 964.8  |
| 7.5°  | 622.1  | 622.1  | 626.2  | 622.1  | 646.6  | 673.1  | 687.4  | 681.3  | 677.2  | 669.0  | 683.3  |
| 10°   | 499.7  | 477.3  | 450.8  | 450.8  | 454.9  | 469.1  | 471.2  | 461.0  | 446.7  | 420.2  | 428.3  |
| 12.5° | 391.6  | 375.3  | 359.0  | 324.3  | 322.3  | 314.1  | 312.1  | 283.5  | 261.1  | 252.9  | 252.9  |
| 15°   | 287.6  | 277.4  | 259.0  | 242.7  | 226.4  | 218.3  | 204.0  | 169.3  | 146.9  | 144.8  | 146.9  |
| 17.5° | 191.7  | 185.6  | 179.5  | 179.5  | 173.4  | 159.1  | 144.8  | 122.4  | 112.2  | 108.1  | 110.1  |
| 20°   | 142.8  | 140.7  | 134.6  | 136.7  | 136.7  | 124.4  | 110.1  | 99.9   | 95.9   | 95.9   | 97.9   |
| 22.5° | 118.3  | 116.3  | 110.1  | 110.1  | 110.1  | 104.0  | 93.8   | 87.7   | 85.7   | 85.7   | 85.7   |
| 25°   | 102.0  | 99.9   | 95.9   | 93.8   | 93.8   | 89.7   | 81.6   | 77.5   | 75.5   | 75.5   | 75.5   |
| 27.5° | 91.8   | 89.7   | 85.7   | 81.6   | 81.6   | 77.5   | 73.4   | 67.3   | 67.3   | 67.3   | 67.3   |
| 30°   | 81.6   | 79.5   | 77.5   | 73.4   | 71.4   | 67.3   | 63.2   | 61.2   | 59.2   | 59.2   | 59.2   |
| 32.5° | 73.4   | 71.4   | 69.4   | 67.3   | 63.2   | 59.2   | 55.1   | 53.0   | 51.0   | 51.0   | 51.0   |
| 35°   | 63.2   | 59.2   | 57.1   | 59.2   | 57.1   | 51.0   | 49.0   | 44.9   | 42.8   | 42.8   | 42.8   |
| 37.5° | 57.1   | 53.0   | 49.0   | 46.9   | 46.9   | 46.9   | 42.8   | 38.8   | 36.7   | 34.7   | 36.7   |
| 40°   | 53.0   | 49.0   | 44.9   | 40.8   | 38.8   | 40.8   | 36.7   | 32.6   | 30.6   | 28.6   | 30.6   |
| 42.5° | 49.0   | 44.9   | 38.8   | 34.7   | 30.6   | 34.7   | 30.6   | 26.5   | 24.5   | 22.4   | 24.5   |
| 45°   | 46.9   | 42.8   | 36.7   | 30.6   | 26.5   | 26.5   | 26.5   | 22.4   | 18.4   | 18.4   | 18.4   |
| 47.5° | 44.9   | 40.8   | 32.6   | 26.5   | 22.4   | 20.4   | 20.4   | 16.3   | 14.3   | 12.2   | 12.2   |
| 50°   | 42.8   | 38.8   | 30.6   | 22.4   | 18.4   | 16.3   | 16.3   | 12.2   | 10.2   | 10.2   | 10.2   |
| 52.5° | 40.8   | 36.7   | 28.6   | 20.4   | 16.3   | 12.2   | 10.2   | 8.2    | 8.2    | 6.1    | 6.1    |
| 55°   | 36.7   | 32.6   | 24.5   | 18.4   | 14.3   | 10.2   | 8.2    | 6.1    | 6.1    | 4.1    | 6.1    |
| 57.5° | 34.7   | 30.6   | 22.4   | 16.3   | 12.2   | 8.2    | 6.1    | 4.1    | 4.1    | 4.1    | 4.1    |
| 60°   | 30.6   | 26.5   | 18.4   | 12.2   | 8.2    | 6.1    | 4.1    | 4.1    | 4.1    | 2.0    | 2.0    |
| 62.5° | 24.5   | 22.4   | 16.3   | 10.2   | 6.1    | 4.1    | 2.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 65°   | 22.4   | 20.4   | 14.3   | 8.2    | 4.1    | 2.0    | 2.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 67.5° | 18.4   | 16.3   | 10.2   | 6.1    | 2.0    | 2.0    | 0.0    | 2.0    | 2.0    | 0.0    | 0.0    |
| 70°   | 14.3   | 14.3   | 8.2    | 4.1    | 2.0    | 0.0    | 0.0    | 2.0    | 2.0    | 0.0    | 0.0    |
| 72.5° | 12.2   | 12.2   | 8.2    | 2.0    | 0.0    | 0.0    | 0.0    | 2.0    | 2.0    | 2.0    | 0.0    |
| 75°   | 10.2   | 10.2   | 8.2    | 4.1    | 0.0    | 0.0    | 0.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 77.5° | 8.2    | 6.1    | 4.1    | 2.0    | 0.0    | 0.0    | 0.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 80°   | 4.1    | 4.1    | 2.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 82.5° | 2.0    | 2.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.0    | 4.1    | 4.1    | 2.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.0    | 4.1    | 4.1    | 4.1    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.0    | 4.1    | 4.1    | 4.1    | 4.1    |
| 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):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°   | 270°   | 275°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 |
| 2.5°  | 1219.8 | 1252.4 | 1289.1 | 1311.5 | 1360.5 | 1403.3 | 1454.3 | 1499.2 | 1552.2 | 1580.8 | 1591.0 |
| 5°    | 979.1  | 997.4  | 1044.3 | 1105.5 | 1160.6 | 1238.1 | 1327.9 | 1427.8 | 1535.9 | 1586.9 | 1623.6 |
| 7.5°  | 675.1  | 691.5  | 758.8  | 815.9  | 907.7  | 1007.6 | 1130.0 | 1266.7 | 1407.4 | 1478.8 | 1544.1 |
| 10°   | 440.6  | 463.0  | 520.1  | 599.7  | 715.9  | 838.3  | 962.7  | 1105.5 | 1268.7 | 1352.3 | 1440.0 |
| 12.5° | 255.0  | 281.5  | 350.8  | 454.9  | 569.1  | 699.6  | 828.1  | 985.2  | 1166.7 | 1258.5 | 1348.3 |
| 15°   | 146.9  | 157.1  | 197.9  | 289.6  | 418.1  | 577.2  | 728.2  | 897.5  | 1109.6 | 1211.6 | 1317.7 |
| 17.5° | 110.1  | 116.3  | 128.5  | 167.3  | 267.2  | 442.6  | 654.8  | 871.0  | 1115.7 | 1252.4 | 1346.2 |
| 20°   | 97.9   | 102.0  | 108.1  | 122.4  | 169.3  | 314.1  | 565.0  | 852.6  | 1174.9 | 1350.3 | 1464.5 |
| 22.5° | 87.7   | 91.8   | 97.9   | 108.1  | 128.5  | 212.1  | 471.2  | 850.6  | 1272.8 | 1495.1 | 1623.6 |
| 25°   | 77.5   | 81.6   | 87.7   | 97.9   | 114.2  | 153.0  | 365.1  | 844.4  | 1395.2 | 1654.2 | 1815.4 |
| 27.5° | 67.3   | 71.4   | 77.5   | 87.7   | 102.0  | 126.5  | 277.4  | 826.1  | 1542.0 | 1825.5 | 1996.9 |
| 30°   | 59.2   | 63.2   | 69.4   | 77.5   | 91.8   | 110.1  | 212.1  | 795.5  | 1668.5 | 1978.5 | 2119.3 |
| 32.5° | 51.0   | 55.1   | 61.2   | 69.4   | 81.6   | 95.9   | 171.3  | 730.2  | 1766.4 | 2098.9 | 2219.2 |
| 35°   | 42.8   | 46.9   | 53.0   | 61.2   | 71.4   | 81.6   | 140.7  | 624.2  | 1866.3 | 2223.3 | 2339.6 |
| 37.5° | 36.7   | 40.8   | 44.9   | 53.0   | 63.2   | 73.4   | 116.3  | 556.8  | 1939.8 | 2378.3 | 2492.5 |
| 40°   | 30.6   | 34.7   | 40.8   | 46.9   | 55.1   | 69.4   | 93.8   | 467.1  | 2013.2 | 2527.2 | 2633.3 |
| 42.5° | 24.5   | 28.6   | 34.7   | 42.8   | 51.0   | 61.2   | 75.5   | 385.5  | 2086.6 | 2661.8 | 2761.8 |
| 45°   | 18.4   | 22.4   | 28.6   | 38.8   | 51.0   | 53.0   | 61.2   | 328.4  | 2105.0 | 2788.3 | 2874.0 |
| 47.5° | 14.3   | 16.3   | 22.4   | 32.6   | 49.0   | 46.9   | 51.0   | 285.6  | 2139.7 | 2888.2 | 2984.1 |
| 50°   | 10.2   | 12.2   | 18.4   | 30.6   | 42.8   | 38.8   | 44.9   | 269.2  | 2188.6 | 2965.8 | 3016.7 |
| 52.5° | 8.2    | 10.2   | 14.3   | 26.5   | 34.7   | 34.7   | 40.8   | 285.6  | 2251.9 | 3057.5 | 3100.4 |
| 55°   | 6.1    | 8.2    | 12.2   | 18.4   | 26.5   | 30.6   | 38.8   | 308.0  | 2374.2 | 3218.7 | 3210.5 |
| 57.5° | 4.1    | 6.1    | 10.2   | 14.3   | 20.4   | 26.5   | 36.7   | 342.7  | 2498.7 | 3400.2 | 3408.4 |
| 60°   | 4.1    | 6.1    | 8.2    | 12.2   | 18.4   | 22.4   | 32.6   | 346.8  | 2478.3 | 3426.7 | 3547.1 |
| 62.5° | 2.0    | 4.1    | 8.2    | 10.2   | 14.3   | 18.4   | 28.6   | 291.7  | 2282.4 | 3298.2 | 3473.6 |
| 65°   | 2.0    | 4.1    | 6.1    | 10.2   | 12.2   | 16.3   | 22.4   | 185.6  | 1986.7 | 3069.8 | 3302.3 |
| 67.5° | 2.0    | 4.1    | 6.1    | 8.2    | 10.2   | 14.3   | 18.4   | 95.9   | 1684.8 | 2833.2 | 3057.5 |
| 70°   | 2.0    | 4.1    | 6.1    | 8.2    | 10.2   | 12.2   | 16.3   | 46.9   | 1276.9 | 2388.5 | 2678.2 |
| 72.5° | 2.0    | 4.1    | 6.1    | 8.2    | 8.2    | 10.2   | 14.3   | 32.6   | 820.0  | 1795.0 | 2074.4 |
| 75°   | 2.0    | 4.1    | 4.1    | 6.1    | 8.2    | 10.2   | 12.2   | 22.4   | 530.3  | 1207.5 | 1572.6 |
| 77.5° | 2.0    | 4.1    | 4.1    | 6.1    | 8.2    | 10.2   | 14.3   | 20.4   | 387.5  | 828.1  | 1087.2 |
| 80°   | 2.0    | 4.1    | 4.1    | 6.1    | 8.2    | 8.2    | 10.2   | 14.3   | 208.1  | 548.7  | 691.5  |
| 82.5° | 4.1    | 4.1    | 6.1    | 6.1    | 6.1    | 8.2    | 10.2   | 10.2   | 108.1  | 350.8  | 467.1  |
| 85°   | 4.1    | 4.1    | 6.1    | 6.1    | 8.2    | 8.2    | 8.2    | 10.2   | 46.9   | 146.9  | 232.5  |
| 87.5° | 4.1    | 6.1    | 6.1    | 6.1    | 8.2    | 8.2    | 8.2    | 8.2    | 6.1    | 8.2    | 8.2    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P437769

CATALOG NUMBER: ISC-SA1E-830-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 | 1433.9 |
| 2.5°  | 1621.6 | 1648.1 | 1660.3 | 1650.1 | 1642.0 | 1617.5 | 1582.8 | 1548.1 | 1519.6 | 1517.6 |
| 5°    | 1707.2 | 1764.4 | 1809.2 | 1786.8 | 1756.2 | 1684.8 | 1597.1 | 1499.2 | 1462.5 | 1446.2 |
| 7.5°  | 1688.9 | 1813.3 | 1888.8 | 1868.4 | 1807.2 | 1672.6 | 1535.9 | 1407.4 | 1348.3 | 1327.9 |
| 10°   | 1605.3 | 1772.5 | 1872.5 | 1866.3 | 1809.2 | 1650.1 | 1480.8 | 1325.8 | 1262.6 | 1246.3 |
| 12.5° | 1527.8 | 1693.0 | 1788.8 | 1792.9 | 1772.5 | 1625.7 | 1454.3 | 1289.1 | 1213.6 | 1205.5 |
| 15°   | 1487.0 | 1627.7 | 1684.8 | 1697.0 | 1705.2 | 1623.6 | 1478.8 | 1313.6 | 1234.0 | 1215.7 |
| 17.5° | 1495.1 | 1562.4 | 1576.7 | 1566.5 | 1621.6 | 1625.7 | 1548.1 | 1399.2 | 1309.5 | 1287.1 |
| 20°   | 1544.1 | 1519.6 | 1472.7 | 1482.9 | 1544.1 | 1633.8 | 1652.2 | 1550.2 | 1448.2 | 1419.6 |
| 22.5° | 1637.9 | 1517.6 | 1423.7 | 1415.6 | 1495.1 | 1648.1 | 1764.4 | 1711.3 | 1605.3 | 1588.9 |
| 25°   | 1776.6 | 1548.1 | 1403.3 | 1387.0 | 1456.4 | 1662.4 | 1878.6 | 1880.6 | 1797.0 | 1766.4 |
| 27.5° | 1911.2 | 1597.1 | 1401.3 | 1385.0 | 1456.4 | 1680.7 | 1956.1 | 2047.9 | 1960.2 | 1927.5 |
| 30°   | 1988.7 | 1654.2 | 1433.9 | 1403.3 | 1482.9 | 1697.0 | 2007.1 | 2180.5 | 2103.0 | 2074.4 |
| 32.5° | 2060.1 | 1715.4 | 1468.6 | 1431.9 | 1533.9 | 1741.9 | 2054.0 | 2300.8 | 2233.5 | 2198.8 |
| 35°   | 2119.3 | 1786.8 | 1533.9 | 1476.8 | 1609.3 | 1807.2 | 2111.1 | 2433.4 | 2390.6 | 2347.7 |
| 37.5° | 2176.4 | 1858.2 | 1625.7 | 1593.0 | 1735.8 | 1901.0 | 2186.6 | 2572.1 | 2592.5 | 2549.7 |
| 40°   | 2258.0 | 1939.8 | 1782.7 | 1756.2 | 1921.4 | 2043.8 | 2278.4 | 2710.8 | 2778.1 | 2731.2 |
| 42.5° | 2335.5 | 2043.8 | 1941.8 | 1966.3 | 2145.8 | 2209.0 | 2382.4 | 2837.3 | 2912.7 | 2892.3 |
| 45°   | 2406.9 | 2172.3 | 2172.3 | 2231.5 | 2388.5 | 2390.6 | 2461.9 | 2925.0 | 3004.5 | 2994.3 |
| 47.5° | 2500.7 | 2331.4 | 2410.9 | 2574.1 | 2657.8 | 2547.6 | 2547.6 | 3008.6 | 3116.7 | 3088.1 |
| 50°   | 2592.5 | 2543.5 | 2727.1 | 2876.0 | 2949.4 | 2737.3 | 2635.3 | 3120.8 | 3249.3 | 3224.8 |
| 52.5° | 2692.4 | 2749.5 | 3022.9 | 3169.7 | 3212.6 | 2953.5 | 2767.9 | 3233.0 | 3398.2 | 3398.2 |
| 55°   | 2853.6 | 2925.0 | 3334.9 | 3457.3 | 3518.5 | 3133.0 | 2937.2 | 3392.1 | 3579.7 | 3589.9 |
| 57.5° | 3018.8 | 3094.3 | 3510.4 | 3665.4 | 3744.9 | 3398.2 | 3155.4 | 3604.2 | 3708.2 | 3706.2 |
| 60°   | 3192.2 | 3271.7 | 3647.0 | 3800.0 | 3916.3 | 3669.5 | 3414.5 | 3798.0 | 3769.4 | 3749.0 |
| 62.5° | 3406.3 | 3406.3 | 3698.0 | 3769.4 | 3910.1 | 3840.8 | 3706.2 | 3908.1 | 3791.8 | 3744.9 |
| 65°   | 3510.4 | 3477.7 | 3551.2 | 3498.1 | 3659.3 | 3791.8 | 3928.5 | 3912.2 | 3712.3 | 3634.8 |
| 67.5° | 3455.3 | 3257.4 | 3131.0 | 3051.4 | 3086.1 | 3314.5 | 3830.6 | 3718.4 | 3390.0 | 3330.9 |
| 70°   | 3077.9 | 2604.7 | 2486.4 | 2360.0 | 2292.6 | 2529.3 | 3310.5 | 3283.9 | 2884.2 | 2829.1 |
| 72.5° | 2508.9 | 1880.6 | 1595.1 | 1723.6 | 1658.3 | 1925.5 | 2712.8 | 2317.1 | 1892.9 | 1843.9 |
| 75°   | 2082.6 | 1399.2 | 1040.3 | 1042.3 | 1052.5 | 1264.6 | 1982.6 | 1376.8 | 1040.3 | 1003.5 |
| 77.5° | 1507.4 | 985.2  | 840.4  | 752.7  | 760.8  | 807.7  | 1032.1 | 587.4  | 479.3  | 434.5  |
| 80°   | 919.9  | 609.9  | 679.2  | 603.8  | 583.4  | 448.7  | 444.7  | 85.7   | 57.1   | 57.1   |
| 82.5° | 501.8  | 387.5  | 361.0  | 130.5  | 201.9  | 244.8  | 201.9  | 4.1    | 2.0    | 2.0    |
| 85°   | 255.0  | 155.0  | 73.4   | 22.4   | 26.5   | 22.4   | 4.1    | 0.0    | 0.0    | 0.0    |
| 87.5° | 8.2    | 6.1    | 6.1    | 4.1    | 4.1    | 2.0    | 2.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2408-195-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **GALN-SB1A-830-U-5WQ**  
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

**Spectral Parameters**

CCT (K): 3050  
 CIE u': 0.2476  
 CIE v': 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 Rf: 81.5  
 Rg: 99.2

|           |      |      |      |
|-----------|------|------|------|
| CRI (Ra): | 81.0 |      |      |
| R1:       | 79.6 | R9:  | 7.1  |
| R2:       | 85.6 | R10: | 67.0 |
| R3:       | 92.0 | R11: | 82.7 |
| R4:       | 82.6 | R12: | 63.2 |
| R5:       | 78.9 | R13: | 80.3 |
| R6:       | 81.7 | R14: | 95.0 |
| R7:       | 85.2 | R15: | 71.7 |
| R8:       | 62.0 |      |      |



**Test Conditions**

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |

REPORT NUMBER: SP1-2408-195-9

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360               | 0                           | NR                      | 490               | 168                         | NR                      | 620               | 940                         | NR                      | 750               | 35                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 233                         | NR                      | 625               | 897                         | NR                      | 755               | 30                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 300                         | NR                      | 630               | 847                         | NR                      | 760               | 26                          | NR                      | 890               | 1                           | NR                      |
| 375               | 0                           | NR                      | 505               | 372                         | NR                      | 635               | 790                         | NR                      | 765               | 22                          | NR                      | 895               | 1                           | NR                      |
| 380               | 0                           | NR                      | 510               | 430                         | NR                      | 640               | 730                         | NR                      | 770               | 19                          | NR                      | 900               | 1                           | NR                      |
| 385               | 0                           | NR                      | 515               | 483                         | NR                      | 645               | 668                         | NR                      | 775               | 16                          | NR                      | 905               | 1                           | NR                      |
| 390               | 0                           | NR                      | 520               | 524                         | NR                      | 650               | 605                         | NR                      | 780               | 14                          | NR                      | 910               | 0                           | NR                      |
| 395               | 2                           | NR                      | 525               | 555                         | NR                      | 655               | 545                         | NR                      | 785               | 12                          | NR                      | 915               | 0                           | NR                      |
| 400               | 4                           | NR                      | 530               | 581                         | NR                      | 660               | 485                         | NR                      | 790               | 10                          | NR                      | 920               | 0                           | NR                      |
| 405               | 7                           | NR                      | 535               | 604                         | NR                      | 665               | 430                         | NR                      | 795               | 9                           | NR                      | 925               | 0                           | NR                      |
| 410               | 17                          | NR                      | 540               | 623                         | NR                      | 670               | 378                         | NR                      | 800               | 8                           | NR                      | 930               | 0                           | NR                      |
| 415               | 34                          | NR                      | 545               | 645                         | NR                      | 675               | 331                         | NR                      | 805               | 7                           | NR                      | 935               | 0                           | NR                      |
| 420               | 68                          | NR                      | 550               | 667                         | NR                      | 680               | 290                         | NR                      | 810               | 6                           | NR                      | 940               | 0                           | NR                      |
| 425               | 128                         | NR                      | 555               | 693                         | NR                      | 685               | 251                         | NR                      | 815               | 5                           | NR                      | 945               | 0                           | NR                      |
| 430               | 214                         | NR                      | 560               | 719                         | NR                      | 690               | 218                         | NR                      | 820               | 4                           | NR                      | 950               | 0                           | NR                      |
| 435               | 339                         | NR                      | 565               | 754                         | NR                      | 695               | 188                         | NR                      | 825               | 4                           | NR                      | 955               | 0                           | NR                      |
| 440               | 507                         | NR                      | 570               | 791                         | NR                      | 700               | 162                         | NR                      | 830               | 3                           | NR                      | 960               | 0                           | NR                      |
| 445               | 573                         | NR                      | 575               | 830                         | NR                      | 705               | 139                         | NR                      | 835               | 3                           | NR                      | 965               | 0                           | NR                      |
| 450               | 356                         | NR                      | 580               | 873                         | NR                      | 710               | 119                         | NR                      | 840               | 3                           | NR                      | 970               | 0                           | NR                      |
| 455               | 217                         | NR                      | 585               | 913                         | NR                      | 715               | 102                         | NR                      | 845               | 2                           | NR                      | 975               | 0                           | NR                      |
| 460               | 168                         | NR                      | 590               | 948                         | NR                      | 720               | 88                          | NR                      | 850               | 2                           | NR                      | 980               | 0                           | NR                      |
| 465               | 113                         | NR                      | 595               | 974                         | NR                      | 725               | 76                          | NR                      | 855               | 2                           | NR                      | 985               | 0                           | NR                      |
| 470               | 85                          | NR                      | 600               | 994                         | NR                      | 730               | 65                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 85                          | NR                      | 605               | 998                         | NR                      | 735               | 55                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 94                          | NR                      | 610               | 994                         | NR                      | 740               | 47                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 120                         | NR                      | 615               | 973                         | NR                      | 745               | 41                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

| $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360               | 0                           | NR                      | 490               | 168                         | NR                      | 620               | 940                         | NR                      | 750               | 35                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 233                         | NR                      | 625               | 897                         | NR                      | 755               | 30                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 300                         | NR                      | 630               | 847                         | NR                      | 760               | 26                          | NR                      | 890               | 1                           | NR                      |
| 375               | 0                           | NR                      | 505               | 372                         | NR                      | 635               | 790                         | NR                      | 765               | 22                          | NR                      | 895               | 1                           | NR                      |
| 380               | 0                           | NR                      | 510               | 430                         | NR                      | 640               | 730                         | NR                      | 770               | 19                          | NR                      | 900               | 1                           | NR                      |
| 385               | 0                           | NR                      | 515               | 483                         | NR                      | 645               | 668                         | NR                      | 775               | 16                          | NR                      | 905               | 1                           | NR                      |
| 390               | 0                           | NR                      | 520               | 524                         | NR                      | 650               | 605                         | NR                      | 780               | 14                          | NR                      | 910               | 0                           | NR                      |
| 395               | 2                           | NR                      | 525               | 555                         | NR                      | 655               | 545                         | NR                      | 785               | 12                          | NR                      | 915               | 0                           | NR                      |
| 400               | 4                           | NR                      | 530               | 581                         | NR                      | 660               | 485                         | NR                      | 790               | 10                          | NR                      | 920               | 0                           | NR                      |
| 405               | 7                           | NR                      | 535               | 604                         | NR                      | 665               | 430                         | NR                      | 795               | 9                           | NR                      | 925               | 0                           | NR                      |
| 410               | 17                          | NR                      | 540               | 623                         | NR                      | 670               | 378                         | NR                      | 800               | 8                           | NR                      | 930               | 0                           | NR                      |
| 415               | 34                          | NR                      | 545               | 645                         | NR                      | 675               | 331                         | NR                      | 805               | 7                           | NR                      | 935               | 0                           | NR                      |
| 420               | 68                          | NR                      | 550               | 667                         | NR                      | 680               | 290                         | NR                      | 810               | 6                           | NR                      | 940               | 0                           | NR                      |
| 425               | 128                         | NR                      | 555               | 693                         | NR                      | 685               | 251                         | NR                      | 815               | 5                           | NR                      | 945               | 0                           | NR                      |
| 430               | 214                         | NR                      | 560               | 719                         | NR                      | 690               | 218                         | NR                      | 820               | 4                           | NR                      | 950               | 0                           | NR                      |
| 435               | 339                         | NR                      | 565               | 754                         | NR                      | 695               | 188                         | NR                      | 825               | 4                           | NR                      | 955               | 0                           | NR                      |
| 440               | 507                         | NR                      | 570               | 791                         | NR                      | 700               | 162                         | NR                      | 830               | 3                           | NR                      | 960               | 0                           | NR                      |
| 445               | 573                         | NR                      | 575               | 830                         | NR                      | 705               | 139                         | NR                      | 835               | 3                           | NR                      | 965               | 0                           | NR                      |
| 450               | 356                         | NR                      | 580               | 873                         | NR                      | 710               | 119                         | NR                      | 840               | 3                           | NR                      | 970               | 0                           | NR                      |
| 455               | 217                         | NR                      | 585               | 913                         | NR                      | 715               | 102                         | NR                      | 845               | 2                           | NR                      | 975               | 0                           | NR                      |
| 460               | 168                         | NR                      | 590               | 948                         | NR                      | 720               | 88                          | NR                      | 850               | 2                           | NR                      | 980               | 0                           | NR                      |
| 465               | 113                         | NR                      | 595               | 974                         | NR                      | 725               | 76                          | NR                      | 855               | 2                           | NR                      | 985               | 0                           | NR                      |
| 470               | 85                          | NR                      | 600               | 994                         | NR                      | 730               | 65                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 85                          | NR                      | 605               | 998                         | NR                      | 735               | 55                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 94                          | NR                      | 610               | 994                         | NR                      | 740               | 47                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 120                         | NR                      | 615               | 973                         | NR                      | 745               | 41                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |



REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

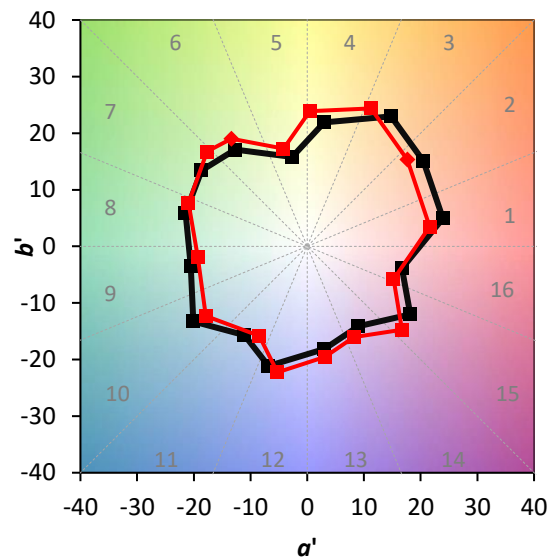
| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 168                      | NR            | 620    | 940                      | NR            | 750    | 35                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 233                      | NR            | 625    | 897                      | NR            | 755    | 30                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 300                      | NR            | 630    | 847                      | NR            | 760    | 26                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 372                      | NR            | 635    | 790                      | NR            | 765    | 22                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 430                      | NR            | 640    | 730                      | NR            | 770    | 19                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 483                      | NR            | 645    | 668                      | NR            | 775    | 16                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 524                      | NR            | 650    | 605                      | NR            | 780    | 14                       | NR            | 910    | 0                        | NR            |
| 395    | 2                        | NR            | 525    | 555                      | NR            | 655    | 545                      | NR            | 785    | 12                       | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 581                      | NR            | 660    | 485                      | NR            | 790    | 10                       | NR            | 920    | 0                        | NR            |
| 405    | 7                        | NR            | 535    | 604                      | NR            | 665    | 430                      | NR            | 795    | 9                        | NR            | 925    | 0                        | NR            |
| 410    | 17                       | NR            | 540    | 623                      | NR            | 670    | 378                      | NR            | 800    | 8                        | NR            | 930    | 0                        | NR            |
| 415    | 34                       | NR            | 545    | 645                      | NR            | 675    | 331                      | NR            | 805    | 7                        | NR            | 935    | 0                        | NR            |
| 420    | 68                       | NR            | 550    | 667                      | NR            | 680    | 290                      | NR            | 810    | 6                        | NR            | 940    | 0                        | NR            |
| 425    | 128                      | NR            | 555    | 693                      | NR            | 685    | 251                      | NR            | 815    | 5                        | NR            | 945    | 0                        | NR            |
| 430    | 214                      | NR            | 560    | 719                      | NR            | 690    | 218                      | NR            | 820    | 4                        | NR            | 950    | 0                        | NR            |
| 435    | 339                      | NR            | 565    | 754                      | NR            | 695    | 188                      | NR            | 825    | 4                        | NR            | 955    | 0                        | NR            |
| 440    | 507                      | NR            | 570    | 791                      | NR            | 700    | 162                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 573                      | NR            | 575    | 830                      | NR            | 705    | 139                      | NR            | 835    | 3                        | NR            | 965    | 0                        | NR            |
| 450    | 356                      | NR            | 580    | 873                      | NR            | 710    | 119                      | NR            | 840    | 3                        | NR            | 970    | 0                        | NR            |
| 455    | 217                      | NR            | 585    | 913                      | NR            | 715    | 102                      | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 168                      | NR            | 590    | 948                      | NR            | 720    | 88                       | NR            | 850    | 2                        | NR            | 980    | 0                        | NR            |
| 465    | 113                      | NR            | 595    | 974                      | NR            | 725    | 76                       | NR            | 855    | 2                        | NR            | 985    | 0                        | NR            |
| 470    | 85                       | NR            | 600    | 994                      | NR            | 730    | 65                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 85                       | NR            | 605    | 998                      | NR            | 735    | 55                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 94                       | NR            | 610    | 994                      | NR            | 740    | 47                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 120                      | NR            | 615    | 973                      | NR            | 745    | 41                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



**Color Vector Graphics**



**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 94 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 78 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)