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: P1063855

Luminaire Tested: **GLAN-SA5C-950-U-T2BC**

Issue Date: 08/07/2025

Report Generated By 670347003

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1063855 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 08/07/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SA5C-950-U-T2BC |
| Description: | GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 5xLight Square PACKAGE 90CRI 5000K FIXTURE w/ TYPE II ANGLED BACKLIGHT CONTROL |
| Light Source: | (70) 5000K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 21841.3 lumens |
| Efficiency: | N/A |
| Efficacy: | 92.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B0 - U0 - G4 |

| | |
|---|---|
| Input Watts (W): | 236 |
| 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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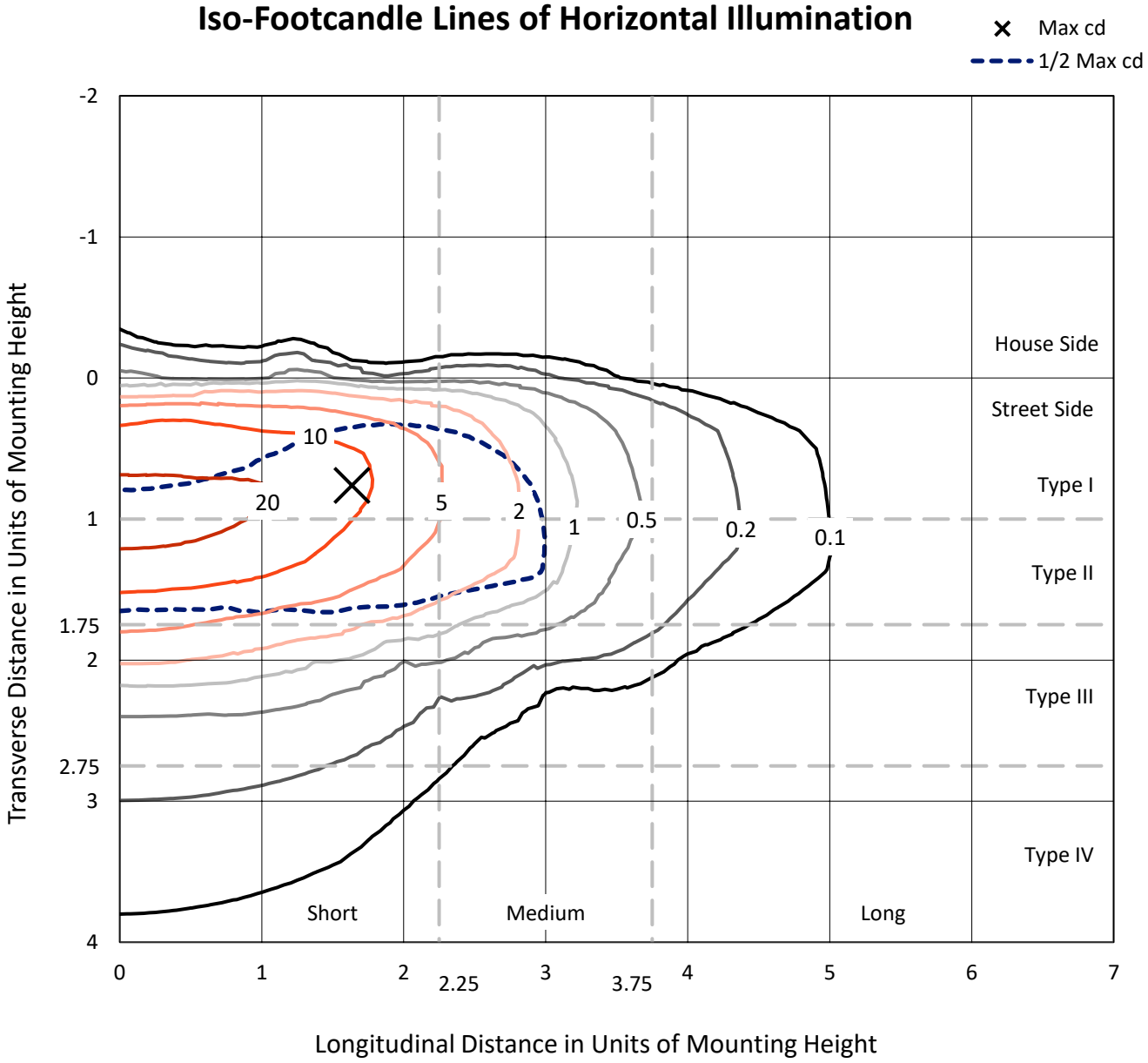
Scaled Data Report

REPORT NUMBER: P1063855
CATALOG NUMBER: GLAN-SA5C-950-U-T2BC

## Iso-Footcandle Lines of Horizontal Illumination




Based on 15 foot mounting height. Maximum calculated value = 28.9 fc
Type II - Short - N/A

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REPORT NUMBER: P1063855
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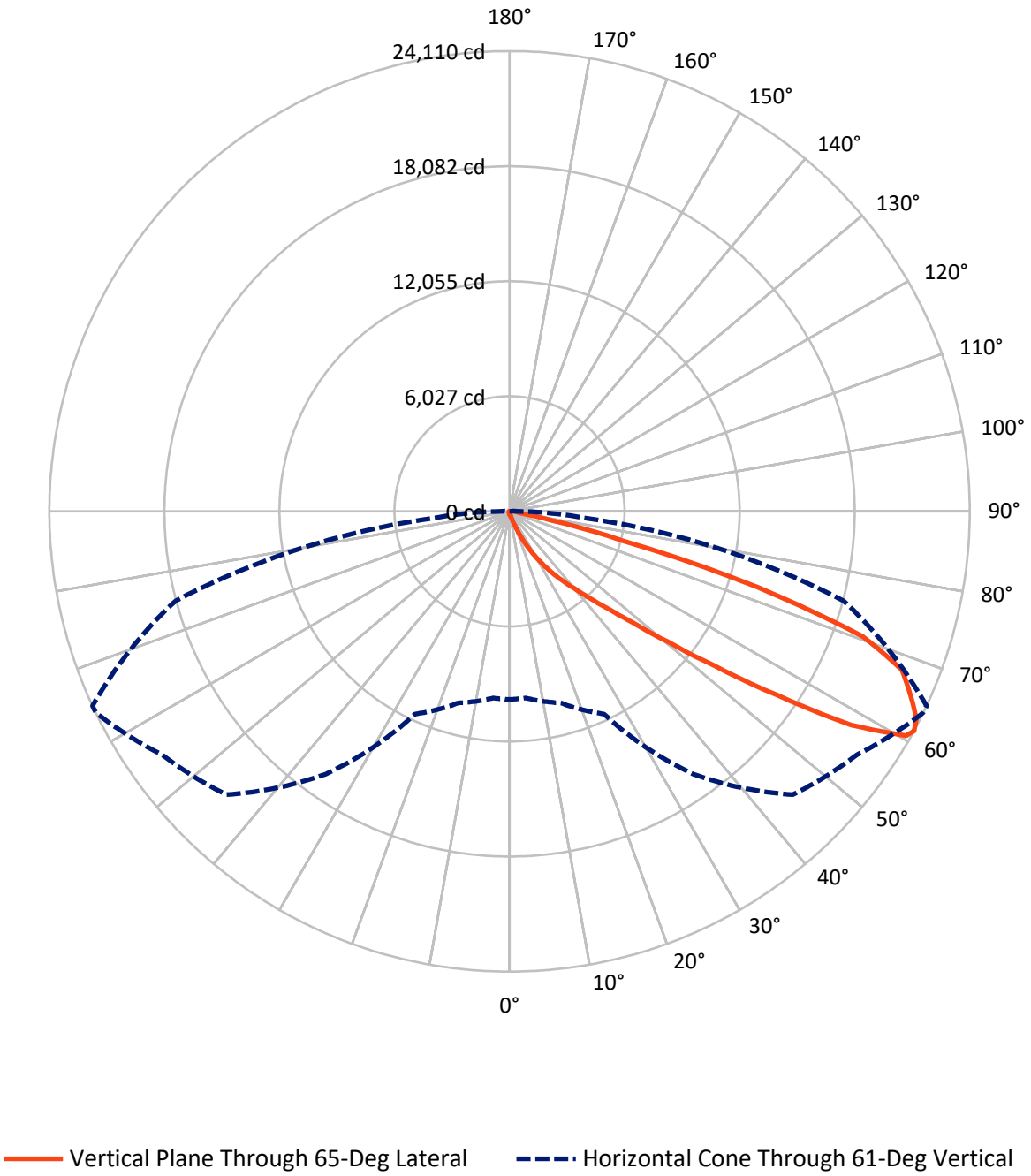
## Luminous Intensity Polar Plot



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Scaled Data Report

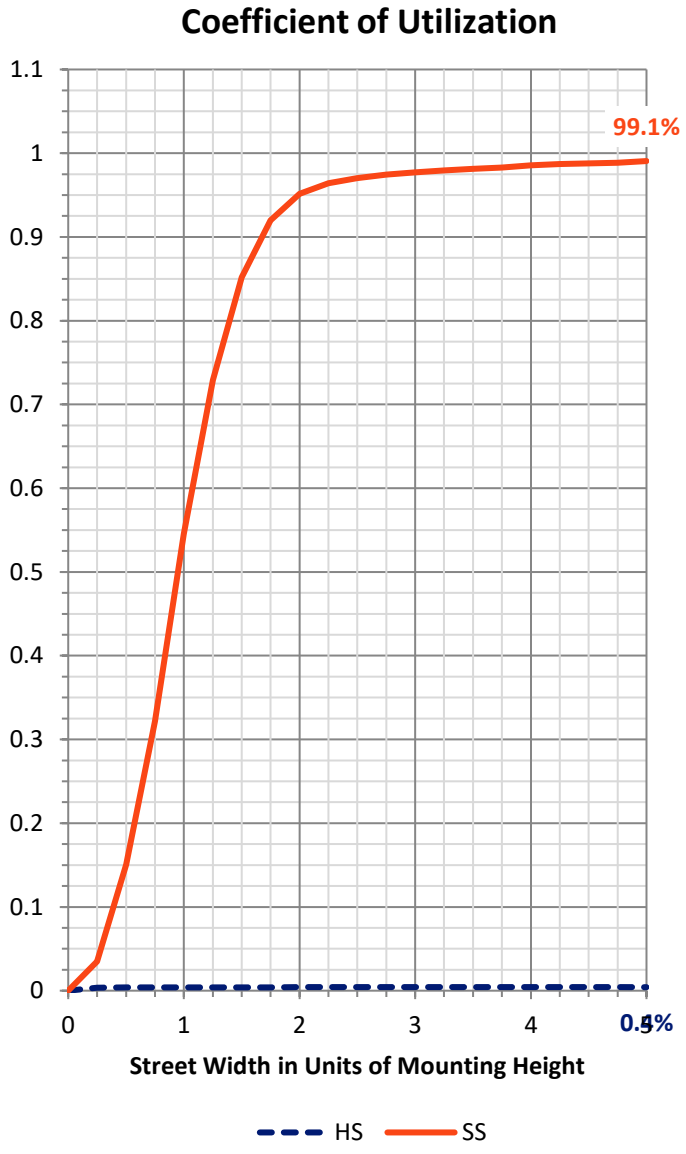
REPORT NUMBER: P1063855
CATALOG NUMBER: GLAN-SA5C-950-U-T2BC

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 93.2 | 0.0 | 93.2 |
| | % Fixture | 0.4 | 0.0 | 0.4 |
| **Street Side** | Lumens | 21748.1 | 0.0 | 21748.1 |
| | % Fixture | 99.6 | 0.0 | 99.6 |
| **Total** | Lumens | 21841.3 | 0.0 | 21841.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 17.0 | 0.1 |
| 10°-20° | 179.6 | 0.8 |
| 20°-30° | 644.6 | 3.0 |
| 30°-40° | 1716.1 | 7.9 |
| 40°-50° | 4508.2 | 20.6 |
| 50°-60° | 6984.0 | 32.0 |
| 60°-70° | 5856.0 | 26.8 |
| 70°-80° | 1723.3 | 7.9 |
| 80°-90° | 212.6 | 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° | 21841.3 | 100.0 |
| 0°-180° | 21841.3 | 100.0 |



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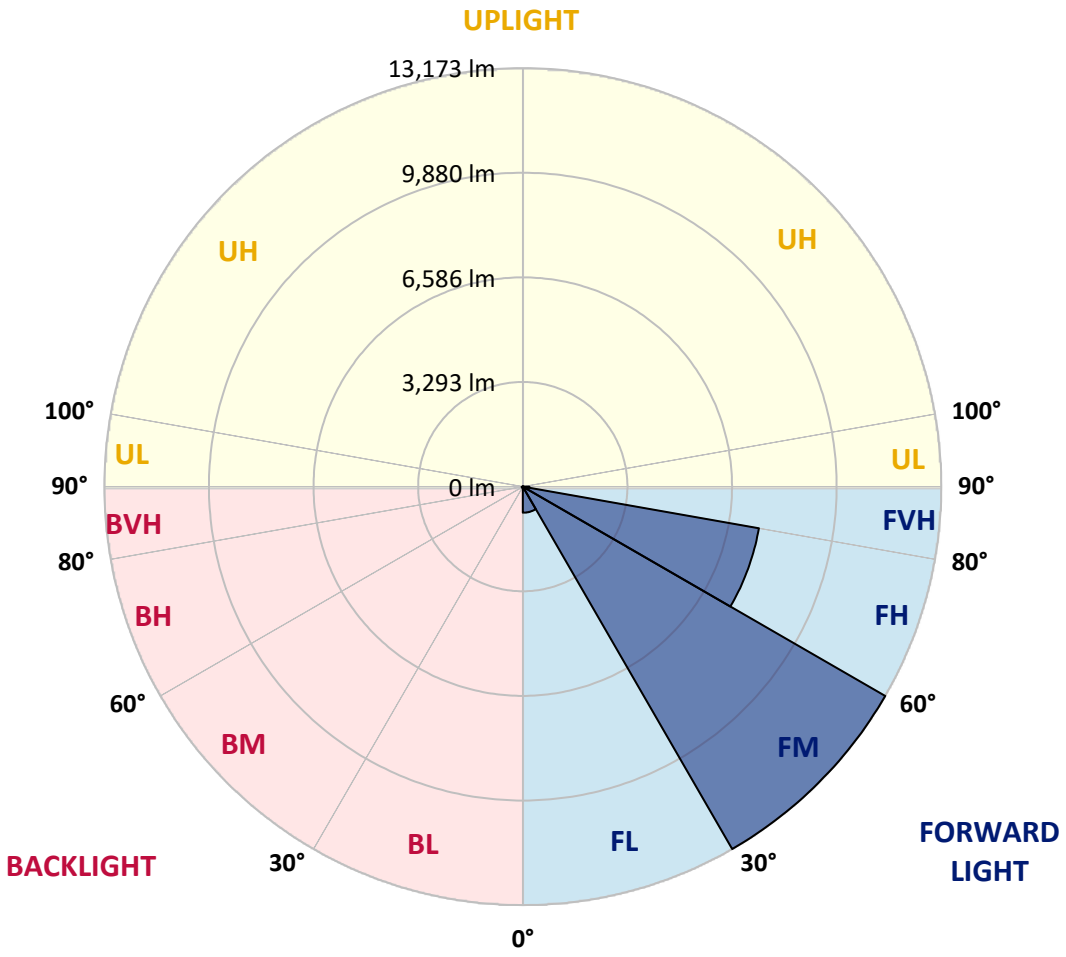
REPORT NUMBER: P1063855
CATALOG NUMBER: GLAN-SA5C-950-U-T2BC

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 820.3 | 3.8 | | | |
| FM | (30°-60°) | 13172.8 | 60.3 | | | |
| FH | (60°-80°) | 7546.4 | 34.6 | | | G4/12000 |
| FVH | (80°-90°) | 208.6 | 1.0 | | | G2/225 |
| BL | (0°-30°) | 20.9 | 0.1 | B0/110 | | |
| BM | (30°-60°) | 35.5 | 0.2 | B0/220 | | |
| BH | (60°-80°) | 32.9 | 0.2 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 3.9 | 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-G4**
Type II Short



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Scaled Data Report

REPORT NUMBER: P1063855
CATALOG NUMBER: GLAN-SA5C-950-U-T2BC

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 |
| 2.5° | 162.3 | 163.8 | 160.8 | 154.8 | 150.2 | 150.2 | 148.7 | 144.2 | 144.2 | 139.7 | 136.7 |
| 5° | 226.9 | 223.9 | 217.9 | 205.8 | 195.3 | 184.8 | 174.3 | 163.8 | 162.3 | 148.7 | 139.7 |
| 7.5° | 371.1 | 374.1 | 354.6 | 317.0 | 285.5 | 244.9 | 207.3 | 184.8 | 181.8 | 159.3 | 141.2 |
| 10° | 814.3 | 791.8 | 746.7 | 601.0 | 494.3 | 372.6 | 276.4 | 214.8 | 211.8 | 171.3 | 144.2 |
| 12.5° | 1484.4 | 1466.4 | 1383.8 | 1233.5 | 958.6 | 667.1 | 404.2 | 265.9 | 256.9 | 181.8 | 145.7 |
| 15° | 2139.5 | 2110.9 | 2065.9 | 1914.1 | 1592.6 | 1195.9 | 661.1 | 363.6 | 339.6 | 196.8 | 144.2 |
| 17.5° | 2557.2 | 2561.7 | 2521.1 | 2456.5 | 2249.2 | 1769.9 | 1141.9 | 542.4 | 495.8 | 223.9 | 141.2 |
| 20° | 2922.3 | 2911.7 | 2934.3 | 2899.7 | 2754.0 | 2405.4 | 1661.7 | 859.4 | 779.8 | 267.4 | 142.7 |
| 22.5° | 3342.9 | 3368.5 | 3385.0 | 3377.5 | 3216.7 | 2919.3 | 2252.2 | 1286.1 | 1185.4 | 347.1 | 147.2 |
| 25° | 3906.4 | 3903.4 | 3904.9 | 3885.3 | 3729.1 | 3398.5 | 2844.1 | 1816.5 | 1714.3 | 476.3 | 157.8 |
| 27.5° | 4496.8 | 4514.8 | 4522.4 | 4451.7 | 4247.4 | 3922.9 | 3392.5 | 2396.4 | 2276.2 | 683.6 | 171.3 |
| 30° | 5303.6 | 5288.6 | 5254.1 | 5109.8 | 4861.9 | 4459.3 | 3933.4 | 3004.9 | 2878.7 | 973.6 | 192.3 |
| 32.5° | 6391.4 | 6374.9 | 6200.6 | 5882.1 | 5511.0 | 5018.2 | 4477.3 | 3614.9 | 3461.6 | 1335.7 | 220.9 |
| 35° | 8183.8 | 8209.4 | 7781.2 | 6956.3 | 6290.7 | 5689.8 | 5079.8 | 4221.9 | 4086.7 | 1781.9 | 259.9 |
| 37.5° | 10928.8 | 10789.1 | 10207.6 | 8750.2 | 7316.9 | 6528.1 | 5655.2 | 4834.9 | 4717.7 | 2331.8 | 311.0 |
| 40° | 13595.6 | 13457.4 | 13289.1 | 11908.4 | 9100.3 | 7452.1 | 6460.5 | 5554.5 | 5402.8 | 2952.3 | 386.1 |
| 42.5° | 16399.2 | 16322.6 | 16315.1 | 15273.9 | 12354.6 | 8905.0 | 7429.6 | 6397.4 | 6268.2 | 3632.9 | 509.3 |
| 45° | 18385.4 | 18308.8 | 18469.6 | 18651.4 | 16786.8 | 12018.1 | 9116.8 | 7492.7 | 7304.9 | 4459.3 | 706.1 |
| 47.5° | 18652.9 | 18655.9 | 19085.6 | 19655.0 | 20080.2 | 16833.4 | 11364.5 | 8944.1 | 8715.7 | 5641.7 | 1036.7 |
| 50° | 17763.4 | 17798.0 | 18481.6 | 19500.2 | 20645.1 | 20873.5 | 15327.9 | 11050.5 | 10712.4 | 7043.5 | 1505.5 |
| 52.5° | 16070.2 | 16109.2 | 17061.8 | 18737.0 | 20125.3 | 21844.1 | 19994.5 | 13806.0 | 13416.8 | 8792.3 | 2166.5 |
| 55° | 14545.2 | 14569.2 | 15661.5 | 17778.4 | 19498.7 | 21316.7 | 22765.0 | 17485.5 | 16974.6 | 10943.8 | 2818.6 |
| 57.5° | 13035.2 | 12979.6 | 13690.3 | 16113.7 | 19392.1 | 20669.1 | 23173.7 | 21678.8 | 21115.4 | 13295.1 | 3326.4 |
| 60° | 11015.9 | 10922.8 | 11493.7 | 13035.2 | 17988.8 | 21094.3 | 22409.0 | 23998.6 | 23870.8 | 16569.0 | 3718.6 |
| 61° | 9854.5 | 9815.5 | 10389.4 | 11711.6 | 16807.9 | 20986.2 | 22225.7 | 24096.2 | 24109.7 | 18118.0 | 3894.3 |
| 62.5° | 7037.5 | 7148.6 | 8026.1 | 9744.9 | 14077.9 | 20284.5 | 22249.7 | 23794.2 | 23927.9 | 20176.3 | 4349.6 |
| 65° | 3128.1 | 3306.9 | 3989.0 | 5387.8 | 8186.8 | 16874.0 | 22036.4 | 23131.6 | 23065.5 | 20741.3 | 5918.1 |
| 67.5° | 1855.5 | 1882.6 | 2222.1 | 3053.0 | 4336.1 | 9076.3 | 19446.1 | 22255.7 | 22167.1 | 18056.4 | 7363.5 |
| 70° | 1461.9 | 1475.4 | 1583.6 | 1915.6 | 2516.6 | 3476.7 | 11098.6 | 19255.3 | 19641.5 | 14641.3 | 7208.7 |
| 72.5° | 1386.8 | 1383.8 | 1398.8 | 1457.4 | 1585.1 | 1724.8 | 4297.0 | 12799.3 | 13585.1 | 10544.2 | 6044.3 |
| 75° | 1368.7 | 1362.7 | 1347.7 | 1325.2 | 1147.9 | 1015.7 | 1331.2 | 5661.2 | 6116.5 | 7204.2 | 4550.9 |
| 77.5° | 1328.2 | 1329.7 | 1332.7 | 1271.1 | 984.1 | 718.2 | 644.5 | 1816.5 | 2234.1 | 4571.9 | 3234.8 |
| 80° | 898.5 | 912.0 | 934.5 | 910.5 | 884.9 | 519.8 | 455.2 | 646.1 | 655.1 | 2566.2 | 2136.5 |
| 82.5° | 455.2 | 455.2 | 444.7 | 396.6 | 342.6 | 338.1 | 362.1 | 468.8 | 474.8 | 1298.1 | 1005.1 |
| 85° | 274.9 | 290.0 | 296.0 | 268.9 | 246.4 | 226.9 | 276.4 | 372.6 | 386.1 | 503.3 | 234.4 |
| 87.5° | 61.6 | 63.1 | 69.1 | 91.6 | 133.7 | 181.8 | 256.9 | 341.1 | 347.1 | 323.0 | 28.5 |
| 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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Scaled Data Report

REPORT NUMBER: P1063855
CATALOG NUMBER: GLAN-SA5C-950-U-T2BC

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 | 133.7 |
| 2.5° | 135.2 | 132.2 | 130.7 | 126.2 | 121.7 | 117.2 | 114.2 | 112.7 | 114.2 | 115.7 | 115.7 |
| 5° | 133.7 | 129.2 | 121.7 | 114.2 | 108.2 | 102.2 | 96.2 | 94.7 | 94.7 | 96.2 | 96.2 |
| 7.5° | 133.7 | 126.2 | 115.7 | 106.7 | 97.7 | 88.6 | 84.1 | 81.1 | 82.6 | 82.6 | 82.6 |
| 10° | 133.7 | 124.7 | 111.2 | 97.7 | 87.1 | 76.6 | 69.1 | 66.1 | 66.1 | 66.1 | 66.1 |
| 12.5° | 132.2 | 123.2 | 106.7 | 90.1 | 75.1 | 63.1 | 54.1 | 49.6 | 51.1 | 51.1 | 51.1 |
| 15° | 129.2 | 118.7 | 100.7 | 76.6 | 60.1 | 48.1 | 39.1 | 34.6 | 36.1 | 39.1 | 40.6 |
| 17.5° | 124.7 | 114.2 | 90.1 | 64.6 | 48.1 | 36.1 | 27.0 | 24.0 | 25.5 | 30.0 | 30.0 |
| 20° | 123.2 | 109.7 | 79.6 | 52.6 | 36.1 | 25.5 | 18.0 | 15.0 | 16.5 | 22.5 | 24.0 |
| 22.5° | 123.2 | 106.7 | 72.1 | 43.6 | 27.0 | 16.5 | 10.5 | 6.0 | 6.0 | 10.5 | 10.5 |
| 25° | 124.7 | 105.2 | 66.1 | 36.1 | 19.5 | 12.0 | 6.0 | 3.0 | 6.0 | 16.5 | 19.5 |
| 27.5° | 127.7 | 103.7 | 63.1 | 30.0 | 15.0 | 10.5 | 4.5 | 10.5 | 18.0 | 18.0 | 18.0 |
| 30° | 130.7 | 100.7 | 58.6 | 25.5 | 13.5 | 7.5 | 7.5 | 15.0 | 15.0 | 18.0 | 19.5 |
| 32.5° | 135.2 | 99.2 | 55.6 | 22.5 | 10.5 | 6.0 | 10.5 | 9.0 | 9.0 | 10.5 | 12.0 |
| 35° | 144.2 | 100.7 | 52.6 | 22.5 | 10.5 | 7.5 | 9.0 | 4.5 | 3.0 | 3.0 | 3.0 |
| 37.5° | 156.3 | 102.2 | 48.1 | 19.5 | 9.0 | 9.0 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40° | 175.8 | 106.7 | 45.1 | 18.0 | 7.5 | 7.5 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5° | 208.8 | 115.7 | 43.6 | 16.5 | 7.5 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45° | 274.9 | 136.7 | 40.6 | 15.0 | 7.5 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5° | 395.1 | 186.3 | 39.1 | 12.0 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50° | 576.9 | 252.4 | 37.6 | 10.5 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 736.2 | 265.9 | 25.5 | 9.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 754.2 | 183.3 | 19.5 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57.5° | 601.0 | 118.7 | 16.5 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60° | 455.2 | 90.1 | 15.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 61° | *437.2* | *81.1* | *15.0* | *1.5* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* |
| 62.5° | 482.3 | 70.6 | 13.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 784.3 | 58.6 | 12.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 1362.7 | 51.1 | 10.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 1721.8 | 48.1 | 9.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 1500.9 | 43.6 | 9.0 | 3.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 903.0 | 37.6 | 9.0 | 6.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 473.3 | 28.5 | 9.0 | 7.5 | 4.5 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 229.9 | 25.5 | 10.5 | 7.5 | 6.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 90.1 | 21.0 | 12.0 | 10.5 | 7.5 | 4.5 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 40.6 | 18.0 | 13.5 | 12.0 | 10.5 | 6.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 21.0 | 16.5 | 15.0 | 13.5 | 10.5 | 7.5 | 3.0 | 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 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-17

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-950-U-5WQ

Data in this report applies to families of products including GSS-SB1A-950-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

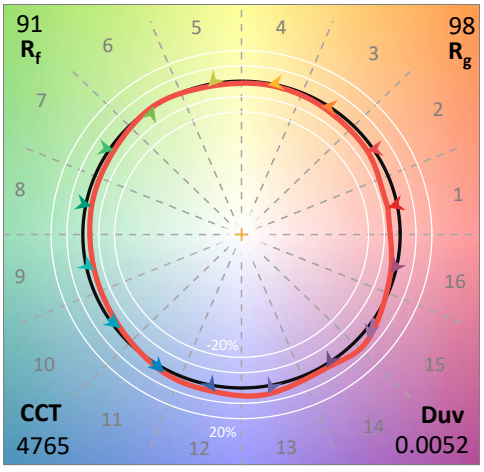
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-17 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-950-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 5000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4765 |
| CIE u': | 0.2105 |
| CIE v': | 0.4941 |
| Duv: | 0.0052 |
| CIE x: | 0.3536 |
| CIE y: | 0.3689 |
| CIE z: | 0.2775 |
| Peak Wavelength (nm): | 449 |
| Dominant Wavelength (nm): | 571 |
| Purity: | 16.80041 |
| Rf: | 90.7 |
| Rg: | 98 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 90.8 | | | | |
| R1: | 89.8 | R9: | 54.9 | | |
| R2: | 93.1 | R10: | 83.0 | | |
| R3: | 95.3 | R11: | 89.6 | | |
| R4: | 90.3 | R12: | 68.0 | | |
| R5: | 89.0 | R13: | 90.6 | | |
| R6: | 89.7 | R14: | 97.3 | | |
| R7: | 94.9 | R15: | 86.2 | | |
| R8: | 84.0 | | | | |




## Test Conditions

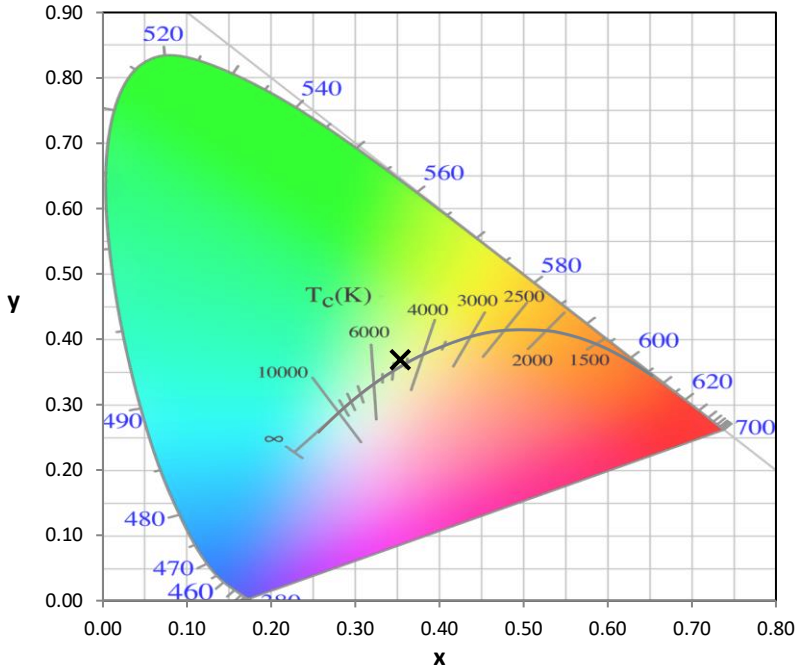
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-17

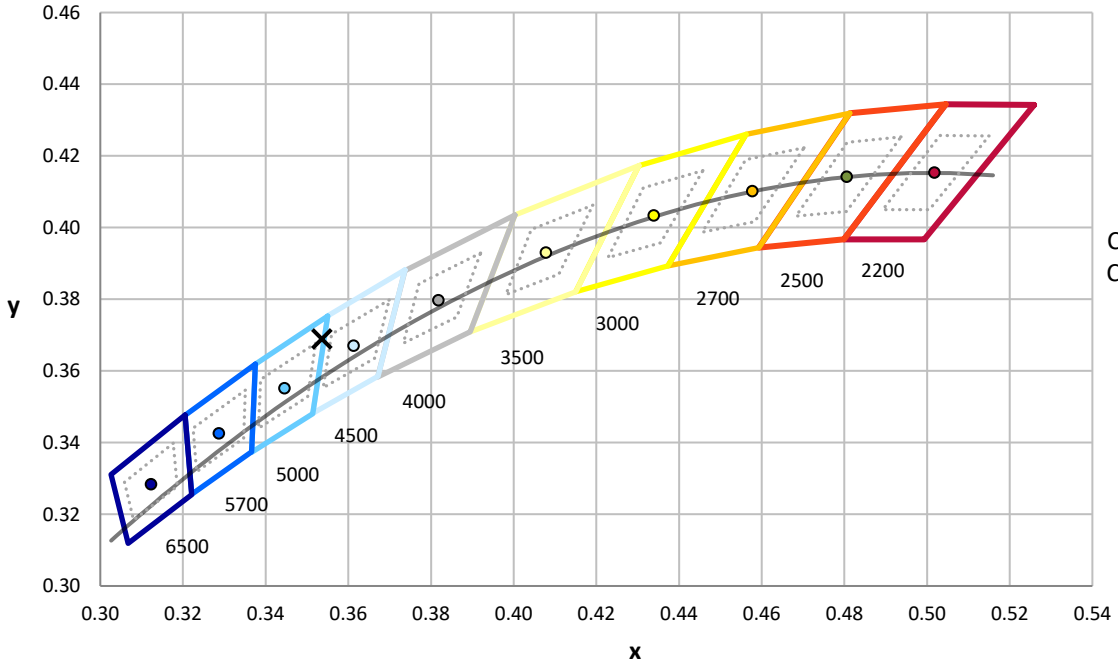
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

REPORT NUMBER: SP1-2407-184-17

## CIE 1931 Chromaticity Diagram




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




CCT = 4765K
CIE x = 0.3536
CIE y = 0.3689
Duv = 0.0052

Point lies inside the ANSI 5000K 7-step quadrangle

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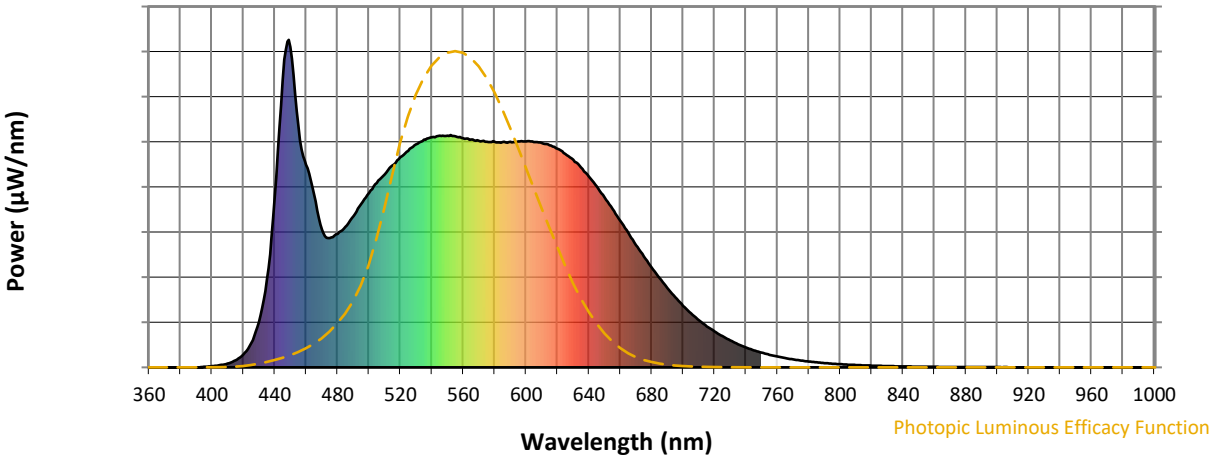
## Photopic Flux vs. Wavelength




## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 462 | NR | 620 | 668 | NR | 750 | 45 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 498 | NR | 625 | 652 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 533 | NR | 630 | 634 | NR | 760 | 33 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 562 | NR | 635 | 610 | NR | 765 | 28 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 590 | NR | 640 | 583 | NR | 770 | 24 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 617 | NR | 645 | 552 | NR | 775 | 21 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 642 | NR | 650 | 519 | NR | 780 | 18 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 661 | NR | 655 | 484 | NR | 785 | 15 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 681 | NR | 660 | 448 | NR | 790 | 13 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 695 | NR | 665 | 411 | NR | 795 | 11 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 702 | NR | 670 | 373 | NR | 800 | 10 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 708 | NR | 675 | 338 | NR | 805 | 8 | NR | 935 | 0 | NR |
| 420 | 39 | NR | 550 | 707 | NR | 680 | 305 | NR | 810 | 7 | NR | 940 | 0 | NR |
| 425 | 74 | NR | 555 | 706 | NR | 685 | 272 | NR | 815 | 6 | NR | 945 | 0 | NR |
| 430 | 139 | NR | 560 | 700 | NR | 690 | 243 | NR | 820 | 5 | NR | 950 | 0 | NR |
| 435 | 270 | NR | 565 | 696 | NR | 695 | 214 | NR | 825 | 5 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 692 | NR | 700 | 188 | NR | 830 | 4 | NR | 960 | 0 | NR |
| 445 | 877 | NR | 575 | 689 | NR | 705 | 165 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 978 | NR | 580 | 688 | NR | 710 | 144 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 738 | NR | 585 | 688 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 618 | NR | 590 | 689 | NR | 720 | 110 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 529 | NR | 595 | 690 | NR | 725 | 95 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 420 | NR | 600 | 690 | NR | 730 | 82 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 395 | NR | 605 | 688 | NR | 735 | 71 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 408 | NR | 610 | 685 | NR | 740 | 61 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 429 | NR | 615 | 678 | NR | 745 | 52 | NR | 875 | 1 | NR | | | |

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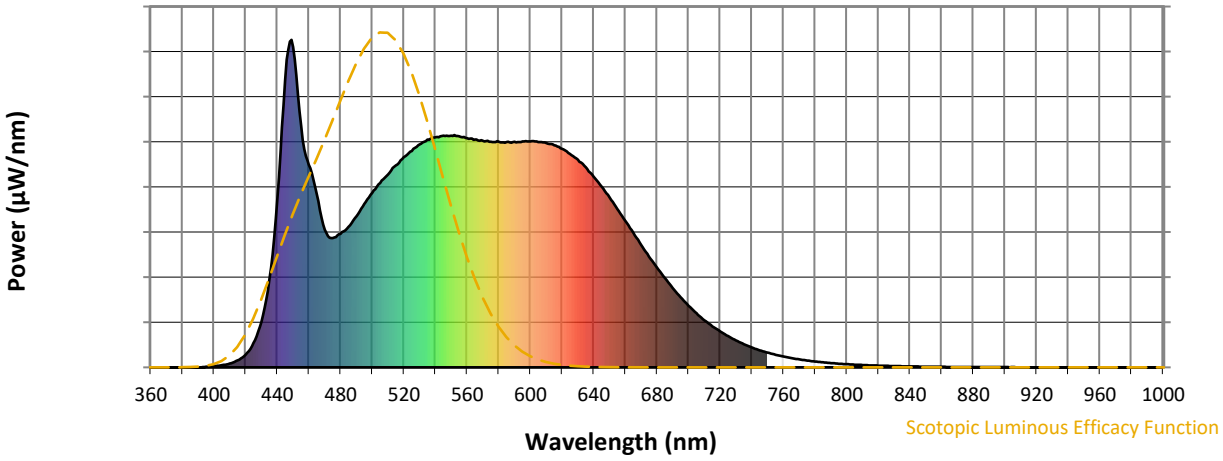
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.99**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 462 | NR | 620 | 668 | NR | 750 | 45 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 498 | NR | 625 | 652 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 533 | NR | 630 | 634 | NR | 760 | 33 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 562 | NR | 635 | 610 | NR | 765 | 28 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 590 | NR | 640 | 583 | NR | 770 | 24 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 617 | NR | 645 | 552 | NR | 775 | 21 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 642 | NR | 650 | 519 | NR | 780 | 18 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 661 | NR | 655 | 484 | NR | 785 | 15 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 681 | NR | 660 | 448 | NR | 790 | 13 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 695 | NR | 665 | 411 | NR | 795 | 11 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 702 | NR | 670 | 373 | NR | 800 | 10 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 708 | NR | 675 | 338 | NR | 805 | 8 | NR | 935 | 0 | NR |
| 420 | 39 | NR | 550 | 707 | NR | 680 | 305 | NR | 810 | 7 | NR | 940 | 0 | NR |
| 425 | 74 | NR | 555 | 706 | NR | 685 | 272 | NR | 815 | 6 | NR | 945 | 0 | NR |
| 430 | 139 | NR | 560 | 700 | NR | 690 | 243 | NR | 820 | 5 | NR | 950 | 0 | NR |
| 435 | 270 | NR | 565 | 696 | NR | 695 | 214 | NR | 825 | 5 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 692 | NR | 700 | 188 | NR | 830 | 4 | NR | 960 | 0 | NR |
| 445 | 877 | NR | 575 | 689 | NR | 705 | 165 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 978 | NR | 580 | 688 | NR | 710 | 144 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 738 | NR | 585 | 688 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 618 | NR | 590 | 689 | NR | 720 | 110 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 529 | NR | 595 | 690 | NR | 725 | 95 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 420 | NR | 600 | 690 | NR | 730 | 82 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 395 | NR | 605 | 688 | NR | 735 | 71 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 408 | NR | 610 | 685 | NR | 740 | 61 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 429 | NR | 615 | 678 | NR | 745 | 52 | NR | 875 | 1 | NR | | | |

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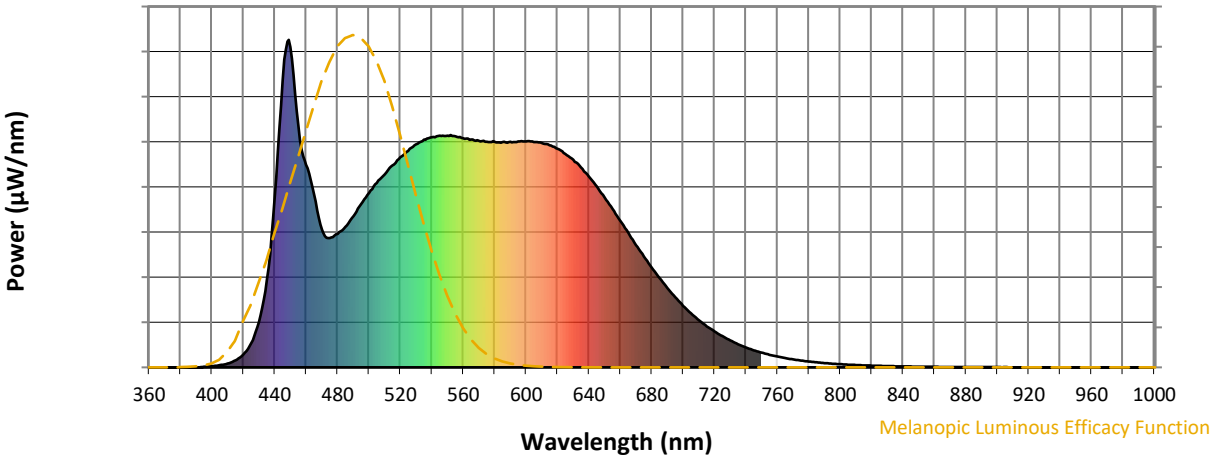
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 4.22**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 462 | NR | 620 | 668 | NR | 750 | 45 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 498 | NR | 625 | 652 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 533 | NR | 630 | 634 | NR | 760 | 33 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 562 | NR | 635 | 610 | NR | 765 | 28 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 590 | NR | 640 | 583 | NR | 770 | 24 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 617 | NR | 645 | 552 | NR | 775 | 21 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 642 | NR | 650 | 519 | NR | 780 | 18 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 661 | NR | 655 | 484 | NR | 785 | 15 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 681 | NR | 660 | 448 | NR | 790 | 13 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 695 | NR | 665 | 411 | NR | 795 | 11 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 702 | NR | 670 | 373 | NR | 800 | 10 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 708 | NR | 675 | 338 | NR | 805 | 8 | NR | 935 | 0 | NR |
| 420 | 39 | NR | 550 | 707 | NR | 680 | 305 | NR | 810 | 7 | NR | 940 | 0 | NR |
| 425 | 74 | NR | 555 | 706 | NR | 685 | 272 | NR | 815 | 6 | NR | 945 | 0 | NR |
| 430 | 139 | NR | 560 | 700 | NR | 690 | 243 | NR | 820 | 5 | NR | 950 | 0 | NR |
| 435 | 270 | NR | 565 | 696 | NR | 695 | 214 | NR | 825 | 5 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 692 | NR | 700 | 188 | NR | 830 | 4 | NR | 960 | 0 | NR |
| 445 | 877 | NR | 575 | 689 | NR | 705 | 165 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 978 | NR | 580 | 688 | NR | 710 | 144 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 738 | NR | 585 | 688 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 618 | NR | 590 | 689 | NR | 720 | 110 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 529 | NR | 595 | 690 | NR | 725 | 95 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 420 | NR | 600 | 690 | NR | 730 | 82 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 395 | NR | 605 | 688 | NR | 735 | 71 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 408 | NR | 610 | 685 | NR | 740 | 61 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 429 | NR | 615 | 678 | NR | 745 | 52 | NR | 875 | 1 | NR | | | |

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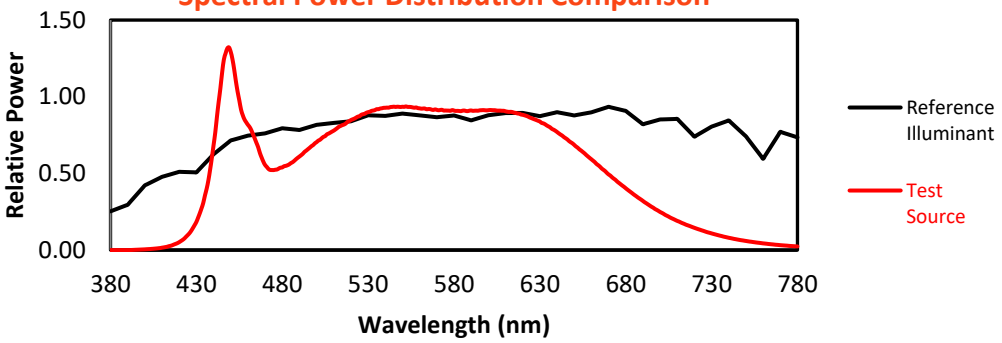
# TM-30-18

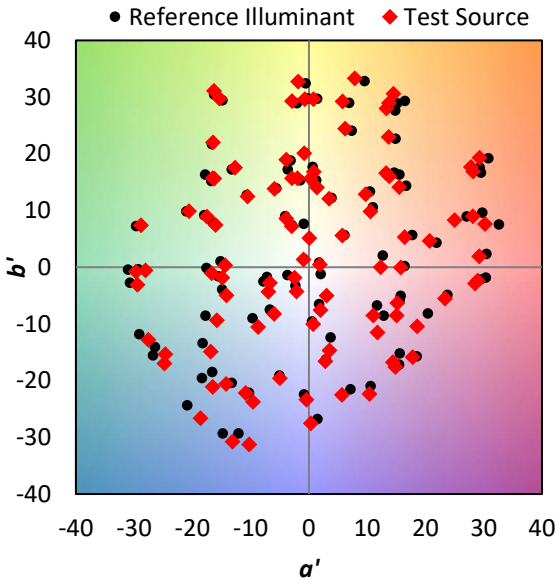
## Summary

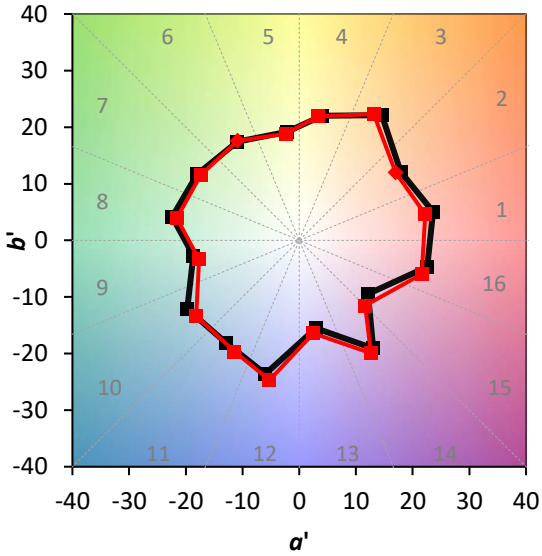
$R_f$ = 90.7
$R_g$ = 98
CIE $R_a$ = 90.8
$R_9$ = 54.9

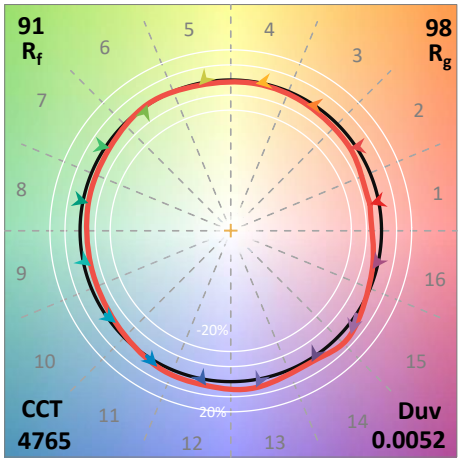
## Spectral Power Distribution Comparison

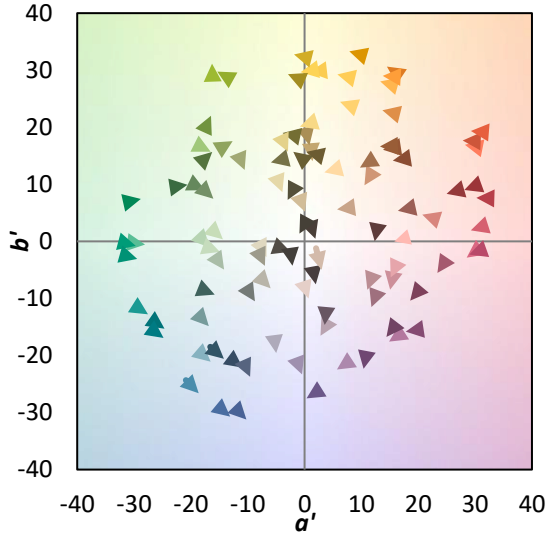



## Color Vector Graphics



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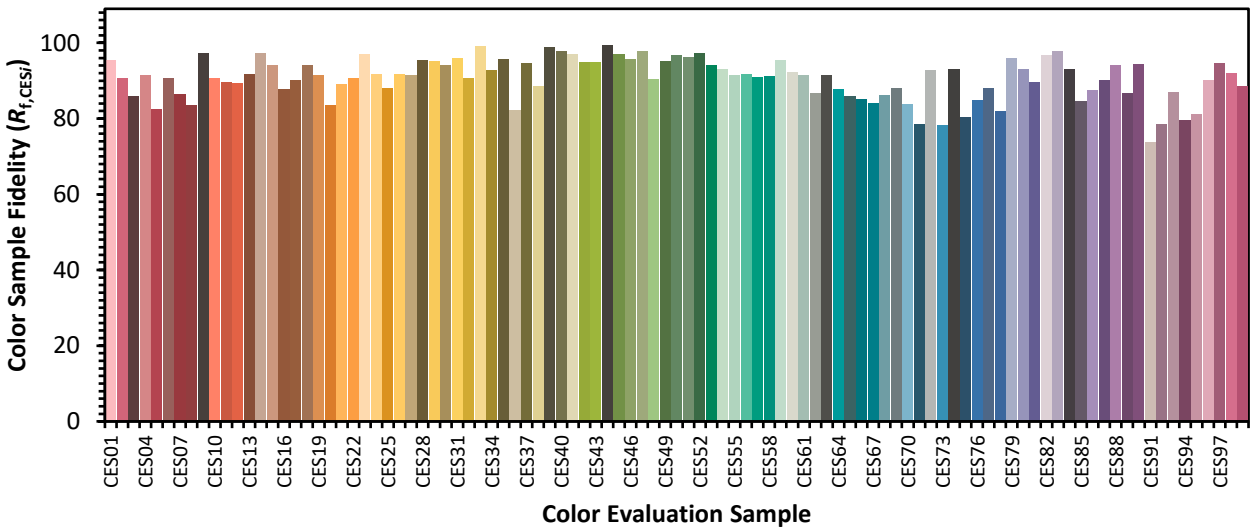
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 92 | CES51 = 96 | CES76 = 85 |
| CES02 = 60 | CES27 = 92 | CES52 = 97 | CES77 = 88 |
| CES03 = 31 | CES28 = 95 | CES53 = 94 | CES78 = 82 |
| CES04 = 69 | CES29 = 95 | CES54 = 93 | CES79 = 96 |
| CES05 = 48 | CES30 = 94 | CES55 = 92 | CES80 = 93 |
| CES06 = 50 | CES31 = 96 | CES56 = 92 | CES81 = 89 |
| CES07 = 41 | CES32 = 91 | CES57 = 91 | CES82 = 97 |
| CES08 = 40 | CES33 = 99 | CES58 = 91 | CES83 = 98 |
| CES09 = 29 | CES34 = 93 | CES59 = 95 | CES84 = 93 |
| CES10 = 73 | CES35 = 96 | CES60 = 92 | CES85 = 85 |
| CES11 = 56 | CES36 = 82 | CES61 = 92 | CES86 = 88 |
| CES12 = 62 | CES37 = 95 | CES62 = 87 | CES87 = 90 |
| CES13 = 42 | CES38 = 89 | CES63 = 91 | CES88 = 94 |
| CES14 = 74 | CES39 = 99 | CES64 = 88 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 86 | CES90 = 94 |
| CES16 = 46 | CES41 = 97 | CES66 = 85 | CES91 = 74 |
| CES17 = 48 | CES42 = 95 | CES67 = 84 | CES92 = 78 |
| CES18 = 56 | CES43 = 95 | CES68 = 86 | CES93 = 87 |
| CES19 = 70 | CES44 = 100 | CES69 = 88 | CES94 = 80 |
| CES20 = 65 | CES45 = 97 | CES70 = 84 | CES95 = 81 |
| CES21 = 85 | CES46 = 96 | CES71 = 79 | CES96 = 90 |
| CES22 = 77 | CES47 = 98 | CES72 = 93 | CES97 = 95 |
| CES23 = 91 | CES48 = 90 | CES73 = 78 | CES98 = 92 |
| CES24 = 90 | CES49 = 95 | CES74 = 93 | CES99 = 88 |
| CES25 = 70 | CES50 = 97 | CES75 = 80 | |



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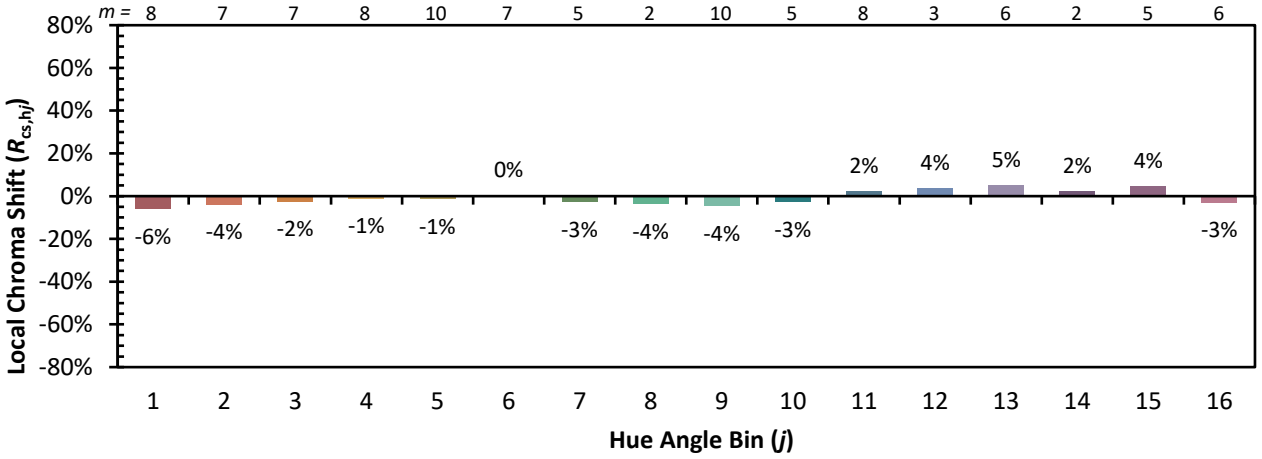
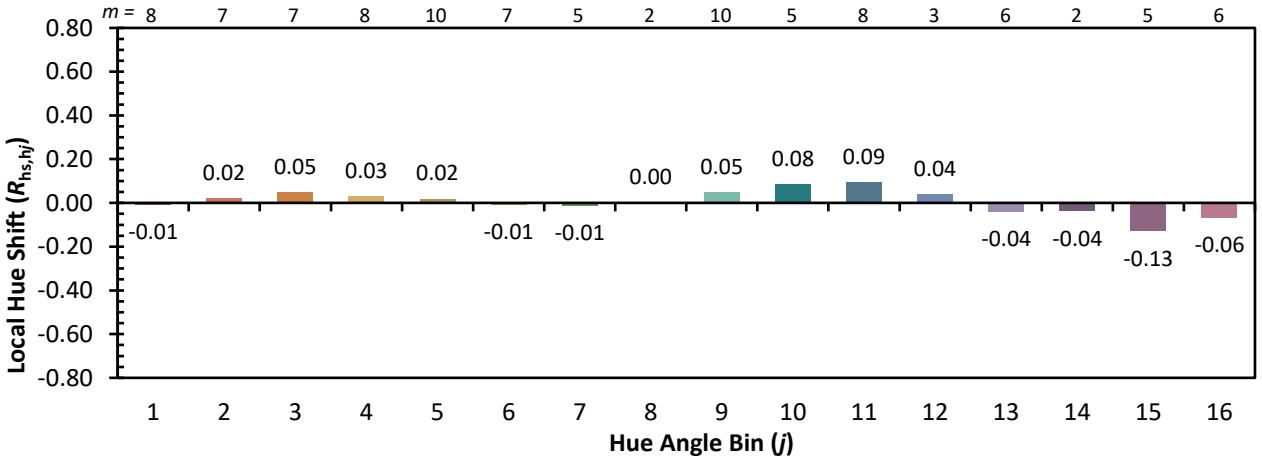
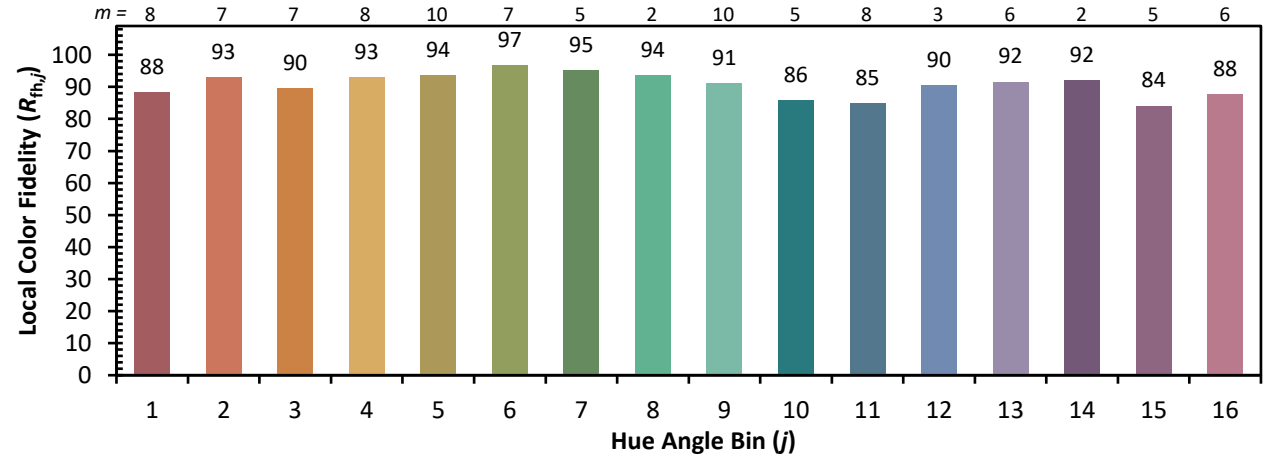
**TM-30-18**

## Color Rendition by Hue-Angle Bin



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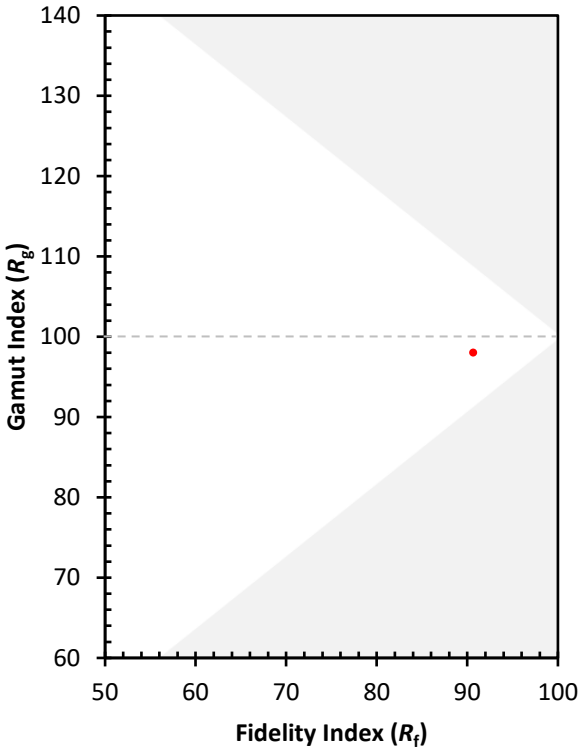
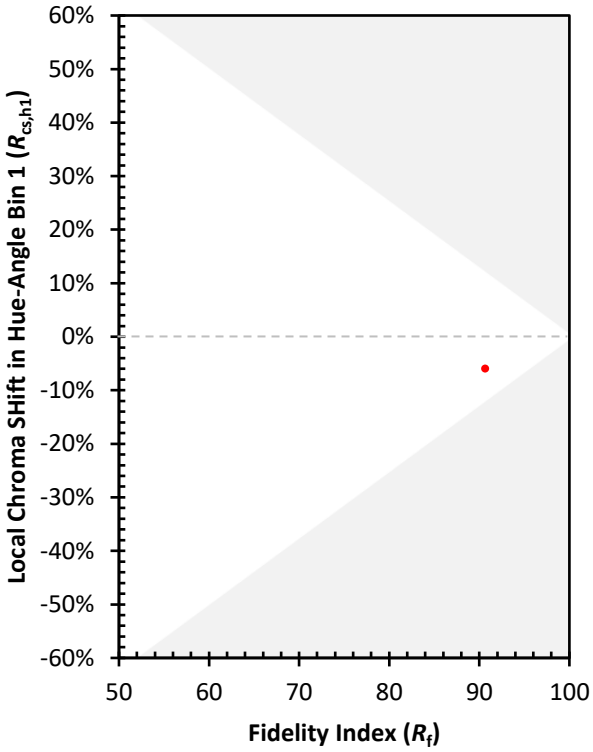
## Measure Comparisons




(END OF REPORT)