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: McGRAW-EDISON

Report Number: P1357622

Luminaire Tested: **GSS-SB2D-722-U-T4FT**

Issue Date: 02/18/2026

Report Generated By 670245763

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: | P1357622 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2D-722-U-T4FT |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 147W 70CRI 2200K FIXTURE w/ TYPE IV FORWARD THROW DISTRIBUTION OPTIC |
| Light Source: | (52) 2200K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14842.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 101.0 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G3 |

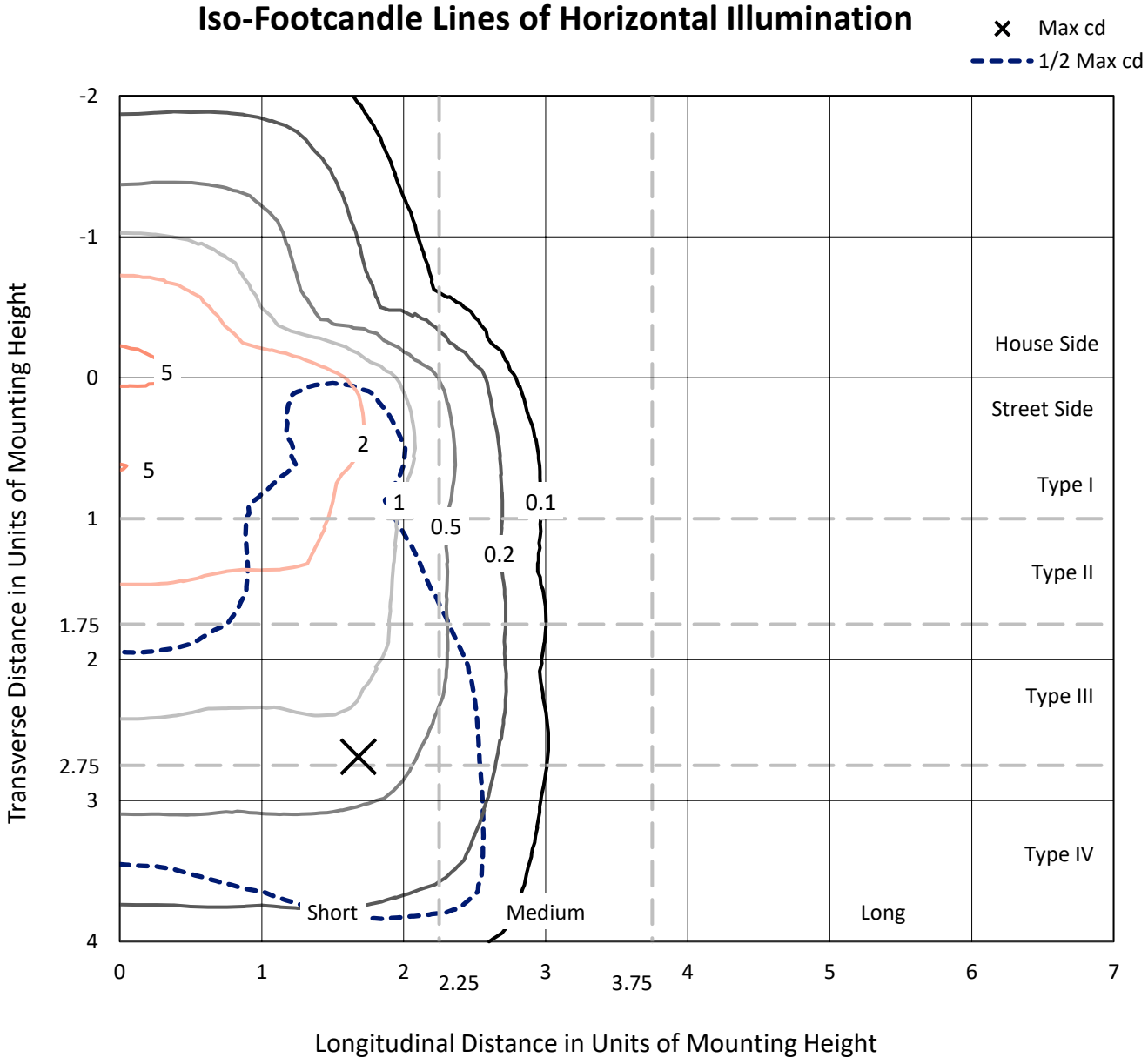
| | |
|---|---|
| Input Watts (W): | 147 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 3.1% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1357622
CATALOG NUMBER: GSS-SB2D-722-U-T4FT

## Iso-Footcandle Lines of Horizontal Illumination



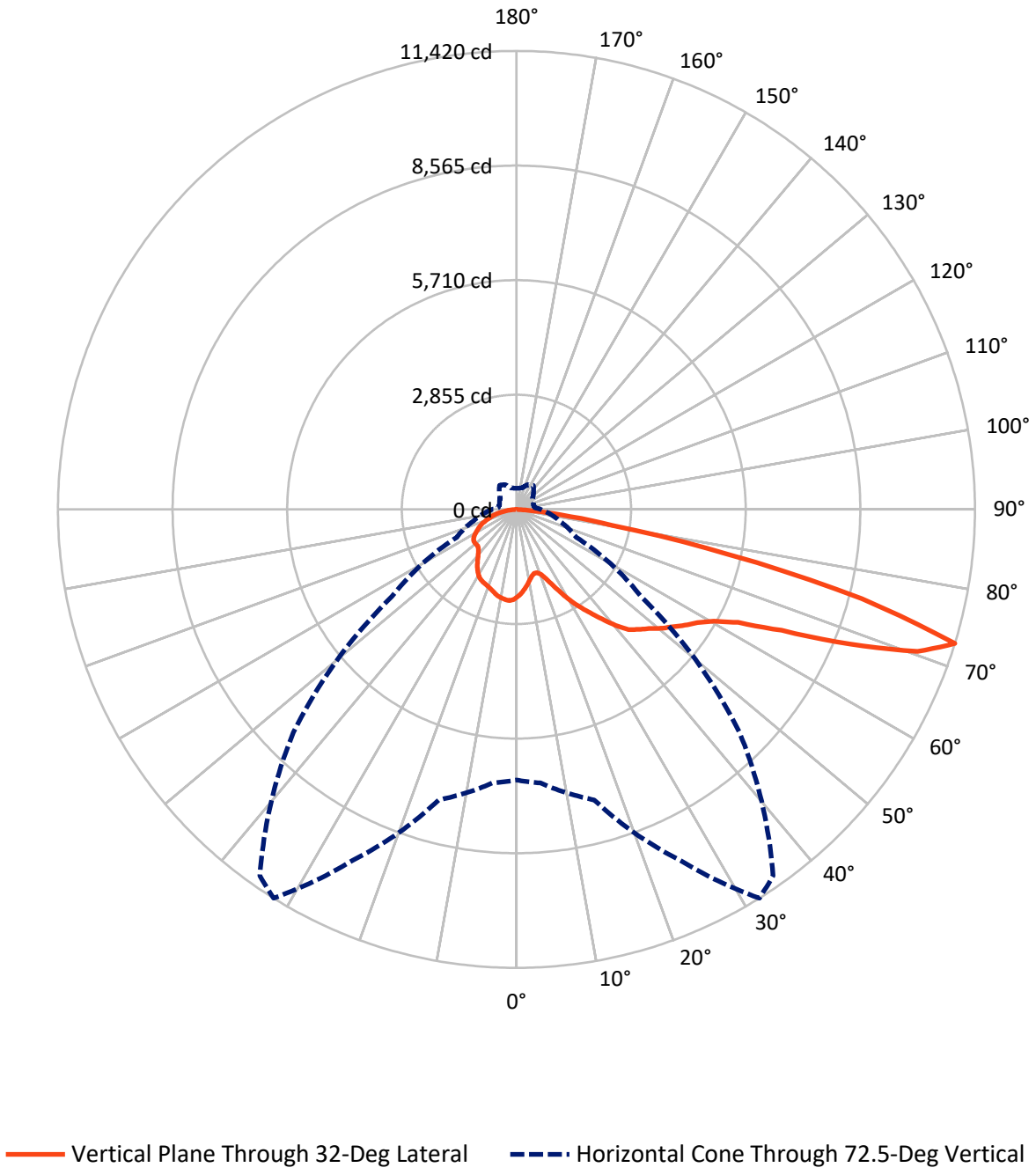

Based on 20 foot mounting height. Maximum calculated value = 5.5 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

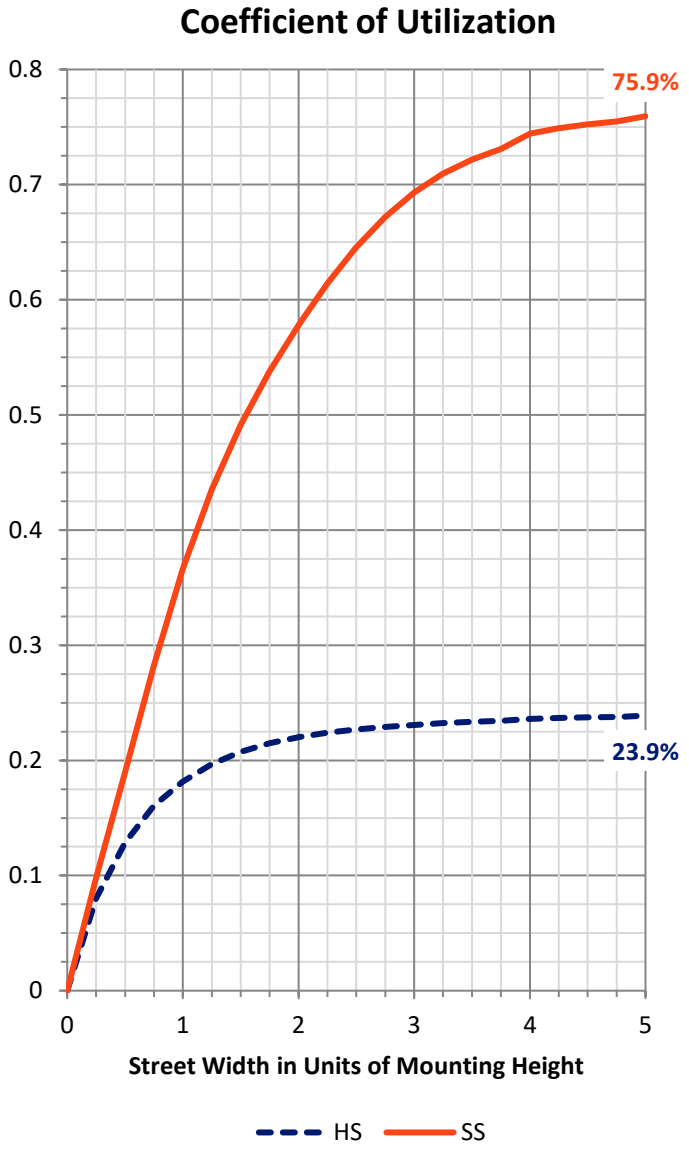
REPORT NUMBER: P1357622
CATALOG NUMBER: GSS-SB2D-722-U-T4FT

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3579.6 | 0.0 | 3579.6 |
| | % Fixture | 24.1 | 0.0 | 24.1 |
| **Street Side** | Lumens | 11263.3 | 0.0 | 11263.3 |
| | % Fixture | 75.9 | 0.0 | 75.9 |
| **Total** | Lumens | 14842.9 | 0.0 | 14842.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 203.9 | 1.4 |
| 10°-20° | 578.6 | 3.9 |
| 20°-30° | 1002.5 | 6.8 |
| 30°-40° | 1583.5 | 10.7 |
| 40°-50° | 2308.0 | 15.5 |
| 50°-60° | 3128.7 | 21.1 |
| 60°-70° | 3600.7 | 24.3 |
| 70°-80° | 2253.2 | 15.2 |
| 80°-90° | 183.8 | 1.2 |
| 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° | 14842.9 | 100.0 |
| 0°-180° | 14842.9 | 100.0 |



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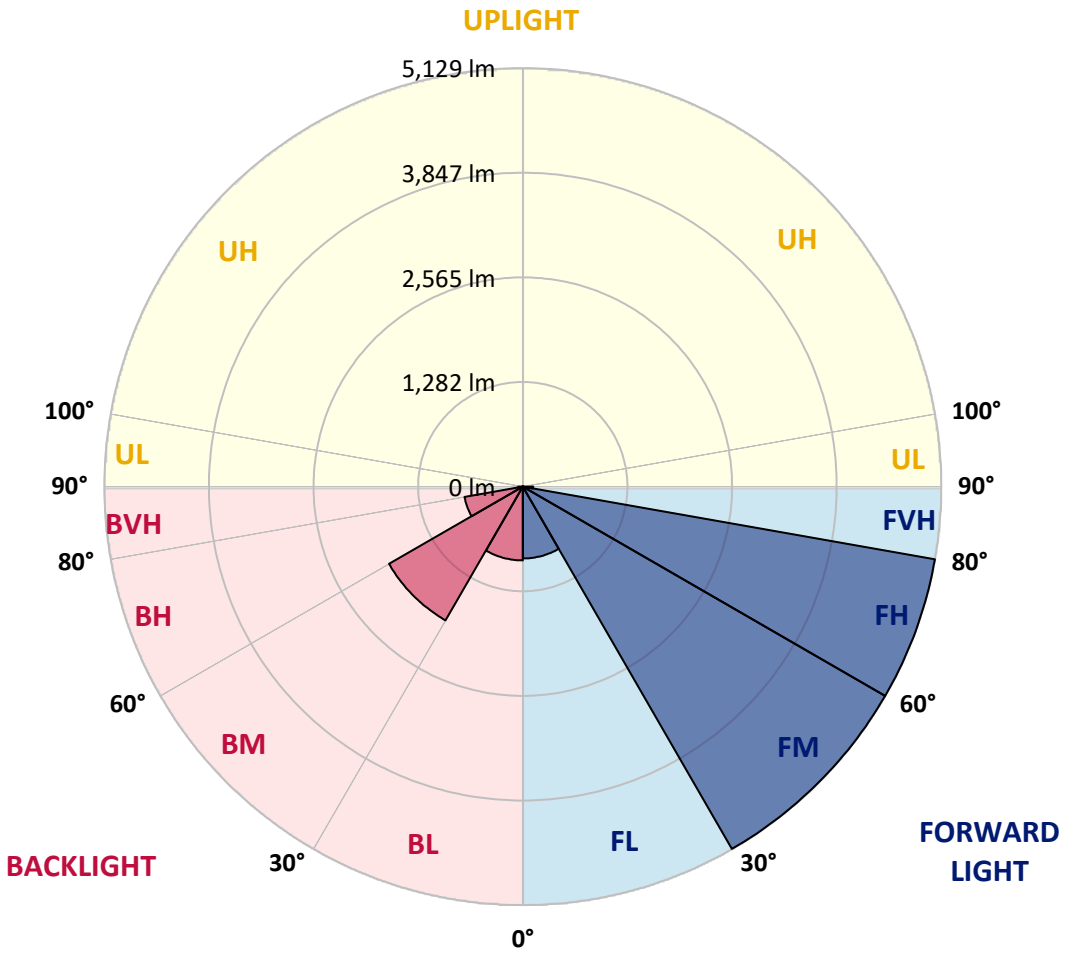
Scaled Data Report

REPORT NUMBER: P1357622
CATALOG NUMBER: GSS-SB2D-722-U-T4FT

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 880.5 | 5.9 | | | |
| FM | (30°-60°) | 5127.3 | 34.5 | | | |
| FH | (60°-80°) | 5129.2 | 34.6 | | | G3/7500 |
| FVH | (80°-90°) | 126.3 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 904.5 | 6.1 | B2/1000 | | |
| BM | (30°-60°) | 1892.9 | 12.8 | B2/2500 | | |
| BH | (60°-80°) | 724.7 | 4.9 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 57.5 | 0.4 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type IV Short



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REPORT NUMBER: P1357622
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 |
| 2.5° | 2088.1 | 2084.7 | 2101.7 | 2094.9 | 2108.6 | 2101.7 | 2101.7 | 2122.2 | 2139.3 | 2163.2 | 2180.2 |
| 5° | 1972.1 | 1975.5 | 1972.1 | 2006.2 | 2006.2 | 2009.6 | 2036.9 | 2091.5 | 2132.4 | 2159.7 | 2176.8 |
| 7.5° | 1822.0 | 1828.8 | 1842.4 | 1880.0 | 1903.8 | 1920.9 | 1972.1 | 2030.1 | 2098.3 | 2149.5 | 2210.9 |
| 10° | 1699.1 | 1688.9 | 1719.6 | 1760.5 | 1794.7 | 1811.7 | 1897.0 | 1989.1 | 2081.3 | 2166.6 | 2217.7 |
| 12.5° | 1610.4 | 1610.4 | 1627.5 | 1665.0 | 1702.5 | 1729.8 | 1825.4 | 1938.0 | 2060.8 | 2166.6 | 2262.1 |
| 15° | 1593.4 | 1600.2 | 1607.0 | 1620.7 | 1654.8 | 1668.4 | 1760.5 | 1900.4 | 2036.9 | 2197.3 | 2292.8 |
| 17.5° | 1651.4 | 1644.5 | 1637.7 | 1644.5 | 1658.2 | 1665.0 | 1733.3 | 1869.7 | 2023.3 | 2200.7 | 2309.9 |
| 20° | 1808.3 | 1794.7 | 1784.4 | 1733.3 | 1723.0 | 1729.8 | 1757.1 | 1859.5 | 2026.7 | 2248.4 | 2381.5 |
| 22.5° | 2026.7 | 2033.5 | 1992.6 | 1907.3 | 1866.3 | 1862.9 | 1828.8 | 1897.0 | 2047.1 | 2286.0 | 2442.9 |
| 25° | 2340.6 | 2309.9 | 2268.9 | 2166.6 | 2081.3 | 2050.6 | 1978.9 | 1975.5 | 2091.5 | 2354.2 | 2531.6 |
| 27.5° | 2657.9 | 2640.8 | 2576.0 | 2432.7 | 2337.2 | 2292.8 | 2163.2 | 2098.3 | 2156.3 | 2436.1 | 2634.0 |
| 30° | 3012.7 | 3012.7 | 2906.9 | 2746.6 | 2620.3 | 2538.5 | 2384.9 | 2262.1 | 2265.5 | 2545.3 | 2780.7 |
| 32.5° | 3377.8 | 3357.3 | 3255.0 | 3019.5 | 2893.3 | 2811.4 | 2606.7 | 2480.5 | 2439.5 | 2698.8 | 2982.0 |
| 35° | 3640.5 | 3647.3 | 3551.8 | 3343.7 | 3162.8 | 3084.4 | 2900.1 | 2756.8 | 2664.7 | 2913.8 | 3237.9 |
| 37.5° | 3879.3 | 3886.2 | 3828.2 | 3623.4 | 3463.1 | 3384.6 | 3176.5 | 3077.5 | 2937.7 | 3220.8 | 3545.0 |
| 40° | 3998.8 | 3981.7 | 3964.6 | 3889.6 | 3797.5 | 3736.0 | 3521.1 | 3391.4 | 3268.6 | 3551.8 | 3879.3 |
| 42.5° | 4087.5 | 4087.5 | 4060.2 | 4094.3 | 4094.3 | 4053.3 | 3886.2 | 3770.2 | 3647.3 | 4012.4 | 4234.2 |
| 45° | 4189.8 | 4145.5 | 4145.5 | 4176.2 | 4261.5 | 4288.8 | 4302.4 | 4193.2 | 4080.6 | 4469.6 | 4619.7 |
| 47.5° | 4295.6 | 4305.8 | 4278.5 | 4316.1 | 4435.5 | 4554.9 | 4732.3 | 4633.4 | 4510.5 | 5012.1 | 5056.5 |
| 50° | 4428.7 | 4442.3 | 4442.3 | 4524.2 | 4657.3 | 4797.1 | 5233.9 | 5131.5 | 4926.8 | 5626.2 | 5537.5 |
| 52.5° | 4462.8 | 4469.6 | 4572.0 | 4664.1 | 4858.6 | 5049.6 | 5735.4 | 5588.7 | 5370.3 | 6185.8 | 5957.2 |
| 55° | 4401.4 | 4452.5 | 4636.8 | 4814.2 | 5094.0 | 5322.6 | 6213.1 | 6028.8 | 5694.5 | 6612.3 | 6288.2 |
| 57.5° | 4541.3 | 4561.7 | 4732.3 | 4933.6 | 5322.6 | 5616.0 | 6683.9 | 6421.2 | 5919.7 | 6963.7 | 6421.2 |
| 60° | 4838.1 | 4824.4 | 4974.6 | 5199.8 | 5650.1 | 6028.8 | 7192.3 | 6755.6 | 6107.3 | 7021.7 | 6158.5 |
| 62.5° | 5503.4 | 5435.2 | 5489.8 | 5694.5 | 6199.4 | 6714.6 | 7714.3 | 7028.5 | 5991.3 | 6448.5 | 5271.4 |
| 65° | 6404.2 | 6383.7 | 6349.6 | 6564.5 | 7257.1 | 7697.3 | 8366.0 | 6970.5 | 5411.3 | 5442.0 | 4237.6 |
| 67.5° | 7209.4 | 7236.7 | 7216.2 | 7789.4 | 8952.9 | 9355.5 | 9058.6 | 6550.9 | 4483.2 | 3882.8 | 2726.1 |
| 70° | 7519.8 | 7574.4 | 7936.1 | 9027.9 | 10597.4 | 11064.8 | 9372.5 | 5482.9 | 3104.8 | 2098.3 | 1340.9 |
| 72.5° | 6741.9 | 6840.9 | 7492.6 | 9645.5 | 11419.7 | 11143.3 | 7857.6 | 3783.8 | 1637.7 | 1105.5 | 747.2 |
| 75° | 4660.7 | 4763.0 | 5752.5 | 8089.6 | 8884.6 | 8430.8 | 4824.4 | 1630.9 | 846.2 | 644.9 | 460.6 |
| 77.5° | 1828.8 | 2094.9 | 2743.2 | 4514.0 | 5445.4 | 5343.1 | 2286.0 | 563.0 | 470.8 | 392.4 | 300.2 |
| 80° | 614.1 | 696.0 | 1020.2 | 1781.0 | 2415.6 | 2552.1 | 832.5 | 286.6 | 273.0 | 238.8 | 187.7 |
| 82.5° | 221.8 | 249.1 | 436.7 | 672.1 | 1102.0 | 1108.9 | 269.5 | 153.5 | 167.2 | 143.3 | 98.9 |
| 85° | 75.1 | 81.9 | 102.4 | 208.1 | 269.5 | 290.0 | 75.1 | 58.0 | 68.2 | 61.4 | 44.4 |
| 87.5° | 6.8 | 6.8 | 6.8 | 10.2 | 10.2 | 10.2 | 10.2 | 13.6 | 13.6 | 10.2 | 10.2 |
| 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: P1357622
CATALOG NUMBER: GSS-SB2D-722-U-T4FT

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 | 2180.2 |
| 2.5° | 2183.6 | 2193.9 | 2200.7 | 2214.3 | 2231.4 | 2234.8 | 2248.4 | 2251.9 | 2245.0 | 2251.9 | 2245.0 |
| 5° | 2204.1 | 2221.2 | 2234.8 | 2255.3 | 2268.9 | 2286.0 | 2282.6 | 2272.3 | 2272.3 | 2255.3 | 2282.6 |
| 7.5° | 2231.4 | 2255.3 | 2265.5 | 2286.0 | 2289.4 | 2279.2 | 2265.5 | 2262.1 | 2228.0 | 2228.0 | 2234.8 |
| 10° | 2268.9 | 2289.4 | 2299.6 | 2306.5 | 2286.0 | 2268.9 | 2241.6 | 2224.6 | 2210.9 | 2197.3 | 2200.7 |
| 12.5° | 2296.2 | 2316.7 | 2316.7 | 2292.8 | 2268.9 | 2241.6 | 2217.7 | 2183.6 | 2173.4 | 2156.3 | 2156.3 |
| 15° | 2313.3 | 2347.4 | 2323.5 | 2286.0 | 2238.2 | 2200.7 | 2163.2 | 2132.4 | 2118.8 | 2115.4 | 2129.0 |
| 17.5° | 2357.6 | 2374.7 | 2316.7 | 2251.9 | 2200.7 | 2149.5 | 2108.6 | 2084.7 | 2067.6 | 2064.2 | 2091.5 |
| 20° | 2408.8 | 2395.2 | 2296.2 | 2214.3 | 2156.3 | 2088.1 | 2054.0 | 2047.1 | 2040.3 | 2060.8 | 2060.8 |
| 22.5° | 2460.0 | 2436.1 | 2275.7 | 2183.6 | 2091.5 | 2043.7 | 2013.0 | 2033.5 | 2036.9 | 2050.6 | 2064.2 |
| 25° | 2535.0 | 2477.0 | 2268.9 | 2135.9 | 2016.4 | 1982.3 | 1985.7 | 2013.0 | 2019.9 | 2019.9 | 2026.7 |
| 27.5° | 2616.9 | 2545.3 | 2272.3 | 2064.2 | 1941.4 | 1931.1 | 1955.0 | 1965.3 | 1975.5 | 1965.3 | 1968.7 |
| 30° | 2732.9 | 2616.9 | 2255.3 | 1982.3 | 1876.6 | 1893.6 | 1907.3 | 1903.8 | 1859.5 | 1849.3 | 1856.1 |
| 32.5° | 2903.5 | 2715.9 | 2241.6 | 1917.5 | 1842.4 | 1842.4 | 1828.8 | 1787.8 | 1743.5 | 1702.5 | 1716.2 |
| 35° | 3098.0 | 2838.7 | 2190.4 | 1866.3 | 1808.3 | 1794.7 | 1740.1 | 1671.8 | 1590.0 | 1542.2 | 1545.6 |
| 37.5° | 3302.7 | 2951.3 | 2135.9 | 1808.3 | 1753.7 | 1719.6 | 1641.1 | 1535.4 | 1453.5 | 1405.7 | 1398.9 |
| 40° | 3568.9 | 3077.5 | 2054.0 | 1729.8 | 1678.7 | 1624.1 | 1535.4 | 1419.4 | 1337.5 | 1299.9 | 1320.4 |
| 42.5° | 3838.4 | 3224.3 | 1958.4 | 1620.7 | 1579.7 | 1545.6 | 1446.6 | 1334.1 | 1255.6 | 1231.7 | 1245.3 |
| 45° | 4138.6 | 3374.4 | 1859.5 | 1491.0 | 1470.5 | 1463.7 | 1378.4 | 1289.7 | 1221.5 | 1187.3 | 1183.9 |
| 47.5° | 4445.7 | 3531.3 | 1723.0 | 1375.0 | 1364.8 | 1409.1 | 1344.3 | 1269.2 | 1211.2 | 1156.6 | 1153.2 |
| 50° | 4790.3 | 3684.9 | 1538.8 | 1228.3 | 1276.1 | 1378.4 | 1354.5 | 1272.6 | 1173.7 | 1088.4 | 1074.8 |
| 52.5° | 5097.4 | 3739.5 | 1344.3 | 1112.3 | 1207.8 | 1381.8 | 1364.8 | 1252.2 | 1122.5 | 1020.2 | 1006.5 |
| 55° | 5305.5 | 3647.3 | 1177.1 | 1009.9 | 1156.6 | 1357.9 | 1351.1 | 1221.5 | 1071.3 | 962.2 | 948.5 |
| 57.5° | 5319.2 | 3377.8 | 1016.7 | 924.6 | 1074.8 | 1289.7 | 1310.2 | 1160.0 | 992.9 | 900.7 | 890.5 |
| 60° | 4991.6 | 2934.2 | 887.1 | 849.6 | 986.0 | 1201.0 | 1235.1 | 1074.8 | 921.2 | 822.3 | 815.4 |
| 62.5° | 4258.1 | 2347.4 | 764.3 | 767.7 | 900.7 | 1081.6 | 1146.4 | 1003.1 | 849.6 | 754.0 | 743.8 |
| 65° | 3388.0 | 1794.7 | 679.0 | 696.0 | 791.6 | 965.6 | 1064.5 | 931.5 | 777.9 | 685.8 | 672.1 |
| 67.5° | 2275.7 | 1238.5 | 586.8 | 621.0 | 685.8 | 846.2 | 982.6 | 856.4 | 689.2 | 614.1 | 603.9 |
| 70° | 1085.0 | 719.9 | 505.0 | 545.9 | 586.8 | 716.5 | 863.2 | 750.6 | 617.6 | 556.1 | 552.7 |
| 72.5° | *603.9* | *460.6* | *436.7* | *467.4* | *491.3* | *600.5* | *730.1* | *679.0* | *552.7* | *528.8* | *525.4* |
| 75° | 385.5 | 327.5 | 348.0 | 385.5 | 399.2 | 474.3 | 631.2 | 607.3 | 498.1 | 511.8 | 511.8 |
| 77.5° | 238.8 | 225.2 | 266.1 | 300.2 | 310.5 | 389.0 | 518.6 | 515.2 | 416.3 | 409.4 | 361.7 |
| 80° | 153.5 | 150.1 | 191.1 | 194.5 | 211.5 | 296.8 | 412.8 | 395.8 | 313.9 | 286.6 | 269.5 |
| 82.5° | 81.9 | 85.3 | 116.0 | 122.8 | 119.4 | 180.8 | 283.2 | 279.8 | 232.0 | 201.3 | 191.1 |
| 85° | 30.7 | 30.7 | 44.4 | 54.6 | 58.0 | 92.1 | 150.1 | 153.5 | 126.2 | 95.5 | 98.9 |
| 87.5° | 6.8 | 6.8 | 6.8 | 10.2 | 10.2 | 20.5 | 27.3 | 30.7 | 34.1 | 17.1 | 10.2 |
| 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: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

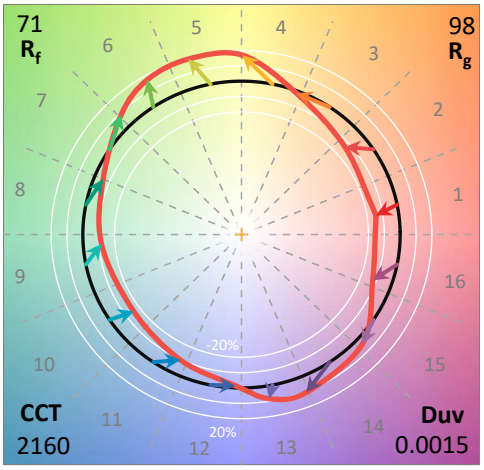
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-2 |
| 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-722-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2200K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2160 |
| CIE u': | 0.2927 |
| CIE v': | 0.5388 |
| Duv: | 0.0015 |
| CIE x: | 0.5130 |
| CIE y: | 0.4197 |
| CIE z: | 0.0674 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 587 |
| Purity: | 79.96089 |
| Rf: | 70.6 |
| Rg: | 97.6 |

| | |
|---|---|
| CRI (Ra): | 71.9 |
| R1: | 68.7 |
| R2: | 82.6 |
| R3: | 95.5 |
| R4: | 66.4 |
| R5: | 65.4 |
| R6: | 75.9 |
| R7: | 77.2 |
| R8: | 43.5 |
| R9: | -17.8 |
| R10: | 60.5 |
| R11: | 60.2 |
| R12: | 48.2 |
| R13: | 70.7 |
| R14: | 96.8 |
| R15: | 61.8 |




## Test Conditions

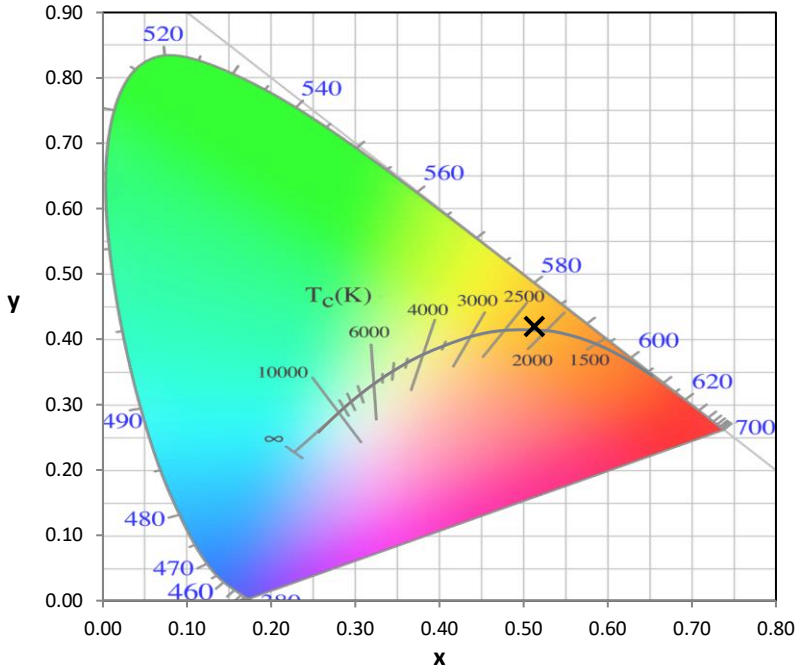
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-2

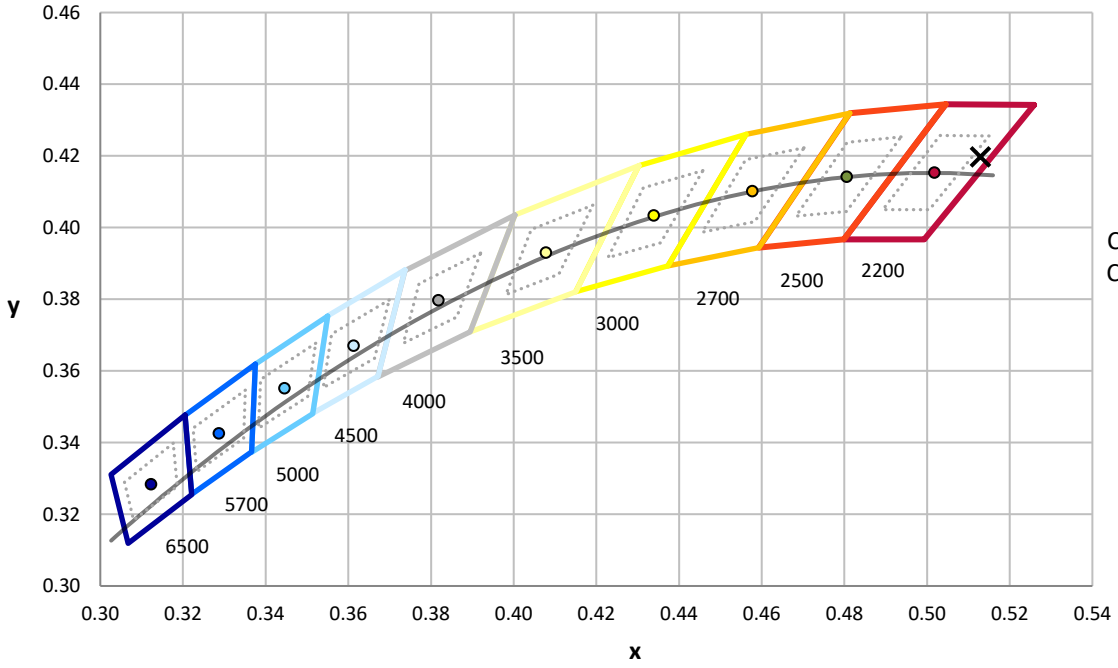
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

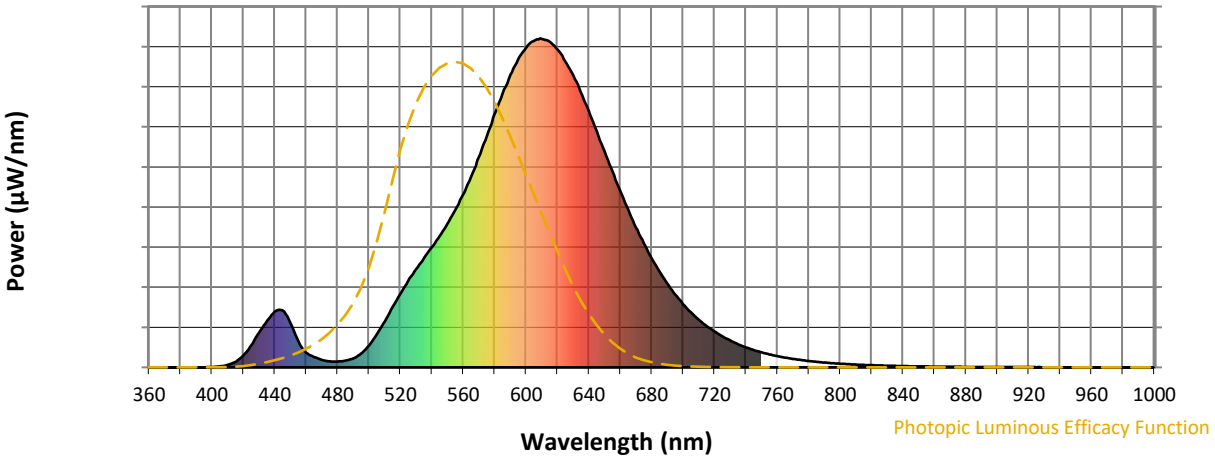



CCT = 2160K
CIE x = 0.5130
CIE y = 0.4197
Duv = 0.0015

Point lies inside the ANSI 2200K 7-step quadrangle

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## Photopic Flux vs. Wavelength

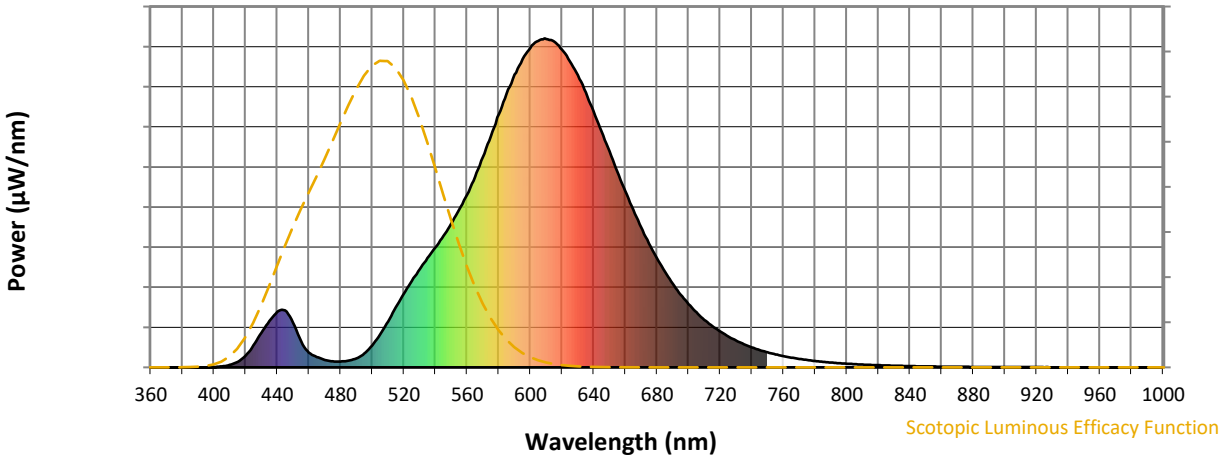



## Photopic Lumens: NR

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Scotopic Flux vs. Wavelength

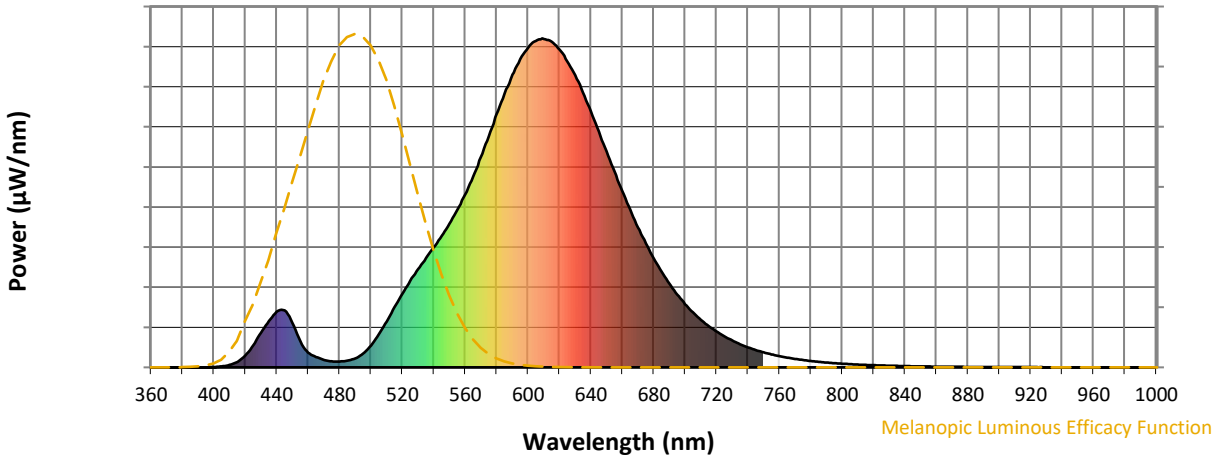



**Scotopic Lumens: NR** **S/P: 0.8**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.21**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

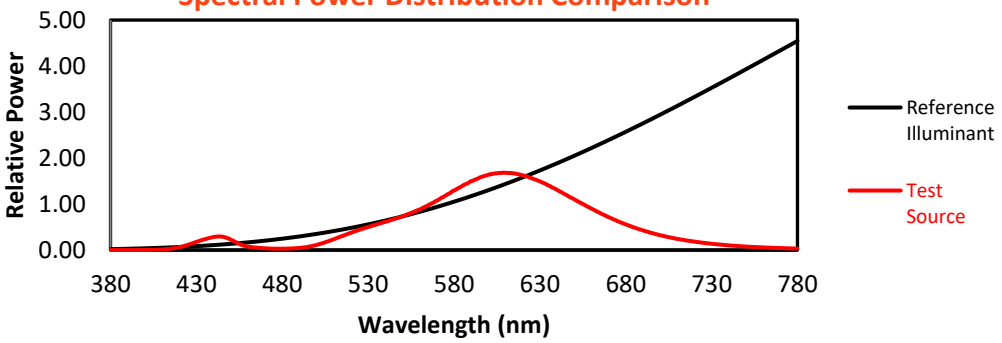
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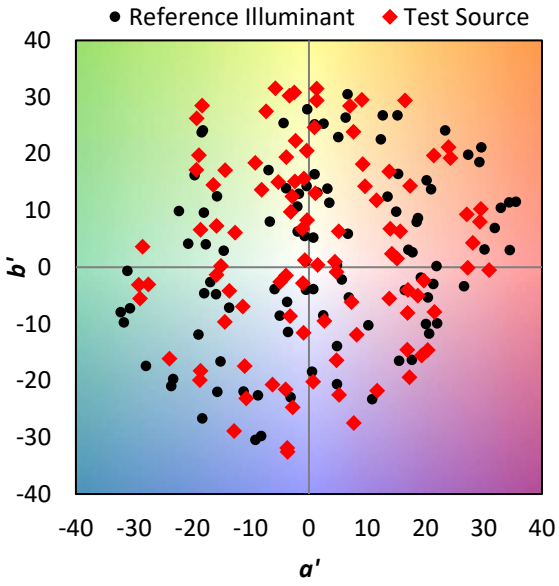
## Summary

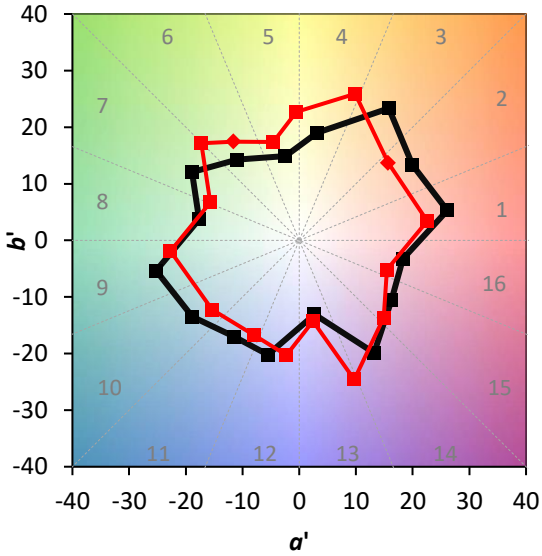
$R_f$ = 70.6
$R_g$ = 97.6
CIE $R_a$ = 71.9
$R_9$ = -17.8

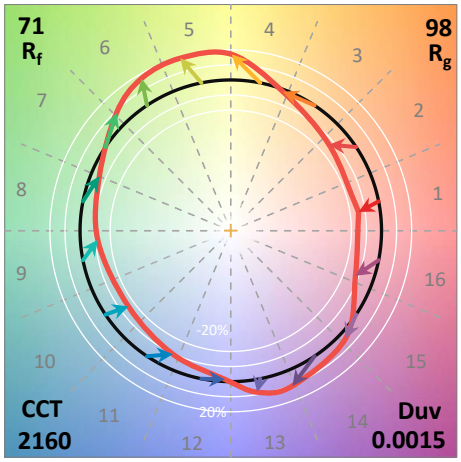
## Spectral Power Distribution Comparison

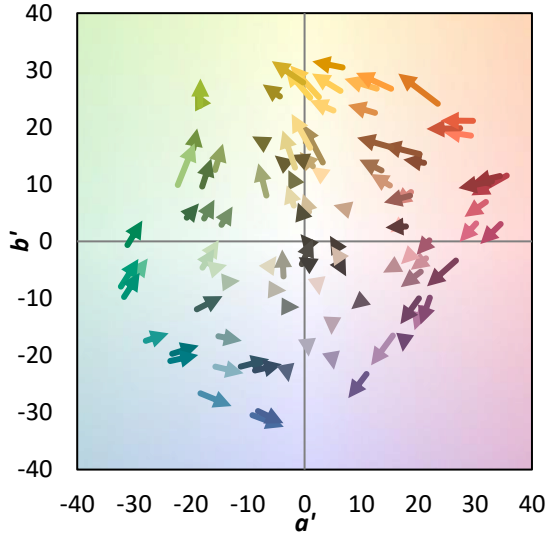



## Color Vector Graphics



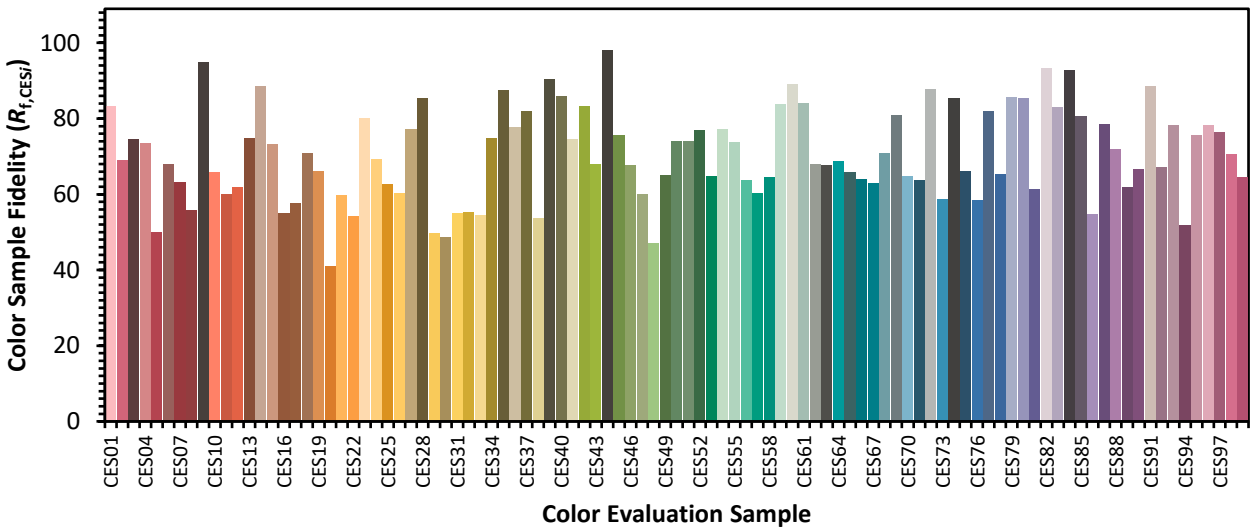



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**Individual Sample Fidelity Index ($R_{f,i}$)**

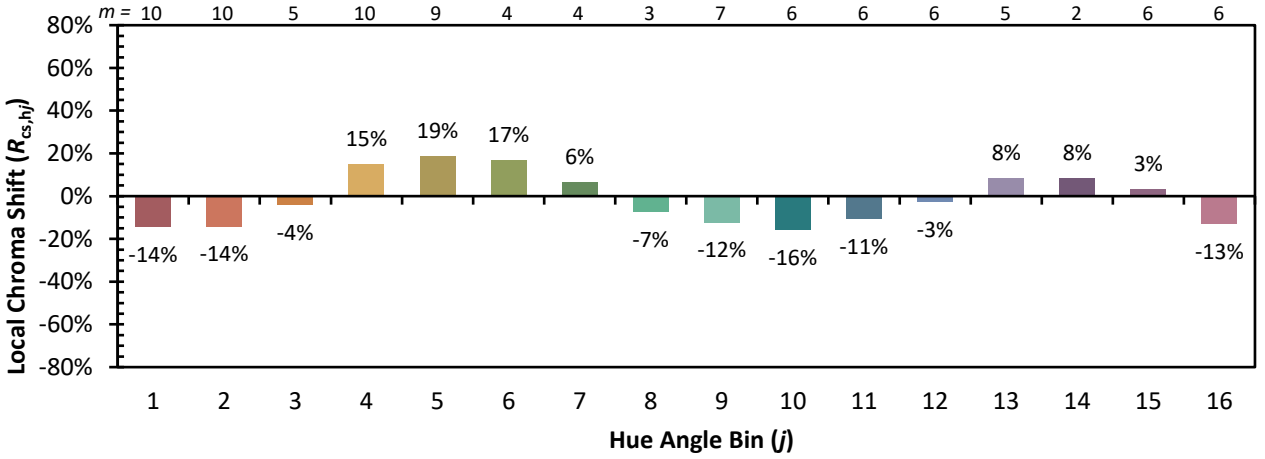
| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |

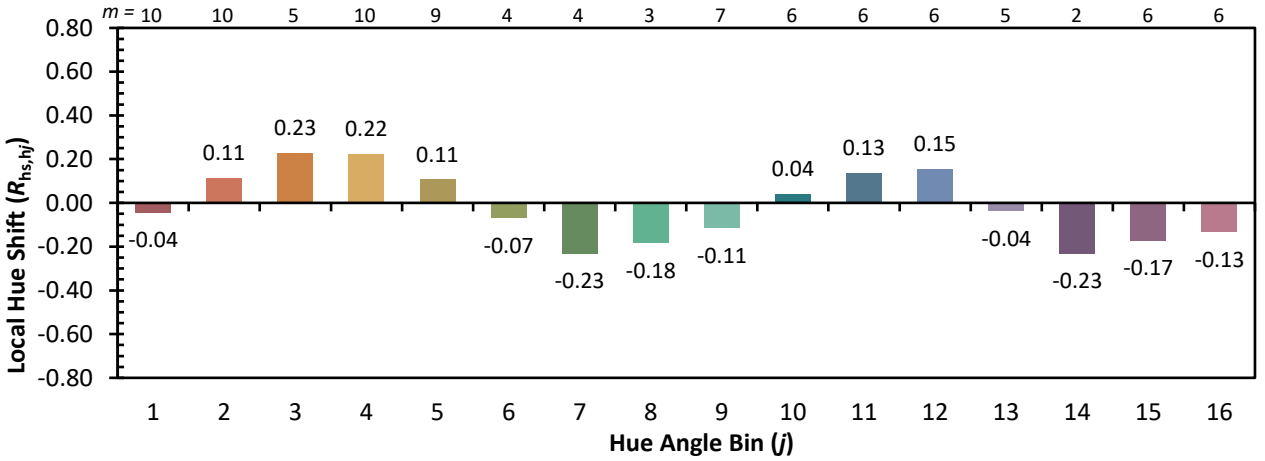


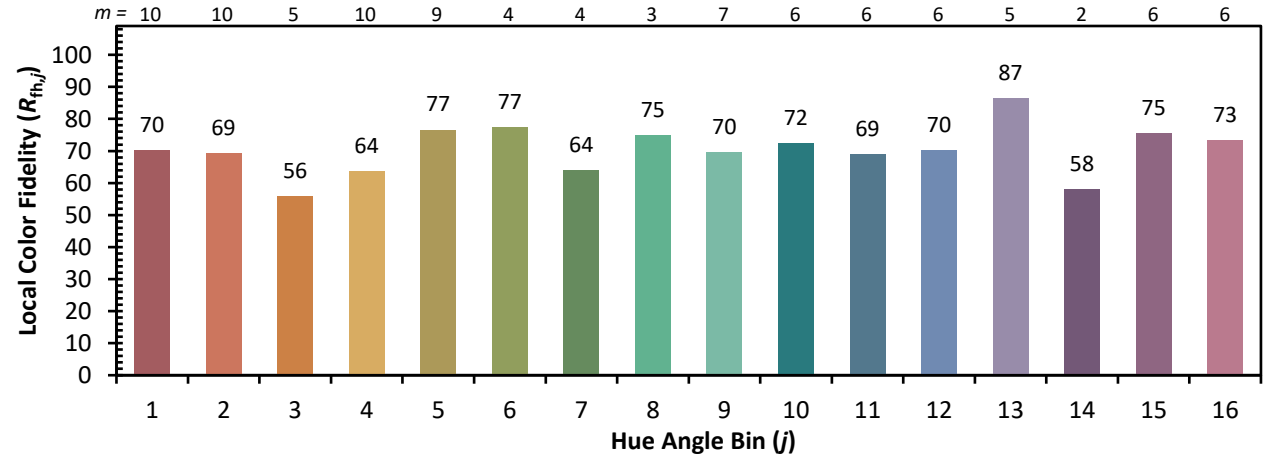
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## Color Rendition by Hue-Angle Bin



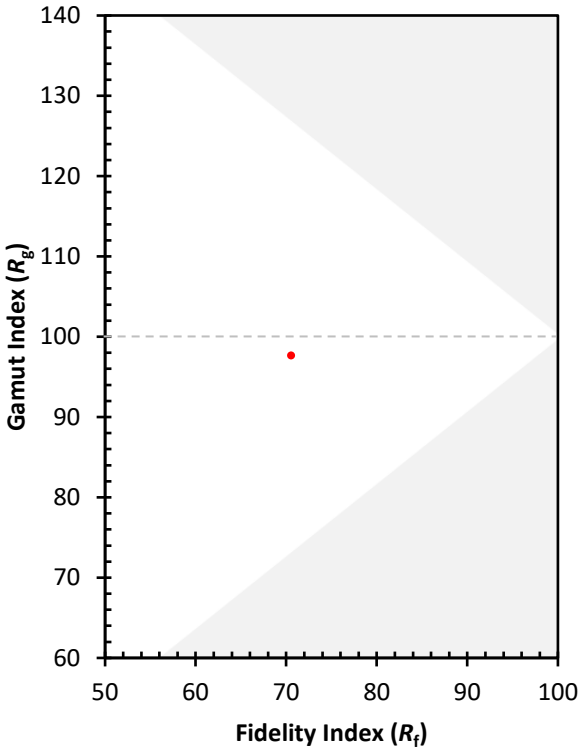



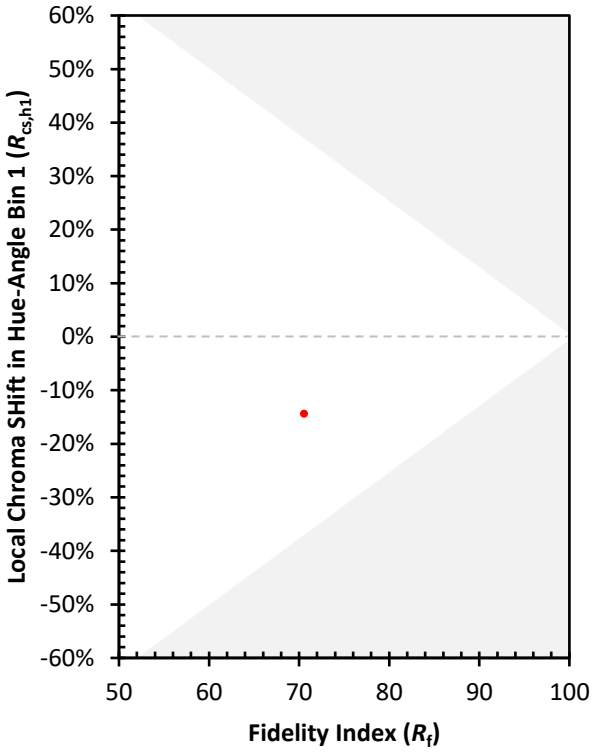



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## Measure Comparisons




(END OF REPORT)