

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



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P1063482

Luminaire Tested: **GLAN-SA2B-760-U-T2BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1063482  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA2B-760-U-T2BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 800mA 2xLight Square PACKAGE  
70CRI 5700K FIXTURE w/ TYPE II ANGLED BACKLIGHT CONTROL  
Light Source: (28) 5700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9177.4 lumens  
Efficiency: N/A  
Efficacy: 126.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B0 - U0 - G2

Input Watts (W): 72.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

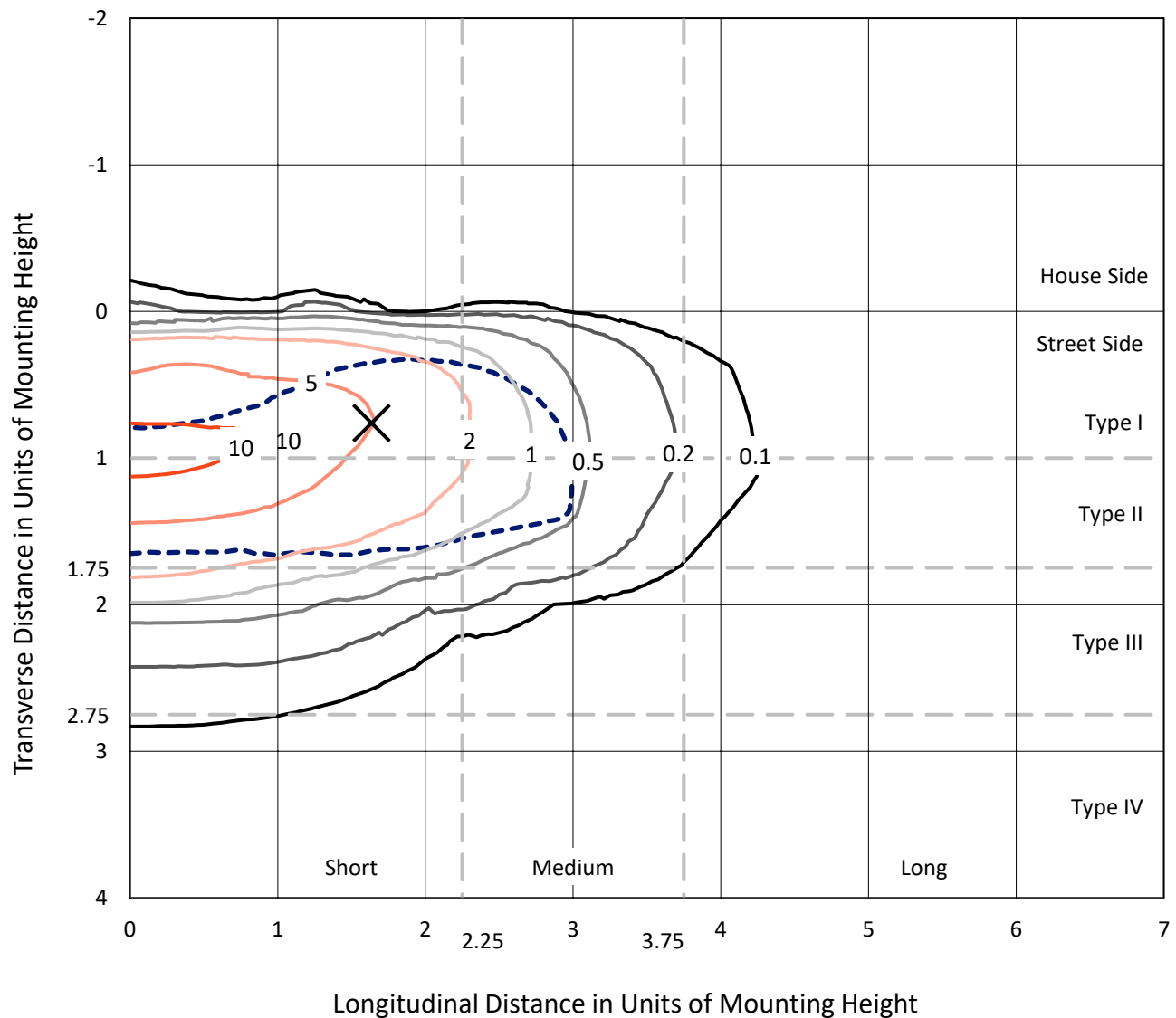


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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

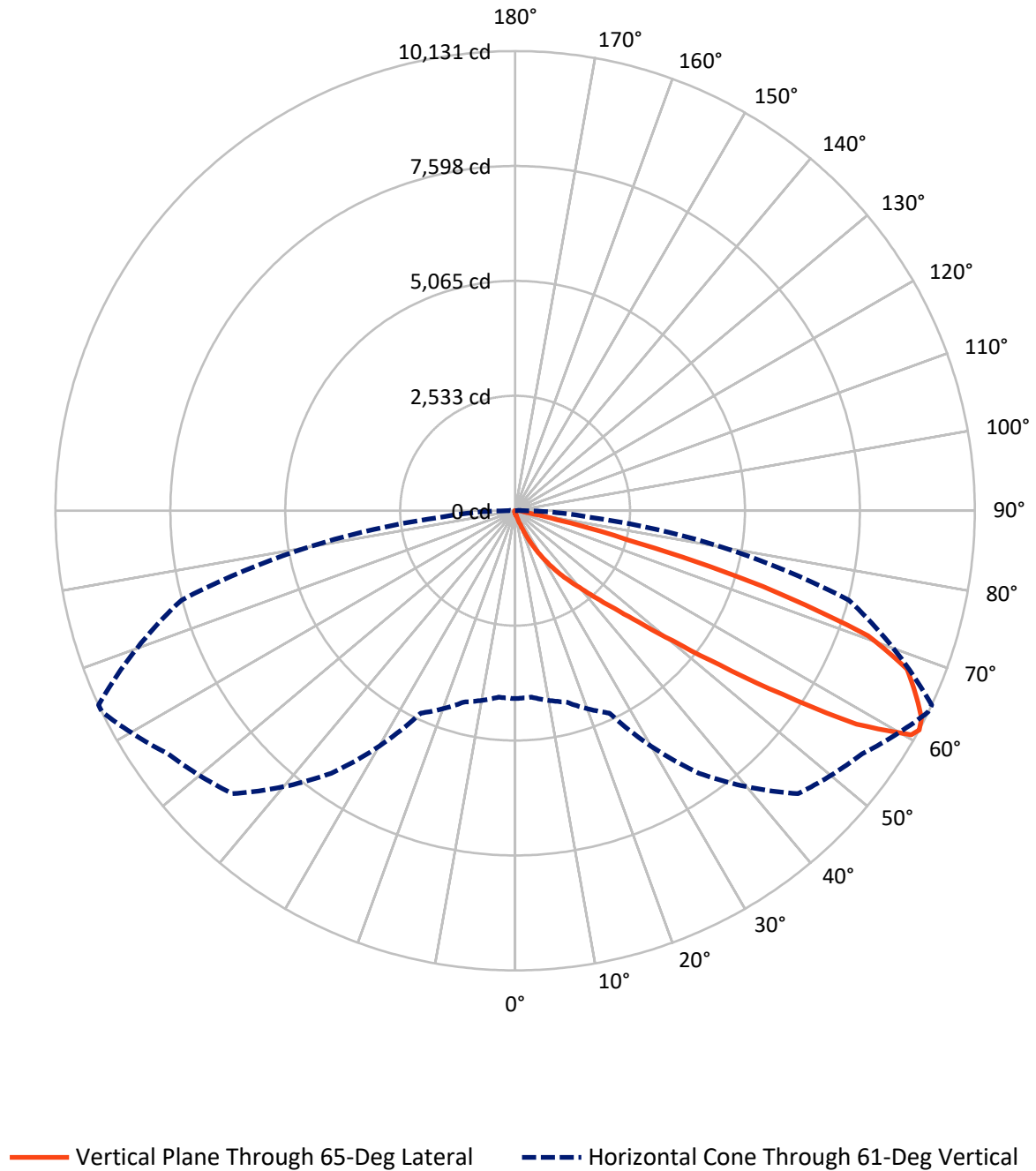


Based on 15 foot mounting height. Maximum calculated value = 12.1 fc  
 Type II - Short - N/A

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CATALOG NUMBER: GLAN-SA2B-760-U-T2BC

## Luminous Intensity Polar Plot



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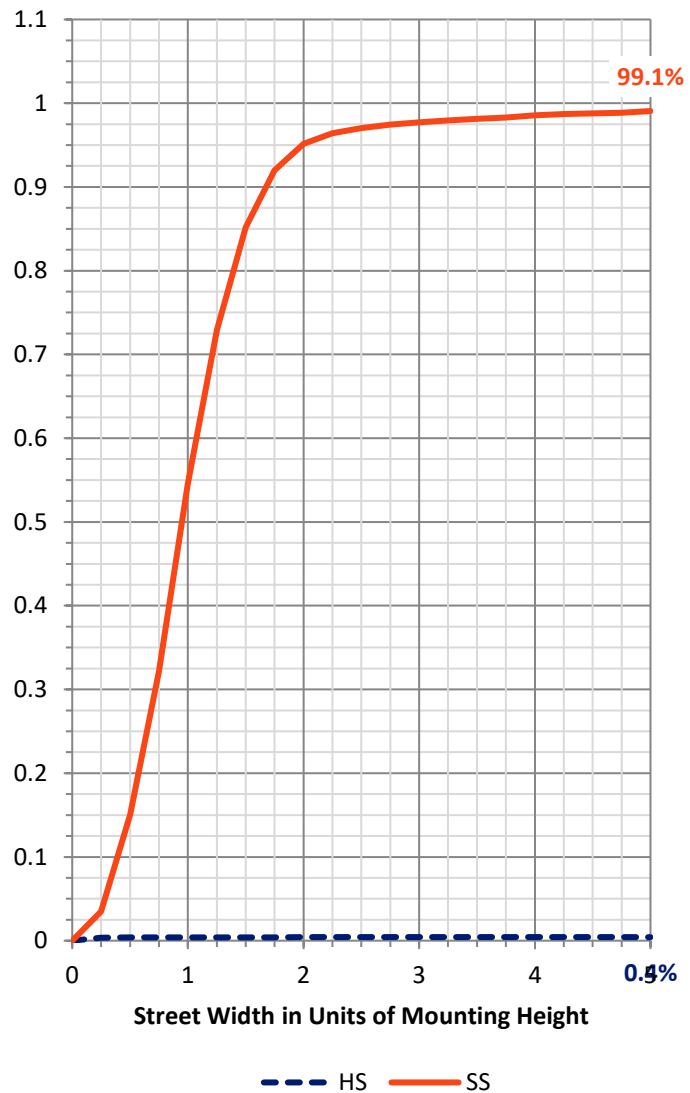
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 39.2     | 0.0    | 39.2   |
|                    | % Fixture | 0.4      | 0.0    | 0.4    |
| <b>Street Side</b> | Lumens    | 9138.3   | 0.0    | 9138.3 |
|                    | % Fixture | 99.6     | 0.0    | 99.6   |
| <b>Total</b>       | Lumens    | 9177.4   | 0.0    | 9177.4 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 7.1    | 0.1       |
| 10°-20°   | 75.5   | 0.8       |
| 20°-30°   | 270.8  | 3.0       |
| 30°-40°   | 721.1  | 7.9       |
| 40°-50°   | 1894.3 | 20.6      |
| 50°-60°   | 2934.6 | 32.0      |
| 60°-70°   | 2460.6 | 26.8      |
| 70°-80°   | 724.1  | 7.9       |
| 80°-90°   | 89.3   | 1.0       |
| 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°    | 9177.4 | 100.0     |
| 0°-180°   | 9177.4 | 100.0     |



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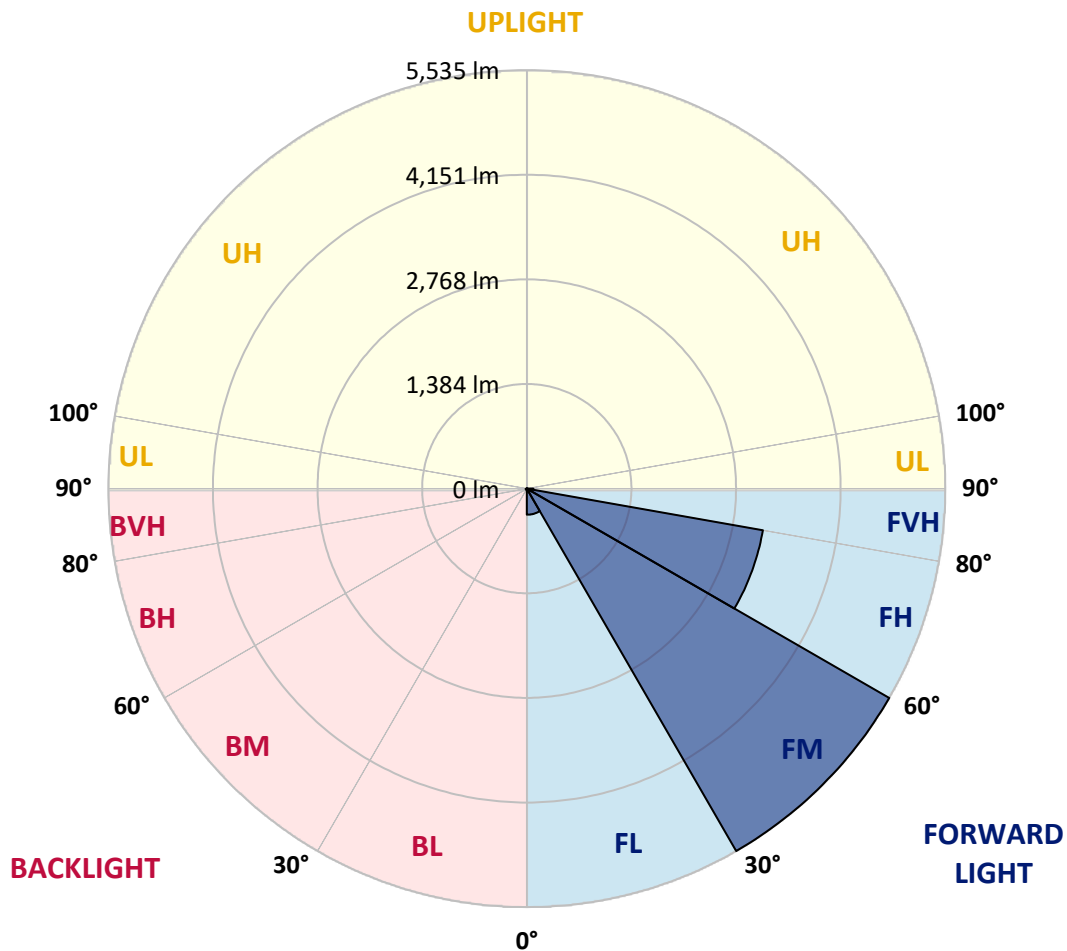
CATALOG NUMBER: GLAN-SA2B-760-U-T2BC

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 344.7  | 3.8       |                         |      |         |
| FM   | (30°-60°)   | 5535.0 | 60.3      |                         |      |         |
| FH   | (60°-80°)   | 3170.9 | 34.6      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 87.7   | 1.0       |                         |      | G1/100  |
| BL   | (0°-30°)    | 8.8    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 14.9   | 0.2       | B0/220                  |      |         |
| BH   | (60°-80°)   | 13.8   | 0.2       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 1.7    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B0-U0-G2**

Type II Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 64°     | 65°     | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|
| 0°    | 56.2   | 56.2   | 56.2   | 56.2   | 56.2   | 56.2   | 56.2   | 56.2    | 56.2    | 56.2   | 56.2   |
| 2.5°  | 68.2   | 68.8   | 67.6   | 65.0   | 63.1   | 63.1   | 62.5   | 60.6    | 60.6    | 58.7   | 57.4   |
| 5°    | 95.3   | 94.1   | 91.5   | 86.5   | 82.1   | 77.7   | 73.2   | 68.8    | 68.2    | 62.5   | 58.7   |
| 7.5°  | 155.9  | 157.2  | 149.0  | 133.2  | 119.9  | 102.9  | 87.1   | 77.7    | 76.4    | 66.9   | 59.3   |
| 10°   | 342.2  | 332.7  | 313.8  | 252.5  | 207.7  | 156.6  | 116.2  | 90.3    | 89.0    | 72.0   | 60.6   |
| 12.5° | 623.7  | 616.2  | 581.4  | 518.3  | 402.8  | 280.3  | 169.8  | 111.7   | 108.0   | 76.4   | 61.2   |
| 15°   | 899.0  | 887.0  | 868.0  | 804.3  | 669.2  | 502.5  | 277.8  | 152.8   | 142.7   | 82.7   | 60.6   |
| 17.5° | 1074.5 | 1076.4 | 1059.3 | 1032.2 | 945.1  | 743.7  | 479.8  | 227.9   | 208.3   | 94.1   | 59.3   |
| 20°   | 1227.9 | 1223.5 | 1232.9 | 1218.4 | 1157.2 | 1010.7 | 698.2  | 361.1   | 327.6   | 112.4  | 60.0   |
| 22.5° | 1404.7 | 1415.4 | 1422.3 | 1419.2 | 1351.6 | 1226.6 | 946.3  | 540.4   | 498.1   | 145.8  | 61.9   |
| 25°   | 1641.4 | 1640.1 | 1640.8 | 1632.6 | 1566.9 | 1428.0 | 1195.1 | 763.3   | 720.3   | 200.1  | 66.3   |
| 27.5° | 1889.5 | 1897.1 | 1900.2 | 1870.6 | 1784.7 | 1648.3 | 1425.5 | 1006.9  | 956.4   | 287.2  | 72.0   |
| 30°   | 2228.5 | 2222.2 | 2207.7 | 2147.1 | 2042.9 | 1873.7 | 1652.8 | 1262.6  | 1209.6  | 409.1  | 80.8   |
| 32.5° | 2685.6 | 2678.6 | 2605.4 | 2471.6 | 2315.6 | 2108.6 | 1881.3 | 1518.9  | 1454.5  | 561.2  | 92.8   |
| 35°   | 3438.7 | 3449.5 | 3269.5 | 2923.0 | 2643.3 | 2390.8 | 2134.5 | 1774.0  | 1717.2  | 748.7  | 109.2  |
| 37.5° | 4592.1 | 4533.4 | 4289.1 | 3676.7 | 3074.5 | 2743.0 | 2376.2 | 2031.6  | 1982.3  | 979.8  | 130.7  |
| 40°   | 5712.7 | 5654.6 | 5583.9 | 5003.8 | 3823.8 | 3131.3 | 2714.6 | 2333.9  | 2270.2  | 1240.5 | 162.2  |
| 42.5° | 6890.7 | 6858.5 | 6855.4 | 6417.9 | 5191.3 | 3741.8 | 3121.8 | 2688.1  | 2633.8  | 1526.5 | 214.0  |
| 45°   | 7725.3 | 7693.1 | 7760.7 | 7837.1 | 7053.6 | 5049.8 | 3830.8 | 3148.3  | 3069.4  | 1873.7 | 296.7  |
| 47.5° | 7837.7 | 7839.0 | 8019.5 | 8258.8 | 8437.4 | 7073.2 | 4775.2 | 3758.2  | 3662.2  | 2370.6 | 435.6  |
| 50°   | 7464.0 | 7478.5 | 7765.7 | 8193.8 | 8674.8 | 8770.8 | 6440.6 | 4643.3  | 4501.2  | 2959.6 | 632.6  |
| 52.5° | 6752.5 | 6768.9 | 7169.1 | 7873.1 | 8456.4 | 9178.6 | 8401.5 | 5801.1  | 5637.6  | 3694.4 | 910.3  |
| 55°   | 6111.7 | 6121.8 | 6580.8 | 7470.3 | 8193.1 | 8957.0 | 9565.6 | 7347.2  | 7132.5  | 4598.5 | 1184.3 |
| 57.5° | 5477.2 | 5453.9 | 5752.5 | 6770.8 | 8148.3 | 8684.9 | 9737.3 | 9109.2  | 8872.4  | 5586.5 | 1397.7 |
| 60°   | 4628.8 | 4589.6 | 4829.5 | 5477.2 | 7558.7 | 8863.6 | 9416.0 | 10083.9 | 10030.2 | 6962.1 | 1562.5 |
| 61°   | 4140.8 | 4124.3 | 4365.5 | 4921.1 | 7062.5 | 8818.1 | 9339.0 | 10124.9 | 10130.6 | 7613.0 | 1636.4 |
| 62.5° | 2957.1 | 3003.8 | 3372.5 | 4094.7 | 5915.4 | 8523.3 | 9349.1 | 9998.0  | 10054.2 | 8477.8 | 1827.6 |
| 65°   | 1314.4 | 1389.5 | 1676.1 | 2263.9 | 3440.0 | 7090.2 | 9259.4 | 9719.6  | 9691.9  | 8715.2 | 2486.7 |
| 67.5° | 779.7  | 791.0  | 933.7  | 1282.8 | 1822.0 | 3813.7 | 8171.0 | 9351.6  | 9314.3  | 7587.1 | 3094.0 |
| 70°   | 614.3  | 619.9  | 665.4  | 804.9  | 1057.4 | 1460.8 | 4663.5 | 8090.9  | 8253.1  | 6152.1 | 3029.0 |
| 72.5° | 582.7  | 581.4  | 587.7  | 612.4  | 666.0  | 724.7  | 1805.5 | 5378.1  | 5708.3  | 4430.5 | 2539.8 |
| 75°   | 575.1  | 572.6  | 566.3  | 556.8  | 482.3  | 426.8  | 559.3  | 2378.8  | 2570.1  | 3027.1 | 1912.2 |
| 77.5° | 558.1  | 558.7  | 560.0  | 534.1  | 413.5  | 301.8  | 270.8  | 763.3   | 938.8   | 1921.1 | 1359.2 |
| 80°   | 377.5  | 383.2  | 392.7  | 382.6  | 371.8  | 218.4  | 191.3  | 271.5   | 275.3   | 1078.3 | 897.7  |
| 82.5° | 191.3  | 191.3  | 186.9  | 166.7  | 143.9  | 142.0  | 152.1  | 197.0   | 199.5   | 545.5  | 422.3  |
| 85°   | 115.5  | 121.8  | 124.4  | 113.0  | 103.5  | 95.3   | 116.2  | 156.6   | 162.2   | 211.5  | 98.5   |
| 87.5° | 25.9   | 26.5   | 29.0   | 38.5   | 56.2   | 76.4   | 108.0  | 143.3   | 145.8   | 135.7  | 12.0   |
| 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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CATALOG NUMBER: GLAN-SA2B-760-U-T2BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°   | 95°   | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| 0°    | 56.2  | 56.2  | 56.2 | 56.2 | 56.2 | 56.2 | 56.2 | 56.2 | 56.2 | 56.2 | 56.2 |
| 2.5°  | 56.8  | 55.6  | 54.9 | 53.0 | 51.1 | 49.2 | 48.0 | 47.3 | 48.0 | 48.6 | 48.6 |
| 5°    | 56.2  | 54.3  | 51.1 | 48.0 | 45.5 | 42.9 | 40.4 | 39.8 | 39.8 | 40.4 | 40.4 |
| 7.5°  | 56.2  | 53.0  | 48.6 | 44.8 | 41.0 | 37.2 | 35.4 | 34.1 | 34.7 | 34.7 | 34.7 |
| 10°   | 56.2  | 52.4  | 46.7 | 41.0 | 36.6 | 32.2 | 29.0 | 27.8 | 27.8 | 27.8 | 27.8 |
| 12.5° | 55.6  | 51.8  | 44.8 | 37.9 | 31.6 | 26.5 | 22.7 | 20.8 | 21.5 | 21.5 | 21.5 |
| 15°   | 54.3  | 49.9  | 42.3 | 32.2 | 25.3 | 20.2 | 16.4 | 14.5 | 15.2 | 16.4 | 17.0 |
| 17.5° | 52.4  | 48.0  | 37.9 | 27.1 | 20.2 | 15.2 | 11.4 | 10.1 | 10.7 | 12.6 | 12.6 |
| 20°   | 51.8  | 46.1  | 33.5 | 22.1 | 15.2 | 10.7 | 7.6  | 6.3  | 6.9  | 9.5  | 10.1 |
| 22.5° | 51.8  | 44.8  | 30.3 | 18.3 | 11.4 | 6.9  | 4.4  | 2.5  | 2.5  | 4.4  | 4.4  |
| 25°   | 52.4  | 44.2  | 27.8 | 15.2 | 8.2  | 5.1  | 2.5  | 1.3  | 2.5  | 6.9  | 8.2  |
| 27.5° | 53.7  | 43.6  | 26.5 | 12.6 | 6.3  | 4.4  | 1.9  | 4.4  | 7.6  | 7.6  | 7.6  |
| 30°   | 54.9  | 42.3  | 24.6 | 10.7 | 5.7  | 3.2  | 3.2  | 6.3  | 6.3  | 7.6  | 8.2  |
| 32.5° | 56.8  | 41.7  | 23.4 | 9.5  | 4.4  | 2.5  | 4.4  | 3.8  | 3.8  | 4.4  | 5.1  |
| 35°   | 60.6  | 42.3  | 22.1 | 9.5  | 4.4  | 3.2  | 3.8  | 1.9  | 1.3  | 1.3  | 1.3  |
| 37.5° | 65.7  | 42.9  | 20.2 | 8.2  | 3.8  | 3.8  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 73.9  | 44.8  | 18.9 | 7.6  | 3.2  | 3.2  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 87.8  | 48.6  | 18.3 | 6.9  | 3.2  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 115.5 | 57.4  | 17.0 | 6.3  | 3.2  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 166.0 | 78.3  | 16.4 | 5.1  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 242.4 | 106.1 | 15.8 | 4.4  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 309.3 | 111.7 | 10.7 | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 316.9 | 77.0  | 8.2  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 252.5 | 49.9  | 6.9  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 191.3 | 37.9  | 6.3  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 61°   | 183.7 | 34.1  | 6.3  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 202.7 | 29.7  | 5.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 329.5 | 24.6  | 5.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 572.6 | 21.5  | 4.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 723.5 | 20.2  | 3.8  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 630.7 | 18.3  | 3.8  | 1.3  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 379.4 | 15.8  | 3.8  | 2.5  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 198.9 | 12.0  | 3.8  | 3.2  | 1.9  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 96.6  | 10.7  | 4.4  | 3.2  | 2.5  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 37.9  | 8.8   | 5.1  | 4.4  | 3.2  | 1.9  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 17.0  | 7.6   | 5.7  | 5.1  | 4.4  | 2.5  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 8.8   | 6.9   | 6.3  | 5.7  | 4.4  | 3.2  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  |
| 90°   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |



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



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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-7

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-760-U-5WQ

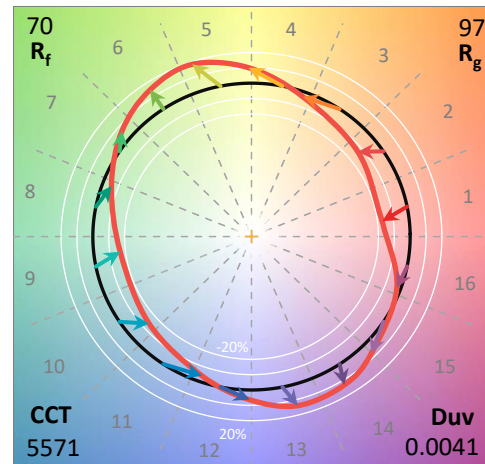
Data in this report applies to families of products including GSS-SB1A-760-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-7  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-70-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 5700K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 5571     | CRI (Ra): | 69.9 |      |       |
| CIE u':                   | 0.2033   | R1:       | 68.8 | R9:  | -35.4 |
| CIE v':                   | 0.4806   | R2:       | 72.5 | R10: | 36.7  |
| Duv:                      | 0.0041   | R3:       | 76.8 | R11: | 73.9  |
| CIE x:                    | 0.3308   | R4:       | 72.0 | R12: | 47.8  |
| CIE y:                    | 0.3476   | R5:       | 70.9 | R13: | 68.0  |
| CIE z:                    | 0.3216   | R6:       | 65.6 | R14: | 87.0  |
| Peak Wavelength (nm):     | 442      | R7:       | 75.5 | R15: | 59.8  |
| Dominant Wavelength (nm): | 544      | R8:       | 56.8 |      |       |
| Purity:                   | 3.635698 |           |      |      |       |
| Rf:                       | 70.4     |           |      |      |       |
| Rg:                       | 97.1     |           |      |      |       |



### Test Conditions

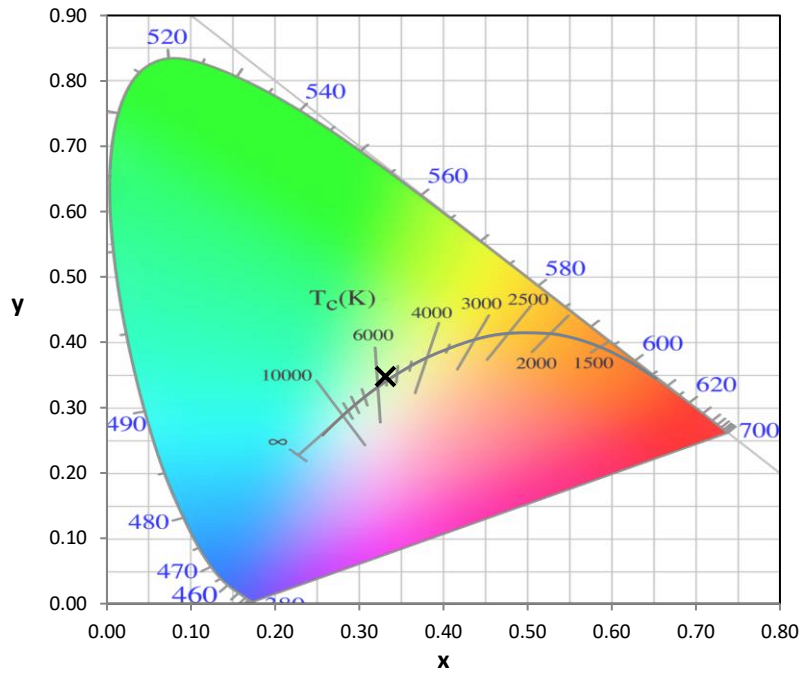
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-7

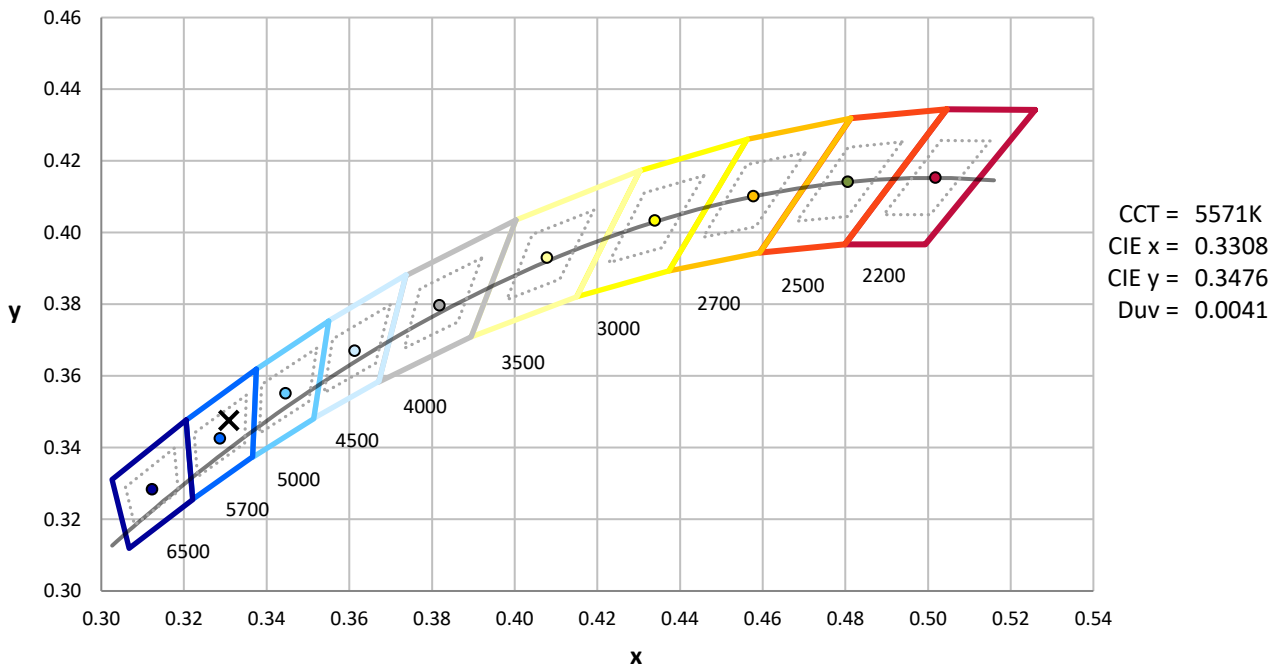
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date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

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**CIE 1931 Chromaticity Diagram**



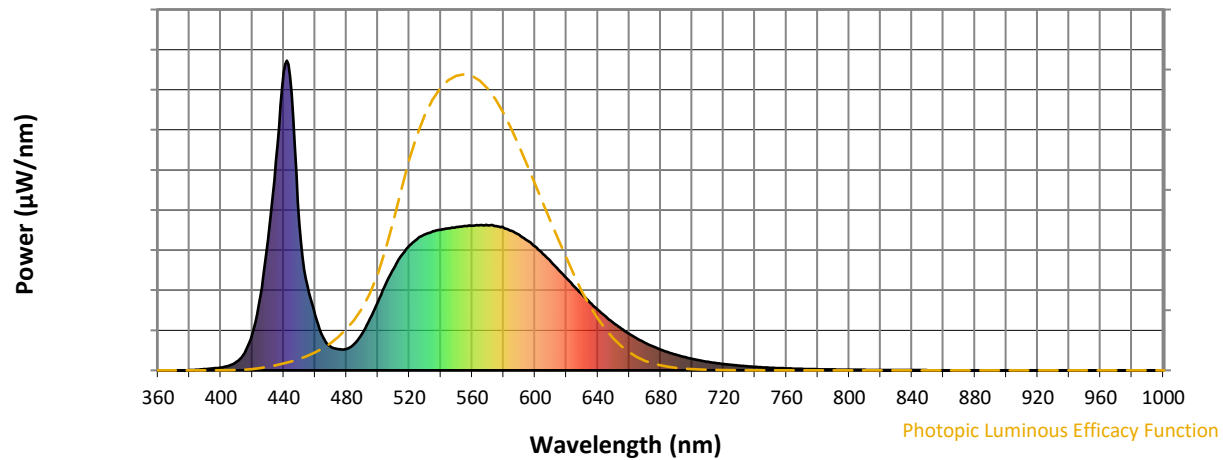
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5700K 4-step quadrangle

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### Photopic Flux vs. Wavelength

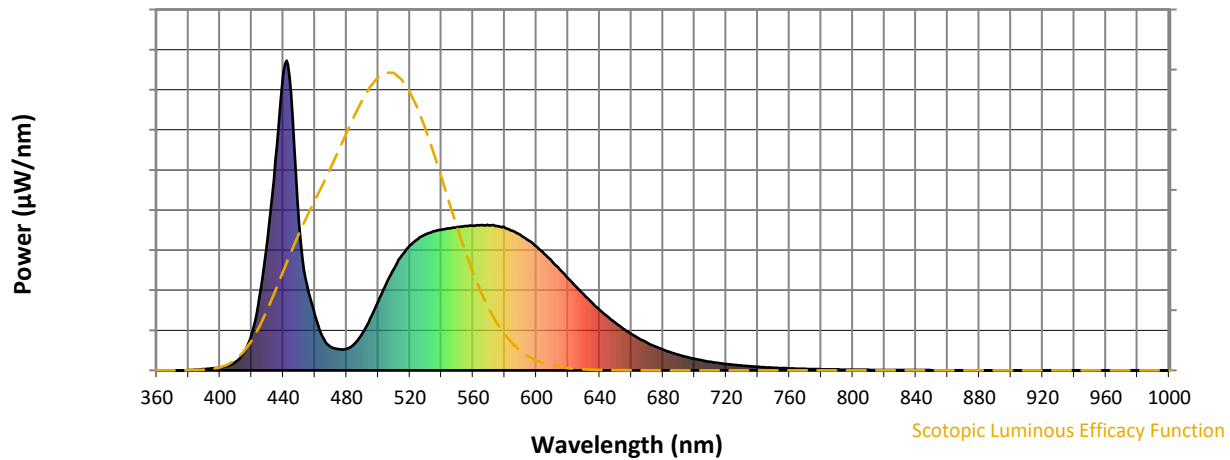


### Photopic Lumens: NR

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 120                      | NR            | 620    | 298                      | NR            | 750    | 9                        | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 167                      | NR            | 625    | 270                      | NR            | 755    | 7                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 222                      | NR            | 630    | 245                      | NR            | 760    | 6                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 279                      | NR            | 635    | 219                      | NR            | 765    | 6                        | NR            | 895    | 0                        | NR            |
| 380    | 1                        | NR            | 510    | 329                      | NR            | 640    | 196                      | NR            | 770    | 5                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 371                      | NR            | 645    | 173                      | NR            | 775    | 4                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 403                      | NR            | 650    | 153                      | NR            | 780    | 4                        | NR            | 910    | 0                        | NR            |
| 395    | 6                        | NR            | 525    | 424                      | NR            | 655    | 135                      | NR            | 785    | 3                        | NR            | 915    | 0                        | NR            |
| 400    | 9                        | NR            | 530    | 439                      | NR            | 660    | 117                      | NR            | 790    | 3                        | NR            | 920    | 0                        | NR            |
| 405    | 14                       | NR            | 535    | 449                      | NR            | 665    | 103                      | NR            | 795    | 2                        | NR            | 925    | 0                        | NR            |
| 410    | 28                       | NR            | 540    | 454                      | NR            | 670    | 89                       | NR            | 800    | 2                        | NR            | 930    | 0                        | NR            |
| 415    | 55                       | NR            | 545    | 459                      | NR            | 675    | 77                       | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 118                      | NR            | 550    | 463                      | NR            | 680    | 67                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 237                      | NR            | 555    | 466                      | NR            | 685    | 58                       | NR            | 815    | 1                        | NR            | 945    | 0                        | NR            |
| 430    | 420                      | NR            | 560    | 467                      | NR            | 690    | 50                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 677                      | NR            | 565    | 469                      | NR            | 695    | 43                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 962                      | NR            | 570    | 469                      | NR            | 700    | 37                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 894                      | NR            | 575    | 466                      | NR            | 705    | 32                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 472                      | NR            | 580    | 461                      | NR            | 710    | 28                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 275                      | NR            | 585    | 450                      | NR            | 715    | 24                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 180                      | NR            | 590    | 437                      | NR            | 720    | 21                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 420                      | NR            | 725    | 18                       | NR            | 855    | 0                        | NR            | 985    | 0                        | NR            |
| 470    | 76                       | NR            | 600    | 400                      | NR            | 730    | 15                       | NR            | 860    | 0                        | NR            | 990    | 0                        | NR            |
| 475    | 68                       | NR            | 605    | 376                      | NR            | 735    | 13                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 69                       | NR            | 610    | 352                      | NR            | 740    | 11                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 86                       | NR            | 615    | 325                      | NR            | 745    | 10                       | NR            | 875    | 0                        | NR            |        |                          |               |

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### Scotopic Flux vs. Wavelength



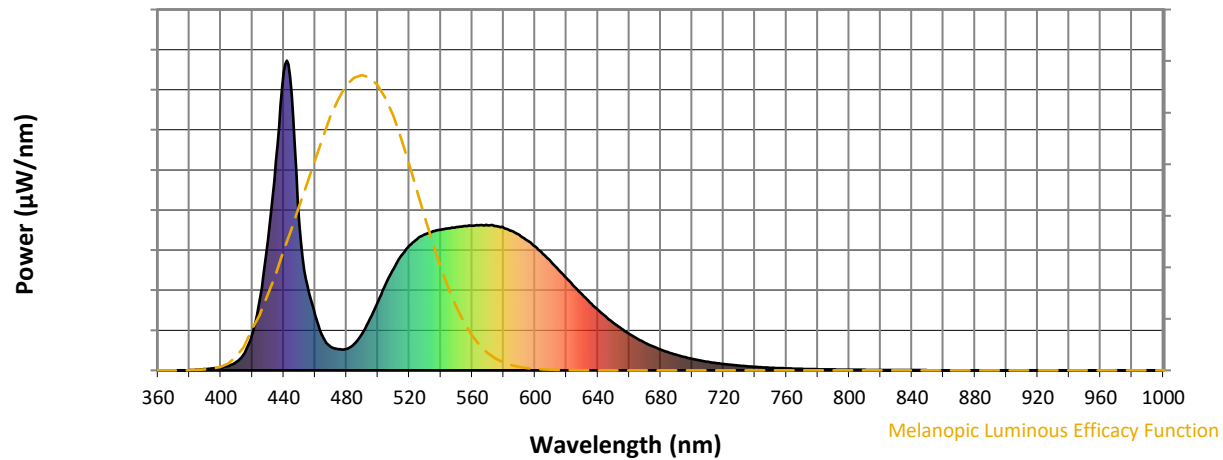
Scotopic Lumens: NR

S/P: 1.84

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 120                         | NR               | 620       | 298                         | NR               | 750       | 9                           | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 167                         | NR               | 625       | 270                         | NR               | 755       | 7                           | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 222                         | NR               | 630       | 245                         | NR               | 760       | 6                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 279                         | NR               | 635       | 219                         | NR               | 765       | 6                           | NR               | 895       | 0                           | NR               |
| 380       | 1                           | NR               | 510       | 329                         | NR               | 640       | 196                         | NR               | 770       | 5                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 371                         | NR               | 645       | 173                         | NR               | 775       | 4                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 403                         | NR               | 650       | 153                         | NR               | 780       | 4                           | NR               | 910       | 0                           | NR               |
| 395       | 6                           | NR               | 525       | 424                         | NR               | 655       | 135                         | NR               | 785       | 3                           | NR               | 915       | 0                           | NR               |
| 400       | 9                           | NR               | 530       | 439                         | NR               | 660       | 117                         | NR               | 790       | 3                           | NR               | 920       | 0                           | NR               |
| 405       | 14                          | NR               | 535       | 449                         | NR               | 665       | 103                         | NR               | 795       | 2                           | NR               | 925       | 0                           | NR               |
| 410       | 28                          | NR               | 540       | 454                         | NR               | 670       | 89                          | NR               | 800       | 2                           | NR               | 930       | 0                           | NR               |
| 415       | 55                          | NR               | 545       | 459                         | NR               | 675       | 77                          | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 118                         | NR               | 550       | 463                         | NR               | 680       | 67                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 237                         | NR               | 555       | 466                         | NR               | 685       | 58                          | NR               | 815       | 1                           | NR               | 945       | 0                           | NR               |
| 430       | 420                         | NR               | 560       | 467                         | NR               | 690       | 50                          | NR               | 820       | 1                           | NR               | 950       | 0                           | NR               |
| 435       | 677                         | NR               | 565       | 469                         | NR               | 695       | 43                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 962                         | NR               | 570       | 469                         | NR               | 700       | 37                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 894                         | NR               | 575       | 466                         | NR               | 705       | 32                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 472                         | NR               | 580       | 461                         | NR               | 710       | 28                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 275                         | NR               | 585       | 450                         | NR               | 715       | 24                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 180                         | NR               | 590       | 437                         | NR               | 720       | 21                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 107                         | NR               | 595       | 420                         | NR               | 725       | 18                          | NR               | 855       | 0                           | NR               | 985       | 0                           | NR               |
| 470       | 76                          | NR               | 600       | 400                         | NR               | 730       | 15                          | NR               | 860       | 0                           | NR               | 990       | 0                           | NR               |
| 475       | 68                          | NR               | 605       | 376                         | NR               | 735       | 13                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 69                          | NR               | 610       | 352                         | NR               | 740       | 11                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 86                          | NR               | 615       | 325                         | NR               | 745       | 10                          | NR               | 875       | 0                           | NR               |           |                             |                  |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.71

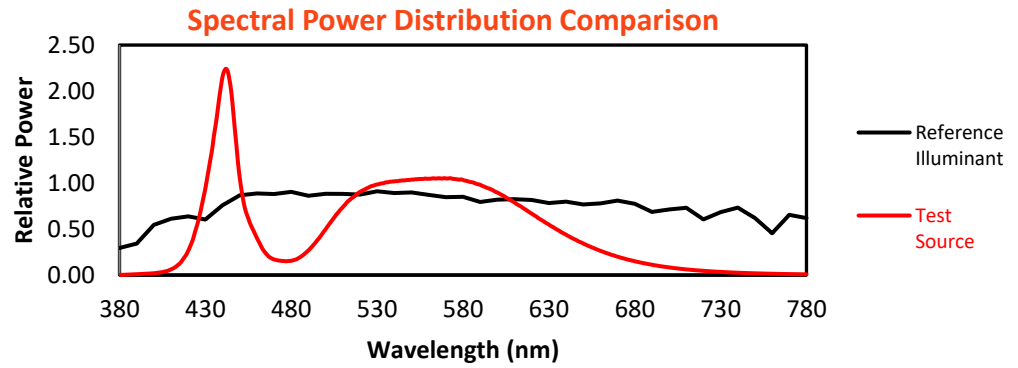
| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 120                                  | NR                             | 620               | 298                                  | NR                             | 750               | 9                                    | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 167                                  | NR                             | 625               | 270                                  | NR                             | 755               | 7                                    | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 222                                  | NR                             | 630               | 245                                  | NR                             | 760               | 6                                    | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 279                                  | NR                             | 635               | 219                                  | NR                             | 765               | 6                                    | NR                             | 895               | 0                                    | NR                             |
| 380               | 1                                    | NR                             | 510               | 329                                  | NR                             | 640               | 196                                  | NR                             | 770               | 5                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 2                                    | NR                             | 515               | 371                                  | NR                             | 645               | 173                                  | NR                             | 775               | 4                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 4                                    | NR                             | 520               | 403                                  | NR                             | 650               | 153                                  | NR                             | 780               | 4                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 6                                    | NR                             | 525               | 424                                  | NR                             | 655               | 135                                  | NR                             | 785               | 3                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 9                                    | NR                             | 530               | 439                                  | NR                             | 660               | 117                                  | NR                             | 790               | 3                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 14                                   | NR                             | 535               | 449                                  | NR                             | 665               | 103                                  | NR                             | 795               | 2                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 28                                   | NR                             | 540               | 454                                  | NR                             | 670               | 89                                   | NR                             | 800               | 2                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 55                                   | NR                             | 545               | 459                                  | NR                             | 675               | 77                                   | NR                             | 805               | 2                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 118                                  | NR                             | 550               | 463                                  | NR                             | 680               | 67                                   | NR                             | 810               | 2                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 237                                  | NR                             | 555               | 466                                  | NR                             | 685               | 58                                   | NR                             | 815               | 1                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 420                                  | NR                             | 560               | 467                                  | NR                             | 690               | 50                                   | NR                             | 820               | 1                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 677                                  | NR                             | 565               | 469                                  | NR                             | 695               | 43                                   | NR                             | 825               | 1                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 962                                  | NR                             | 570               | 469                                  | NR                             | 700               | 37                                   | NR                             | 830               | 1                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 894                                  | NR                             | 575               | 466                                  | NR                             | 705               | 32                                   | NR                             | 835               | 1                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 472                                  | NR                             | 580               | 461                                  | NR                             | 710               | 28                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 275                                  | NR                             | 585               | 450                                  | NR                             | 715               | 24                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 180                                  | NR                             | 590               | 437                                  | NR                             | 720               | 21                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 107                                  | NR                             | 595               | 420                                  | NR                             | 725               | 18                                   | NR                             | 855               | 0                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 76                                   | NR                             | 600               | 400                                  | NR                             | 730               | 15                                   | NR                             | 860               | 0                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 68                                   | NR                             | 605               | 376                                  | NR                             | 735               | 13                                   | NR                             | 865               | 0                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 69                                   | NR                             | 610               | 352                                  | NR                             | 740               | 11                                   | NR                             | 870               | 0                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 86                                   | NR                             | 615               | 325                                  | NR                             | 745               | 10                                   | NR                             | 875               | 0                                    | NR                             |                   |                                      |                                |

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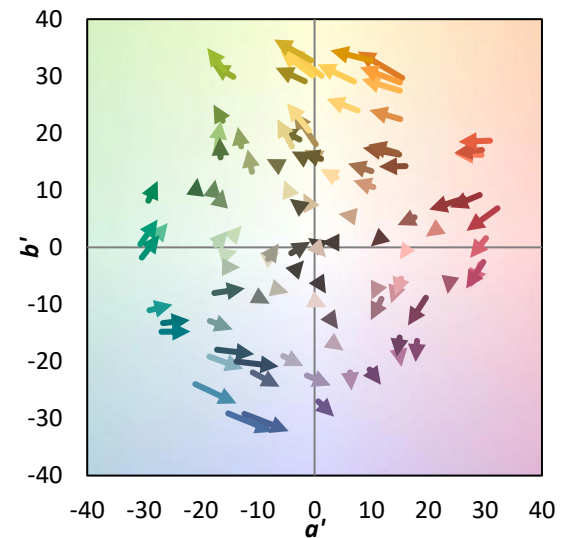
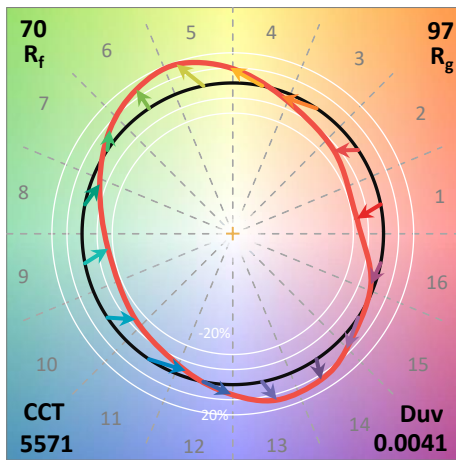
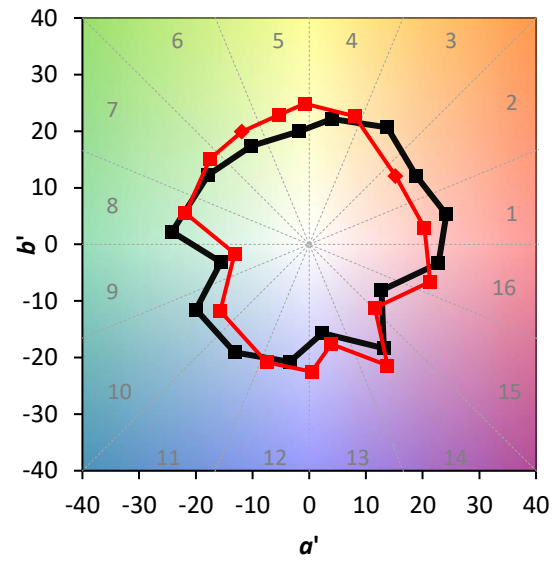
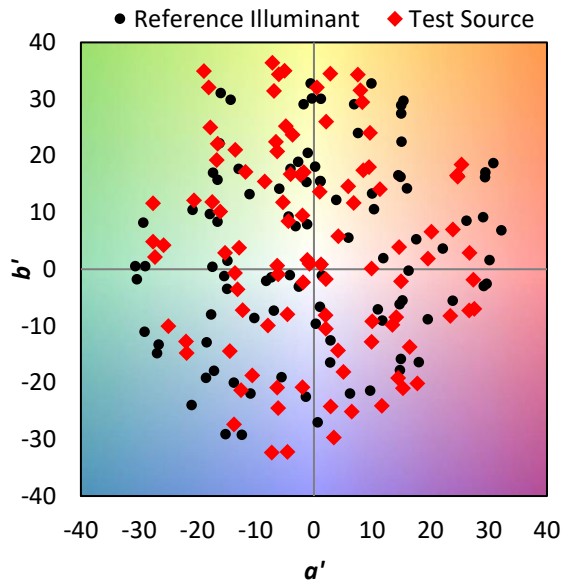
TM-30-18

### Summary

$R_f = 70.4$   
 $R_g = 97.1$   
 $CIE R_a = 69.9$   
 $R_g = -35.4$



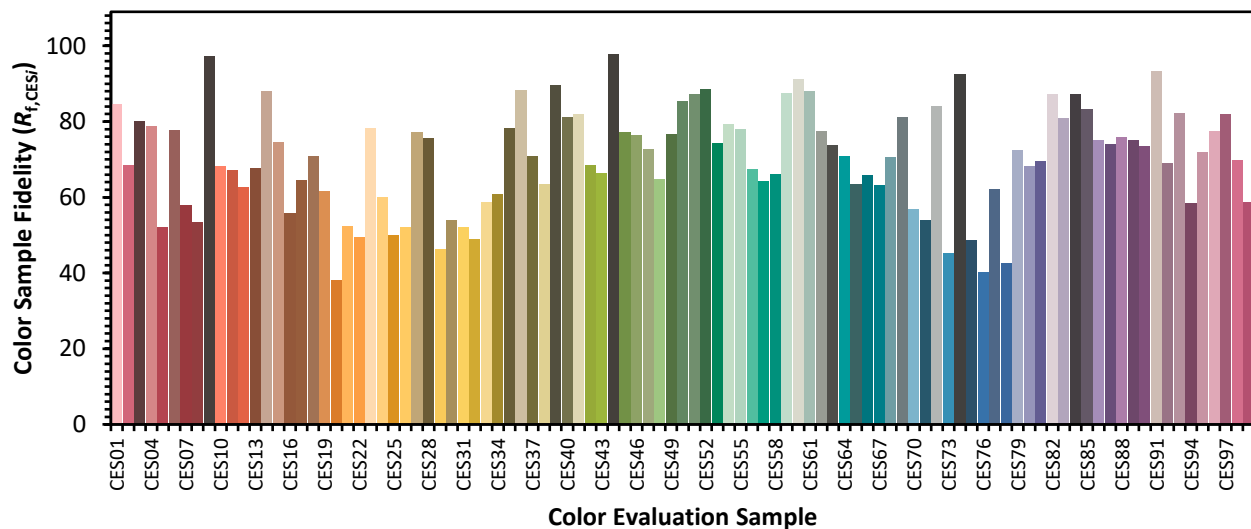
### Color Vector Graphics

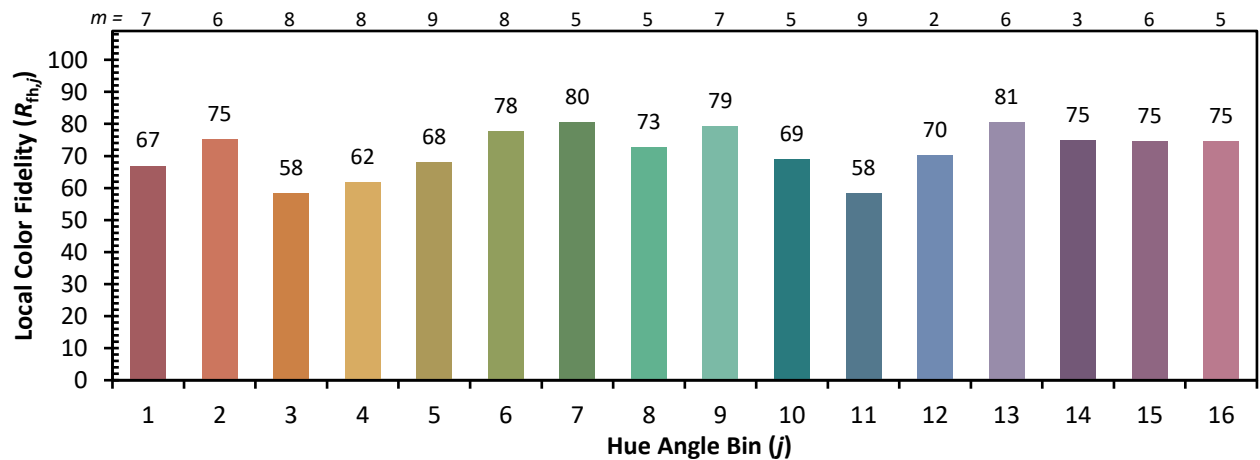
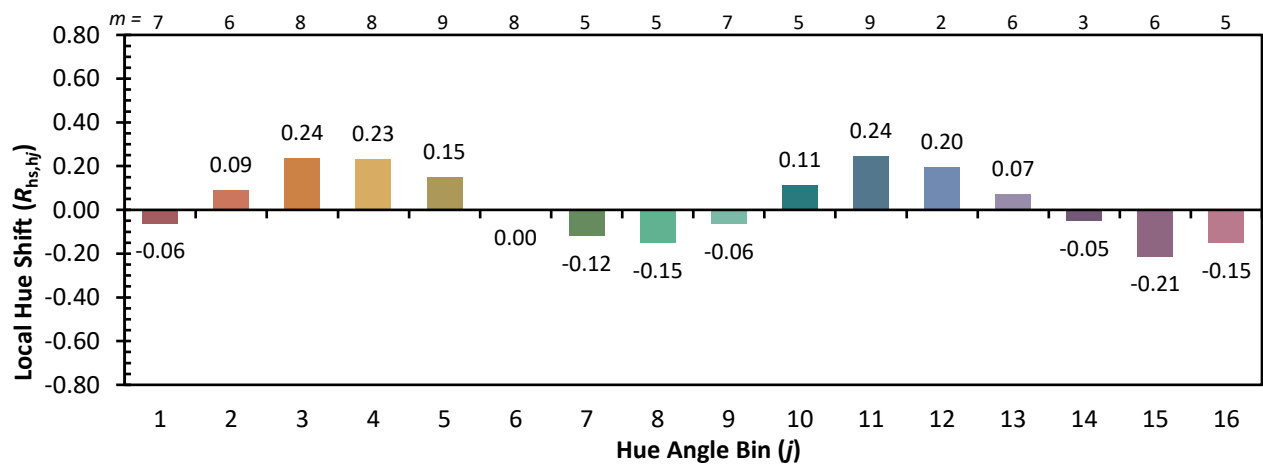
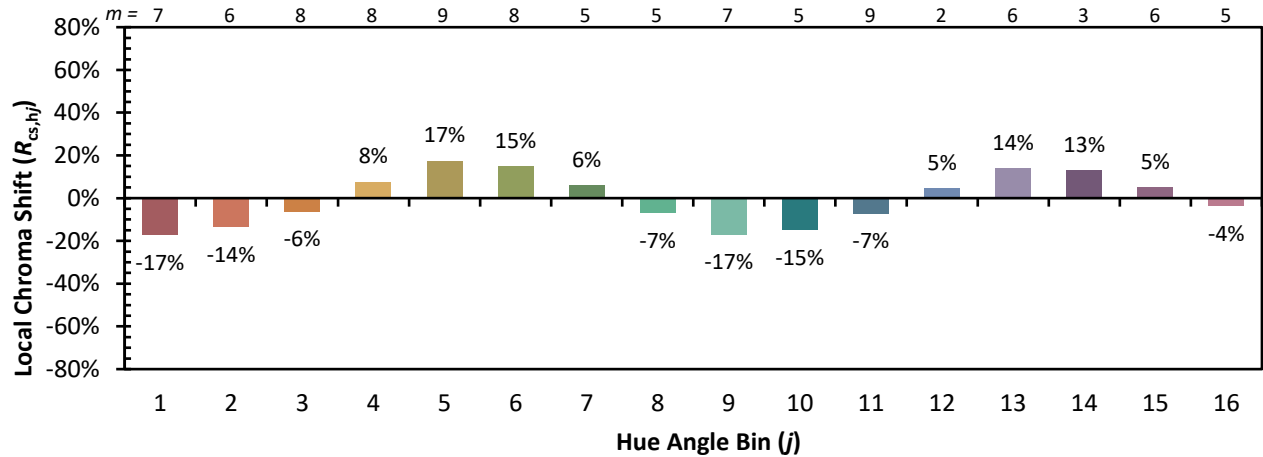




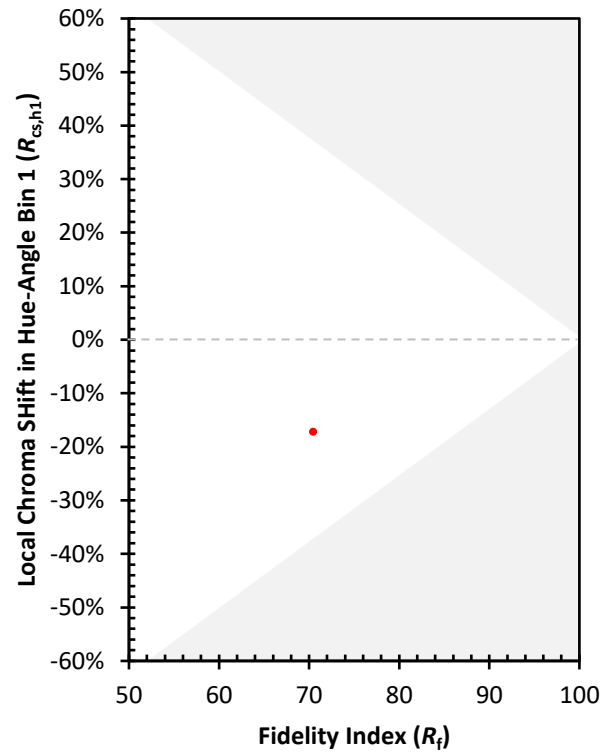
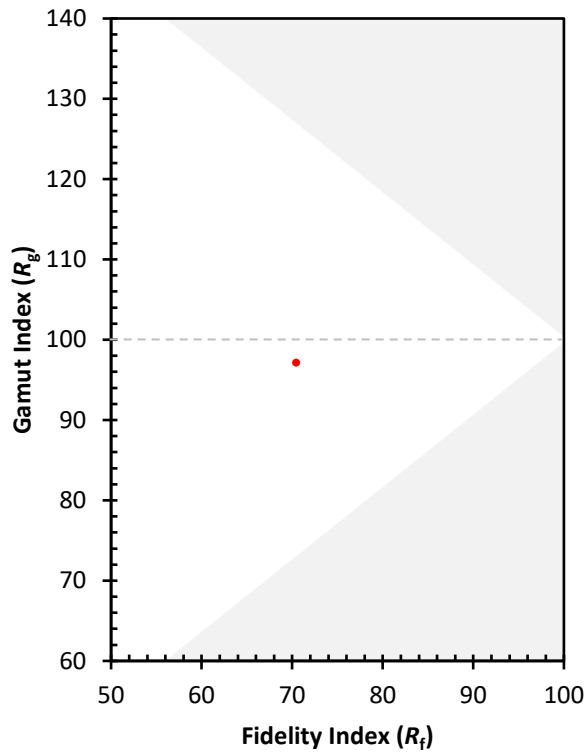
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 52 | CES51 = 87 | CES76 = 40 |
| CES02 = 59 | CES27 = 77 | CES52 = 88 | CES77 = 62 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 43 |
| CES04 = 68 | CES29 = 46 | CES54 = 79 | CES79 = 72 |
| CES05 = 45 | CES30 = 54 | CES55 = 78 | CES80 = 68 |
| CES06 = 49 | CES31 = 52 | CES56 = 67 | CES81 = 70 |
| CES07 = 38 | CES32 = 49 | CES57 = 64 | CES82 = 87 |
| CES08 = 37 | CES33 = 59 | CES58 = 66 | CES83 = 81 |
| CES09 = 29 | CES34 = 61 | CES59 = 87 | CES84 = 87 |
| CES10 = 72 | CES35 = 78 | CES60 = 91 | CES85 = 83 |
| CES11 = 55 | CES36 = 88 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 71 | CES62 = 77 | CES87 = 74 |
| CES13 = 41 | CES38 = 64 | CES63 = 74 | CES88 = 76 |
| CES14 = 74 | CES39 = 90 | CES64 = 71 | CES89 = 75 |
| CES15 = 70 | CES40 = 81 | CES65 = 63 | CES90 = 73 |
| CES16 = 46 | CES41 = 82 | CES66 = 66 | CES91 = 93 |
| CES17 = 48 | CES42 = 69 | CES67 = 63 | CES92 = 69 |
| CES18 = 55 | CES43 = 67 | CES68 = 71 | CES93 = 82 |
| CES19 = 70 | CES44 = 98 | CES69 = 81 | CES94 = 58 |
| CES20 = 63 | CES45 = 77 | CES70 = 57 | CES95 = 72 |
| CES21 = 85 | CES46 = 76 | CES71 = 54 | CES96 = 78 |
| CES22 = 77 | CES47 = 73 | CES72 = 84 | CES97 = 82 |
| CES23 = 91 | CES48 = 65 | CES73 = 45 | CES98 = 70 |
| CES24 = 90 | CES49 = 77 | CES74 = 92 | CES99 = 59 |
| CES25 = 71 | CES50 = 85 | CES75 = 49 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)