

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P630840

Luminaire Tested: GWS-SA1E-740-U-SLR-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630840  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-44)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1E-740-U-SLR-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (16) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4702.6 lumens  
Efficiency: N/A  
Efficacy: 80.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

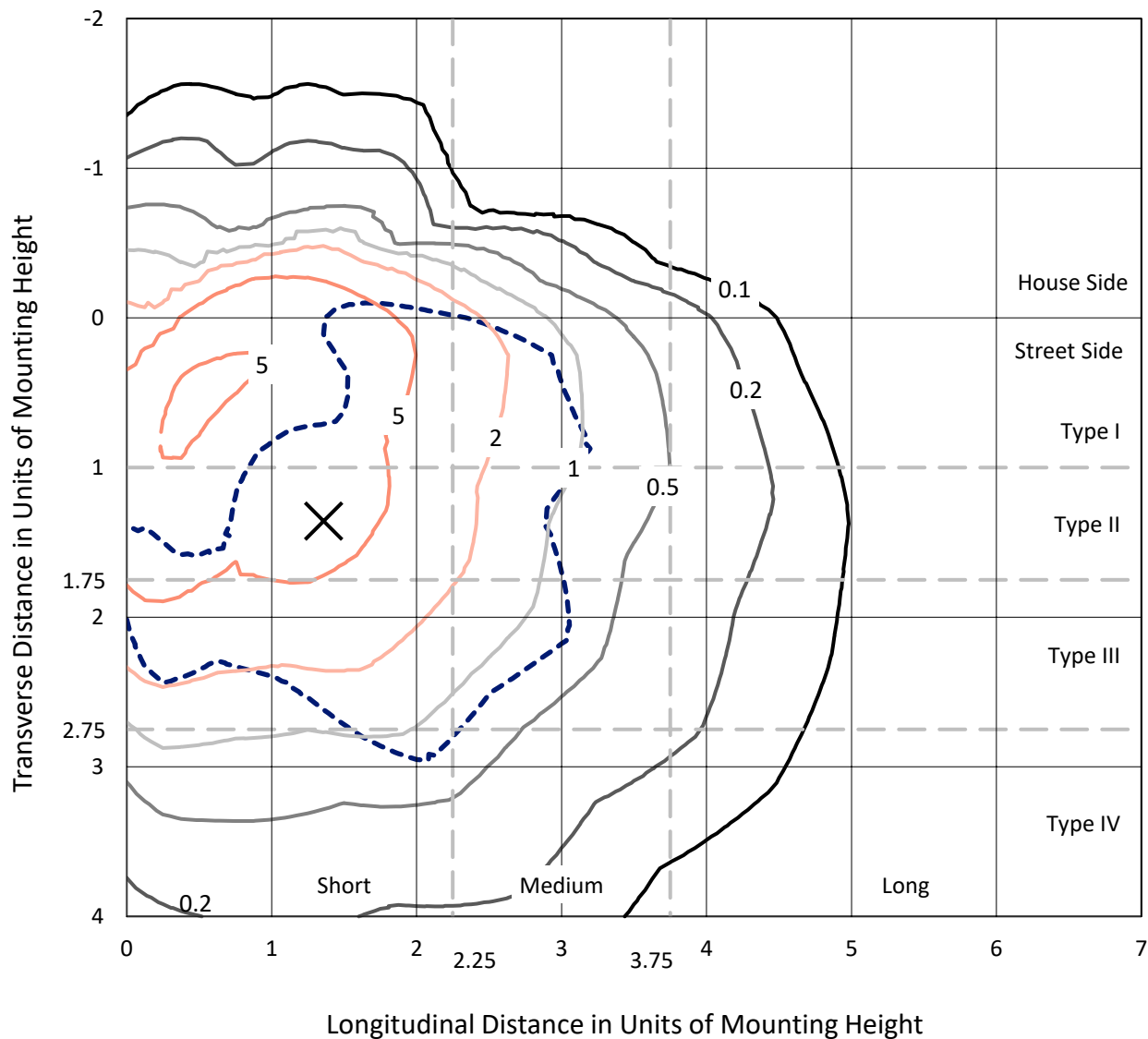
Input Watts (W): 58.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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## Iso-Footcandle Lines of Horizontal Illumination

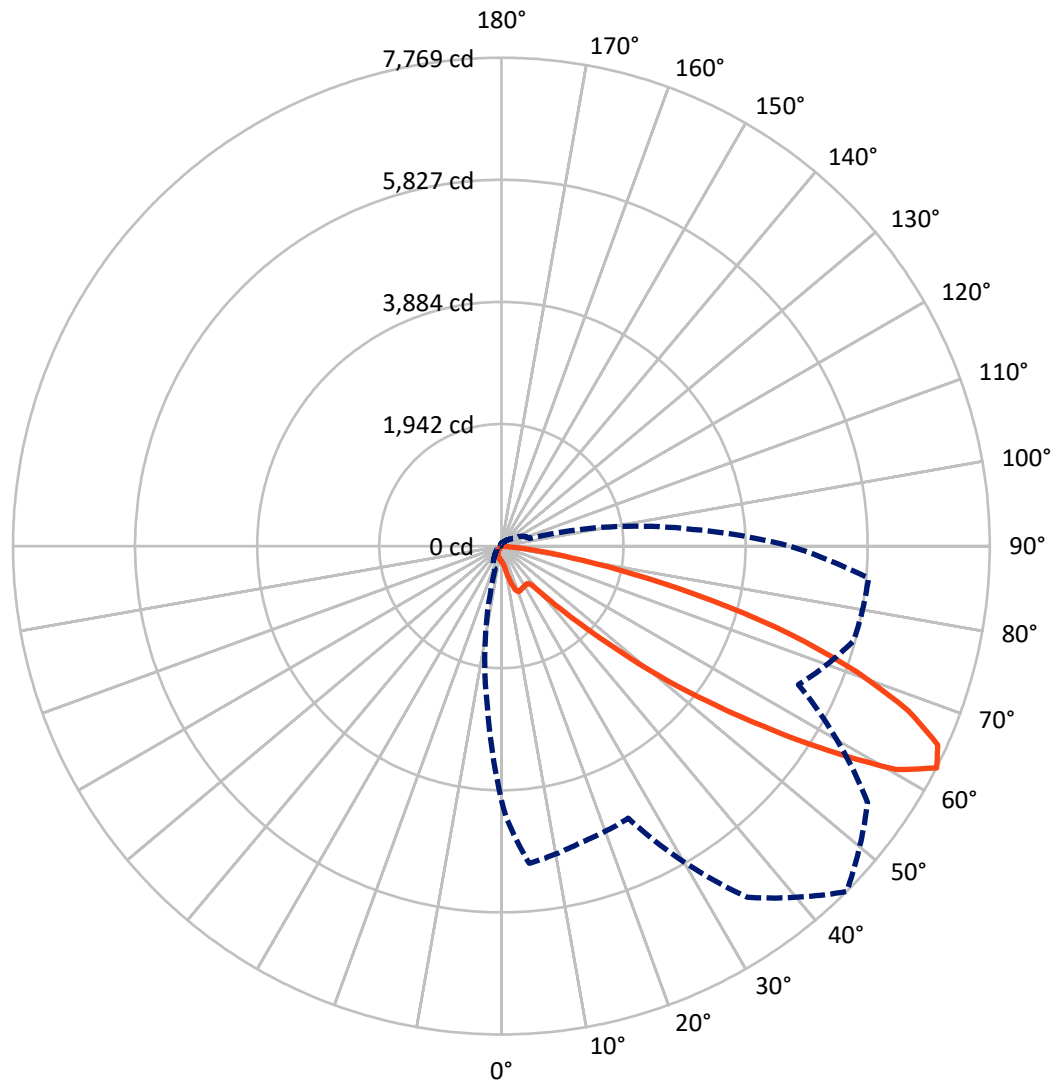
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.5 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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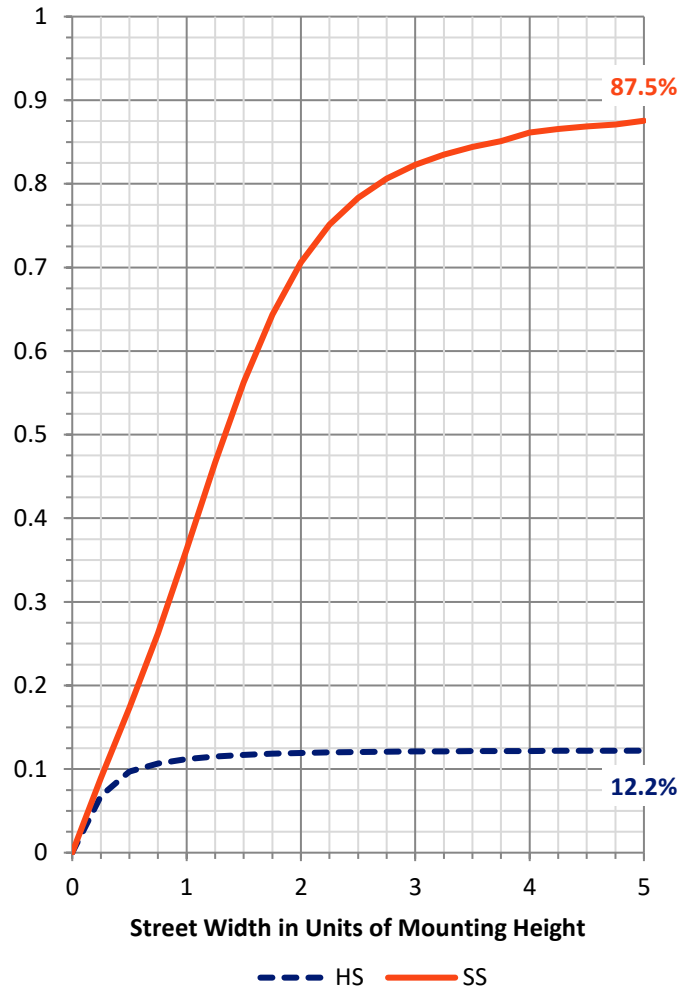
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 580.3    | 0.0    | 580.3  |
|                    | % Fixture | 12.3     | 0.0    | 12.3   |
| <b>Street Side</b> | Lumens    | 4122.3   | 0.0    | 4122.3 |
|                    | % Fixture | 87.7     | 0.0    | 87.7   |
| <b>Total</b>       | Lumens    | 4702.6   | 0.0    | 4702.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 21.7   | 0.5       |
| 10°-20°   | 82.0   | 1.7       |
| 20°-30°   | 178.2  | 3.8       |
| 30°-40°   | 292.5  | 6.2       |
| 40°-50°   | 537.8  | 11.4      |
| 50°-60°   | 1154.9 | 24.6      |
| 60°-70°   | 1551.2 | 33.0      |
| 70°-80°   | 807.7  | 17.2      |
| 80°-90°   | 76.6   | 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°    | 4702.6 | 100.0     |
| 0°-180°   | 4702.6 | 100.0     |

**Coefficient of Utilization**



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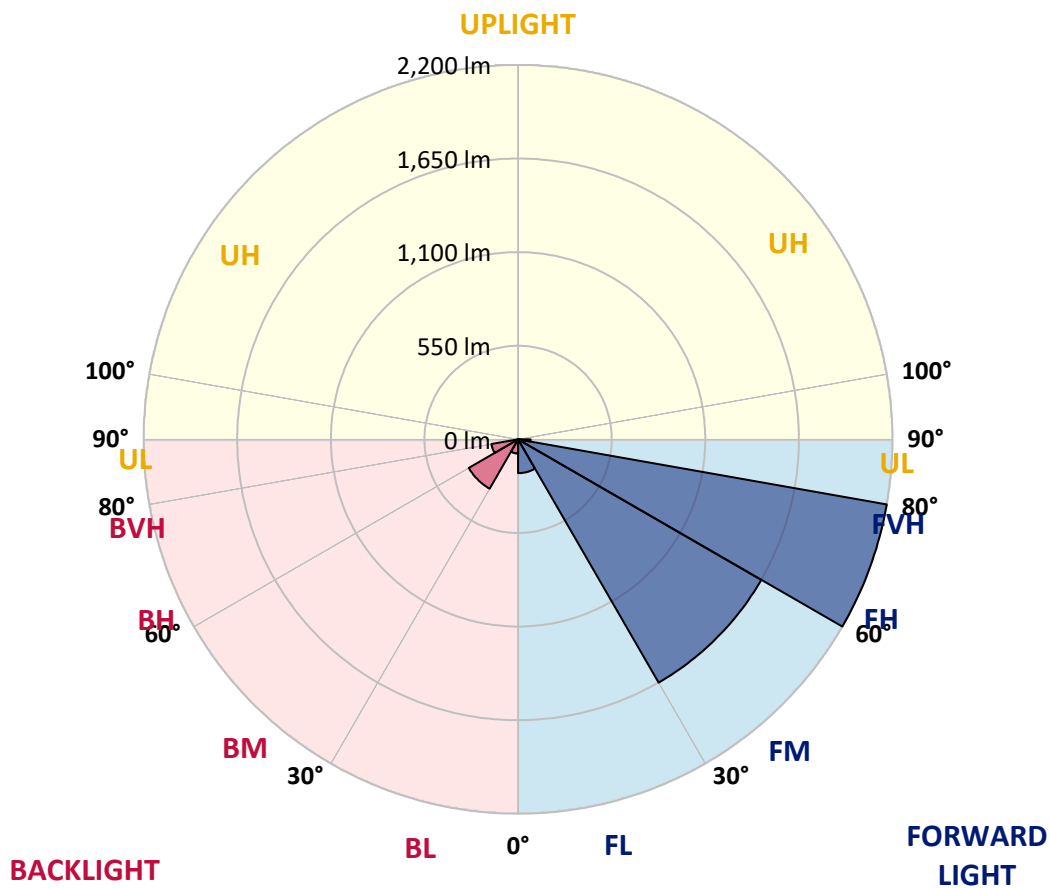
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 198.7  | 4.2       |                         |      |         |
| FM   | (30°-60°)   | 1650.6 | 35.1      |                         |      |         |
| FH   | (60°-80°)   | 2199.9 | 46.8      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 73.2   | 1.6       |                         |      | G1/100  |
| BL   | (0°-30°)    | 83.2   | 1.8       | B0/110                  |      |         |
| BM   | (30°-60°)   | 334.6  | 7.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 159.0  | 3.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 3.4    | 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-G2**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  | 244.4  |
| 2.5°  | 249.3  | 250.4  | 251.5  | 255.3  | 258.0  | 260.2  | 260.7  | 259.1  | 255.3  | 251.5  | 246.1  |
| 5°    | 241.7  | 242.8  | 246.6  | 256.9  | 267.3  | 275.4  | 278.1  | 276.5  | 267.3  | 255.3  | 242.8  |
| 7.5°  | 241.2  | 243.4  | 252.6  | 274.3  | 296.6  | 313.4  | 317.8  | 314.0  | 296.6  | 272.7  | 247.2  |
| 10°   | 260.7  | 264.5  | 278.1  | 317.2  | 358.0  | 387.8  | 399.8  | 383.5  | 355.8  | 312.3  | 270.5  |
| 12.5° | 311.8  | 318.3  | 344.4  | 401.4  | 464.4  | 504.1  | 520.4  | 500.3  | 456.8  | 393.8  | 327.5  |
| 15°   | 392.2  | 402.0  | 441.1  | 526.4  | 600.8  | 636.1  | 641.5  | 630.1  | 579.6  | 510.1  | 421.0  |
| 17.5° | 505.7  | 519.8  | 580.7  | 667.6  | 721.4  | 733.9  | 732.2  | 720.3  | 683.3  | 635.5  | 551.3  |
| 20°   | 641.5  | 658.3  | 718.1  | 789.8  | 795.2  | 780.6  | 772.4  | 765.4  | 752.9  | 744.7  | 679.0  |
| 22.5° | 778.4  | 799.0  | 861.5  | 879.4  | 830.5  | 788.2  | 768.1  | 773.5  | 792.0  | 832.2  | 805.6  |
| 25°   | 914.7  | 934.3  | 993.0  | 944.6  | 846.8  | 776.2  | 750.7  | 763.7  | 807.7  | 894.6  | 928.9  |
| 27.5° | 1073.9 | 1088.6 | 1123.3 | 989.2  | 849.6  | 766.4  | 741.5  | 761.6  | 815.3  | 933.7  | 1064.1 |
| 30°   | 1239.6 | 1248.3 | 1231.4 | 1001.1 | 840.3  | 751.8  | 732.2  | 761.6  | 828.4  | 959.8  | 1165.7 |
| 32.5° | 1361.2 | 1362.9 | 1308.0 | 1002.2 | 835.4  | 739.8  | 723.5  | 758.3  | 840.9  | 981.5  | 1264.0 |
| 35°   | 1486.7 | 1478.6 | 1381.3 | 1018.5 | 848.5  | 744.2  | 730.1  | 767.5  | 860.4  | 1007.1 | 1350.4 |
| 37.5° | 1613.8 | 1599.2 | 1463.4 | 1045.1 | 882.1  | 791.4  | 782.7  | 814.8  | 891.9  | 1042.4 | 1445.4 |
| 40°   | 1744.2 | 1724.1 | 1548.6 | 1085.3 | 957.1  | 952.2  | 982.1  | 978.3  | 978.3  | 1087.5 | 1543.2 |
| 42.5° | 1903.3 | 1880.0 | 1674.7 | 1198.8 | 1132.0 | 1241.2 | 1322.7 | 1272.2 | 1178.7 | 1191.2 | 1670.3 |
| 45°   | 2113.6 | 2093.5 | 1893.0 | 1416.1 | 1406.3 | 1657.3 | 1767.0 | 1667.1 | 1434.6 | 1430.8 | 1882.7 |
| 47.5° | 2449.8 | 2446.0 | 2241.2 | 1668.1 | 1742.0 | 2186.9 | 2398.7 | 2206.4 | 1726.3 | 1684.4 | 2284.7 |
| 50°   | 2922.4 | 2911.0 | 2675.2 | 1963.6 | 2141.3 | 2843.1 | 3221.1 | 2900.6 | 2078.8 | 1980.5 | 2823.0 |
| 52.5° | 3454.7 | 3466.7 | 3283.1 | 2286.3 | 2565.5 | 3573.1 | 4099.5 | 3695.9 | 2461.7 | 2356.9 | 3500.3 |
| 55°   | 3956.1 | 4024.5 | 3976.2 | 2663.8 | 2980.0 | 4379.2 | 5064.2 | 4568.3 | 2936.0 | 2849.6 | 4259.7 |
| 57.5° | 4348.3 | 4541.1 | 4880.0 | 3212.4 | 3467.2 | 5322.2 | 6141.3 | 5514.0 | 3489.5 | 3649.7 | 5293.4 |
| 60°   | 4370.0 | 4625.3 | 5412.4 | 4360.2 | 4094.0 | 6131.0 | 7216.9 | 6437.9 | 4359.7 | 5008.2 | 6103.3 |
| 62.5° | 4042.4 | 4316.2 | 5065.8 | 4881.7 | 4776.8 | 6819.2 | 7768.7 | 7111.5 | 5215.7 | 5804.0 | 5863.2 |
| 65°   | 3667.6 | 3944.1 | 4679.1 | 4290.1 | 4697.5 | 6789.9 | 7628.6 | 7127.2 | 5293.4 | 5263.0 | 5433.6 |
| 67.5° | 3101.1 | 3349.3 | 4014.7 | 3797.5 | 4329.8 | 6462.4 | 6981.1 | 6678.0 | 4876.8 | 4922.4 | 4998.5 |
| 70°   | 2263.5 | 2502.5 | 3120.1 | 3131.0 | 3781.2 | 5871.9 | 5998.5 | 5956.7 | 4491.1 | 4539.5 | 4322.2 |
| 72.5° | 1635.0 | 1836.5 | 2369.4 | 2567.7 | 3018.5 | 4924.0 | 4836.6 | 4997.9 | 3853.4 | 4043.0 | 3471.5 |
| 75°   | 1175.5 | 1326.5 | 1738.2 | 2233.6 | 2392.8 | 3656.8 | 3462.3 | 3870.8 | 3091.9 | 3481.3 | 2610.0 |
| 77.5° | 476.9  | 530.2  | 683.9  | 1504.6 | 1572.5 | 2460.1 | 2119.5 | 2811.6 | 2204.3 | 2287.4 | 1265.1 |
| 80°   | 19.6   | 21.7   | 28.2   | 776.8  | 1078.2 | 1384.1 | 1134.2 | 1503.0 | 1455.8 | 921.3  | 298.8  |
| 82.5° | 2.2    | 2.2    | 4.9    | 223.8  | 472.0  | 763.7  | 534.5  | 865.8  | 737.1  | 390.6  | 135.8  |
| 85°   | 0.5    | 0.5    | 1.1    | 25.5   | 110.8  | 122.2  | 72.2   | 265.6  | 342.8  | 159.7  | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.7    | 4.9    | 5.4    | 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°    | 244.4  | 244.4  | 244.4  | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 |
| 2.5°  | 246.1  | 243.4  | 240.1  | 236.8 | 235.2 | 230.9 | 229.2 | 228.1 | 227.1 | 227.6 | 227.6 |
| 5°    | 237.9  | 231.9  | 224.9  | 217.8 | 214.0 | 209.7 | 207.5 | 206.4 | 207.0 | 209.1 | 209.1 |
| 7.5°  | 236.8  | 225.4  | 210.2  | 201.0 | 196.6 | 193.4 | 191.2 | 190.1 | 190.7 | 193.4 | 194.5 |
| 10°   | 254.8  | 234.7  | 207.5  | 191.7 | 186.9 | 183.6 | 181.4 | 179.8 | 178.7 | 180.9 | 181.4 |
| 12.5° | 293.3  | 265.6  | 220.5  | 190.7 | 182.0 | 177.6 | 176.0 | 172.7 | 171.1 | 172.2 | 172.7 |
| 15°   | 373.2  | 325.4  | 246.6  | 195.0 | 177.6 | 172.7 | 170.0 | 167.3 | 164.6 | 164.0 | 164.6 |
| 17.5° | 477.5  | 409.0  | 286.3  | 205.3 | 174.4 | 168.4 | 164.6 | 160.8 | 157.0 | 156.4 | 155.9 |
| 20°   | 606.7  | 511.7  | 341.7  | 221.6 | 171.6 | 164.6 | 159.2 | 153.7 | 148.8 | 147.2 | 147.2 |
| 22.5° | 724.6  | 635.5  | 412.8  | 241.7 | 167.8 | 159.2 | 152.6 | 146.1 | 140.7 | 138.0 | 137.4 |
| 25°   | 868.6  | 767.0  | 498.1  | 265.1 | 162.4 | 152.1 | 145.0 | 138.5 | 133.1 | 129.8 | 128.7 |
| 27.5° | 1013.6 | 905.5  | 594.8  | 295.5 | 155.9 | 145.0 | 138.5 | 132.5 | 126.6 | 122.8 | 121.7 |
| 30°   | 1154.3 | 1054.9 | 703.4  | 333.5 | 151.0 | 138.0 | 132.5 | 126.6 | 121.1 | 115.2 | 113.5 |
| 32.5° | 1305.3 | 1207.5 | 825.1  | 375.9 | 147.2 | 133.1 | 127.1 | 121.7 | 114.6 | 109.2 | 106.5 |
| 35°   | 1450.9 | 1365.0 | 959.3  | 417.2 | 143.4 | 128.7 | 122.2 | 116.8 | 109.2 | 103.2 | 99.4  |
| 37.5° | 1597.5 | 1525.3 | 1099.4 | 442.2 | 138.0 | 122.8 | 116.8 | 112.4 | 103.7 | 96.7  | 92.3  |
| 40°   | 1752.9 | 1691.0 | 1251.0 | 431.8 | 133.1 | 116.2 | 113.0 | 108.1 | 98.3  | 90.2  | 84.7  |
| 42.5° | 1923.4 | 1849.0 | 1405.2 | 392.2 | 128.7 | 110.8 | 107.6 | 102.7 | 93.4  | 83.7  | 76.6  |
| 45°   | 2138.0 | 2022.3 | 1531.8 | 332.4 | 130.9 | 105.4 | 98.9  | 97.8  | 89.1  | 76.6  | 67.9  |
| 47.5° | 2506.8 | 2288.5 | 1630.1 | 293.9 | 145.6 | 99.4  | 91.8  | 94.5  | 85.3  | 69.5  | 59.8  |
| 50°   | 3071.2 | 2729.5 | 1721.9 | 291.2 | 167.8 | 96.7  | 85.3  | 92.3  | 81.5  | 62.5  | 52.7  |
| 52.5° | 3609.0 | 3177.7 | 1780.6 | 315.1 | 187.4 | 103.7 | 78.8  | 89.6  | 78.8  | 57.6  | 47.8  |
| 55°   | 4123.4 | 3436.2 | 1675.7 | 332.4 | 205.9 | 124.9 | 73.9  | 85.3  | 75.5  | 54.9  | 46.2  |
| 57.5° | 4678.0 | 3551.4 | 1319.4 | 367.7 | 218.9 | 142.9 | 75.0  | 78.8  | 71.2  | 53.2  | 45.6  |
| 60°   | 4843.7 | 3404.2 | 796.3  | 413.9 | 211.8 | 148.3 | 83.1  | 70.1  | 65.2  | 50.0  | 44.0  |
| 62.5° | 4586.2 | 3054.9 | 469.9  | 377.0 | 205.9 | 140.1 | 95.1  | 64.6  | 59.2  | 45.6  | 40.7  |
| 65°   | 4201.1 | 2580.7 | 306.4  | 318.3 | 218.4 | 124.9 | 101.0 | 61.9  | 53.8  | 41.3  | 35.9  |
| 67.5° | 3761.1 | 2078.8 | 214.6  | 187.9 | 201.5 | 112.4 | 85.3  | 61.4  | 48.3  | 34.8  | 29.3  |
| 70°   | 3167.9 | 1556.8 | 151.0  | 124.4 | 167.8 | 99.9  | 66.3  | 59.8  | 42.4  | 28.2  | 22.8  |
| 72.5° | 2447.6 | 974.5  | 112.4  | 80.4  | 119.5 | 81.5  | 52.7  | 50.5  | 34.2  | 23.4  | 17.4  |
| 75°   | 1805.0 | 555.7  | 79.3   | 58.1  | 78.8  | 61.9  | 39.1  | 35.9  | 29.3  | 22.3  | 15.8  |
| 77.5° | 942.4  | 278.1  | 49.4   | 44.5  | 45.1  | 38.6  | 28.2  | 26.1  | 27.2  | 22.3  | 14.7  |
| 80°   | 180.9  | 55.4   | 29.9   | 32.6  | 24.4  | 24.4  | 20.6  | 21.7  | 23.9  | 17.9  | 12.5  |
| 82.5° | 75.5   | 12.0   | 16.3   | 18.5  | 15.2  | 16.8  | 16.8  | 17.4  | 16.8  | 13.0  | 9.2   |
| 85°   | 0.0    | 0.0    | 7.1    | 7.6   | 10.3  | 10.3  | 8.7   | 8.7   | 8.7   | 7.6   | 5.4   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0   | 0.5   | 1.6   | 3.3   | 3.8   | 4.3   | 3.3   | 2.2   |
| 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°    | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 |
| 2.5°  | 227.1 | 226.0 | 227.6 | 228.7 | 229.8 | 229.8 | 228.7 | 227.6 | 226.0 | 227.6 | 226.0 |
| 5°    | 209.7 | 211.3 | 214.0 | 215.1 | 216.2 | 214.0 | 212.9 | 209.7 | 207.0 | 207.5 | 206.4 |
| 7.5°  | 196.1 | 197.7 | 201.0 | 203.2 | 203.2 | 202.1 | 198.8 | 195.5 | 191.2 | 191.2 | 190.7 |
| 10°   | 183.6 | 185.8 | 189.6 | 192.3 | 193.4 | 192.3 | 189.0 | 184.7 | 180.9 | 180.9 | 179.3 |
| 12.5° | 173.3 | 176.0 | 180.3 | 184.1 | 185.2 | 184.1 | 180.9 | 176.5 | 172.2 | 172.2 | 171.1 |
| 15°   | 164.6 | 167.8 | 172.7 | 177.1 | 178.7 | 177.1 | 173.3 | 167.8 | 163.5 | 164.0 | 162.4 |
| 17.5° | 156.4 | 159.2 | 165.7 | 170.6 | 172.2 | 170.6 | 165.7 | 158.6 | 154.3 | 155.4 | 154.3 |
| 20°   | 147.2 | 150.5 | 157.0 | 162.4 | 164.0 | 162.4 | 157.0 | 149.4 | 145.0 | 145.0 | 145.6 |
| 22.5° | 137.4 | 140.7 | 147.2 | 151.0 | 153.2 | 151.6 | 146.1 | 139.1 | 134.7 | 134.7 | 135.3 |
| 25°   | 128.7 | 130.4 | 135.3 | 139.1 | 139.6 | 138.0 | 133.6 | 128.2 | 124.9 | 126.6 | 127.1 |
| 27.5° | 120.6 | 120.6 | 122.8 | 124.9 | 124.4 | 122.8 | 121.1 | 116.8 | 116.2 | 117.9 | 119.5 |
| 30°   | 111.9 | 109.2 | 108.1 | 106.5 | 105.9 | 105.4 | 107.0 | 107.0 | 108.1 | 110.3 | 111.9 |
| 32.5° | 104.3 | 98.9  | 94.0  | 89.1  | 86.4  | 88.5  | 92.9  | 96.7  | 100.5 | 103.7 | 105.4 |
| 35°   | 95.6  | 86.9  | 78.8  | 72.2  | 67.9  | 71.2  | 78.2  | 85.3  | 91.8  | 96.1  | 98.9  |
| 37.5° | 86.9  | 74.4  | 64.6  | 56.5  | 53.2  | 55.9  | 63.6  | 73.3  | 83.1  | 88.5  | 92.3  |
| 40°   | 77.7  | 61.9  | 50.5  | 44.0  | 40.7  | 43.5  | 51.1  | 60.8  | 73.9  | 80.9  | 85.8  |
| 42.5° | 68.4  | 51.1  | 40.7  | 34.2  | 32.6  | 34.2  | 40.2  | 50.0  | 64.1  | 72.8  | 79.3  |
| 45°   | 59.2  | 42.4  | 32.6  | 27.7  | 26.1  | 27.7  | 32.6  | 40.7  | 54.9  | 64.6  | 72.2  |
| 47.5° | 51.1  | 35.9  | 27.2  | 22.8  | 21.7  | 23.4  | 27.2  | 34.2  | 46.2  | 55.9  | 64.6  |
| 50°   | 44.5  | 31.5  | 23.4  | 19.6  | 18.5  | 20.1  | 23.4  | 28.8  | 39.1  | 47.8  | 57.0  |
| 52.5° | 40.2  | 29.3  | 20.6  | 16.8  | 16.3  | 17.4  | 20.1  | 24.4  | 33.1  | 40.7  | 49.4  |
| 55°   | 39.1  | 29.3  | 19.0  | 15.2  | 14.7  | 15.8  | 17.9  | 21.2  | 28.8  | 35.3  | 42.9  |
| 57.5° | 40.2  | 31.5  | 17.9  | 13.0  | 12.5  | 13.6  | 15.8  | 18.5  | 25.0  | 30.4  | 37.5  |
| 60°   | 40.2  | 32.0  | 15.8  | 10.3  | 9.8   | 10.9  | 13.0  | 16.3  | 22.3  | 26.6  | 32.6  |
| 62.5° | 36.4  | 29.3  | 13.0  | 8.1   | 7.1   | 8.1   | 10.9  | 13.6  | 19.6  | 23.9  | 28.8  |
| 65°   | 31.5  | 25.0  | 10.9  | 6.0   | 4.9   | 6.0   | 8.7   | 11.4  | 16.8  | 20.6  | 26.1  |
| 67.5° | 25.5  | 19.0  | 8.1   | 4.3   | 3.3   | 4.3   | 6.5   | 9.2   | 14.1  | 17.9  | 23.4  |
| 70°   | 19.0  | 13.6  | 6.5   | 3.8   | 3.3   | 3.8   | 6.0   | 8.7   | 12.5  | 16.3  | 21.7  |
| 72.5° | 14.1  | 9.2   | 5.4   | 3.8   | 2.7   | 3.8   | 5.4   | 8.1   | 12.0  | 15.8  | 20.6  |
| 75°   | 12.0  | 7.6   | 4.9   | 3.3   | 2.7   | 3.3   | 4.9   | 7.6   | 10.9  | 14.7  | 19.6  |
| 77.5° | 11.4  | 7.1   | 4.3   | 2.7   | 2.2   | 2.7   | 4.3   | 6.5   | 9.8   | 13.6  | 19.0  |
| 80°   | 9.8   | 6.0   | 3.8   | 2.2   | 1.6   | 2.2   | 3.8   | 5.4   | 7.6   | 10.3  | 14.7  |
| 82.5° | 7.6   | 4.9   | 2.7   | 1.1   | 0.5   | 1.1   | 2.7   | 3.3   | 4.9   | 6.0   | 8.7   |
| 85°   | 4.9   | 2.7   | 1.1   | 0.0   | 0.0   | 0.0   | 1.1   | 2.2   | 2.2   | 2.7   | 4.3   |
| 87.5° | 2.2   | 0.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.5   | 1.1   | 1.6   |
| 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: P630840

CATALOG NUMBER: GWS-SA1E-740-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°  | 295°  | 305°  | 315°  | 325°  | 335°  | 345°   | 355°   | 359°   | 360°   |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 0°    | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4 | 244.4  | 244.4  | 244.4  | 244.4  |
| 2.5°  | 229.2 | 229.8 | 230.9 | 232.5 | 236.3 | 239.5 | 242.8  | 247.2  | 249.3  | 249.3  |
| 5°    | 207.5 | 208.0 | 208.6 | 210.8 | 216.2 | 220.5 | 227.6  | 236.3  | 240.6  | 241.7  |
| 7.5°  | 190.7 | 191.7 | 192.8 | 194.5 | 199.9 | 205.9 | 215.1  | 231.4  | 239.5  | 241.2  |
| 10°   | 180.9 | 182.5 | 184.7 | 187.9 | 192.8 | 199.4 | 215.1  | 244.4  | 258.0  | 260.7  |
| 12.5° | 173.3 | 176.0 | 178.2 | 182.0 | 187.9 | 198.3 | 229.8  | 281.4  | 305.3  | 311.8  |
| 15°   | 165.7 | 168.9 | 172.2 | 176.0 | 182.5 | 202.1 | 258.0  | 347.6  | 387.3  | 392.2  |
| 17.5° | 158.1 | 161.9 | 166.2 | 170.6 | 178.7 | 211.3 | 302.6  | 439.4  | 494.8  | 505.7  |
| 20°   | 149.4 | 154.3 | 160.2 | 165.7 | 174.9 | 226.0 | 364.5  | 548.6  | 618.2  | 641.5  |
| 22.5° | 140.1 | 146.1 | 153.2 | 160.2 | 170.6 | 243.9 | 439.4  | 666.0  | 763.2  | 778.4  |
| 25°   | 132.5 | 138.5 | 145.0 | 152.1 | 163.5 | 265.6 | 530.2  | 811.5  | 900.1  | 914.7  |
| 27.5° | 125.5 | 131.5 | 137.4 | 143.9 | 156.4 | 293.9 | 639.3  | 966.3  | 1058.7 | 1073.9 |
| 30°   | 117.9 | 124.9 | 130.9 | 137.4 | 149.9 | 328.6 | 765.4  | 1138.0 | 1225.4 | 1239.6 |
| 32.5° | 111.4 | 118.4 | 124.4 | 130.9 | 145.0 | 366.7 | 897.9  | 1290.1 | 1361.2 | 1361.2 |
| 35°   | 105.9 | 113.5 | 117.9 | 126.6 | 141.2 | 391.1 | 1023.4 | 1435.1 | 1488.9 | 1486.7 |
| 37.5° | 99.9  | 109.2 | 112.4 | 118.4 | 136.3 | 393.8 | 1141.2 | 1588.3 | 1627.9 | 1613.8 |
| 40°   | 94.0  | 103.7 | 108.6 | 111.9 | 130.9 | 371.5 | 1270.5 | 1729.0 | 1762.7 | 1744.2 |
| 42.5° | 88.5  | 96.1  | 103.2 | 107.0 | 127.7 | 332.4 | 1374.3 | 1879.4 | 1919.6 | 1903.3 |
| 45°   | 83.1  | 89.6  | 94.0  | 101.0 | 129.8 | 305.3 | 1463.4 | 2054.9 | 2125.5 | 2113.6 |
| 47.5° | 77.7  | 83.1  | 85.8  | 96.7  | 144.5 | 292.8 | 1517.7 | 2326.5 | 2459.6 | 2449.8 |
| 50°   | 71.7  | 78.2  | 78.2  | 95.6  | 166.2 | 297.1 | 1564.9 | 2719.8 | 2925.6 | 2922.4 |
| 52.5° | 65.7  | 72.8  | 71.7  | 103.7 | 183.1 | 317.2 | 1618.7 | 3066.9 | 3424.8 | 3454.7 |
| 55°   | 59.8  | 66.3  | 67.4  | 120.0 | 192.8 | 334.6 | 1410.7 | 3213.0 | 3851.2 | 3956.1 |
| 57.5° | 53.2  | 57.0  | 70.1  | 132.5 | 189.6 | 385.1 | 966.3  | 3239.6 | 4123.4 | 4348.3 |
| 60°   | 46.2  | 49.4  | 79.3  | 129.8 | 179.3 | 355.8 | 608.4  | 3000.6 | 4084.8 | 4370.0 |
| 62.5° | 40.2  | 45.6  | 83.7  | 114.6 | 182.5 | 308.5 | 387.8  | 2557.4 | 3717.1 | 4042.4 |
| 65°   | 35.3  | 44.0  | 76.0  | 103.7 | 184.7 | 209.1 | 261.8  | 2080.4 | 3358.0 | 3667.6 |
| 67.5° | 31.5  | 48.9  | 62.5  | 92.3  | 158.6 | 147.2 | 179.8  | 1616.5 | 2823.5 | 3101.1 |
| 70°   | 28.8  | 50.0  | 51.1  | 79.3  | 122.8 | 94.5  | 118.4  | 1088.0 | 1946.3 | 2263.5 |
| 72.5° | 26.1  | 36.9  | 38.6  | 63.6  | 79.3  | 57.6  | 76.6   | 622.5  | 1418.8 | 1635.0 |
| 75°   | 25.0  | 25.0  | 26.6  | 41.3  | 44.0  | 41.8  | 49.4   | 371.5  | 1017.4 | 1175.5 |
| 77.5° | 23.4  | 19.0  | 16.8  | 26.6  | 23.9  | 29.9  | 29.3   | 165.1  | 441.1  | 476.9  |
| 80°   | 18.5  | 13.6  | 11.4  | 16.8  | 16.3  | 20.1  | 17.4   | 13.6   | 20.1   | 19.6   |
| 82.5° | 11.4  | 8.7   | 8.1   | 10.3  | 9.2   | 10.3  | 8.1    | 2.2    | 2.2    | 2.2    |
| 85°   | 5.4   | 4.9   | 4.3   | 4.3   | 4.9   | 4.3   | 3.3    | 1.1    | 0.5    | 0.5    |
| 87.5° | 2.7   | 2.7   | 2.2   | 1.6   | 2.2   | 2.2   | 1.6    | 0.5    | 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    |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW, INVUE, LUMARK AND STREETWORKS

DATA VALID FOR LUMINAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

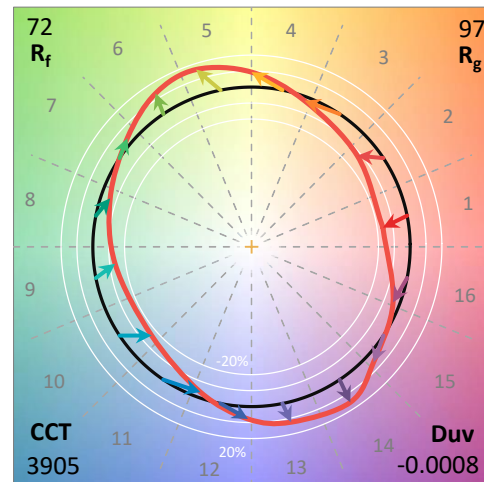
### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2101-121-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 03/05/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**  
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

### Spectral Parameters

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 3905    | CRI (Ra): | 71.2 |      |       |
| CIE u':                   | 0.2273  | R1:       | 68.9 | R9:  | -29.7 |
| CIE v':                   | 0.5024  | R2:       | 77.0 | R10: | 46.2  |
| Duv:                      | -0.0008 | R3:       | 84.0 | R11: | 68.8  |
| CIE x:                    | 0.3841  | R4:       | 71.6 | R12: | 45.6  |
| CIE y:                    | 0.3774  | R5:       | 68.9 | R13: | 69.5  |
| CIE z:                    | 0.2385  | R6:       | 68.3 | R14: | 90.7  |
| Peak Wavelength (nm):     | 443     | R7:       | 78.7 |      |       |
| Dominant Wavelength (nm): | 579     | R8:       | 52.2 |      |       |
| Purity:                   | 28.7    |           |      |      |       |
| Rf:                       | 71.7    |           |      |      |       |
| Rg:                       | 96.9    |           |      |      |       |



### Test Conditions

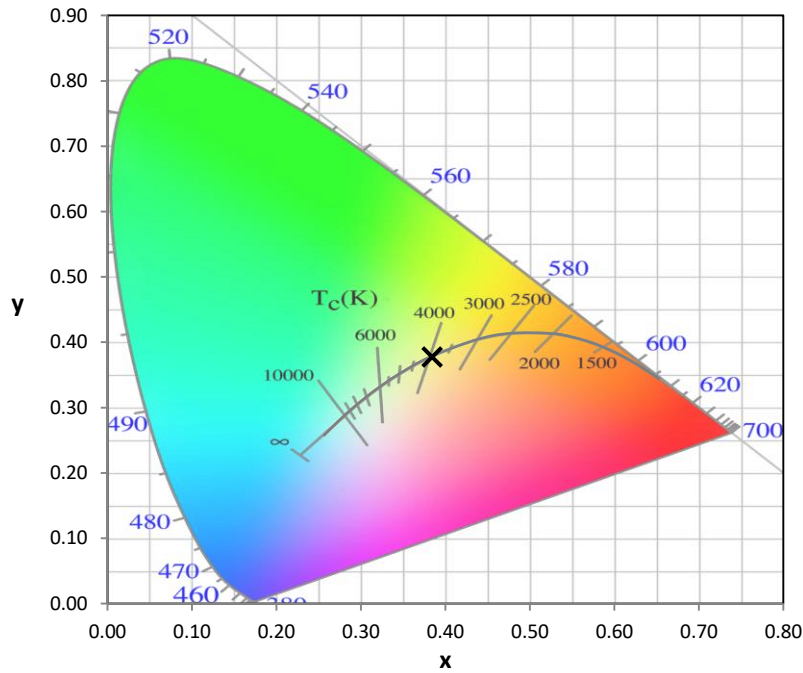
Stabilization Time: 211M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.8/312%  
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-2

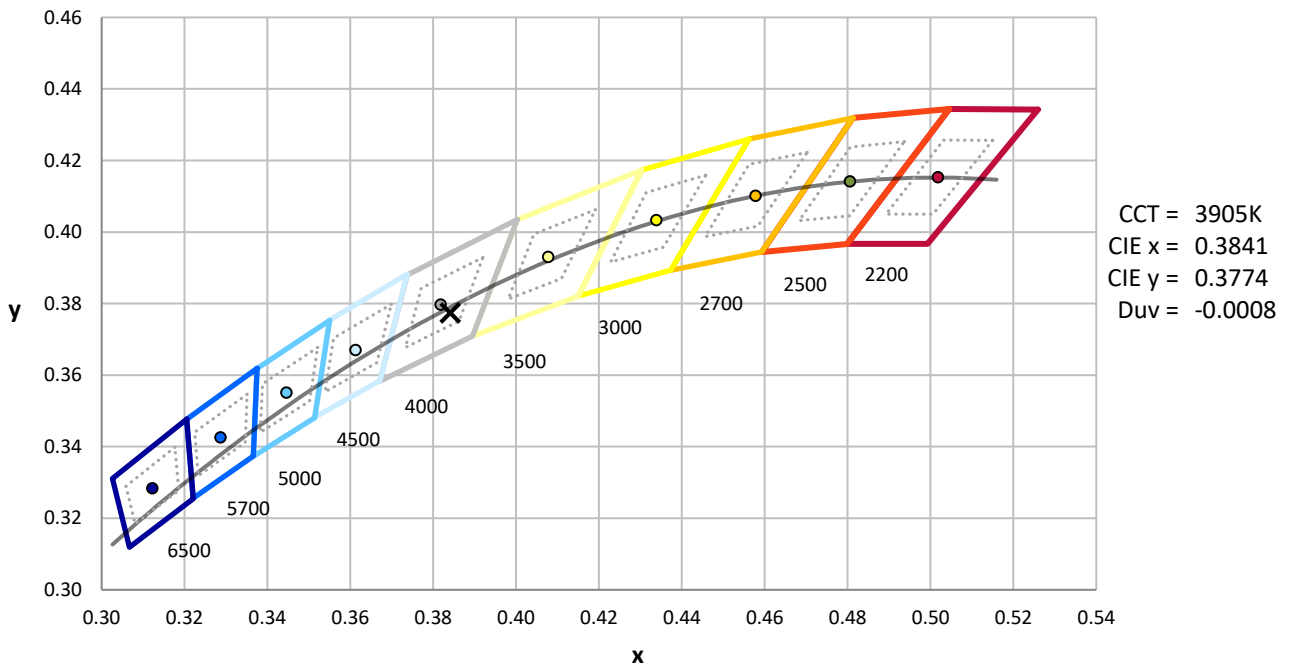
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 1/31/2021        | 7/31/2021            |
| Power Meter                    | IN0071                | 12/1/2020        | 12/1/2021            |
| AC Power Source                | IN0063                | 12/1/2020        | 12/1/2021            |
| DC Power Source                | IN0208                | 12/1/2020        | 12/1/2021            |
| Sphere Thermometer             | IN0085                | 12/1/2020        | 12/1/2021            |
| Room Thermometer               | IN0046                | 12/1/2020        | 12/1/2021            |

REPORT NUMBER: SP1-2101-121-2

**CIE 1931 Chromaticity Diagram**



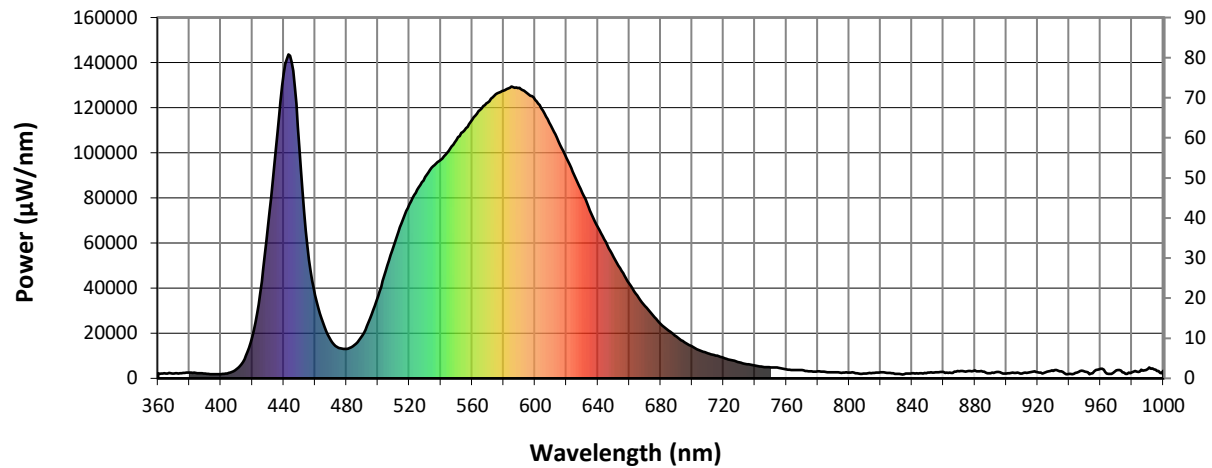
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-2

### Photopic Flux vs. Wavelength

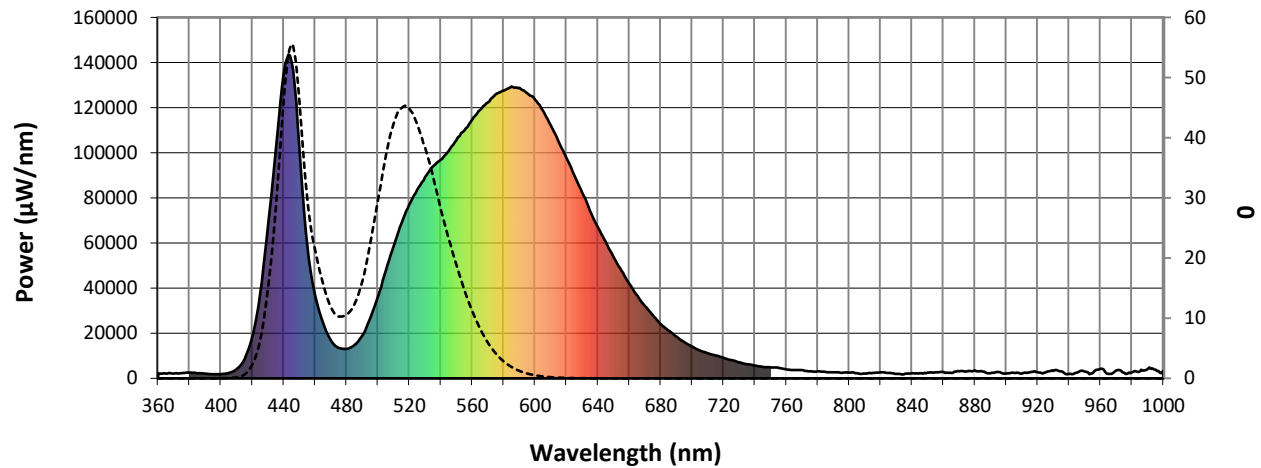


#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2304             | 0.0              | 490       | 19043            | 2.7              | 620       | 97577            | 25.4             | 750       | 4830             | 0.0              | 880       | 3505             | 0.0              |
| 365       | 2150             | 0.0              | 495       | 26606            | 4.8              | 625       | 90158            | 19.9             | 755       | 4664             | 0.0              | 885       | 2991             | 0.0              |
| 370       | 2146             | 0.0              | 500       | 36376            | 8.0              | 630       | 82240            | 14.9             | 760       | 4006             | 0.0              | 890       | 2327             | 0.0              |
| 375       | 2332             | 0.0              | 505       | 47714            | 13.3             | 635       | 74361            | 11.2             | 765       | 3715             | 0.0              | 895       | 2775             | 0.0              |
| 380       | 2527             | 0.0              | 510       | 58741            | 20.2             | 640       | 66994            | 8.0              | 770       | 3696             | 0.0              | 900       | 2141             | 0.0              |
| 385       | 2304             | 0.0              | 515       | 68716            | 28.5             | 645       | 60405            | 5.8              | 775       | 3117             | 0.0              | 905       | 2421             | 0.0              |
| 390       | 2064             | 0.0              | 520       | 77136            | 37.4             | 650       | 53806            | 3.9              | 780       | 3062             | 0.0              | 910       | 2200             | 0.0              |
| 395       | 1856             | 0.0              | 525       | 83567            | 44.9             | 655       | 47610            | 2.7              | 785       | 2907             | 0.0              | 915       | 2716             | 0.0              |
| 400       | 1856             | 0.0              | 530       | 89283            | 52.6             | 660       | 42018            | 1.8              | 790       | 2655             | 0.0              | 920       | 2656             | 0.0              |
| 405       | 2374             | 0.0              | 535       | 94097            | 58.4             | 665       | 36742            | 1.2              | 795       | 2467             | 0.0              | 925       | 2671             | 0.0              |
| 410       | 4084             | 0.0              | 540       | 96845            | 63.1             | 670       | 32105            | 0.7              | 800       | 2609             | 0.0              | 930       | 3292             | 0.0              |
| 415       | 8543             | 0.0              | 545       | 100829           | 67.1             | 675       | 27946            | 0.5              | 805       | 2293             | 0.0              | 935       | 3188             | 0.0              |
| 420       | 18394            | 0.1              | 550       | 105648           | 71.8             | 680       | 24146            | 0.3              | 810       | 2188             | 0.0              | 940       | 1997             | 0.0              |
| 425       | 37987            | 0.2              | 555       | 110017           | 75.1             | 685       | 21191            | 0.2              | 815       | 2386             | 0.0              | 945       | 2623             | 0.0              |
| 430       | 67605            | 0.5              | 560       | 114586           | 77.9             | 690       | 18544            | 0.1              | 820       | 2712             | 0.0              | 950       | 2969             | 0.0              |
| 435       | 102160           | 1.2              | 565       | 118987           | 79.1             | 695       | 16058            | 0.1              | 825       | 2473             | 0.0              | 955       | 2277             | 0.0              |
| 440       | 135103           | 2.1              | 570       | 122326           | 79.5             | 700       | 14133            | 0.0              | 830       | 1969             | 0.0              | 960       | 4267             | 0.0              |
| 445       | 140126           | 2.9              | 575       | 125968           | 78.4             | 705       | 12309            | 0.0              | 835       | 1917             | 0.0              | 965       | 2034             | 0.0              |
| 450       | 102339           | 2.7              | 580       | 127613           | 75.8             | 710       | 11142            | 0.0              | 840       | 2248             | 0.0              | 970       | 3586             | 0.0              |
| 455       | 58751            | 2.0              | 585       | 129466           | 71.9             | 715       | 10143            | 0.0              | 845       | 2266             | 0.0              | 975       | 2505             | 0.0              |
| 460       | 36892            | 1.5              | 590       | 128813           | 66.6             | 720       | 9072             | 0.0              | 850       | 2558             | 0.0              | 980       | 2666             | 0.0              |
| 465       | 24637            | 1.3              | 595       | 126387           | 59.9             | 725       | 8130             | 0.0              | 855       | 2767             | 0.0              | 985       | 2934             | 0.0              |
| 470       | 16738            | 1.0              | 600       | 123477           | 53.2             | 730       | 7149             | 0.0              | 860       | 2826             | 0.0              | 990       | 4120             | 0.0              |
| 475       | 13456            | 1.1              | 605       | 118718           | 46.0             | 735       | 6311             | 0.0              | 865       | 2385             | 0.0              | 995       | 3858             | 0.0              |
| 480       | 13081            | 1.2              | 610       | 112091           | 38.5             | 740       | 5711             | 0.0              | 870       | 3194             | 0.0              | 1000      | 3405             | 0.0              |
| 485       | 14734            | 1.7              | 615       | 105039           | 31.7             | 745       | 5111             | 0.0              | 875       | 3189             | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2101-121-2

### Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8

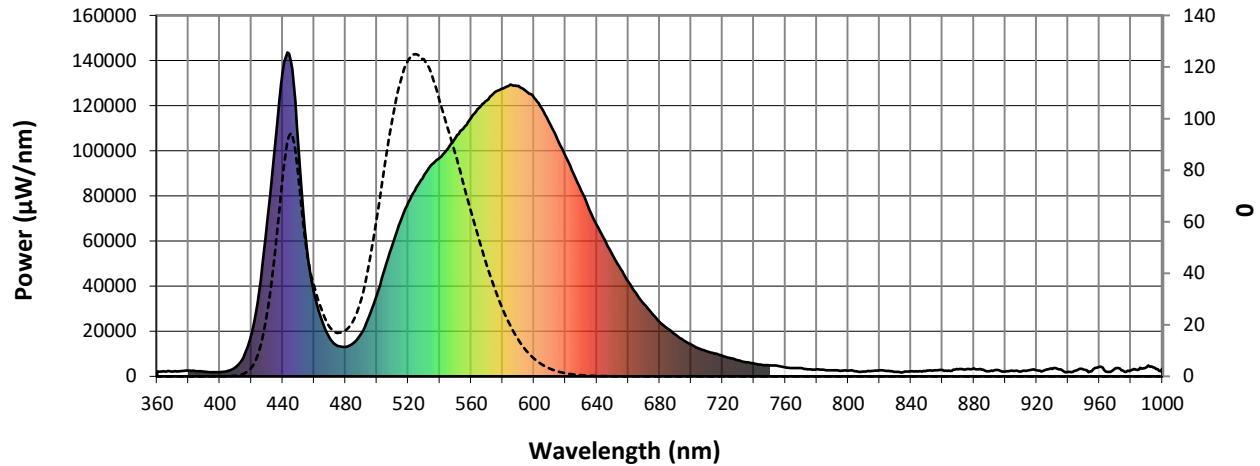
S/P: 1.47

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2304             | 0.0              | 490       | 19043            | 29.3             | 620       | 97577            | 1.2              | 750       | 4830             | 0.0              | 880       | 3505             | 0.0              |
| 365       | 2150             | 0.0              | 495       | 26606            | 43.0             | 625       | 90158            | 0.8              | 755       | 4664             | 0.0              | 885       | 2991             | 0.0              |
| 370       | 2146             | 0.0              | 500       | 36376            | 60.8             | 630       | 82240            | 0.5              | 760       | 4006             | 0.0              | 890       | 2327             | 0.0              |
| 375       | 2332             | 0.0              | 505       | 47714            | 81.1             | 635       | 74361            | 0.3              | 765       | 3715             | 0.0              | 895       | 2775             | 0.0              |
| 380       | 2527             | 0.0              | 510       | 58741            | 99.6             | 640       | 66994            | 0.2              | 770       | 3696             | 0.0              | 900       | 2141             | 0.0              |
| 385       | 2304             | 0.0              | 515       | 68716            | 113.9            | 645       | 60405            | 0.1              | 775       | 3117             | 0.0              | 905       | 2421             | 0.0              |
| 390       | 2064             | 0.0              | 520       | 77136            | 122.6            | 650       | 53806            | 0.1              | 780       | 3062             | 0.0              | 910       | 2200             | 0.0              |
| 395       | 1856             | 0.0              | 525       | 83567            | 125.0            | 655       | 47610            | 0.0              | 785       | 2907             | 0.0              | 915       | 2716             | 0.0              |
| 400       | 1856             | 0.0              | 530       | 89283            | 123.1            | 660       | 42018            | 0.0              | 790       | 2655             | 0.0              | 920       | 2656             | 0.0              |
| 405       | 2374             | 0.1              | 535       | 94097            | 117.3            | 665       | 36742            | 0.0              | 795       | 2467             | 0.0              | 925       | 2671             | 0.0              |
| 410       | 4084             | 0.2              | 540       | 96845            | 107.0            | 670       | 32105            | 0.0              | 800       | 2609             | 0.0              | 930       | 3292             | 0.0              |
| 415       | 8543             | 0.9              | 545       | 100829           | 96.7             | 675       | 27946            | 0.0              | 805       | 2293             | 0.0              | 935       | 3188             | 0.0              |
| 420       | 18394            | 3.0              | 550       | 105648           | 86.4             | 680       | 24146            | 0.0              | 810       | 2188             | 0.0              | 940       | 1997             | 0.0              |
| 425       | 37987            | 9.3              | 555       | 110017           | 75.2             | 685       | 21191            | 0.0              | 815       | 2386             | 0.0              | 945       | 2623             | 0.0              |
| 430       | 67605            | 23.0             | 560       | 114586           | 64.0             | 690       | 18544            | 0.0              | 820       | 2712             | 0.0              | 950       | 2969             | 0.0              |
| 435       | 102160           | 45.7             | 565       | 118987           | 53.4             | 695       | 16058            | 0.0              | 825       | 2473             | 0.0              | 955       | 2277             | 0.0              |
| 440       | 135103           | 75.5             | 570       | 122326           | 43.2             | 700       | 14133            | 0.0              | 830       | 1969             | 0.0              | 960       | 4267             | 0.0              |
| 445       | 140126           | 93.8             | 575       | 125968           | 34.3             | 705       | 12309            | 0.0              | 835       | 1917             | 0.0              | 965       | 2034             | 0.0              |
| 450       | 102339           | 79.3             | 580       | 127613           | 26.3             | 710       | 11142            | 0.0              | 840       | 2248             | 0.0              | 970       | 3586             | 0.0              |
| 455       | 58751            | 51.3             | 585       | 129466           | 19.8             | 715       | 10143            | 0.0              | 845       | 2266             | 0.0              | 975       | 2505             | 0.0              |
| 460       | 36892            | 35.6             | 590       | 128813           | 14.3             | 720       | 9072             | 0.0              | 850       | 2558             | 0.0              | 980       | 2666             | 0.0              |
| 465       | 24637            | 26.0             | 595       | 126387           | 10.1             | 725       | 8130             | 0.0              | 855       | 2767             | 0.0              | 985       | 2934             | 0.0              |
| 470       | 16738            | 19.3             | 600       | 123477           | 7.0              | 730       | 7149             | 0.0              | 860       | 2826             | 0.0              | 990       | 4120             | 0.0              |
| 475       | 13456            | 16.8             | 605       | 118718           | 4.7              | 735       | 6311             | 0.0              | 865       | 2385             | 0.0              | 995       | 3858             | 0.0              |
| 480       | 13081            | 17.7             | 610       | 112091           | 3.0              | 740       | 5711             | 0.0              | 870       | 3194             | 0.0              | 1000      | 3405             | 0.0              |
| 485       | 14734            | 21.4             | 615       | 105039           | 1.9              | 745       | 5111             | 0.0              | 875       | 3189             | 0.0              |           |                  |                  |



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### Melanopic Flux vs. Wavelength



**Melanopic Lumens: 3927.2**

**M/P: 0.55**

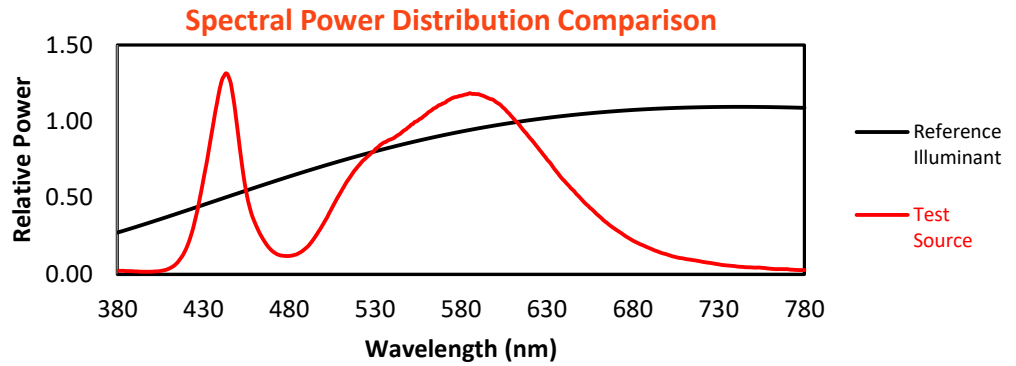
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2304             | 0.0              | 490       | 19043            | 15.8             | 620       | 97577            | 0.1              | 750       | 4830             | 0.0              | 880       | 3505             | 0.0              |
| 365       | 2150             | 0.0              | 495       | 26606            | 22.0             | 625       | 90158            | 0.0              | 755       | 4664             | 0.0              | 885       | 2991             | 0.0              |
| 370       | 2146             | 0.0              | 500       | 36376            | 29.2             | 630       | 82240            | 0.0              | 760       | 4006             | 0.0              | 890       | 2327             | 0.0              |
| 375       | 2332             | 0.0              | 505       | 47714            | 36.6             | 635       | 74361            | 0.0              | 765       | 3715             | 0.0              | 895       | 2775             | 0.0              |
| 380       | 2527             | 0.0              | 510       | 58741            | 42.2             | 640       | 66994            | 0.0              | 770       | 3696             | 0.0              | 900       | 2141             | 0.0              |
| 385       | 2304             | 0.0              | 515       | 68716            | 44.9             | 645       | 60405            | 0.0              | 775       | 3117             | 0.0              | 905       | 2421             | 0.0              |
| 390       | 2064             | 0.0              | 520       | 77136            | 44.9             | 650       | 53806            | 0.0              | 780       | 3062             | 0.0              | 910       | 2200             | 0.0              |
| 395       | 1856             | 0.0              | 525       | 83567            | 42.4             | 655       | 47610            | 0.0              | 785       | 2907             | 0.0              | 915       | 2716             | 0.0              |
| 400       | 1856             | 0.0              | 530       | 89283            | 38.6             | 660       | 42018            | 0.0              | 790       | 2655             | 0.0              | 920       | 2656             | 0.0              |
| 405       | 2374             | 0.0              | 535       | 94097            | 33.9             | 665       | 36742            | 0.0              | 795       | 2467             | 0.0              | 925       | 2671             | 0.0              |
| 410       | 4084             | 0.2              | 540       | 96845            | 28.3             | 670       | 32105            | 0.0              | 800       | 2609             | 0.0              | 930       | 3292             | 0.0              |
| 415       | 8543             | 0.6              | 545       | 100829           | 23.4             | 675       | 27946            | 0.0              | 805       | 2293             | 0.0              | 935       | 3188             | 0.0              |
| 420       | 18394            | 2.1              | 550       | 105648           | 19.0             | 680       | 24146            | 0.0              | 810       | 2188             | 0.0              | 940       | 1997             | 0.0              |
| 425       | 37987            | 5.9              | 555       | 110017           | 14.8             | 685       | 21191            | 0.0              | 815       | 2386             | 0.0              | 945       | 2623             | 0.0              |
| 430       | 67605            | 14.3             | 560       | 114586           | 11.3             | 690       | 18544            | 0.0              | 820       | 2712             | 0.0              | 950       | 2969             | 0.0              |
| 435       | 102160           | 27.3             | 565       | 118987           | 8.4              | 695       | 16058            | 0.0              | 825       | 2473             | 0.0              | 955       | 2277             | 0.0              |
| 440       | 135103           | 45.1             | 570       | 122326           | 6.0              | 700       | 14133            | 0.0              | 830       | 1969             | 0.0              | 960       | 4267             | 0.0              |
| 445       | 140126           | 55.3             | 575       | 125968           | 4.2              | 705       | 12309            | 0.0              | 835       | 1917             | 0.0              | 965       | 2034             | 0.0              |
| 450       | 102339           | 47.2             | 580       | 127613           | 2.9              | 710       | 11142            | 0.0              | 840       | 2248             | 0.0              | 970       | 3586             | 0.0              |
| 455       | 58751            | 30.8             | 585       | 129466           | 1.9              | 715       | 10143            | 0.0              | 845       | 2266             | 0.0              | 975       | 2505             | 0.0              |
| 460       | 36892            | 21.7             | 590       | 128813           | 1.3              | 720       | 9072             | 0.0              | 850       | 2558             | 0.0              | 980       | 2666             | 0.0              |
| 465       | 24637            | 16.1             | 595       | 126387           | 0.8              | 725       | 8130             | 0.0              | 855       | 2767             | 0.0              | 985       | 2934             | 0.0              |
| 470       | 16738            | 12.0             | 600       | 123477           | 0.5              | 730       | 7149             | 0.0              | 860       | 2826             | 0.0              | 990       | 4120             | 0.0              |
| 475       | 13456            | 10.3             | 605       | 118718           | 0.3              | 735       | 6311             | 0.0              | 865       | 2385             | 0.0              | 995       | 3858             | 0.0              |
| 480       | 13081            | 10.5             | 610       | 112091           | 0.2              | 740       | 5711             | 0.0              | 870       | 3194             | 0.0              | 1000      | 3405             | 0.0              |
| 485       | 14734            | 12.1             | 615       | 105039           | 0.1              | 745       | 5111             | 0.0              | 875       | 3189             | 0.0              |           |                  |                  |

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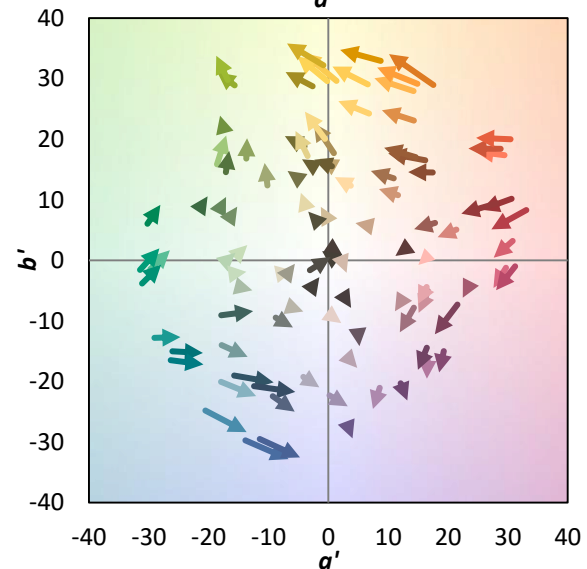
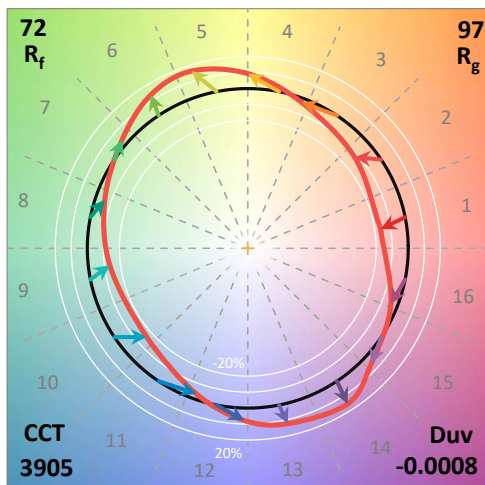
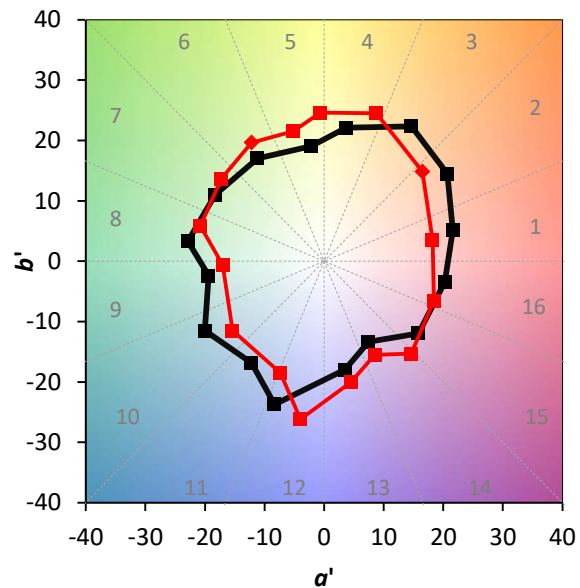
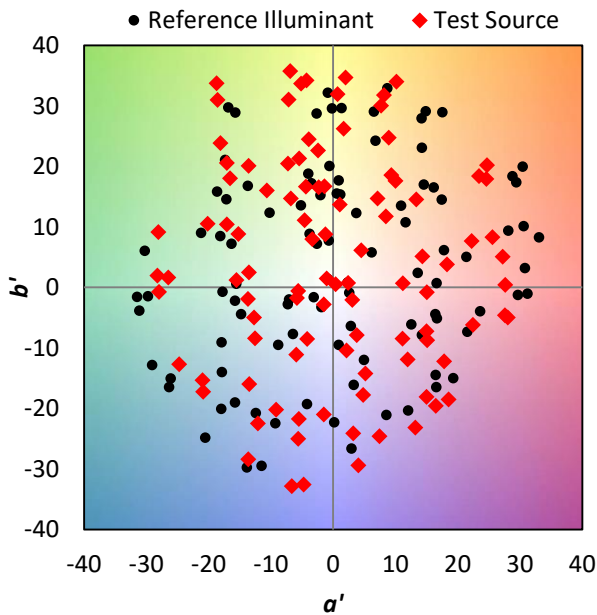
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### Summary

$R_f = 71.7$   
 $R_g = 96.9$   
 CIE  $R_a = 71.2$   
 $R_g = -29.7$

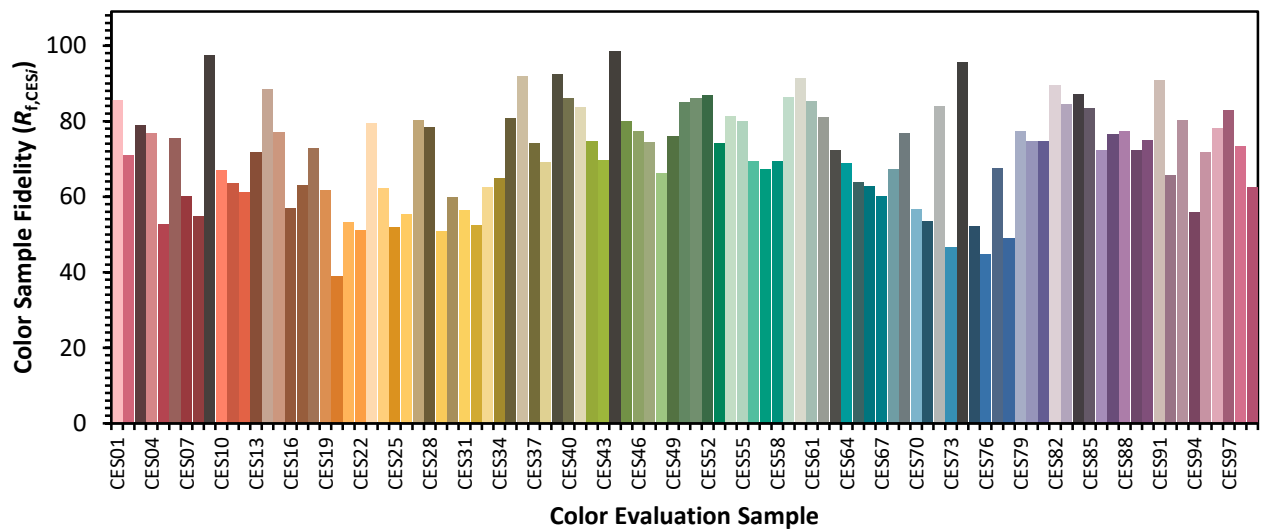


### Color Vector Graphics

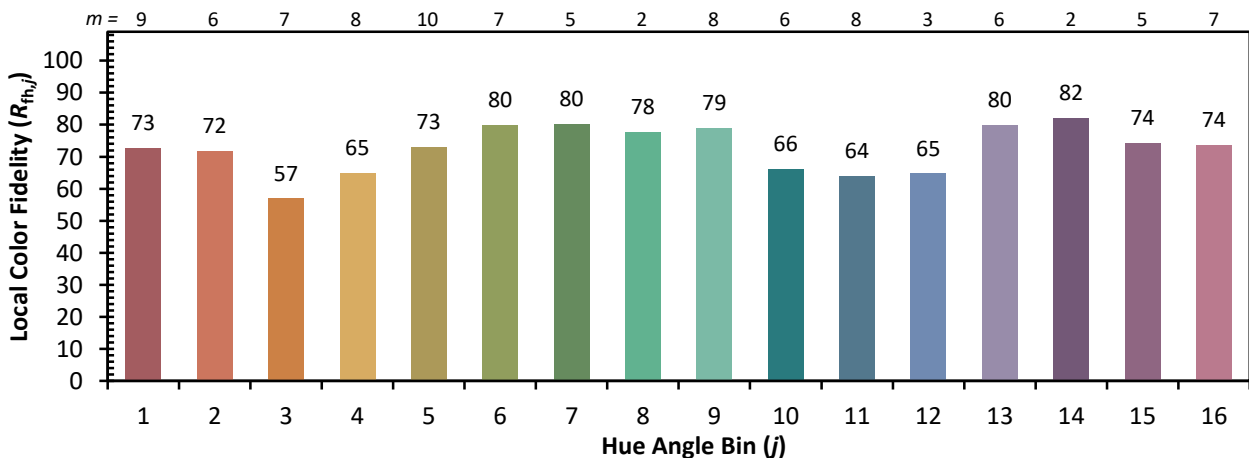
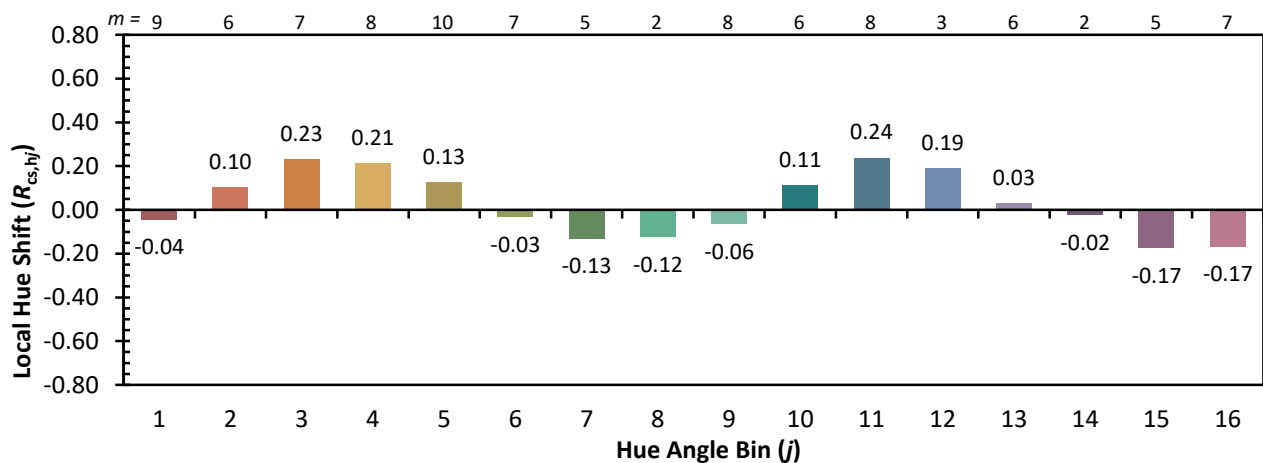
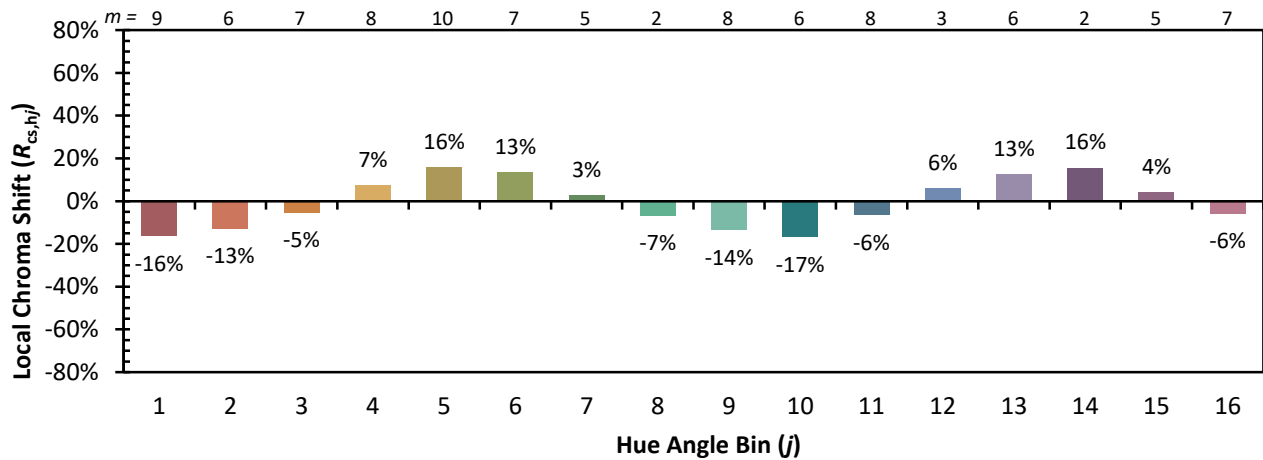


Individual Sample Fidelity Index ( $R_{f,i}$ )

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 |            |



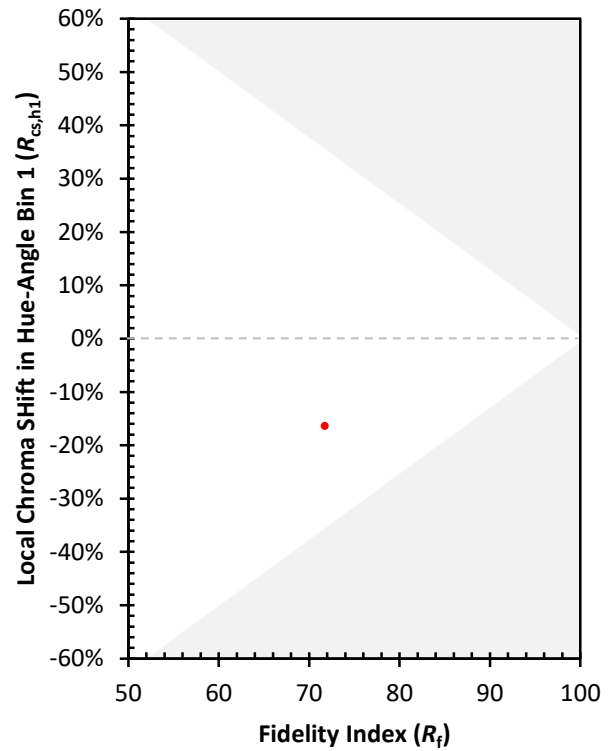
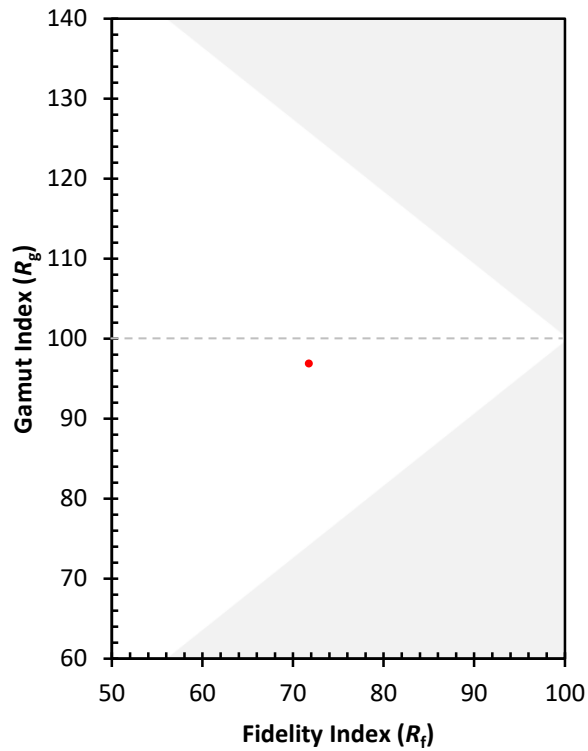
Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)