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: McGRAW-EDISON

Report Number: P1500657

Luminaire Tested: GSS-SB2A-735-U-T4LG

Issue Date: 07/20/2026

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: | P1500657 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2A-735-U-T4LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 58W 70CRI 3500K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (52) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 8335.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 143.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B2 - U0 - G2 |

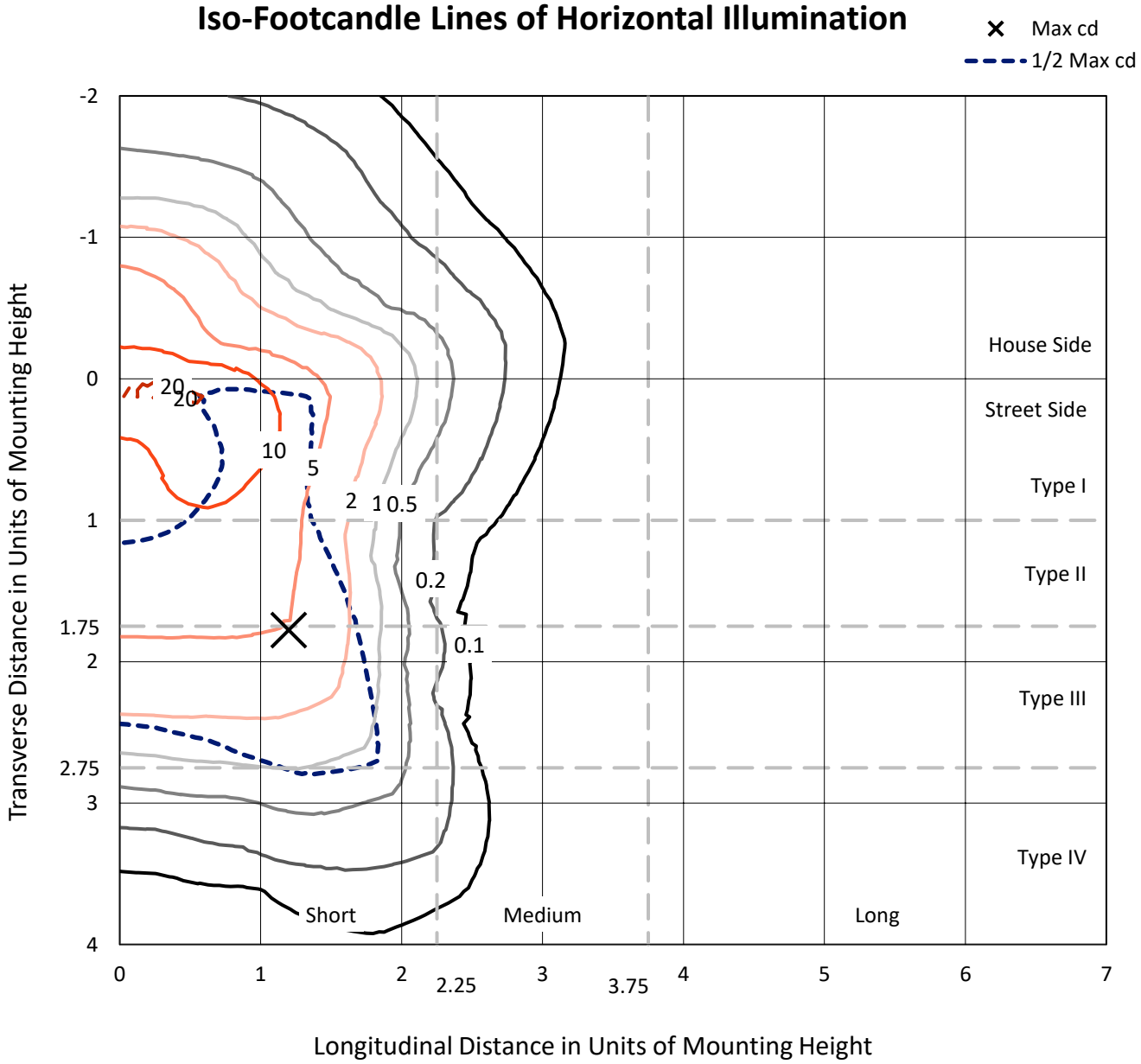
| | |
|---|---|
| Input Watts (W): | 58 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 9.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1500657
CATALOG NUMBER: GSS-SB2A-735-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination



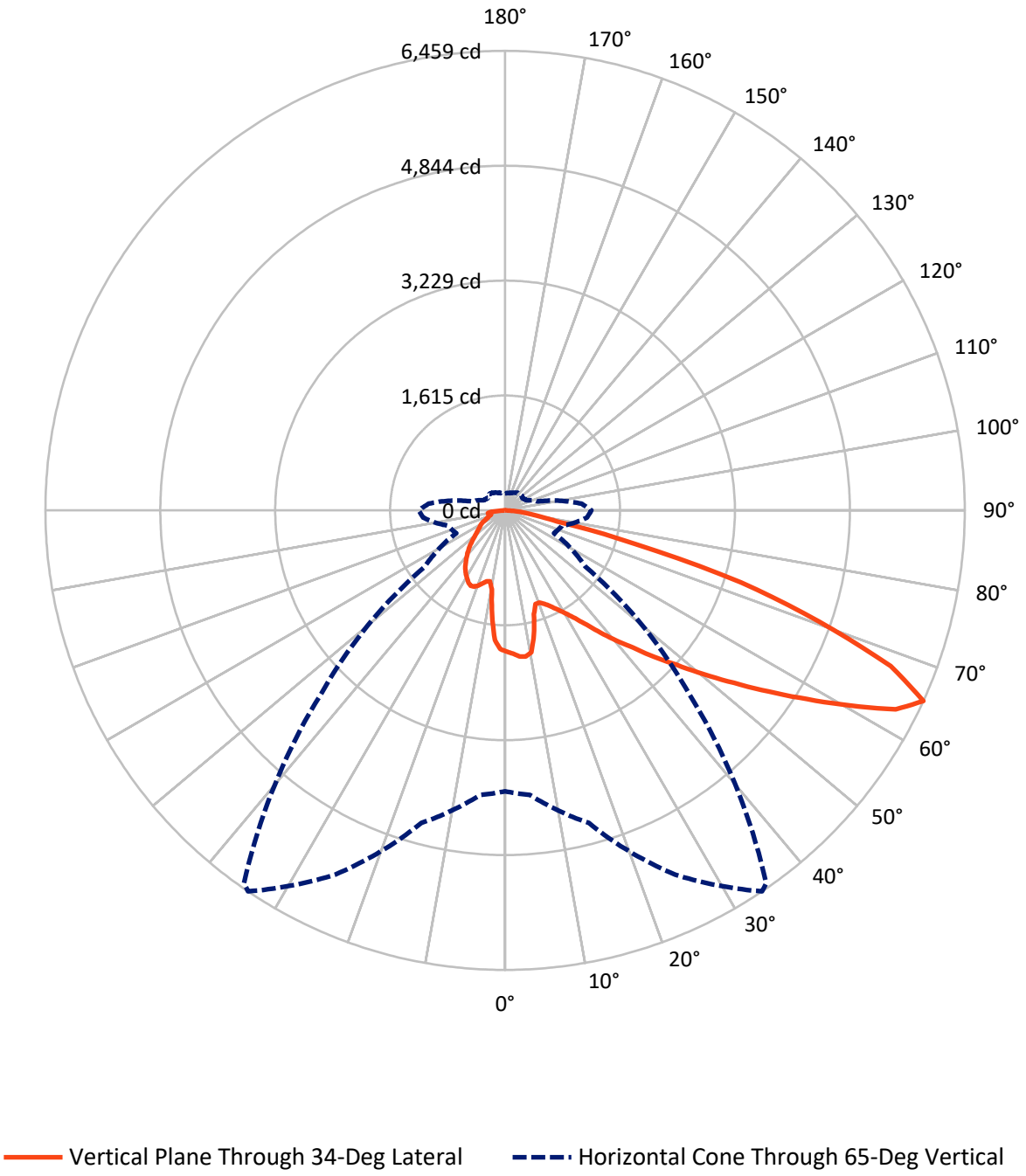

Based on 10 foot mounting height. Maximum calculated value = 21.1 fc
Type III - Short - N/A

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REPORT NUMBER: P1500657
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## Luminous Intensity Polar Plot



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Scaled Data Report

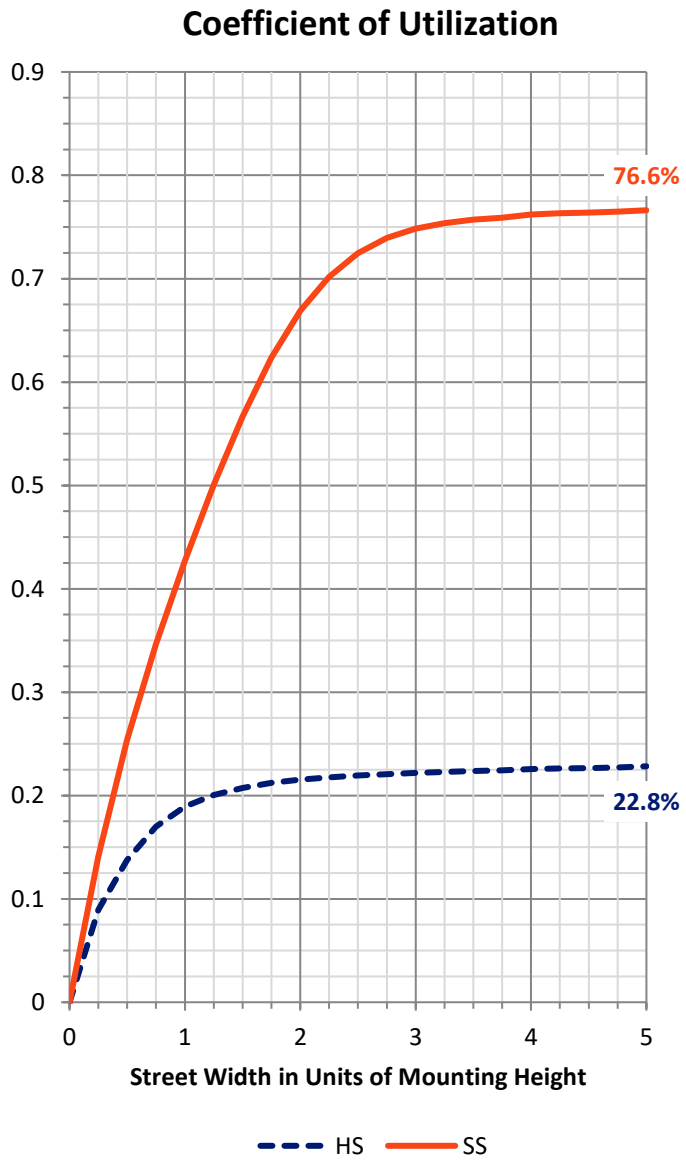
REPORT NUMBER: P1500657
CATALOG NUMBER: GSS-SB2A-735-U-T4LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1939.3 | 0.0 | 1939.3 |
| | % Fixture | 23.3 | 0.0 | 23.3 |
| **Street Side** | Lumens | 6396.2 | 0.0 | 6396.2 |
| | % Fixture | 76.7 | 0.0 | 76.7 |
| **Total** | Lumens | 8335.5 | 0.0 | 8335.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 178.7 | 2.1 |
| 10°-20° | 449.7 | 5.4 |
| 20°-30° | 745.4 | 8.9 |
| 30°-40° | 1121.0 | 13.4 |
| 40°-50° | 1570.5 | 18.8 |
| 50°-60° | 1980.1 | 23.8 |
| 60°-70° | 1703.1 | 20.4 |
| 70°-80° | 506.3 | 6.1 |
| 80°-90° | 80.8 | 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° | 8335.5 | 100.0 |
| 0°-180° | 8335.5 | 100.0 |



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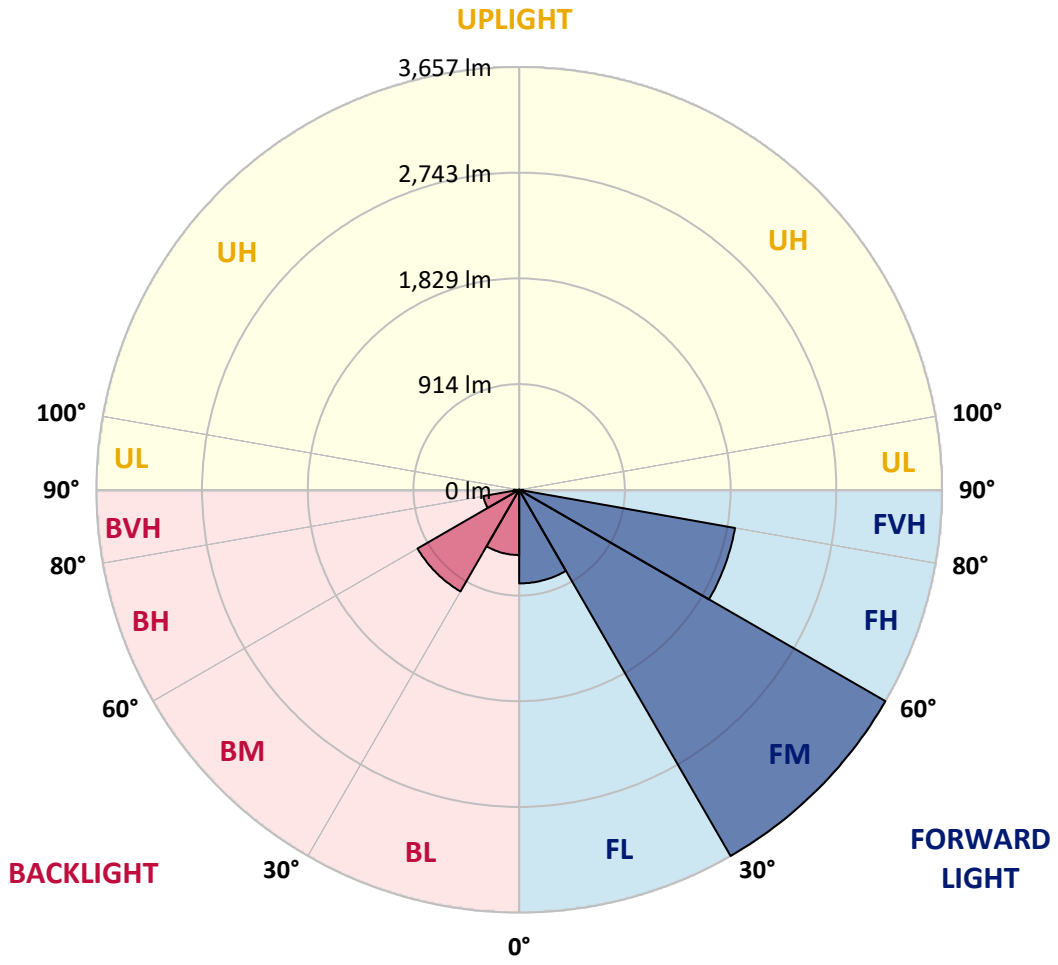
Scaled Data Report

REPORT NUMBER: P1500657
CATALOG NUMBER: GSS-SB2A-735-U-T4LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 809.4 | 9.7 | | | |
| FM | (30°-60°) | 3657.0 | 43.9 | | | |
| FH | (60°-80°) | 1895.5 | 22.7 | | | G2/5000 |
| FVH | (80°-90°) | 34.2 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 564.3 | 6.8 | B2/1000 | | |
| BM | (30°-60°) | 1014.6 | 12.2 | B2/2500 | | |
| BH | (60°-80°) | 313.9 | 3.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 46.6 | 0.6 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G2**
Type III Short



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REPORT NUMBER: P1500657
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1981.8 | 1981.8 | 1981.8 | 1981.8 | *1981.8* | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 |
| 2.5° | 2019.5 | 2030.9 | 2017.7 | 2012.0 | *2013.9* | 2015.8 | 2006.3 | 2008.2 | 1996.9 | 1996.9 | 1987.5 |
| 5° | 2063.0 | 2064.8 | 2057.3 | 2063.0 | *2061.1* | 2059.2 | 2059.2 | 2057.3 | 2032.8 | 2027.1 | 2017.7 |
| 7.5° | 2038.4 | 2046.0 | 2049.7 | 2070.5 | *2076.2* | 2087.5 | 2095.0 | 2098.8 | 2079.9 | 2064.8 | 2040.3 |
| 10° | 1813.8 | 1819.5 | 1862.9 | 1957.3 | *2029.0* | 2042.2 | 2112.0 | 2151.7 | 2138.5 | 2130.9 | 2089.4 |
| 12.5° | 1449.5 | 1459.0 | 1508.1 | 1630.7 | *1798.7* | 1834.6 | 2057.3 | 2191.3 | 2221.5 | 2223.4 | 2163.0 |
| 15° | 1292.9 | 1292.9 | 1308.0 | 1377.8 | *1513.7* | 1542.0 | 1870.4 | 2202.6 | 2310.2 | 2323.4 | 2249.8 |
| 17.5° | 1260.8 | 1258.9 | 1268.3 | 1309.9 | *1381.6* | 1398.6 | 1655.3 | 2144.1 | 2415.9 | 2438.6 | 2344.2 |
| 20° | 1258.9 | 1253.2 | 1272.1 | 1319.3 | *1381.6* | 1396.7 | 1555.2 | 2042.2 | 2498.9 | 2570.7 | 2438.6 |
| 22.5° | 1260.8 | 1260.8 | 1287.2 | 1355.2 | *1426.9* | 1440.1 | 1574.1 | 1957.3 | 2566.9 | 2708.5 | 2538.6 |
| 25° | 1281.6 | 1277.8 | 1315.5 | 1398.6 | *1496.7* | 1506.2 | 1651.5 | 1953.5 | 2625.4 | 2863.2 | 2659.4 |
| 27.5° | 1315.5 | 1317.4 | 1368.4 | 1468.4 | *1579.8* | 1598.6 | 1759.1 | 2034.6 | 2697.1 | 3033.1 | 2776.4 |
| 30° | 1387.3 | 1389.1 | 1449.5 | 1551.5 | *1679.8* | 1704.3 | 1883.6 | 2155.4 | 2799.1 | 3216.2 | 2902.9 |
| 32.5° | 1468.4 | 1477.9 | 1551.5 | 1670.4 | *1808.2* | 1821.4 | 2036.5 | 2336.6 | 2951.9 | 3399.3 | 3038.8 |
| 35° | 1604.3 | 1613.7 | 1696.8 | 1821.4 | *1974.2* | 1993.1 | 2223.4 | 2546.1 | 3138.8 | 3584.2 | 3144.4 |
| 37.5° | 1779.8 | 1787.4 | 1868.6 | 2019.5 | *2181.9* | 2200.7 | 2431.0 | 2768.9 | 3327.5 | 3731.4 | 3238.8 |
| 40° | 1989.3 | 2006.3 | 2093.2 | 2240.4 | *2404.6* | 2415.9 | 2657.5 | 2984.0 | 3531.4 | 3833.4 | 3276.6 |
| 42.5° | 2217.7 | 2234.7 | 2323.4 | 2485.7 | *2636.7* | 2670.7 | 2902.9 | 3212.4 | 3697.5 | 3878.7 | 3246.4 |
| 45° | 2510.3 | 2506.5 | 2589.5 | 2759.4 | *2936.8* | 2950.0 | 3165.2 | 3401.1 | 3797.5 | 3840.9 | 3216.2 |
| 47.5° | 2865.1 | 2868.9 | 2921.7 | 3059.5 | *3242.6* | 3272.8 | 3438.9 | 3563.5 | 3856.0 | 3810.7 | 3182.2 |
| 50° | 3265.2 | 3274.7 | 3320.0 | 3420.0 | *3616.3* | 3637.1 | 3686.1 | 3676.7 | 3891.9 | 3746.5 | 3195.4 |
| 52.5° | 3665.4 | 3671.0 | 3731.4 | 3837.1 | *4027.8* | 4042.9 | 3935.3 | 3763.5 | 3757.9 | 3488.0 | 3167.1 |
| 55° | 3993.8 | 3991.9 | 4099.5 | 4261.8 | *4494.0* | 4484.5 | 4180.6 | 3697.5 | 3338.9 | 3085.9 | 3040.6 |
| 57.5° | 4278.8 | 4290.1 | 4429.8 | 4711.0 | *5003.6* | 4996.0 | 4443.0 | 3348.3 | 2727.3 | 2610.3 | 2834.9 |
| 60° | 4535.5 | 4561.9 | 4824.3 | 5245.2 | *5567.9* | 5522.6 | 4490.2 | 2821.7 | 2121.5 | 2044.1 | 2427.2 |
| 62.5° | 4424.1 | 4473.2 | 4894.1 | 5715.1 | *6158.7* | 6058.6 | 4199.5 | 2185.6 | 1436.3 | 1366.5 | 1715.7 |
| 65° | *3948.5* | *4014.6* | *4548.7* | *5647.2* | *6458.8* | *6396.5* | *3671.0* | *1374.0* | *756.9* | *830.5* | *1155.1* |
| 67.5° | 3316.2 | 3395.5 | 3973.0 | 5073.4 | *5843.5* | 5709.5 | 2851.9 | 722.9 | 352.9 | 547.4 | 717.2 |
| 70° | 1817.6 | 2013.9 | 2872.7 | 4314.7 | *4680.8* | 4494.0 | 1649.6 | 341.6 | 256.7 | 341.6 | 428.4 |
| 72.5° | 683.2 | 730.4 | 1245.7 | 2901.0 | *3467.2* | 3236.9 | 626.6 | 220.8 | 215.2 | 252.9 | 309.5 |
| 75° | 328.4 | 351.1 | 541.7 | 1319.3 | *1893.1* | 1764.7 | 307.7 | 164.2 | 185.0 | 198.2 | 224.6 |
| 77.5° | 196.3 | 211.4 | 337.8 | 766.3 | *745.5* | 685.1 | 188.7 | 126.5 | 149.1 | 141.6 | 132.1 |
| 80° | 117.0 | 130.2 | 205.7 | 436.0 | *449.2* | 398.2 | 115.1 | 88.7 | 103.8 | 90.6 | 81.2 |
| 82.5° | 67.9 | 73.6 | 107.6 | 196.3 | *285.0* | 262.4 | 66.1 | 52.8 | 75.5 | 60.4 | 45.3 |
| 85° | 34.0 | 35.9 | 49.1 | 84.9 | *141.6* | 107.6 | 28.3 | 24.5 | 35.9 | 26.4 | 15.1 |
| 87.5° | 7.5 | 7.5 | 7.5 | 9.4 | *13.2* | 13.2 | 3.8 | 1.9 | 1.9 | 1.9 | 1.9 |
| 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: P1500657
CATALOG NUMBER: GSS-SB2A-735-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 | 1981.8 |
| 2.5° | 1985.6 | 1989.3 | 1976.1 | 1961.0 | 1957.3 | 1945.9 | 1949.7 | 1942.2 | 1930.8 | 1932.7 | 1934.6 |
| 5° | 2004.4 | 1996.9 | 1970.5 | 1936.5 | 1906.3 | 1872.3 | 1832.7 | 1787.4 | 1755.3 | 1742.1 | 1753.4 |
| 7.5° | 2021.4 | 2013.9 | 1968.6 | 1893.1 | 1791.2 | 1649.6 | 1502.4 | 1368.4 | 1275.9 | 1241.9 | 1249.5 |
| 10° | 2068.6 | 2038.4 | 1955.4 | 1791.2 | 1547.7 | 1279.7 | 1130.6 | 1047.5 | 1019.2 | 1004.1 | 1006.0 |
| 12.5° | 2130.9 | 2089.4 | 1930.8 | 1613.7 | 1245.7 | 1075.8 | 1023.0 | 1004.1 | 994.7 | 990.9 | 994.7 |
| 15° | 2206.4 | 2142.2 | 1872.3 | 1391.0 | 1106.0 | 1040.0 | 1028.6 | 1030.5 | 1030.5 | 1032.4 | 1032.4 |
| 17.5° | 2272.5 | 2172.4 | 1766.6 | 1230.6 | 1077.7 | 1058.8 | 1070.2 | 1079.6 | 1079.6 | 1081.5 | 1079.6 |
| 20° | 2332.9 | 2187.5 | 1630.7 | 1162.7 | 1083.4 | 1092.8 | 1119.2 | 1128.7 | 1130.6 | 1128.7 | 1128.7 |
| 22.5° | 2397.0 | 2197.0 | 1494.8 | 1124.9 | 1096.6 | 1124.9 | 1153.2 | 1166.4 | 1170.2 | 1172.1 | 1174.0 |
| 25° | 2459.3 | 2178.1 | 1383.5 | 1094.7 | 1090.9 | 1130.6 | 1162.7 | 1179.6 | 1183.4 | 1183.4 | 1185.3 |
| 27.5° | 2521.6 | 2172.4 | 1308.0 | 1055.1 | 1064.5 | 1096.6 | 1134.3 | 1157.0 | 1172.1 | 1174.0 | 1175.9 |
| 30° | 2593.3 | 2155.4 | 1236.3 | 1002.2 | 1006.0 | 1045.6 | 1085.3 | 1124.9 | 1155.1 | 1168.3 | 1168.3 |
| 32.5° | 2642.4 | 2138.5 | 1172.1 | 945.6 | 945.6 | 987.1 | 1036.2 | 1085.3 | 1128.7 | 1155.1 | 1160.8 |
| 35° | 2689.6 | 2123.4 | 1115.5 | 889.0 | 890.9 | 930.5 | 981.5 | 1034.3 | 1089.0 | 1121.1 | 1136.2 |
| 37.5° | 2714.1 | 2108.3 | 1075.8 | 845.6 | 838.0 | 879.5 | 913.5 | 956.9 | 1015.4 | 1068.3 | 1081.5 |
| 40° | 2719.8 | 2108.3 | 1072.1 | 815.4 | 783.3 | 830.5 | 845.6 | 875.8 | 928.6 | 985.2 | 1006.0 |
| 42.5° | 2682.0 | 2087.5 | 1090.9 | 796.5 | 726.7 | 760.6 | 777.6 | 792.7 | 826.7 | 873.9 | 890.9 |
| 45° | 2636.7 | 2059.2 | 1107.9 | 770.1 | 656.8 | 683.2 | 709.7 | 711.6 | 726.7 | 738.0 | 749.3 |
| 47.5° | 2599.0 | 2029.0 | 1077.7 | 721.0 | 585.1 | 604.0 | 632.3 | 632.3 | 624.7 | 602.1 | 594.5 |
| 50° | 2629.2 | 2038.4 | 1026.8 | 651.2 | 519.0 | 532.3 | 562.5 | 545.5 | 528.5 | 481.3 | 475.6 |
| 52.5° | 2655.6 | 2074.3 | 966.4 | 583.2 | 462.4 | 475.6 | 505.8 | 479.4 | 445.4 | 407.7 | 402.0 |
| 55° | 2612.2 | 2076.2 | 855.0 | 507.7 | 422.8 | 434.1 | 462.4 | 430.3 | 398.2 | 375.6 | 371.8 |
| 57.5° | 2482.0 | 2019.5 | 738.0 | 449.2 | 388.8 | 400.1 | 426.6 | 394.5 | 364.3 | 362.4 | 371.8 |
| 60° | 2195.1 | 1821.4 | 630.4 | 411.5 | 356.7 | 369.9 | 396.4 | 362.4 | 322.7 | 305.8 | 311.4 |
| 62.5° | 1657.2 | 1400.5 | 539.8 | 368.0 | 326.5 | 343.5 | 362.4 | 307.7 | 273.7 | 266.1 | 258.6 |
| 65° | *1211.7* | *1075.8* | *485.1* | *334.1* | *298.2* | *319.0* | *303.9* | *273.7* | *251.0* | *243.5* | *239.7* |
| 67.5° | 783.3 | 730.4 | 417.1 | 302.0 | 271.8 | 288.8 | 268.0 | 252.9 | 228.4 | 224.6 | 230.3 |
| 70° | 479.4 | 496.4 | 349.2 | 266.1 | 245.4 | 241.6 | 245.4 | 230.3 | 203.8 | 209.5 | 217.1 |
| 72.5° | 339.7 | 366.2 | 300.1 | 232.2 | 209.5 | 202.0 | 218.9 | 209.5 | 190.6 | 196.3 | 203.8 |
| 75° | 243.5 | 271.8 | 247.3 | 190.6 | 177.4 | 173.6 | 203.8 | 209.5 | 196.3 | 200.1 | 205.7 |
| 77.5° | 143.4 | 173.6 | 175.5 | 147.2 | 134.0 | 154.8 | 217.1 | 241.6 | 232.2 | 220.8 | 215.2 |
| 80° | 92.5 | 103.8 | 124.6 | 94.4 | 94.4 | 134.0 | 237.8 | 294.4 | 252.9 | 224.6 | 220.8 |
| 82.5° | 47.2 | 54.7 | 81.2 | 60.4 | 56.6 | 100.0 | 234.0 | 281.2 | 279.3 | 249.1 | 243.5 |
| 85° | 13.2 | 17.0 | 37.7 | 26.4 | 22.6 | 52.8 | 175.5 | 211.4 | 188.7 | 137.8 | 139.7 |
| 87.5° | 1.9 | 1.9 | 0.0 | 0.0 | 1.9 | 7.5 | 20.8 | 3.8 | 3.8 | 3.8 | 3.8 |
| 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: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

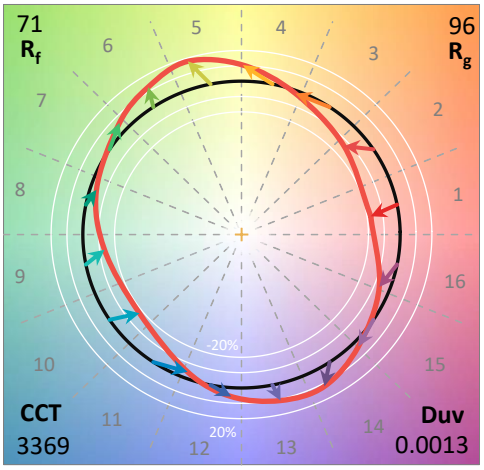
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| 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-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

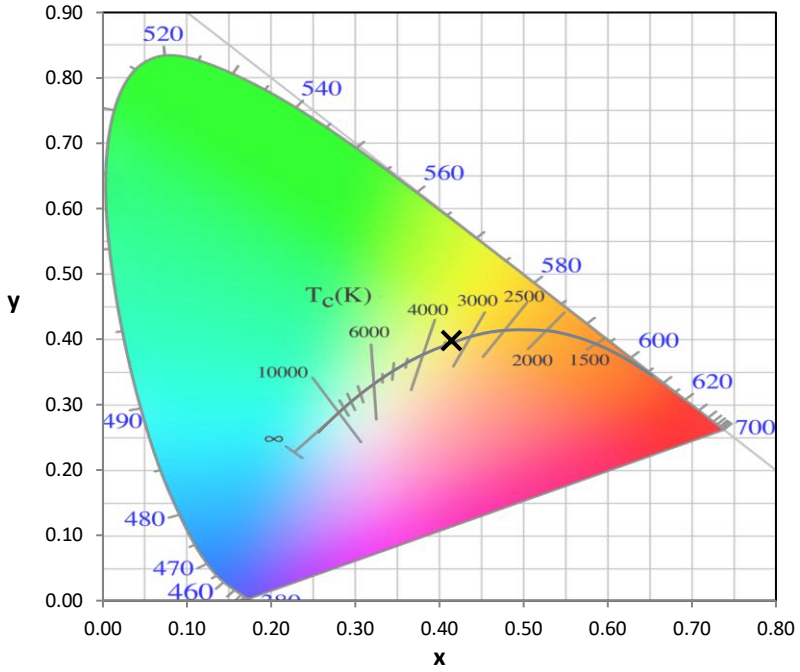
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-5

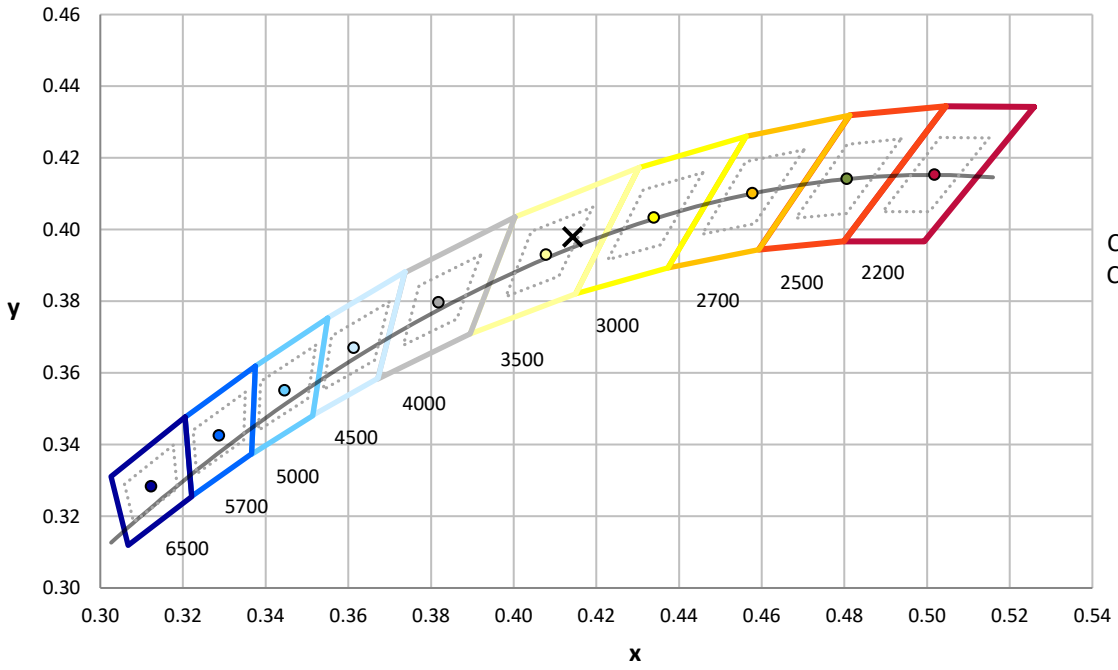
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

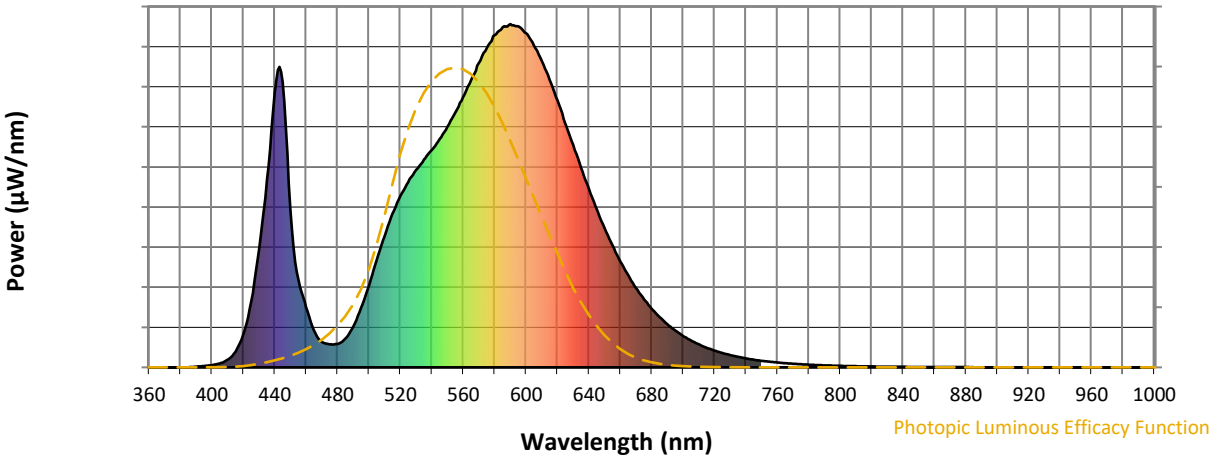



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

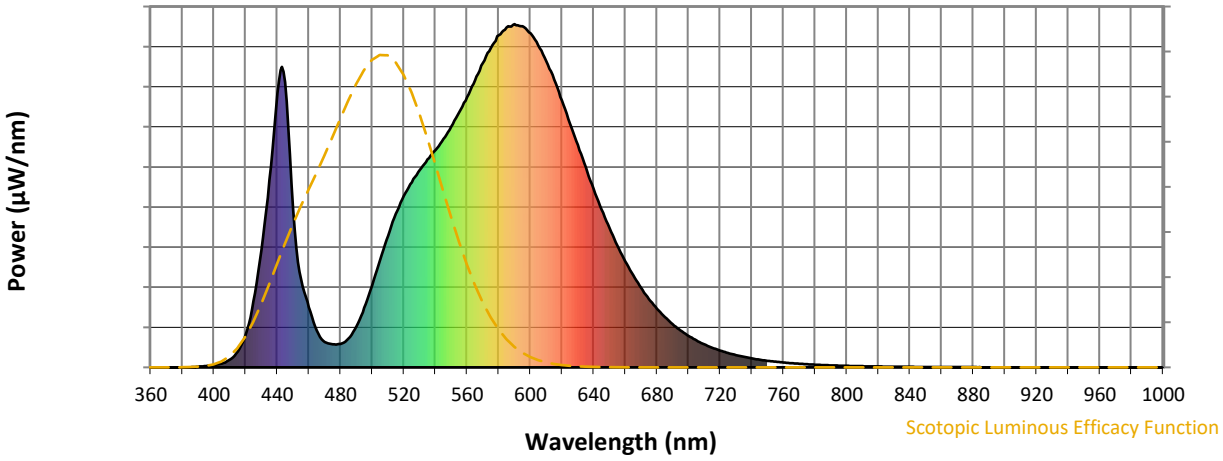



## Photopic Lumens: NR

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

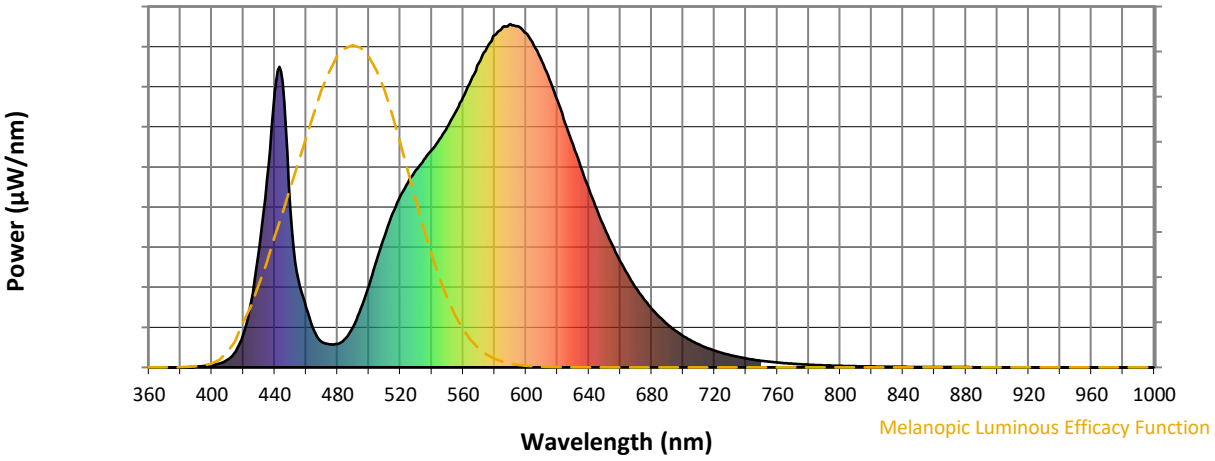



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.36**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

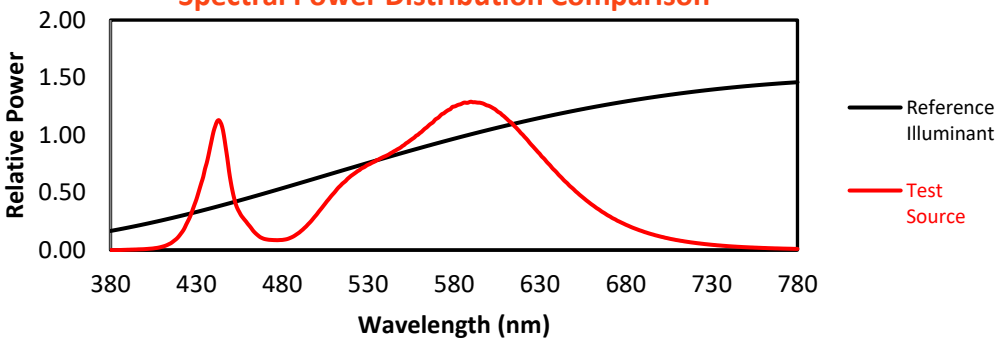
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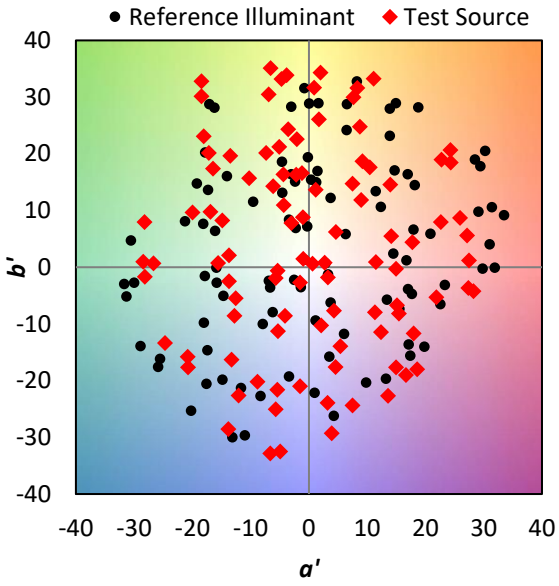
## Summary

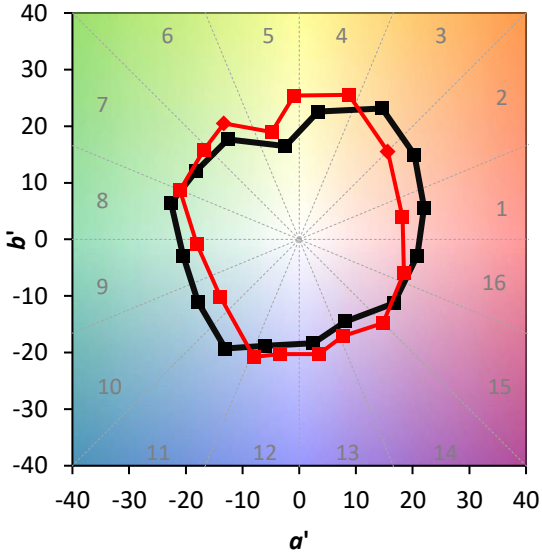
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

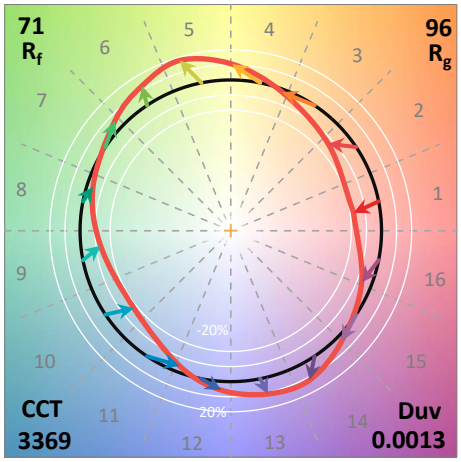
## Spectral Power Distribution Comparison

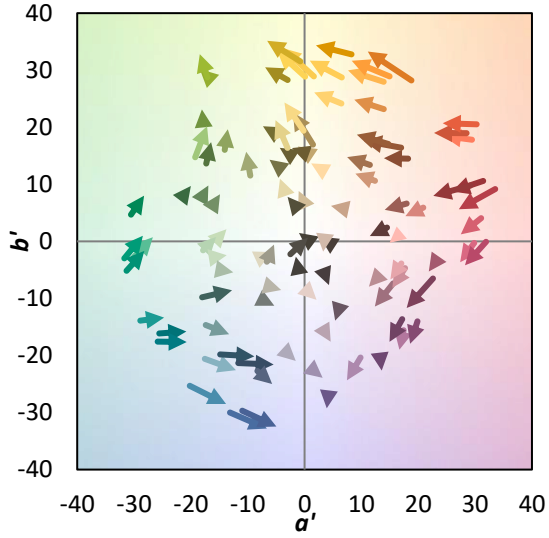



## Color Vector Graphics



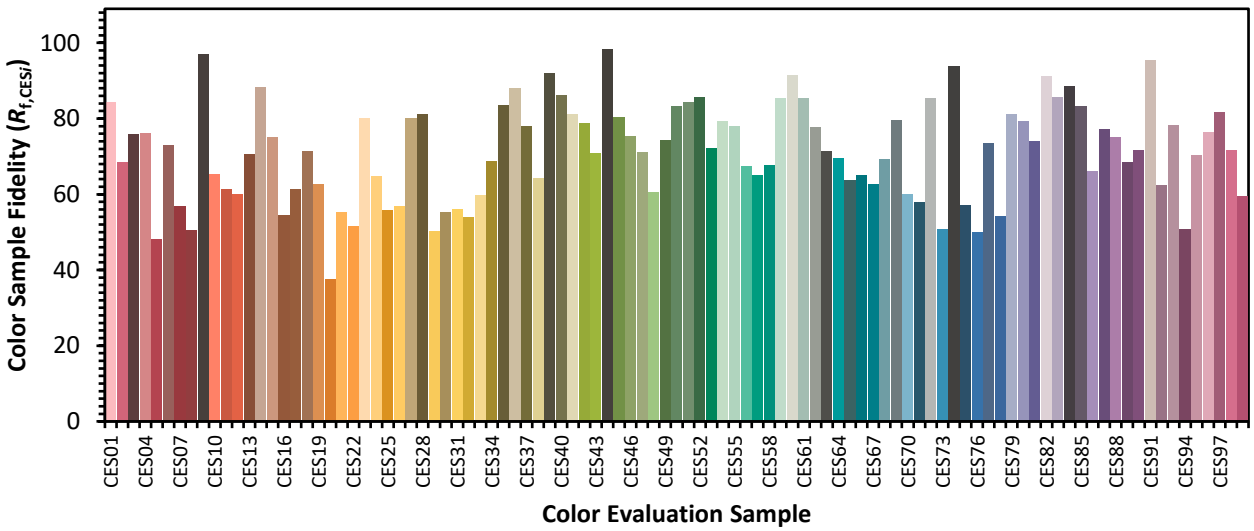



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## Individual Sample Fidelity Index ($R_{f,i}$)

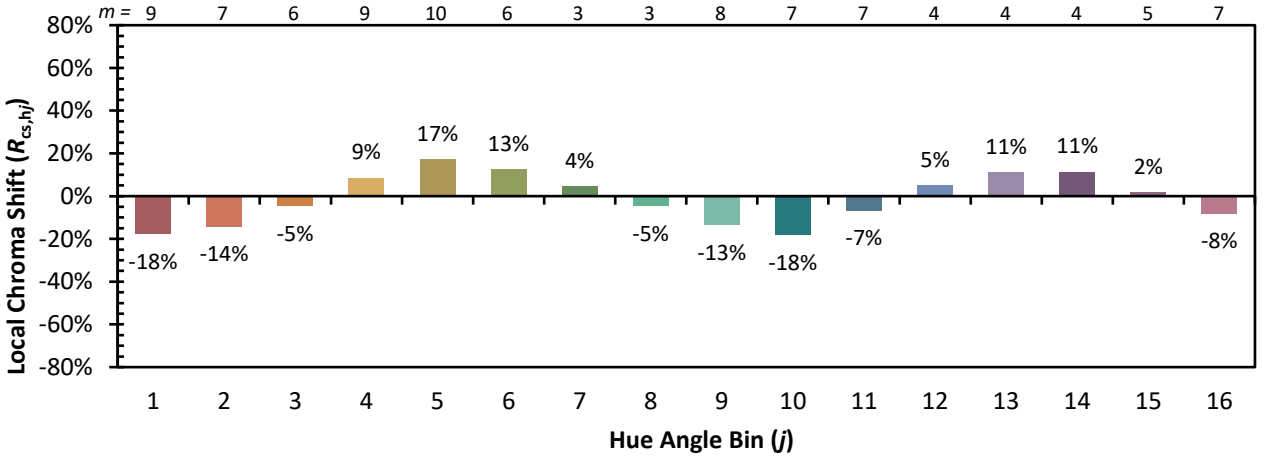
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 | |

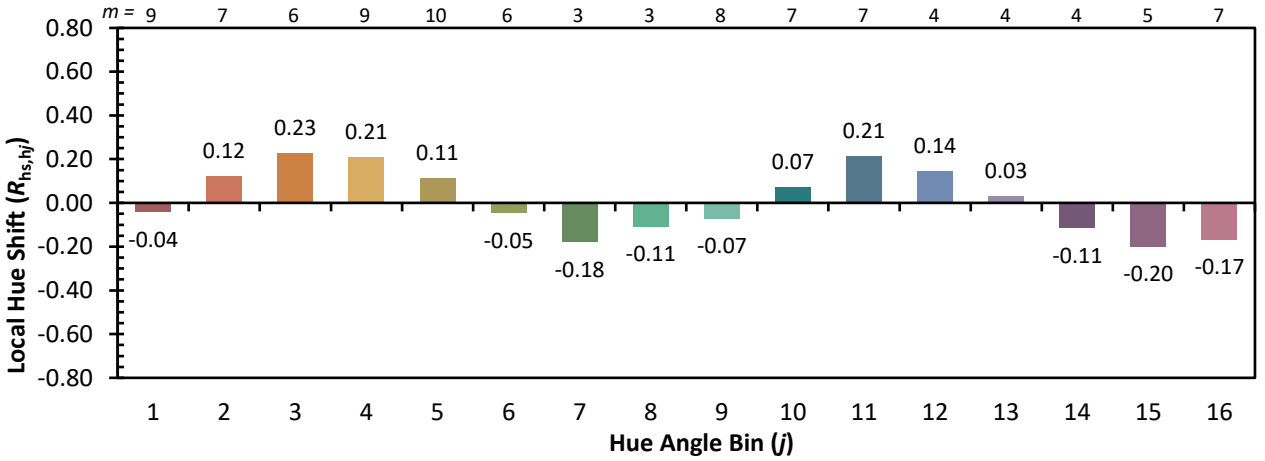


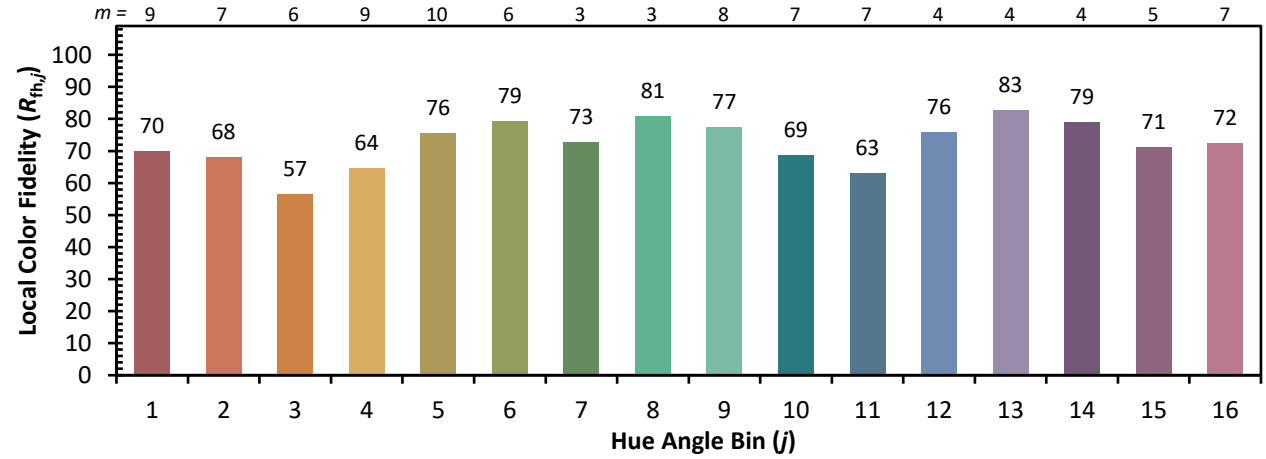
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## Color Rendition by Hue-Angle Bin



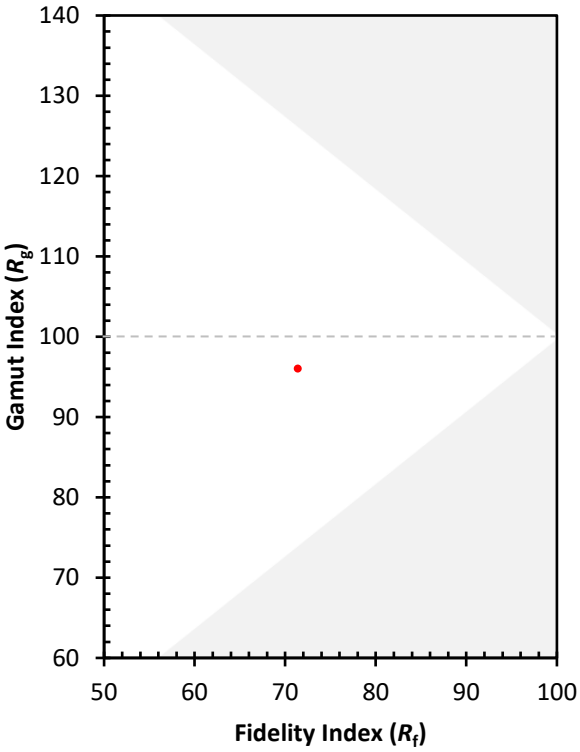



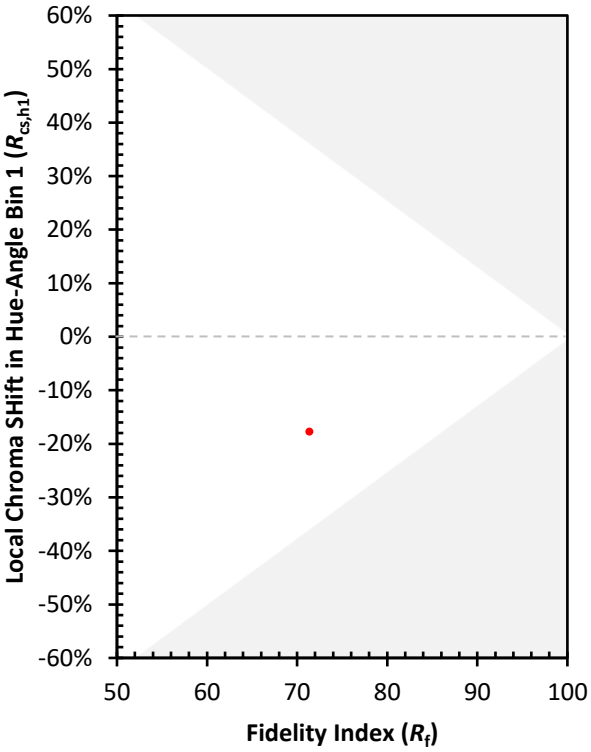



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## Measure Comparisons




(END OF REPORT)