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: P324648

Luminaire Tested: **GLEON-SA4C-830-U-SLR-HSS**

Issue Date: 3/3/2020

Report Generated By E0585644

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Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P324648 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-28) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/3/2020 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GLEON-SA4C-830-U-SLR-HSS |
| Description: | GALLEON AREA AND ROADWAY LUMINAIRE |
| | (4) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 16808 lumens |
| Efficiency: | N/A |
| Efficacy: | 74.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type IV - Medium |
| BUG Rating: | B2 - U0 - G3 |

| | |
|---|---|
| Input Watts (W): | 225 |
| 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: | 24 FT |

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REPORT NUMBER: P324648
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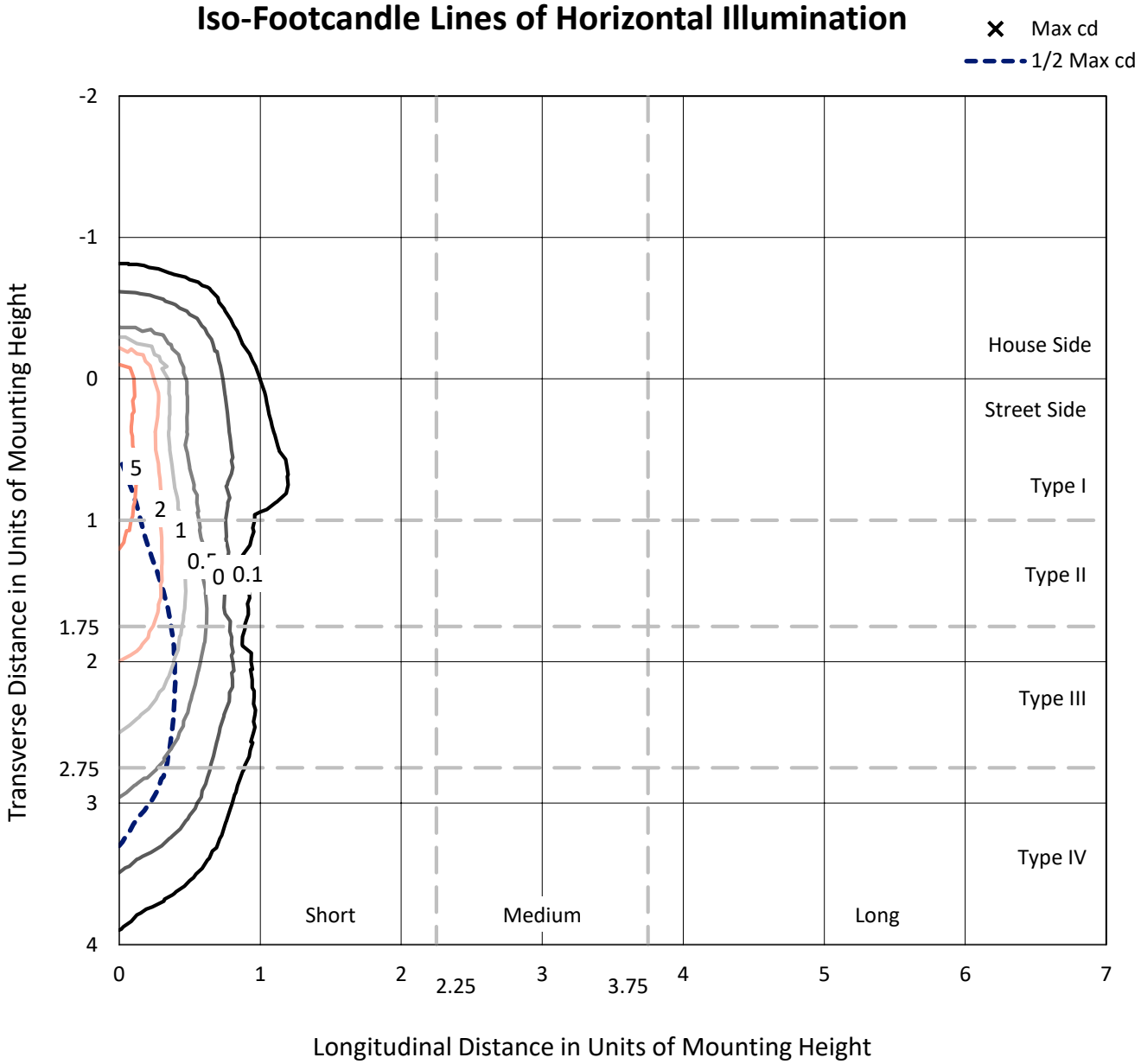
## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 8.8 fc
Type IV - Medium - N/A

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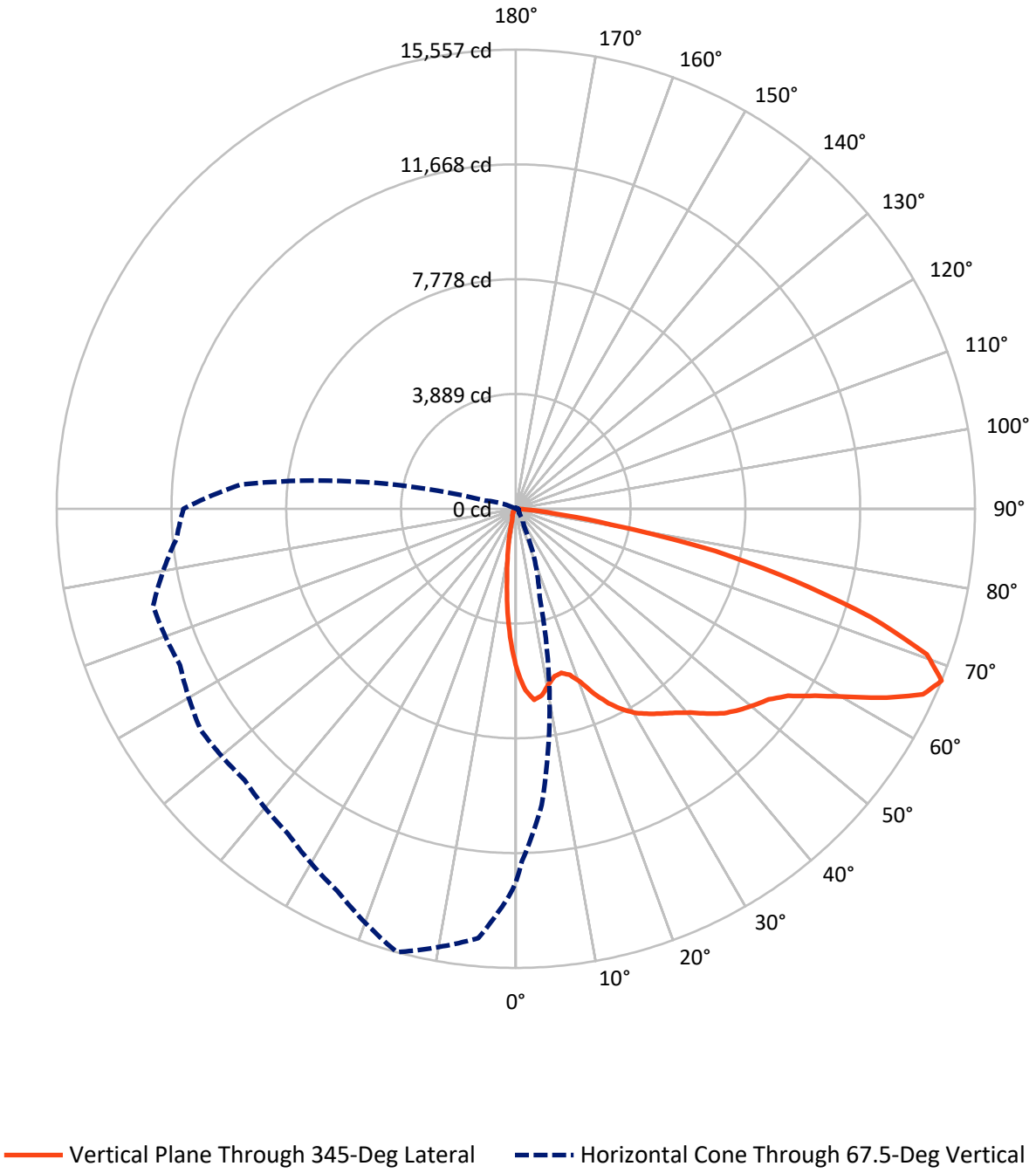
## Luminous Intensity Polar Plot



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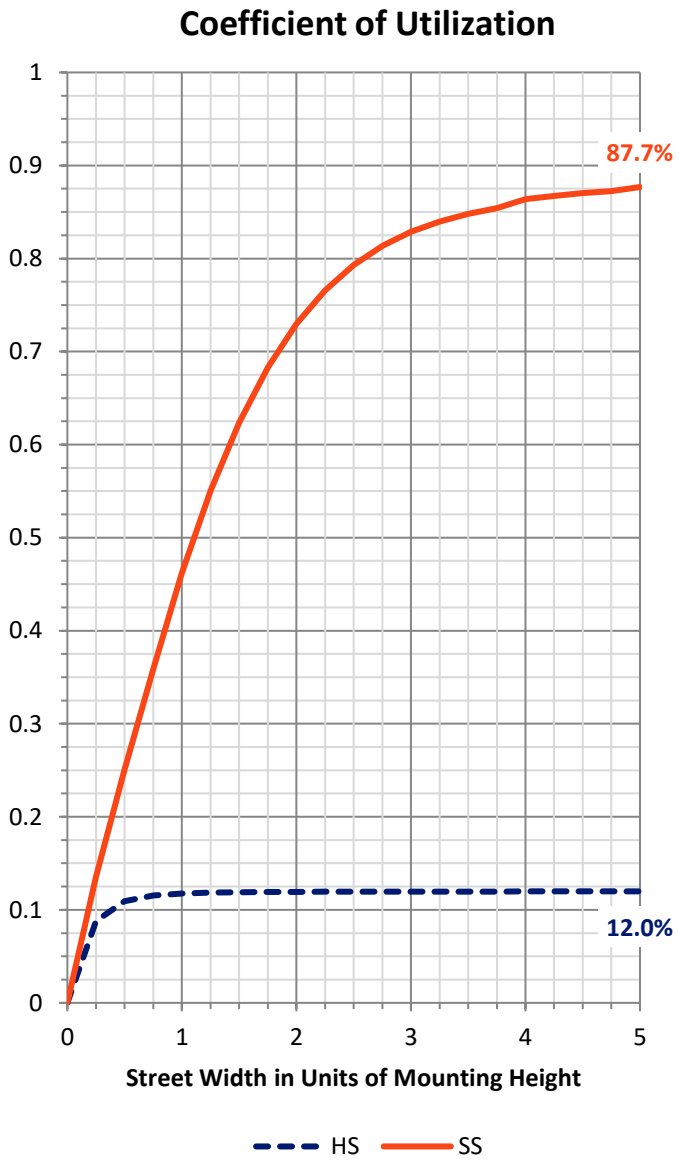
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2034.3 | 0.0 | 2034.3 |
| | % Fixture | 12.1 | 0.0 | 12.1 |
| **Street Side** | Lumens | 14773.7 | 0.0 | 14773.7 |
| | % Fixture | 87.9 | 0.0 | 87.9 |
| **Total** | Lumens | 16808.0 | 0.0 | 16808.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 420.2 | 2.5 |
| 10°-20° | 836.4 | 5.0 |
| 20°-30° | 1187.7 | 7.1 |
| 30°-40° | 1754.4 | 10.4 |
| 40°-50° | 2530.1 | 15.1 |
| 50°-60° | 3551.8 | 21.1 |
| 60°-70° | 4140.4 | 24.6 |
| 70°-80° | 2116.6 | 12.6 |
| 80°-90° | 270.3 | 1.6 |
| 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° | 16808.0 | 100.0 |
| 0°-180° | 16808.0 | 100.0 |



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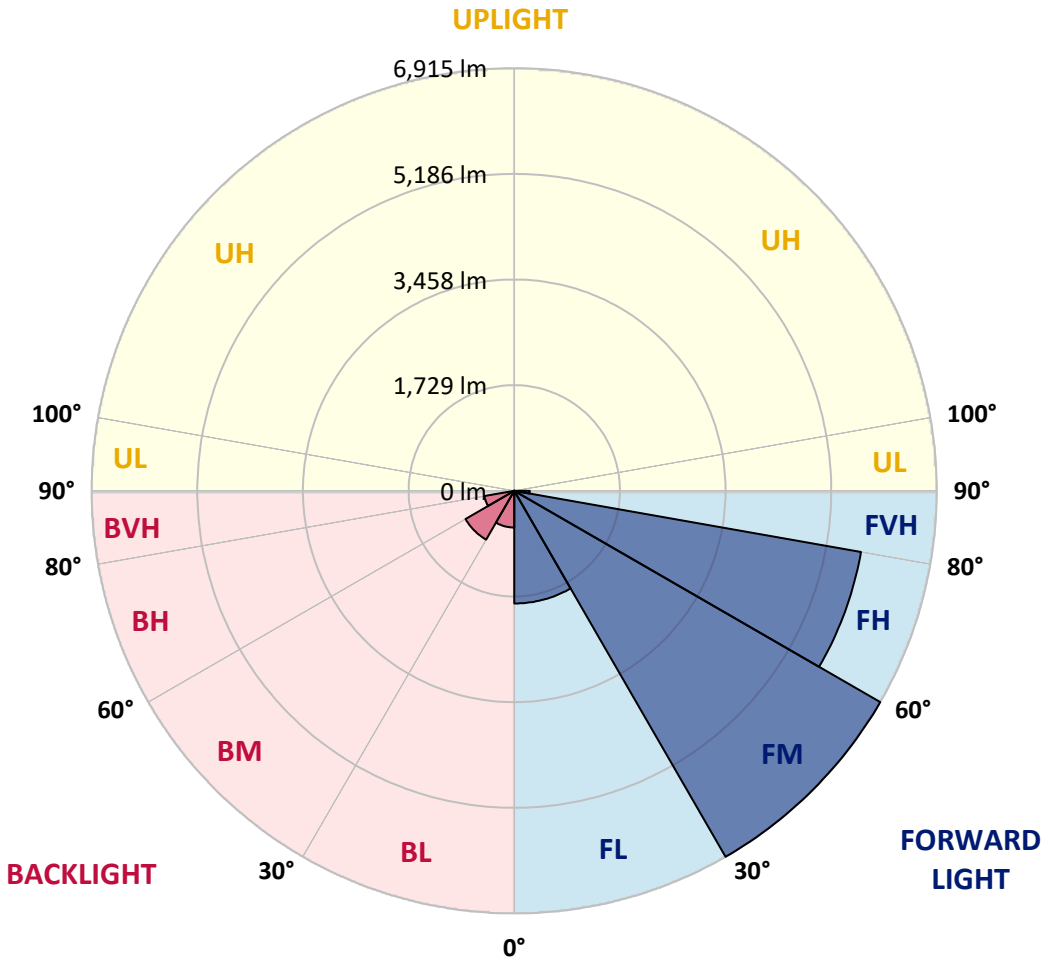
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1843.5 | 11.0 | | | |
| FM | (30°-60°) | 6915.1 | 41.1 | | | |
| FH | (60°-80°) | 5761.2 | 34.3 | | | G3/7500 |
| FVH | (80°-90°) | 253.9 | 1.5 | | | G3/500 |
| BL | (0°-30°) | 600.9 | 3.6 | B2/1000 | | |
| BM | (30°-60°) | 921.2 | 5.5 | B1/1000 | | |
| BH | (60°-80°) | 495.8 | 2.9 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 16.4 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type IV Medium



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 1° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 |
| 2.5° | 5995.1 | 5949.0 | 5898.0 | 5731.6 | 5577.1 | 5400.3 | 5256.2 | 5155.9 | 5030.1 | 4866.8 | 4825.4 |
| 5° | 5952.1 | 5902.8 | 5742.7 | 5372.5 | 5048.4 | 4733.0 | 4428.9 | 4250.5 | 4029.1 | 3804.6 | 3748.9 |
| 7.5° | 5519.8 | 5468.0 | 5237.1 | 4729.9 | 4293.5 | 3838.0 | 3443.1 | 3198.6 | 2948.6 | 2743.2 | 2634.1 |
| 10° | 5069.9 | 5013.3 | 4753.8 | 4138.2 | 3600.7 | 3189.1 | 2899.2 | 2665.9 | 2429.4 | 2209.7 | 2034.5 |
| 12.5° | 4760.1 | 4686.1 | 4404.2 | 3706.7 | 3238.4 | 2959.0 | 2688.2 | 2408.7 | 2088.6 | 1852.9 | 1660.2 |
| 15° | 4630.3 | 4545.9 | 4248.1 | 3540.2 | 3110.2 | 2782.2 | 2429.4 | 2086.2 | 1711.2 | 1441.3 | 1264.5 |
| 17.5° | 4730.7 | 4620.8 | 4301.5 | 3529.1 | 2949.4 | 2502.7 | 2056.8 | 1653.9 | 1247.0 | 973.8 | 848.0 |
| 20° | 5071.5 | 4927.3 | 4522.0 | 3525.9 | 2754.3 | 2170.6 | 1605.3 | 1149.8 | 821.8 | 660.9 | 594.8 |
| 22.5° | 5608.2 | 5417.8 | 4839.0 | 3551.4 | 2552.9 | 1821.9 | 1159.4 | 781.1 | 617.1 | 533.5 | 494.5 |
| 25° | 6256.3 | 6035.8 | 5295.2 | 3641.4 | 2376.1 | 1482.7 | 842.5 | 617.1 | 520.8 | 459.4 | 426.8 |
| 27.5° | 6872.6 | 6693.5 | 5871.7 | 3771.2 | 2239.1 | 1208.7 | 684.0 | 523.2 | 445.1 | 404.5 | 378.2 |
| 30° | 7488.2 | 7262.8 | 6463.3 | 3925.6 | 2074.3 | 1023.2 | 601.2 | 477.0 | 398.9 | 355.9 | 339.2 |
| 32.5° | 7935.7 | 7748.5 | 6926.8 | 4037.1 | 1898.3 | 902.2 | 537.5 | 436.4 | 372.7 | 328.9 | 304.2 |
| 35° | 8462.0 | 8250.2 | 7324.1 | 4061.8 | 1785.2 | 825.7 | 483.3 | 392.6 | 323.3 | 284.3 | 258.0 |
| 37.5° | 9030.5 | 8767.0 | 7782.8 | 4007.6 | 1696.9 | 788.3 | 442.7 | 372.7 | 301.8 | 262.0 | 234.1 |
| 40° | 9659.6 | 9361.8 | 8223.1 | 3929.6 | 1610.1 | 775.6 | 411.7 | 357.5 | 285.1 | 244.5 | 215.8 |
| 42.5° | 10322.1 | 9970.9 | 8604.5 | 3847.6 | 1555.1 | 731.8 | 408.5 | 342.4 | 272.3 | 228.5 | 199.9 |
| 45° | 10878.7 | 10522.8 | 8996.3 | 3820.5 | 1516.1 | 684.0 | 422.0 | 332.0 | 263.6 | 215.8 | 187.9 |
| 47.5° | 11322.2 | 10985.4 | 9397.6 | 3881.0 | 1493.8 | 640.2 | 384.6 | 345.6 | 258.8 | 204.6 | 177.6 |
| 50° | 11851.7 | 11470.3 | 9963.0 | 4061.8 | 1461.2 | 596.4 | 348.0 | 395.7 | 258.8 | 197.5 | 168.8 |
| 52.5° | 12515.8 | 12138.4 | 10593.6 | 4342.1 | 1395.9 | 535.9 | 312.9 | 396.5 | 261.2 | 187.9 | 157.7 |
| 55° | 13351.1 | 13077.2 | 11494.2 | 4649.4 | 1291.6 | 446.7 | 270.7 | 340.8 | 251.6 | 170.4 | 147.3 |
| 57.5° | 14152.2 | 13928.4 | 12315.2 | 4859.7 | 1152.2 | 348.8 | 235.7 | 274.7 | 230.1 | 149.7 | 131.4 |
| 59° | 14371.1 | 14126.7 | 12616.2 | 4869.2 | 1047.9 | 304.2 | 218.2 | 226.9 | 225.3 | 140.1 | 121.8 |
| 60° | 14371.1 | 14111.6 | 12702.9 | 4818.2 | 972.2 | 279.5 | 207.0 | 202.3 | 234.9 | 133.8 | 116.3 |
| 62.5° | 14110.8 | 13746.1 | 12421.1 | 4473.5 | 793.1 | 238.1 | 180.8 | 167.2 | 211.0 | 120.2 | 102.7 |
| 65° | 13569.3 | 13038.2 | 11460.8 | 3850.0 | 707.1 | 218.2 | 156.1 | 137.0 | 146.5 | 105.9 | 90.0 |
| 67.5° | *12666.3* | *11946.5* | *10076.0* | *3110.2* | *672.9* | *212.6* | *134.6* | *116.3* | *110.7* | *90.8* | *78.8* |
| 70° | 11076.2 | 10277.5 | 8395.1 | 2445.4 | 643.4 | 210.2 | 113.1 | 97.9 | 89.2 | 76.4 | 66.9 |
| 72.5° | 8061.5 | 7228.6 | 5960.1 | 1911.9 | 625.9 | 215.0 | 90.8 | 82.0 | 73.3 | 59.7 | 51.8 |
| 75° | 4611.2 | 4065.8 | 3349.9 | 1262.9 | 533.5 | 205.4 | 70.1 | 68.5 | 52.6 | 43.0 | 35.8 |
| 77.5° | 2382.4 | 2310.0 | 2007.4 | 484.9 | 255.6 | 90.0 | 46.2 | 39.8 | 31.1 | 26.3 | 21.5 |
| 80° | 1028.0 | 1016.8 | 879.9 | 140.1 | 67.7 | 50.2 | 26.3 | 16.7 | 14.3 | 11.1 | 8.8 |
| 82.5° | 355.1 | 355.1 | 312.9 | 47.0 | 30.3 | 24.7 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 71.7 | 80.4 | 56.5 | 0.0 | 10.4 | 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° | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 |
| 2.5° | 4775.3 | 4678.9 | 4672.5 | 4612.0 | 4536.4 | 4502.1 | 4482.2 | 4517.3 | 4560.3 | 4565.0 | 4629.5 |
| 5° | 3706.7 | 3605.5 | 3647.7 | 3540.2 | 3561.7 | 3540.2 | 3505.2 | 3511.6 | 3530.7 | 3471.0 | 3545.0 |
| 7.5° | 2603.0 | 2526.6 | 2575.1 | 2546.5 | 2584.7 | 2599.8 | 2578.3 | 2546.5 | 2452.5 | 2441.4 | 2505.9 |
| 10° | 1962.0 | 1875.2 | 1823.5 | 1769.3 | 1781.3 | 1805.9 | 1798.0 | 1774.9 | 1715.2 | 1718.4 | 1780.5 |
| 12.5° | 1576.6 | 1479.5 | 1376.8 | 1243.8 | 1211.1 | 1229.4 | 1211.1 | 1197.6 | 1140.3 | 1145.0 | 1200.0 |
| 15° | 1196.0 | 1116.4 | 1008.9 | 902.2 | 844.0 | 849.6 | 798.7 | 762.8 | 727.0 | 684.0 | 717.4 |
| 17.5° | 807.4 | 758.8 | 727.0 | 695.1 | 625.9 | 609.9 | 545.4 | 476.2 | 449.1 | 429.2 | 443.5 |
| 20° | 571.7 | 545.4 | 532.7 | 531.1 | 491.3 | 471.4 | 408.5 | 365.5 | 352.0 | 348.0 | 356.7 |
| 22.5° | 477.8 | 458.7 | 440.3 | 430.0 | 410.1 | 387.0 | 339.2 | 317.7 | 308.2 | 303.4 | 309.8 |
| 25° | 415.7 | 401.3 | 382.2 | 364.7 | 356.7 | 332.0 | 297.8 | 281.9 | 275.5 | 270.7 | 273.9 |
| 27.5° | 369.5 | 356.7 | 334.4 | 323.3 | 316.9 | 295.4 | 266.0 | 253.2 | 247.6 | 246.0 | 245.3 |
| 30° | 332.8 | 320.9 | 300.2 | 287.5 | 276.3 | 257.2 | 239.7 | 226.9 | 221.4 | 219.8 | 218.2 |
| 32.5° | 296.2 | 286.7 | 273.1 | 260.4 | 248.4 | 230.9 | 215.8 | 205.4 | 196.7 | 195.1 | 194.3 |
| 35° | 250.0 | 240.5 | 233.3 | 232.5 | 221.4 | 204.6 | 193.5 | 180.0 | 172.8 | 170.4 | 171.2 |
| 37.5° | 222.2 | 209.4 | 193.5 | 199.1 | 195.9 | 183.9 | 168.8 | 155.3 | 148.1 | 146.5 | 146.5 |
| 40° | 204.6 | 191.1 | 172.8 | 163.2 | 172.8 | 170.4 | 146.5 | 133.0 | 125.8 | 125.0 | 123.4 |
| 42.5° | 187.9 | 174.4 | 153.7 | 137.8 | 142.5 | 149.7 | 126.6 | 113.9 | 106.7 | 105.1 | 102.7 |
| 45° | 176.0 | 161.6 | 138.6 | 120.2 | 110.7 | 125.8 | 108.3 | 92.4 | 88.4 | 85.2 | 83.6 |
| 47.5° | 164.8 | 151.3 | 125.0 | 104.3 | 88.4 | 90.8 | 86.8 | 75.6 | 70.9 | 67.7 | 66.9 |
| 50° | 155.3 | 140.9 | 113.1 | 89.2 | 73.3 | 66.9 | 70.1 | 59.7 | 55.7 | 52.6 | 51.0 |
| 52.5° | 144.1 | 130.6 | 100.3 | 77.2 | 61.3 | 52.6 | 53.4 | 47.0 | 43.0 | 40.6 | 39.8 |
| 55° | 135.4 | 121.8 | 90.0 | 67.7 | 54.1 | 43.0 | 38.2 | 36.6 | 34.2 | 32.6 | 31.9 |
| 57.5° | 123.4 | 110.7 | 79.6 | 57.3 | 46.2 | 35.0 | 29.5 | 29.5 | 28.7 | 27.1 | 26.3 |
| 59° | 116.3 | 105.1 | 73.3 | 51.8 | 42.2 | 30.3 | 26.3 | 27.1 | 26.3 | 24.7 | 23.9 |
| 60° | 110.7 | 100.3 | 68.5 | 47.8 | 39.8 | 27.9 | 23.9 | 25.5 | 24.7 | 23.1 | 22.3 |
| 62.5° | 97.9 | 90.8 | 58.9 | 39.8 | 35.0 | 22.3 | 19.9 | 21.5 | 21.5 | 20.7 | 19.9 |
| 65° | 86.0 | 78.0 | 50.2 | 33.4 | 32.6 | 19.1 | 15.9 | 19.1 | 19.9 | 18.3 | 16.7 |
| 67.5° | *74.8* | *66.9* | *43.8* | *27.1* | *30.3* | *15.1* | *11.9* | *15.9* | *21.5* | *16.7* | *15.1* |
| 70° | 63.7 | 55.7 | 34.2 | 21.5 | 31.9 | 10.4 | 9.6 | 14.3 | 25.5 | 18.3 | 14.3 |
| 72.5° | 49.4 | 43.0 | 23.9 | 15.9 | 34.2 | 7.2 | 7.2 | 11.9 | 28.7 | 19.9 | 13.5 |
| 75° | 34.2 | 27.9 | 14.3 | 9.6 | 27.9 | 4.8 | 4.8 | 11.1 | 27.1 | 18.3 | 12.7 |
| 77.5° | 19.9 | 15.1 | 4.8 | 0.8 | 14.3 | 0.0 | 0.8 | 8.0 | 19.1 | 11.1 | 5.6 |
| 80° | 7.2 | 3.2 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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):**

| | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 |
| 2.5° | 4646.3 | 4753.8 | 4850.1 | 4995.8 | 5168.6 | 5367.7 | 5538.9 | 5722.8 | 5895.6 | 5967.3 | 6016.6 |
| 5° | 3560.1 | 3693.1 | 3848.4 | 4062.6 | 4347.7 | 4698.8 | 5027.7 | 5399.5 | 5799.3 | 5999.1 | 6187.0 |
| 7.5° | 2517.0 | 2652.4 | 2845.1 | 3072.8 | 3417.6 | 3835.6 | 4265.6 | 4779.2 | 5320.7 | 5636.8 | 5948.2 |
| 10° | 1809.9 | 1976.4 | 2156.3 | 2467.7 | 2818.0 | 3214.6 | 3657.3 | 4230.6 | 4834.2 | 5184.5 | 5559.6 |
| 12.5° | 1231.8 | 1421.3 | 1693.7 | 2042.4 | 2454.1 | 2842.7 | 3227.3 | 3774.3 | 4475.1 | 4822.2 | 5224.3 |
| 15° | 738.9 | 844.0 | 1132.3 | 1536.0 | 2040.8 | 2525.0 | 2946.2 | 3494.8 | 4241.7 | 4667.0 | 5085.0 |
| 17.5° | 455.5 | 504.0 | 660.9 | 992.2 | 1522.5 | 2134.8 | 2712.1 | 3400.1 | 4275.2 | 4792.8 | 5240.3 |
| 20° | 363.1 | 382.2 | 432.4 | 586.1 | 1008.9 | 1704.8 | 2448.5 | 3381.0 | 4548.3 | 5185.3 | 5665.5 |
| 22.5° | 315.3 | 333.6 | 367.1 | 426.0 | 634.6 | 1276.4 | 2198.5 | 3398.5 | 4940.1 | 5773.8 | 6334.4 |
| 25° | 277.9 | 293.8 | 325.7 | 374.2 | 465.0 | 899.0 | 1931.0 | 3476.5 | 5450.5 | 6504.0 | 7099.6 |
| 27.5° | 248.4 | 262.0 | 291.4 | 336.0 | 398.9 | 627.5 | 1627.6 | 3571.3 | 6055.7 | 7250.9 | 7838.5 |
| 30° | 221.4 | 233.3 | 259.6 | 301.0 | 346.4 | 482.5 | 1294.7 | 3635.8 | 6661.6 | 7838.5 | 8366.4 |
| 32.5° | 198.3 | 207.0 | 230.9 | 266.0 | 301.0 | 384.6 | 984.2 | 3625.4 | 7111.5 | 8327.4 | 8746.3 |
| 35° | 174.4 | 183.1 | 203.8 | 234.1 | 262.0 | 317.7 | 774.0 | 3431.9 | 7503.3 | 8834.7 | 9181.0 |
| 37.5° | 148.1 | 159.3 | 179.2 | 206.2 | 225.3 | 279.5 | 625.9 | 3198.6 | 7900.6 | 9414.3 | 9666.0 |
| 40° | 125.8 | 137.0 | 154.5 | 183.9 | 195.9 | 265.2 | 480.9 | 2914.4 | 8347.3 | 10062.5 | 10197.9 |
| 42.5° | 104.3 | 114.7 | 133.0 | 158.5 | 184.7 | 228.5 | 355.9 | 2589.5 | 8776.5 | 10616.7 | 10682.8 |
| 45° | 84.4 | 94.8 | 113.9 | 139.3 | 197.5 | 189.5 | 275.5 | 2241.5 | 9122.9 | 11077.8 | 11099.3 |
| 47.5° | 66.9 | 76.4 | 96.3 | 131.4 | 183.9 | 151.3 | 196.7 | 1968.4 | 9413.5 | 11437.7 | 11381.1 |
| 50° | 51.8 | 59.7 | 80.4 | 150.5 | 160.8 | 125.0 | 148.9 | 1877.6 | 9673.9 | 11660.6 | 11514.1 |
| 52.5° | 40.6 | 47.8 | 66.1 | 140.9 | 125.0 | 103.5 | 125.0 | 1962.8 | 10030.7 | 11845.4 | 11589.0 |
| 55° | 32.6 | 39.8 | 51.8 | 80.4 | 85.2 | 87.6 | 106.7 | 2042.4 | 10646.2 | 12278.5 | 12030.9 |
| 57.5° | 27.1 | 34.2 | 42.2 | 56.5 | 64.5 | 74.1 | 94.8 | 2051.2 | 11371.6 | 12998.4 | 12764.3 |
| 59° | 24.7 | 31.1 | 38.2 | 50.2 | 56.5 | 67.7 | 89.2 | 2003.4 | 11627.2 | 13260.3 | 13143.3 |
| 60° | 23.1 | 29.5 | 35.8 | 46.2 | 52.6 | 63.7 | 86.0 | 1958.0 | 11638.3 | 13250.8 | 13304.9 |
| 62.5° | 19.9 | 26.3 | 31.9 | 39.0 | 44.6 | 54.1 | 77.2 | 1790.0 | 11166.9 | 12816.8 | 13207.8 |
| 65° | 17.5 | 23.1 | 28.7 | 33.4 | 38.2 | 48.6 | 70.1 | 1483.5 | 10361.9 | 12116.9 | 12542.9 |
| 67.5° | *15.9* | *19.9* | *26.3* | *29.5* | *34.2* | *43.0* | *62.1* | *1057.5* | *9356.2* | *11260.9* | *11537.2* |
| 70° | 14.3 | 19.1 | 23.9 | 27.1 | 31.1 | 37.4 | 53.4 | 607.6 | 7900.6 | 10007.6 | 10204.2 |
| 72.5° | 13.5 | 18.3 | 21.5 | 25.5 | 27.9 | 33.4 | 48.6 | 285.9 | 5784.9 | 8016.9 | 8530.5 |
| 75° | 11.9 | 16.7 | 19.9 | 23.9 | 26.3 | 30.3 | 41.4 | 137.0 | 3847.6 | 5801.6 | 6385.3 |
| 77.5° | 7.2 | 13.5 | 18.3 | 21.5 | 23.1 | 26.3 | 34.2 | 78.8 | 2455.7 | 4015.6 | 4729.9 |
| 80° | 0.0 | 4.8 | 13.5 | 18.3 | 19.9 | 22.3 | 26.3 | 62.1 | 1313.9 | 2294.1 | 2753.5 |
| 82.5° | 0.0 | 0.0 | 9.6 | 14.3 | 13.5 | 15.1 | 19.9 | 39.0 | 592.4 | 1499.4 | 1689.7 |
| 85° | 0.0 | 0.0 | 3.2 | 11.1 | 9.6 | 7.2 | 13.5 | 13.5 | 129.8 | 758.8 | 946.8 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.8 | 4.8 | 3.2 | 5.6 | 1.6 | 0.8 | 56.5 | 229.3 |
| 90° | 0.0 | 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

Scaled Data Report

REPORT NUMBER: P324648
CATALOG NUMBER: GLEON-SA4C-830-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

| | 285° | 295° | 305° | 315° | 325° | 335° | 345° | 355° | 359° | 360° |
|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | 5475.2 | *5475.2* | 5475.2 | 5475.2 | 5475.2 |
| 2.5° | 6189.4 | 6248.4 | 6347.9 | 6394.9 | 6371.8 | 6273.8 | *6156.8* | 6037.3 | 5967.3 | 5995.1 |
| 5° | 6570.1 | 6873.4 | 7048.6 | 7106.7 | 7009.6 | 6789.8 | *6502.4* | 6123.3 | 5988.8 | 5952.1 |
| 7.5° | 6570.1 | 7141.0 | 7502.5 | 7566.2 | 7349.6 | 6918.8 | *6379.7* | 5788.1 | 5591.4 | 5519.8 |
| 10° | 6339.1 | 7116.3 | 7620.3 | 7721.5 | 7418.9 | 6774.7 | *6052.5* | 5377.2 | 5143.9 | 5069.9 |
| 12.5° | 6078.7 | 6915.6 | 7446.7 | 7586.1 | 7337.7 | 6631.4 | *5825.5* | 5099.3 | 4824.6 | 4760.1 |
| 15° | 5918.7 | 6668.8 | 7108.3 | 7209.5 | 7104.3 | 6547.8 | *5771.4* | 5015.7 | 4692.4 | 4630.3 |
| 17.5° | 5976.0 | 6477.7 | 6636.1 | 6695.1 | 6765.9 | 6518.3 | *5918.7* | 5198.9 | 4789.6 | 4730.7 |
| 20° | 6191.8 | 6276.2 | 6194.2 | 6268.3 | 6459.4 | 6547.0 | *6269.9* | 5641.6 | 5150.3 | 5071.5 |
| 22.5° | 6558.1 | 6171.9 | 5941.8 | 5971.3 | 6203.8 | 6641.7 | *6806.5* | 6273.8 | 5706.9 | 5608.2 |
| 25° | 6984.9 | 6256.3 | 5801.6 | 5775.4 | 6014.3 | 6766.7 | *7297.0* | 6961.8 | 6365.4 | 6256.3 |
| 27.5° | 7521.6 | 6445.8 | 5773.0 | 5746.7 | 5948.2 | 6883.8 | *7704.7* | 7641.8 | 7059.0 | 6872.6 |
| 30° | 7935.7 | 6632.2 | 5858.2 | 5797.7 | 6014.3 | 6965.0 | *8032.0* | 8219.1 | 7611.6 | 7488.2 |
| 32.5° | 8232.7 | 6851.9 | 5996.7 | 5909.1 | 6200.6 | 7105.1 | *8284.4* | 8747.9 | 8122.8 | 7935.7 |
| 35° | 8458.8 | 7090.8 | 6220.5 | 6076.4 | 6457.0 | 7317.8 | *8520.9* | 9310.8 | 8666.6 | 8462.0 |
| 37.5° | 8670.6 | 7426.0 | 6570.1 | 6398.1 | 6859.1 | 7660.1 | *8770.9* | 9949.4 | 9275.0 | 9030.5 |
| 40° | 8966.0 | 7805.9 | 7109.1 | 6956.2 | 7535.1 | 8126.8 | *9083.1* | 10615.1 | 9967.0 | 9659.6 |
| 42.5° | 9261.5 | 8213.6 | 7660.9 | 7702.4 | 8378.4 | 8693.7 | *9486.0* | 11319.0 | 10650.2 | 10322.1 |
| 45° | 9531.4 | 8634.0 | 8446.9 | 8638.0 | 9161.1 | 9315.6 | *9886.5* | 11725.9 | 11195.6 | 10878.7 |
| 47.5° | 9771.9 | 9159.5 | 9228.0 | 9736.8 | 10051.4 | 9878.6 | *10185.9* | 12077.1 | 11601.7 | 11322.2 |
| 50° | 10051.4 | 9839.5 | 10257.6 | 10977.4 | 11076.2 | 10388.2 | *10458.3* | 12492.7 | 12076.3 | 11851.7 |
| 52.5° | 10357.1 | 10556.2 | 11397.9 | 12032.5 | 12000.6 | 10941.6 | *10732.2* | 12958.6 | 12726.8 | 12515.8 |
| 55° | 10704.3 | 11135.1 | 12402.0 | 13019.9 | 12992.8 | 11559.5 | *11186.0* | 13534.3 | 13542.2 | 13351.1 |
| 57.5° | 11219.5 | 11633.6 | 13083.6 | 13818.5 | 13863.9 | 12273.0 | *11955.2* | 14179.2 | 14279.6 | 14152.2 |
| 59° | 11589.0 | 11956.8 | 13353.5 | 14152.2 | 14336.9 | 12824.8 | *12517.4* | 14553.5 | 14487.4 | 14371.1 |
| 60° | 11862.9 | 12162.3 | 13487.3 | 14326.5 | 14611.6 | 13199.0 | *12932.3* | 14773.3 | 14512.1 | 14371.1 |
| 62.5° | 12540.5 | 12609.8 | 13728.5 | 14524.0 | 14927.7 | 14030.3 | *14099.6* | 15147.5 | 14340.9 | 14110.8 |
| 65° | 12856.6 | 12892.5 | 13725.4 | 14170.5 | 14622.0 | 14677.7 | *15158.7* | 15158.7 | 13922.8 | 13569.3 |
| 67.5° | *12724.4* | *12551.7* | *13044.5* | *12998.4* | *13449.1* | *14293.1* | *15556.8* | *14602.9* | *13123.4* | *12666.3* |
| 70° | 11649.5 | 10984.6 | 10765.6 | 10785.5 | 11130.3 | 12432.2 | *14768.5* | 12967.3 | 11610.5 | 11076.2 |
| 72.5° | 9693.0 | 8098.1 | 7557.4 | 8174.5 | 8264.5 | 9554.5 | *12585.9* | 9765.5 | 8562.3 | 8061.5 |
| 75° | 7796.3 | 5708.5 | 4829.4 | 5480.7 | 5633.6 | 6992.1 | *9736.0* | 6081.9 | 5001.4 | 4611.2 |
| 77.5° | 5601.0 | 4097.6 | 3465.4 | 3420.0 | 3617.5 | 4434.4 | *6908.5* | 3060.9 | 2552.9 | 2382.4 |
| 80° | 3181.9 | 2697.0 | 2904.0 | 2740.0 | 2839.5 | 2772.6 | *3282.2* | 1342.5 | 1099.7 | 1028.0 |
| 82.5° | 1920.6 | 1594.1 | 1726.3 | 1437.3 | 1818.7 | 1583.8 | *1264.5* | 430.0 | 373.5 | 355.1 |
| 85° | 1249.4 | 871.1 | 453.9 | 304.2 | 626.7 | 1012.1 | *282.7* | 117.1 | 90.0 | 71.7 |
| 87.5° | 430.8 | 222.2 | 22.3 | 9.6 | 66.9 | 188.7 | *10.4* | 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.

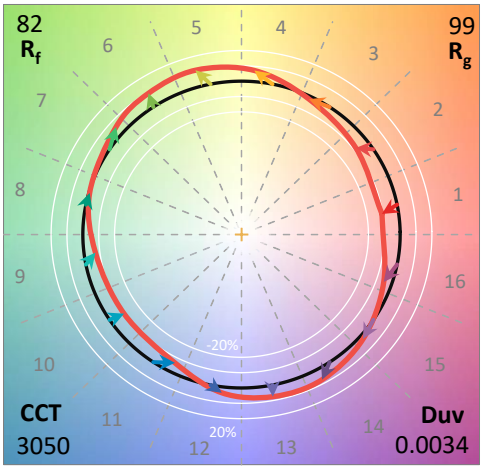
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

## 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 | CRI (Ra): | 81.0 | | |
| CIE u': | 0.2476 | R1: | 79.6 | R9: | 7.1 |
| CIE v': | 0.5251 | R2: | 85.6 | R10: | 67.0 |
| Duv: | 0.0034 | R3: | 92.0 | R11: | 82.7 |
| CIE x: | 0.4383 | R4: | 82.6 | R12: | 63.2 |
| CIE y: | 0.4131 | R5: | 78.9 | R13: | 80.3 |
| CIE z: | 0.1487 | R6: | 81.7 | R14: | 95.0 |
| Peak Wavelength (nm): | 603 | R7: | 85.2 | R15: | 71.7 |
| Dominant Wavelength (nm): | 581 | R8: | 62.0 | | |
| Purity: | 55.55201 | | | | |
| Rf: | 81.5 | | | | |
| Rg: | 99.2 | | | | |




## Test Conditions

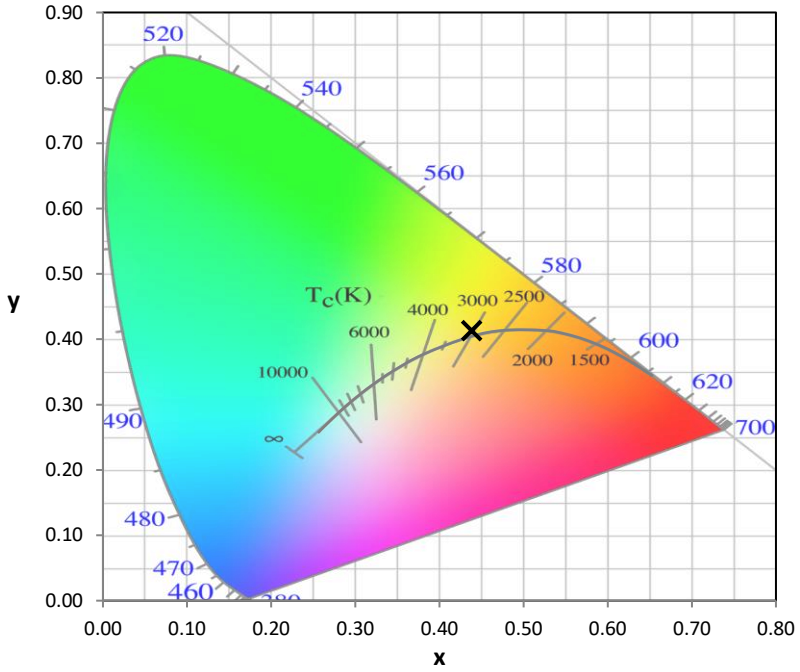
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 24.2 |

REPORT NUMBER: SP1-2408-195-9

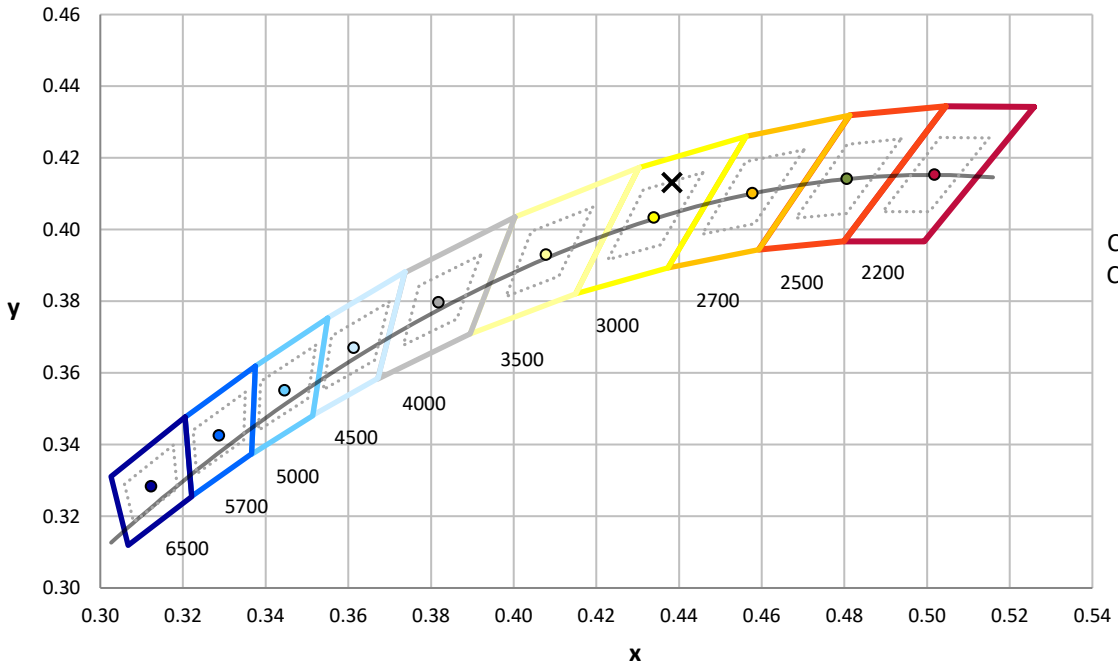
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

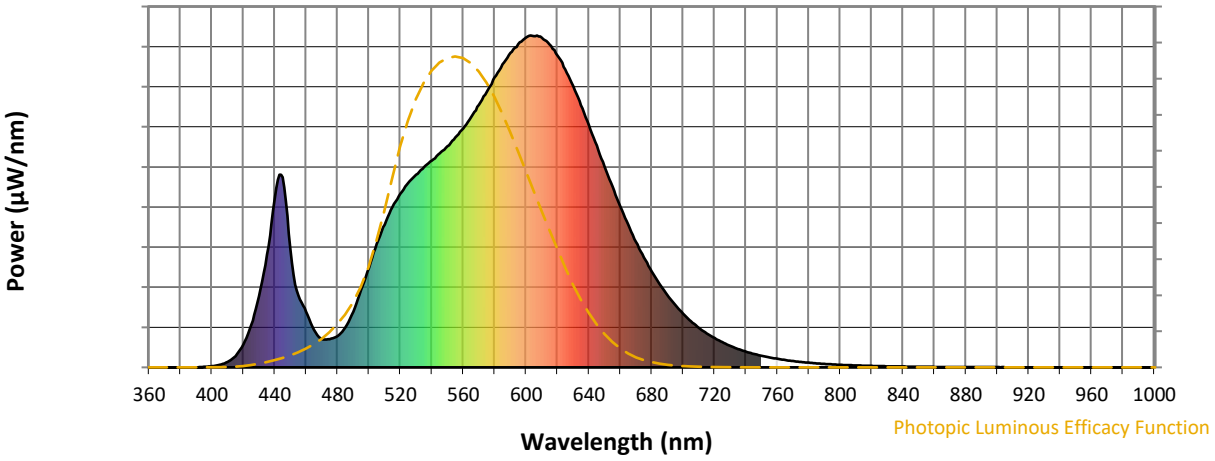



CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

## Photopic Flux vs. Wavelength

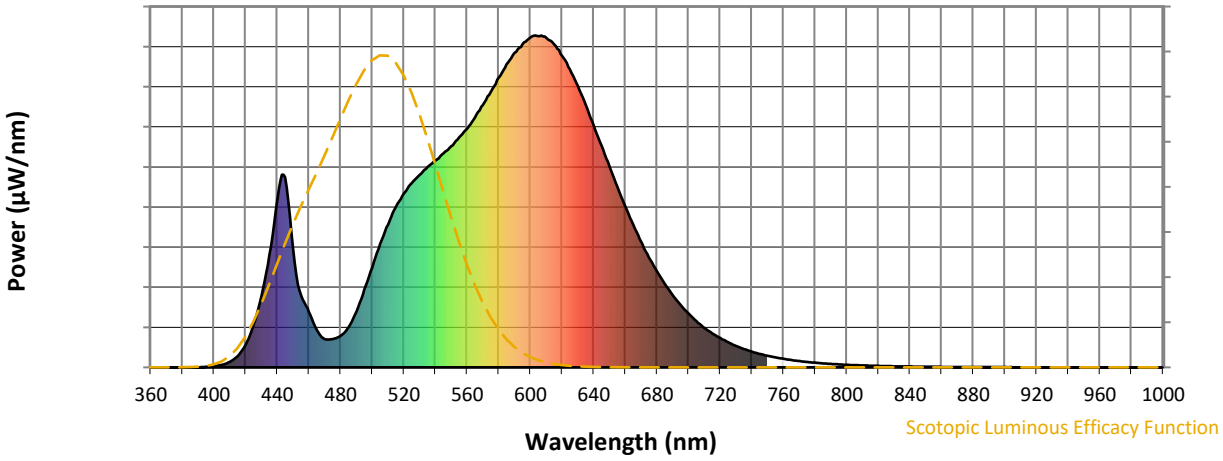



## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/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 | | | |

REPORT NUMBER: SP1-2408-195-9

## Scotopic Flux vs. Wavelength

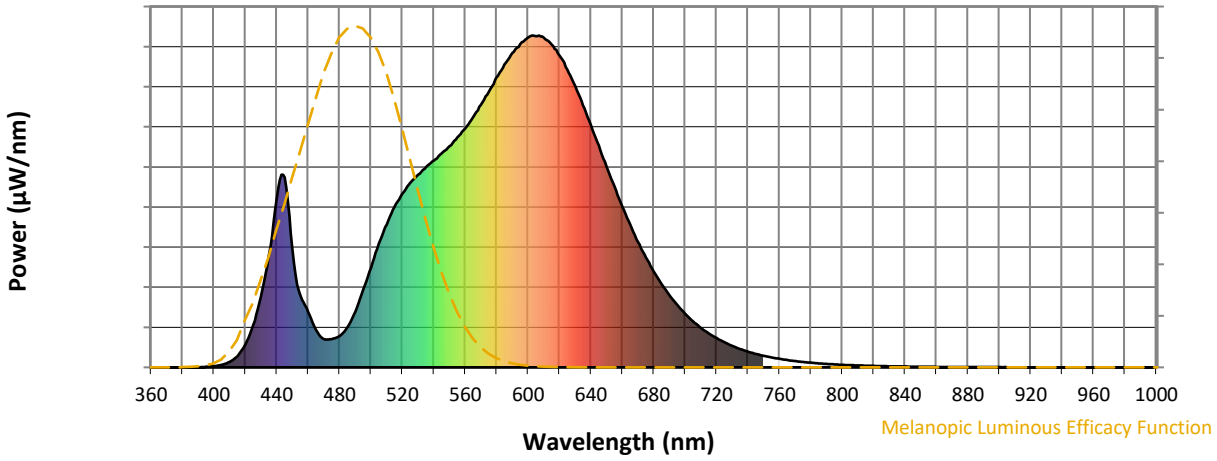



**Scotopic Lumens: NR** **S/P: 1.27**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/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 | | | |

REPORT NUMBER: SP1-2408-195-9

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.32**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/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 | | | |

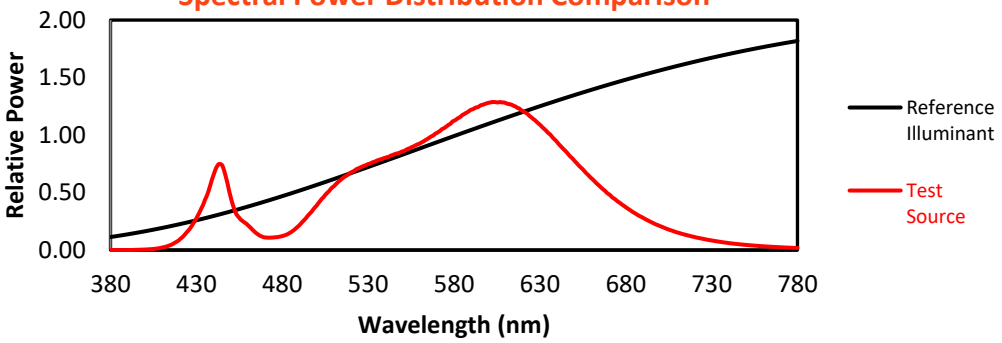
REPORT NUMBER: SP1-2408-195-9

# TM-30-18

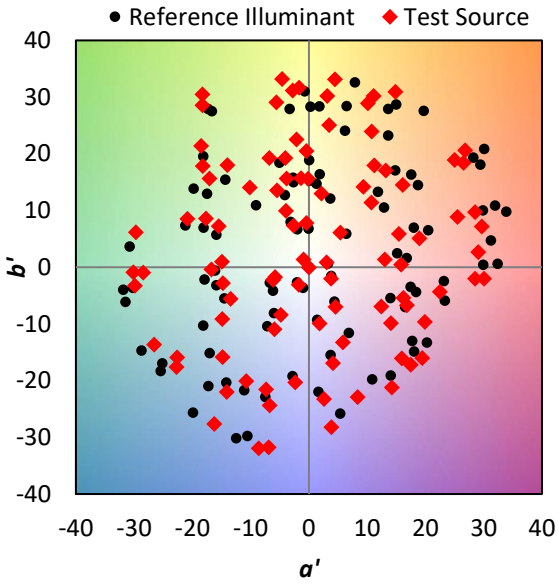
## Summary

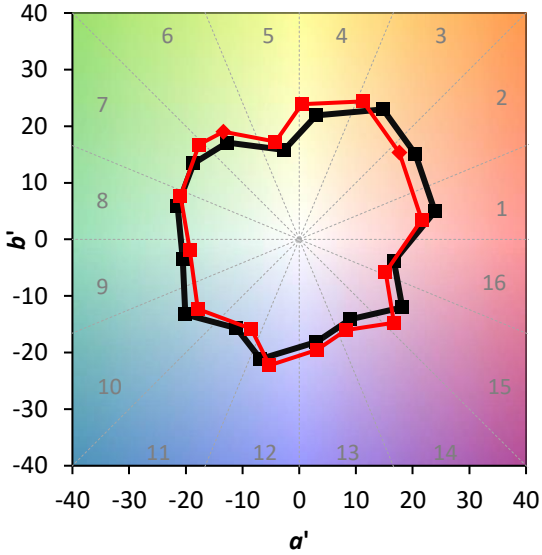
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 81.0
$R_9$ = 7.1

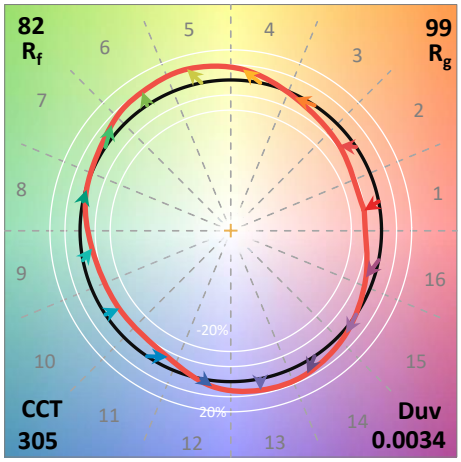
## Spectral Power Distribution Comparison

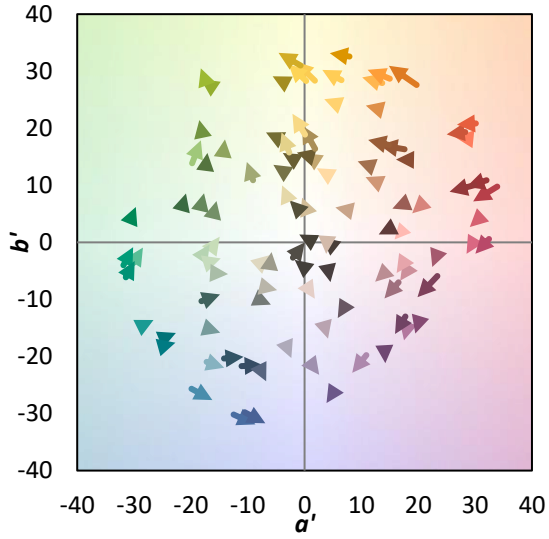



## Color Vector Graphics



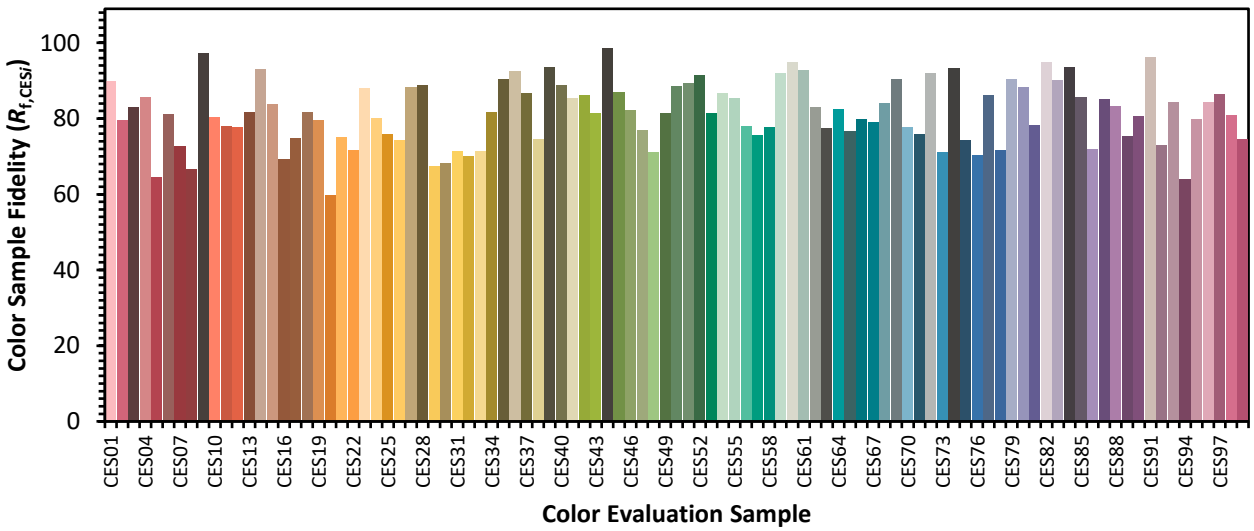



REPORT NUMBER: SP1-2408-195-9

# TM-30-18

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

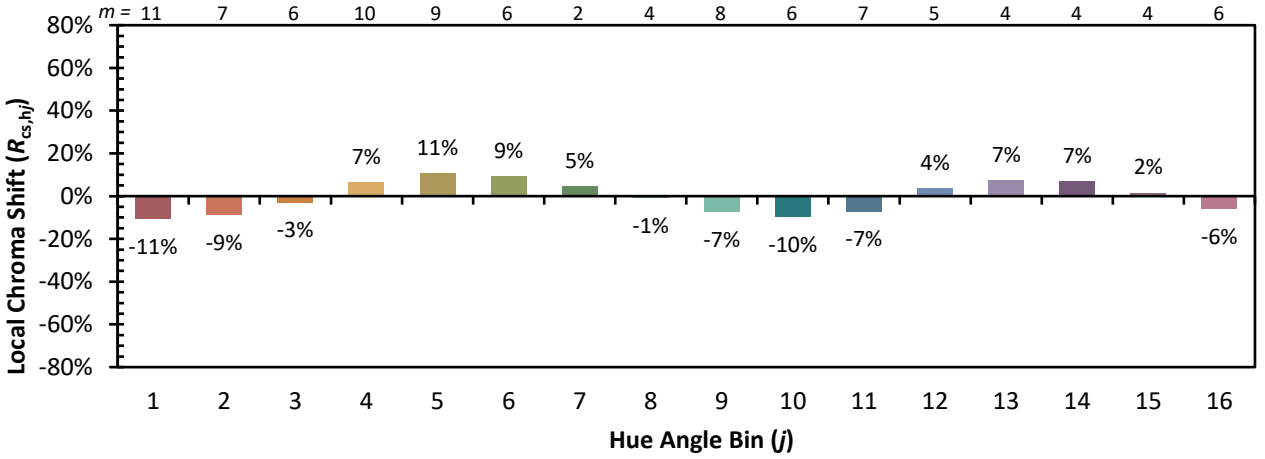
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 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 | |

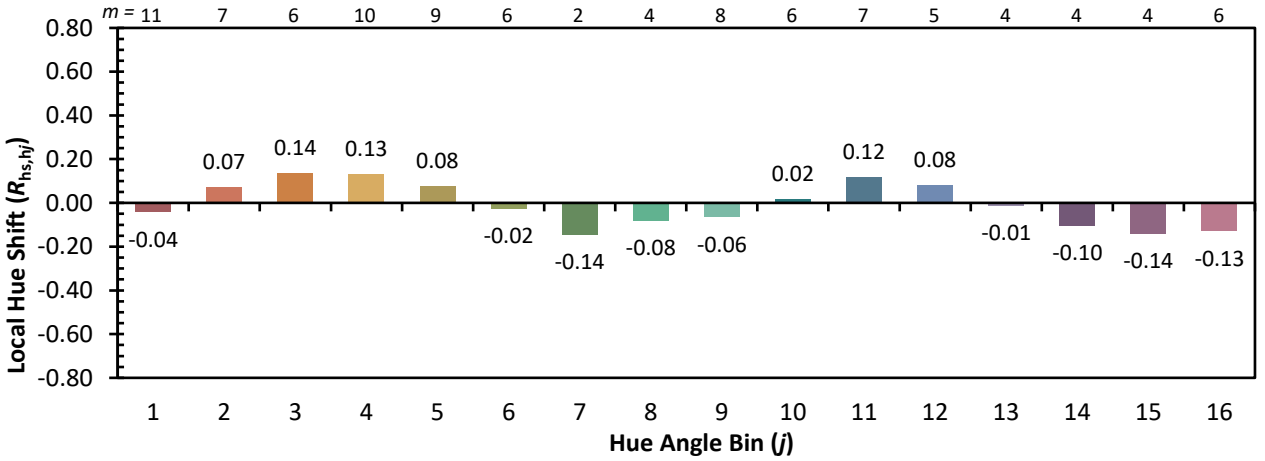


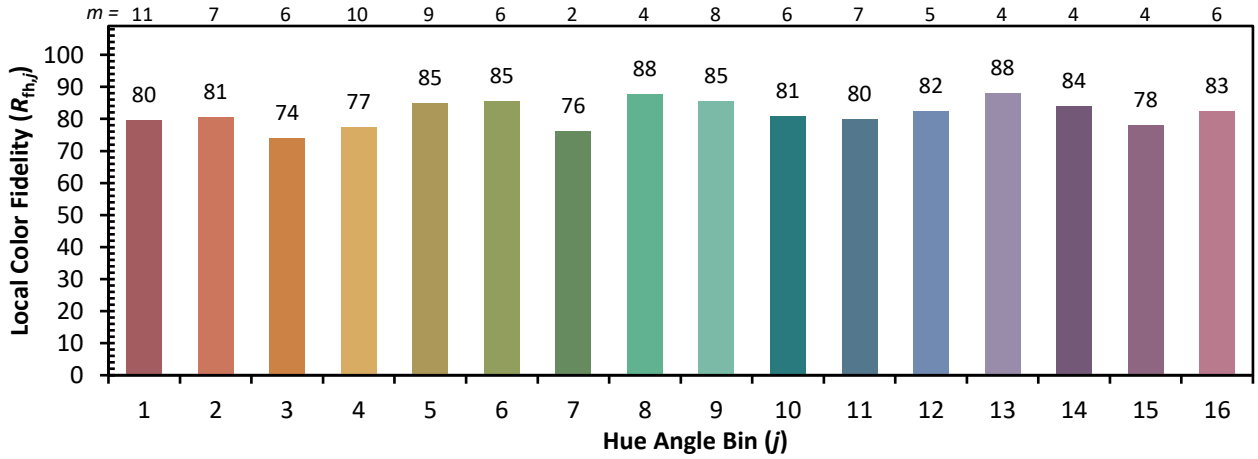
REPORT NUMBER: SP1-2408-195-9

**TM-30-18**

## Color Rendition by Hue-Angle Bin



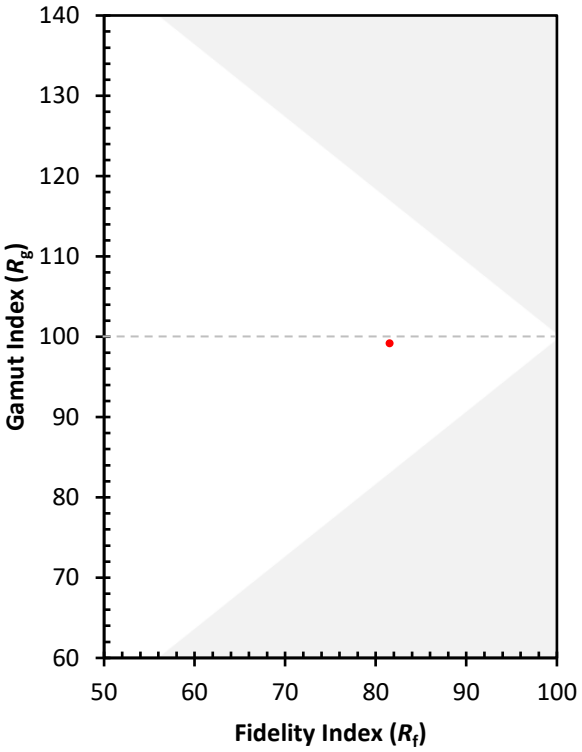



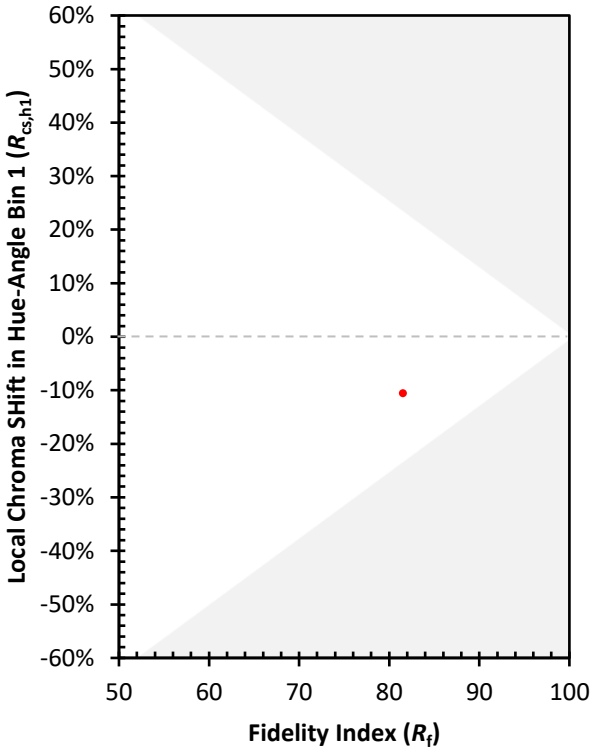



REPORT NUMBER: SP1-2408-195-9

# TM-30-18

## Measure Comparisons




(END OF REPORT)