

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: P1062834

Luminaire Tested: **GLAN-SA2B-750-U-T3BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1062834  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA2B-750-U-T3BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 800mA 2xLight Square PACKAGE  
70CRI 5000K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL  
Light Source: (28) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9644.1 lumens  
Efficiency: N/A  
Efficacy: 132.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - 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

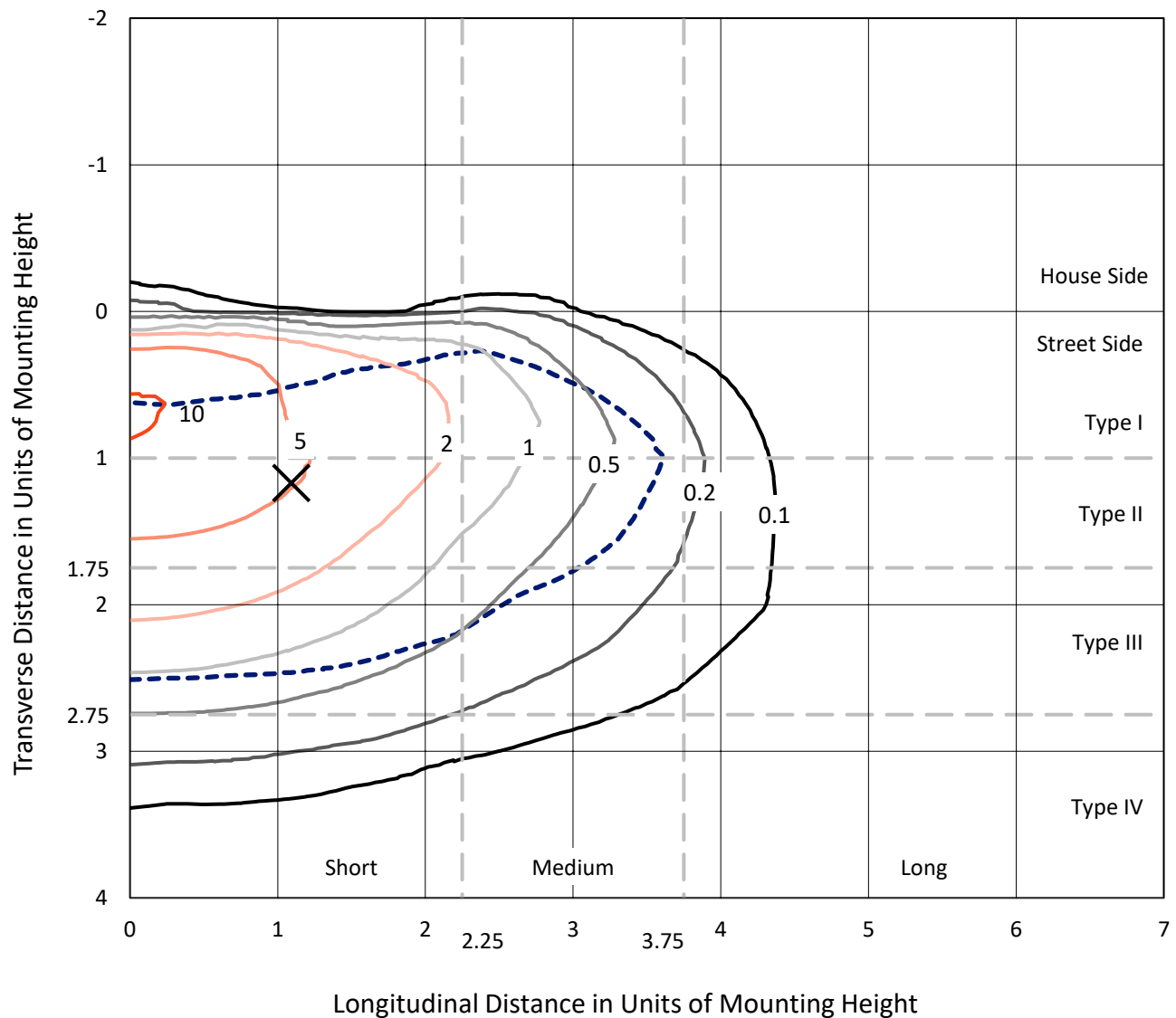


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CATALOG NUMBER: GLAN-SA2B-750-U-T3BC

## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

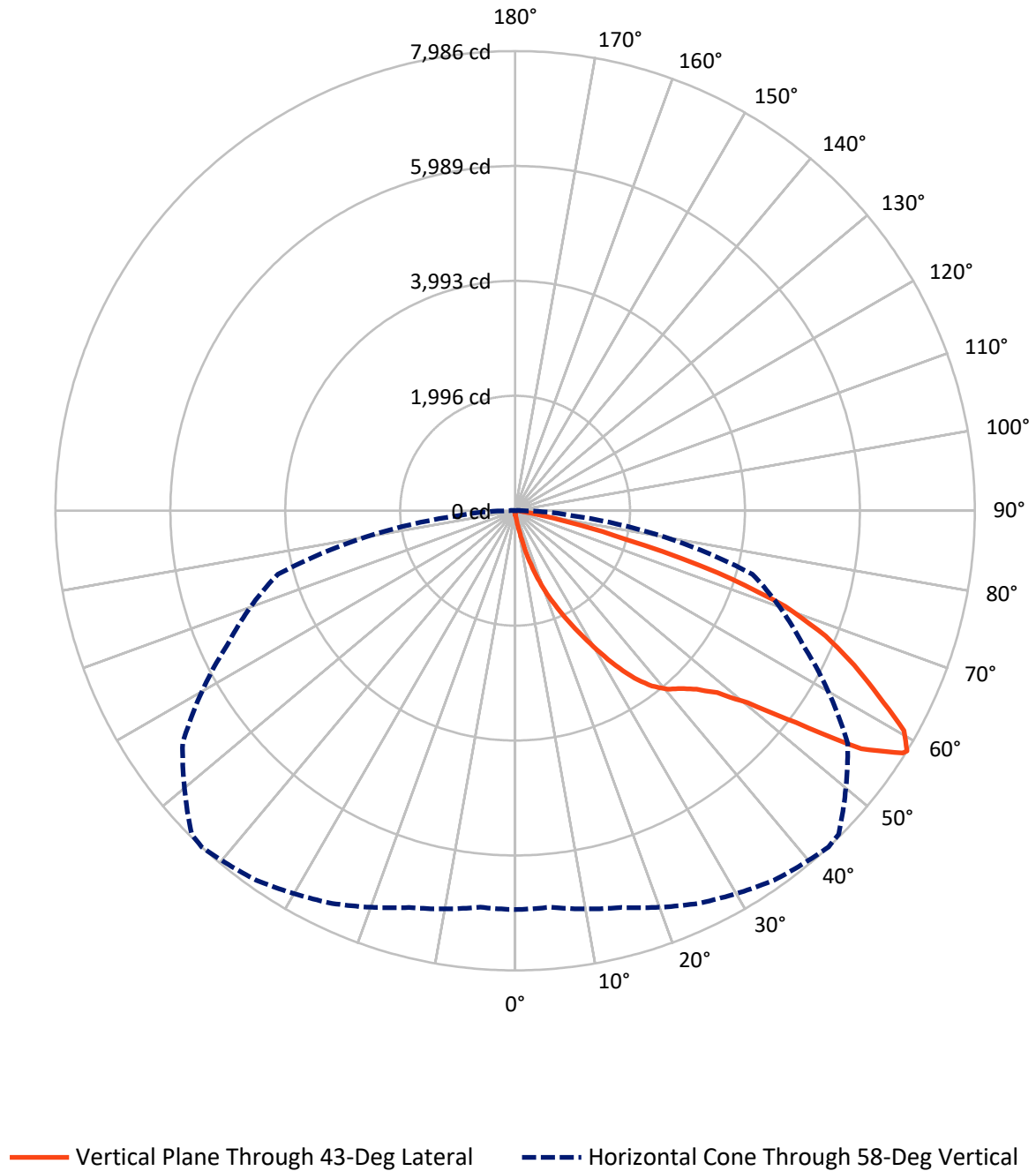


Based on 15 foot mounting height. Maximum calculated value = 10.8 fc  
 Type III - Short - N/A

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CATALOG NUMBER: GLAN-SA2B-750-U-T3BC

## Luminous Intensity Polar Plot



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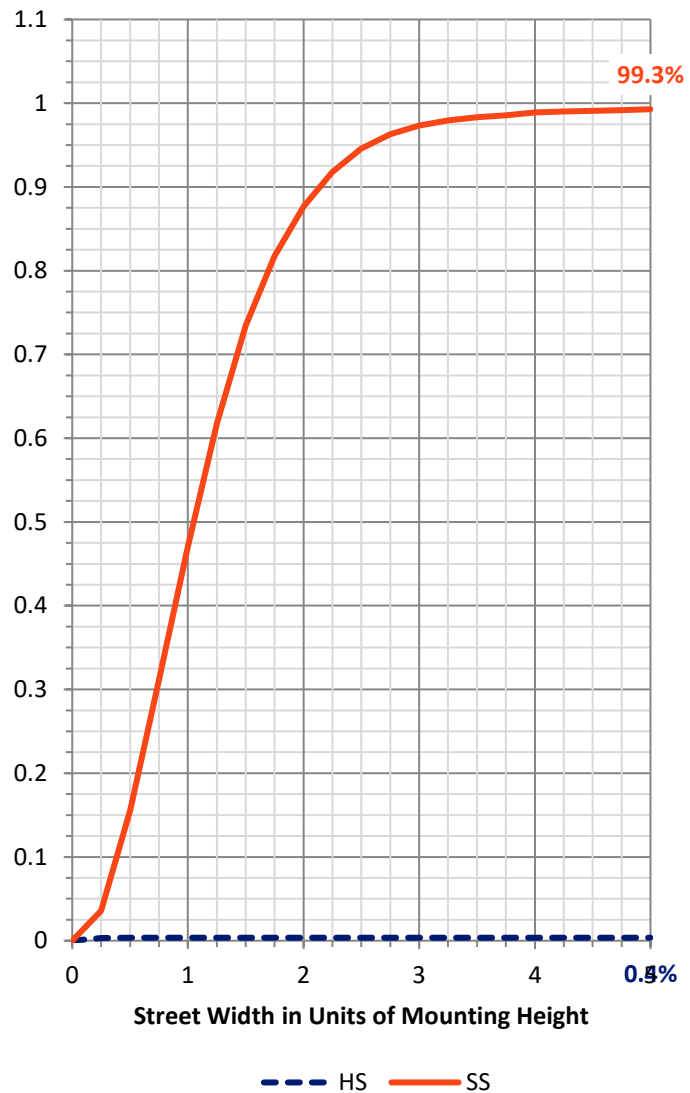
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 35.2     | 0.0    | 35.2   |
|                    | % Fixture | 0.4      | 0.0    | 0.4    |
| <b>Street Side</b> | Lumens    | 9608.9   | 0.0    | 9608.9 |
|                    | % Fixture | 99.6     | 0.0    | 99.6   |
| <b>Total</b>       | Lumens    | 9644.1   | 0.0    | 9644.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 9.2    | 0.1       |
| 10°-20°   | 110.9  | 1.1       |
| 20°-30°   | 399.6  | 4.1       |
| 30°-40°   | 914.2  | 9.5       |
| 40°-50°   | 1541.9 | 16.0      |
| 50°-60°   | 2544.5 | 26.4      |
| 60°-70°   | 2843.8 | 29.5      |
| 70°-80°   | 1174.2 | 12.2      |
| 80°-90°   | 105.8  | 1.1       |
| 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°    | 9644.1 | 100.0     |
| 0°-180°   | 9644.1 | 100.0     |



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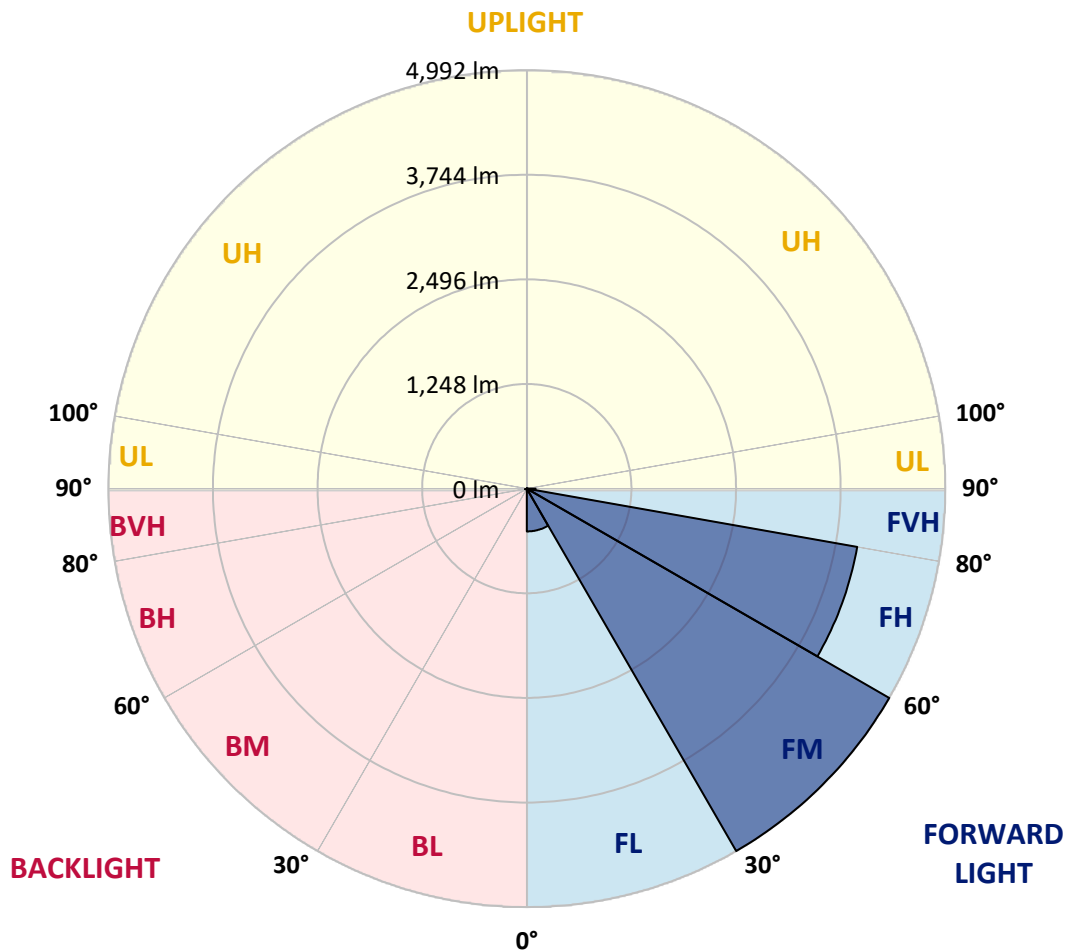
CATALOG NUMBER: GLAN-SA2B-750-U-T3BC

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 510.5  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 4992.2 | 51.8      |                         |      |         |
| FH   | (60°-80°)   | 4001.8 | 41.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 104.4  | 1.1       |                         |      | G2/225  |
| BL   | (0°-30°)    | 9.2    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 8.4    | 0.1       | B0/220                  |      |         |
| BH   | (60°-80°)   | 16.1   | 0.2       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 1.4    | 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 III Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 43°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   | 63.1   |
| 2.5°  | 75.7   | 78.2   | 75.7   | 75.7   | 75.7   | 73.1   | 73.1   | 70.6   | 70.6   | 68.1   | 65.6   |
| 5°    | 111.0  | 111.0  | 103.4  | 98.4   | 93.3   | 90.8   | 88.3   | 83.2   | 78.2   | 73.1   | 68.1   |
| 7.5°  | 247.2  | 247.2  | 224.5  | 194.2  | 153.9  | 131.2  | 126.1  | 103.4  | 88.3   | 78.2   | 68.1   |
| 10°   | 590.2  | 590.2  | 539.8  | 456.5  | 353.1  | 262.3  | 234.6  | 148.8  | 105.9  | 83.2   | 70.6   |
| 12.5° | 981.2  | 993.8  | 930.7  | 824.8  | 670.9  | 512.0  | 456.5  | 272.4  | 141.3  | 90.8   | 70.6   |
| 15°   | 1331.8 | 1301.5 | 1283.9 | 1183.0 | 1036.7 | 847.5  | 776.9  | 459.1  | 204.3  | 103.4  | 70.6   |
| 17.5° | 1568.9 | 1568.9 | 1543.7 | 1475.6 | 1341.9 | 1175.4 | 1117.4 | 741.6  | 330.4  | 118.5  | 73.1   |
| 20°   | 1846.3 | 1846.3 | 1800.9 | 1753.0 | 1634.5 | 1493.2 | 1437.7 | 1054.3 | 512.0  | 151.3  | 73.1   |
| 22.5° | 2181.8 | 2186.9 | 2136.4 | 2050.7 | 1937.1 | 1780.8 | 1732.8 | 1344.4 | 741.6  | 201.8  | 75.7   |
| 25°   | 2590.4 | 2595.5 | 2522.3 | 2441.6 | 2267.6 | 2098.6 | 2025.4 | 1677.3 | 1021.5 | 282.5  | 75.7   |
| 27.5° | 3041.9 | 3077.2 | 2968.8 | 2830.1 | 2645.9 | 2434.0 | 2378.6 | 1977.5 | 1299.0 | 398.5  | 80.7   |
| 30°   | 3604.4 | 3604.4 | 3460.6 | 3266.4 | 3067.1 | 2804.8 | 2734.2 | 2292.8 | 1594.1 | 552.4  | 85.8   |
| 32.5° | 4088.7 | 4050.9 | 3866.7 | 3662.4 | 3450.5 | 3205.9 | 3130.2 | 2623.2 | 1896.8 | 744.1  | 95.8   |
| 35°   | 4459.5 | 4426.7 | 4199.7 | 3980.2 | 3796.1 | 3571.6 | 3480.8 | 2981.4 | 2217.1 | 961.0  | 111.0  |
| 37.5° | 4777.3 | 4764.7 | 4457.0 | 4182.0 | 4060.9 | 3864.2 | 3783.5 | 3319.4 | 2532.4 | 1195.6 | 128.6  |
| 40°   | 5125.4 | 5085.0 | 4757.1 | 4416.6 | 4235.0 | 4076.1 | 4002.9 | 3591.8 | 2835.1 | 1470.5 | 153.9  |
| 42.5° | 5423.0 | 5375.1 | 5080.0 | 4747.0 | 4436.8 | 4222.4 | 4151.7 | 3821.3 | 3130.2 | 1745.4 | 186.7  |
| 45°   | 5753.4 | 5728.2 | 5430.6 | 5178.3 | 4764.7 | 4421.6 | 4328.3 | 4005.5 | 3400.1 | 2073.4 | 229.5  |
| 47.5° | 6250.3 | 6204.9 | 5927.5 | 5720.6 | 5241.4 | 4724.3 | 4590.6 | 4194.6 | 3659.9 | 2396.2 | 295.1  |
| 50°   | 6827.9 | 6797.7 | 6633.7 | 6469.8 | 5993.0 | 5241.4 | 5082.5 | 4467.0 | 3950.0 | 2779.6 | 380.9  |
| 52.5° | 7299.6 | 7294.6 | 7314.7 | 7317.3 | 6956.6 | 6111.6 | 5874.5 | 4905.9 | 4282.9 | 3158.0 | 501.9  |
| 55°   | 7289.5 | 7312.2 | 7534.2 | 7788.9 | 7816.7 | 7299.6 | 7070.1 | 5645.0 | 4716.8 | 3624.6 | 670.9  |
| 57.5° | 7017.1 | 6999.5 | 7234.0 | 7617.4 | 7887.3 | 7942.8 | 7905.0 | 6792.6 | 5370.0 | 4187.1 | 930.7  |
| 58°   | 6928.8 | 6913.7 | 7135.7 | 7526.6 | 7836.9 | 7985.7 | 7947.9 | 7052.4 | 5516.3 | 4267.8 | 1001.4 |
| 60°   | 6608.5 | 6611.0 | 6742.2 | 7097.8 | 7408.1 | 7761.2 | 7796.5 | 7794.0 | 6245.3 | 4807.6 | 1357.0 |
| 62.5° | 6184.7 | 6164.6 | 6285.6 | 6575.7 | 6848.1 | 7085.2 | 7145.8 | 7844.4 | 7312.2 | 5493.6 | 2035.5 |
| 65°   | 5599.6 | 5569.3 | 5697.9 | 6025.8 | 6318.4 | 6472.3 | 6474.8 | 7168.5 | 7814.2 | 6230.1 | 3004.1 |
| 67.5° | 4512.4 | 4487.2 | 4744.5 | 5165.7 | 5617.2 | 5819.0 | 5909.8 | 6220.1 | 7390.4 | 6729.6 | 3559.0 |
| 70°   | 2764.5 | 2817.4 | 3175.6 | 3836.5 | 4608.3 | 4979.1 | 5115.3 | 5211.1 | 6293.2 | 6653.9 | 2976.3 |
| 72.5° | 1276.3 | 1213.2 | 1518.4 | 1980.0 | 2860.3 | 3685.1 | 3826.4 | 4202.2 | 4989.2 | 5776.1 | 2219.6 |
| 75°   | 595.3  | 572.6  | 643.2  | 865.2  | 1296.5 | 1990.1 | 2247.4 | 3354.7 | 3826.4 | 4018.1 | 1601.7 |
| 77.5° | 305.2  | 307.7  | 365.7  | 393.5  | 534.7  | 920.6  | 1056.9 | 2207.0 | 2804.8 | 2242.3 | 1074.5 |
| 80°   | 133.7  | 138.7  | 141.3  | 153.9  | 216.9  | 355.6  | 401.0  | 1024.1 | 1917.0 | 1142.6 | 587.7  |
| 82.5° | 85.8   | 88.3   | 88.3   | 88.3   | 103.4  | 141.3  | 161.4  | 411.1  | 956.0  | 567.5  | 181.6  |
| 85°   | 45.4   | 45.4   | 50.4   | 63.1   | 73.1   | 85.8   | 90.8   | 131.2  | 315.3  | 169.0  | 42.9   |
| 87.5° | 25.2   | 27.7   | 30.3   | 37.8   | 47.9   | 58.0   | 63.1   | 90.8   | 121.1  | 116.0  | 10.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°  | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 63.1   | 63.1 | 63.1 | 63.1 | 63.1 | 63.1 | 63.1 | 63.1 | 63.1 | 63.1 | 63.1 |
| 2.5°  | 65.6   | 63.1 | 60.5 | 58.0 | 55.5 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 |
| 5°    | 63.1   | 60.5 | 58.0 | 53.0 | 47.9 | 45.4 | 42.9 | 40.4 | 40.4 | 40.4 | 40.4 |
| 7.5°  | 63.1   | 60.5 | 53.0 | 47.9 | 42.9 | 37.8 | 32.8 | 32.8 | 32.8 | 32.8 | 32.8 |
| 10°   | 63.1   | 58.0 | 50.4 | 42.9 | 35.3 | 30.3 | 27.7 | 25.2 | 25.2 | 25.2 | 25.2 |
| 12.5° | 63.1   | 55.5 | 47.9 | 37.8 | 30.3 | 25.2 | 22.7 | 20.2 | 20.2 | 20.2 | 20.2 |
| 15°   | 63.1   | 55.5 | 45.4 | 35.3 | 27.7 | 20.2 | 17.7 | 15.1 | 15.1 | 15.1 | 15.1 |
| 17.5° | 60.5   | 53.0 | 42.9 | 30.3 | 22.7 | 15.1 | 12.6 | 10.1 | 10.1 | 12.6 | 12.6 |
| 20°   | 58.0   | 50.4 | 37.8 | 25.2 | 17.7 | 12.6 | 7.6  | 7.6  | 7.6  | 7.6  | 7.6  |
| 22.5° | 58.0   | 50.4 | 35.3 | 22.7 | 15.1 | 7.6  | 5.0  | 5.0  | 5.0  | 5.0  | 7.6  |
| 25°   | 58.0   | 47.9 | 30.3 | 17.7 | 10.1 | 5.0  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  |
| 27.5° | 58.0   | 47.9 | 27.7 | 15.1 | 7.6  | 5.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  |
| 30°   | 55.5   | 45.4 | 25.2 | 12.6 | 5.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 32.5° | 55.5   | 42.9 | 20.2 | 10.1 | 5.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 35°   | 58.0   | 40.4 | 17.7 | 7.6  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.5  |
| 37.5° | 60.5   | 37.8 | 15.1 | 5.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 63.1   | 35.3 | 15.1 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 68.1   | 35.3 | 12.6 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 73.1   | 35.3 | 10.1 | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 83.2   | 37.8 | 10.1 | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 90.8   | 40.4 | 7.6  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 100.9  | 37.8 | 7.6  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 113.5  | 37.8 | 7.6  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 123.6  | 35.3 | 7.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 58°   | 128.6  | 32.8 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 153.9  | 30.3 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 239.6  | 25.2 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 486.8  | 22.7 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 908.0  | 20.2 | 5.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 1016.5 | 22.7 | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 640.7  | 17.7 | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 338.0  | 17.7 | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 169.0  | 17.7 | 2.5  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 78.2   | 12.6 | 2.5  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 32.8   | 7.6  | 5.0  | 2.5  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 15.1   | 7.6  | 5.0  | 5.0  | 2.5  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 7.6    | 7.6  | 7.6  | 5.0  | 5.0  | 2.5  | 2.5  | 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  |



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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-6

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-750-U-5WQ

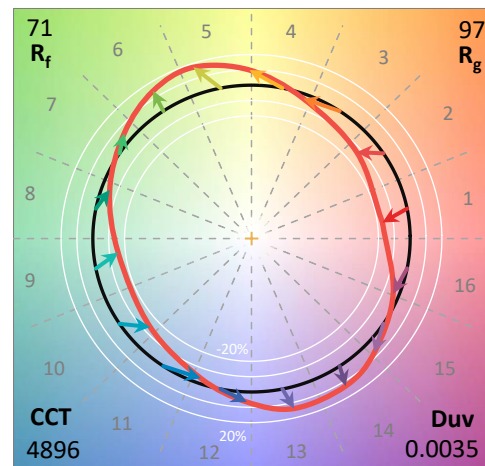
Data in this report applies to families of products including GSS-SB1A-750-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-6  
 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-750-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 5000K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 4896     | CRI (Ra): | 70.2 |      |       |
| CIE u':                   | 0.2101   | R1:       | 68.1 | R9:  | -35.1 |
| CIE v':                   | 0.4901   | R2:       | 73.9 | R10: | 39.3  |
| Duv:                      | 0.0035   | R3:       | 79.4 | R11: | 71.1  |
| CIE x:                    | 0.3489   | R4:       | 72.1 | R12: | 43.8  |
| CIE y:                    | 0.3618   | R5:       | 69.2 | R13: | 68.1  |
| CIE z:                    | 0.2893   | R6:       | 65.7 | R14: | 88.4  |
| Peak Wavelength (nm):     | 443      | R7:       | 78.1 | R15: | 59.7  |
| Dominant Wavelength (nm): | 570      | R8:       | 55.3 |      |       |
| Purity:                   | 13.25435 |           |      |      |       |
| Rf:                       | 70.7     |           |      |      |       |
| Rg:                       | 96.8     |           |      |      |       |



### Test Conditions

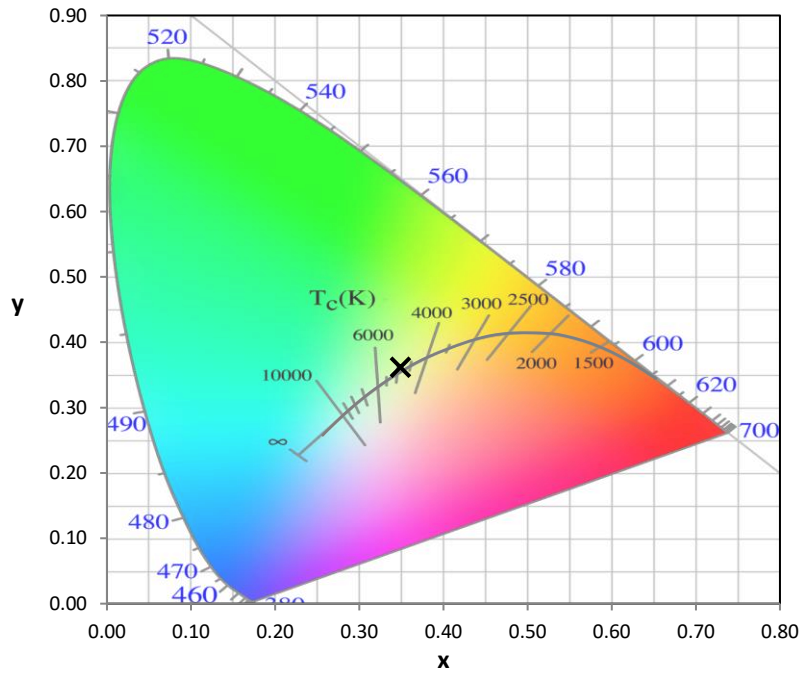
Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-6

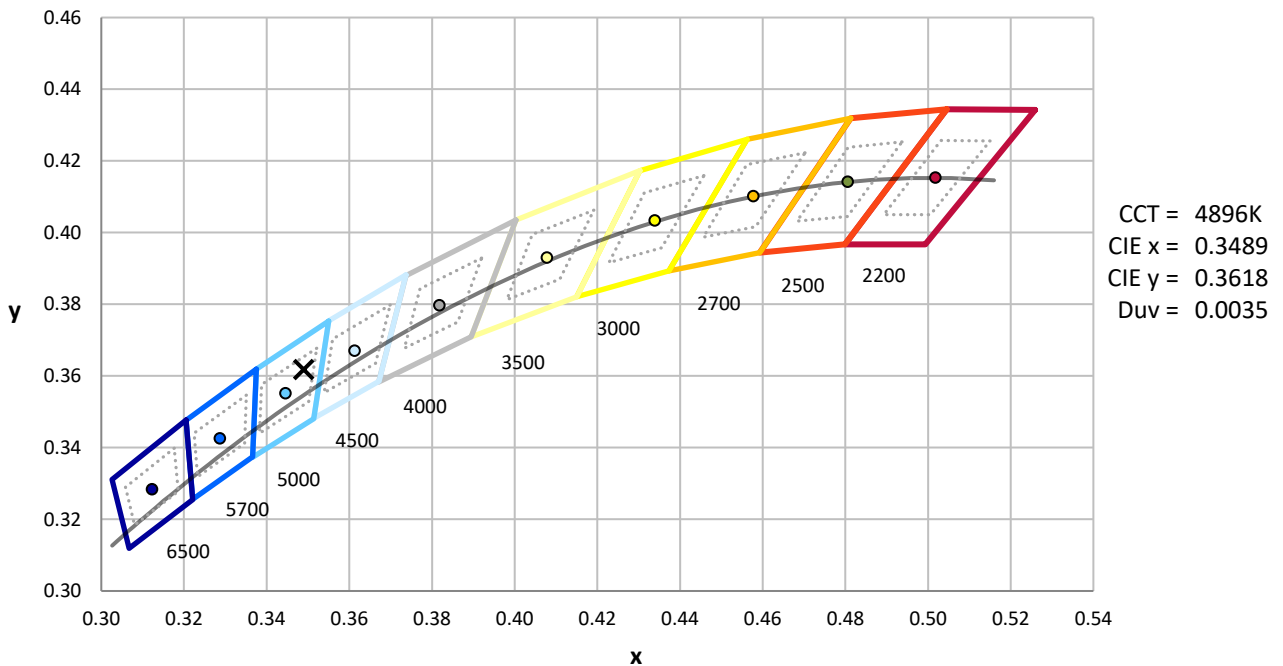
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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**



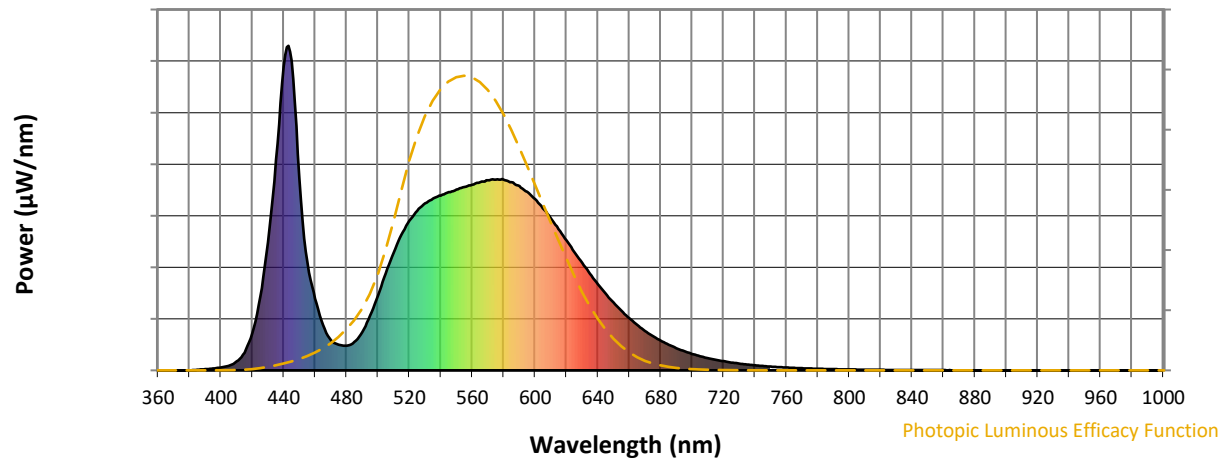
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 4-step quadrangle

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### Photopic Flux vs. Wavelength

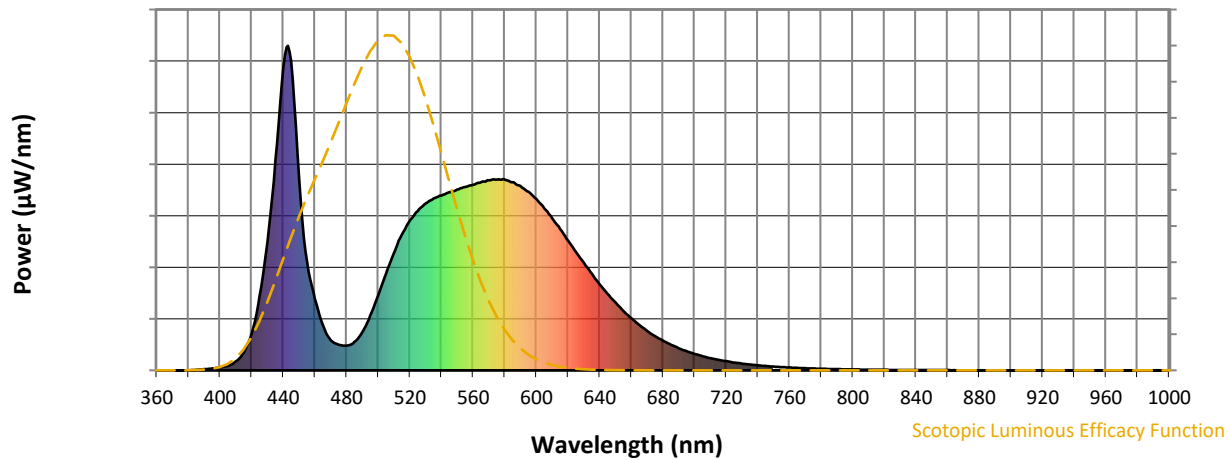


### Photopic Lumens: NR

| λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 118                      | NR            | 620    | 401                      | NR            | 750    | 12                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 168                      | NR            | 625    | 365                      | NR            | 755    | 10                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 230                      | NR            | 630    | 331                      | NR            | 760    | 9                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 299                      | NR            | 635    | 298                      | NR            | 765    | 8                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 362                      | NR            | 640    | 266                      | NR            | 770    | 6                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 418                      | NR            | 645    | 236                      | NR            | 775    | 6                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 461                      | NR            | 650    | 209                      | NR            | 780    | 5                        | NR            | 910    | 0                        | NR            |
| 395    | 6                        | NR            | 525    | 491                      | NR            | 655    | 184                      | NR            | 785    | 4                        | NR            | 915    | 0                        | NR            |
| 400    | 9                        | NR            | 530    | 514                      | NR            | 660    | 160                      | NR            | 790    | 4                        | NR            | 920    | 0                        | NR            |
| 405    | 14                       | NR            | 535    | 530                      | NR            | 665    | 140                      | NR            | 795    | 3                        | NR            | 925    | 0                        | NR            |
| 410    | 27                       | NR            | 540    | 539                      | NR            | 670    | 122                      | NR            | 800    | 3                        | NR            | 930    | 0                        | NR            |
| 415    | 55                       | NR            | 545    | 549                      | NR            | 675    | 106                      | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 115                      | NR            | 550    | 557                      | NR            | 680    | 92                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 226                      | NR            | 555    | 565                      | NR            | 685    | 79                       | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 395                      | NR            | 560    | 572                      | NR            | 690    | 68                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 648                      | NR            | 565    | 580                      | NR            | 695    | 59                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 937                      | NR            | 570    | 586                      | NR            | 700    | 51                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 953                      | NR            | 575    | 588                      | NR            | 705    | 44                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 591                      | NR            | 580    | 588                      | NR            | 710    | 38                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 334                      | NR            | 585    | 580                      | NR            | 715    | 32                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 221                      | NR            | 590    | 568                      | NR            | 720    | 28                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 140                      | NR            | 595    | 550                      | NR            | 725    | 24                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 93                       | NR            | 600    | 527                      | NR            | 730    | 21                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 79                       | NR            | 605    | 499                      | NR            | 735    | 18                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 469                      | NR            | 740    | 15                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 87                       | NR            | 615    | 435                      | NR            | 745    | 13                       | NR            | 875    | 0                        | NR            |        |                          |               |

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### Scotopic Flux vs. Wavelength



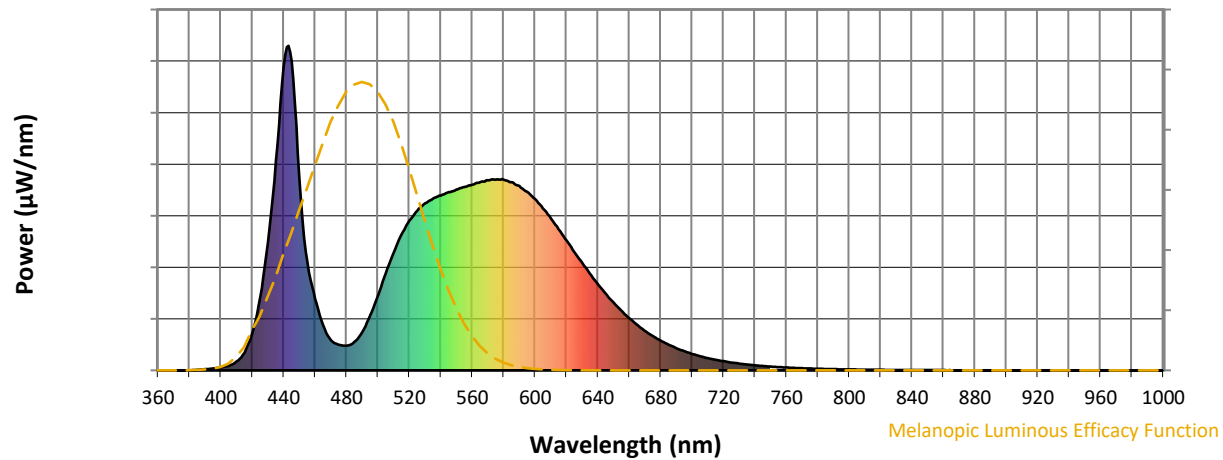
Scotopic Lumens: NR

S/P: 1.7

| λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 118                         | NR               | 620       | 401                         | NR               | 750       | 12                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 168                         | NR               | 625       | 365                         | NR               | 755       | 10                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 230                         | NR               | 630       | 331                         | NR               | 760       | 9                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 299                         | NR               | 635       | 298                         | NR               | 765       | 8                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 362                         | NR               | 640       | 266                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 418                         | NR               | 645       | 236                         | NR               | 775       | 6                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 461                         | NR               | 650       | 209                         | NR               | 780       | 5                           | NR               | 910       | 0                           | NR               |
| 395       | 6                           | NR               | 525       | 491                         | NR               | 655       | 184                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 9                           | NR               | 530       | 514                         | NR               | 660       | 160                         | NR               | 790       | 4                           | NR               | 920       | 0                           | NR               |
| 405       | 14                          | NR               | 535       | 530                         | NR               | 665       | 140                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 27                          | NR               | 540       | 539                         | NR               | 670       | 122                         | NR               | 800       | 3                           | NR               | 930       | 0                           | NR               |
| 415       | 55                          | NR               | 545       | 549                         | NR               | 675       | 106                         | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 115                         | NR               | 550       | 557                         | NR               | 680       | 92                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 226                         | NR               | 555       | 565                         | NR               | 685       | 79                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 395                         | NR               | 560       | 572                         | NR               | 690       | 68                          | NR               | 820       | 2                           | NR               | 950       | 0                           | NR               |
| 435       | 648                         | NR               | 565       | 580                         | NR               | 695       | 59                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 937                         | NR               | 570       | 586                         | NR               | 700       | 51                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 953                         | NR               | 575       | 588                         | NR               | 705       | 44                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 591                         | NR               | 580       | 588                         | NR               | 710       | 38                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 334                         | NR               | 585       | 580                         | NR               | 715       | 32                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 221                         | NR               | 590       | 568                         | NR               | 720       | 28                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 140                         | NR               | 595       | 550                         | NR               | 725       | 24                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 93                          | NR               | 600       | 527                         | NR               | 730       | 21                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 79                          | NR               | 605       | 499                         | NR               | 735       | 18                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 76                          | NR               | 610       | 469                         | NR               | 740       | 15                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 87                          | NR               | 615       | 435                         | NR               | 745       | 13                          | NR               | 875       | 0                           | NR               |           |                             |                  |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.37

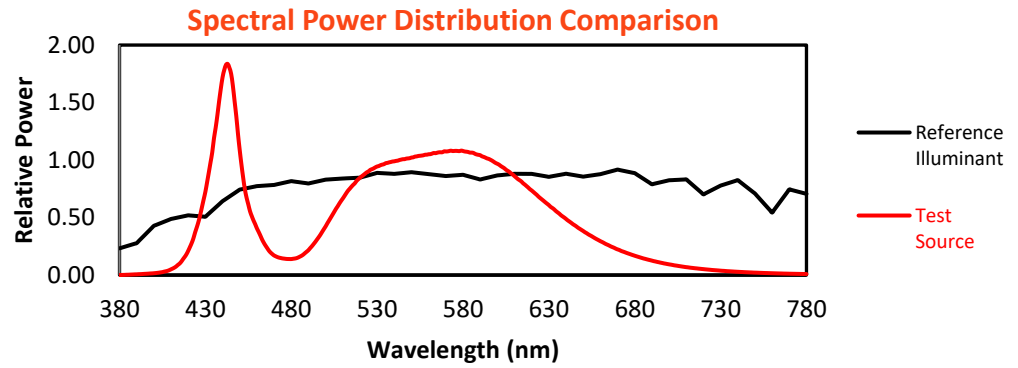
| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 118                         | NR               | 620       | 401                         | NR               | 750       | 12                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 168                         | NR               | 625       | 365                         | NR               | 755       | 10                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 230                         | NR               | 630       | 331                         | NR               | 760       | 9                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 299                         | NR               | 635       | 298                         | NR               | 765       | 8                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 362                         | NR               | 640       | 266                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 418                         | NR               | 645       | 236                         | NR               | 775       | 6                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 461                         | NR               | 650       | 209                         | NR               | 780       | 5                           | NR               | 910       | 0                           | NR               |
| 395       | 6                           | NR               | 525       | 491                         | NR               | 655       | 184                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 9                           | NR               | 530       | 514                         | NR               | 660       | 160                         | NR               | 790       | 4                           | NR               | 920       | 0                           | NR               |
| 405       | 14                          | NR               | 535       | 530                         | NR               | 665       | 140                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 27                          | NR               | 540       | 539                         | NR               | 670       | 122                         | NR               | 800       | 3                           | NR               | 930       | 0                           | NR               |
| 415       | 55                          | NR               | 545       | 549                         | NR               | 675       | 106                         | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 115                         | NR               | 550       | 557                         | NR               | 680       | 92                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 226                         | NR               | 555       | 565                         | NR               | 685       | 79                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 395                         | NR               | 560       | 572                         | NR               | 690       | 68                          | NR               | 820       | 2                           | NR               | 950       | 0                           | NR               |
| 435       | 648                         | NR               | 565       | 580                         | NR               | 695       | 59                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 937                         | NR               | 570       | 586                         | NR               | 700       | 51                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 953                         | NR               | 575       | 588                         | NR               | 705       | 44                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 591                         | NR               | 580       | 588                         | NR               | 710       | 38                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 334                         | NR               | 585       | 580                         | NR               | 715       | 32                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 221                         | NR               | 590       | 568                         | NR               | 720       | 28                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 140                         | NR               | 595       | 550                         | NR               | 725       | 24                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 93                          | NR               | 600       | 527                         | NR               | 730       | 21                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 79                          | NR               | 605       | 499                         | NR               | 735       | 18                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 76                          | NR               | 610       | 469                         | NR               | 740       | 15                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 87                          | NR               | 615       | 435                         | NR               | 745       | 13                          | NR               | 875       | 0                           | NR               |           |                             |                  |

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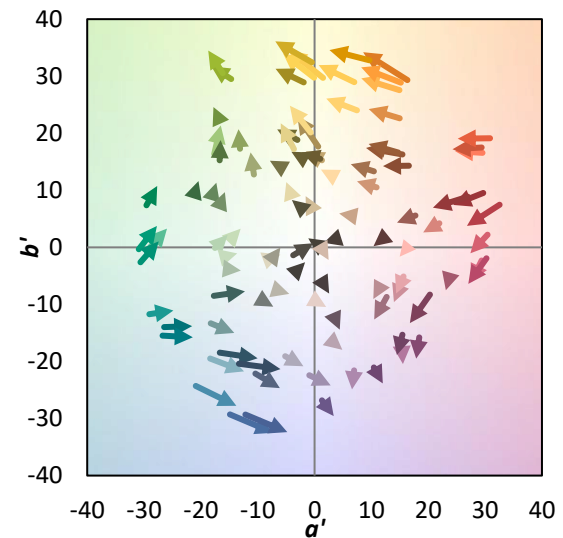
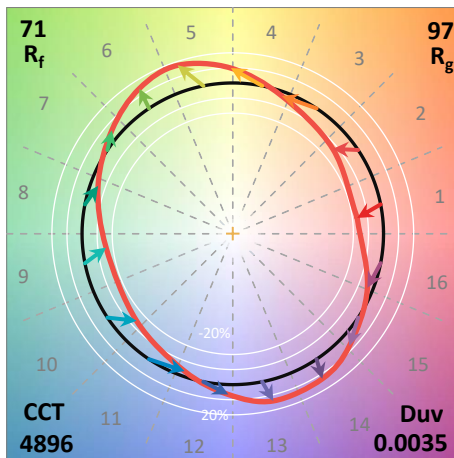
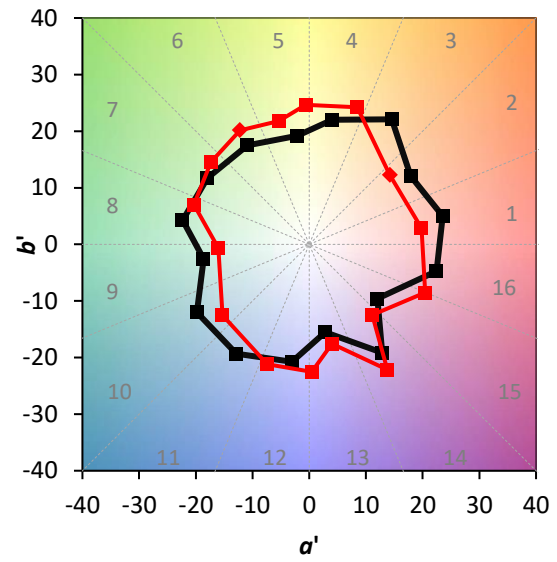
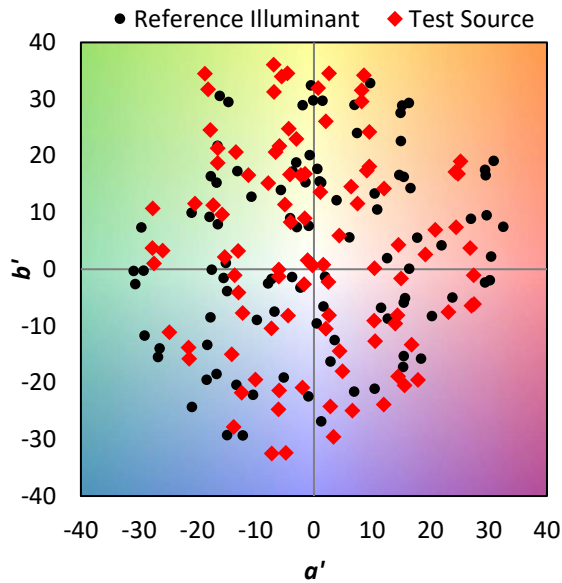
TM-30-18

### Summary

$R_f = 70.7$   
 $R_g = 96.8$   
 CIE  $R_a = 70.2$   
 $R_g = -35.1$



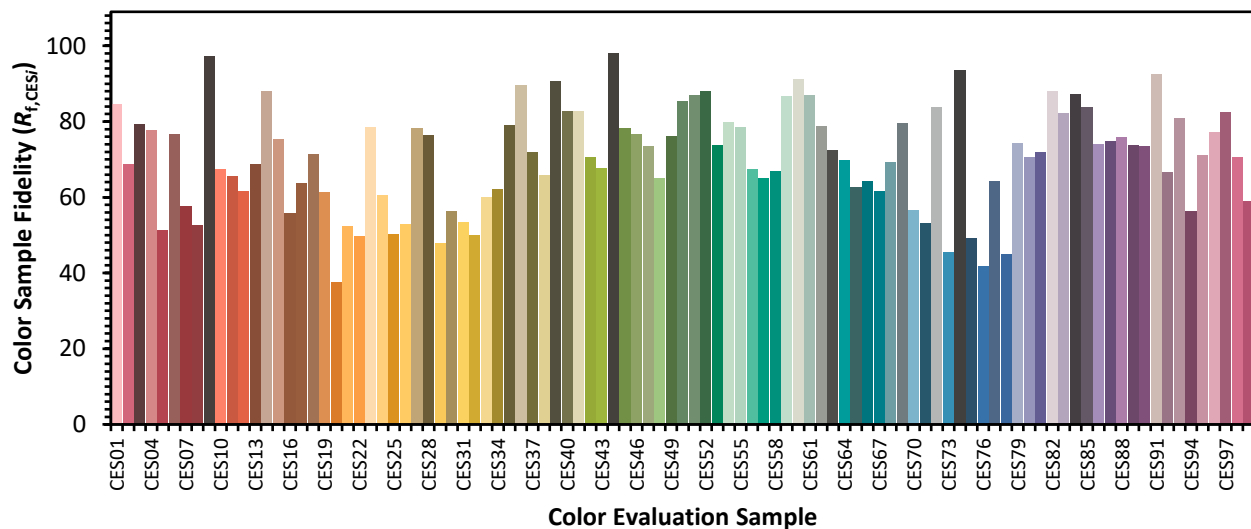
### Color Vector Graphics



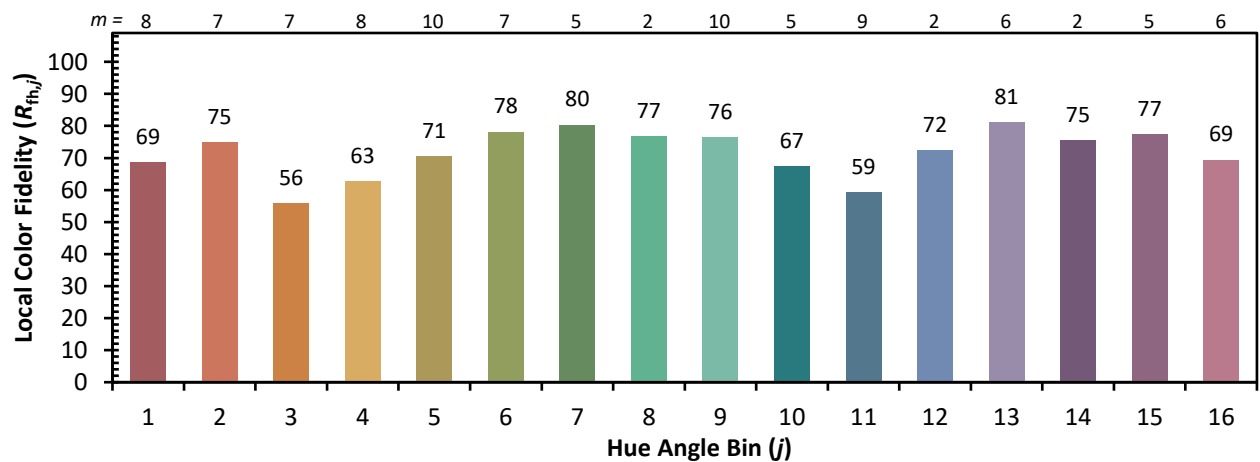
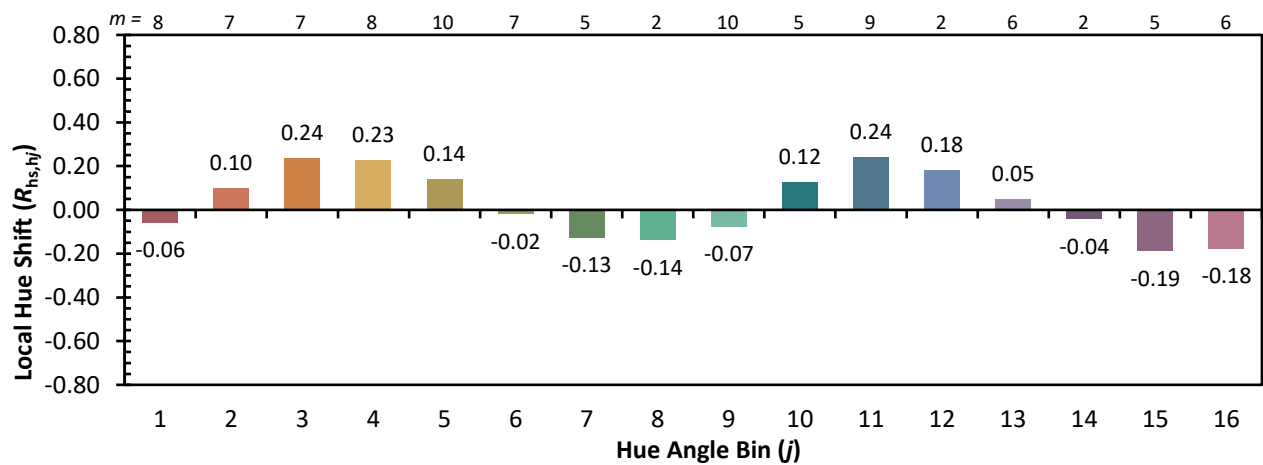
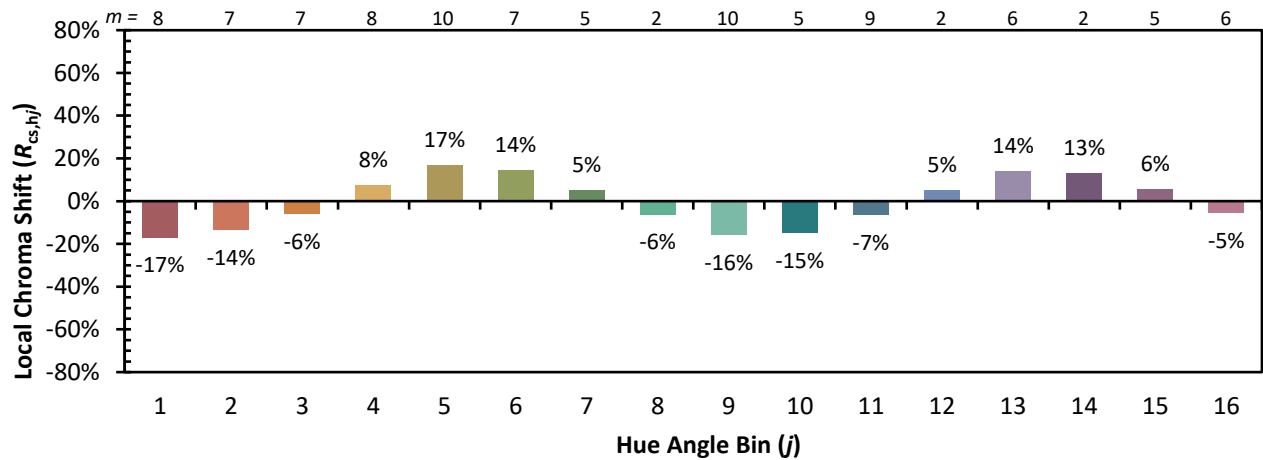


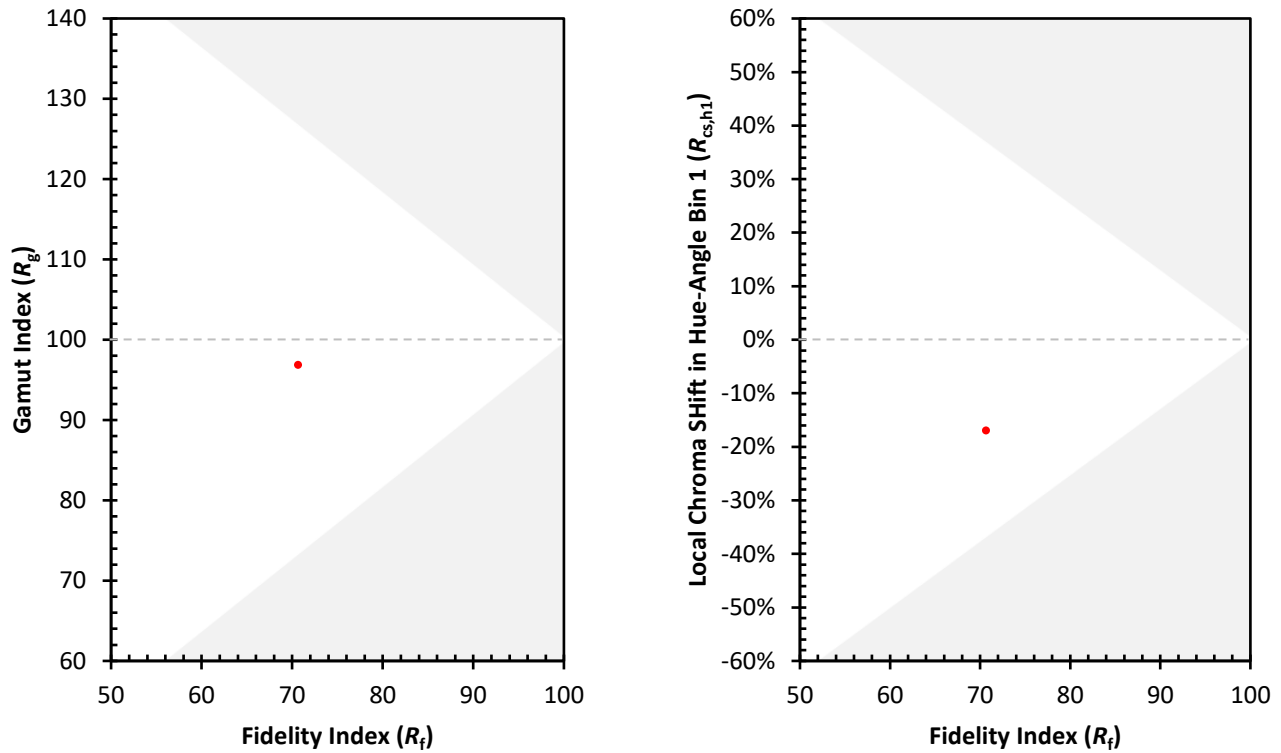
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 53 | CES51 = 87 | CES76 = 42 |
| CES02 = 59 | CES27 = 78 | CES52 = 88 | CES77 = 64 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 45 |
| CES04 = 69 | CES29 = 48 | CES54 = 80 | CES79 = 74 |
| CES05 = 46 | CES30 = 56 | CES55 = 79 | CES80 = 71 |
| CES06 = 50 | CES31 = 54 | CES56 = 68 | CES81 = 72 |
| CES07 = 39 | CES32 = 50 | CES57 = 65 | CES82 = 88 |
| CES08 = 38 | CES33 = 60 | CES58 = 67 | CES83 = 82 |
| CES09 = 29 | CES34 = 62 | CES59 = 87 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 91 | CES85 = 84 |
| CES11 = 56 | CES36 = 90 | CES61 = 87 | CES86 = 74 |
| CES12 = 61 | CES37 = 72 | CES62 = 79 | CES87 = 75 |
| CES13 = 41 | CES38 = 66 | CES63 = 72 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 70 | CES89 = 74 |
| CES15 = 70 | CES40 = 83 | CES65 = 63 | CES90 = 73 |
| CES16 = 46 | CES41 = 83 | CES66 = 64 | CES91 = 92 |
| CES17 = 49 | CES42 = 70 | CES67 = 62 | CES92 = 67 |
| CES18 = 55 | CES43 = 68 | CES68 = 69 | CES93 = 81 |
| CES19 = 71 | CES44 = 98 | CES69 = 80 | CES94 = 56 |
| CES20 = 64 | CES45 = 78 | CES70 = 56 | CES95 = 71 |
| CES21 = 85 | CES46 = 77 | CES71 = 53 | CES96 = 77 |
| CES22 = 77 | CES47 = 73 | CES72 = 84 | CES97 = 82 |
| CES23 = 91 | CES48 = 65 | CES73 = 46 | CES98 = 71 |
| CES24 = 90 | CES49 = 76 | CES74 = 94 | CES99 = 59 |
| CES25 = 71 | CES50 = 85 | CES75 = 49 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**


(END OF REPORT)