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: P1357648

Luminaire Tested: **GSS-SB3B-727-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: | P1357648 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3B-727-U-T4FT |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 109W 70CRI 2700K FIXTURE w/ TYPE IV FORWARD THROW DISTRIBUTION OPTIC |
| Light Source: | (78) 2700K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 13852.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 127.1 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G2 |

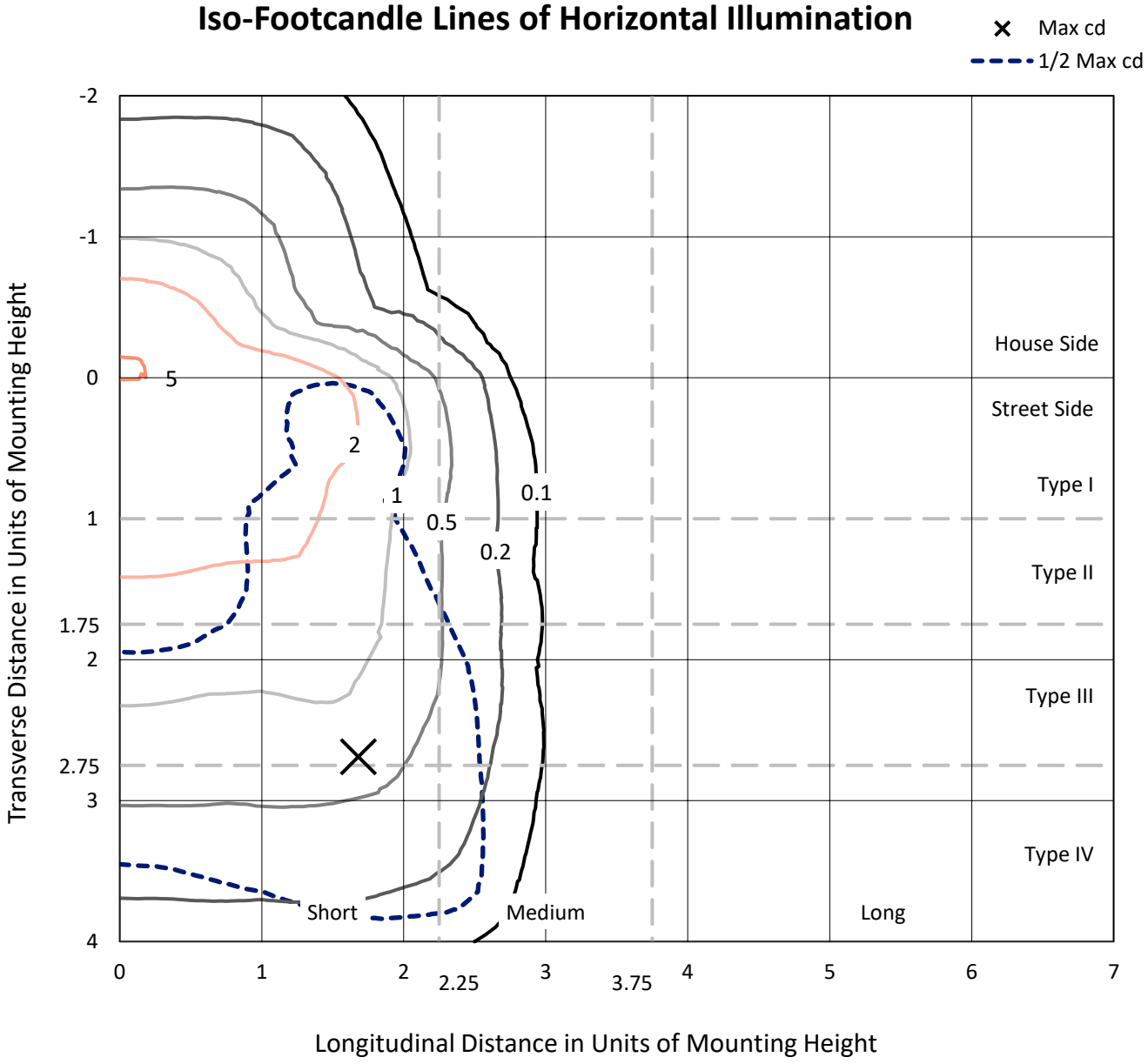
| | |
|---|---|
| Input Watts (W): | 109 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.7% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1357648
CATALOG NUMBER: GSS-SB3B-727-U-T4FT

## Iso-Footcandle Lines of Horizontal Illumination



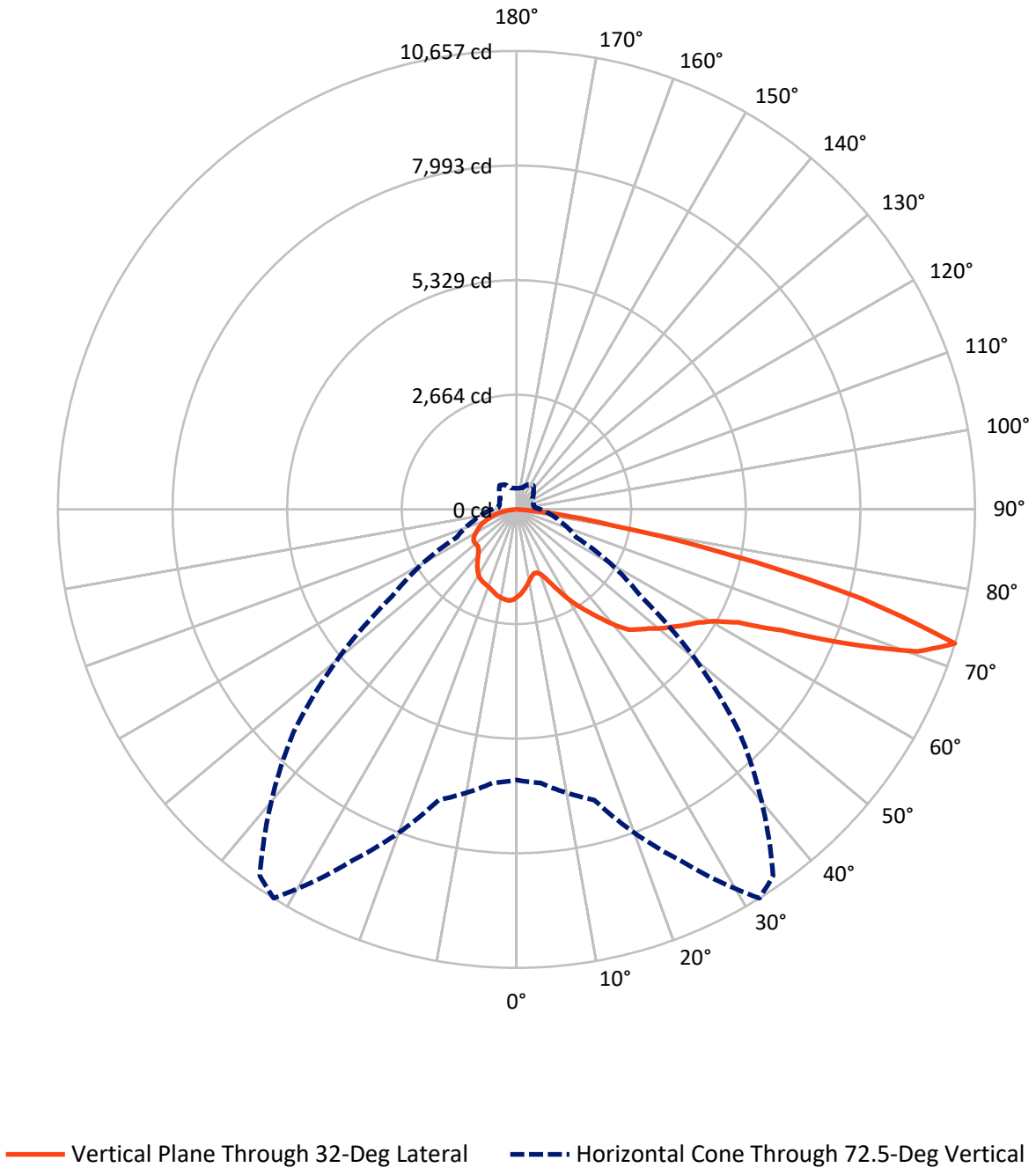

Based on 20 foot mounting height. Maximum calculated value = 5.1 fc
Type IV - Short - N/A

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Scaled Data Report

REPORT NUMBER: P1357648
CATALOG NUMBER: GSS-SB3B-727-U-T4FT

## Luminous Intensity Polar Plot



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Scaled Data Report

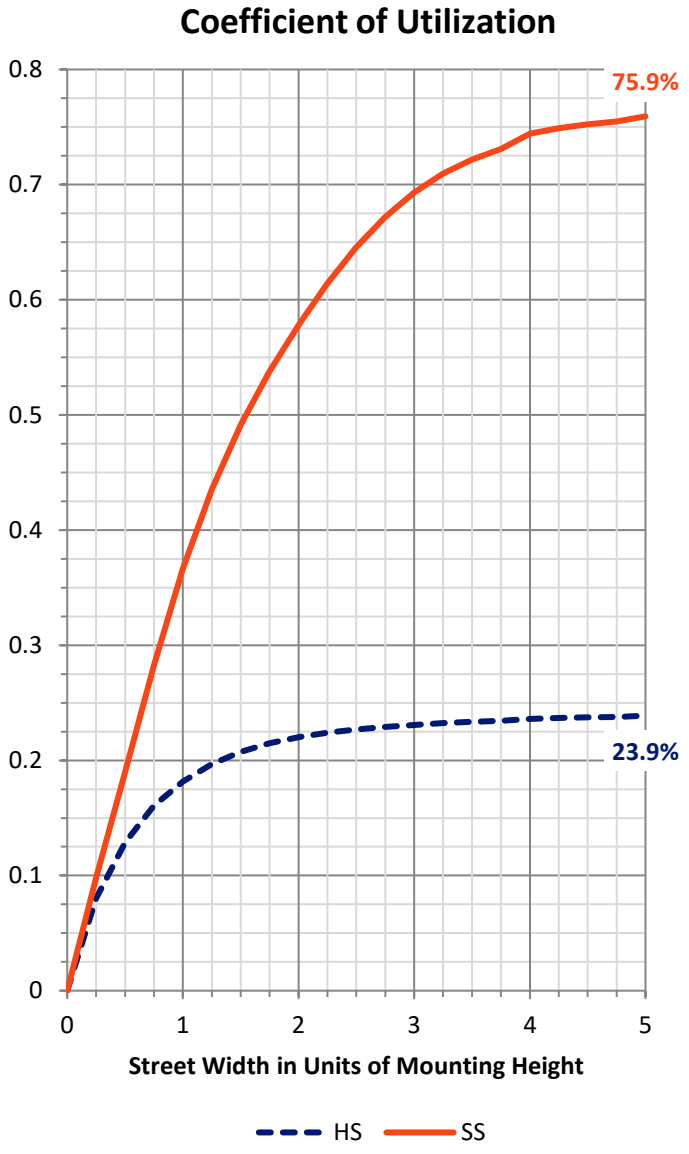
REPORT NUMBER: P1357648
CATALOG NUMBER: GSS-SB3B-727-U-T4FT

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3340.7 | 0.0 | 3340.7 |
| | % Fixture | 24.1 | 0.0 | 24.1 |
| **Street Side** | Lumens | 10511.5 | 0.0 | 10511.5 |
| | % Fixture | 75.9 | 0.0 | 75.9 |
| **Total** | Lumens | 13852.1 | 0.0 | 13852.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 190.3 | 1.4 |
| 10°-20° | 540.0 | 3.9 |
| 20°-30° | 935.6 | 6.8 |
| 30°-40° | 1477.8 | 10.7 |
| 40°-50° | 2153.9 | 15.5 |
| 50°-60° | 2919.8 | 21.1 |
| 60°-70° | 3360.4 | 24.3 |
| 70°-80° | 2102.8 | 15.2 |
| 80°-90° | 171.6 | 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° | 13852.1 | 100.0 |
| 0°-180° | 13852.1 | 100.0 |



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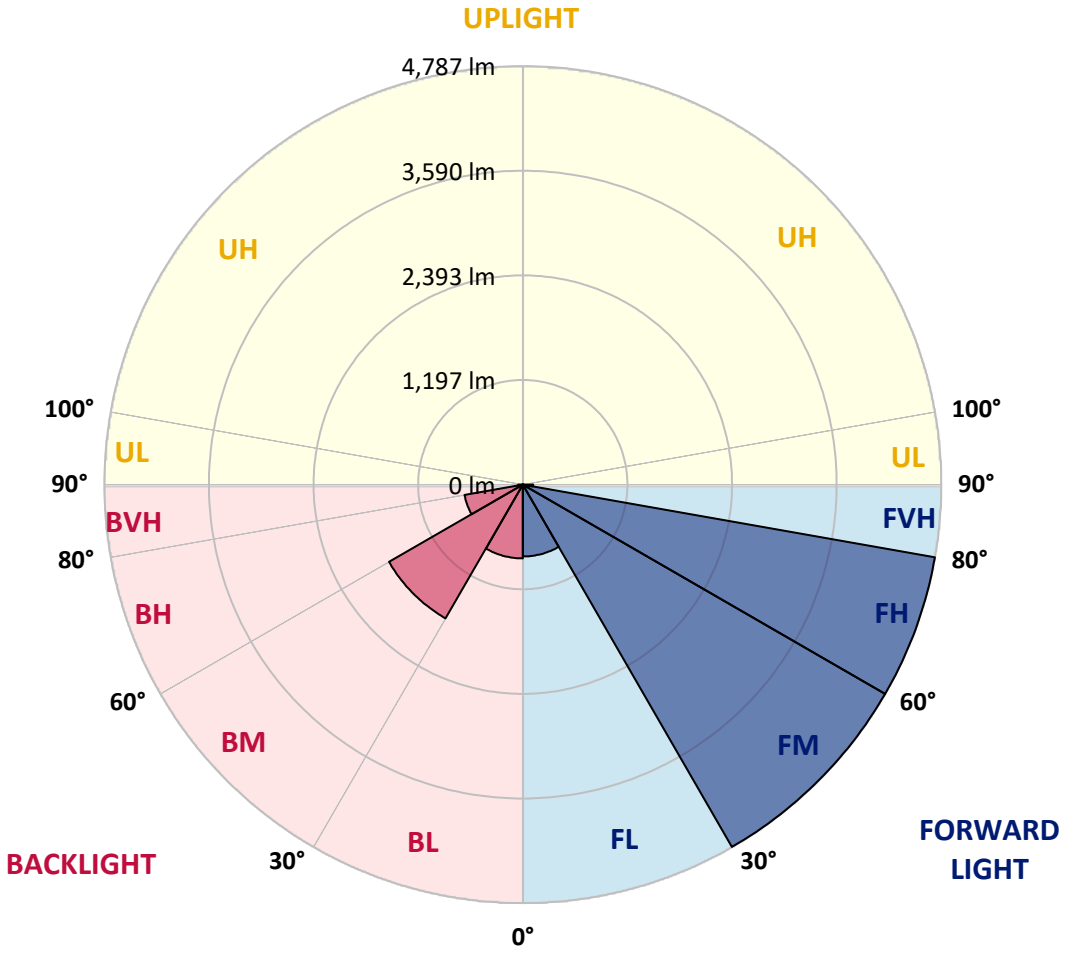
Scaled Data Report

REPORT NUMBER: P1357648
CATALOG NUMBER: GSS-SB3B-727-U-T4FT

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 821.7 | 5.9 | | | |
| FM | (30°-60°) | 4785.0 | 34.5 | | | |
| FH | (60°-80°) | 4786.8 | 34.6 | | | G2/5000 |
| FVH | (80°-90°) | 117.9 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 844.1 | 6.1 | B2/1000 | | |
| BM | (30°-60°) | 1766.5 | 12.8 | B2/2500 | | |
| BH | (60°-80°) | 676.3 | 4.9 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 53.7 | 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-G2**
Type IV Short



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Scaled Data Report

REPORT NUMBER: P1357648
CATALOG NUMBER: GSS-SB3B-727-U-T4FT

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 |
| 2.5° | 1948.7 | 1945.5 | 1961.4 | 1955.1 | 1967.8 | 1961.4 | 1961.4 | 1980.5 | 1996.5 | 2018.8 | 2034.7 |
| 5° | 1840.4 | 1843.6 | 1840.4 | 1872.3 | 1872.3 | 1875.5 | 1900.9 | 1951.9 | 1990.1 | 2015.6 | 2031.5 |
| 7.5° | 1700.3 | 1706.7 | 1719.4 | 1754.5 | 1776.8 | 1792.7 | 1840.4 | 1894.6 | 1958.3 | 2006.0 | 2063.3 |
| 10° | 1585.7 | 1576.2 | 1604.8 | 1643.0 | 1674.9 | 1690.8 | 1770.4 | 1856.4 | 1942.3 | 2021.9 | 2069.7 |
| 12.5° | 1502.9 | 1502.9 | 1518.8 | 1553.9 | 1588.9 | 1614.4 | 1703.5 | 1808.6 | 1923.2 | 2021.9 | 2111.1 |
| 15° | 1487.0 | 1493.4 | 1499.7 | 1512.5 | 1544.3 | 1557.1 | 1643.0 | 1773.6 | 1900.9 | 2050.6 | 2139.8 |
| 17.5° | 1541.1 | 1534.8 | 1528.4 | 1534.8 | 1547.5 | 1553.9 | 1617.6 | 1744.9 | 1888.2 | 2053.8 | 2155.7 |
| 20° | 1687.6 | 1674.9 | 1665.3 | 1617.6 | 1608.0 | 1614.4 | 1639.8 | 1735.4 | 1891.4 | 2098.4 | 2222.5 |
| 22.5° | 1891.4 | 1897.8 | 1859.5 | 1779.9 | 1741.7 | 1738.6 | 1706.7 | 1770.4 | 1910.5 | 2133.4 | 2279.9 |
| 25° | 2184.3 | 2155.7 | 2117.5 | 2021.9 | 1942.3 | 1913.7 | 1846.8 | 1843.6 | 1951.9 | 2197.1 | 2362.6 |
| 27.5° | 2480.5 | 2464.5 | 2404.0 | 2270.3 | 2181.1 | 2139.8 | 2018.8 | 1958.3 | 2012.4 | 2273.5 | 2458.2 |
| 30° | 2811.6 | 2811.6 | 2712.9 | 2563.2 | 2445.4 | 2369.0 | 2225.7 | 2111.1 | 2114.3 | 2375.4 | 2595.1 |
| 32.5° | 3152.3 | 3133.2 | 3037.7 | 2818.0 | 2700.2 | 2623.7 | 2432.7 | 2314.9 | 2276.7 | 2518.7 | 2783.0 |
| 35° | 3397.5 | 3403.9 | 3314.7 | 3120.5 | 2951.7 | 2878.5 | 2706.5 | 2572.8 | 2486.8 | 2719.3 | 3021.8 |
| 37.5° | 3620.4 | 3626.8 | 3572.6 | 3381.6 | 3231.9 | 3158.7 | 2964.5 | 2872.1 | 2741.6 | 3005.8 | 3308.3 |
| 40° | 3731.8 | 3715.9 | 3700.0 | 3629.9 | 3544.0 | 3486.7 | 3286.1 | 3165.1 | 3050.4 | 3314.7 | 3620.4 |
| 42.5° | 3814.6 | 3814.6 | 3789.1 | 3821.0 | 3821.0 | 3782.8 | 3626.8 | 3518.5 | 3403.9 | 3744.6 | 3951.5 |
| 45° | 3910.1 | 3868.8 | 3868.8 | 3897.4 | 3977.0 | 4002.5 | 4015.2 | 3913.3 | 3808.3 | 4171.2 | 4311.4 |
| 47.5° | 4008.9 | 4018.4 | 3992.9 | 4028.0 | 4139.4 | 4250.9 | 4416.4 | 4324.1 | 4209.5 | 4677.5 | 4718.9 |
| 50° | 4133.0 | 4145.8 | 4145.8 | 4222.2 | 4346.4 | 4476.9 | 4884.5 | 4789.0 | 4597.9 | 5250.7 | 5167.9 |
| 52.5° | 4164.9 | 4171.2 | 4266.8 | 4352.7 | 4534.2 | 4712.6 | 5352.6 | 5215.7 | 5011.9 | 5772.9 | 5559.5 |
| 55° | 4107.6 | 4155.3 | 4327.3 | 4492.8 | 4754.0 | 4967.3 | 5798.4 | 5626.4 | 5314.4 | 6170.9 | 5868.4 |
| 57.5° | 4238.1 | 4257.2 | 4416.4 | 4604.3 | 4967.3 | 5241.1 | 6237.8 | 5992.6 | 5524.5 | 6498.9 | 5992.6 |
| 60° | 4515.1 | 4502.4 | 4642.5 | 4852.7 | 5273.0 | 5626.4 | 6712.2 | 6304.6 | 5699.6 | 6553.0 | 5747.4 |
| 62.5° | 5136.0 | 5072.4 | 5123.3 | 5314.4 | 5785.6 | 6266.4 | 7199.4 | 6559.4 | 5591.4 | 6018.1 | 4919.5 |
| 65° | 5976.7 | 5957.6 | 5925.7 | 6126.3 | 6772.7 | 7183.5 | 7807.6 | 6505.2 | 5050.1 | 5078.7 | 3954.7 |
| 67.5° | 6728.1 | 6753.6 | 6734.5 | 7269.4 | 8355.2 | 8731.0 | 8453.9 | 6113.6 | 4184.0 | 3623.6 | 2544.1 |
| 70° | 7017.9 | 7068.8 | 7406.4 | 8425.3 | 9890.0 | 10326.2 | 8746.9 | 5116.9 | 2897.6 | 1958.3 | 1251.4 |
| 72.5° | 6291.9 | 6384.2 | 6992.4 | 9001.6 | 10657.4 | 10399.5 | 7333.1 | 3531.2 | 1528.4 | 1031.7 | 697.3 |
| 75° | 4349.6 | 4445.1 | 5368.5 | 7549.6 | 8291.6 | 7868.1 | 4502.4 | 1522.0 | 789.7 | 601.8 | 429.9 |
| 77.5° | 1706.7 | 1955.1 | 2560.1 | 4212.6 | 5081.9 | 4986.4 | 2133.4 | 525.4 | 439.4 | 366.2 | 280.2 |
| 80° | 573.1 | 649.6 | 952.1 | 1662.1 | 2254.4 | 2381.8 | 776.9 | 267.5 | 254.7 | 222.9 | 175.1 |
| 82.5° | 207.0 | 232.4 | 407.6 | 627.3 | 1028.5 | 1034.9 | 251.5 | 143.3 | 156.0 | 133.7 | 92.3 |
| 85° | 70.1 | 76.4 | 95.5 | 194.2 | 251.5 | 270.7 | 70.1 | 54.1 | 63.7 | 57.3 | 41.4 |
| 87.5° | 6.4 | 6.4 | 6.4 | 9.6 | 9.6 | 9.6 | 9.6 | 12.7 | 12.7 | 9.6 | 9.6 |
| 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: P1357648
CATALOG NUMBER: GSS-SB3B-727-U-T4FT

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 | 2034.7 |
| 2.5° | 2037.9 | 2047.4 | 2053.8 | 2066.5 | 2082.4 | 2085.6 | 2098.4 | 2101.5 | 2095.2 | 2101.5 | 2095.2 |
| 5° | 2057.0 | 2072.9 | 2085.6 | 2104.7 | 2117.5 | 2133.4 | 2130.2 | 2120.7 | 2120.7 | 2104.7 | 2130.2 |
| 7.5° | 2082.4 | 2104.7 | 2114.3 | 2133.4 | 2136.6 | 2127.0 | 2114.3 | 2111.1 | 2079.3 | 2079.3 | 2085.6 |
| 10° | 2117.5 | 2136.6 | 2146.1 | 2152.5 | 2133.4 | 2117.5 | 2092.0 | 2076.1 | 2063.3 | 2050.6 | 2053.8 |
| 12.5° | 2142.9 | 2162.0 | 2162.0 | 2139.8 | 2117.5 | 2092.0 | 2069.7 | 2037.9 | 2028.3 | 2012.4 | 2012.4 |
| 15° | 2158.9 | 2190.7 | 2168.4 | 2133.4 | 2088.8 | 2053.8 | 2018.8 | 1990.1 | 1977.4 | 1974.2 | 1986.9 |
| 17.5° | 2200.3 | 2216.2 | 2162.0 | 2101.5 | 2053.8 | 2006.0 | 1967.8 | 1945.5 | 1929.6 | 1926.4 | 1951.9 |
| 20° | 2248.0 | 2235.3 | 2142.9 | 2066.5 | 2012.4 | 1948.7 | 1916.9 | 1910.5 | 1904.1 | 1923.2 | 1923.2 |
| 22.5° | 2295.8 | 2273.5 | 2123.8 | 2037.9 | 1951.9 | 1907.3 | 1878.7 | 1897.8 | 1900.9 | 1913.7 | 1926.4 |
| 25° | 2365.8 | 2311.7 | 2117.5 | 1993.3 | 1881.8 | 1850.0 | 1853.2 | 1878.7 | 1885.0 | 1885.0 | 1891.4 |
| 27.5° | 2442.3 | 2375.4 | 2120.7 | 1926.4 | 1811.8 | 1802.2 | 1824.5 | 1834.1 | 1843.6 | 1834.1 | 1837.3 |
| 30° | 2550.5 | 2442.3 | 2104.7 | 1850.0 | 1751.3 | 1767.2 | 1779.9 | 1776.8 | 1735.4 | 1725.8 | 1732.2 |
| 32.5° | 2709.7 | 2534.6 | 2092.0 | 1789.5 | 1719.4 | 1719.4 | 1706.7 | 1668.5 | 1627.1 | 1588.9 | 1601.6 |
| 35° | 2891.2 | 2649.2 | 2044.2 | 1741.7 | 1687.6 | 1674.9 | 1623.9 | 1560.2 | 1483.8 | 1439.2 | 1442.4 |
| 37.5° | 3082.3 | 2754.3 | 1993.3 | 1687.6 | 1636.7 | 1604.8 | 1531.6 | 1432.9 | 1356.5 | 1311.9 | 1305.5 |
| 40° | 3330.6 | 2872.1 | 1916.9 | 1614.4 | 1566.6 | 1515.7 | 1432.9 | 1324.6 | 1248.2 | 1213.2 | 1232.3 |
| 42.5° | 3582.2 | 3009.0 | 1827.7 | 1512.5 | 1474.3 | 1442.4 | 1350.1 | 1245.0 | 1171.8 | 1149.5 | 1162.2 |
| 45° | 3862.4 | 3149.1 | 1735.4 | 1391.5 | 1372.4 | 1366.0 | 1286.4 | 1203.6 | 1139.9 | 1108.1 | 1104.9 |
| 47.5° | 4149.0 | 3295.6 | 1608.0 | 1283.2 | 1273.7 | 1315.1 | 1254.6 | 1184.5 | 1130.4 | 1079.4 | 1076.2 |
| 50° | 4470.6 | 3438.9 | 1436.1 | 1146.3 | 1190.9 | 1286.4 | 1264.1 | 1187.7 | 1095.4 | 1015.7 | 1003.0 |
| 52.5° | 4757.1 | 3489.8 | 1254.6 | 1038.0 | 1127.2 | 1289.6 | 1273.7 | 1168.6 | 1047.6 | 952.1 | 939.3 |
| 55° | 4951.4 | 3403.9 | 1098.5 | 942.5 | 1079.4 | 1267.3 | 1260.9 | 1139.9 | 999.8 | 897.9 | 885.2 |
| 57.5° | 4964.1 | 3152.3 | 948.9 | 862.9 | 1003.0 | 1203.6 | 1222.7 | 1082.6 | 926.6 | 840.6 | 831.1 |
| 60° | 4658.4 | 2738.4 | 827.9 | 792.9 | 920.2 | 1120.8 | 1152.7 | 1003.0 | 859.7 | 767.4 | 761.0 |
| 62.5° | 3973.8 | 2190.7 | 713.3 | 716.4 | 840.6 | 1009.4 | 1069.9 | 936.1 | 792.9 | 703.7 | 694.1 |
| 65° | 3161.9 | 1674.9 | 633.6 | 649.6 | 738.7 | 901.1 | 993.5 | 869.3 | 726.0 | 640.0 | 627.3 |
| 67.5° | 2123.8 | 1155.8 | 547.7 | 579.5 | 640.0 | 789.7 | 917.0 | 799.2 | 643.2 | 573.1 | 563.6 |
| 70° | 1012.6 | 671.9 | 471.3 | 509.5 | 547.7 | 668.7 | 805.6 | 700.5 | 576.3 | 519.0 | 515.8 |
| 72.5° | *563.6* | *429.9* | *407.6* | *436.2* | *458.5* | *560.4* | *681.4* | *633.6* | *515.8* | *493.5* | *490.4* |
| 75° | 359.8 | 305.7 | 324.8 | 359.8 | 372.5 | 442.6 | 589.1 | 566.8 | 464.9 | 477.6 | 477.6 |
| 77.5° | 222.9 | 210.2 | 248.4 | 280.2 | 289.8 | 363.0 | 484.0 | 480.8 | 388.5 | 382.1 | 337.5 |
| 80° | 143.3 | 140.1 | 178.3 | 181.5 | 197.4 | 277.0 | 385.3 | 369.4 | 292.9 | 267.5 | 251.5 |
| 82.5° | 76.4 | 79.6 | 108.3 | 114.6 | 111.4 | 168.8 | 264.3 | 261.1 | 216.5 | 187.9 | 178.3 |
| 85° | 28.7 | 28.7 | 41.4 | 50.9 | 54.1 | 86.0 | 140.1 | 143.3 | 117.8 | 89.2 | 92.3 |
| 87.5° | 6.4 | 6.4 | 6.4 | 9.6 | 9.6 | 19.1 | 25.5 | 28.7 | 31.8 | 15.9 | 9.6 |
| 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: SP1-2407-184-3

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-727-U-5WQ

Data in this report applies to families of products including GSS-SB1A-727-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

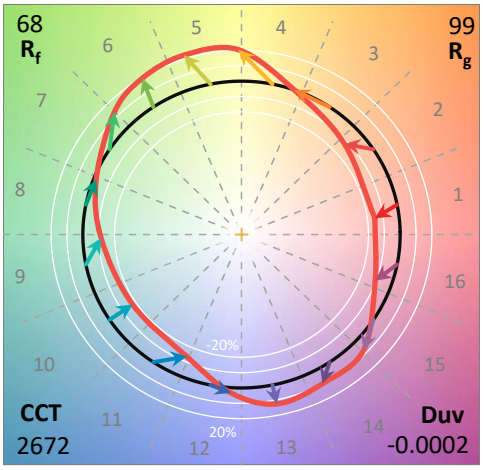
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-3 |
| 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-727-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2672 |
| CIE u': | 0.2638 |
| CIE v': | 0.5276 |
| Duv: | -0.0002 |
| CIE x: | 0.4619 |
| CIE y: | 0.4106 |
| CIE z: | 0.1275 |
| Peak Wavelength (nm): | 601 |
| Dominant Wavelength (nm): | 584 |
| Purity: | 61.88407 |
| Rf: | 67.9 |
| Rg: | 98.6 |

| | |
|---|---|
| CRI (Ra): | 71.1 |
| R1: | 68.3 |
| R2: | 79.8 |
| R3: | 91.2 |
| R4: | 69.4 |
| R5: | 66.5 |
| R6: | 72.6 |
| R7: | 77.0 |
| R8: | 44.1 |
| R9: | -27.8 |
| R10: | 54.4 |
| R11: | 65.8 |
| R12: | 45.6 |
| R13: | 69.8 |
| R14: | 94.5 |
| R15: | 60.1 |




## Test Conditions

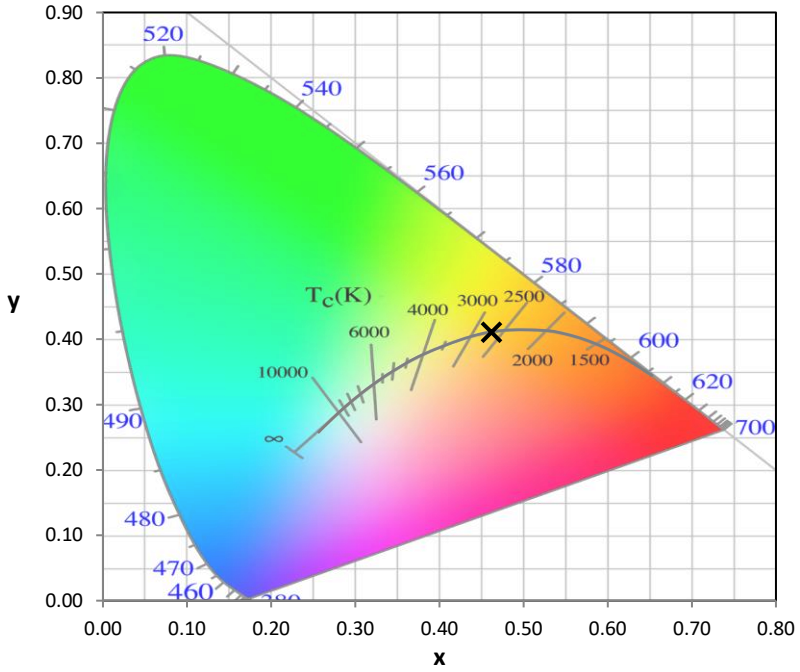
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-3

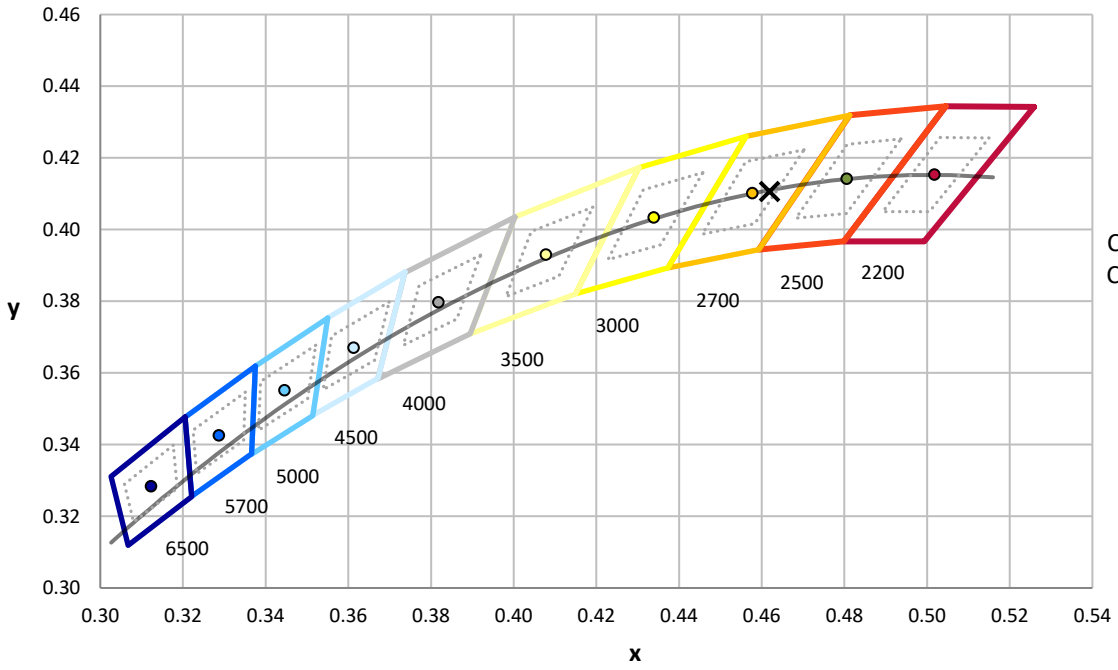
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

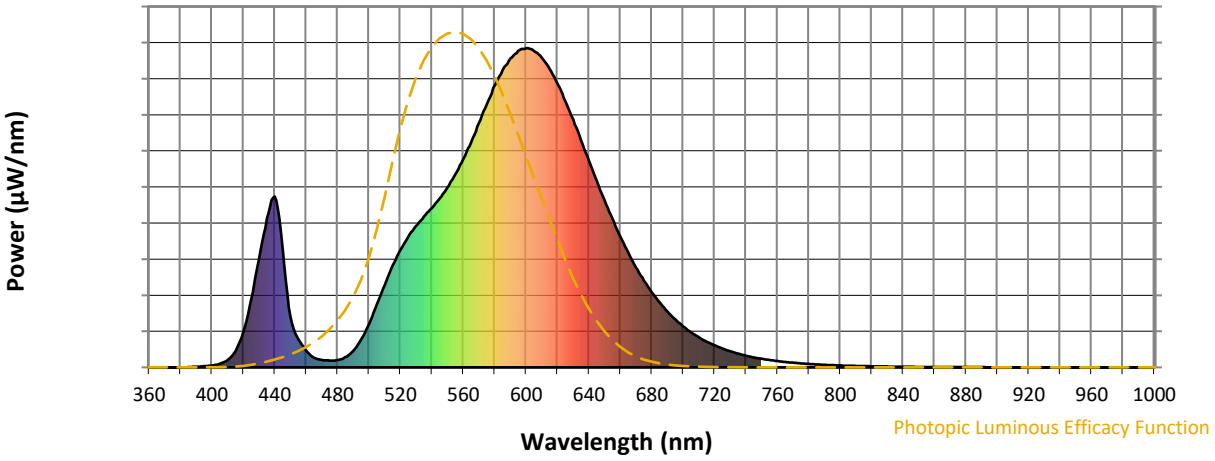



CCT = 2672K
CIE x = 0.4619
CIE y = 0.4106
Duv = -0.0002

Point lies inside the ANSI 2700K 4-step quadrangle

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## Photopic Flux vs. Wavelength

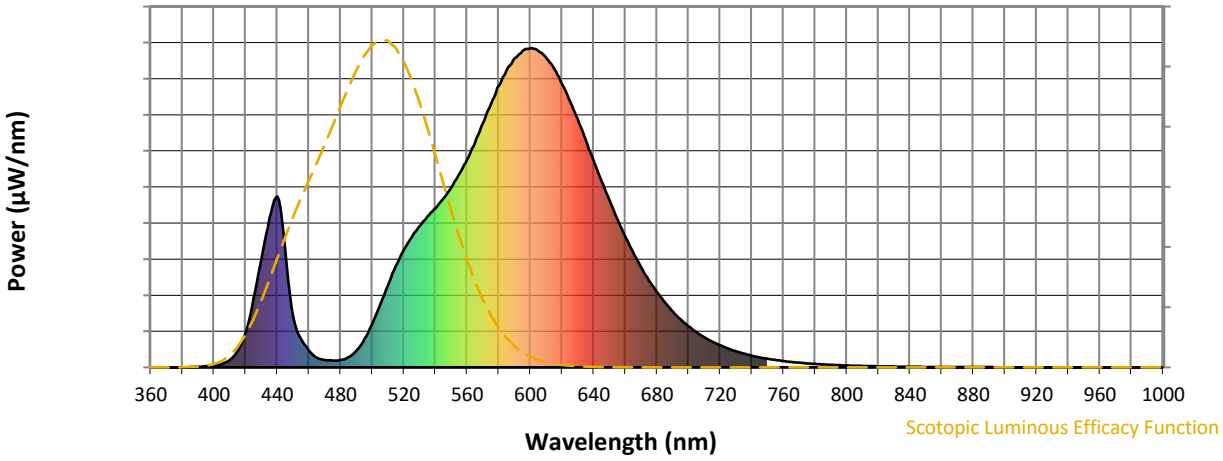



## Photopic Lumens: NR

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

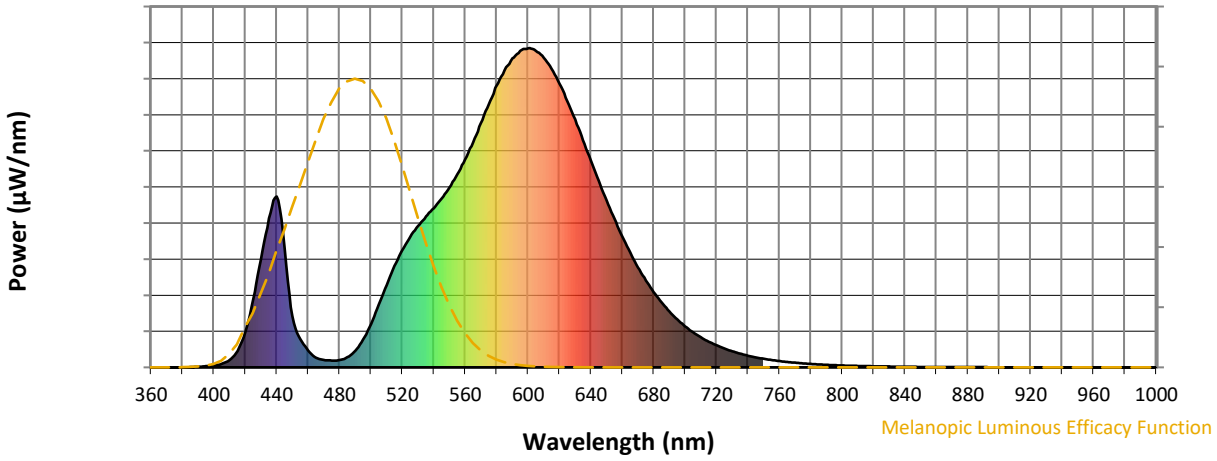



**Scotopic Lumens: NR** **S/P: 1.02**

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.71**

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

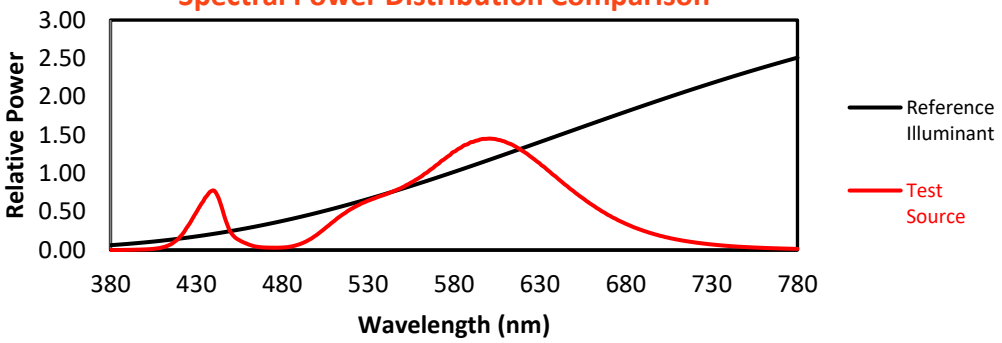
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# TM-30-18

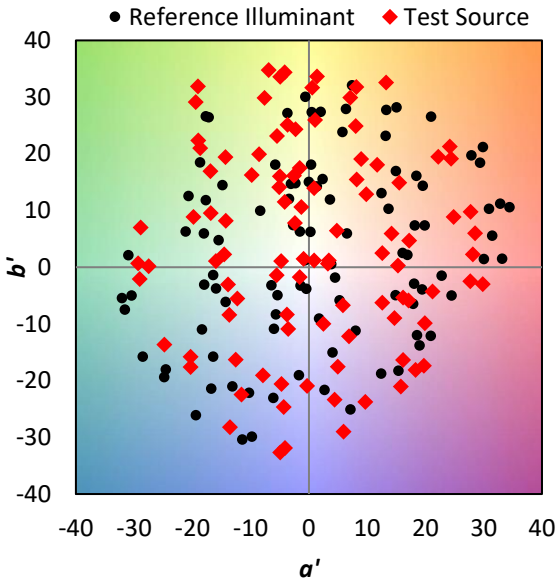
## Summary

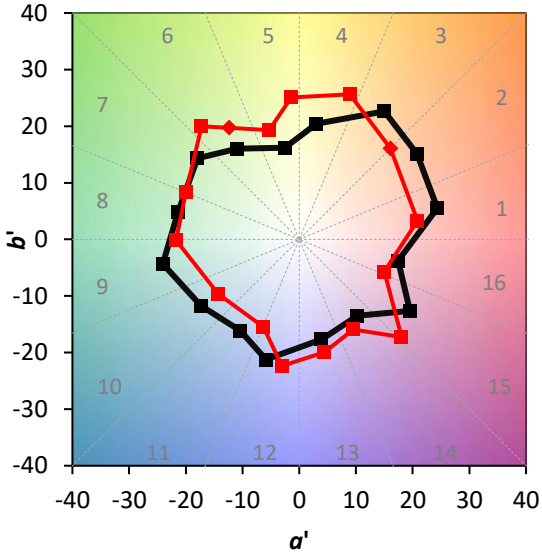
$R_f$ = 67.9
$R_g$ = 98.6
CIE $R_a$ = 71.1
$R_9$ = -27.8

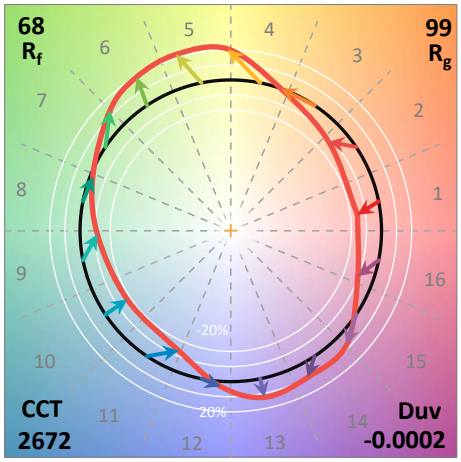
## Spectral Power Distribution Comparison

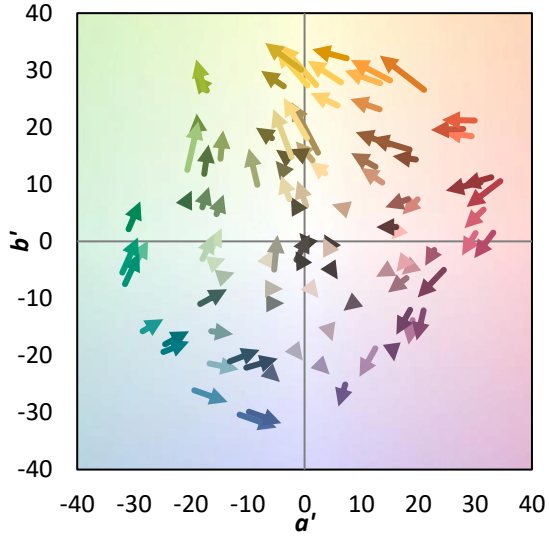



## Color Vector Graphics



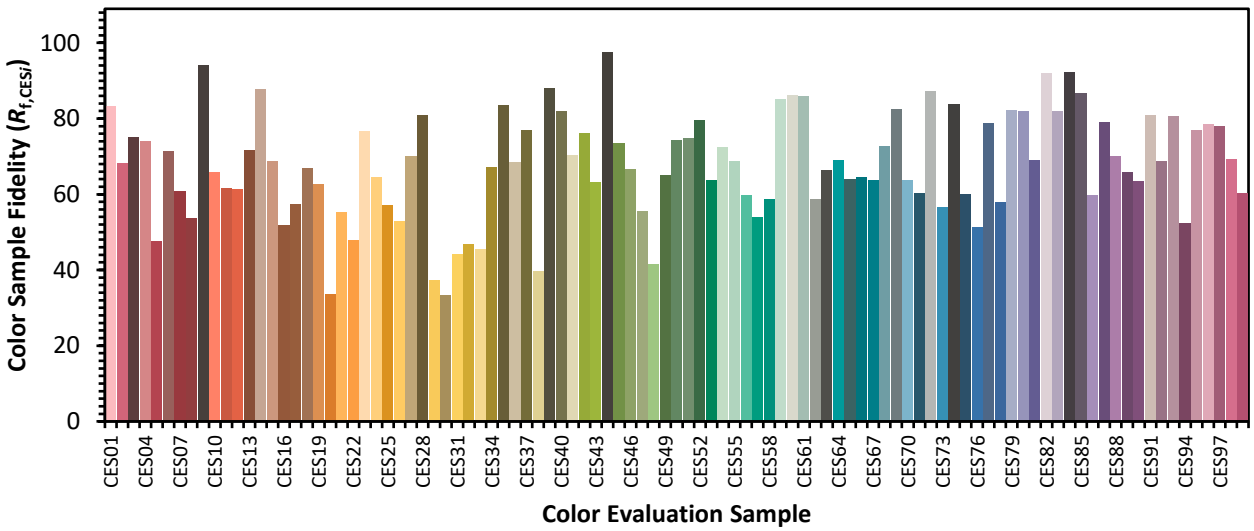



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**Individual Sample Fidelity Index ($R_{f,i}$)**

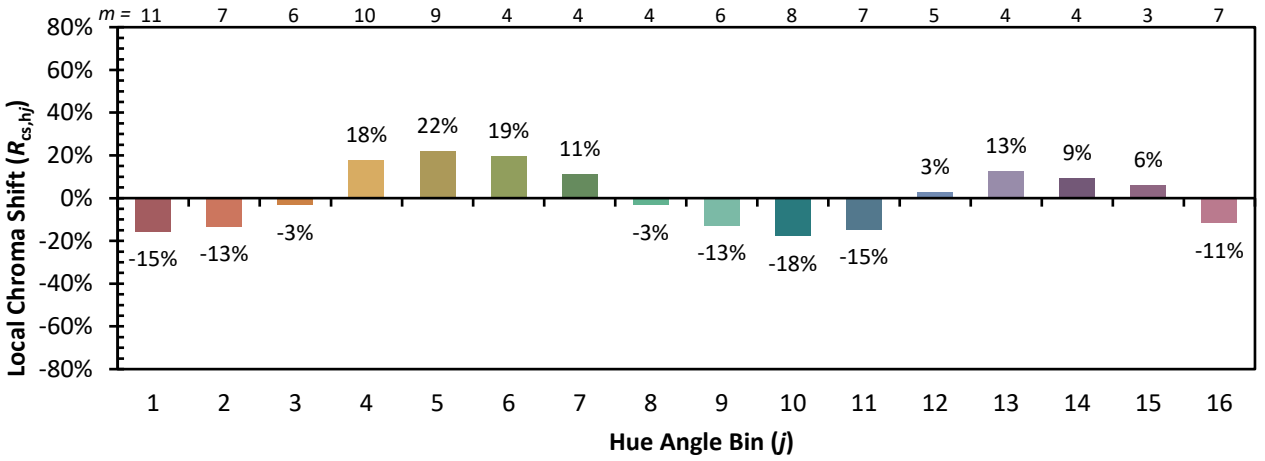
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 53 | CES51 = 75 | CES76 = 51 |
| CES02 = 63 | CES27 = 70 | CES52 = 80 | CES77 = 79 |
| CES03 = 31 | CES28 = 81 | CES53 = 64 | CES78 = 58 |
| CES04 = 71 | CES29 = 37 | CES54 = 73 | CES79 = 82 |
| CES05 = 50 | CES30 = 33 | CES55 = 69 | CES80 = 82 |
| CES06 = 52 | CES31 = 44 | CES56 = 60 | CES81 = 69 |
| CES07 = 42 | CES32 = 47 | CES57 = 54 | CES82 = 92 |
| CES08 = 41 | CES33 = 45 | CES58 = 59 | CES83 = 82 |
| CES09 = 29 | CES34 = 67 | CES59 = 85 | CES84 = 92 |
| CES10 = 77 | CES35 = 84 | CES60 = 86 | CES85 = 87 |
| CES11 = 60 | CES36 = 68 | CES61 = 86 | CES86 = 60 |
| CES12 = 66 | CES37 = 77 | CES62 = 59 | CES87 = 79 |
| CES13 = 44 | CES38 = 40 | CES63 = 66 | CES88 = 70 |
| CES14 = 74 | CES39 = 88 | CES64 = 69 | CES89 = 66 |
| CES15 = 72 | CES40 = 82 | CES65 = 64 | CES90 = 64 |
| CES16 = 48 | CES41 = 70 | CES66 = 65 | CES91 = 81 |
| CES17 = 51 | CES42 = 76 | CES67 = 64 | CES92 = 69 |
| CES18 = 57 | CES43 = 63 | CES68 = 73 | CES93 = 81 |
| CES19 = 73 | CES44 = 97 | CES69 = 83 | CES94 = 53 |
| CES20 = 67 | CES45 = 74 | CES70 = 64 | CES95 = 77 |
| CES21 = 88 | CES46 = 67 | CES71 = 60 | CES96 = 79 |
| CES22 = 80 | CES47 = 55 | CES72 = 87 | CES97 = 78 |
| CES23 = 92 | CES48 = 42 | CES73 = 57 | CES98 = 69 |
| CES24 = 92 | CES49 = 65 | CES74 = 84 | CES99 = 60 |
| CES25 = 73 | CES50 = 74 | CES75 = 60 | |

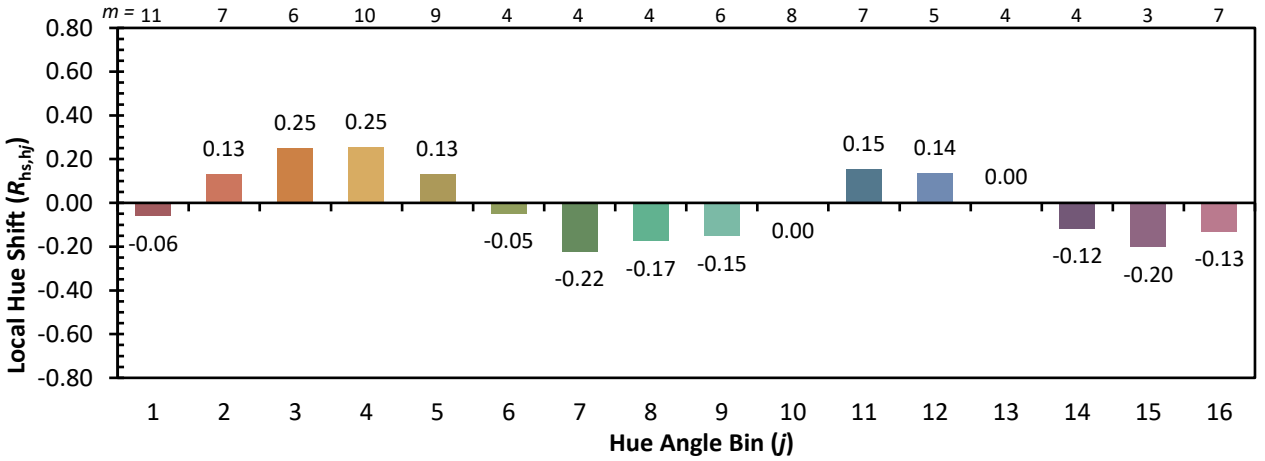


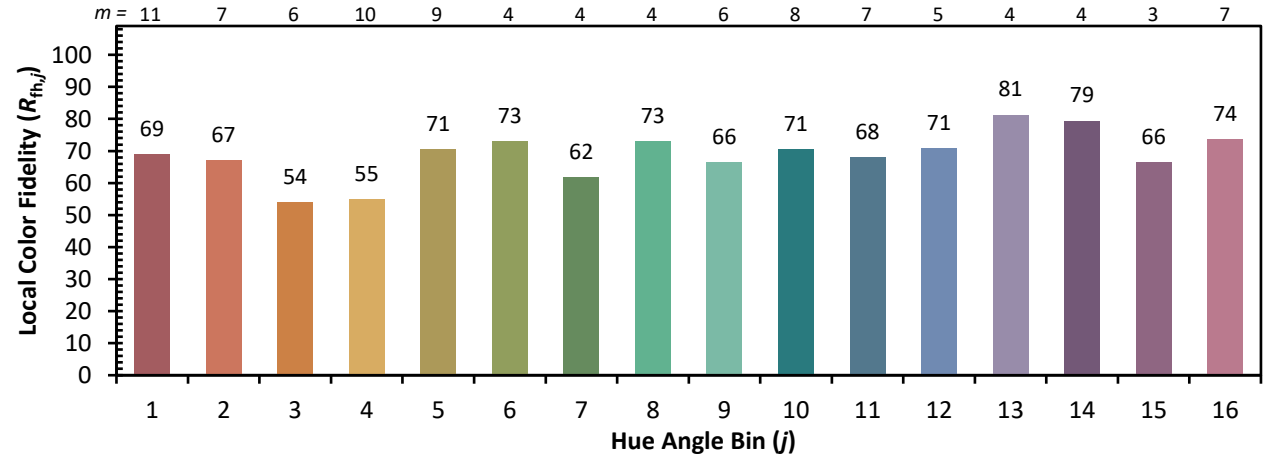
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## Color Rendition by Hue-Angle Bin



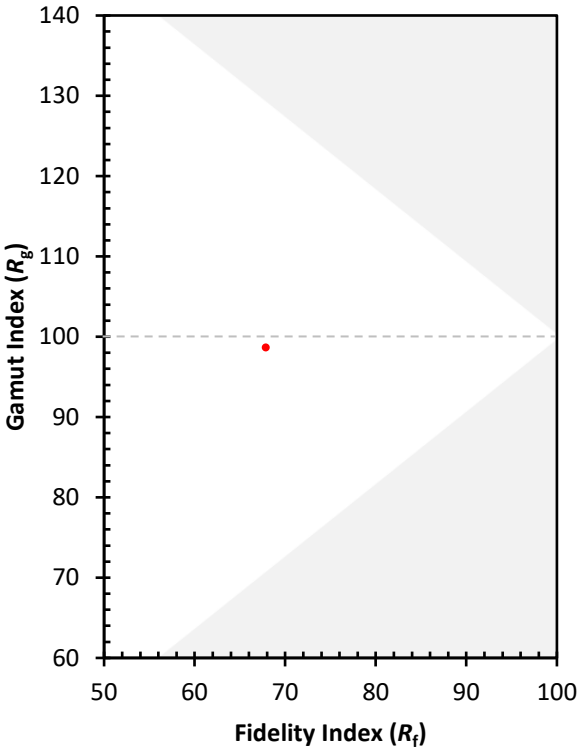



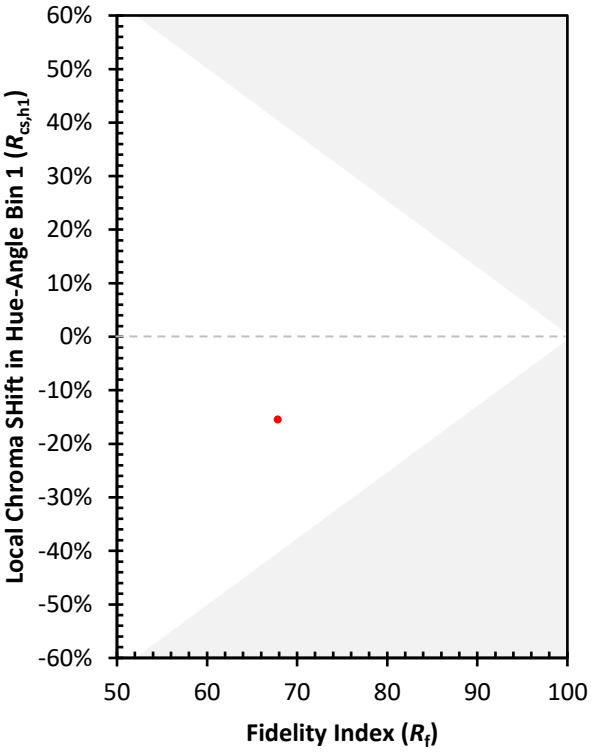



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## Measure Comparisons




(END OF REPORT)