

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: P628642

Luminaire Tested: GWS-SA1A-722-U-SLR-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P628642  
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-SA1A-722-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) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1300 lumens  
Efficiency: N/A  
Efficacy: 66.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1

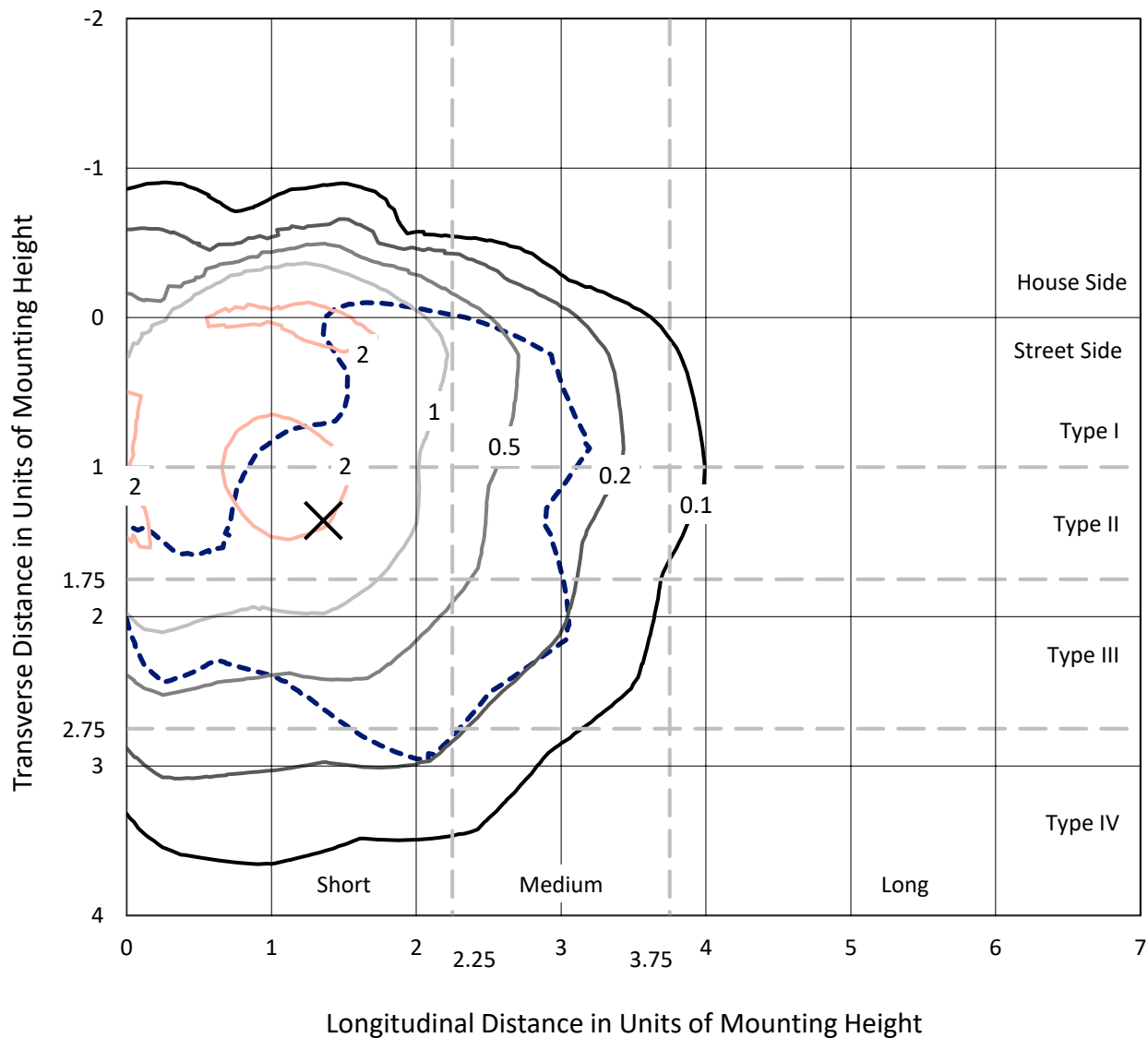
Input Watts (W): 19.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P628642  
 CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

## Iso-Footcandle Lines of Horizontal Illumination

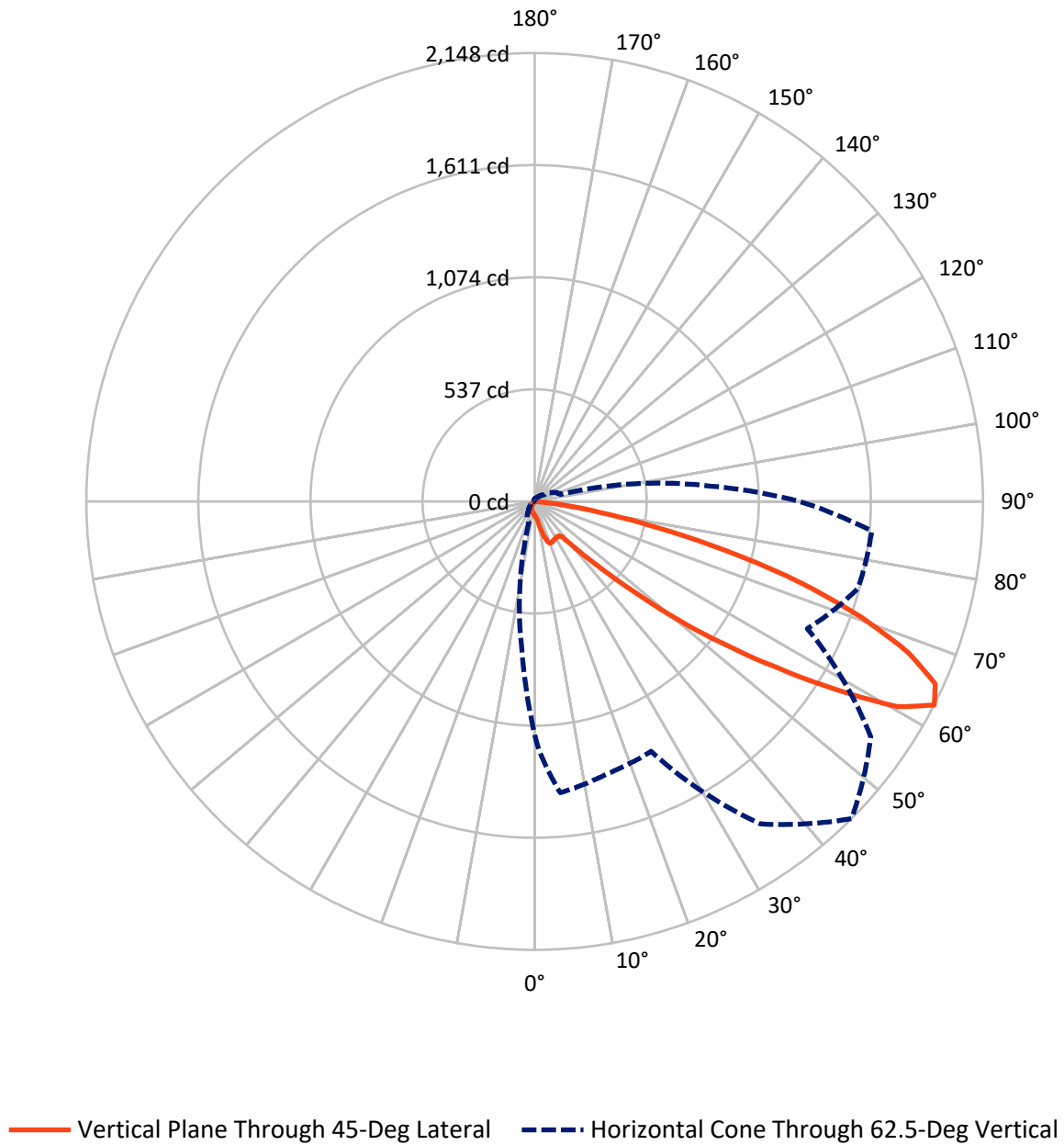
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.6 fc  
 Type IV - Short - N/A

REPORT NUMBER: P628642  
CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

## Luminous Intensity Polar Plot



REPORT NUMBER: P628642

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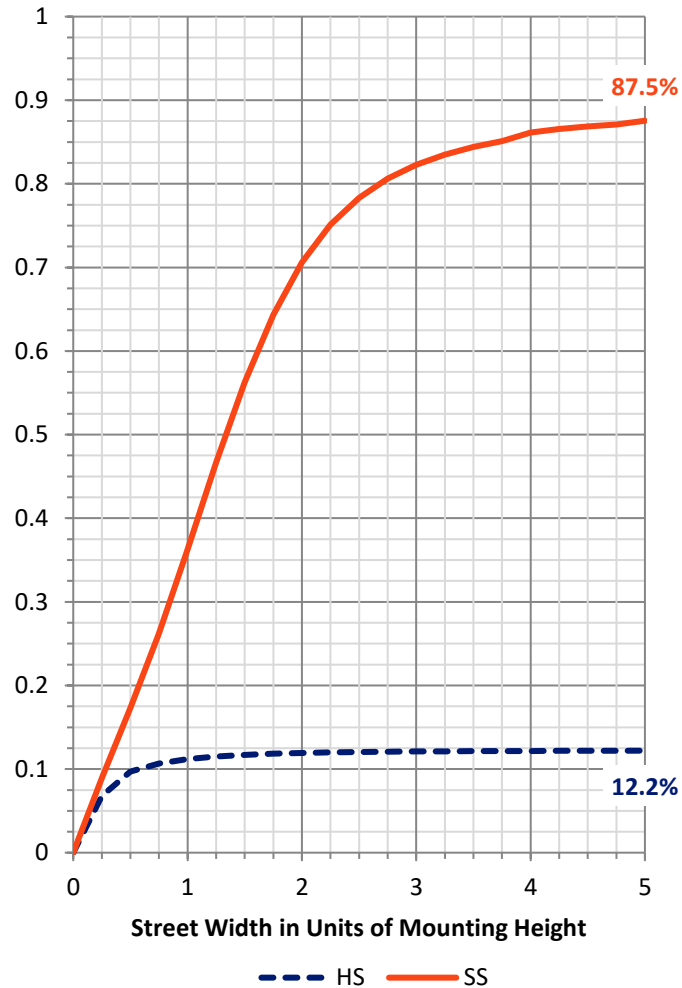
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 160.4    | 0.0    | 160.4  |
|                    | % Fixture | 12.3     | 0.0    | 12.3   |
| <b>Street Side</b> | Lumens    | 1139.6   | 0.0    | 1139.6 |
|                    | % Fixture | 87.7     | 0.0    | 87.7   |
| <b>Total</b>       | Lumens    | 1300.0   | 0.0    | 1300.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 6.0    | 0.5       |
| 10°-20°   | 22.7   | 1.7       |
| 20°-30°   | 49.3   | 3.8       |
| 30°-40°   | 80.9   | 6.2       |
| 40°-50°   | 148.7  | 11.4      |
| 50°-60°   | 319.3  | 24.6      |
| 60°-70°   | 428.8  | 33.0      |
| 70°-80°   | 223.3  | 17.2      |
| 80°-90°   | 21.2   | 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°    | 1300.0 | 100.0     |
| 0°-180°   | 1300.0 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P628642

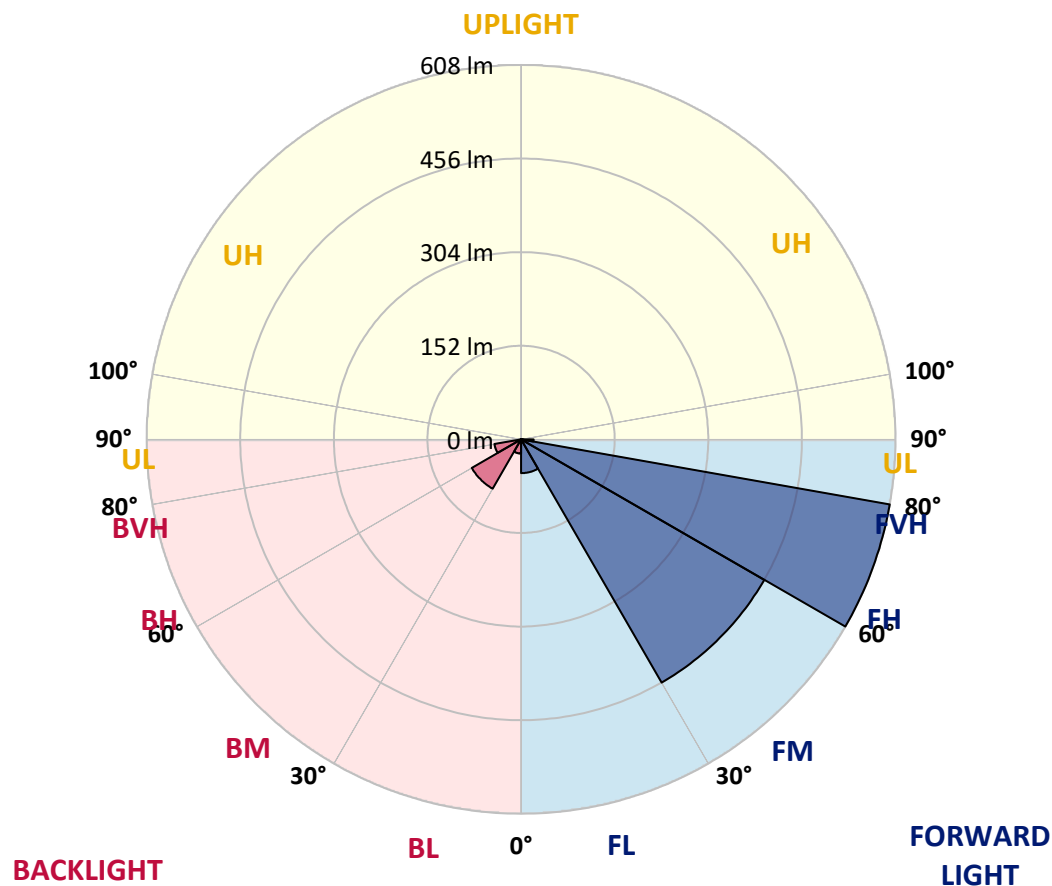
CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|--------|-----------|-------------------------|------|--------|
|      |             |        |           | B                       | U    | G      |
| FL   | (0°-30°)    | 54.9   | 4.2       |                         |      |        |
| FM   | (30°-60°)   | 456.3  | 35.1      |                         |      |        |
| FH   | (60°-80°)   | 608.2  | 46.8      |                         |      | G0/660 |
| FVH  | (80°-90°)   | 20.2   | 1.6       |                         |      | G1/100 |
| BL   | (0°-30°)    | 23.0   | 1.8       | B0/110                  |      |        |
| BM   | (30°-60°)   | 92.5   | 7.1       | B0/220                  |      |        |
| BH   | (60°-80°)   | 44.0   | 3.4       | B0/110                  |      | G0/110 |
| BVH  | (80°-90°)   | 1.0    | 0.1       |                         |      | G0/10  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |        |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |        |

**BUG Rating: B0-U0-G1**

Type IV Short





REPORT NUMBER: P628642

CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   | 67.6   |
| 2.5°  | 68.9   | 69.2   | 69.5   | 70.6   | 71.3   | 71.9   | 72.1   | 71.6   | 70.6   | 69.5   | 68.0   |
| 5°    | 66.8   | 67.1   | 68.2   | 71.0   | 73.9   | 76.1   | 76.9   | 76.4   | 73.9   | 70.6   | 67.1   |
| 7.5°  | 66.7   | 67.3   | 69.8   | 75.8   | 82.0   | 86.6   | 87.8   | 86.8   | 82.0   | 75.4   | 68.3   |
| 10°   | 72.1   | 73.1   | 76.9   | 87.7   | 99.0   | 107.2  | 110.5  | 106.0  | 98.4   | 86.3   | 74.8   |
| 12.5° | 86.2   | 88.0   | 95.2   | 111.0  | 128.4  | 139.4  | 143.9  | 138.3  | 126.3  | 108.9  | 90.5   |
| 15°   | 108.4  | 111.1  | 121.9  | 145.5  | 166.1  | 175.8  | 177.3  | 174.2  | 160.2  | 141.0  | 116.4  |
| 17.5° | 139.8  | 143.7  | 160.5  | 184.5  | 199.4  | 202.9  | 202.4  | 199.1  | 188.9  | 175.7  | 152.4  |
| 20°   | 177.3  | 182.0  | 198.5  | 218.3  | 219.8  | 215.8  | 213.5  | 211.6  | 208.1  | 205.9  | 187.7  |
| 22.5° | 215.2  | 220.9  | 238.2  | 243.1  | 229.6  | 217.9  | 212.3  | 213.8  | 218.9  | 230.0  | 222.7  |
| 25°   | 252.9  | 258.3  | 274.5  | 261.1  | 234.1  | 214.6  | 207.5  | 211.1  | 223.3  | 247.3  | 256.8  |
| 27.5° | 296.9  | 300.9  | 310.5  | 273.4  | 234.9  | 211.9  | 205.0  | 210.5  | 225.4  | 258.1  | 294.2  |
| 30°   | 342.7  | 345.1  | 340.4  | 276.7  | 232.3  | 207.8  | 202.4  | 210.5  | 229.0  | 265.3  | 322.2  |
| 32.5° | 376.3  | 376.8  | 361.6  | 277.0  | 230.9  | 204.5  | 200.0  | 209.6  | 232.5  | 271.3  | 349.4  |
| 35°   | 411.0  | 408.7  | 381.9  | 281.6  | 234.6  | 205.7  | 201.8  | 212.2  | 237.9  | 278.4  | 373.3  |
| 37.5° | 446.1  | 442.1  | 404.5  | 288.9  | 243.9  | 218.8  | 216.4  | 225.2  | 246.6  | 288.2  | 399.6  |
| 40°   | 482.2  | 476.6  | 428.1  | 300.0  | 264.6  | 263.2  | 271.5  | 270.4  | 270.4  | 300.6  | 426.6  |
| 42.5° | 526.2  | 519.7  | 462.9  | 331.4  | 312.9  | 343.1  | 365.6  | 351.7  | 325.9  | 329.3  | 461.7  |
| 45°   | 584.3  | 578.7  | 523.3  | 391.5  | 388.8  | 458.1  | 488.5  | 460.8  | 396.6  | 395.5  | 520.5  |
| 47.5° | 677.2  | 676.2  | 619.6  | 461.1  | 481.6  | 604.6  | 663.1  | 610.0  | 477.2  | 465.7  | 631.6  |
| 50°   | 807.9  | 804.7  | 739.5  | 542.8  | 591.9  | 785.9  | 890.5  | 801.9  | 574.7  | 547.5  | 780.4  |
| 52.5° | 955.0  | 958.3  | 907.6  | 632.0  | 709.2  | 987.8  | 1133.3 | 1021.7 | 680.5  | 651.6  | 967.6  |
| 55°   | 1093.6 | 1112.5 | 1099.2 | 736.4  | 823.8  | 1210.6 | 1400.0 | 1262.9 | 811.6  | 787.7  | 1177.6 |
| 57.5° | 1202.0 | 1255.4 | 1349.1 | 888.1  | 958.5  | 1471.3 | 1697.7 | 1524.3 | 964.6  | 1008.9 | 1463.3 |
| 60°   | 1208.1 | 1278.6 | 1496.2 | 1205.3 | 1131.8 | 1694.9 | 1995.0 | 1779.7 | 1205.2 | 1384.5 | 1687.2 |
| 62.5° | 1117.5 | 1193.2 | 1400.4 | 1349.5 | 1320.5 | 1885.1 | 2147.6 | 1965.9 | 1441.9 | 1604.5 | 1620.8 |
| 65°   | 1013.9 | 1090.3 | 1293.5 | 1186.0 | 1298.6 | 1877.0 | 2108.9 | 1970.3 | 1463.3 | 1454.9 | 1502.1 |
| 67.5° | 857.3  | 925.9  | 1109.8 | 1049.8 | 1196.9 | 1786.5 | 1929.9 | 1846.1 | 1348.2 | 1360.8 | 1381.8 |
| 70°   | 625.7  | 691.8  | 862.5  | 865.5  | 1045.3 | 1623.2 | 1658.2 | 1646.7 | 1241.5 | 1254.9 | 1194.8 |
| 72.5° | 452.0  | 507.7  | 655.0  | 709.8  | 834.4  | 1361.2 | 1337.0 | 1381.6 | 1065.2 | 1117.7 | 959.7  |
| 75°   | 325.0  | 366.7  | 480.5  | 617.5  | 661.5  | 1010.9 | 957.1  | 1070.1 | 854.7  | 962.4  | 721.5  |
| 77.5° | 131.8  | 146.6  | 189.1  | 415.9  | 434.7  | 680.1  | 585.9  | 777.2  | 609.4  | 632.3  | 349.7  |
| 80°   | 5.4    | 6.0    | 7.8    | 214.7  | 298.1  | 382.6  | 313.5  | 415.5  | 402.4  | 254.7  | 82.6   |
| 82.5° | 0.6    | 0.6    | 1.4    | 61.9   | 130.5  | 211.1  | 147.8  | 239.4  | 203.8  | 108.0  | 37.5   |
| 85°   | 0.2    | 0.2    | 0.3    | 7.1    | 30.6   | 33.8   | 20.0   | 73.4   | 94.8   | 44.1   | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.8    | 1.4    | 1.5    | 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    |

REPORT NUMBER: P628642

CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|------|------|------|------|------|------|------|
| 0°    | 67.6   | 67.6  | 67.6  | 67.6  | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 |
| 2.5°  | 68.0   | 67.3  | 66.4  | 65.5  | 65.0 | 63.8 | 63.4 | 63.1 | 62.8 | 62.9 | 62.9 |
| 5°    | 65.8   | 64.1  | 62.2  | 60.2  | 59.2 | 58.0 | 57.4 | 57.1 | 57.2 | 57.8 | 57.8 |
| 7.5°  | 65.5   | 62.3  | 58.1  | 55.6  | 54.4 | 53.5 | 52.9 | 52.6 | 52.7 | 53.5 | 53.8 |
| 10°   | 70.4   | 64.9  | 57.4  | 53.0  | 51.7 | 50.8 | 50.2 | 49.7 | 49.4 | 50.0 | 50.2 |
| 12.5° | 81.1   | 73.4  | 61.0  | 52.7  | 50.3 | 49.1 | 48.7 | 47.8 | 47.3 | 47.6 | 47.8 |
| 15°   | 103.2  | 89.9  | 68.2  | 53.9  | 49.1 | 47.8 | 47.0 | 46.2 | 45.5 | 45.3 | 45.5 |
| 17.5° | 132.0  | 113.1 | 79.1  | 56.8  | 48.2 | 46.6 | 45.5 | 44.4 | 43.4 | 43.2 | 43.1 |
| 20°   | 167.7  | 141.5 | 94.5  | 61.3  | 47.5 | 45.5 | 44.0 | 42.5 | 41.1 | 40.7 | 40.7 |
| 22.5° | 200.3  | 175.7 | 114.1 | 66.8  | 46.4 | 44.0 | 42.2 | 40.4 | 38.9 | 38.1 | 38.0 |
| 25°   | 240.1  | 212.0 | 137.7 | 73.3  | 44.9 | 42.0 | 40.1 | 38.3 | 36.8 | 35.9 | 35.6 |
| 27.5° | 280.2  | 250.3 | 164.4 | 81.7  | 43.1 | 40.1 | 38.3 | 36.6 | 35.0 | 33.9 | 33.6 |
| 30°   | 319.1  | 291.6 | 194.5 | 92.2  | 41.7 | 38.1 | 36.6 | 35.0 | 33.5 | 31.8 | 31.4 |
| 32.5° | 360.8  | 333.8 | 228.1 | 103.9 | 40.7 | 36.8 | 35.1 | 33.6 | 31.7 | 30.2 | 29.4 |
| 35°   | 401.1  | 377.4 | 265.2 | 115.3 | 39.6 | 35.6 | 33.8 | 32.3 | 30.2 | 28.5 | 27.5 |
| 37.5° | 441.6  | 421.7 | 303.9 | 122.2 | 38.1 | 33.9 | 32.3 | 31.1 | 28.7 | 26.7 | 25.5 |
| 40°   | 484.6  | 467.5 | 345.8 | 119.4 | 36.8 | 32.1 | 31.2 | 29.9 | 27.2 | 24.9 | 23.4 |
| 42.5° | 531.7  | 511.2 | 388.5 | 108.4 | 35.6 | 30.6 | 29.7 | 28.4 | 25.8 | 23.1 | 21.2 |
| 45°   | 591.0  | 559.1 | 423.5 | 91.9  | 36.2 | 29.1 | 27.3 | 27.0 | 24.6 | 21.2 | 18.8 |
| 47.5° | 693.0  | 632.6 | 450.6 | 81.2  | 40.2 | 27.5 | 25.4 | 26.1 | 23.6 | 19.2 | 16.5 |
| 50°   | 849.0  | 754.6 | 476.0 | 80.5  | 46.4 | 26.7 | 23.6 | 25.5 | 22.5 | 17.3 | 14.6 |
| 52.5° | 997.7  | 878.4 | 492.2 | 87.1  | 51.8 | 28.7 | 21.8 | 24.8 | 21.8 | 15.9 | 13.2 |
| 55°   | 1139.9 | 949.9 | 463.2 | 91.9  | 56.9 | 34.5 | 20.4 | 23.6 | 20.9 | 15.2 | 12.8 |
| 57.5° | 1293.2 | 981.8 | 364.7 | 101.7 | 60.5 | 39.5 | 20.7 | 21.8 | 19.7 | 14.7 | 12.6 |
| 60°   | 1339.0 | 941.1 | 220.1 | 114.4 | 58.6 | 41.0 | 23.0 | 19.4 | 18.0 | 13.8 | 12.2 |
| 62.5° | 1267.8 | 844.5 | 129.9 | 104.2 | 56.9 | 38.7 | 26.3 | 17.9 | 16.4 | 12.6 | 11.3 |
| 65°   | 1161.4 | 713.4 | 84.7  | 88.0  | 60.4 | 34.5 | 27.9 | 17.1 | 14.9 | 11.4 | 9.9  |
| 67.5° | 1039.7 | 574.7 | 59.3  | 52.0  | 55.7 | 31.1 | 23.6 | 17.0 | 13.4 | 9.6  | 8.1  |
| 70°   | 875.7  | 430.4 | 41.7  | 34.4  | 46.4 | 27.6 | 18.3 | 16.5 | 11.7 | 7.8  | 6.3  |
| 72.5° | 676.6  | 269.4 | 31.1  | 22.2  | 33.0 | 22.5 | 14.6 | 14.0 | 9.5  | 6.5  | 4.8  |
| 75°   | 499.0  | 153.6 | 21.9  | 16.1  | 21.8 | 17.1 | 10.8 | 9.9  | 8.1  | 6.2  | 4.4  |
| 77.5° | 260.5  | 76.9  | 13.7  | 12.3  | 12.5 | 10.7 | 7.8  | 7.2  | 7.5  | 6.2  | 4.1  |
| 80°   | 50.0   | 15.3  | 8.3   | 9.0   | 6.8  | 6.8  | 5.7  | 6.0  | 6.6  | 5.0  | 3.5  |
| 82.5° | 20.9   | 3.3   | 4.5   | 5.1   | 4.2  | 4.7  | 4.7  | 4.8  | 4.7  | 3.6  | 2.6  |
| 85°   | 0.0    | 0.0   | 2.0   | 2.1   | 2.9  | 2.9  | 2.4  | 2.4  | 2.4  | 2.1  | 1.5  |
| 87.5° | 0.0    | 0.0   | 0.0   | 0.0   | 0.2  | 0.5  | 0.9  | 1.1  | 1.2  | 0.9  | 0.6  |
| 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: P628642

CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 |
| 2.5°  | 62.8 | 62.5 | 62.9 | 63.2 | 63.5 | 63.5 | 63.2 | 62.9 | 62.5 | 62.9 | 62.5 |
| 5°    | 58.0 | 58.4 | 59.2 | 59.5 | 59.8 | 59.2 | 58.9 | 58.0 | 57.2 | 57.4 | 57.1 |
| 7.5°  | 54.2 | 54.7 | 55.6 | 56.2 | 56.2 | 55.9 | 55.0 | 54.1 | 52.9 | 52.9 | 52.7 |
| 10°   | 50.8 | 51.4 | 52.4 | 53.2 | 53.5 | 53.2 | 52.3 | 51.1 | 50.0 | 50.0 | 49.6 |
| 12.5° | 47.9 | 48.7 | 49.9 | 50.9 | 51.2 | 50.9 | 50.0 | 48.8 | 47.6 | 47.6 | 47.3 |
| 15°   | 45.5 | 46.4 | 47.8 | 49.0 | 49.4 | 49.0 | 47.9 | 46.4 | 45.2 | 45.3 | 44.9 |
| 17.5° | 43.2 | 44.0 | 45.8 | 47.2 | 47.6 | 47.2 | 45.8 | 43.8 | 42.6 | 42.9 | 42.6 |
| 20°   | 40.7 | 41.6 | 43.4 | 44.9 | 45.3 | 44.9 | 43.4 | 41.3 | 40.1 | 40.1 | 40.2 |
| 22.5° | 38.0 | 38.9 | 40.7 | 41.7 | 42.3 | 41.9 | 40.4 | 38.4 | 37.2 | 37.2 | 37.4 |
| 25°   | 35.6 | 36.0 | 37.4 | 38.4 | 38.6 | 38.1 | 36.9 | 35.4 | 34.5 | 35.0 | 35.1 |
| 27.5° | 33.3 | 33.3 | 33.9 | 34.5 | 34.4 | 33.9 | 33.5 | 32.3 | 32.1 | 32.6 | 33.0 |
| 30°   | 30.9 | 30.2 | 29.9 | 29.4 | 29.3 | 29.1 | 29.6 | 29.6 | 29.9 | 30.5 | 30.9 |
| 32.5° | 28.8 | 27.3 | 26.0 | 24.6 | 23.9 | 24.5 | 25.7 | 26.7 | 27.8 | 28.7 | 29.1 |
| 35°   | 26.4 | 24.0 | 21.8 | 20.0 | 18.8 | 19.7 | 21.6 | 23.6 | 25.4 | 26.6 | 27.3 |
| 37.5° | 24.0 | 20.6 | 17.9 | 15.6 | 14.7 | 15.5 | 17.6 | 20.3 | 23.0 | 24.5 | 25.5 |
| 40°   | 21.5 | 17.1 | 14.0 | 12.2 | 11.3 | 12.0 | 14.1 | 16.8 | 20.4 | 22.4 | 23.7 |
| 42.5° | 18.9 | 14.1 | 11.3 | 9.5  | 9.0  | 9.5  | 11.1 | 13.8 | 17.7 | 20.1 | 21.9 |
| 45°   | 16.4 | 11.7 | 9.0  | 7.7  | 7.2  | 7.7  | 9.0  | 11.3 | 15.2 | 17.9 | 20.0 |
| 47.5° | 14.1 | 9.9  | 7.5  | 6.3  | 6.0  | 6.5  | 7.5  | 9.5  | 12.8 | 15.5 | 17.9 |
| 50°   | 12.3 | 8.7  | 6.5  | 5.4  | 5.1  | 5.6  | 6.5  | 8.0  | 10.8 | 13.2 | 15.8 |
| 52.5° | 11.1 | 8.1  | 5.7  | 4.7  | 4.5  | 4.8  | 5.6  | 6.8  | 9.2  | 11.3 | 13.7 |
| 55°   | 10.8 | 8.1  | 5.3  | 4.2  | 4.1  | 4.4  | 5.0  | 5.9  | 8.0  | 9.8  | 11.9 |
| 57.5° | 11.1 | 8.7  | 5.0  | 3.6  | 3.5  | 3.8  | 4.4  | 5.1  | 6.9  | 8.4  | 10.4 |
| 60°   | 11.1 | 8.9  | 4.4  | 2.9  | 2.7  | 3.0  | 3.6  | 4.5  | 6.2  | 7.4  | 9.0  |
| 62.5° | 10.1 | 8.1  | 3.6  | 2.3  | 2.0  | 2.3  | 3.0  | 3.8  | 5.4  | 6.6  | 8.0  |
| 65°   | 8.7  | 6.9  | 3.0  | 1.7  | 1.4  | 1.7  | 2.4  | 3.2  | 4.7  | 5.7  | 7.2  |
| 67.5° | 7.1  | 5.3  | 2.3  | 1.2  | 0.9  | 1.2  | 1.8  | 2.6  | 3.9  | 5.0  | 6.5  |
| 70°   | 5.3  | 3.8  | 1.8  | 1.1  | 0.9  | 1.1  | 1.7  | 2.4  | 3.5  | 4.5  | 6.0  |
| 72.5° | 3.9  | 2.6  | 1.5  | 1.1  | 0.8  | 1.1  | 1.5  | 2.3  | 3.3  | 4.4  | 5.7  |
| 75°   | 3.3  | 2.1  | 1.4  | 0.9  | 0.8  | 0.9  | 1.4  | 2.1  | 3.0  | 4.1  | 5.4  |
| 77.5° | 3.2  | 2.0  | 1.2  | 0.8  | 0.6  | 0.8  | 1.2  | 1.8  | 2.7  | 3.8  | 5.3  |
| 80°   | 2.7  | 1.7  | 1.1  | 0.6  | 0.5  | 0.6  | 1.1  | 1.5  | 2.1  | 2.9  | 4.1  |
| 82.5° | 2.1  | 1.4  | 0.8  | 0.3  | 0.2  | 0.3  | 0.8  | 0.9  | 1.4  | 1.7  | 2.4  |
| 85°   | 1.4  | 0.8  | 0.3  | 0.0  | 0.0  | 0.0  | 0.3  | 0.6  | 0.6  | 0.8  | 1.2  |
| 87.5° | 0.6  | 0.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.2  | 0.3  | 0.5  |
| 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: P628642

CATALOG NUMBER: GWS-SA1A-722-U-SLR-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285° | 295° | 305° | 315° | 325° | 335°  | 345°  | 355°  | 359°   | 360°   |
|-------|------|------|------|------|------|-------|-------|-------|--------|--------|
| 0°    | 67.6 | 67.6 | 67.6 | 67.6 | 67.6 | 67.6  | 67.6  | 67.6  | 67.6   | 67.6   |
| 2.5°  | 63.4 | 63.5 | 63.8 | 64.3 | 65.3 | 66.2  | 67.1  | 68.3  | 68.9   | 68.9   |
| 5°    | 57.4 | 57.5 | 57.7 | 58.3 | 59.8 | 61.0  | 62.9  | 65.3  | 66.5   | 66.8   |
| 7.5°  | 52.7 | 53.0 | 53.3 | 53.8 | 55.3 | 56.9  | 59.5  | 64.0  | 66.2   | 66.7   |
| 10°   | 50.0 | 50.5 | 51.1 | 52.0 | 53.3 | 55.1  | 59.5  | 67.6  | 71.3   | 72.1   |
| 12.5° | 47.9 | 48.7 | 49.3 | 50.3 | 52.0 | 54.8  | 63.5  | 77.8  | 84.4   | 86.2   |
| 15°   | 45.8 | 46.7 | 47.6 | 48.7 | 50.5 | 55.9  | 71.3  | 96.1  | 107.1  | 108.4  |
| 17.5° | 43.7 | 44.7 | 45.9 | 47.2 | 49.4 | 58.4  | 83.6  | 121.5 | 136.8  | 139.8  |
| 20°   | 41.3 | 42.6 | 44.3 | 45.8 | 48.4 | 62.5  | 100.8 | 151.7 | 170.9  | 177.3  |
| 22.5° | 38.7 | 40.4 | 42.3 | 44.3 | 47.2 | 67.4  | 121.5 | 184.1 | 211.0  | 215.2  |
| 25°   | 36.6 | 38.3 | 40.1 | 42.0 | 45.2 | 73.4  | 146.6 | 224.3 | 248.8  | 252.9  |
| 27.5° | 34.7 | 36.3 | 38.0 | 39.8 | 43.2 | 81.2  | 176.7 | 267.1 | 292.7  | 296.9  |
| 30°   | 32.6 | 34.5 | 36.2 | 38.0 | 41.4 | 90.8  | 211.6 | 314.6 | 338.8  | 342.7  |
| 32.5° | 30.8 | 32.7 | 34.4 | 36.2 | 40.1 | 101.4 | 248.2 | 356.6 | 376.3  | 376.3  |
| 35°   | 29.3 | 31.4 | 32.6 | 35.0 | 39.0 | 108.1 | 282.9 | 396.7 | 411.6  | 411.0  |
| 37.5° | 27.6 | 30.2 | 31.1 | 32.7 | 37.7 | 108.9 | 315.5 | 439.1 | 450.0  | 446.1  |
| 40°   | 26.0 | 28.7 | 30.0 | 30.9 | 36.2 | 102.7 | 351.2 | 478.0 | 487.3  | 482.2  |
| 42.5° | 24.5 | 26.6 | 28.5 | 29.6 | 35.3 | 91.9  | 379.9 | 519.6 | 530.7  | 526.2  |
| 45°   | 23.0 | 24.8 | 26.0 | 27.9 | 35.9 | 84.4  | 404.5 | 568.1 | 587.6  | 584.3  |
| 47.5° | 21.5 | 23.0 | 23.7 | 26.7 | 39.9 | 80.9  | 419.6 | 643.1 | 679.9  | 677.2  |
| 50°   | 19.8 | 21.6 | 21.6 | 26.4 | 45.9 | 82.1  | 432.6 | 751.9 | 808.8  | 807.9  |
| 52.5° | 18.2 | 20.1 | 19.8 | 28.7 | 50.6 | 87.7  | 447.5 | 847.8 | 946.8  | 955.0  |
| 55°   | 16.5 | 18.3 | 18.6 | 33.2 | 53.3 | 92.5  | 390.0 | 888.2 | 1064.6 | 1093.6 |
| 57.5° | 14.7 | 15.8 | 19.4 | 36.6 | 52.4 | 106.5 | 267.1 | 895.6 | 1139.9 | 1202.0 |
| 60°   | 12.8 | 13.7 | 21.9 | 35.9 | 49.6 | 98.4  | 168.2 | 829.5 | 1129.2 | 1208.1 |
| 62.5° | 11.1 | 12.6 | 23.1 | 31.7 | 50.5 | 85.3  | 107.2 | 707.0 | 1027.6 | 1117.5 |
| 65°   | 9.8  | 12.2 | 21.0 | 28.7 | 51.1 | 57.8  | 72.4  | 575.1 | 928.3  | 1013.9 |
| 67.5° | 8.7  | 13.5 | 17.3 | 25.5 | 43.8 | 40.7  | 49.7  | 446.9 | 780.5  | 857.3  |
| 70°   | 8.0  | 13.8 | 14.1 | 21.9 | 33.9 | 26.1  | 32.7  | 300.8 | 538.0  | 625.7  |
| 72.5° | 7.2  | 10.2 | 10.7 | 17.6 | 21.9 | 15.9  | 21.2  | 172.1 | 392.2  | 452.0  |
| 75°   | 6.9  | 6.9  | 7.4  | 11.4 | 12.2 | 11.6  | 13.7  | 102.7 | 281.3  | 325.0  |
| 77.5° | 6.5  | 5.3  | 4.7  | 7.4  | 6.6  | 8.3   | 8.1   | 45.6  | 121.9  | 131.8  |
| 80°   | 5.1  | 3.8  | 3.2  | 4.7  | 4.5  | 5.6   | 4.8   | 3.8   | 5.6    | 5.4    |
| 82.5° | 3.2  | 2.4  | 2.3  | 2.9  | 2.6  | 2.9   | 2.3   | 0.6   | 0.6    | 0.6    |
| 85°   | 1.5  | 1.4  | 1.2  | 1.2  | 1.4  | 1.2   | 0.9   | 0.3   | 0.2    | 0.2    |
| 87.5° | 0.8  | 0.8  | 0.6  | 0.5  | 0.6  | 0.6   | 0.5   | 0.2   | 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-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-10-R4

Test Date: 10/25/2019

Luminaire Tested: SA1C-722-U-5WQ

Data in this report applies to families of products SA1C-722-U-5WQ.

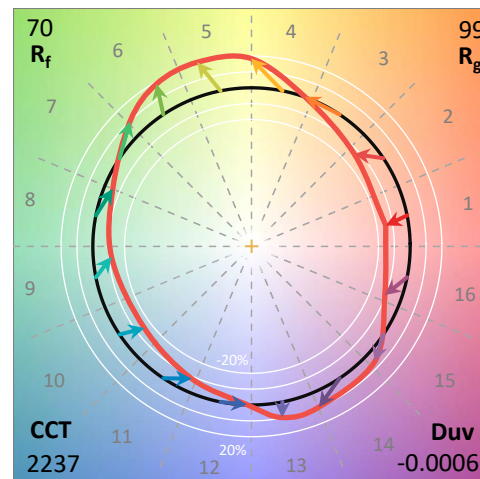
### Test Information

Test Method: LM-79-2008 Report  
 Number: SP1-1908-441-10-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-722-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 2237    | CRI (Ra): | 72.0 |      |       |
| CIE u':                   | 0.2876  | R1:       | 68.9 | R9:  | -17.4 |
| CIE v':                   | 0.5346  | R2:       | 83.0 | R10: | 61.3  |
| Duv:                      | -0.0006 | R3:       | 95.2 | R11: | 59.8  |
| CIE x:                    | 0.5005  | R4:       | 66.2 | R12: | 50.5  |
| CIE y:                    | 0.4134  | R5:       | 65.9 | R13: | 71.1  |
| CIE z:                    | 0.0860  | R6:       | 76.3 | R14: | 96.9  |
| Peak Wavelength (nm):     | 603     | R7:       | 76.7 |      |       |
| Dominant Wavelength (nm): | 587     | R8:       | 43.8 |      |       |
| Purity:                   | 74.5    |           |      |      |       |
| Rf:                       | 69.8    |           |      |      |       |
| Rg:                       | 99.2    |           |      |      |       |



### Test Conditions

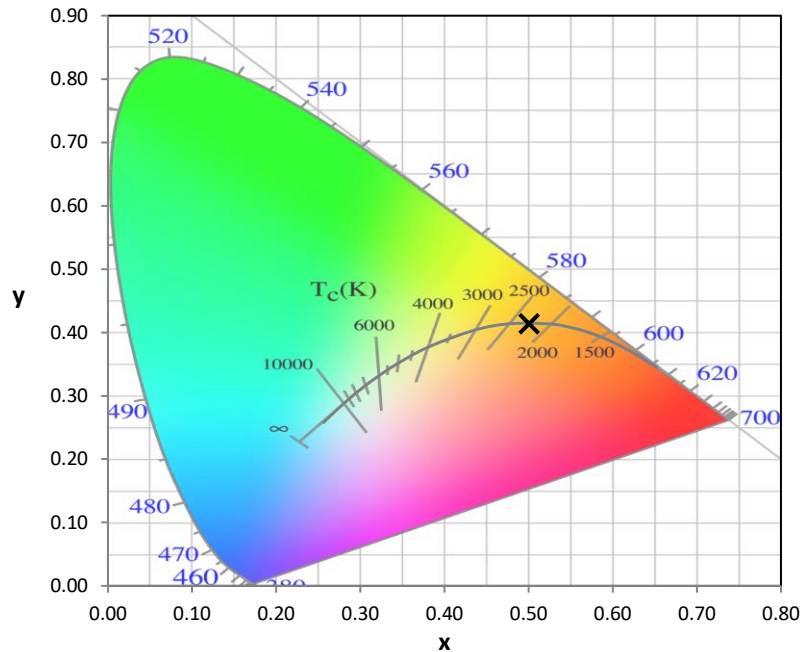
Stabilization Time: 71M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.7/41%  
 Sphere Temperature (°C): 25.6

REPORT NUMBER: SP1-1908-441-10-R4

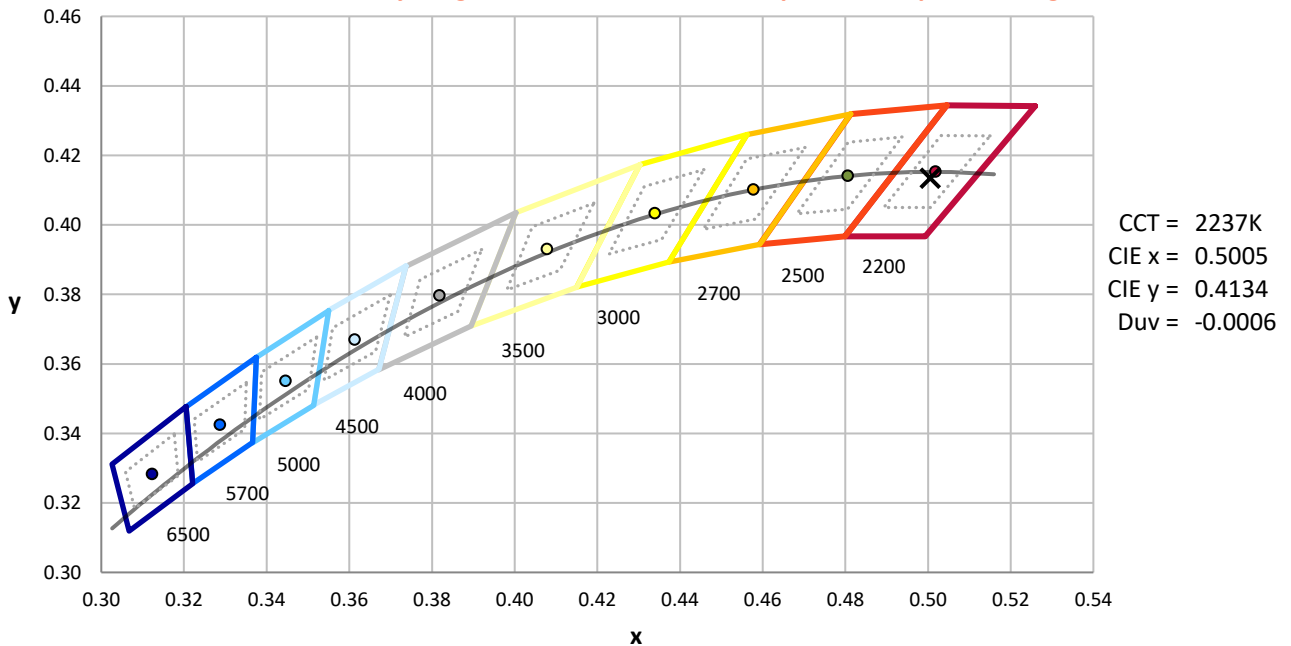
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-1908-441-10-R4

CIE 1931 Chromaticity Diagram



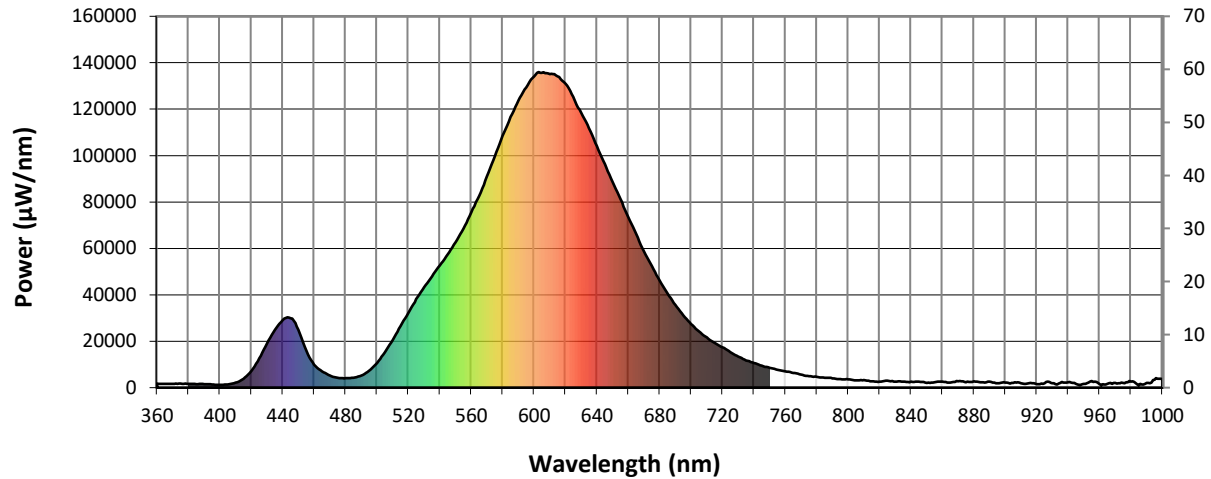
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2200K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-10-R4

**Photopic Flux vs. Wavelength**

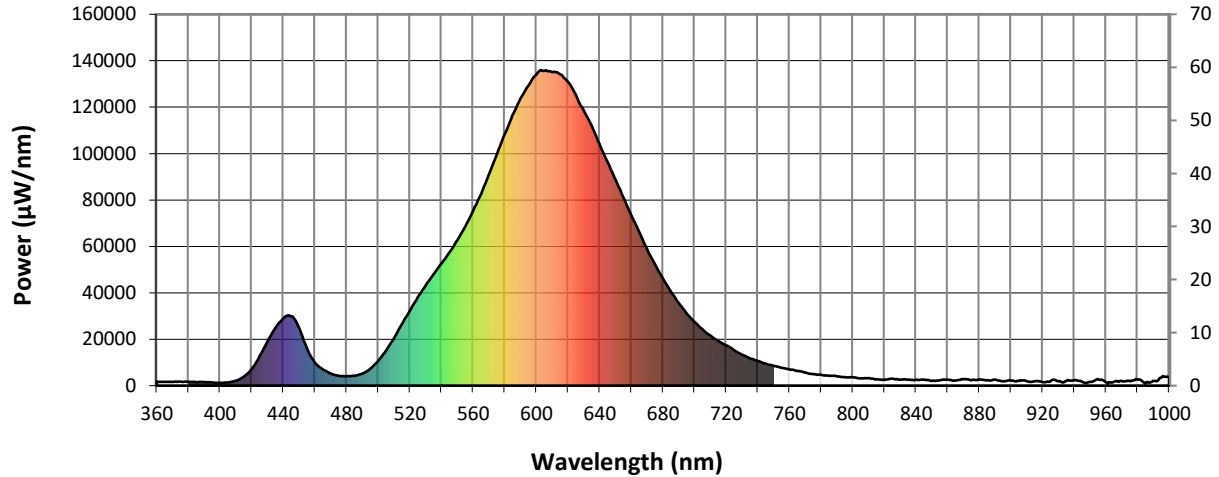


#####

| 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       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-10-R4

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: 4696.9**

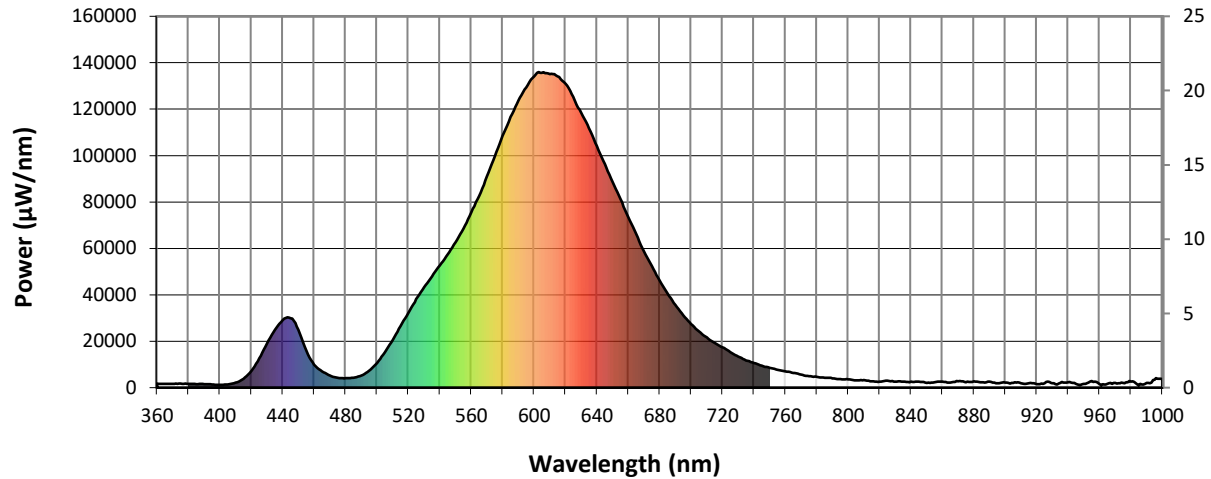
**S/P: 0.85**

| 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       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |



REPORT NUMBER: SP1-1908-441-10-R4

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 1470.8 M/P: 0.27**

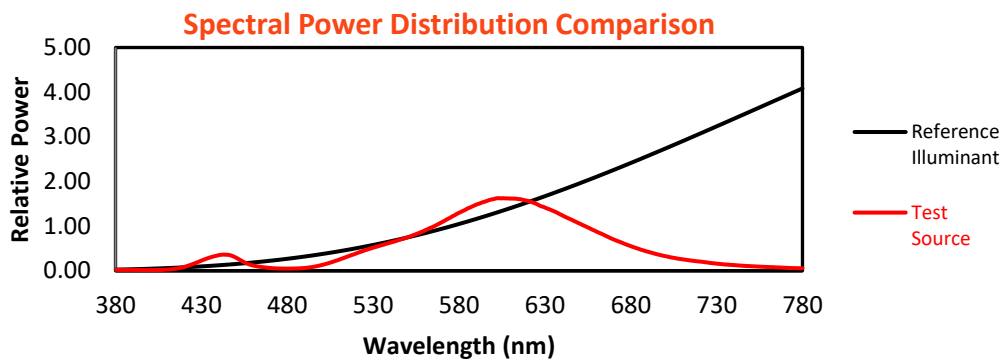
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-10-R4

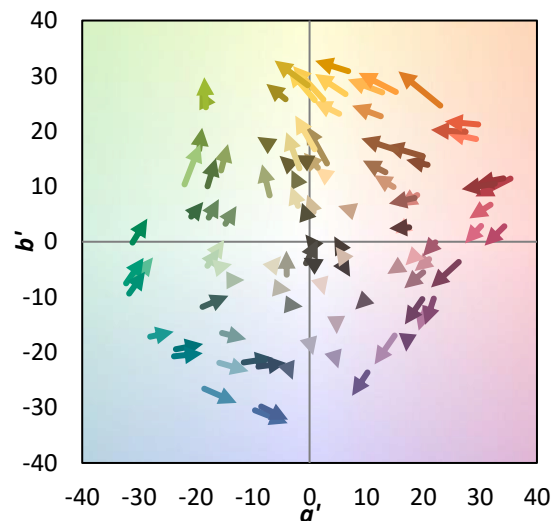
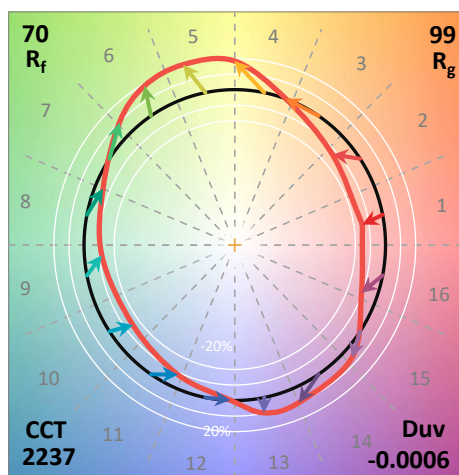
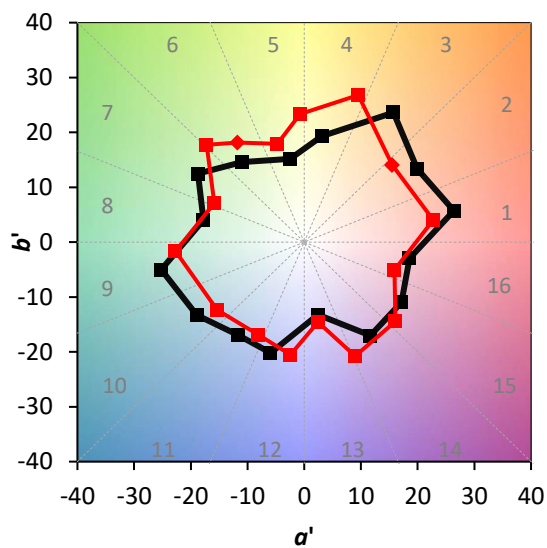
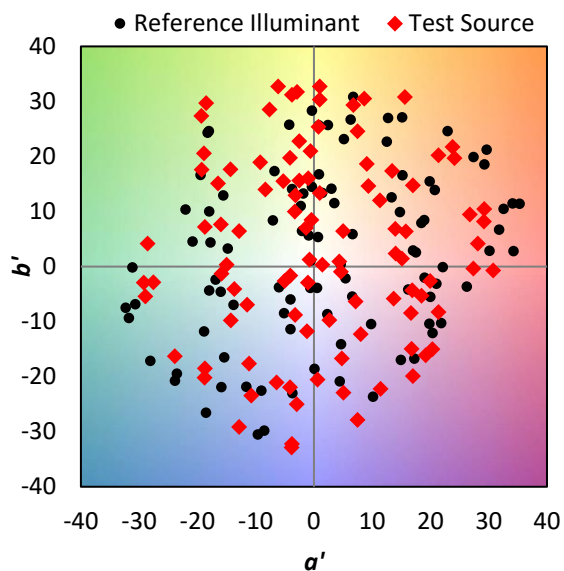
**TM-30-18**

### Summary

$R_f = 69.8$   
 $R_g = 99.2$   
 CIE  $R_a = 72.0$   
 $R_g = -17.4$



### Color Vector Graphics

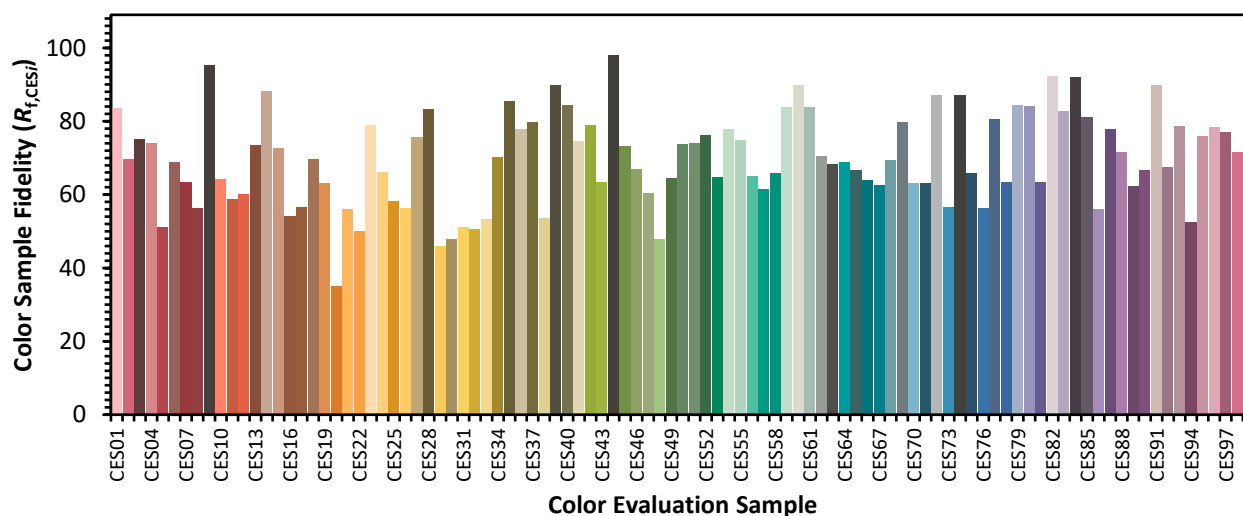


REPORT NUMBER: SP1-1908-441-10-R4

**TM-30-18**

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

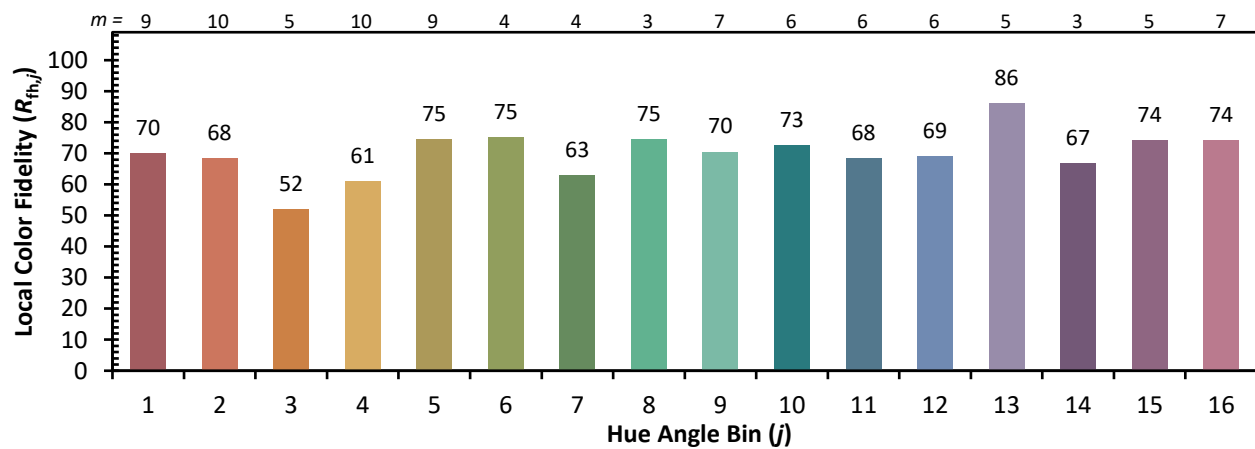
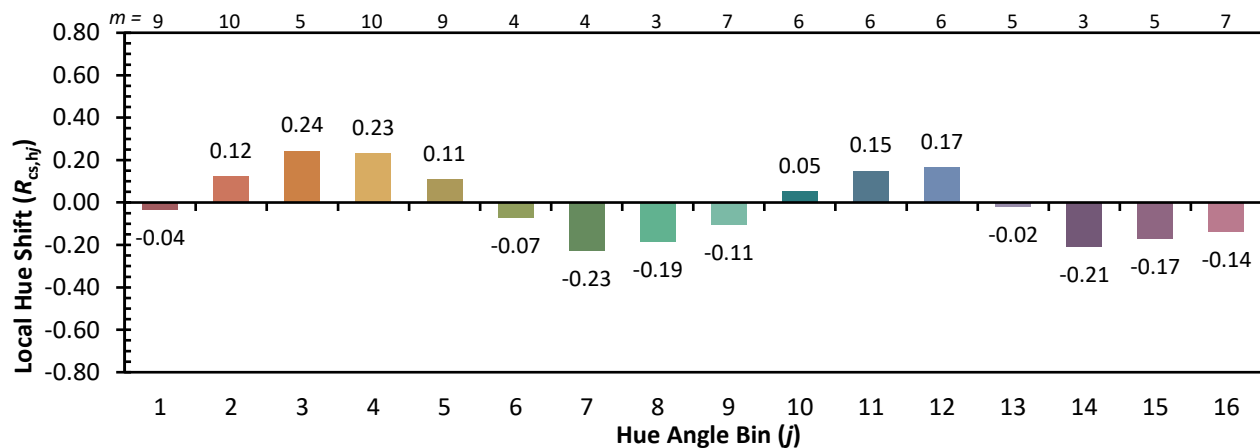
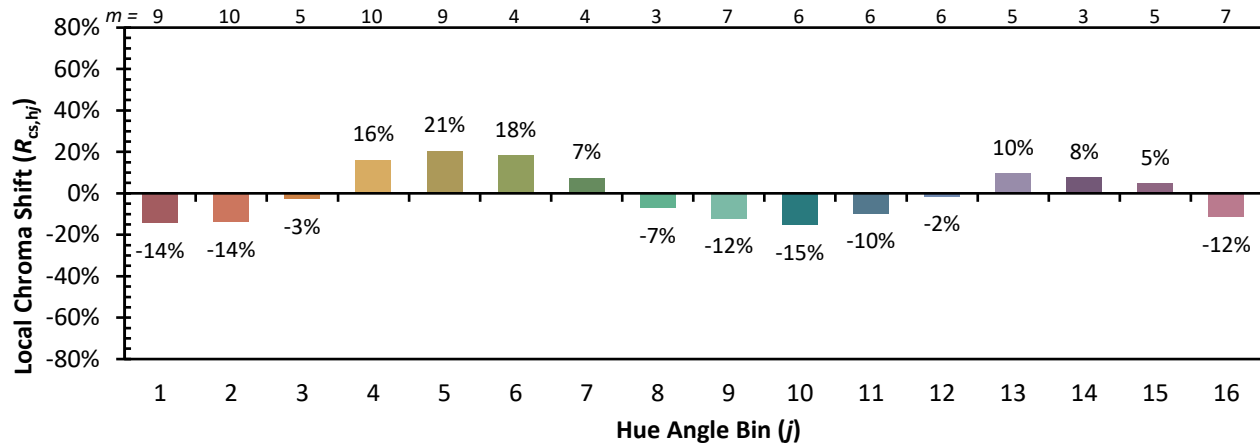
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |



REPORT NUMBER: SP1-1908-441-10-R4

**TM-30-18**

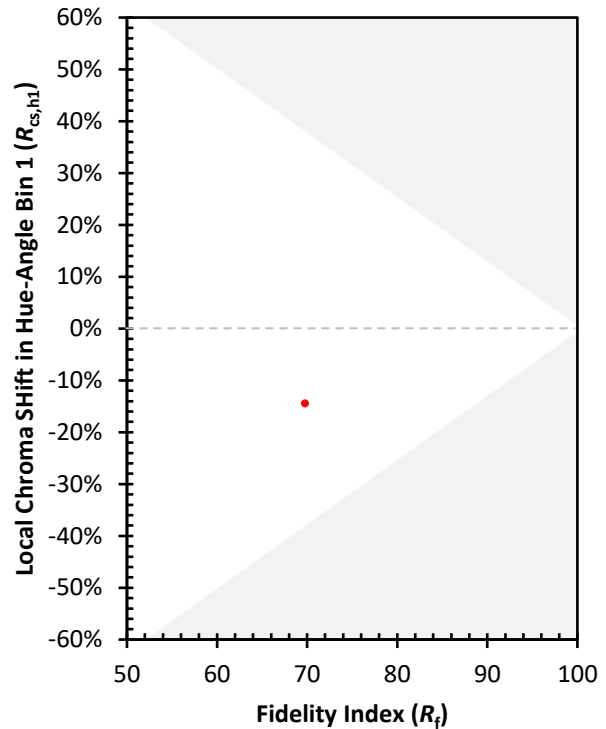
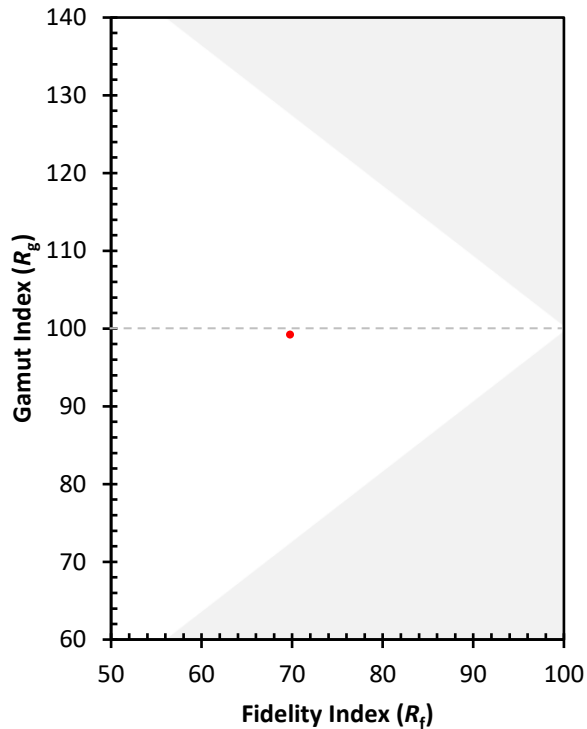
Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-1908-441-10-R4

**TM-30-18**

**Measure Comparisons**



(END OF REPORT)