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: P1358367

Luminaire Tested: **GSS-SB3A-740-U-SL4**

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: | P1358367 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3A-740-U-SL4 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 85W 70CRI 4000K FIXTURE w/ TYPE IV SPILL CONTROL DISTRIBUTION OPTIC |
| Light Source: | (78) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 12707.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 149.5 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 |

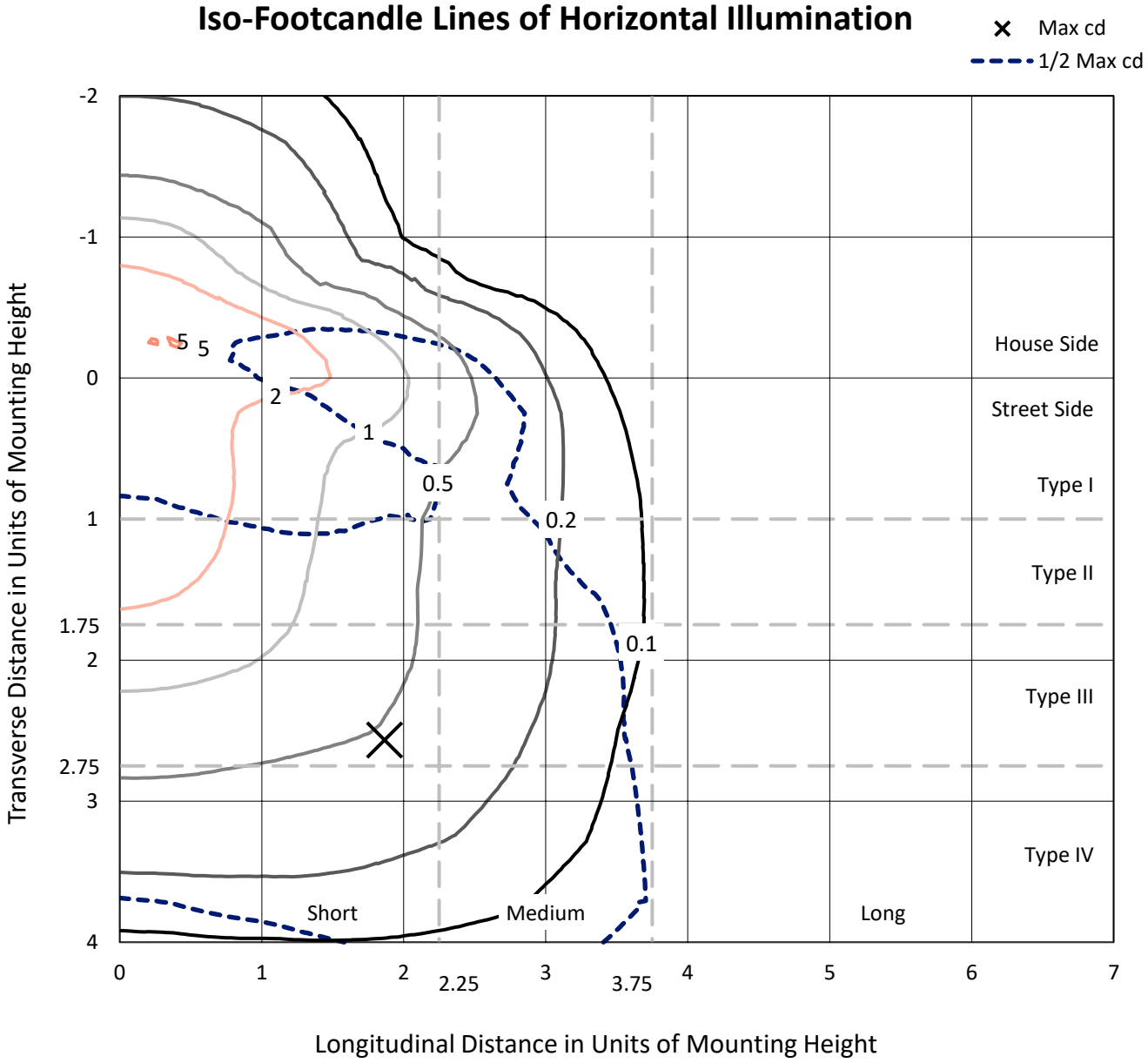
| | |
|---|---|
| Input Watts (W): | 85 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 11.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1358367
CATALOG NUMBER: GSS-SB3A-740-U-SL4

## Iso-Footcandle Lines of Horizontal Illumination



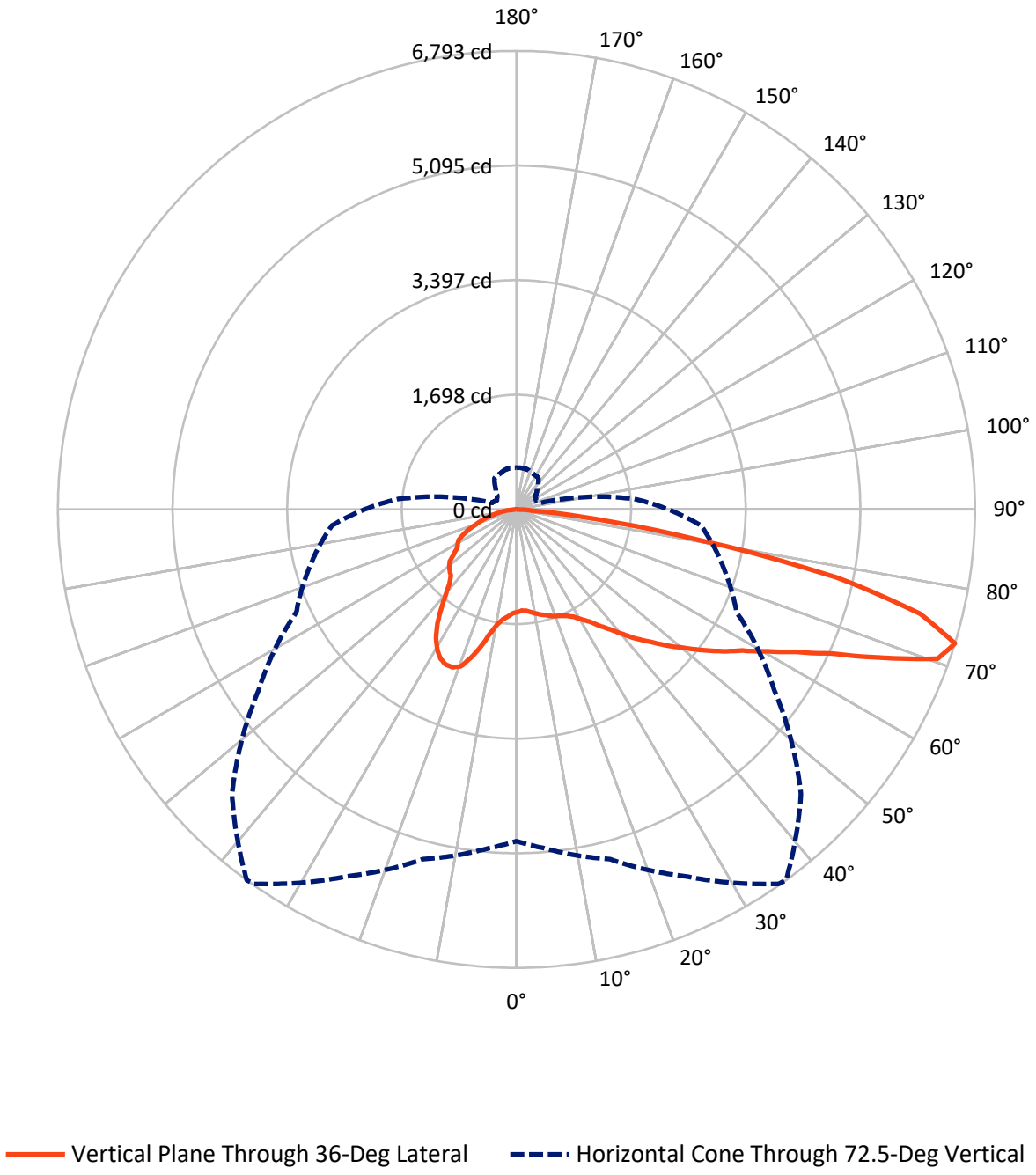

Based on 20 foot mounting height. Maximum calculated value = 5.1 fc
Type IV - Short - N/A

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REPORT NUMBER: P1358367
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## Luminous Intensity Polar Plot



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Scaled Data Report

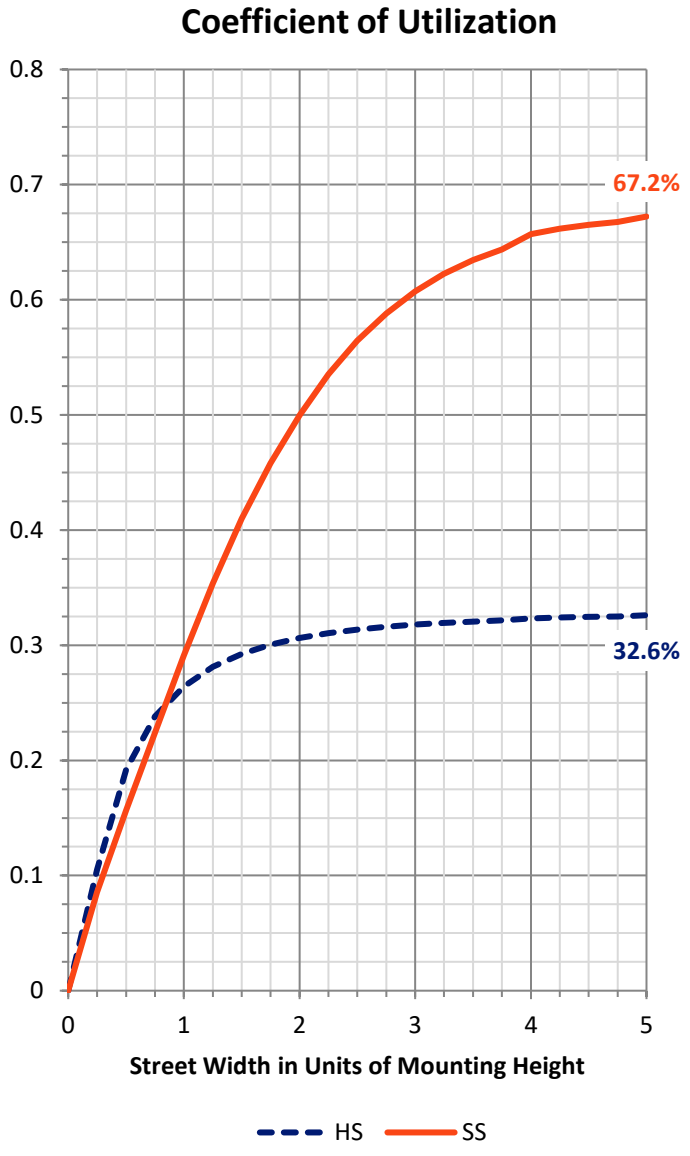
REPORT NUMBER: P1358367
CATALOG NUMBER: GSS-SB3A-740-U-SL4

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4181.9 | 0.0 | 4181.9 |
| | % Fixture | 32.9 | 0.0 | 32.9 |
| **Street Side** | Lumens | 8525.6 | 0.0 | 8525.6 |
| | % Fixture | 67.1 | 0.0 | 67.1 |
| **Total** | Lumens | 12707.5 | 0.0 | 12707.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 150.6 | 1.2 |
| 10°-20° | 519.3 | 4.1 |
| 20°-30° | 986.1 | 7.8 |
| 30°-40° | 1439.9 | 11.3 |
| 40°-50° | 1915.1 | 15.1 |
| 50°-60° | 2455.5 | 19.3 |
| 60°-70° | 2888.4 | 22.7 |
| 70°-80° | 2163.7 | 17.0 |
| 80°-90° | 188.9 | 1.5 |
| 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° | 12707.5 | 100.0 |
| 0°-180° | 12707.5 | 100.0 |



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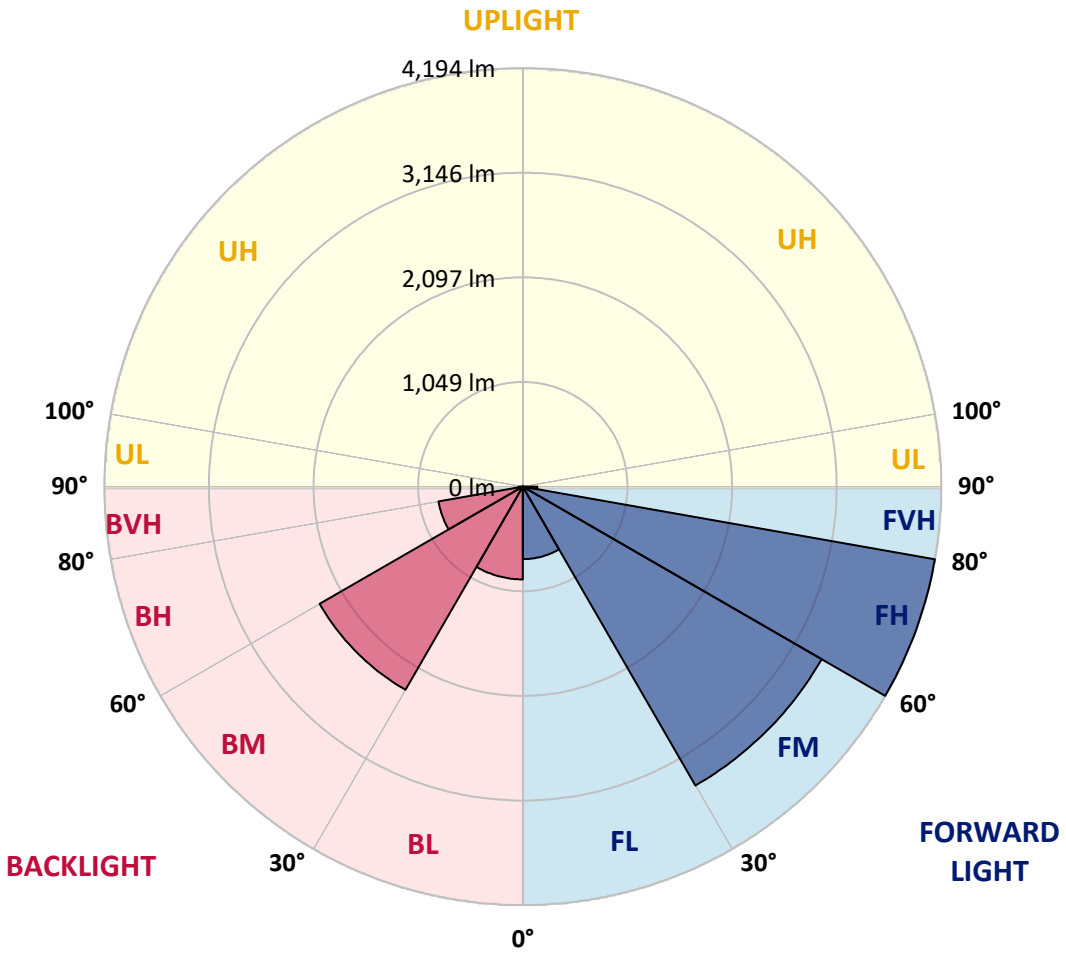
Scaled Data Report

REPORT NUMBER: P1358367
CATALOG NUMBER: GSS-SB3A-740-U-SL4

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 726.5 | 5.7 | | | |
| FM | (30°-60°) | 3459.4 | 27.2 | | | |
| FH | (60°-80°) | 4194.2 | 33.0 | | | G2/5000 |
| FVH | (80°-90°) | 145.5 | 1.1 | | | G2/225 |
| BL | (0°-30°) | 929.6 | 7.3 | B2/1000 | | |
| BM | (30°-60°) | 2351.1 | 18.5 | B2/2500 | | |
| BH | (60°-80°) | 857.8 | 6.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 43.4 | 0.3 | | | 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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REPORT NUMBER: P1358367
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 |
| 2.5° | 1510.2 | 1501.6 | 1507.3 | 1501.6 | 1501.6 | 1501.6 | 1507.3 | 1507.3 | 1516.0 | 1516.0 | 1516.0 |
| 5° | 1521.7 | 1518.8 | 1521.7 | 1518.8 | 1510.2 | 1510.2 | 1516.0 | 1510.2 | 1524.6 | 1518.8 | 1527.5 |
| 7.5° | 1553.4 | 1547.7 | 1547.7 | 1539.0 | 1541.9 | 1536.1 | 1541.9 | 1533.3 | 1541.9 | 1536.1 | 1536.1 |
| 10° | 1590.9 | 1582.3 | 1585.1 | 1573.6 | 1565.0 | 1567.8 | 1573.6 | 1565.0 | 1567.8 | 1570.7 | 1570.7 |
| 12.5° | 1622.6 | 1616.8 | 1616.8 | 1593.8 | 1599.5 | 1599.5 | 1605.3 | 1596.7 | 1602.4 | 1599.5 | 1611.1 |
| 15° | 1662.9 | 1654.3 | 1648.5 | 1631.2 | 1628.4 | 1625.5 | 1634.1 | 1625.5 | 1639.9 | 1637.0 | 1651.4 |
| 17.5° | 1700.4 | 1691.8 | 1686.0 | 1657.2 | 1651.4 | 1660.1 | 1662.9 | 1657.2 | 1671.6 | 1677.4 | 1706.2 |
| 20° | 1735.0 | 1737.9 | 1717.7 | 1683.1 | 1683.1 | 1686.0 | 1686.0 | 1686.0 | 1709.1 | 1717.7 | 1749.4 |
| 22.5° | 1795.5 | 1789.8 | 1769.6 | 1729.2 | 1711.9 | 1711.9 | 1737.9 | 1720.6 | 1735.0 | 1755.2 | 1809.9 |
| 25° | 1873.3 | 1861.8 | 1827.2 | 1775.3 | 1746.5 | 1749.4 | 1758.1 | 1746.5 | 1763.8 | 1786.9 | 1870.5 |
| 27.5° | 2011.7 | 1997.3 | 1936.7 | 1833.0 | 1798.4 | 1801.3 | 1804.2 | 1772.5 | 1769.6 | 1807.1 | 1922.3 |
| 30° | 2213.4 | 2196.1 | 2103.9 | 1974.2 | 1882.0 | 1887.7 | 1856.0 | 1798.4 | 1778.2 | 1818.6 | 1982.9 |
| 32.5° | 2432.5 | 2409.4 | 2317.2 | 2132.7 | 2008.8 | 1980.0 | 1919.5 | 1818.6 | 1786.9 | 1830.1 | 2037.6 |
| 35° | 2694.7 | 2674.6 | 2562.2 | 2302.8 | 2132.7 | 2115.4 | 1994.4 | 1861.8 | 1809.9 | 1838.8 | 2089.5 |
| 37.5° | 3066.5 | 3014.6 | 2879.2 | 2521.8 | 2282.6 | 2256.7 | 2092.4 | 1922.3 | 1812.8 | 1833.0 | 2161.5 |
| 40° | 3386.4 | 3334.5 | 3187.6 | 2798.5 | 2472.8 | 2432.5 | 2236.5 | 1994.4 | 1841.6 | 1844.5 | 2253.8 |
| 42.5° | 3720.7 | 3671.7 | 3513.2 | 3031.9 | 2642.8 | 2622.7 | 2363.3 | 2080.8 | 1879.1 | 1876.2 | 2357.5 |
| 45° | 4072.3 | 4075.2 | 3830.3 | 3311.5 | 2844.6 | 2804.2 | 2518.9 | 2196.1 | 1948.3 | 1913.7 | 2527.6 |
| 47.5° | 4568.1 | 4513.3 | 4213.6 | 3579.5 | 3069.4 | 3017.5 | 2683.2 | 2317.2 | 2052.0 | 2000.1 | 2717.8 |
| 50° | 4968.7 | 4928.3 | 4565.2 | 3887.9 | 3279.8 | 3225.0 | 2876.3 | 2449.8 | 2144.3 | 2121.2 | 2971.4 |
| 52.5° | 5303.0 | 5233.8 | 4899.5 | 4179.0 | 3516.1 | 3467.1 | 3034.8 | 2579.4 | 2273.9 | 2262.4 | 3268.3 |
| 55° | 5487.4 | 5415.4 | 5130.1 | 4449.9 | 3784.1 | 3709.2 | 3213.5 | 2735.1 | 2429.6 | 2435.3 | 3599.7 |
| 57.5° | 5631.5 | 5556.6 | 5277.1 | 4654.5 | 4049.3 | 3948.4 | 3409.5 | 2905.1 | 2614.0 | 2668.8 | 4052.2 |
| 60° | 5683.4 | 5608.5 | 5401.0 | 4925.4 | 4334.6 | 4271.2 | 3631.4 | 3115.5 | 2827.3 | 2942.6 | 4493.1 |
| 62.5° | 5758.4 | 5775.6 | 5628.7 | 5256.9 | 4706.4 | 4651.6 | 3916.7 | 3374.9 | 3089.6 | 3181.8 | 4648.8 |
| 65° | 5818.9 | 5810.2 | 5827.5 | 5715.1 | 5225.2 | 5147.4 | 4340.4 | 3712.1 | 3265.4 | 3262.5 | 4570.9 |
| 67.5° | 5677.7 | 5686.3 | 5778.5 | 6055.2 | 5945.7 | 5870.8 | 4888.0 | 4023.4 | 3349.0 | 3415.2 | 4323.1 |
| 70° | 5571.0 | 5597.0 | 5720.9 | 6066.7 | 6614.3 | 6623.0 | 5651.7 | 4288.5 | 3588.2 | 3415.2 | 3631.4 |
| 72.5° | 4913.9 | 5046.5 | 5366.4 | 6003.3 | 6772.8 | 6793.0 | 5960.1 | 4660.3 | 3596.8 | 3155.9 | 2743.7 |
| 75° | 3253.8 | 3357.6 | 4210.7 | 5386.6 | 6210.8 | 6179.1 | 5519.1 | 4481.6 | 3366.2 | 2573.7 | 1746.5 |
| 77.5° | 959.7 | 1155.7 | 1971.3 | 3340.3 | 4648.8 | 4850.5 | 4527.7 | 3066.5 | 2495.9 | 1207.6 | 622.5 |
| 80° | 273.8 | 305.5 | 550.5 | 1173.0 | 2510.3 | 2726.4 | 2812.9 | 1467.0 | 740.7 | 319.9 | 207.5 |
| 82.5° | 132.6 | 138.3 | 198.9 | 328.6 | 1075.0 | 1175.9 | 985.7 | 443.8 | 198.9 | 115.3 | 80.7 |
| 85° | 23.1 | 28.8 | 49.0 | 98.0 | 193.1 | 233.4 | 219.0 | 89.3 | 60.5 | 51.9 | 37.5 |
| 87.5° | 5.8 | 5.8 | 8.6 | 8.6 | 11.5 | 11.5 | 11.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 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: P1358367
CATALOG NUMBER: GSS-SB3A-740-U-SL4

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 | 1521.7 |
| 2.5° | 1530.4 | 1530.4 | 1541.9 | 1547.7 | 1547.7 | 1539.0 | 1539.0 | 1565.0 | 1553.4 | 1559.2 | 1556.3 |
| 5° | 1533.3 | 1544.8 | 1544.8 | 1562.1 | 1570.7 | 1585.1 | 1590.9 | 1602.4 | 1614.0 | 1614.0 | 1611.1 |
| 7.5° | 1550.5 | 1559.2 | 1573.6 | 1585.1 | 1608.2 | 1631.2 | 1639.9 | 1674.5 | 1680.2 | 1694.7 | 1688.9 |
| 10° | 1576.5 | 1590.9 | 1614.0 | 1645.7 | 1674.5 | 1711.9 | 1729.2 | 1766.7 | 1786.9 | 1809.9 | 1795.5 |
| 12.5° | 1616.8 | 1634.1 | 1671.6 | 1714.8 | 1778.2 | 1835.9 | 1882.0 | 1919.5 | 1948.3 | 1974.2 | 1965.6 |
| 15° | 1660.1 | 1694.7 | 1743.6 | 1821.5 | 1933.9 | 2037.6 | 2098.1 | 2161.5 | 2176.0 | 2199.0 | 2196.1 |
| 17.5° | 1735.0 | 1758.1 | 1856.0 | 2011.7 | 2158.7 | 2248.0 | 2299.9 | 2331.6 | 2322.9 | 2331.6 | 2325.8 |
| 20° | 1795.5 | 1853.2 | 2029.0 | 2256.7 | 2400.8 | 2458.4 | 2464.2 | 2435.3 | 2374.8 | 2363.3 | 2340.2 |
| 22.5° | 1884.9 | 1971.3 | 2253.8 | 2490.1 | 2605.4 | 2599.6 | 2516.0 | 2429.6 | 2351.8 | 2320.1 | 2308.5 |
| 25° | 1971.3 | 2127.0 | 2490.1 | 2712.0 | 2743.7 | 2642.8 | 2516.0 | 2403.6 | 2299.9 | 2268.2 | 2242.2 |
| 27.5° | 2080.8 | 2305.6 | 2758.1 | 2899.4 | 2804.2 | 2648.6 | 2461.3 | 2334.5 | 2236.5 | 2184.6 | 2173.1 |
| 30° | 2193.2 | 2513.2 | 2982.9 | 2988.7 | 2821.5 | 2588.1 | 2360.4 | 2248.0 | 2135.6 | 2083.7 | 2086.6 |
| 32.5° | 2346.0 | 2740.8 | 3173.1 | 3055.0 | 2772.5 | 2467.0 | 2224.9 | 2103.9 | 2005.9 | 1980.0 | 1974.2 |
| 35° | 2495.9 | 2997.3 | 3325.9 | 3060.7 | 2657.3 | 2297.0 | 2046.3 | 1910.8 | 1850.3 | 1824.3 | 1835.9 |
| 37.5° | 2709.1 | 3259.6 | 3415.2 | 3006.0 | 2490.1 | 2069.3 | 1835.9 | 1729.2 | 1683.1 | 1674.5 | 1686.0 |
| 40° | 2942.6 | 3501.7 | 3472.9 | 2942.6 | 2262.4 | 1827.2 | 1634.1 | 1567.8 | 1539.0 | 1544.8 | 1565.0 |
| 42.5° | 3193.3 | 3700.6 | 3516.1 | 2798.5 | 1994.4 | 1605.3 | 1472.7 | 1443.9 | 1487.1 | 1513.1 | 1530.4 |
| 45° | 3461.4 | 3882.1 | 3530.5 | 2593.9 | 1743.6 | 1435.3 | 1380.5 | 1435.3 | 1501.6 | 1513.1 | 1521.7 |
| 47.5° | 3726.5 | 4040.6 | 3530.5 | 2322.9 | 1504.4 | 1322.9 | 1351.7 | 1423.7 | 1475.6 | 1455.4 | 1458.3 |
| 50° | 3980.1 | 4167.5 | 3521.9 | 2008.8 | 1337.3 | 1265.2 | 1314.2 | 1360.3 | 1337.3 | 1279.6 | 1285.4 |
| 52.5° | 4210.7 | 4279.9 | 3461.4 | 1686.0 | 1198.9 | 1250.8 | 1253.7 | 1196.1 | 1144.2 | 1115.4 | 1121.1 |
| 55° | 4467.2 | 4383.6 | 3282.7 | 1397.8 | 1109.6 | 1213.3 | 1132.6 | 1057.7 | 1083.7 | 1075.0 | 1072.1 |
| 57.5° | 4735.2 | 4504.7 | 3037.7 | 1149.9 | 1026.0 | 1124.0 | 1034.7 | 1028.9 | 1026.0 | 1014.5 | 1000.1 |
| 60° | 4965.8 | 4602.6 | 2671.7 | 905.0 | 902.1 | 988.5 | 1014.5 | 1000.1 | 985.7 | 962.6 | 951.1 |
| 62.5° | 4833.2 | 4357.7 | 2135.6 | 732.0 | 775.3 | 881.9 | 977.0 | 948.2 | 951.1 | 930.9 | 922.3 |
| 65° | 4458.5 | 3873.5 | 1455.4 | 611.0 | 654.2 | 786.8 | 887.7 | 861.7 | 847.3 | 841.6 | 835.8 |
| 67.5° | 3974.4 | 3354.7 | 959.7 | 484.2 | 547.6 | 688.8 | 783.9 | 752.2 | 772.4 | 772.4 | 769.5 |
| 70° | 3127.0 | 2565.0 | 605.2 | 394.8 | 435.2 | 570.6 | 651.3 | 665.8 | 694.6 | 697.5 | 694.6 |
| 72.5° | *2248.0* | *1755.2* | *377.5* | *317.0* | *345.8* | *435.2* | *567.8* | *582.2* | *613.9* | *619.6* | *619.6* |
| 75° | 1325.7 | 988.5 | 253.6 | 253.6 | 268.0 | 354.5 | 469.8 | 515.9 | 530.3 | 536.1 | 530.3 |
| 77.5° | 533.2 | 380.4 | 167.2 | 187.3 | 207.5 | 285.3 | 360.3 | 417.9 | 412.1 | 409.3 | 394.8 |
| 80° | 190.2 | 164.3 | 115.3 | 123.9 | 149.9 | 213.3 | 268.0 | 285.3 | 302.6 | 294.0 | 285.3 |
| 82.5° | 77.8 | 74.9 | 72.1 | 80.7 | 89.3 | 129.7 | 187.3 | 187.3 | 190.2 | 187.3 | 184.5 |
| 85° | 28.8 | 28.8 | 34.6 | 40.3 | 49.0 | 60.5 | 83.6 | 106.6 | 89.3 | 63.4 | 66.3 |
| 87.5° | 14.4 | 14.4 | 11.5 | 11.5 | 14.4 | 20.2 | 20.2 | 25.9 | 25.9 | 14.4 | 8.6 |
| 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

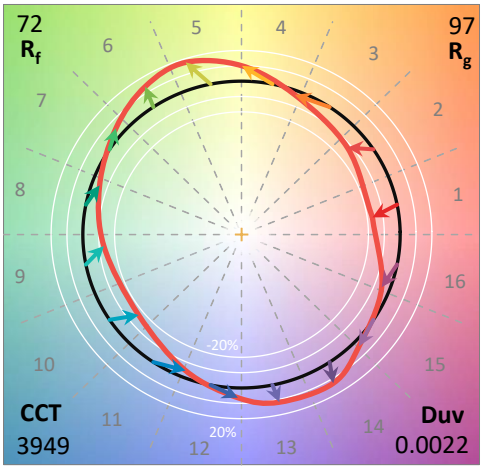
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-1 |
| 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-740-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 4000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3949 |
| CIE u': | 0.2248 |
| CIE v': | 0.5053 |
| Duv: | 0.0022 |
| CIE x: | 0.3844 |
| CIE y: | 0.3840 |
| CIE z: | 0.2316 |
| Peak Wavelength (nm): | 440 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 30.60026 |
| Rf: | 71.8 |
| Rg: | 96.5 |

| | |
|---|---|
| CRI (Ra): | 70.7 |
| R1: | 68.0 |
| R2: | 76.0 |
| R3: | 84.3 |
| R4: | 72.0 |
| R5: | 68.6 |
| R6: | 68.3 |
| R7: | 77.9 |
| R8: | 50.3 |
| R9: | -36.7 |
| R10: | 45.1 |
| R11: | 70.7 |
| R12: | 47.1 |
| R13: | 68.5 |
| R14: | 91.1 |
| R15: | 58.7 |




## Test Conditions

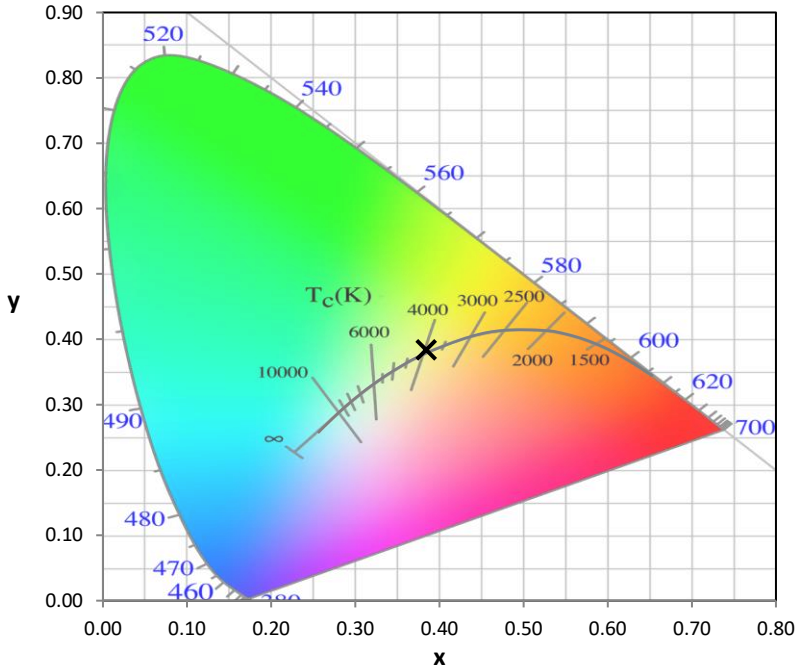
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-1

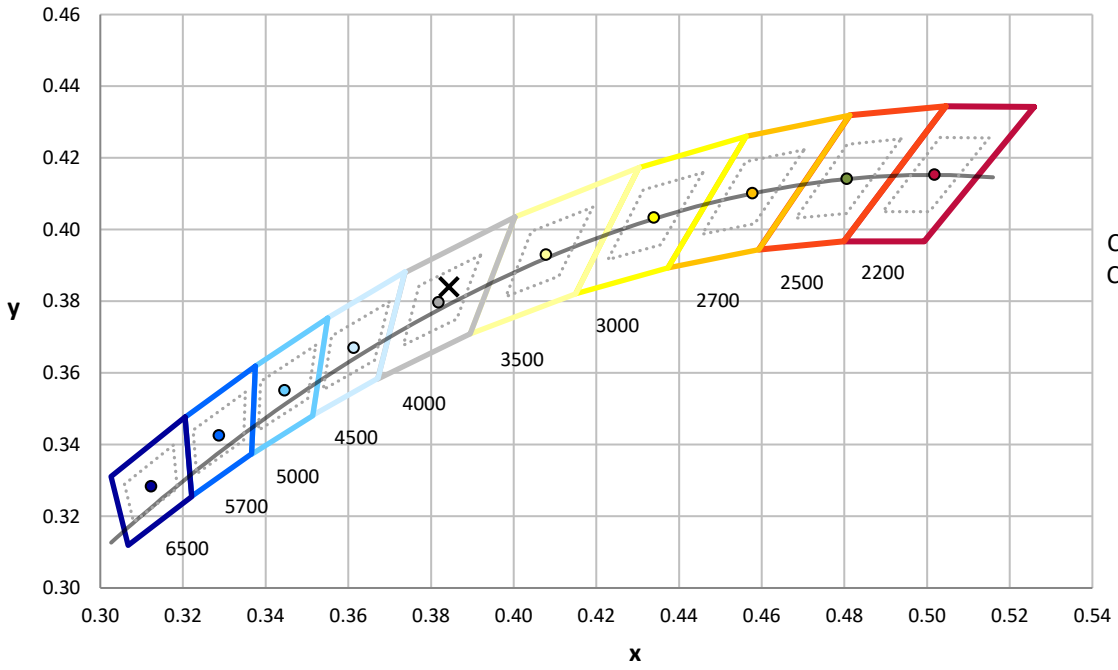
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

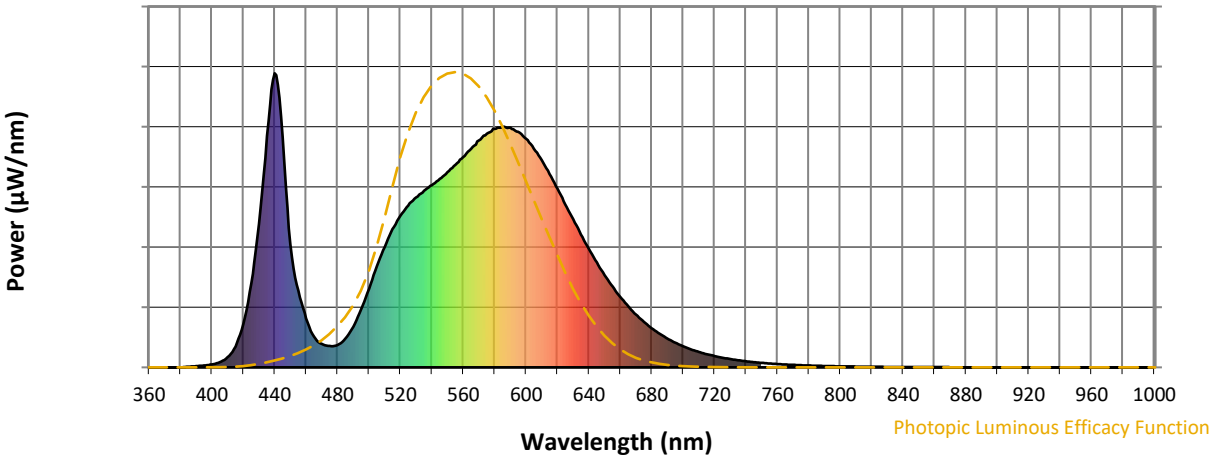



CCT = 3949K
CIE x = 0.3844
CIE y = 0.3840
Duv = 0.0022

Point lies inside the ANSI 4000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

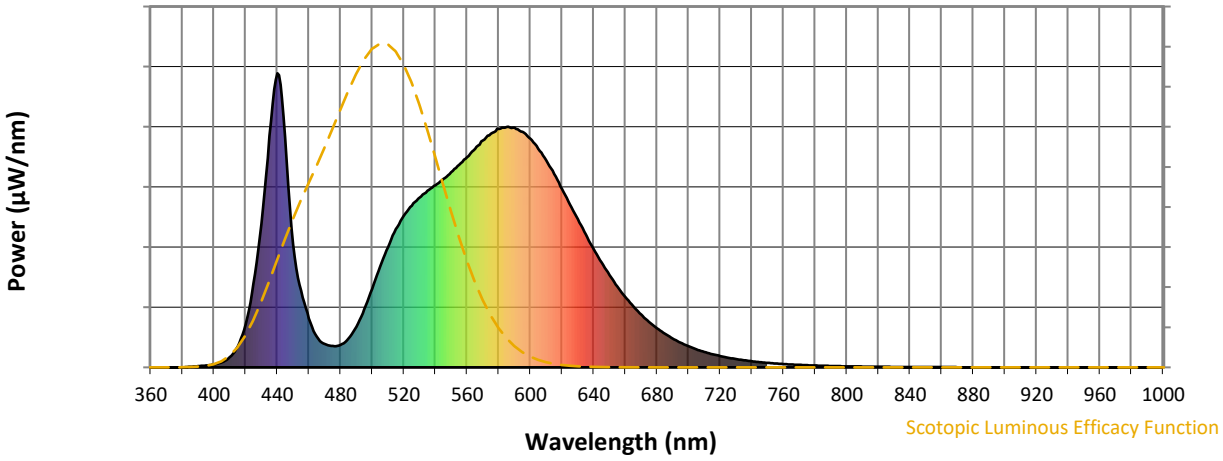



## Photopic Lumens: NR

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

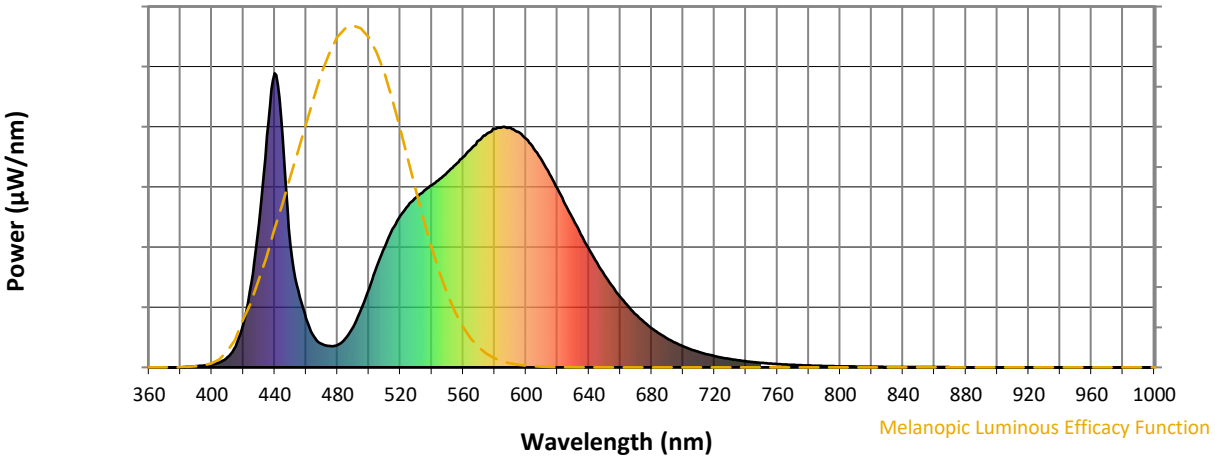



**Scotopic Lumens: NR** **S/P: 1.47**

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.78**

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

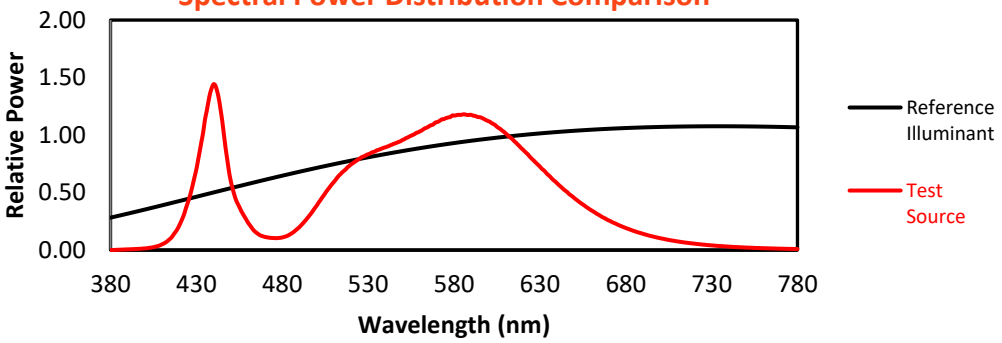
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# TM-30-18

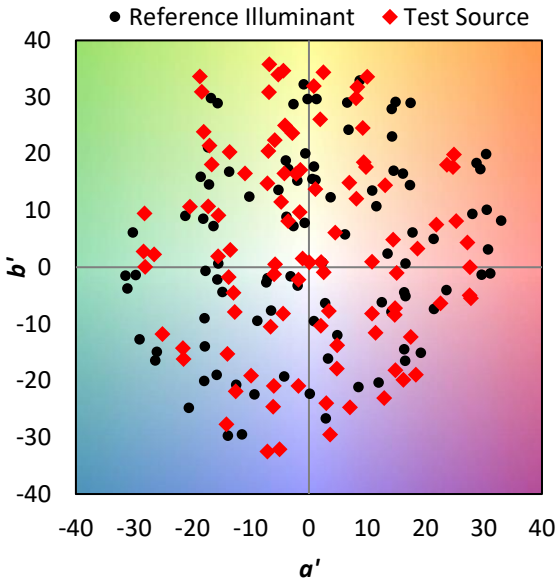
## Summary

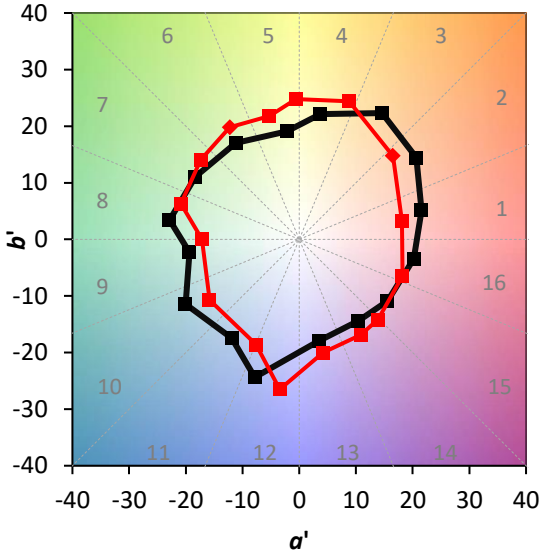
$R_f$ = 71.8
$R_g$ = 96.5
CIE $R_a$ = 70.7
$R_9$ = -36.7

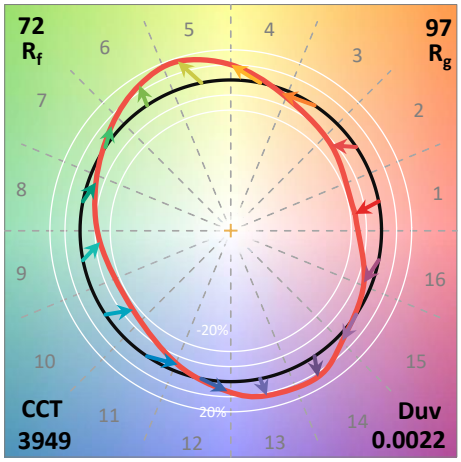
## Spectral Power Distribution Comparison

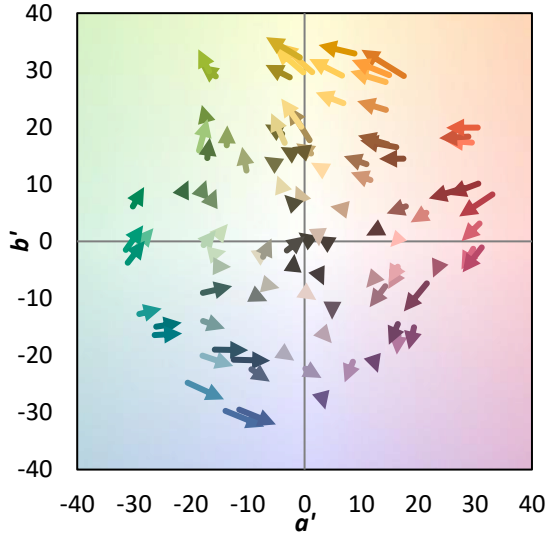



## Color Vector Graphics



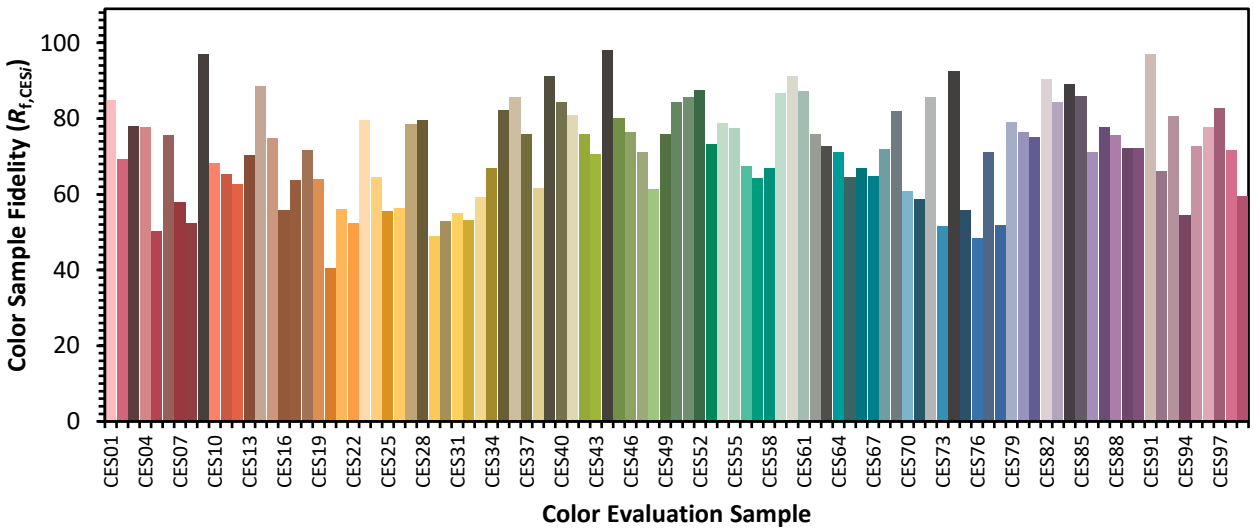



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**Individual Sample Fidelity Index ($R_{f,i}$)**

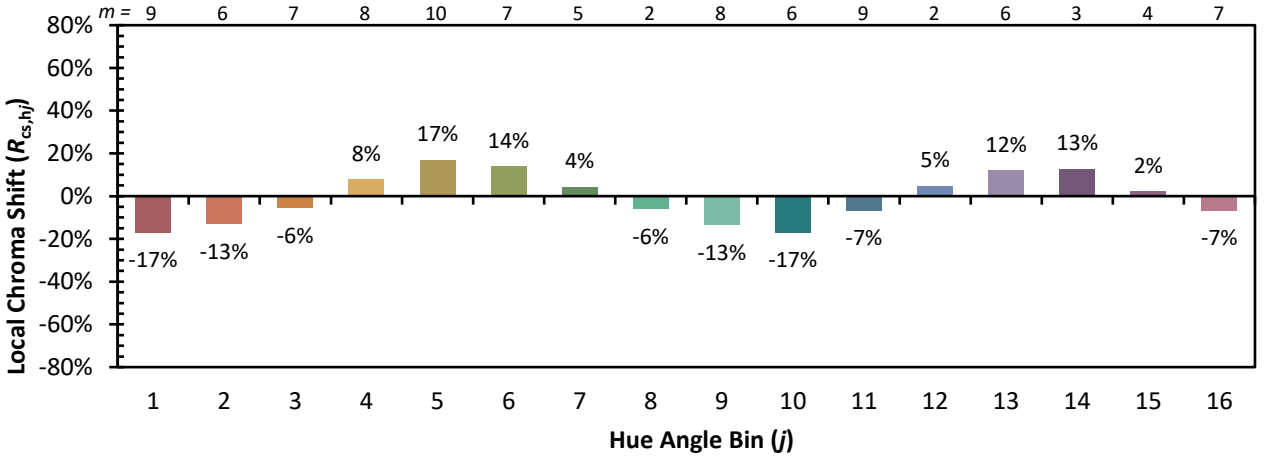
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 | |

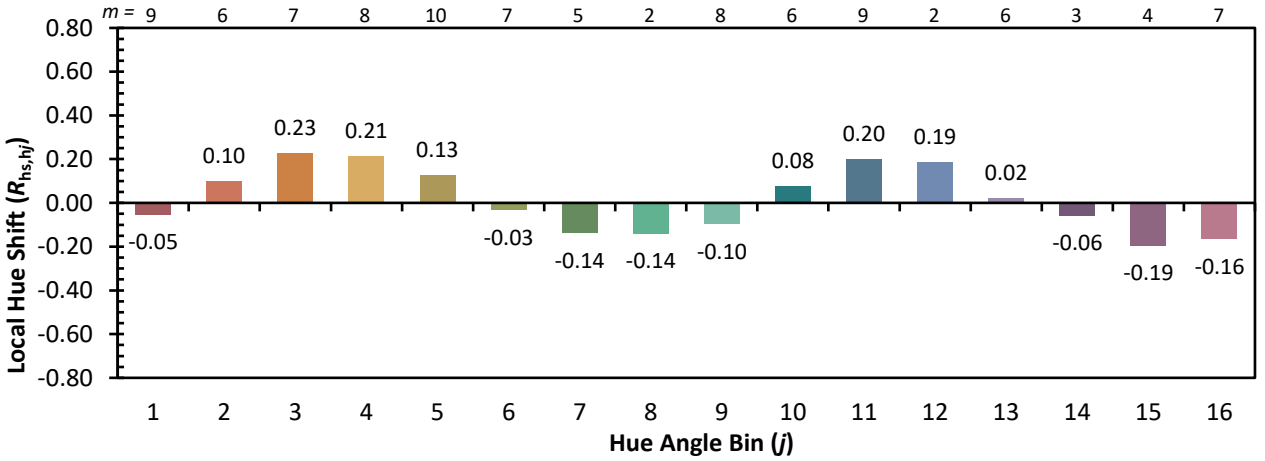


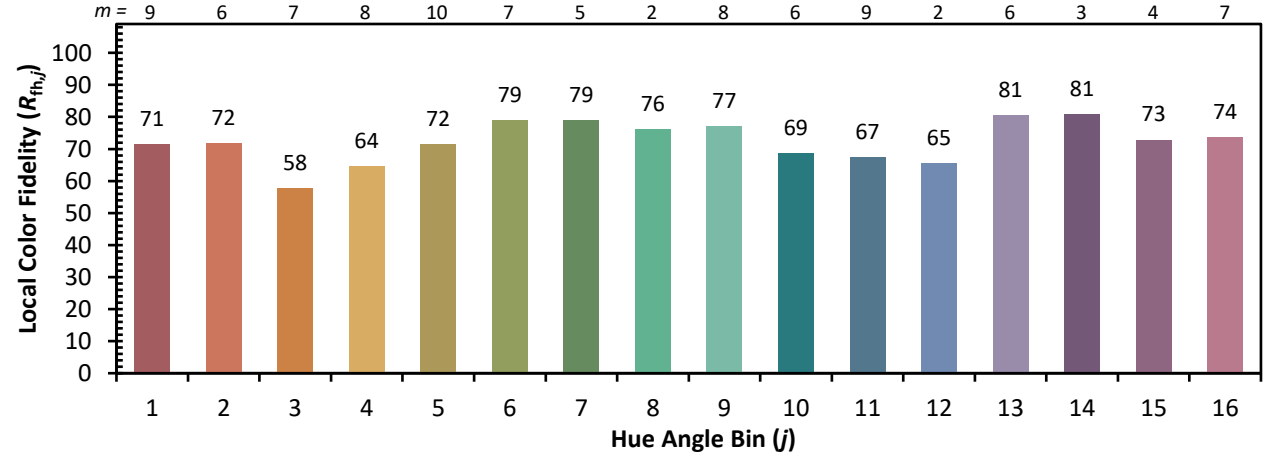
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## Color Rendition by Hue-Angle Bin



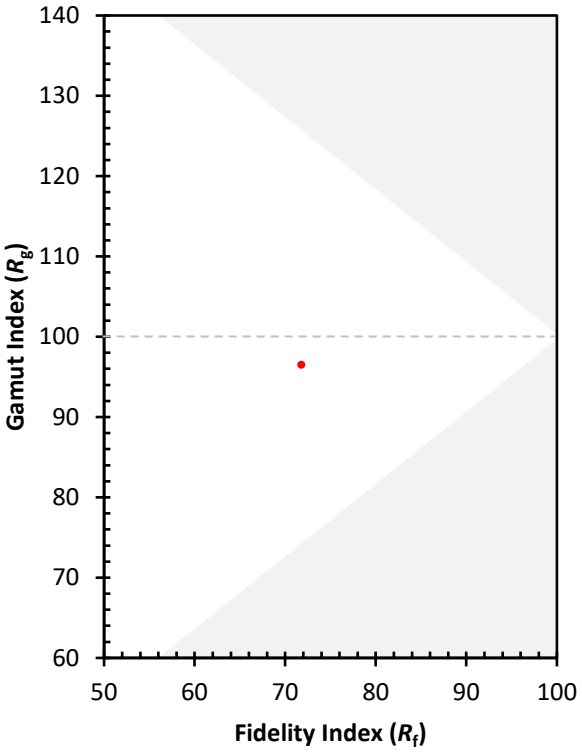



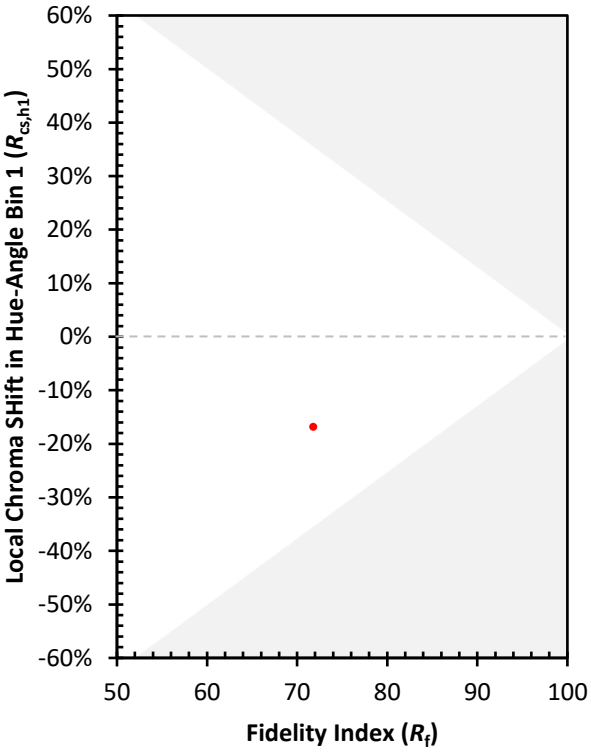



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## Measure Comparisons




(END OF REPORT)