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

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Peachtree City, GA 30269

Scaled data based on original data using

LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P1459042

Luminaire Tested: GLAN-SB3D-850-U-T4LG-HSS

Issue Date: 05/20/2026

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1459042 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3D-850-U-T4LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 3xLight Square PACKAGE 80CRI 5000K FIXTURE w/ TYPE IV LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (78) 5000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 21174.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 97.1 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G3 |
| Input Watts (W): | 218.1 |
| 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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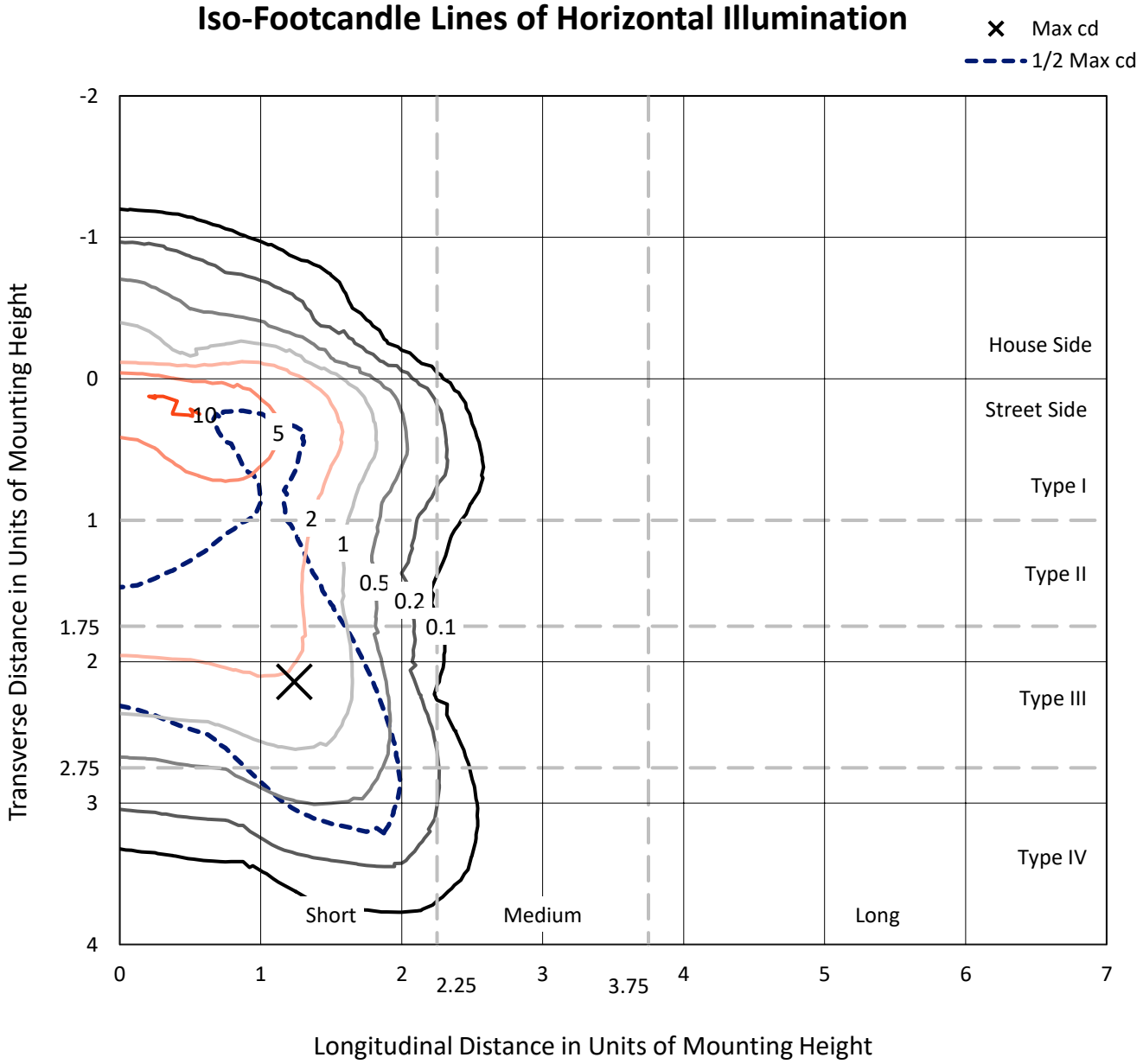
Scaled Data Report

REPORT NUMBER: P1459042
CATALOG NUMBER: GLAN-SB3D-850-U-T4LG-HSS

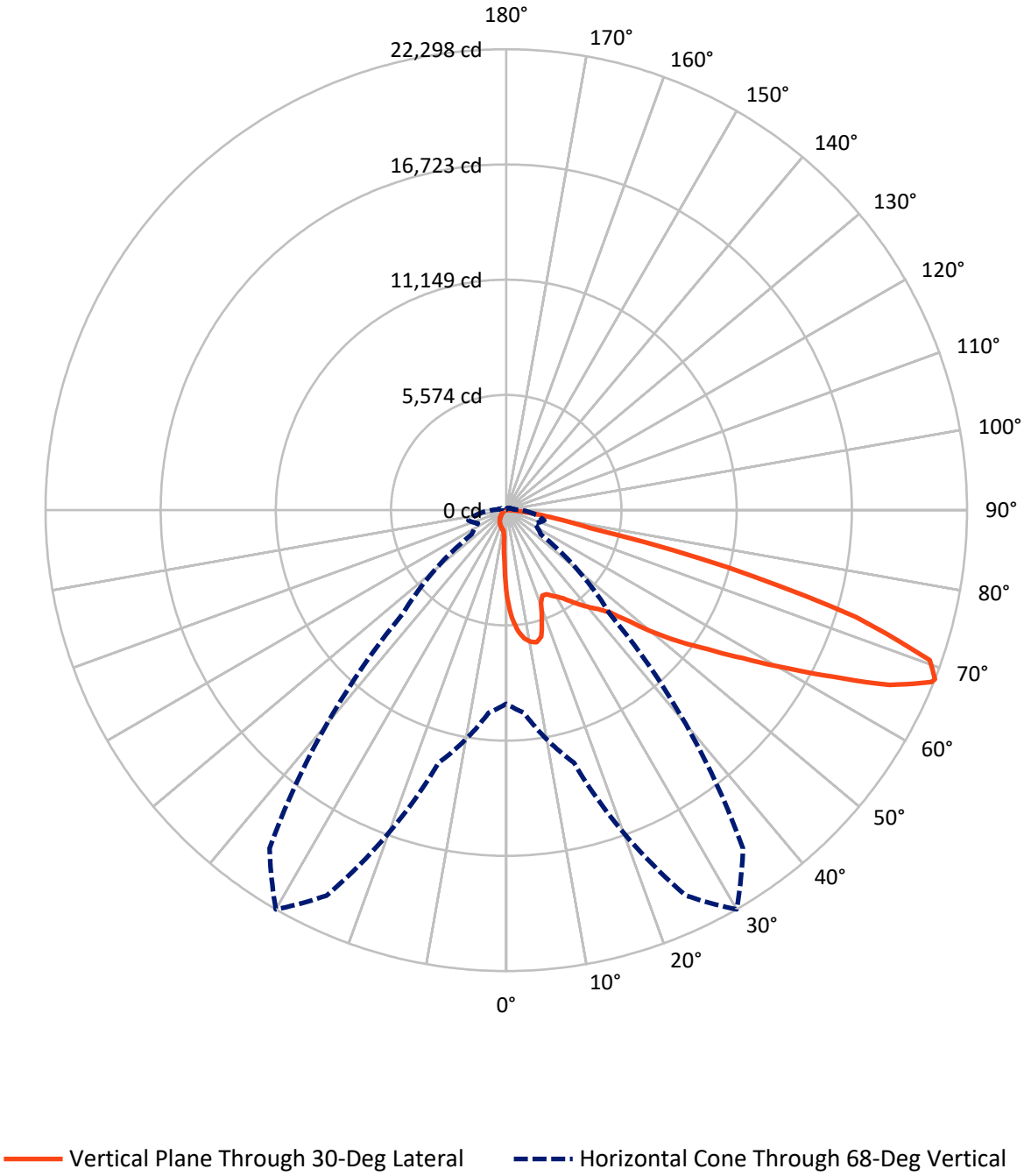
## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 10.2 fc
Type IV - Short - N/A

REPORT NUMBER: P1459042
CATALOG NUMBER: GLAN-SB3D-850-U-T4LG-HSS

## Luminous Intensity Polar Plot



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Scaled Data Report

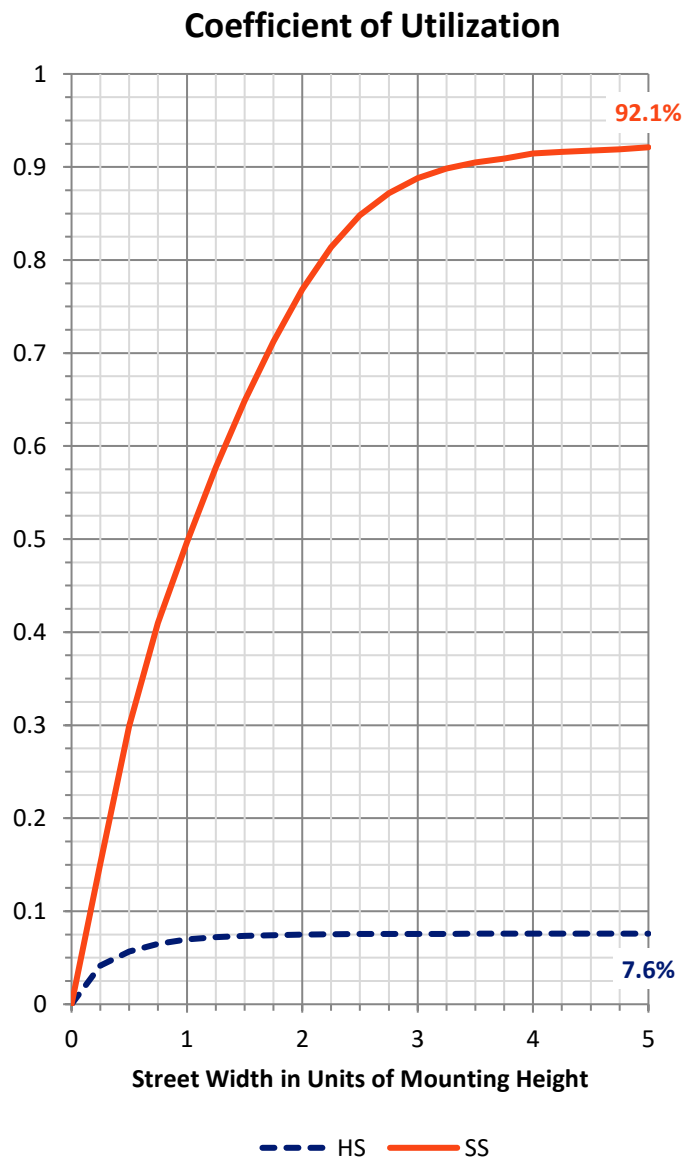
REPORT NUMBER: P1459042
CATALOG NUMBER: GLAN-SB3D-850-U-T4LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1616.1 | 0.0 | 1616.1 |
| | % Fixture | 7.6 | 0.0 | 7.6 |
| **Street Side** | Lumens | 19558.0 | 0.0 | 19558.0 |
| | % Fixture | 92.4 | 0.0 | 92.4 |
| **Total** | Lumens | 21174.1 | 0.0 | 21174.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 360.3 | 1.7 |
| 10°-20° | 1028.6 | 4.9 |
| 20°-30° | 1616.4 | 7.6 |
| 30°-40° | 2535.1 | 12.0 |
| 40°-50° | 3789.3 | 17.9 |
| 50°-60° | 5041.0 | 23.8 |
| 60°-70° | 4873.1 | 23.0 |
| 70°-80° | 1751.7 | 8.3 |
| 80°-90° | 178.8 | 0.8 |
| 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° | 21174.1 | 100.0 |
| 0°-180° | 21174.1 | 100.0 |

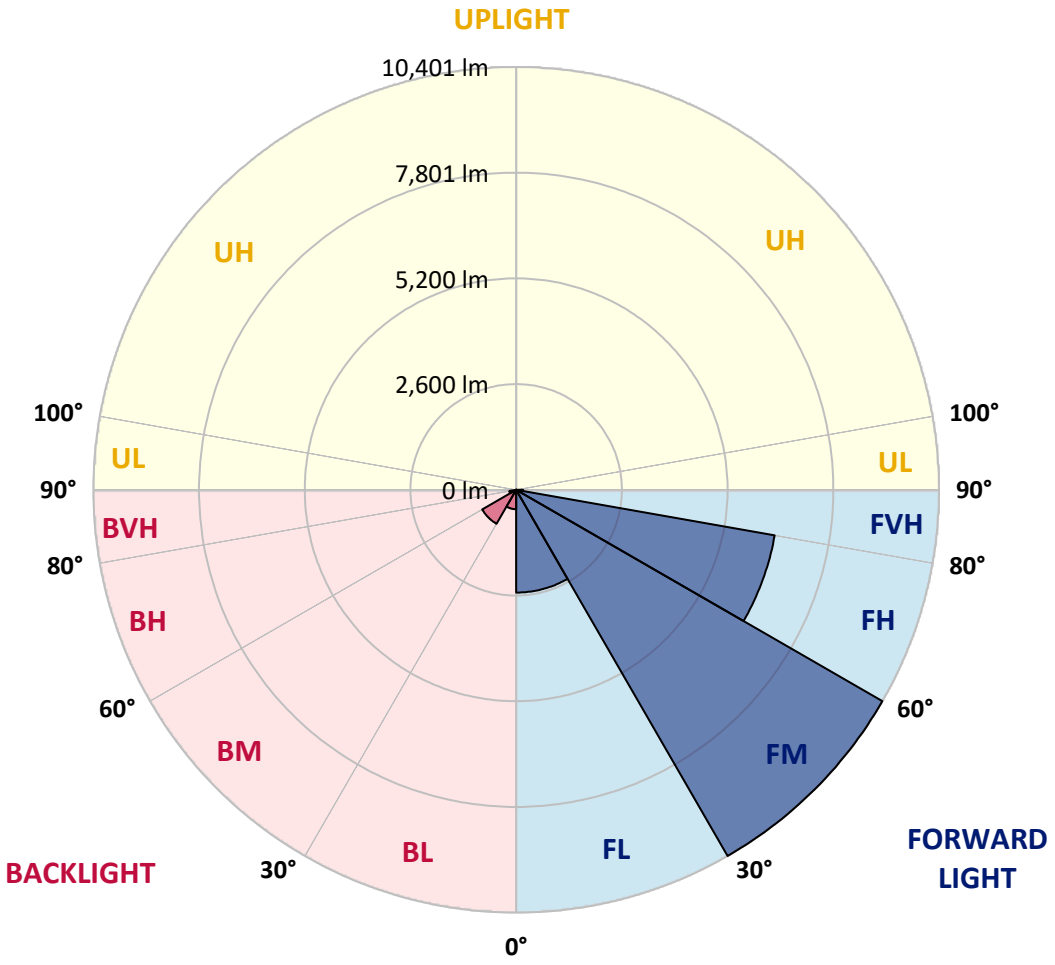


REPORT NUMBER: P1459042
CATALOG NUMBER: GLAN-SB3D-850-U-T4LG-HSS

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

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2528.2 | 11.9 | | | |
| FM | (30°-60°) | 10400.7 | 49.1 | | | |
| FH | (60°-80°) | 6456.7 | 30.5 | | | G3/7500 |
| FVH | (80°-90°) | 172.4 | 0.8 | | | G2/225 |
| BL | (0°-30°) | 477.0 | 2.3 | B1/500 | | |
| BM | (30°-60°) | 964.7 | 4.6 | B1/1000 | | |
| BH | (60°-80°) | 168.1 | 0.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 6.3 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G3**
Type IV Short



REPORT NUMBER: P1459042
CATALOG NUMBER: GLAN-SB3D-850-U-T4LG-HSS

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 30° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4175.3 | 4175.3 | 4175.3 | 4175.3 | *4175.3* | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 |
| 2.5° | 5336.5 | 5336.5 | 5298.4 | 5247.7 | *5190.5* | 5171.5 | 5063.6 | 4911.3 | 4752.7 | 4568.7 | 4302.2 |
| 5° | 6021.8 | 6015.5 | 5939.3 | 5939.3 | *5863.2* | 5793.4 | 5685.5 | 5463.4 | 5209.6 | 4879.6 | 4416.4 |
| 7.5° | 6326.4 | 6339.1 | 6307.3 | 6307.3 | *6262.9* | 6212.2 | 6148.7 | 5933.0 | 5634.7 | 5190.5 | 4530.6 |
| 10° | 6434.2 | 6440.6 | 6440.6 | 6485.0 | *6472.3* | 6466.0 | 6459.6 | 6339.1 | 6028.1 | 5507.8 | 4651.2 |
| 12.5° | 6174.1 | 6205.8 | 6294.6 | 6491.4 | *6554.8* | 6624.6 | 6719.8 | 6681.7 | 6466.0 | 5907.6 | 4835.2 |
| 15° | 5336.5 | 5342.8 | 5590.3 | 6078.9 | *6339.1* | 6605.6 | 6973.6 | 7049.8 | 6910.2 | 6339.1 | 5025.6 |
| 17.5° | 4403.7 | 4422.8 | 4619.5 | 5165.2 | *5584.0* | 6199.5 | 7119.6 | 7430.5 | 7379.7 | 6764.2 | 5203.2 |
| 20° | 4016.6 | 4042.0 | 4137.2 | 4479.9 | *4797.1* | 5368.2 | 6973.6 | 7792.2 | 7811.2 | 7189.4 | 5368.2 |
| 22.5° | 3927.8 | 3946.8 | 4023.0 | 4289.5 | *4486.2* | 4866.9 | 6478.7 | 8077.7 | 8299.8 | 7677.9 | 5564.9 |
| 25° | 3902.4 | 3921.5 | 4035.7 | 4327.6 | *4511.6* | 4828.9 | 6028.1 | 8230.0 | 8877.2 | 8185.6 | 5755.3 |
| 27.5° | 3883.4 | 3908.8 | 4092.8 | 4467.2 | *4682.9* | 4987.5 | 5945.7 | 8261.7 | 9429.3 | 8724.9 | 6066.2 |
| 30° | 3908.8 | 3946.8 | 4188.0 | 4613.1 | *4860.6* | 5203.2 | 6142.4 | 8293.5 | 10038.4 | 9340.4 | 6459.6 |
| 32.5° | 4010.3 | 4042.0 | 4333.9 | 4809.8 | *5095.4* | 5482.4 | 6478.7 | 8483.8 | 10615.9 | 9968.6 | 6834.0 |
| 35° | 4124.5 | 4168.9 | 4517.9 | 5089.0 | *5431.7* | 5869.5 | 6935.5 | 8858.2 | 11167.9 | 10565.1 | 7221.1 |
| 37.5° | 4264.1 | 4314.9 | 4733.7 | 5406.3 | *5799.7* | 6294.6 | 7430.5 | 9378.5 | 11656.5 | 11053.7 | 7608.1 |
| 40° | 4454.5 | 4511.6 | 4981.1 | 5742.6 | *6167.7* | 6662.7 | 7919.1 | 9892.5 | 12030.9 | 11345.6 | 7862.0 |
| 42.5° | 5203.2 | 5279.4 | 5476.1 | 6072.6 | *6548.5* | 7056.1 | 8401.3 | 10381.1 | 12170.5 | 11440.8 | 7912.7 |
| 45° | 6599.2 | 6675.4 | 6624.6 | 6738.8 | *7056.1* | 7532.0 | 8928.0 | 10850.7 | 12189.5 | 11415.4 | 7887.3 |
| 47.5° | 8001.6 | 8090.4 | 8046.0 | 7982.5 | *8052.3* | 8280.8 | 9518.1 | 11148.9 | 12088.0 | 11402.7 | 7887.3 |
| 50° | 9340.4 | 9289.7 | 9296.0 | 9277.0 | *9340.4* | 9461.0 | 10089.2 | 11206.0 | 12062.6 | 11523.3 | 7957.1 |
| 52.5° | 10057.5 | 10082.9 | 10241.5 | 10476.3 | *10615.9* | 10736.4 | 10742.8 | 11294.8 | 11878.6 | 11320.2 | 7874.7 |
| 55° | 10761.8 | 10812.6 | 11180.6 | 11580.4 | *11891.3* | 12119.7 | 11396.4 | 11237.7 | 10780.9 | 10641.3 | 7443.2 |
| 57.5° | 11555.0 | 11624.8 | 12145.1 | 12970.0 | *13515.7* | 13636.3 | 12043.6 | 10171.7 | 9124.7 | 9670.4 | 6605.6 |
| 60° | 12646.4 | 12728.9 | 13420.5 | 14657.9 | *15470.1* | 15222.6 | 12094.4 | 8477.5 | 7246.5 | 8026.9 | 5450.7 |
| 62.5° | 13503.0 | 13668.0 | 14918.1 | 16847.1 | *17741.8* | 16954.9 | 11148.9 | 6497.7 | 5063.6 | 5641.1 | 3978.6 |
| 65° | 12589.3 | 12906.6 | 14943.4 | 19353.5 | *20387.8* | 18991.8 | 9664.1 | 4435.4 | 2855.4 | 3648.6 | 2544.5 |
| 67.5° | 10178.0 | 10622.2 | 13268.3 | 20571.8 | *22202.6* | 20064.2 | 7608.1 | 2354.1 | 1637.1 | 2119.4 | 1338.9 |
| 68° | *9365.8* | *9848.1* | *12652.8* | *20571.8* | *22297.8* | *19969.0* | *7062.4* | *2036.9* | *1510.2* | *1903.6* | *1161.2* |
| 70° | 6472.3 | 6815.0 | 9727.5 | 19417.0 | *21739.4* | 18205.0 | 4651.2 | 1167.6 | 1135.8 | 1307.2 | 767.8 |
| 72.5° | 3172.7 | 3540.7 | 5203.2 | 15387.6 | *17710.0* | 13991.6 | 2119.4 | 774.1 | 863.0 | 958.2 | 602.8 |
| 75° | 1262.7 | 1338.9 | 2049.6 | 7589.1 | *11066.4* | 8928.0 | 1110.4 | 583.8 | 742.4 | 748.8 | 475.9 |
| 77.5° | 723.4 | 767.8 | 1135.8 | 2792.0 | *4149.9* | 3991.3 | 717.0 | 418.8 | 590.1 | 539.4 | 310.9 |
| 80° | 406.1 | 412.5 | 640.9 | 1472.1 | *2373.2* | 2125.7 | 488.6 | 304.6 | 450.5 | 380.7 | 209.4 |
| 82.5° | 203.1 | 228.4 | 406.1 | 812.2 | *1319.8* | 1351.6 | 260.2 | 215.7 | 361.7 | 272.9 | 171.3 |
| 85° | 145.9 | 158.6 | 291.9 | 450.5 | *609.2* | 913.7 | 158.6 | 107.9 | 272.9 | 184.0 | 120.6 |
| 87.5° | 76.1 | 95.2 | 184.0 | 222.1 | *247.5* | 310.9 | 76.1 | 50.8 | 152.3 | 107.9 | 63.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

REPORT NUMBER: P1459042
CATALOG NUMBER: GLAN-SB3D-850-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 | 4175.3 |
| 2.5° | 4175.3 | 4029.3 | 3731.1 | 3382.1 | 3109.3 | 2830.1 | 2601.6 | 2385.9 | 2284.3 | 2271.7 | 2297.0 |
| 5° | 4156.2 | 3839.0 | 3160.0 | 2493.7 | 1948.0 | 1567.3 | 1357.9 | 1250.0 | 1192.9 | 1167.6 | 1173.9 |
| 7.5° | 4118.2 | 3635.9 | 2550.9 | 1687.9 | 1262.7 | 1097.8 | 1047.0 | 1028.0 | 1021.6 | 1021.6 | 1021.6 |
| 10° | 4080.1 | 3363.1 | 1954.4 | 1237.4 | 1034.3 | 989.9 | 977.2 | 977.2 | 970.8 | 970.8 | 977.2 |
| 12.5° | 4061.1 | 3109.3 | 1516.6 | 1034.3 | 964.5 | 945.5 | 932.8 | 926.4 | 926.4 | 926.4 | 932.8 |
| 15° | 4016.6 | 2830.1 | 1224.7 | 958.2 | 920.1 | 894.7 | 888.4 | 882.0 | 882.0 | 882.0 | 882.0 |
| 17.5° | 3978.6 | 2557.2 | 1066.0 | 907.4 | 875.7 | 850.3 | 843.9 | 837.6 | 837.6 | 843.9 | 843.9 |
| 20° | 3921.5 | 2297.0 | 958.2 | 856.6 | 831.2 | 805.9 | 799.5 | 793.2 | 799.5 | 799.5 | 799.5 |
| 22.5° | 3851.7 | 2081.3 | 894.7 | 818.6 | 786.8 | 761.4 | 761.4 | 761.4 | 761.4 | 761.4 | 767.8 |
| 25° | 3807.2 | 1929.0 | 850.3 | 774.1 | 742.4 | 723.4 | 717.0 | 717.0 | 729.7 | 729.7 | 736.1 |
| 27.5° | 3877.0 | 1890.9 | 856.6 | 761.4 | 704.3 | 685.3 | 679.0 | 679.0 | 691.6 | 698.0 | 704.3 |
| 30° | 4086.4 | 1960.7 | 932.8 | 799.5 | 679.0 | 647.2 | 640.9 | 640.9 | 659.9 | 666.3 | 672.6 |
| 32.5° | 4327.6 | 2106.7 | 1047.0 | 850.3 | 659.9 | 609.2 | 596.5 | 596.5 | 615.5 | 621.9 | 628.2 |
| 35° | 4657.5 | 2335.1 | 1199.3 | 894.7 | 672.6 | 571.1 | 545.7 | 545.7 | 558.4 | 571.1 | 577.4 |
| 37.5° | 5082.7 | 2709.5 | 1377.0 | 926.4 | 672.6 | 526.7 | 494.9 | 488.6 | 501.3 | 501.3 | 507.6 |
| 40° | 5526.9 | 3198.1 | 1561.0 | 926.4 | 640.9 | 482.3 | 450.5 | 431.5 | 437.8 | 431.5 | 437.8 |
| 42.5° | 5774.3 | 3591.5 | 1719.6 | 869.3 | 602.8 | 437.8 | 406.1 | 380.7 | 374.4 | 361.7 | 368.0 |
| 45° | 5913.9 | 3769.2 | 1675.2 | 805.9 | 564.7 | 406.1 | 368.0 | 336.3 | 323.6 | 304.6 | 304.6 |
| 47.5° | 5913.9 | 3788.2 | 1434.1 | 755.1 | 526.7 | 380.7 | 330.0 | 298.2 | 279.2 | 260.2 | 266.5 |
| 50° | 5844.1 | 3616.9 | 1135.8 | 704.3 | 482.3 | 355.3 | 298.2 | 272.9 | 247.5 | 234.8 | 234.8 |
| 52.5° | 5552.2 | 3058.5 | 869.3 | 640.9 | 431.5 | 323.6 | 266.5 | 241.1 | 215.7 | 209.4 | 209.4 |
| 55° | 5050.9 | 2246.3 | 704.3 | 577.4 | 387.1 | 298.2 | 241.1 | 222.1 | 196.7 | 184.0 | 184.0 |
| 57.5° | 4105.5 | 1535.6 | 583.8 | 520.3 | 342.7 | 266.5 | 215.7 | 196.7 | 165.0 | 152.3 | 152.3 |
| 60° | 3045.8 | 1002.6 | 494.9 | 456.9 | 291.9 | 241.1 | 190.4 | 165.0 | 139.6 | 126.9 | 120.6 |
| 62.5° | 2055.9 | 679.0 | 412.5 | 361.7 | 247.5 | 209.4 | 165.0 | 139.6 | 107.9 | 82.5 | 82.5 |
| 65° | 1281.8 | 526.7 | 342.7 | 285.5 | 215.7 | 184.0 | 139.6 | 107.9 | 76.1 | 57.1 | 50.8 |
| 67.5° | 736.1 | 425.1 | 279.2 | 222.1 | 184.0 | 145.9 | 107.9 | 88.8 | 63.5 | 44.4 | 38.1 |
| 68° | *679.0* | *406.1* | *260.2* | *209.4* | *171.3* | *139.6* | *101.5* | *82.5* | *57.1* | *38.1* | *38.1* |
| 70° | 552.1 | 361.7 | 222.1 | 171.3 | 145.9 | 114.2 | 88.8 | 69.8 | 44.4 | 25.4 | 25.4 |
| 72.5° | 488.6 | 304.6 | 190.4 | 133.3 | 101.5 | 95.2 | 69.8 | 50.8 | 31.7 | 19.0 | 12.7 |
| 75° | 399.8 | 241.1 | 152.3 | 101.5 | 69.8 | 69.8 | 50.8 | 31.7 | 12.7 | 0.0 | 0.0 |
| 77.5° | 260.2 | 177.7 | 120.6 | 63.5 | 38.1 | 44.4 | 31.7 | 12.7 | 0.0 | 0.0 | 0.0 |
| 80° | 171.3 | 133.3 | 82.5 | 31.7 | 19.0 | 19.0 | 6.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 120.6 | 88.8 | 50.8 | 12.7 | 6.3 | 6.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 76.1 | 38.1 | 19.0 | 6.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 31.7 | 12.7 | 6.3 | 0.0 | 0.0 | 0.0 | 0.0 | 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 |

Cooper Lighting Solutions Photometric Lab
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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: SP1-2407-184-12

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-850-U-5WQ

Data in this report applies to families of products including GSS-SB1A-850-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

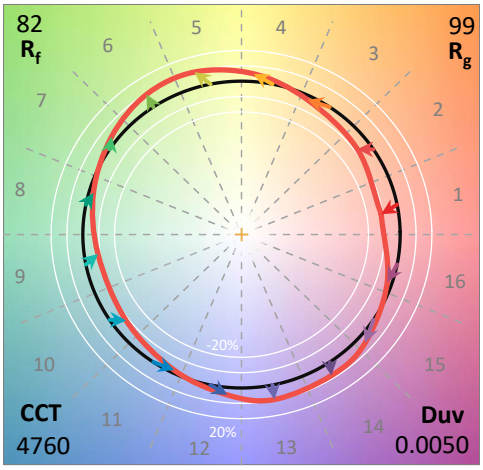
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-12 |
| 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-850-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 5000K CCT 26 LEDS |

## Spectral Parameters

| | | | | | | |
|---|---|---|---|---|---|---|
| CCT (K): | 4760 | CRI (Ra): | 81.1 | | | |
| CIE u': | 0.2107 | R1: | 79.8 | R9: | 8.7 | |
| CIE v': | 0.4939 | R2: | 83.5 | R10: | 62.4 | |
| Duv: | 0.0050 | R3: | 87.9 | R11: | 83.8 | |
| CIE x: | 0.3537 | R4: | 83.1 | R12: | 63.0 | |
| CIE y: | 0.3685 | R5: | 80.5 | R13: | 79.9 | |
| CIE z: | 0.2779 | R6: | 79.1 | R14: | 93.3 | |
| Peak Wavelength (nm): | 443 | R7: | 86.1 | R15: | 72.7 | |
| Dominant Wavelength (nm): | 571 | R8: | 69.0 | | | |
| Purity: | 16.69598 | | | | | |

| | |
|---|---|
| Rf: | 82 |
| Rg: | 99.4 |




## Test Conditions

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

| 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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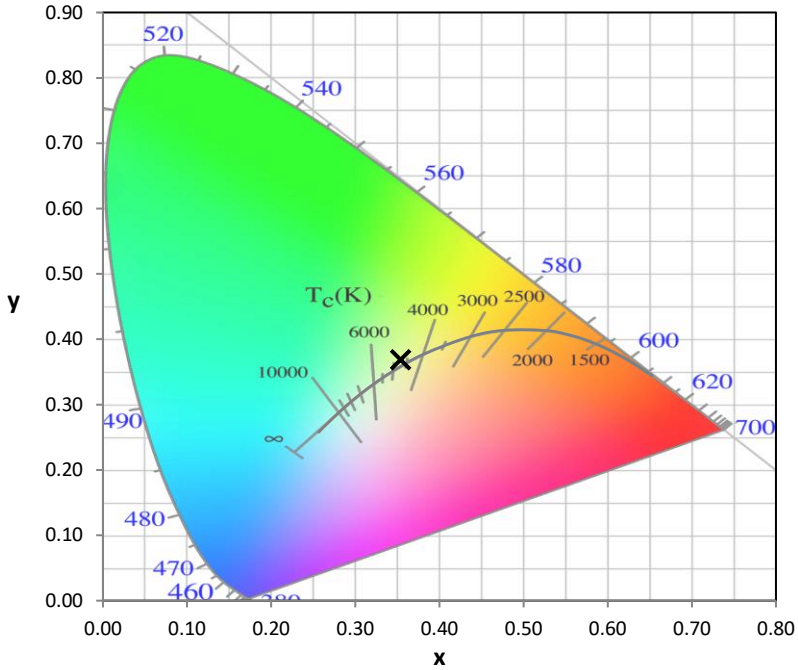
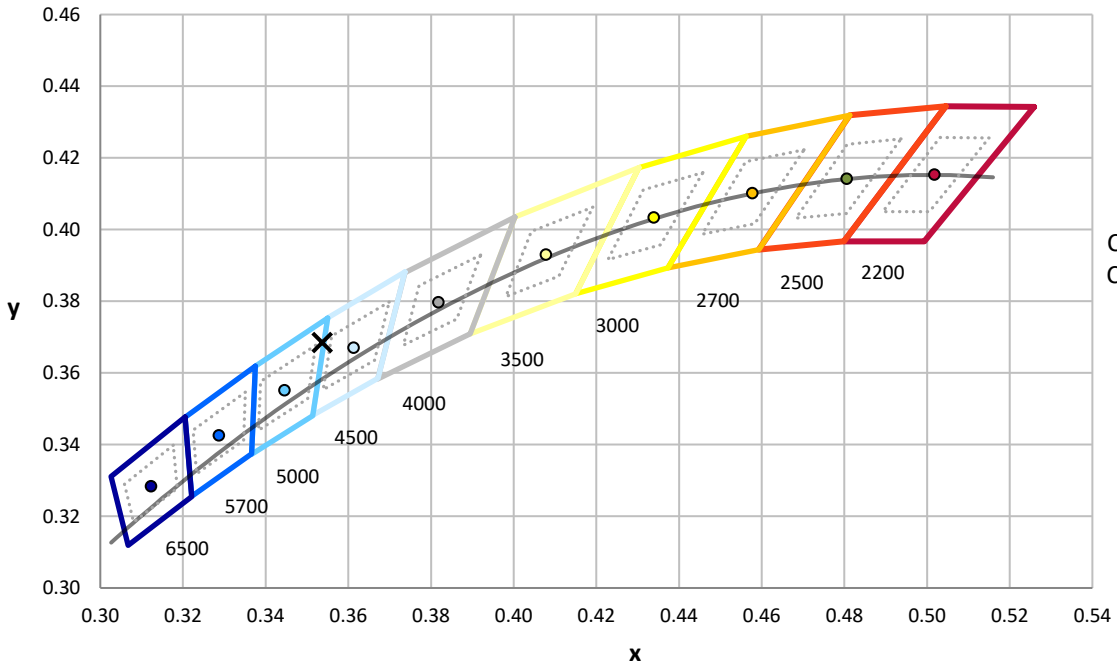
**CIE 1931 Chromaticity Diagram**




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




CCT = 4760K
CIE x = 0.3537
CIE y = 0.3685
Duv = 0.0050

Point lies inside the ANSI 5000K 7-step quadrangle

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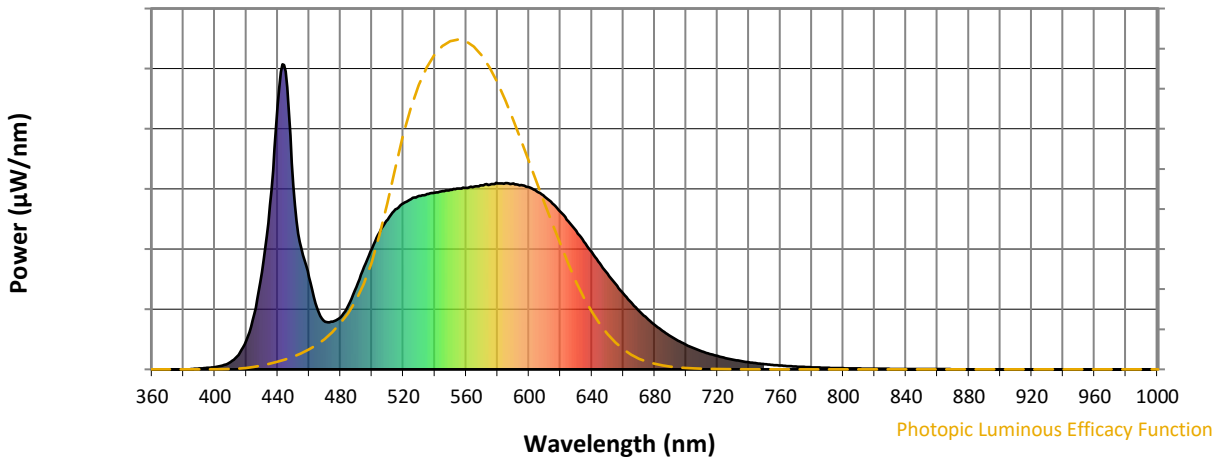
## Photopic Flux vs. Wavelength




## 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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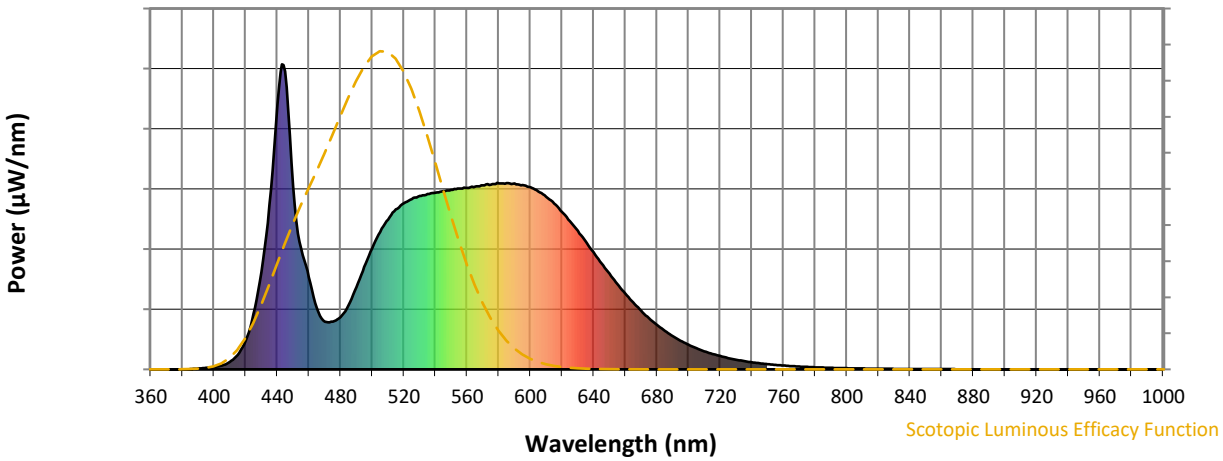
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.83**

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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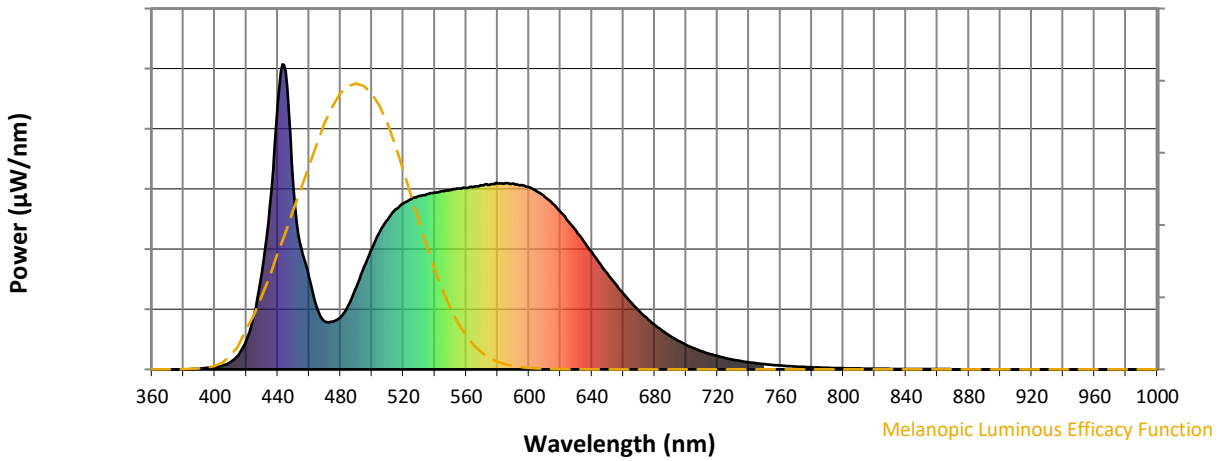
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.74**

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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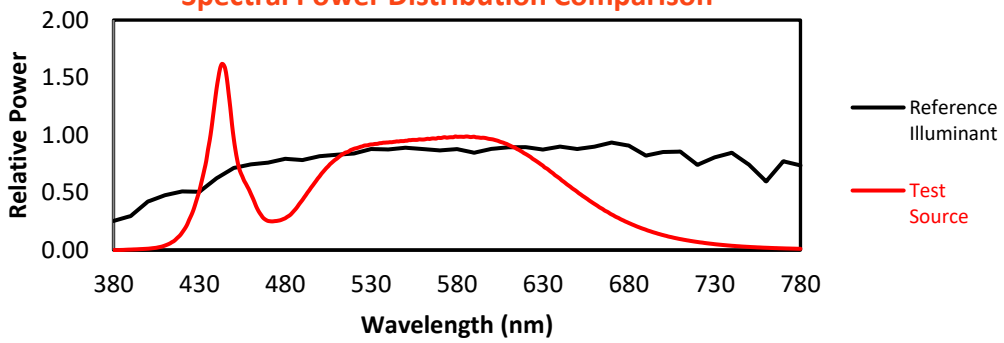
# TM-30-18

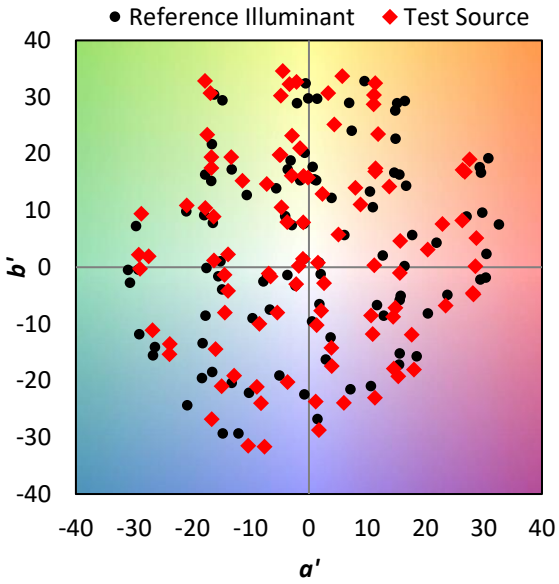
## Summary

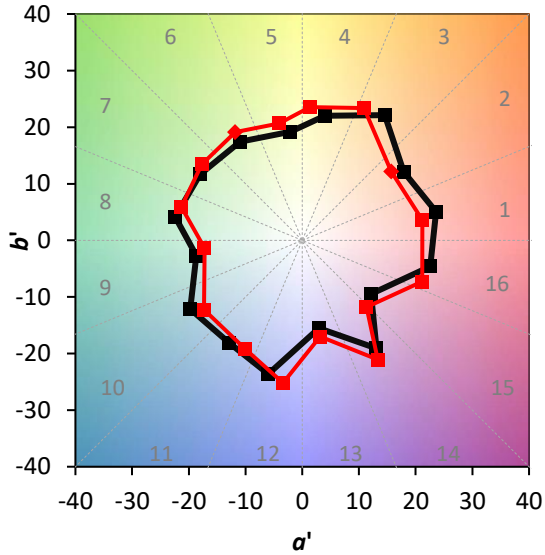
$R_f$ = 82
$R_g$ = 99.4
CIE $R_a$ = 81.1
$R_9$ = 8.7

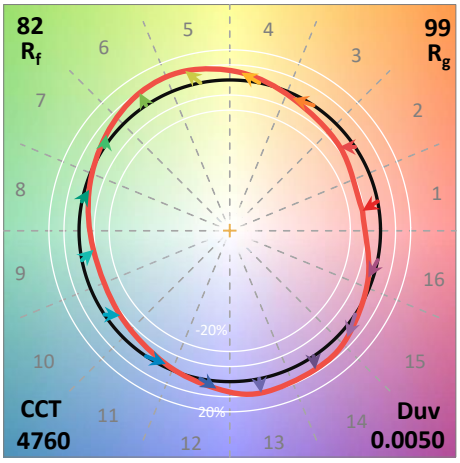
## Spectral Power Distribution Comparison

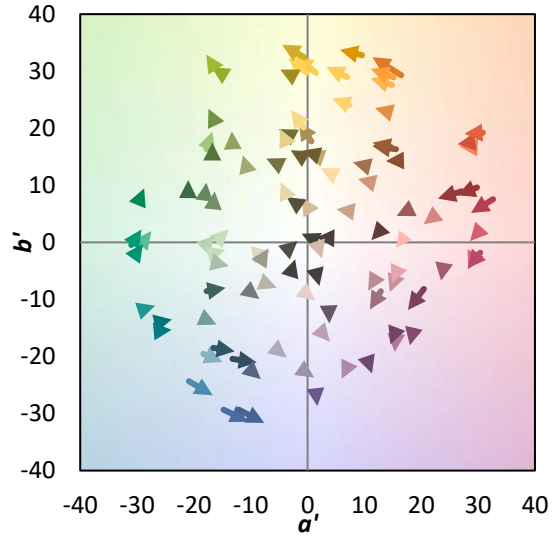



## Color Vector Graphics



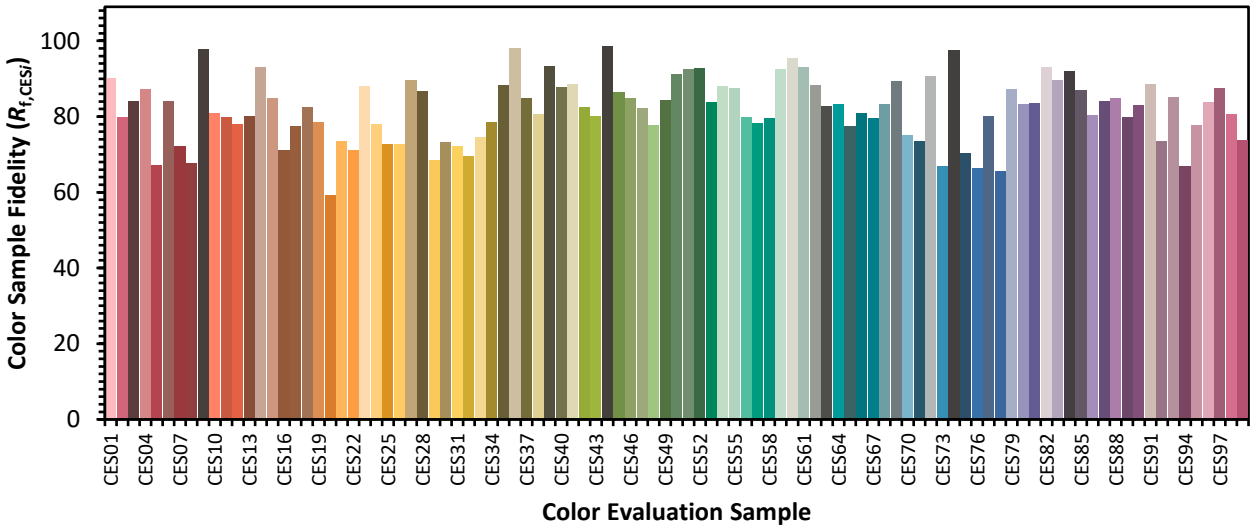



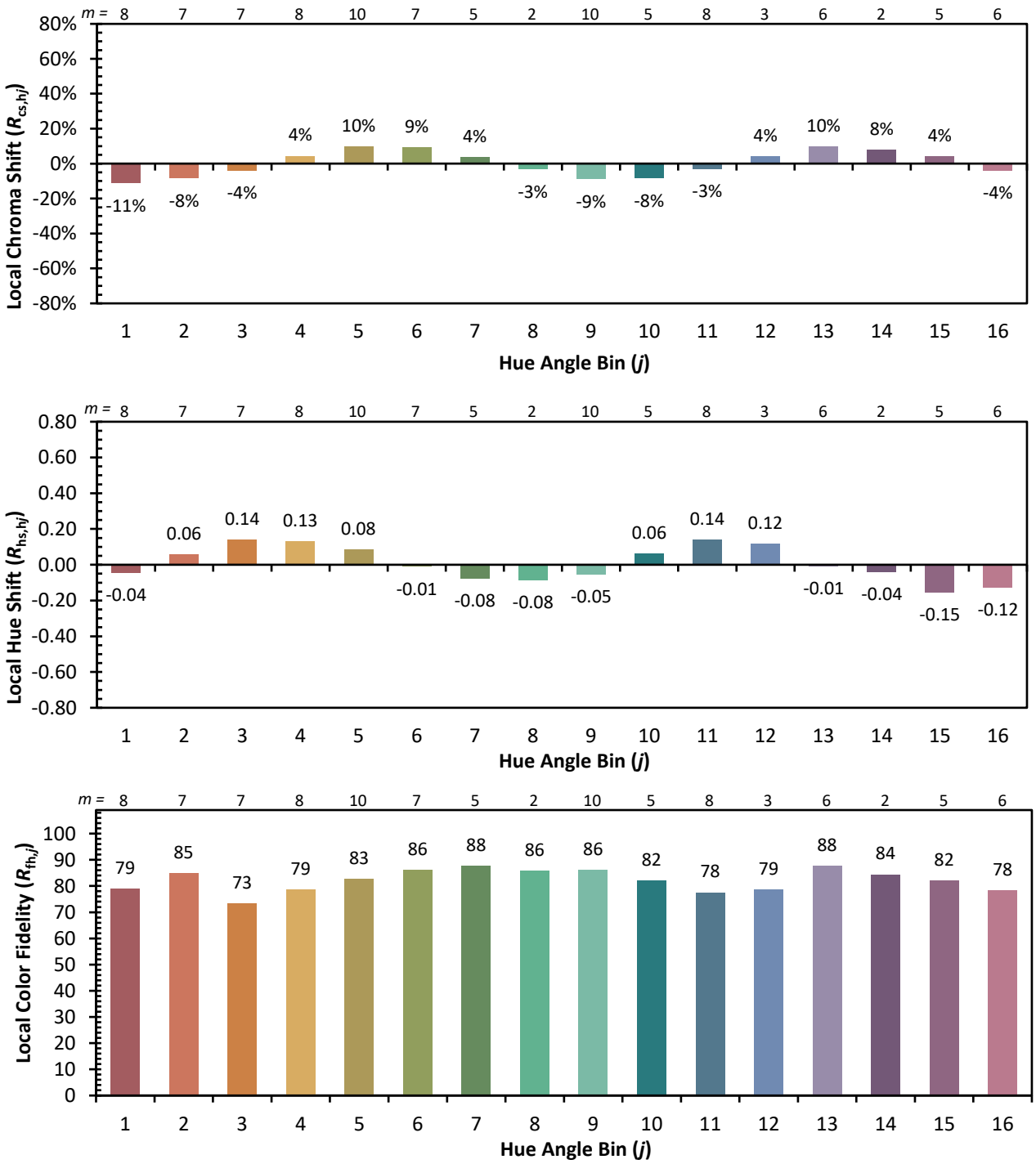



**Individual Sample Fidelity Index ($R_{f,i}$)**

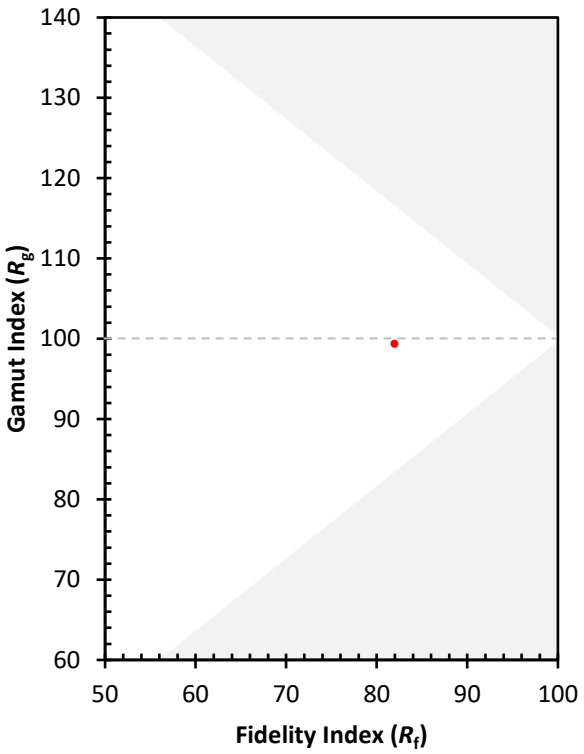
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 73 | CES51 = 92 | CES76 = 66 |
| CES02 = 60 | CES27 = 90 | CES52 = 93 | CES77 = 80 |
| CES03 = 30 | CES28 = 87 | CES53 = 84 | CES78 = 65 |
| CES04 = 69 | CES29 = 69 | CES54 = 88 | CES79 = 87 |
| CES05 = 47 | CES30 = 73 | CES55 = 88 | CES80 = 83 |
| CES06 = 50 | CES31 = 72 | CES56 = 80 | CES81 = 84 |
| CES07 = 40 | CES32 = 69 | CES57 = 78 | CES82 = 93 |
| CES08 = 39 | CES33 = 75 | CES58 = 80 | CES83 = 90 |
| CES09 = 29 | CES34 = 78 | CES59 = 93 | CES84 = 92 |
| CES10 = 73 | CES35 = 88 | CES60 = 95 | CES85 = 87 |
| CES11 = 56 | CES36 = 98 | CES61 = 93 | CES86 = 80 |
| CES12 = 62 | CES37 = 85 | CES62 = 88 | CES87 = 84 |
| CES13 = 42 | CES38 = 81 | CES63 = 83 | CES88 = 85 |
| CES14 = 74 | CES39 = 93 | CES64 = 83 | CES89 = 80 |
| CES15 = 71 | CES40 = 88 | CES65 = 77 | CES90 = 83 |
| CES16 = 46 | CES41 = 89 | CES66 = 81 | CES91 = 89 |
| CES17 = 48 | CES42 = 82 | CES67 = 80 | CES92 = 73 |
| CES18 = 55 | CES43 = 80 | CES68 = 83 | CES93 = 85 |
| CES19 = 70 | CES44 = 99 | CES69 = 89 | CES94 = 67 |
| CES20 = 64 | CES45 = 87 | CES70 = 75 | CES95 = 78 |
| CES21 = 85 | CES46 = 85 | CES71 = 73 | CES96 = 84 |
| CES22 = 77 | CES47 = 82 | CES72 = 91 | CES97 = 87 |
| CES23 = 91 | CES48 = 78 | CES73 = 67 | CES98 = 81 |
| CES24 = 90 | CES49 = 84 | CES74 = 98 | CES99 = 74 |
| CES25 = 71 | CES50 = 91 | CES75 = 70 | |

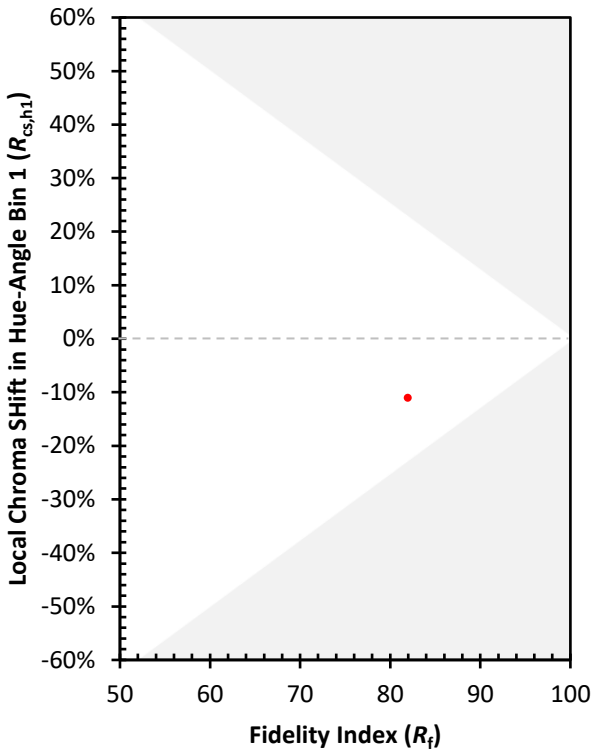


## Color Rendition by Hue-Angle Bin



## Measure Comparisons




(END OF REPORT)