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: P1457780

Luminaire Tested: GLAN-SB3B-830-U-T2LG-HSS

Issue Date: 05/20/2026

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1457780 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3B-830-U-T2LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 3xLight Square PACKAGE 80CRI 3000K FIXTURE w/ TYPE II LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (78) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 10992.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 100.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B1 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 109.2 |
| 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: P1457780
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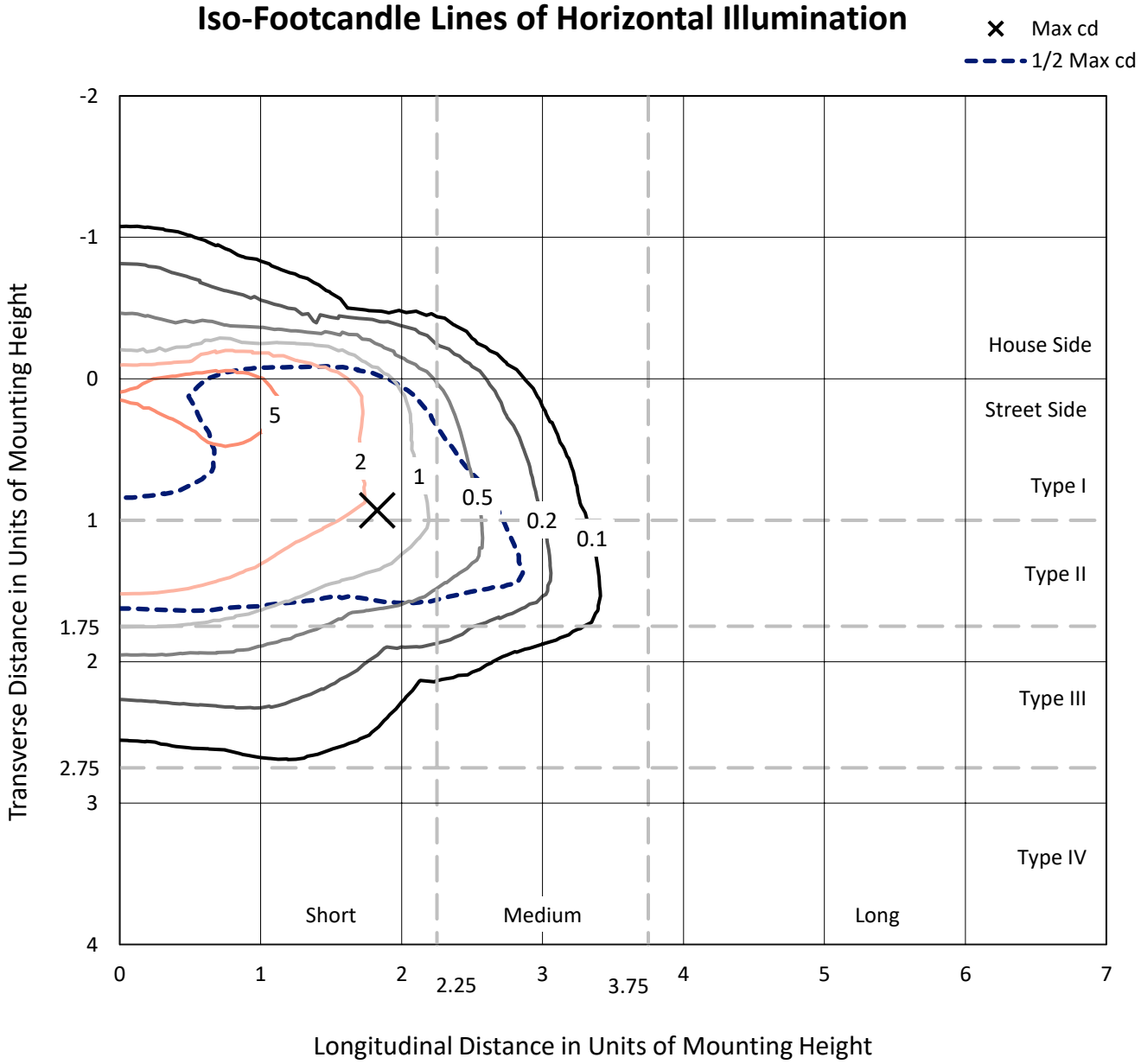
## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 7.9 fc
Type II - Short - N/A

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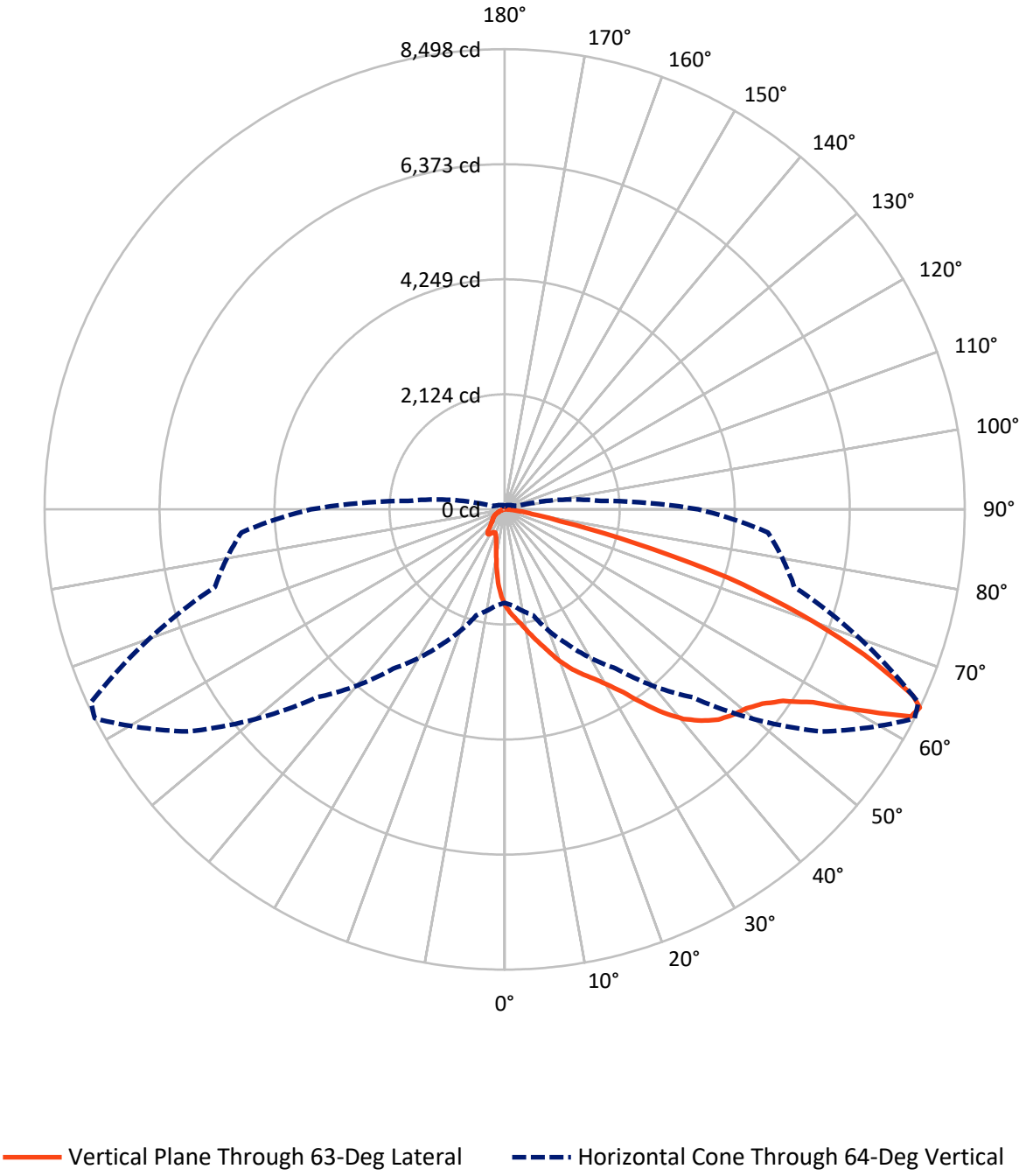
## Luminous Intensity Polar Plot



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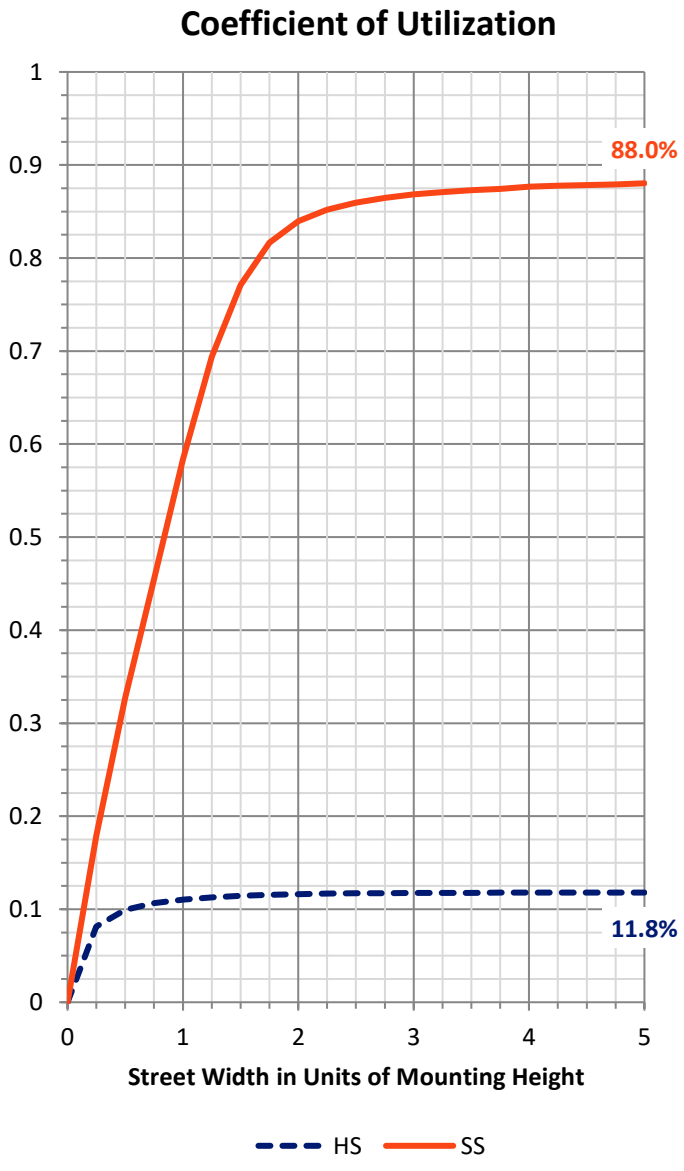
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1304.4 | 0.0 | 1304.4 |
| | % Fixture | 11.9 | 0.0 | 11.9 |
| **Street Side** | Lumens | 9687.8 | 0.0 | 9687.8 |
| | % Fixture | 88.1 | 0.0 | 88.1 |
| **Total** | Lumens | 10992.2 | 0.0 | 10992.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 149.7 | 1.4 |
| 10°-20° | 420.6 | 3.8 |
| 20°-30° | 749.1 | 6.8 |
| 30°-40° | 1430.7 | 13.0 |
| 40°-50° | 2371.5 | 21.6 |
| 50°-60° | 2956.1 | 26.9 |
| 60°-70° | 2204.2 | 20.1 |
| 70°-80° | 632.2 | 5.8 |
| 80°-90° | 78.2 | 0.7 |
| 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° | 10992.2 | 100.0 |
| 0°-180° | 10992.2 | 100.0 |



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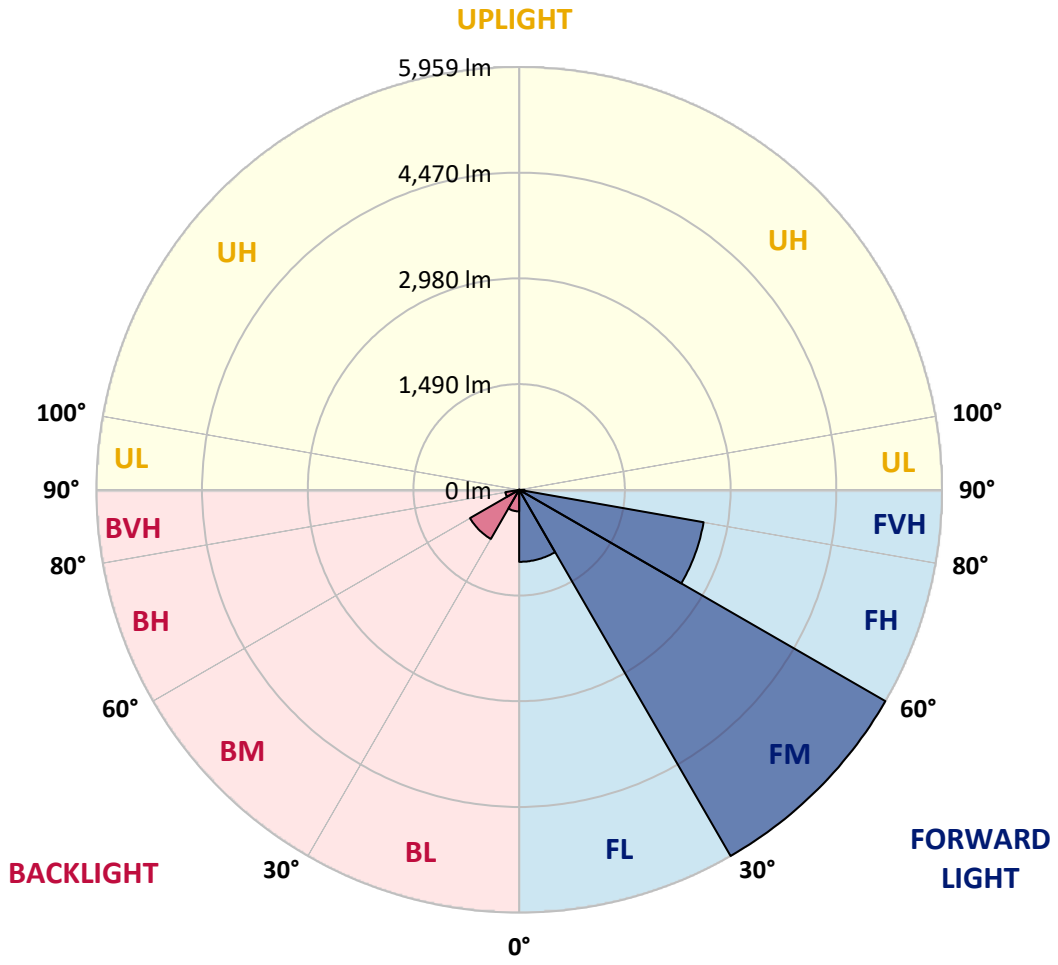
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1015.0 | 9.2 | | | |
| FM | (30°-60°) | 5959.3 | 54.2 | | | |
| FH | (60°-80°) | 2639.1 | 24.0 | | | G2/5000 |
| FVH | (80°-90°) | 74.3 | 0.7 | | | G1/100 |
| BL | (0°-30°) | 304.3 | 2.8 | B1/500 | | |
| BM | (30°-60°) | 799.0 | 7.3 | B1/1000 | | |
| BH | (60°-80°) | 197.3 | 1.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 3.8 | 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-G2**
Type II Short



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REPORT NUMBER: P1457780
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 63° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | *1777.3* | 1777.3 | 1777.3 | 1777.3 |
| 2.5° | 1991.6 | 1985.0 | 1978.5 | 1968.6 | 1955.4 | 1942.2 | 1925.7 | *1902.6* | 1892.7 | 1859.7 | 1820.2 |
| 5° | 2093.9 | 2093.9 | 2090.6 | 2084.0 | 2077.4 | 2064.2 | 2044.4 | *2014.7* | 2001.5 | 1955.4 | 1886.1 |
| 7.5° | 2120.2 | 2123.5 | 2133.4 | 2146.6 | 2166.4 | 2163.1 | 2163.1 | *2130.1* | 2123.5 | 2074.1 | 1981.8 |
| 10° | 2074.1 | 2077.4 | 2103.8 | 2140.0 | 2199.4 | 2255.4 | 2295.0 | *2275.2* | 2265.3 | 2215.9 | 2100.5 |
| 12.5° | 2008.1 | 2008.1 | 2051.0 | 2107.1 | 2199.4 | 2304.9 | 2420.3 | *2440.1* | 2443.4 | 2387.3 | 2248.8 |
| 15° | 1836.7 | 1843.3 | 1912.5 | 2024.6 | 2176.3 | 2341.2 | 2535.7 | *2611.6* | 2631.3 | 2595.1 | 2430.2 |
| 17.5° | 1609.1 | 1615.7 | 1685.0 | 1836.7 | 2064.2 | 2341.2 | 2634.6 | *2809.4* | 2835.8 | 2842.4 | 2661.0 |
| 20° | 1513.5 | 1513.5 | 1553.1 | 1668.5 | 1905.9 | 2278.5 | 2694.0 | *3020.4* | 3079.8 | 3152.3 | 2914.9 |
| 22.5° | 1526.7 | 1526.7 | 1549.8 | 1615.7 | 1807.0 | 2192.8 | 2730.3 | *3208.4* | 3330.4 | 3515.1 | 3241.4 |
| 25° | 1599.3 | 1599.3 | 1619.0 | 1661.9 | 1816.9 | 2179.6 | 2799.5 | *3376.6* | 3571.1 | 3920.6 | 3614.0 |
| 27.5° | 1714.7 | 1711.4 | 1727.9 | 1770.7 | 1912.5 | 2242.2 | 2914.9 | *3544.7* | 3762.4 | 4375.7 | 4042.6 |
| 30° | 1882.8 | 1872.9 | 1879.5 | 1929.0 | 2067.5 | 2387.3 | 3083.1 | *3759.1* | 3980.0 | 4873.6 | 4517.5 |
| 32.5° | 2271.9 | 2268.6 | 2173.0 | 2146.6 | 2295.0 | 2621.5 | 3313.9 | *4026.2* | 4273.5 | 5401.2 | 5005.5 |
| 35° | 2974.3 | 3020.4 | 2885.2 | 2539.0 | 2568.7 | 2934.7 | 3643.7 | *4388.9* | 4616.4 | 5961.7 | 5536.4 |
| 37.5° | 3686.5 | 3686.5 | 3630.5 | 3221.6 | 3013.8 | 3280.9 | 3999.8 | *4761.5* | 4998.9 | 6413.5 | 6047.5 |
| 40° | 4250.4 | 4280.1 | 4214.1 | 3907.4 | 3637.1 | 3676.6 | 4355.9 | *5087.9* | 5305.6 | 6690.5 | 6410.2 |
| 42.5° | 4669.2 | 4662.6 | 4636.2 | 4435.0 | 4283.4 | 4194.3 | 4679.0 | *5331.9* | 5539.7 | 6832.3 | 6637.7 |
| 45° | 5120.9 | 5120.9 | 5084.6 | 4919.8 | 4794.5 | 4718.6 | 4919.8 | *5536.4* | 5754.0 | 6918.0 | 6779.5 |
| 47.5° | 5592.4 | 5585.8 | 5549.6 | 5368.2 | 5233.0 | 5120.9 | 5163.8 | *5668.3* | 5885.9 | 6861.9 | 6802.6 |
| 50° | 5707.8 | 5701.2 | 5783.7 | 5790.3 | 5668.3 | 5453.9 | 5358.3 | *5780.4* | 5971.6 | 6865.2 | 6875.1 |
| 52.5° | 5572.6 | 5612.2 | 5734.2 | 5882.6 | 6021.1 | 5796.9 | 5566.1 | *5958.4* | 6156.3 | 6957.6 | 7056.5 |
| 55° | 5236.3 | 5252.8 | 5486.9 | 5724.3 | 6047.5 | 6126.6 | 5899.1 | *6242.0* | 6416.8 | 7046.6 | 7218.1 |
| 57.5° | 4609.8 | 4672.5 | 4923.1 | 5335.2 | 5826.5 | 6156.3 | 6479.4 | *6716.9* | 6848.8 | 7082.9 | 7129.0 |
| 60° | 3478.8 | 3511.8 | 4055.8 | 4590.0 | 5368.2 | 5918.9 | 7020.2 | *7521.4* | 7504.9 | 6674.0 | 6505.8 |
| 62.5° | 2116.9 | 2146.6 | 2535.7 | 3383.2 | 4362.5 | 5424.3 | 7201.6 | *8421.6* | 8332.6 | 5984.8 | 5477.0 |
| 64° | *1724.6* | *1780.6* | *2021.3* | *2746.8* | *3587.6* | *4906.6* | *7148.8* | *8497.5* | *8428.2* | *5539.7* | *4880.2* |
| 65° | 1473.9 | 1549.8 | 1797.1 | 2384.0 | 3050.1 | 4349.3 | 7003.7 | *8286.4* | 8240.3 | 5269.3 | 4385.6 |
| 67.5° | 926.6 | 962.8 | 1328.9 | 1853.2 | 2100.5 | 2783.0 | 6021.1 | *7165.3* | 7247.7 | 4695.5 | 3234.8 |
| 70° | 689.2 | 705.6 | 913.4 | 1434.4 | 1638.8 | 1619.0 | 4135.0 | *5803.5* | 5823.3 | 3755.8 | 1952.1 |
| 72.5° | 501.2 | 504.5 | 639.7 | 1061.8 | 1282.7 | 1104.6 | 2179.6 | *4313.0* | 4171.2 | 2199.4 | 1065.1 |
| 75° | 333.0 | 346.2 | 448.4 | 748.5 | 999.1 | 811.2 | 992.5 | *2456.6* | 2413.7 | 1075.0 | 610.0 |
| 77.5° | 244.0 | 247.3 | 303.4 | 501.2 | 784.8 | 596.8 | 600.1 | *1058.5* | 1091.4 | 639.7 | 385.8 |
| 80° | 138.5 | 145.1 | 197.8 | 306.7 | 511.1 | 408.9 | 336.3 | *511.1* | 586.9 | 435.3 | 257.2 |
| 82.5° | 82.4 | 89.0 | 141.8 | 201.1 | 349.5 | 168.2 | 171.5 | *280.3* | 349.5 | 313.3 | 138.5 |
| 85° | 49.5 | 52.8 | 89.0 | 108.8 | 207.7 | 112.1 | 62.7 | *138.5* | 181.4 | 184.7 | 75.8 |
| 87.5° | 33.0 | 33.0 | 49.5 | 46.2 | 59.4 | 52.8 | 26.4 | *36.3* | 46.2 | 62.7 | 29.7 |
| 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: P1457780
CATALOG NUMBER: GLAN-SB3B-830-U-T2LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 | 1777.3 |
| 2.5° | 1787.2 | 1767.4 | 1708.1 | 1628.9 | 1556.4 | 1500.3 | 1431.1 | 1384.9 | 1342.1 | 1342.1 | 1305.8 |
| 5° | 1830.1 | 1777.3 | 1632.2 | 1450.9 | 1256.3 | 1071.7 | 953.0 | 821.1 | 778.2 | 741.9 | 748.5 |
| 7.5° | 1902.6 | 1807.0 | 1549.8 | 1223.3 | 913.4 | 715.5 | 583.6 | 524.3 | 497.9 | 481.4 | 484.7 |
| 10° | 1991.6 | 1859.7 | 1450.9 | 992.5 | 672.7 | 524.3 | 461.6 | 438.6 | 428.7 | 425.4 | 425.4 |
| 12.5° | 2113.6 | 1922.4 | 1351.9 | 798.0 | 530.9 | 451.7 | 418.8 | 405.6 | 395.7 | 389.1 | 389.1 |
| 15° | 2258.7 | 2001.5 | 1236.5 | 656.2 | 464.9 | 415.5 | 389.1 | 375.9 | 362.7 | 359.4 | 359.4 |
| 17.5° | 2443.4 | 2084.0 | 1134.3 | 563.9 | 432.0 | 389.1 | 362.7 | 346.2 | 336.3 | 333.0 | 333.0 |
| 20° | 2647.8 | 2186.2 | 1032.1 | 511.1 | 408.9 | 362.7 | 336.3 | 323.1 | 313.3 | 306.7 | 310.0 |
| 22.5° | 2908.3 | 2314.8 | 966.1 | 484.7 | 389.1 | 339.6 | 313.3 | 300.1 | 290.2 | 283.6 | 286.9 |
| 25° | 3195.2 | 2476.4 | 929.9 | 484.7 | 375.9 | 323.1 | 293.5 | 280.3 | 270.4 | 263.8 | 263.8 |
| 27.5° | 3544.7 | 2657.7 | 933.2 | 504.5 | 372.6 | 310.0 | 277.0 | 263.8 | 253.9 | 244.0 | 244.0 |
| 30° | 3930.5 | 2872.1 | 969.4 | 540.8 | 379.2 | 296.8 | 263.8 | 244.0 | 237.4 | 227.5 | 227.5 |
| 32.5° | 4339.4 | 3119.4 | 1061.8 | 586.9 | 372.6 | 280.3 | 244.0 | 227.5 | 217.6 | 211.0 | 211.0 |
| 35° | 4771.4 | 3399.6 | 1177.2 | 606.7 | 339.6 | 257.2 | 227.5 | 211.0 | 204.4 | 201.1 | 197.8 |
| 37.5° | 5183.6 | 3643.7 | 1239.8 | 567.2 | 296.8 | 237.4 | 207.7 | 191.3 | 188.0 | 181.4 | 181.4 |
| 40° | 5503.4 | 3844.8 | 1203.6 | 484.7 | 273.7 | 217.6 | 191.3 | 174.8 | 168.2 | 161.6 | 161.6 |
| 42.5° | 5691.4 | 3917.3 | 1071.7 | 412.2 | 257.2 | 197.8 | 174.8 | 158.3 | 151.7 | 148.4 | 148.4 |
| 45° | 5800.2 | 3907.4 | 916.7 | 369.3 | 240.7 | 181.4 | 158.3 | 148.4 | 138.5 | 135.2 | 131.9 |
| 47.5° | 5796.9 | 3805.2 | 804.6 | 333.0 | 224.2 | 168.2 | 148.4 | 138.5 | 128.6 | 125.3 | 125.3 |
| 50° | 5773.8 | 3653.5 | 679.3 | 306.7 | 211.0 | 158.3 | 138.5 | 131.9 | 122.0 | 118.7 | 115.4 |
| 52.5° | 5829.8 | 3567.8 | 567.2 | 290.2 | 194.5 | 151.7 | 135.2 | 125.3 | 112.1 | 108.8 | 108.8 |
| 55° | 5899.1 | 3518.4 | 455.0 | 273.7 | 181.4 | 148.4 | 128.6 | 118.7 | 105.5 | 102.2 | 102.2 |
| 57.5° | 5697.9 | 3330.4 | 375.9 | 247.3 | 164.9 | 141.8 | 122.0 | 115.4 | 102.2 | 92.3 | 92.3 |
| 60° | 5064.8 | 2753.3 | 310.0 | 217.6 | 151.7 | 131.9 | 115.4 | 105.5 | 92.3 | 79.1 | 79.1 |
| 62.5° | 4118.5 | 2100.5 | 257.2 | 184.7 | 141.8 | 122.0 | 105.5 | 95.6 | 79.1 | 62.7 | 62.7 |
| 64° | *3577.7* | *1783.9* | *230.8* | *161.6* | *135.2* | *112.1* | *95.6* | *85.7* | *69.2* | *52.8* | *49.5* |
| 65° | 3208.4 | 1576.2 | 214.3 | 151.7 | 131.9 | 105.5 | 92.3 | 82.4 | 62.7 | 49.5 | 46.2 |
| 67.5° | 2258.7 | 1058.5 | 171.5 | 125.3 | 115.4 | 89.0 | 79.1 | 69.2 | 56.1 | 42.9 | 39.6 |
| 70° | 1315.7 | 600.1 | 135.2 | 105.5 | 89.0 | 69.2 | 65.9 | 62.7 | 49.5 | 33.0 | 33.0 |
| 72.5° | 715.5 | 300.1 | 102.2 | 85.7 | 69.2 | 49.5 | 56.1 | 49.5 | 39.6 | 26.4 | 23.1 |
| 75° | 438.6 | 184.7 | 75.8 | 62.7 | 46.2 | 36.3 | 42.9 | 36.3 | 23.1 | 16.5 | 13.2 |
| 77.5° | 293.5 | 118.7 | 56.1 | 42.9 | 29.7 | 23.1 | 29.7 | 19.8 | 9.9 | 3.3 | 3.3 |
| 80° | 181.4 | 82.4 | 36.3 | 26.4 | 16.5 | 9.9 | 6.6 | 3.3 | 3.3 | 0.0 | 0.0 |
| 82.5° | 79.1 | 52.8 | 19.8 | 13.2 | 6.6 | 3.3 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 42.9 | 16.5 | 6.6 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 13.2 | 6.6 | 3.3 | 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 |

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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: SP1-2407-184-9

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-830-U-5WQ

Data in this report applies to families of products including GSS-SB1A-830-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

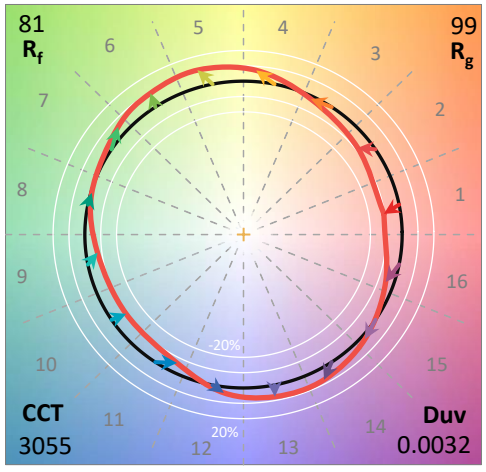
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-9 |
| 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-830-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3055 |
| CIE u': | 0.2475 |
| CIE v': | 0.5247 |
| Duv: | 0.0032 |
| CIE x: | 0.4377 |
| CIE y: | 0.4124 |
| CIE z: | 0.1499 |
| Peak Wavelength (nm): | 604 |
| Dominant Wavelength (nm): | 581 |
| Purity: | 55.16339 |
| Rf: | 81.5 |
| Rg: | 99.2 |

| | |
|---|---|
| CRI (Ra): | 80.9 |
| R1: | 79.5 |
| R2: | 85.6 |
| R3: | 92.1 |
| R4: | 82.4 |
| R5: | 78.9 |
| R6: | 81.7 |
| R7: | 85.1 |
| R8: | 61.9 |
| R9: | 6.8 |
| R10: | 67.1 |
| R11: | 82.5 |
| R12: | 63.4 |
| R13: | 80.2 |
| R14: | 95.1 |
| R15: | 71.7 |




## Test Conditions

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

REPORT NUMBER: SP1-2407-184-9

| 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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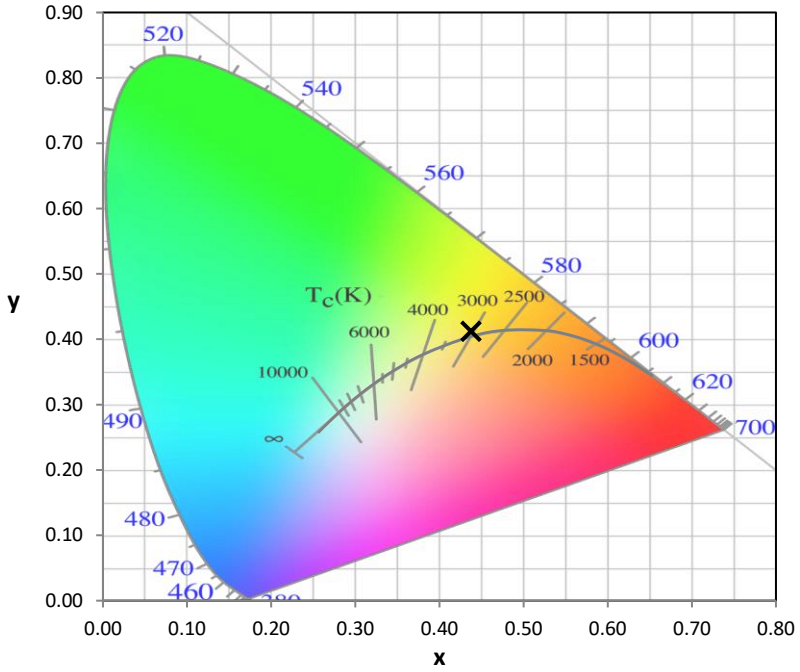
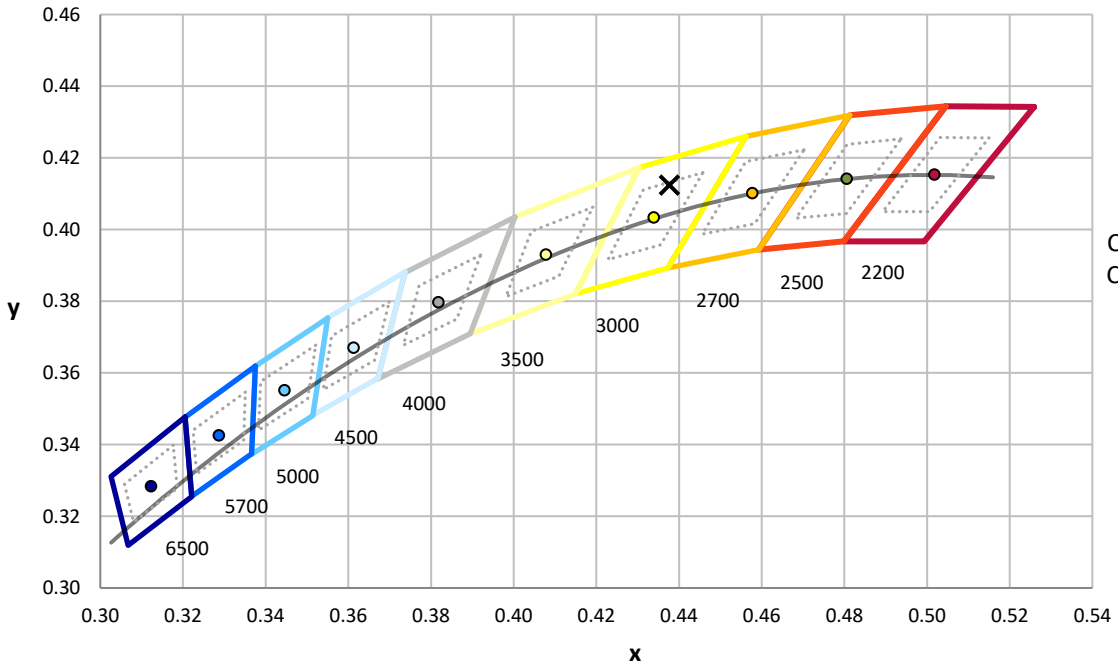
## CIE 1931 Chromaticity Diagram




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




CCT = 3055K
CIE x = 0.4377
CIE y = 0.4124
Duv = 0.0032

Point lies inside the ANSI 3000K 4-step quadrangle

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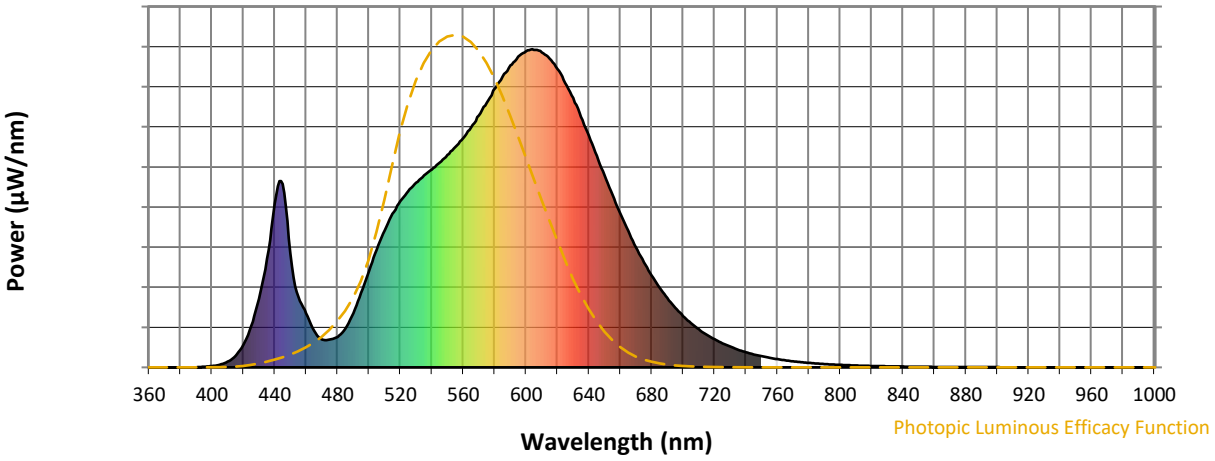
## Photopic Flux vs. Wavelength




## 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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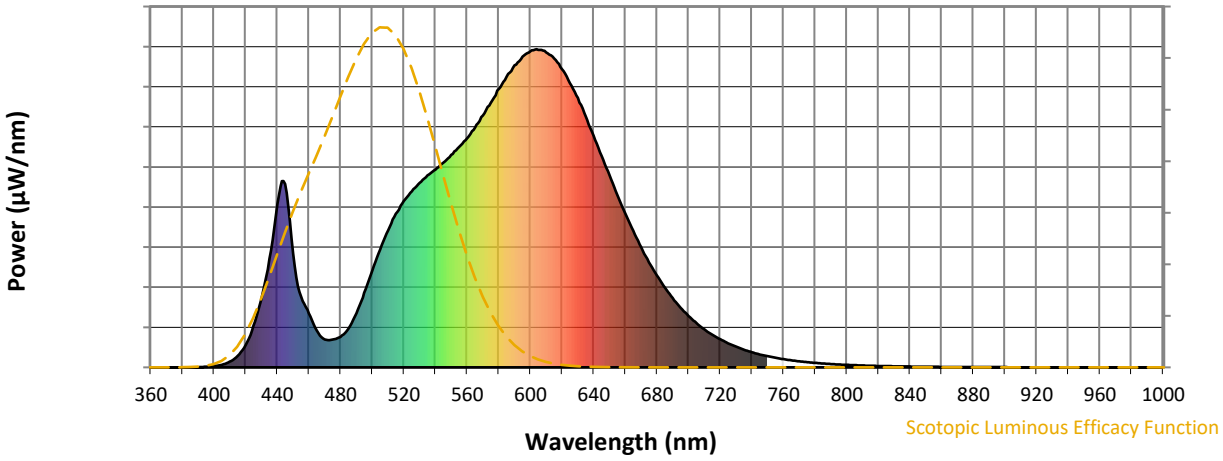
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.28**

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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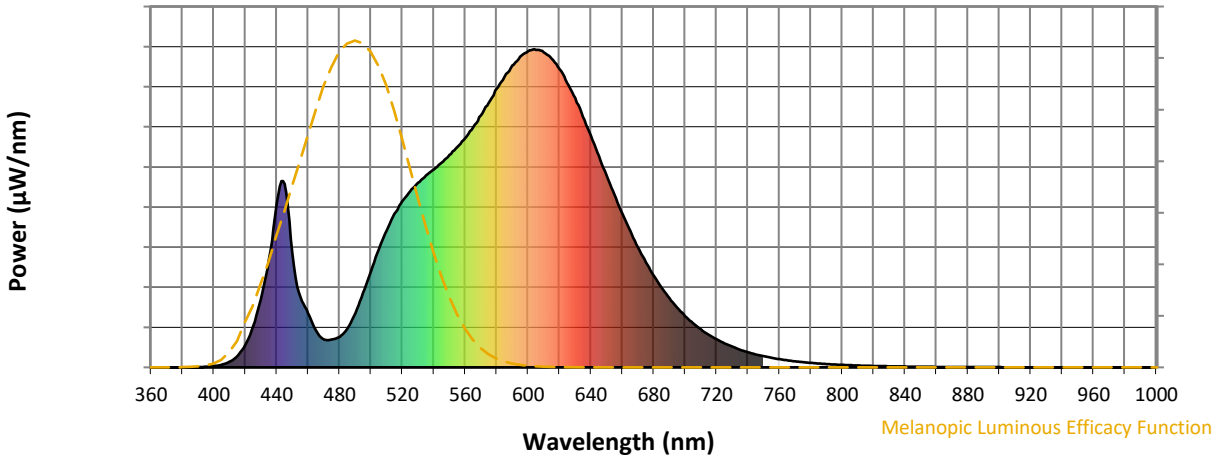
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.33**

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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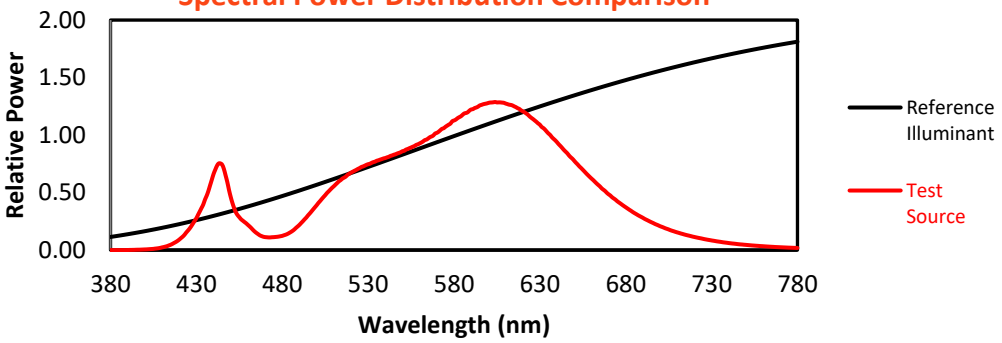
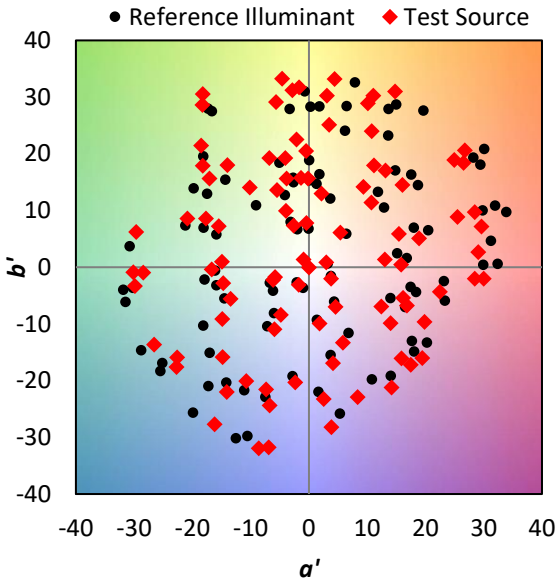
## Summary

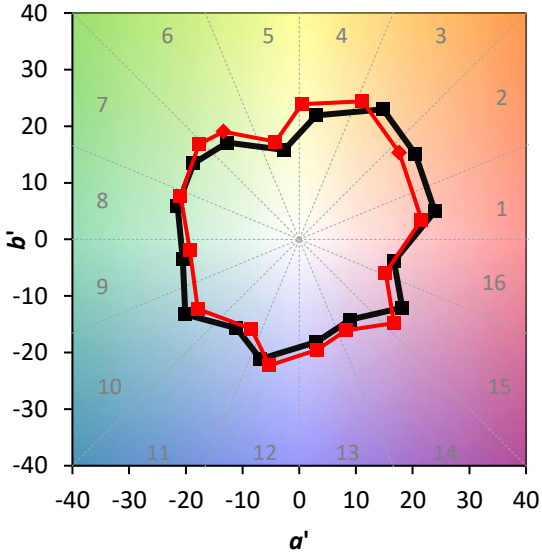
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 80.9
$R_9$ = 6.8

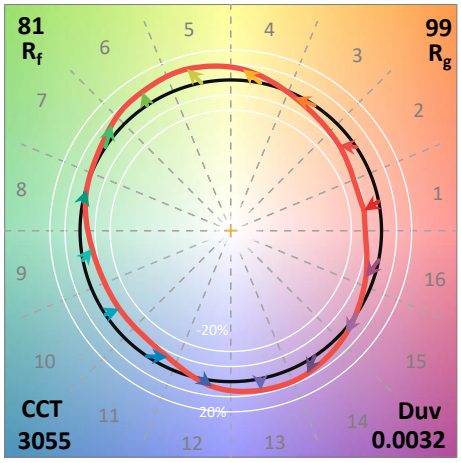
## Spectral Power Distribution Comparison

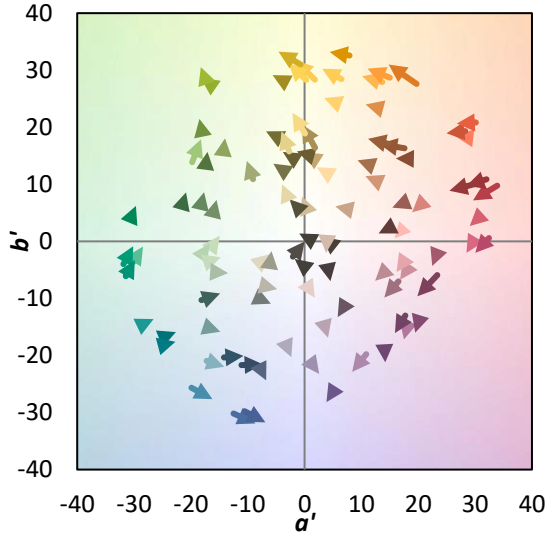



## Color Vector Graphics



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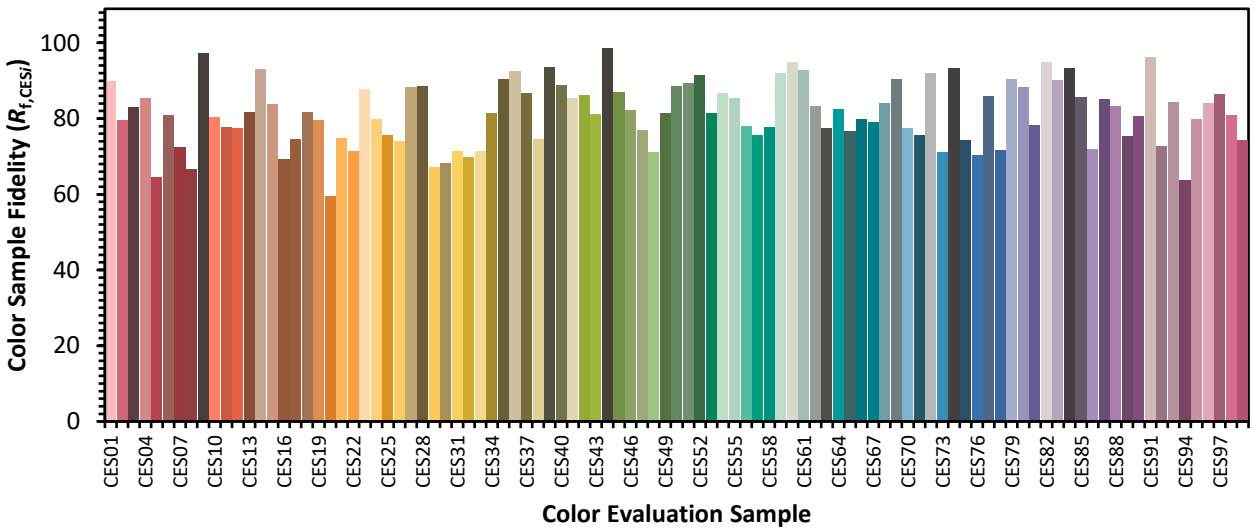
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 91 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 93 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 90 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 77 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 | |



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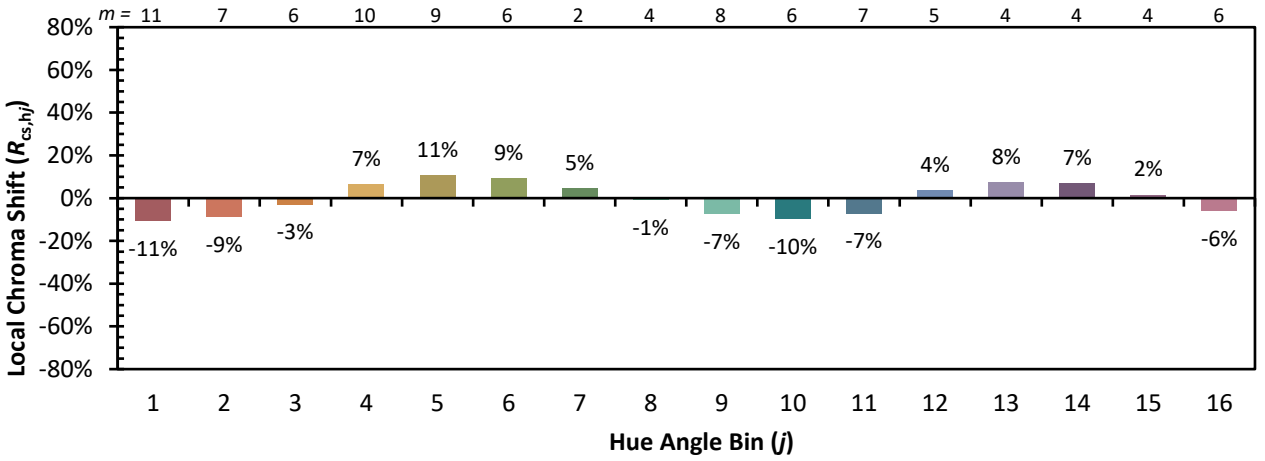
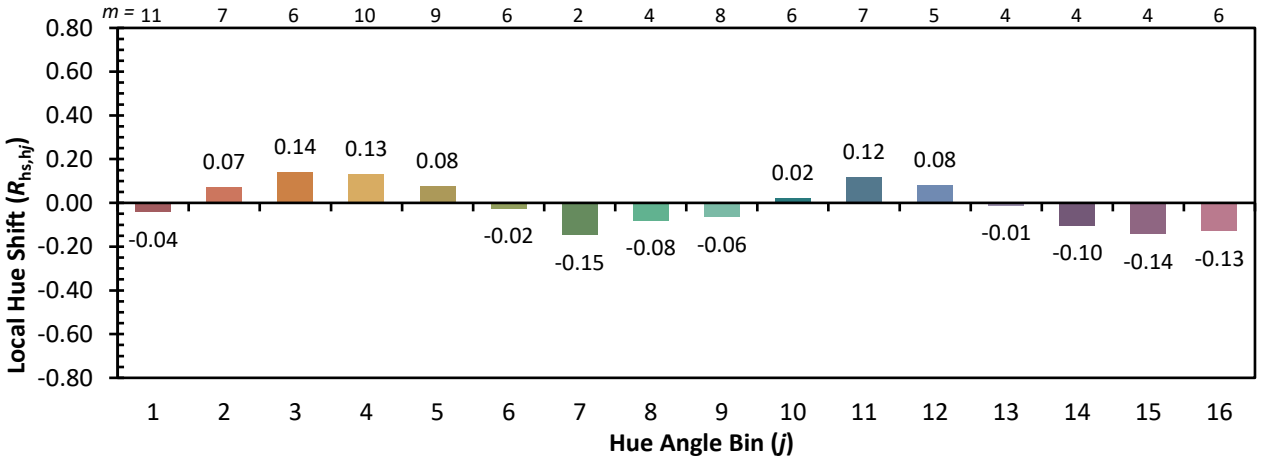
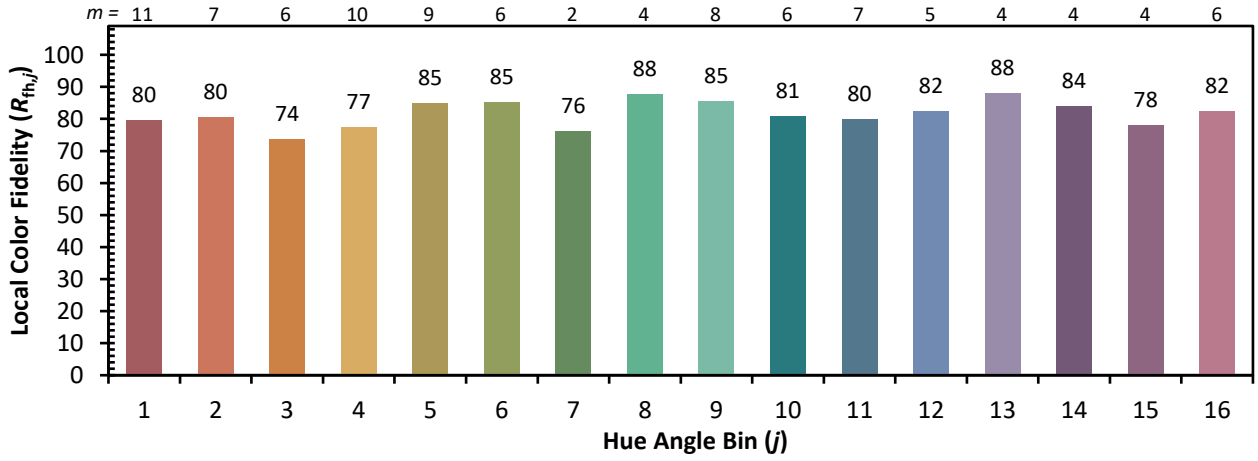
## Color Rendition by Hue-Angle Bin



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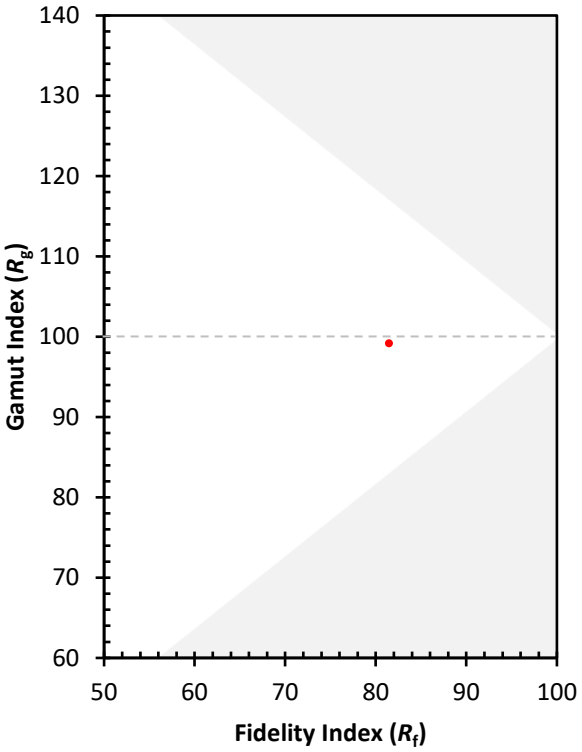
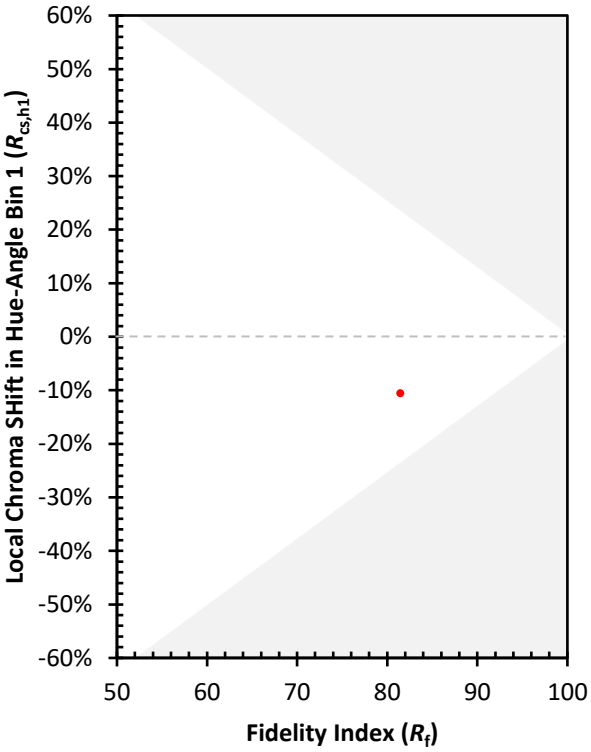
## Measure Comparisons




(END OF REPORT)