

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: P635625

Luminaire Tested: GWS-SA3E-727-U-SLR-W-HSS

Issue Date: 1/10/2023

### Test Information

Test Method: LM-79-2019  
Report Number: P635625  
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-SA3E-727-U-SLR-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (48) 2700K CCT, 70 CRI LEDS  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 11413.7 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

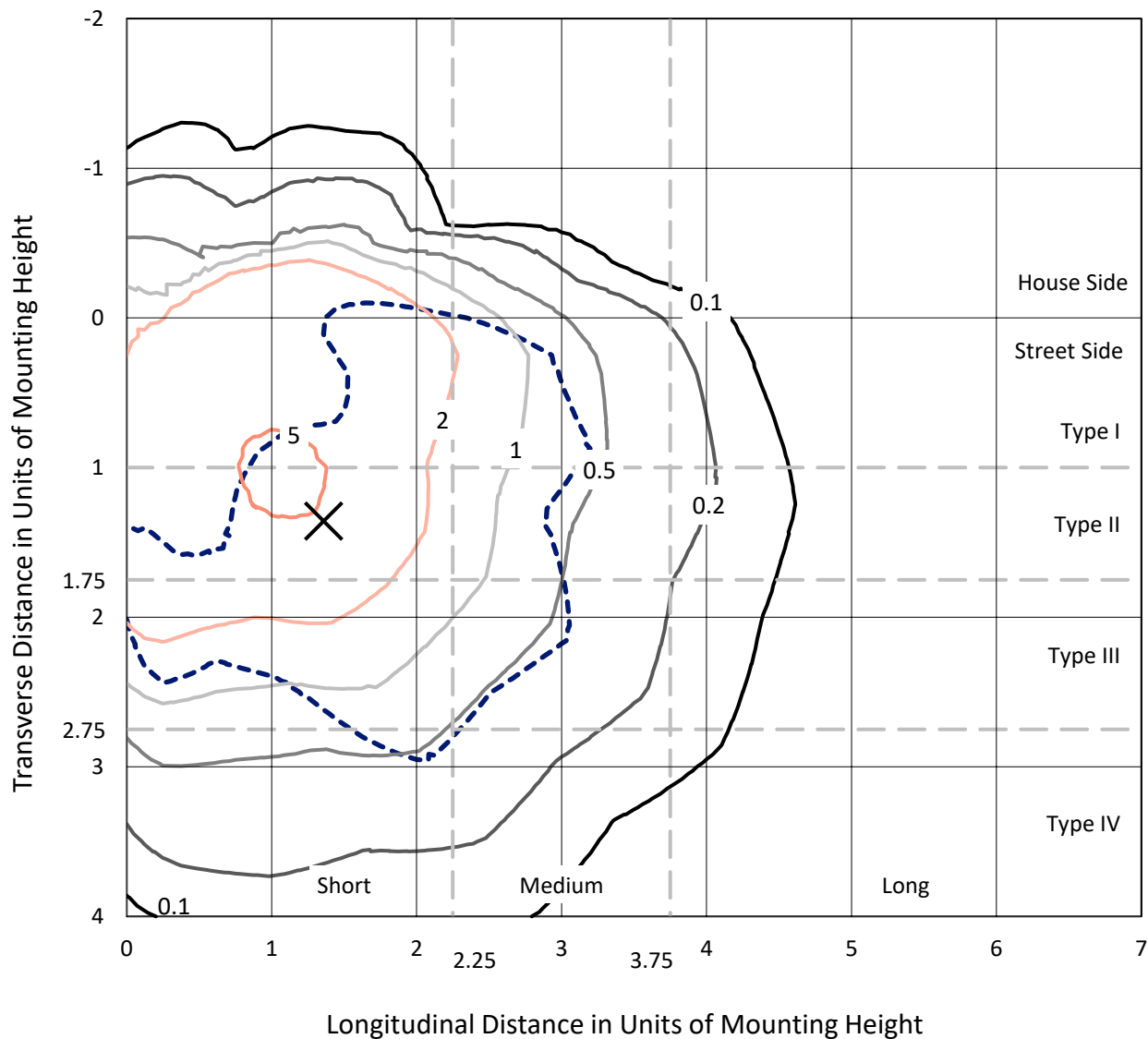
Input Watts (W): 159.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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## Iso-Footcandle Lines of Horizontal Illumination

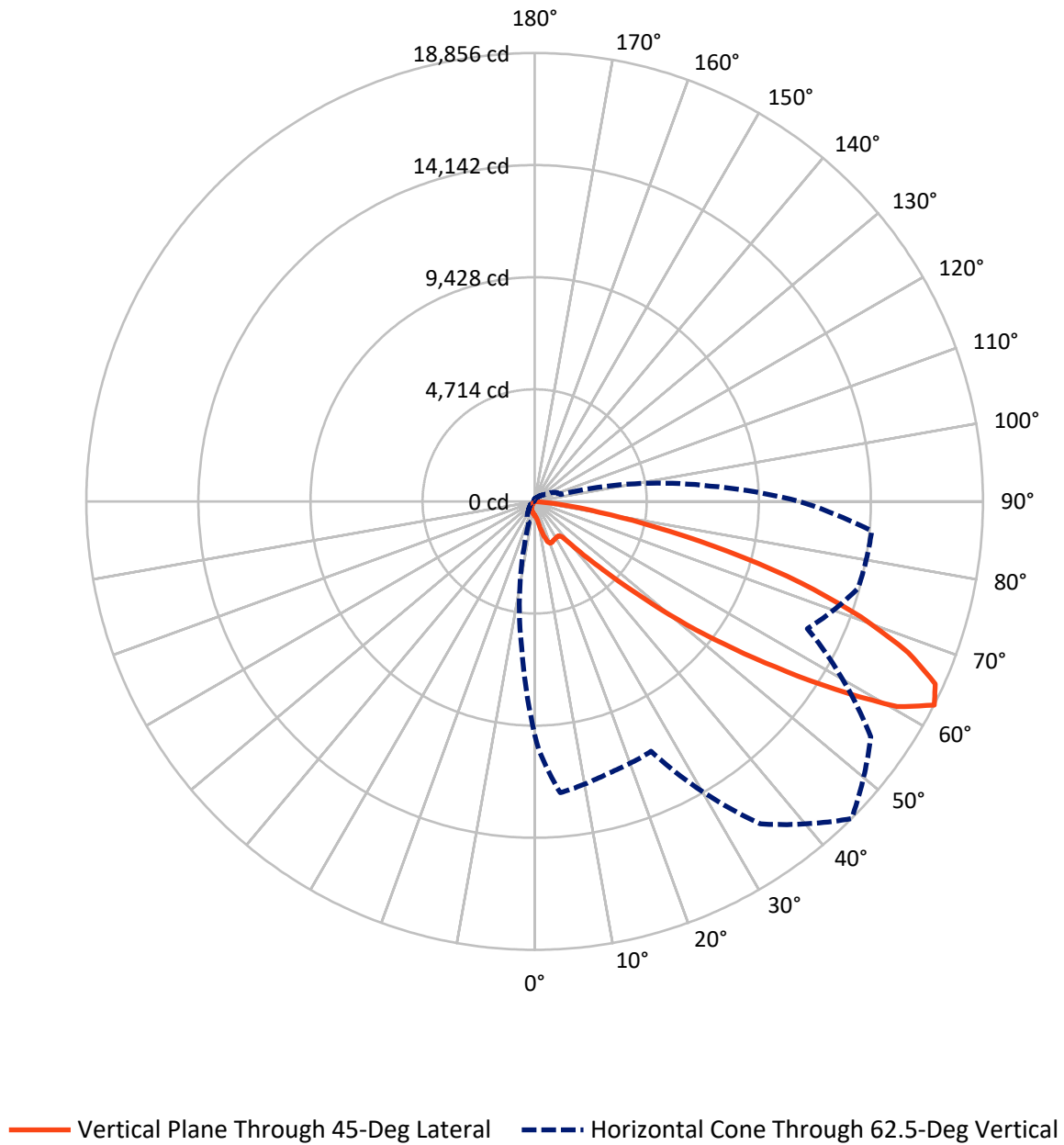
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.8 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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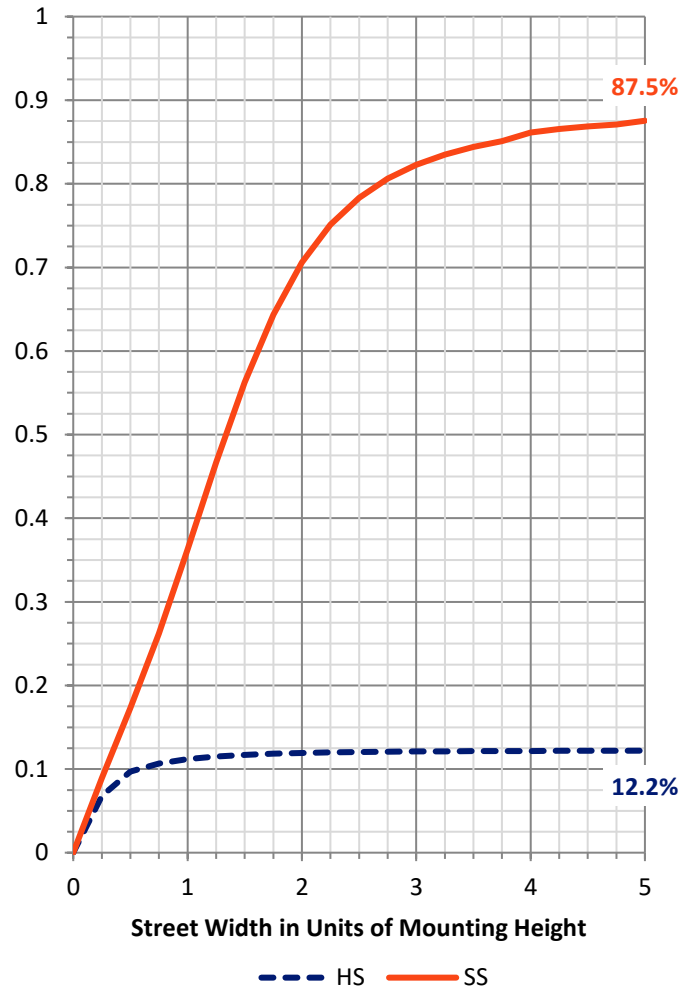
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1408.4   | 0.0    | 1408.4  |
|                    | % Fixture | 12.3     | 0.0    | 12.3    |
| <b>Street Side</b> | Lumens    | 10005.3  | 0.0    | 10005.3 |
|                    | % Fixture | 87.7     | 0.0    | 87.7    |
| <b>Total</b>       | Lumens    | 11413.7  | 0.0    | 11413.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 52.6    | 0.5       |
| 10°-20°   | 199.0   | 1.7       |
| 20°-30°   | 432.6   | 3.8       |
| 30°-40°   | 710.0   | 6.2       |
| 40°-50°   | 1305.2  | 11.4      |
| 50°-60°   | 2803.0  | 24.6      |
| 60°-70°   | 3764.9  | 33.0      |
| 70°-80°   | 1960.4  | 17.2      |
| 80°-90°   | 185.9   | 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°    | 11413.7 | 100.0     |
| 0°-180°   | 11413.7 | 100.0     |

**Coefficient of Utilization**



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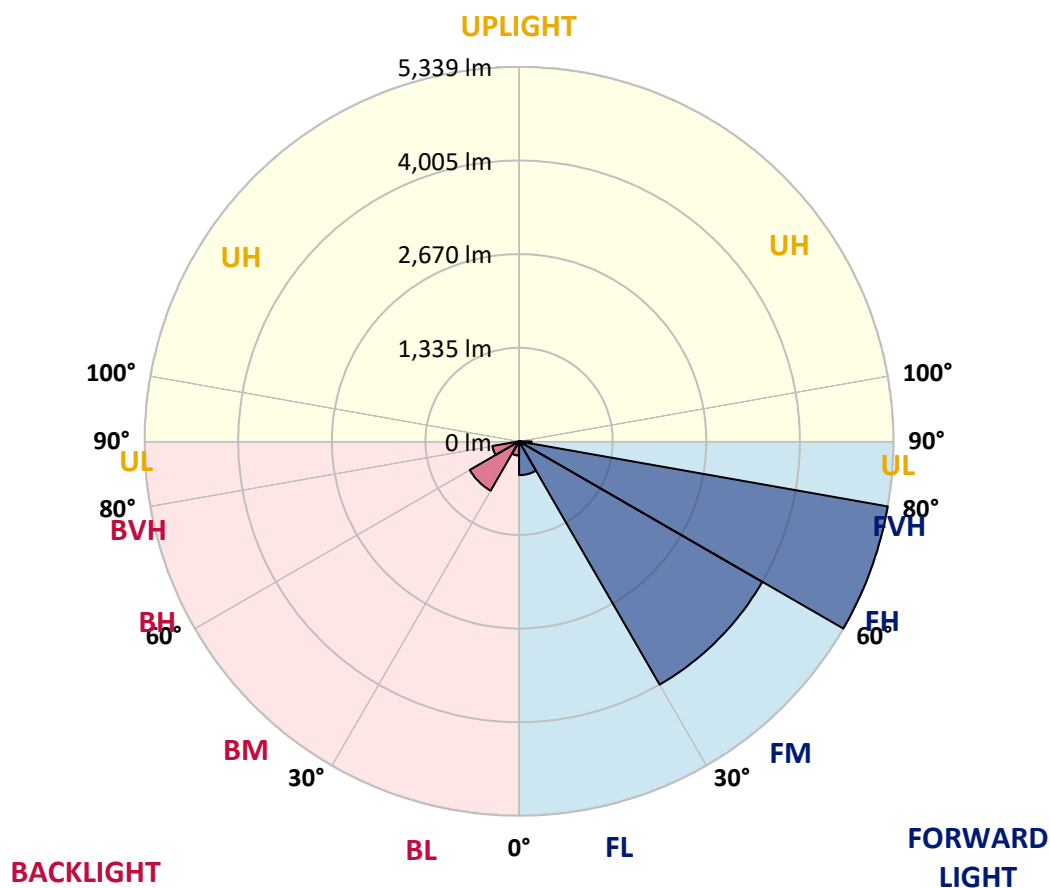
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 482.2  | 4.2       |                         |      |         |
| FM   | (30°-60°)   | 4006.1 | 35.1      |                         |      |         |
| FH   | (60°-80°)   | 5339.4 | 46.8      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 177.6  | 1.6       |                         |      | G2/225  |
| BL   | (0°-30°)    | 202.0  | 1.8       | B1/500                  |      |         |
| BM   | (30°-60°)   | 812.2  | 7.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 385.9  | 3.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 8.3    | 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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   | 593.3   |
| 2.5°  | 605.1   | 607.8   | 610.4   | 619.6   | 626.2   | 631.5   | 632.8   | 628.9   | 619.6   | 610.4   | 597.2   |
| 5°    | 586.7   | 589.3   | 598.5   | 623.6   | 648.6   | 668.4   | 675.0   | 671.1   | 648.6   | 619.6   | 589.3   |
| 7.5°  | 585.4   | 590.6   | 613.0   | 665.8   | 719.8   | 760.7   | 771.3   | 762.0   | 719.8   | 661.8   | 599.9   |
| 10°   | 632.8   | 642.1   | 675.0   | 769.9   | 868.8   | 941.3   | 970.3   | 930.8   | 863.5   | 758.1   | 656.6   |
| 12.5° | 756.8   | 772.6   | 835.9   | 974.3   | 1127.2  | 1223.5  | 1263.0  | 1214.2  | 1108.8  | 955.8   | 795.0   |
| 15°   | 951.9   | 975.6   | 1070.5  | 1277.5  | 1458.1  | 1543.8  | 1557.0  | 1529.3  | 1406.7  | 1238.0  | 1021.7  |
| 17.5° | 1227.4  | 1261.7  | 1409.4  | 1620.3  | 1750.8  | 1781.1  | 1777.2  | 1748.2  | 1658.5  | 1542.5  | 1338.2  |
| 20°   | 1557.0  | 1597.9  | 1742.9  | 1916.9  | 1930.1  | 1894.5  | 1874.7  | 1857.6  | 1827.3  | 1807.5  | 1648.0  |
| 22.5° | 1889.2  | 1939.3  | 2091.0  | 2134.5  | 2015.8  | 1913.0  | 1864.2  | 1877.4  | 1922.2  | 2019.8  | 1955.2  |
| 25°   | 2220.2  | 2267.6  | 2410.0  | 2292.7  | 2055.4  | 1884.0  | 1822.0  | 1853.7  | 1960.4  | 2171.4  | 2254.4  |
| 27.5° | 2606.4  | 2642.0  | 2726.4  | 2400.8  | 2062.0  | 1860.2  | 1799.6  | 1848.4  | 1978.9  | 2266.3  | 2582.7  |
| 30°   | 3008.6  | 3029.6  | 2988.8  | 2429.8  | 2039.5  | 1824.6  | 1777.2  | 1848.4  | 2010.5  | 2329.6  | 2829.3  |
| 32.5° | 3303.9  | 3307.8  | 3174.7  | 2432.4  | 2027.7  | 1795.6  | 1756.1  | 1840.5  | 2040.9  | 2382.3  | 3067.9  |
| 35°   | 3608.4  | 3588.6  | 3352.7  | 2472.0  | 2059.3  | 1806.2  | 1771.9  | 1862.9  | 2088.3  | 2444.3  | 3277.5  |
| 37.5° | 3916.9  | 3881.3  | 3551.7  | 2536.6  | 2141.1  | 1920.9  | 1899.8  | 1977.6  | 2164.8  | 2530.0  | 3508.2  |
| 40°   | 4233.3  | 4184.6  | 3758.7  | 2634.1  | 2323.0  | 2311.1  | 2383.6  | 2374.4  | 2374.4  | 2639.4  | 3745.5  |
| 42.5° | 4619.6  | 4562.9  | 4064.6  | 2909.7  | 2747.5  | 3012.5  | 3210.3  | 3087.7  | 2860.9  | 2891.2  | 4054.0  |
| 45°   | 5129.8  | 5081.1  | 4594.6  | 3437.0  | 3413.3  | 4022.4  | 4288.7  | 4046.1  | 3481.9  | 3472.6  | 4569.5  |
| 47.5° | 5945.9  | 5936.7  | 5439.7  | 4048.8  | 4228.1  | 5307.8  | 5822.0  | 5355.3  | 4189.8  | 4088.3  | 5545.1  |
| 50°   | 7092.9  | 7065.2  | 6493.0  | 4766.0  | 5197.1  | 6900.4  | 7818.0  | 7040.2  | 5045.5  | 4806.8  | 6851.6  |
| 52.5° | 8384.9  | 8413.9  | 7968.3  | 5549.1  | 6226.7  | 8672.3  | 9949.9  | 8970.3  | 5974.9  | 5720.5  | 8495.7  |
| 55°   | 9601.8  | 9767.9  | 9650.6  | 6465.4  | 7232.7  | 10628.8 | 12291.3 | 11087.6 | 7125.9  | 6916.3  | 10338.8 |
| 57.5° | 10553.7 | 11021.7 | 11844.4 | 7796.9  | 8415.3  | 12917.5 | 14905.7 | 13382.9 | 8469.3  | 8858.2  | 12847.7 |
| 60°   | 10606.4 | 11226.1 | 13136.4 | 10582.7 | 9936.7  | 14880.6 | 17516.1 | 15625.5 | 10581.4 | 12155.5 | 14813.4 |
| 62.5° | 9811.4  | 10475.9 | 12295.3 | 11848.3 | 11593.9 | 16551.0 | 18855.6 | 17260.3 | 12659.1 | 14086.9 | 14230.7 |
| 65°   | 8901.7  | 9572.8  | 11356.6 | 10412.6 | 11401.4 | 16479.8 | 18515.4 | 17298.5 | 12847.7 | 12773.8 | 13187.8 |
| 67.5° | 7526.7  | 8129.2  | 9744.2  | 9216.8  | 10508.9 | 15684.8 | 16943.9 | 16208.2 | 11836.5 | 11947.2 | 12131.8 |
| 70°   | 5493.7  | 6073.8  | 7572.8  | 7599.2  | 9177.3  | 14251.7 | 14558.9 | 14457.4 | 10900.4 | 11017.7 | 10490.4 |
| 72.5° | 3968.3  | 4457.5  | 5750.8  | 6232.0  | 7326.3  | 11951.2 | 11738.9 | 12130.5 | 9352.6  | 9812.7  | 8425.8  |
| 75°   | 2853.0  | 3219.5  | 4218.8  | 5421.2  | 5807.5  | 8875.4  | 8403.4  | 9394.8  | 7504.3  | 8449.5  | 6334.8  |
| 77.5° | 1157.5  | 1286.7  | 1659.8  | 3651.9  | 3816.7  | 5971.0  | 5144.3  | 6824.0  | 5350.0  | 5551.7  | 3070.5  |
| 80°   | 47.5    | 52.7    | 68.6    | 1885.3  | 2617.0  | 3359.2  | 2752.8  | 3648.0  | 3533.3  | 2236.0  | 725.1   |
| 82.5° | 5.3     | 5.3     | 11.9    | 543.2   | 1145.7  | 1853.7  | 1297.3  | 2101.5  | 1789.0  | 947.9   | 329.6   |
| 85°   | 1.3     | 1.3     | 2.6     | 62.0    | 269.0   | 296.6   | 175.3   | 644.7   | 831.9   | 387.6   | 0.0     |
| 87.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 6.6     | 11.9    | 13.2    | 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°    | 593.3   | 593.3  | 593.3  | 593.3  | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 |
| 2.5°  | 597.2   | 590.6  | 582.7  | 574.8  | 570.9 | 560.3 | 556.4 | 553.7 | 551.1 | 552.4 | 552.4 |
| 5°    | 577.5   | 563.0  | 545.8  | 528.7  | 519.4 | 508.9 | 503.6 | 501.0 | 502.3 | 507.6 | 507.6 |
| 7.5°  | 574.8   | 547.1  | 510.2  | 487.8  | 477.3 | 469.3 | 464.1 | 461.4 | 462.8 | 469.3 | 472.0 |
| 10°   | 618.3   | 569.5  | 503.6  | 465.4  | 453.5 | 445.6 | 440.3 | 436.4 | 433.7 | 439.0 | 440.3 |
| 12.5° | 711.9   | 644.7  | 535.3  | 462.8  | 441.7 | 431.1 | 427.2 | 419.2 | 415.3 | 417.9 | 419.2 |
| 15°   | 905.7   | 789.7  | 598.5  | 473.3  | 431.1 | 419.2 | 412.7 | 406.1 | 399.5 | 398.2 | 399.5 |
| 17.5° | 1158.9  | 992.7  | 694.8  | 498.3  | 423.2 | 408.7 | 399.5 | 390.2 | 381.0 | 379.7 | 378.4 |
| 20°   | 1472.6  | 1241.9 | 829.3  | 537.9  | 416.6 | 399.5 | 386.3 | 373.1 | 361.2 | 357.3 | 357.3 |
| 22.5° | 1758.7  | 1542.5 | 1002.0 | 586.7  | 407.4 | 386.3 | 370.5 | 354.6 | 341.5 | 334.9 | 333.6 |
| 25°   | 2108.1  | 1861.6 | 1209.0 | 643.4  | 394.2 | 369.1 | 352.0 | 336.2 | 323.0 | 315.1 | 312.5 |
| 27.5° | 2460.1  | 2197.7 | 1443.6 | 717.2  | 378.4 | 352.0 | 336.2 | 321.7 | 307.2 | 298.0 | 295.3 |
| 30°   | 2801.6  | 2560.3 | 1707.3 | 809.5  | 366.5 | 334.9 | 321.7 | 307.2 | 294.0 | 279.5 | 275.5 |
| 32.5° | 3168.1  | 2930.8 | 2002.6 | 912.3  | 357.3 | 323.0 | 308.5 | 295.3 | 278.2 | 265.0 | 258.4 |
| 35°   | 3521.4  | 3313.1 | 2328.3 | 1012.5 | 348.1 | 312.5 | 296.6 | 283.5 | 265.0 | 250.5 | 241.3 |
| 37.5° | 3877.4  | 3702.0 | 2668.4 | 1073.2 | 334.9 | 298.0 | 283.5 | 272.9 | 251.8 | 234.7 | 224.1 |
| 40°   | 4254.4  | 4104.1 | 3036.2 | 1048.1 | 323.0 | 282.1 | 274.2 | 262.4 | 238.6 | 218.9 | 205.7 |
| 42.5° | 4668.4  | 4487.8 | 3410.7 | 951.9  | 312.5 | 269.0 | 261.0 | 249.2 | 226.8 | 203.0 | 185.9 |
| 45°   | 5189.2  | 4908.3 | 3717.8 | 806.9  | 317.7 | 255.8 | 239.9 | 237.3 | 216.2 | 185.9 | 164.8 |
| 47.5° | 6084.3  | 5554.4 | 3956.5 | 713.2  | 353.3 | 241.3 | 222.8 | 229.4 | 207.0 | 168.8 | 145.0 |
| 50°   | 7454.2  | 6624.9 | 4179.3 | 706.7  | 407.4 | 234.7 | 207.0 | 224.1 | 197.8 | 151.6 | 127.9 |
| 52.5° | 8759.4  | 7712.6 | 4321.7 | 764.7  | 454.8 | 251.8 | 191.2 | 217.5 | 191.2 | 139.7 | 116.0 |
| 55°   | 10007.9 | 8340.1 | 4067.2 | 806.9  | 499.7 | 303.2 | 179.3 | 207.0 | 183.3 | 133.2 | 112.1 |
| 57.5° | 11353.9 | 8619.6 | 3202.4 | 892.5  | 531.3 | 346.7 | 181.9 | 191.2 | 172.7 | 129.2 | 110.7 |
| 60°   | 11756.0 | 8262.3 | 1932.8 | 1004.6 | 514.2 | 359.9 | 201.7 | 170.1 | 158.2 | 121.3 | 106.8 |
| 62.5° | 11131.1 | 7414.6 | 1140.4 | 915.0  | 499.7 | 340.1 | 230.7 | 156.9 | 143.7 | 110.7 | 98.9  |
| 65°   | 10196.4 | 6263.6 | 743.6  | 772.6  | 530.0 | 303.2 | 245.2 | 150.3 | 130.5 | 100.2 | 87.0  |
| 67.5° | 9128.5  | 5045.5 | 520.8  | 456.2  | 489.1 | 272.9 | 207.0 | 149.0 | 117.3 | 84.4  | 71.2  |
| 70°   | 7688.8  | 3778.5 | 366.5  | 301.9  | 407.4 | 242.6 | 160.8 | 145.0 | 102.8 | 68.6  | 55.4  |
| 72.5° | 5940.6  | 2365.2 | 272.9  | 195.1  | 290.0 | 197.8 | 127.9 | 122.6 | 83.1  | 56.7  | 42.2  |
| 75°   | 4381.0  | 1348.7 | 192.5  | 141.1  | 191.2 | 150.3 | 94.9  | 87.0  | 71.2  | 54.1  | 38.2  |
| 77.5° | 2287.4  | 675.0  | 120.0  | 108.1  | 109.4 | 93.6  | 68.6  | 63.3  | 65.9  | 54.1  | 35.6  |
| 80°   | 439.0   | 134.5  | 72.5   | 79.1   | 59.3  | 59.3  | 50.1  | 52.7  | 58.0  | 43.5  | 30.3  |
| 82.5° | 183.3   | 29.0   | 39.6   | 44.8   | 36.9  | 40.9  | 40.9  | 42.2  | 40.9  | 31.6  | 22.4  |
| 85°   | 0.0     | 0.0    | 17.1   | 18.5   | 25.0  | 25.0  | 21.1  | 21.1  | 21.1  | 18.5  | 13.2  |
| 87.5° | 0.0     | 0.0    | 0.0    | 0.0    | 1.3   | 4.0   | 7.9   | 9.2   | 10.5  | 7.9   | 5.3   |
| 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°    | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 |
| 2.5°  | 551.1 | 548.4 | 552.4 | 555.0 | 557.7 | 557.7 | 555.0 | 552.4 | 548.4 | 552.4 | 548.4 |
| 5°    | 508.9 | 512.9 | 519.4 | 522.1 | 524.7 | 519.4 | 516.8 | 508.9 | 502.3 | 503.6 | 501.0 |
| 7.5°  | 475.9 | 479.9 | 487.8 | 493.1 | 493.1 | 490.4 | 482.5 | 474.6 | 464.1 | 464.1 | 462.8 |
| 10°   | 445.6 | 450.9 | 460.1 | 466.7 | 469.3 | 466.7 | 458.8 | 448.3 | 439.0 | 439.0 | 435.1 |
| 12.5° | 420.6 | 427.2 | 437.7 | 446.9 | 449.6 | 446.9 | 439.0 | 428.5 | 417.9 | 417.9 | 415.3 |
| 15°   | 399.5 | 407.4 | 419.2 | 429.8 | 433.7 | 429.8 | 420.6 | 407.4 | 396.8 | 398.2 | 394.2 |
| 17.5° | 379.7 | 386.3 | 402.1 | 414.0 | 417.9 | 414.0 | 402.1 | 385.0 | 374.4 | 377.1 | 374.4 |
| 20°   | 357.3 | 365.2 | 381.0 | 394.2 | 398.2 | 394.2 | 381.0 | 362.6 | 352.0 | 352.0 | 353.3 |
| 22.5° | 333.6 | 341.5 | 357.3 | 366.5 | 371.8 | 367.8 | 354.6 | 337.5 | 327.0 | 327.0 | 328.3 |
| 25°   | 312.5 | 316.4 | 328.3 | 337.5 | 338.8 | 334.9 | 324.3 | 311.1 | 303.2 | 307.2 | 308.5 |
| 27.5° | 292.7 | 292.7 | 298.0 | 303.2 | 301.9 | 298.0 | 294.0 | 283.5 | 282.1 | 286.1 | 290.0 |
| 30°   | 271.6 | 265.0 | 262.4 | 258.4 | 257.1 | 255.8 | 259.7 | 259.7 | 262.4 | 267.6 | 271.6 |
| 32.5° | 253.1 | 239.9 | 228.1 | 216.2 | 209.6 | 214.9 | 225.4 | 234.7 | 243.9 | 251.8 | 255.8 |
| 35°   | 232.0 | 210.9 | 191.2 | 175.3 | 164.8 | 172.7 | 189.8 | 207.0 | 222.8 | 233.4 | 239.9 |
| 37.5° | 210.9 | 180.6 | 156.9 | 137.1 | 129.2 | 135.8 | 154.3 | 178.0 | 201.7 | 214.9 | 224.1 |
| 40°   | 188.5 | 150.3 | 122.6 | 106.8 | 98.9  | 105.5 | 123.9 | 147.7 | 179.3 | 196.4 | 208.3 |
| 42.5° | 166.1 | 123.9 | 98.9  | 83.1  | 79.1  | 83.1  | 97.6  | 121.3 | 155.6 | 176.7 | 192.5 |
| 45°   | 143.7 | 102.8 | 79.1  | 67.2  | 63.3  | 67.2  | 79.1  | 98.9  | 133.2 | 156.9 | 175.3 |
| 47.5° | 123.9 | 87.0  | 65.9  | 55.4  | 52.7  | 56.7  | 65.9  | 83.1  | 112.1 | 135.8 | 156.9 |
| 50°   | 108.1 | 76.5  | 56.7  | 47.5  | 44.8  | 48.8  | 56.7  | 69.9  | 94.9  | 116.0 | 138.4 |
| 52.5° | 97.6  | 71.2  | 50.1  | 40.9  | 39.6  | 42.2  | 48.8  | 59.3  | 80.4  | 98.9  | 120.0 |
| 55°   | 94.9  | 71.2  | 46.1  | 36.9  | 35.6  | 38.2  | 43.5  | 51.4  | 69.9  | 85.7  | 104.2 |
| 57.5° | 97.6  | 76.5  | 43.5  | 31.6  | 30.3  | 33.0  | 38.2  | 44.8  | 60.6  | 73.8  | 91.0  |
| 60°   | 97.6  | 77.8  | 38.2  | 25.0  | 23.7  | 26.4  | 31.6  | 39.6  | 54.1  | 64.6  | 79.1  |
| 62.5° | 88.3  | 71.2  | 31.6  | 19.8  | 17.1  | 19.8  | 26.4  | 33.0  | 47.5  | 58.0  | 69.9  |
| 65°   | 76.5  | 60.6  | 26.4  | 14.5  | 11.9  | 14.5  | 21.1  | 27.7  | 40.9  | 50.1  | 63.3  |
| 67.5° | 62.0  | 46.1  | 19.8  | 10.5  | 7.9   | 10.5  | 15.8  | 22.4  | 34.3  | 43.5  | 56.7  |
| 70°   | 46.1  | 33.0  | 15.8  | 9.2   | 7.9   | 9.2   | 14.5  | 21.1  | 30.3  | 39.6  | 52.7  |
| 72.5° | 34.3  | 22.4  | 13.2  | 9.2   | 6.6   | 9.2   | 13.2  | 19.8  | 29.0  | 38.2  | 50.1  |
| 75°   | 29.0  | 18.5  | 11.9  | 7.9   | 6.6   | 7.9   | 11.9  | 18.5  | 26.4  | 35.6  | 47.5  |
| 77.5° | 27.7  | 17.1  | 10.5  | 6.6   | 5.3   | 6.6   | 10.5  | 15.8  | 23.7  | 33.0  | 46.1  |
| 80°   | 23.7  | 14.5  | 9.2   | 5.3   | 4.0   | 5.3   | 9.2   | 13.2  | 18.5  | 25.0  | 35.6  |
| 82.5° | 18.5  | 11.9  | 6.6   | 2.6   | 1.3   | 2.6   | 6.6   | 7.9   | 11.9  | 14.5  | 21.1  |
| 85°   | 11.9  | 6.6   | 2.6   | 0.0   | 0.0   | 0.0   | 2.6   | 5.3   | 5.3   | 6.6   | 10.5  |
| 87.5° | 5.3   | 1.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 1.3   | 2.6   | 4.0   |
| 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: P635625

CATALOG NUMBER: GWS-SA3E-727-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°  | 295°  | 305°  | 315°  | 325°  | 335°  | 345°   | 355°   | 359°    | 360°    |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|---------|---------|
| 0°    | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3 | 593.3  | 593.3  | 593.3   | 593.3   |
| 2.5°  | 556.4 | 557.7 | 560.3 | 564.3 | 573.5 | 581.4 | 589.3  | 599.9  | 605.1   | 605.1   |
| 5°    | 503.6 | 504.9 | 506.3 | 511.5 | 524.7 | 535.3 | 552.4  | 573.5  | 584.0   | 586.7   |
| 7.5°  | 462.8 | 465.4 | 468.0 | 472.0 | 485.2 | 499.7 | 522.1  | 561.6  | 581.4   | 585.4   |
| 10°   | 439.0 | 443.0 | 448.3 | 456.2 | 468.0 | 483.8 | 522.1  | 593.3  | 626.2   | 632.8   |
| 12.5° | 420.6 | 427.2 | 432.4 | 441.7 | 456.2 | 481.2 | 557.7  | 682.9  | 740.9   | 756.8   |
| 15°   | 402.1 | 410.0 | 417.9 | 427.2 | 443.0 | 490.4 | 626.2  | 843.8  | 940.0   | 951.9   |
| 17.5° | 383.7 | 392.9 | 403.4 | 414.0 | 433.7 | 512.9 | 734.3  | 1066.6 | 1201.0  | 1227.4  |
| 20°   | 362.6 | 374.4 | 388.9 | 402.1 | 424.5 | 548.4 | 884.6  | 1331.6 | 1500.3  | 1557.0  |
| 22.5° | 340.1 | 354.6 | 371.8 | 388.9 | 414.0 | 592.0 | 1066.6 | 1616.3 | 1852.3  | 1889.2  |
| 25°   | 321.7 | 336.2 | 352.0 | 369.1 | 396.8 | 644.7 | 1286.7 | 1969.7 | 2184.6  | 2220.2  |
| 27.5° | 304.5 | 319.0 | 333.6 | 349.4 | 379.7 | 713.2 | 1551.7 | 2345.4 | 2569.5  | 2606.4  |
| 30°   | 286.1 | 303.2 | 317.7 | 333.6 | 363.9 | 797.6 | 1857.6 | 2762.0 | 2974.3  | 3008.6  |
| 32.5° | 270.3 | 287.4 | 301.9 | 317.7 | 352.0 | 889.9 | 2179.3 | 3131.2 | 3303.9  | 3303.9  |
| 35°   | 257.1 | 275.5 | 286.1 | 307.2 | 342.8 | 949.2 | 2483.8 | 3483.2 | 3613.7  | 3608.4  |
| 37.5° | 242.6 | 265.0 | 272.9 | 287.4 | 330.9 | 955.8 | 2769.9 | 3855.0 | 3951.2  | 3916.9  |
| 40°   | 228.1 | 251.8 | 263.7 | 271.6 | 317.7 | 901.8 | 3083.7 | 4196.4 | 4278.2  | 4233.3  |
| 42.5° | 214.9 | 233.4 | 250.5 | 259.7 | 309.8 | 806.9 | 3335.5 | 4561.6 | 4659.2  | 4619.6  |
| 45°   | 201.7 | 217.5 | 228.1 | 245.2 | 315.1 | 740.9 | 3551.7 | 4987.5 | 5158.8  | 5129.8  |
| 47.5° | 188.5 | 201.7 | 208.3 | 234.7 | 350.7 | 710.6 | 3683.6 | 5646.6 | 5969.6  | 5945.9  |
| 50°   | 174.0 | 189.8 | 189.8 | 232.0 | 403.4 | 721.2 | 3798.3 | 6601.2 | 7100.8  | 7092.9  |
| 52.5° | 159.5 | 176.7 | 174.0 | 251.8 | 444.3 | 769.9 | 3928.8 | 7443.6 | 8312.4  | 8384.9  |
| 55°   | 145.0 | 160.8 | 163.5 | 291.4 | 468.0 | 812.1 | 3423.8 | 7798.3 | 9347.4  | 9601.8  |
| 57.5° | 129.2 | 138.4 | 170.1 | 321.7 | 460.1 | 934.7 | 2345.4 | 7862.9 | 10007.9 | 10553.7 |
| 60°   | 112.1 | 120.0 | 192.5 | 315.1 | 435.1 | 863.5 | 1476.6 | 7282.8 | 9914.3  | 10606.4 |
| 62.5° | 97.6  | 110.7 | 203.0 | 278.2 | 443.0 | 748.8 | 941.3  | 6207.0 | 9021.7  | 9811.4  |
| 65°   | 85.7  | 106.8 | 184.6 | 251.8 | 448.3 | 507.6 | 635.5  | 5049.4 | 8150.3  | 8901.7  |
| 67.5° | 76.5  | 118.7 | 151.6 | 224.1 | 385.0 | 357.3 | 436.4  | 3923.5 | 6853.0  | 7526.7  |
| 70°   | 69.9  | 121.3 | 123.9 | 192.5 | 298.0 | 229.4 | 287.4  | 2640.7 | 4723.8  | 5493.7  |
| 72.5° | 63.3  | 89.7  | 93.6  | 154.3 | 192.5 | 139.7 | 185.9  | 1510.9 | 3443.6  | 3968.3  |
| 75°   | 60.6  | 60.6  | 64.6  | 100.2 | 106.8 | 101.5 | 120.0  | 901.8  | 2469.3  | 2853.0  |
| 77.5° | 56.7  | 46.1  | 40.9  | 64.6  | 58.0  | 72.5  | 71.2   | 400.8  | 1070.5  | 1157.5  |
| 80°   | 44.8  | 33.0  | 27.7  | 40.9  | 39.6  | 48.8  | 42.2   | 33.0   | 48.8    | 47.5    |
| 82.5° | 27.7  | 21.1  | 19.8  | 25.0  | 22.4  | 25.0  | 19.8   | 5.3    | 5.3     | 5.3     |
| 85°   | 13.2  | 11.9  | 10.5  | 10.5  | 11.9  | 10.5  | 7.9    | 2.6    | 1.3     | 1.3     |
| 87.5° | 6.6   | 6.6   | 5.3   | 4.0   | 5.3   | 5.3   | 4.0    | 1.3    | 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     |

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



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-1-R4

Test Date: 08/20/2019

Luminaire Tested: SA1C-727-U-5WQ

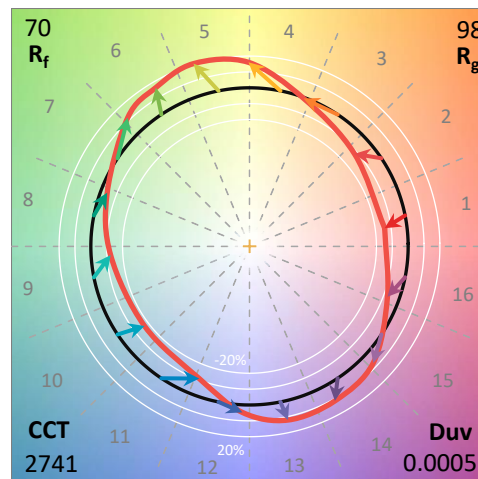
### Test Information

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-1-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-727-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-1-R3. TO UPDATE THE CATALOG NUMBER.\*\*\*TESTED IN SITU. (1) 70 CRI, 2700K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 2741   | CRI (Ra): | 71.5 |      |       |
| CIE u':                   | 0.2605 | R1:       | 69.2 | R9:  | -16.1 |
| CIE v':                   | 0.5272 | R2:       | 79.4 | R10: | 51.4  |
| Duv:                      | 0.0005 | R3:       | 87.8 | R11: | 63.1  |
| CIE x:                    | 0.4573 | R4:       | 69.4 | R12: | 42.0  |
| CIE y:                    | 0.4113 | R5:       | 66.4 | R13: | 70.2  |
| CIE z:                    | 0.1313 | R6:       | 69.8 | R14: | 92.4  |
| Peak Wavelength (nm):     | 602    | R7:       | 79.8 |      |       |
| Dominant Wavelength (nm): | 583    | R8:       | 50.1 |      |       |
| Purity:                   | 61.2   |           |      |      |       |
| Rf:                       | 69.9   |           |      |      |       |
| Rg:                       | 98.3   |           |      |      |       |



### Test Conditions

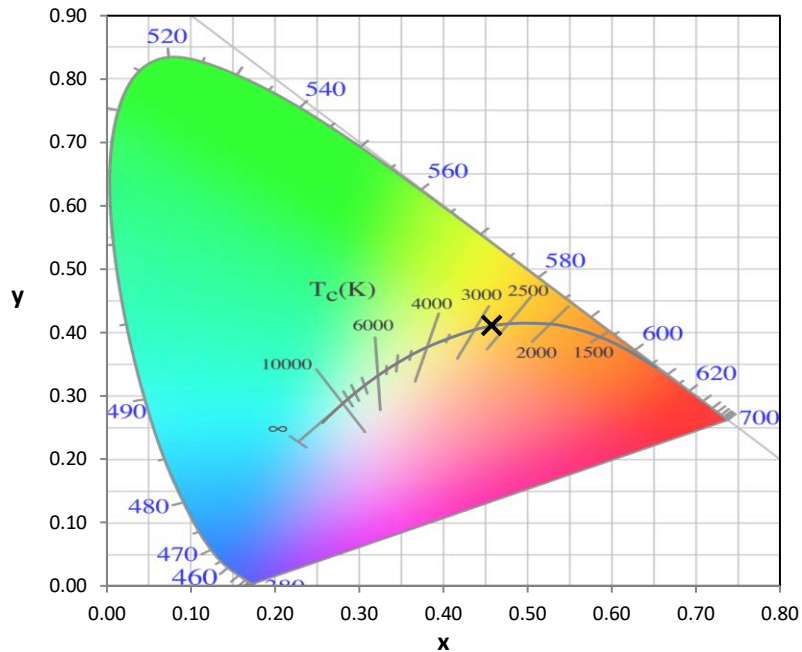
Stabilization Time: 56M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.3./42%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-1-R4

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/28/2019        | 12/28/2019           |
| Power Meter                    | IN0071                | 12/5/2018        | 12/5/2019            |
| AC Power Source                | IN0063                | 12/5/2018        | 12/5/2019            |
| DC Power Source                | IN0208                | 12/5/2018        | 12/5/2019            |
| Sphere Thermometer             | IN0085                | 12/5/2018        | 12/5/2019            |
| Room Thermometer               | IN0046                | 12/5/2018        | 12/5/2019            |

REPORT NUMBER: SP1-1908-441-1-R4

CIE 1931 Chromaticity Diagram



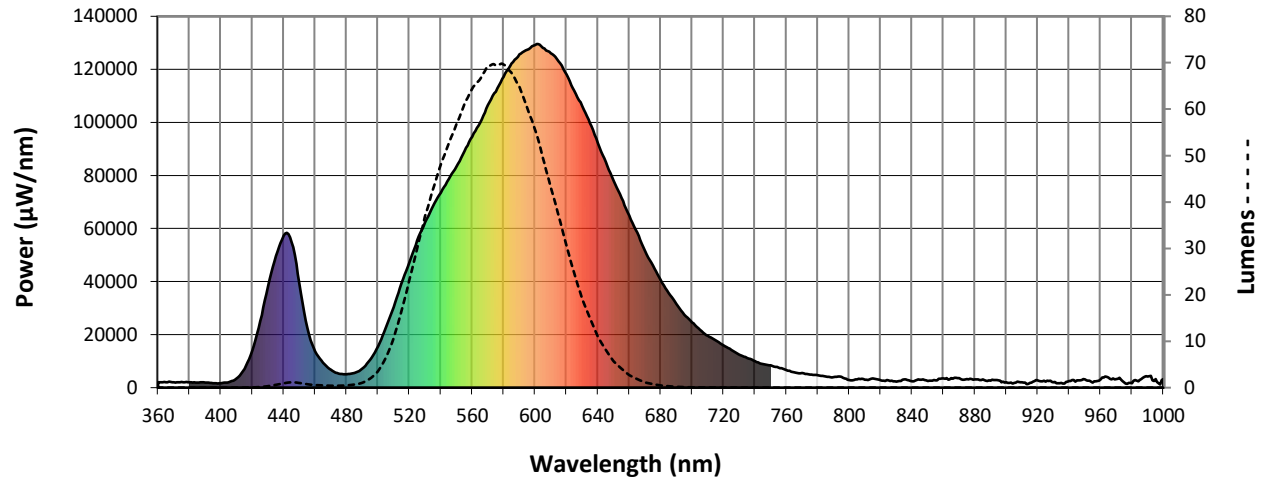
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-1-R4

**Photopic Flux vs. Wavelength**



**Photopic Lumens: 6211.7**

| 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       | 2044             | 0.0              | 490       | 7179             | 1.0              | 620       | 118034           | 30.7             | 750       | 8362             | 0.0              | 880       | 3128             | 0.0              |
| 365       | 2016             | 0.0              | 495       | 10476            | 1.9              | 625       | 111884           | 24.7             | 755       | 7635             | 0.0              | 885       | 3110             | 0.0              |
| 370       | 2020             | 0.0              | 500       | 15549            | 3.4              | 630       | 106119           | 19.2             | 760       | 6582             | 0.0              | 890       | 2632             | 0.0              |
| 375       | 2137             | 0.0              | 505       | 22477            | 6.3              | 635       | 99706            | 15.0             | 765       | 5777             | 0.0              | 895       | 2709             | 0.0              |
| 380       | 2046             | 0.0              | 510       | 30417            | 10.4             | 640       | 92142            | 11.0             | 770       | 5474             | 0.0              | 900       | 2016             | 0.0              |
| 385       | 1925             | 0.0              | 515       | 39274            | 16.3             | 645       | 84987            | 8.2              | 775       | 4977             | 0.0              | 905       | 1748             | 0.0              |
| 390       | 1893             | 0.0              | 520       | 47282            | 22.9             | 650       | 78016            | 5.7              | 780       | 4723             | 0.0              | 910       | 2046             | 0.0              |
| 395       | 1695             | 0.0              | 525       | 55413            | 29.7             | 655       | 71541            | 4.1              | 785       | 4219             | 0.0              | 915       | 1844             | 0.0              |
| 400       | 1633             | 0.0              | 530       | 62377            | 36.7             | 660       | 64863            | 2.7              | 790       | 3969             | 0.0              | 920       | 2734             | 0.0              |
| 405       | 2065             | 0.0              | 535       | 68520            | 42.5             | 665       | 58485            | 1.9              | 795       | 4122             | 0.0              | 925       | 2307             | 0.0              |
| 410       | 3449             | 0.0              | 540       | 73435            | 47.8             | 670       | 51641            | 1.1              | 800       | 2864             | 0.0              | 930       | 2039             | 0.0              |
| 415       | 7117             | 0.0              | 545       | 78677            | 52.4             | 675       | 46030            | 0.8              | 805       | 3151             | 0.0              | 935       | 1784             | 0.0              |
| 420       | 13992            | 0.0              | 550       | 83331            | 56.6             | 680       | 40590            | 0.5              | 810       | 3022             | 0.0              | 940       | 2464             | 0.0              |
| 425       | 25176            | 0.1              | 555       | 89120            | 60.9             | 685       | 35691            | 0.3              | 815       | 3471             | 0.0              | 945       | 2794             | 0.0              |
| 430       | 38151            | 0.3              | 560       | 94613            | 64.3             | 690       | 31631            | 0.2              | 820       | 2749             | 0.0              | 950       | 3090             | 0.0              |
| 435       | 49673            | 0.6              | 565       | 99818            | 66.4             | 695       | 27437            | 0.1              | 825       | 2729             | 0.0              | 955       | 1866             | 0.0              |
| 440       | 57273            | 0.9              | 570       | 106526           | 69.3             | 700       | 24589            | 0.1              | 830       | 2282             | 0.0              | 960       | 3110             | 0.0              |
| 445       | 54802            | 1.1              | 575       | 111610           | 69.4             | 705       | 21832            | 0.0              | 835       | 3140             | 0.0              | 965       | 3880             | 0.0              |
| 450       | 39184            | 1.0              | 580       | 117163           | 69.6             | 710       | 19500            | 0.0              | 840       | 2365             | 0.0              | 970       | 3243             | 0.0              |
| 455       | 22506            | 0.8              | 585       | 122201           | 67.9             | 715       | 17870            | 0.0              | 845       | 3024             | 0.0              | 975       | 2014             | 0.0              |
| 460       | 13692            | 0.6              | 590       | 125662           | 65.0             | 720       | 15924            | 0.0              | 850       | 2510             | 0.0              | 980       | 1688             | 0.0              |
| 465       | 9446             | 0.5              | 595       | 127415           | 60.4             | 725       | 14268            | 0.0              | 855       | 2739             | 0.0              | 985       | 2827             | 0.0              |
| 470       | 6698             | 0.4              | 600       | 129155           | 55.7             | 730       | 12438            | 0.0              | 860       | 3515             | 0.0              | 990       | 4172             | 0.0              |
| 475       | 5328             | 0.4              | 605       | 128057           | 49.6             | 735       | 11255            | 0.0              | 865       | 3600             | 0.0              | 995       | 3177             | 0.0              |
| 480       | 5081             | 0.5              | 610       | 126031           | 43.3             | 740       | 9951             | 0.0              | 870       | 3609             | 0.0              | 1000      | 3241             | 0.0              |
| 485       | 5579             | 0.7              | 615       | 123059           | 37.1             | 745       | 8870             | 0.0              | 875       | 3208             | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-1908-441-1-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 6474.3

S/P: 1.04

| 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       | 2044             | 0.0              | 490       | 7179             | 6.0              | 620       | 118034           | 0.1              | 750       | 8362             | 0.0              | 880       | 3128             | 0.0              |
| 365       | 2016             | 0.0              | 495       | 10476            | 8.6              | 625       | 111884           | 0.1              | 755       | 7635             | 0.0              | 885       | 3110             | 0.0              |
| 370       | 2020             | 0.0              | 500       | 15549            | 12.5             | 630       | 106119           | 0.0              | 760       | 6582             | 0.0              | 890       | 2632             | 0.0              |
| 375       | 2137             | 0.0              | 505       | 22477            | 17.3             | 635       | 99706            | 0.0              | 765       | 5777             | 0.0              | 895       | 2709             | 0.0              |
| 380       | 2046             | 0.0              | 510       | 30417            | 21.8             | 640       | 92142            | 0.0              | 770       | 5474             | 0.0              | 900       | 2016             | 0.0              |
| 385       | 1925             | 0.0              | 515       | 39274            | 25.7             | 645       | 84987            | 0.0              | 775       | 4977             | 0.0              | 905       | 1748             | 0.0              |
| 390       | 1893             | 0.0              | 520       | 47282            | 27.5             | 650       | 78016            | 0.0              | 780       | 4723             | 0.0              | 910       | 2046             | 0.0              |
| 395       | 1695             | 0.0              | 525       | 55413            | 28.1             | 655       | 71541            | 0.0              | 785       | 4219             | 0.0              | 915       | 1844             | 0.0              |
| 400       | 1633             | 0.0              | 530       | 62377            | 27.0             | 660       | 64863            | 0.0              | 790       | 3969             | 0.0              | 920       | 2734             | 0.0              |
| 405       | 2065             | 0.0              | 535       | 68520            | 24.7             | 665       | 58485            | 0.0              | 795       | 4122             | 0.0              | 925       | 2307             | 0.0              |
| 410       | 3449             | 0.1              | 540       | 73435            | 21.5             | 670       | 51641            | 0.0              | 800       | 2864             | 0.0              | 930       | 2039             | 0.0              |
| 415       | 7117             | 0.5              | 545       | 78677            | 18.3             | 675       | 46030            | 0.0              | 805       | 3151             | 0.0              | 935       | 1784             | 0.0              |
| 420       | 13992            | 1.6              | 550       | 83331            | 15.0             | 680       | 40590            | 0.0              | 810       | 3022             | 0.0              | 940       | 2464             | 0.0              |
| 425       | 25176            | 3.9              | 555       | 89120            | 12.0             | 685       | 35691            | 0.0              | 815       | 3471             | 0.0              | 945       | 2794             | 0.0              |
| 430       | 38151            | 8.1              | 560       | 94613            | 9.3              | 690       | 31631            | 0.0              | 820       | 2749             | 0.0              | 950       | 3090             | 0.0              |
| 435       | 49673            | 13.3             | 565       | 99818            | 7.0              | 695       | 27437            | 0.0              | 825       | 2729             | 0.0              | 955       | 1866             | 0.0              |
| 440       | 57273            | 19.1             | 570       | 106526           | 5.2              | 700       | 24589            | 0.0              | 830       | 2282             | 0.0              | 960       | 3110             | 0.0              |
| 445       | 54802            | 21.6             | 575       | 111610           | 3.7              | 705       | 21832            | 0.0              | 835       | 3140             | 0.0              | 965       | 3880             | 0.0              |
| 450       | 39184            | 18.1             | 580       | 117163           | 2.6              | 710       | 19500            | 0.0              | 840       | 2365             | 0.0              | 970       | 3243             | 0.0              |
| 455       | 22506            | 11.8             | 585       | 122201           | 1.8              | 715       | 17870            | 0.0              | 845       | 3024             | 0.0              | 975       | 2014             | 0.0              |
| 460       | 13692            | 8.1              | 590       | 125662           | 1.2              | 720       | 15924            | 0.0              | 850       | 2510             | 0.0              | 980       | 1688             | 0.0              |
| 465       | 9446             | 6.2              | 595       | 127415           | 0.8              | 725       | 14268            | 0.0              | 855       | 2739             | 0.0              | 985       | 2827             | 0.0              |
| 470       | 6698             | 4.8              | 600       | 129155           | 0.5              | 730       | 12438            | 0.0              | 860       | 3515             | 0.0              | 990       | 4172             | 0.0              |
| 475       | 5328             | 4.1              | 605       | 128057           | 0.4              | 735       | 11255            | 0.0              | 865       | 3600             | 0.0              | 995       | 3177             | 0.0              |
| 480       | 5081             | 4.1              | 610       | 126031           | 0.2              | 740       | 9951             | 0.0              | 870       | 3609             | 0.0              | 1000      | 3241             | 0.0              |
| 485       | 5579             | 4.6              | 615       | 123059           | 0.1              | 745       | 8870             | 0.0              | 875       | 3208             | 0.0              |           |                  |                  |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 2145.7 M/P: 0.35**

| 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       | 2044             | 0.0              | 490       | 7179             | 11.1             | 620       | 118034           | 1.5              | 750       | 8362             | 0.0              | 880       | 3128             | 0.0              |
| 365       | 2016             | 0.0              | 495       | 10476            | 16.9             | 625       | 111884           | 0.9              | 755       | 7635             | 0.0              | 885       | 3110             | 0.0              |
| 370       | 2020             | 0.0              | 500       | 15549            | 26.0             | 630       | 106119           | 0.6              | 760       | 6582             | 0.0              | 890       | 2632             | 0.0              |
| 375       | 2137             | 0.0              | 505       | 22477            | 38.2             | 635       | 99706            | 0.4              | 765       | 5777             | 0.0              | 895       | 2709             | 0.0              |
| 380       | 2046             | 0.0              | 510       | 30417            | 51.6             | 640       | 92142            | 0.2              | 770       | 5474             | 0.0              | 900       | 2016             | 0.0              |
| 385       | 1925             | 0.0              | 515       | 39274            | 65.1             | 645       | 84987            | 0.1              | 775       | 4977             | 0.0              | 905       | 1748             | 0.0              |
| 390       | 1893             | 0.0              | 520       | 47282            | 75.2             | 650       | 78016            | 0.1              | 780       | 4723             | 0.0              | 910       | 2046             | 0.0              |
| 395       | 1695             | 0.0              | 525       | 55413            | 82.9             | 655       | 71541            | 0.1              | 785       | 4219             | 0.0              | 915       | 1844             | 0.0              |
| 400       | 1633             | 0.0              | 530       | 62377            | 86.0             | 660       | 64863            | 0.0              | 790       | 3969             | 0.0              | 920       | 2734             | 0.0              |
| 405       | 2065             | 0.1              | 535       | 68520            | 85.4             | 665       | 58485            | 0.0              | 795       | 4122             | 0.0              | 925       | 2307             | 0.0              |
| 410       | 3449             | 0.2              | 540       | 73435            | 81.1             | 670       | 51641            | 0.0              | 800       | 2864             | 0.0              | 930       | 2039             | 0.0              |
| 415       | 7117             | 0.7              | 545       | 78677            | 75.4             | 675       | 46030            | 0.0              | 805       | 3151             | 0.0              | 935       | 1784             | 0.0              |
| 420       | 13992            | 2.3              | 550       | 83331            | 68.1             | 680       | 40590            | 0.0              | 810       | 3022             | 0.0              | 940       | 2464             | 0.0              |
| 425       | 25176            | 6.2              | 555       | 89120            | 60.9             | 685       | 35691            | 0.0              | 815       | 3471             | 0.0              | 945       | 2794             | 0.0              |
| 430       | 38151            | 13.0             | 560       | 94613            | 52.9             | 690       | 31631            | 0.0              | 820       | 2749             | 0.0              | 950       | 3090             | 0.0              |
| 435       | 49673            | 22.2             | 565       | 99818            | 44.8             | 695       | 27437            | 0.0              | 825       | 2729             | 0.0              | 955       | 1866             | 0.0              |
| 440       | 57273            | 32.0             | 570       | 106526           | 37.6             | 700       | 24589            | 0.0              | 830       | 2282             | 0.0              | 960       | 3110             | 0.0              |
| 445       | 54802            | 36.7             | 575       | 111610           | 30.4             | 705       | 21832            | 0.0              | 835       | 3140             | 0.0              | 965       | 3880             | 0.0              |
| 450       | 39184            | 30.4             | 580       | 117163           | 24.1             | 710       | 19500            | 0.0              | 840       | 2365             | 0.0              | 970       | 3243             | 0.0              |
| 455       | 22506            | 19.7             | 585       | 122201           | 18.7             | 715       | 17870            | 0.0              | 845       | 3024             | 0.0              | 975       | 2014             | 0.0              |
| 460       | 13692            | 13.2             | 590       | 125662           | 14.0             | 720       | 15924            | 0.0              | 850       | 2510             | 0.0              | 980       | 1688             | 0.0              |
| 465       | 9446             | 10.0             | 595       | 127415           | 10.2             | 725       | 14268            | 0.0              | 855       | 2739             | 0.0              | 985       | 2827             | 0.0              |
| 470       | 6698             | 7.7              | 600       | 129155           | 7.3              | 730       | 12438            | 0.0              | 860       | 3515             | 0.0              | 990       | 4172             | 0.0              |
| 475       | 5328             | 6.7              | 605       | 128057           | 5.0              | 735       | 11255            | 0.0              | 865       | 3600             | 0.0              | 995       | 3177             | 0.0              |
| 480       | 5081             | 6.9              | 610       | 126031           | 3.4              | 740       | 9951             | 0.0              | 870       | 3609             | 0.0              | 1000      | 3241             | 0.0              |
| 485       | 5579             | 8.1              | 615       | 123059           | 2.3              | 745       | 8870             | 0.0              | 875       | 3208             | 0.0              |           |                  |                  |

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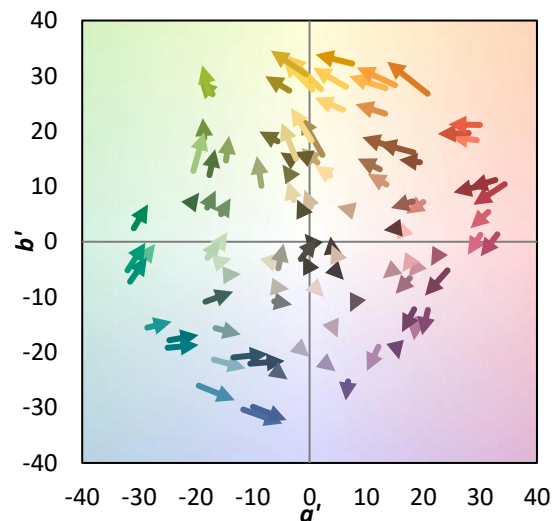
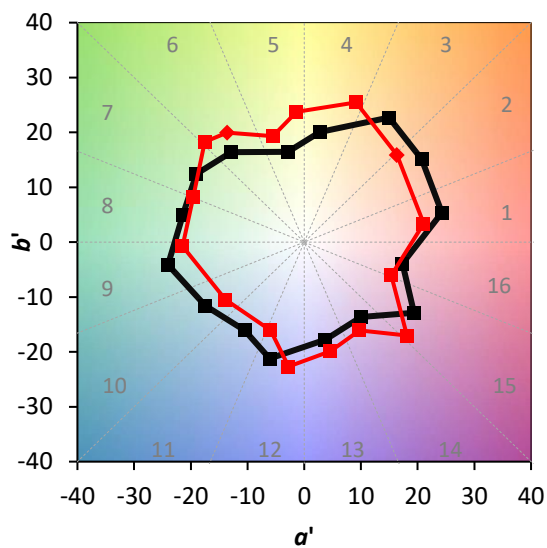
**TM-30-18**

### Summary

$R_f = 69.9$   
 $R_g = 98.3$   
 $CIE R_a = 71.5$   
 $R_g = -16.1$



### Color Vector Graphics



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

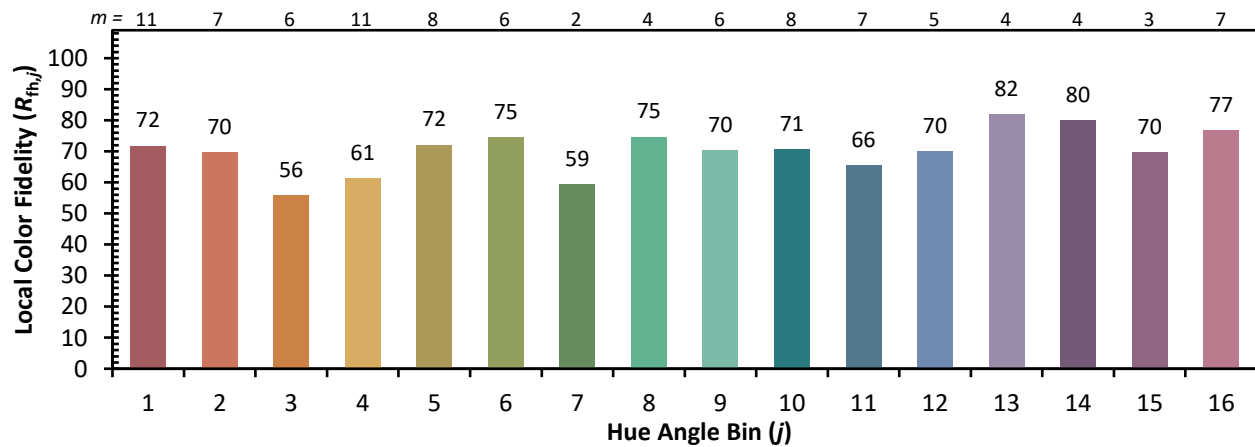
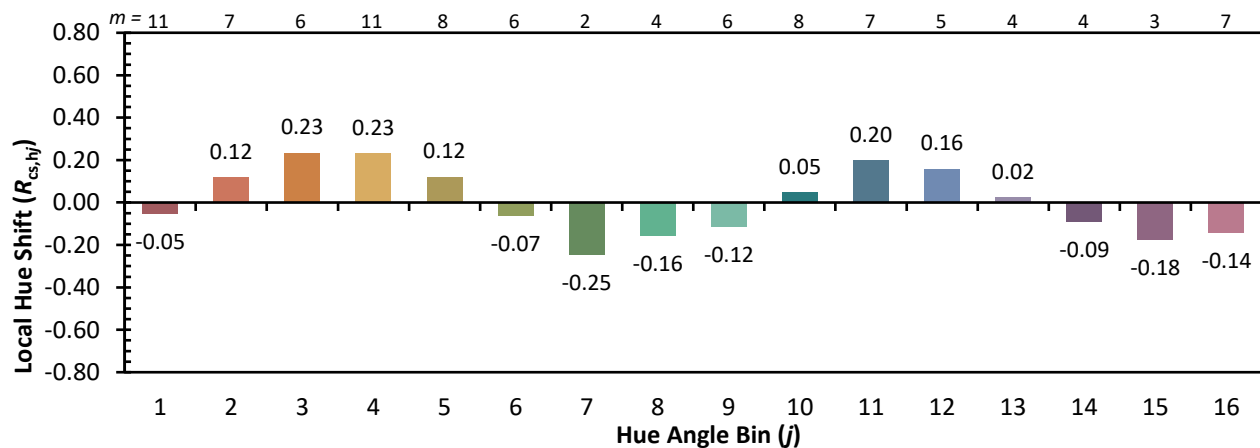
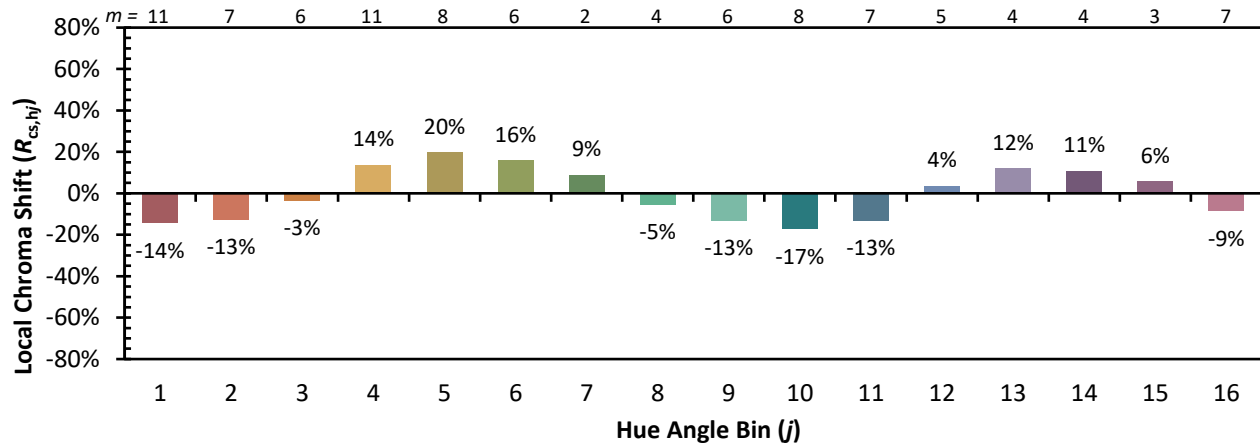
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|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 54 | CES51 = 77 | CES76 = 48 |
| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54 = 77 | CES79 = 81 |
| CES05 = 50 | CES30 = 46 | CES55 = 74 | CES80 = 80 |
| CES06 = 52 | CES31 = 50 | CES56 = 63 | CES81 = 73 |
| CES07 = 42 | CES32 = 49 | CES57 = 60 | CES82 = 91 |
| CES08 = 41 | CES33 = 53 | CES58 = 63 | CES83 = 84 |
| CES09 = 29 | CES34 = 66 | CES59 = 85 | CES84 = 90 |
| CES10 = 77 | CES35 = 82 | CES60 = 89 | CES85 = 87 |
| CES11 = 60 | CES36 = 78 | CES61 = 85 | CES86 = 65 |
| CES12 = 66 | CES37 = 75 | CES62 = 69 | CES87 = 78 |
| CES13 = 43 | CES38 = 53 | CES63 = 68 | CES88 = 73 |
| CES14 = 74 | CES39 = 91 | CES64 = 68 | CES89 = 68 |
| CES15 = 71 | CES40 = 85 | CES65 = 65 | CES90 = 68 |
| CES16 = 48 | CES41 = 76 | CES66 = 62 | CES91 = 91 |
| CES17 = 50 | CES42 = 76 | CES67 = 60 | CES92 = 71 |
| CES18 = 57 | CES43 = 65 | CES68 = 68 | CES93 = 82 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 57 |
| CES20 = 67 | CES45 = 75 | CES70 = 60 | CES95 = 78 |
| CES21 = 88 | CES46 = 70 | CES71 = 57 | CES96 = 80 |
| CES22 = 80 | CES47 = 63 | CES72 = 86 | CES97 = 79 |
| CES23 = 92 | CES48 = 51 | CES73 = 52 | CES98 = 71 |
| CES24 = 91 | CES49 = 68 | CES74 = 90 | CES99 = 64 |
| CES25 = 73 | CES50 = 77 | CES75 = 58 |            |



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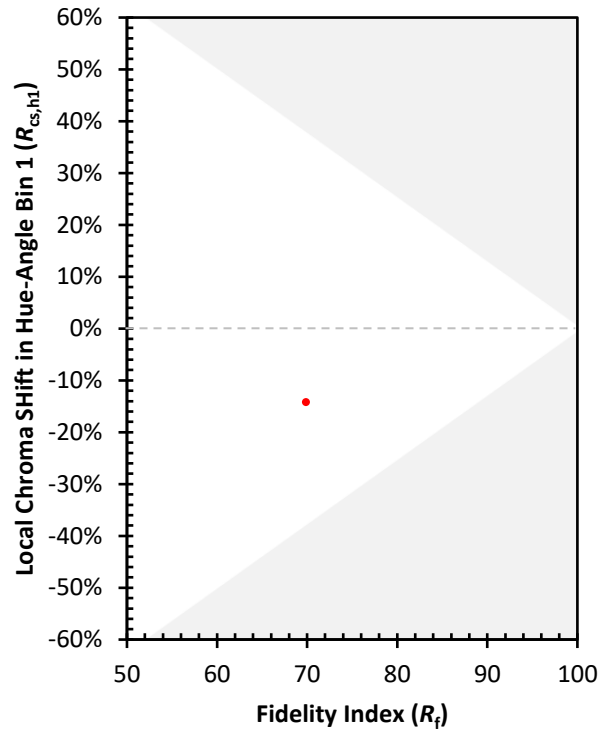
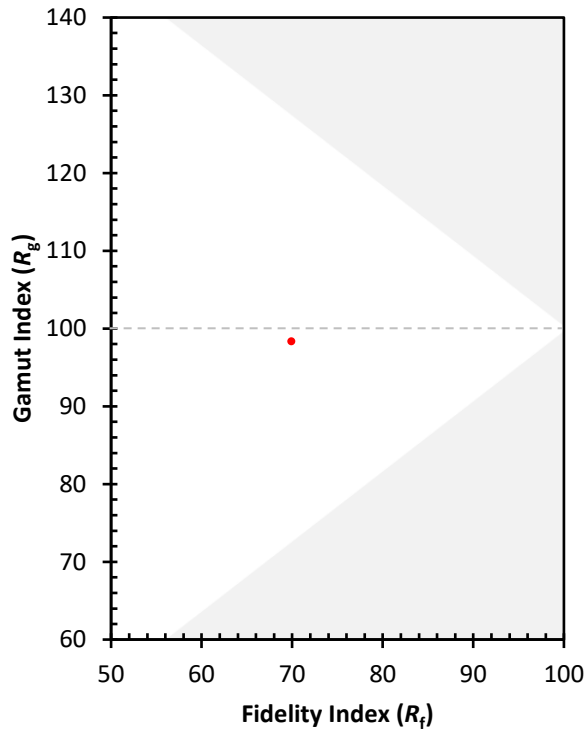
Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)