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: P1500949

Luminaire Tested: GSS-SB3A-740-U-T3LG

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: | P1500949 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3A-740-U-T3LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 85W 70CRI 4000K FIXTURE w/ TYPE III LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (78) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 13535 lumens |
| Efficiency: | N/A |
| Efficacy: | 159.2 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B2 - U0 - G2 |

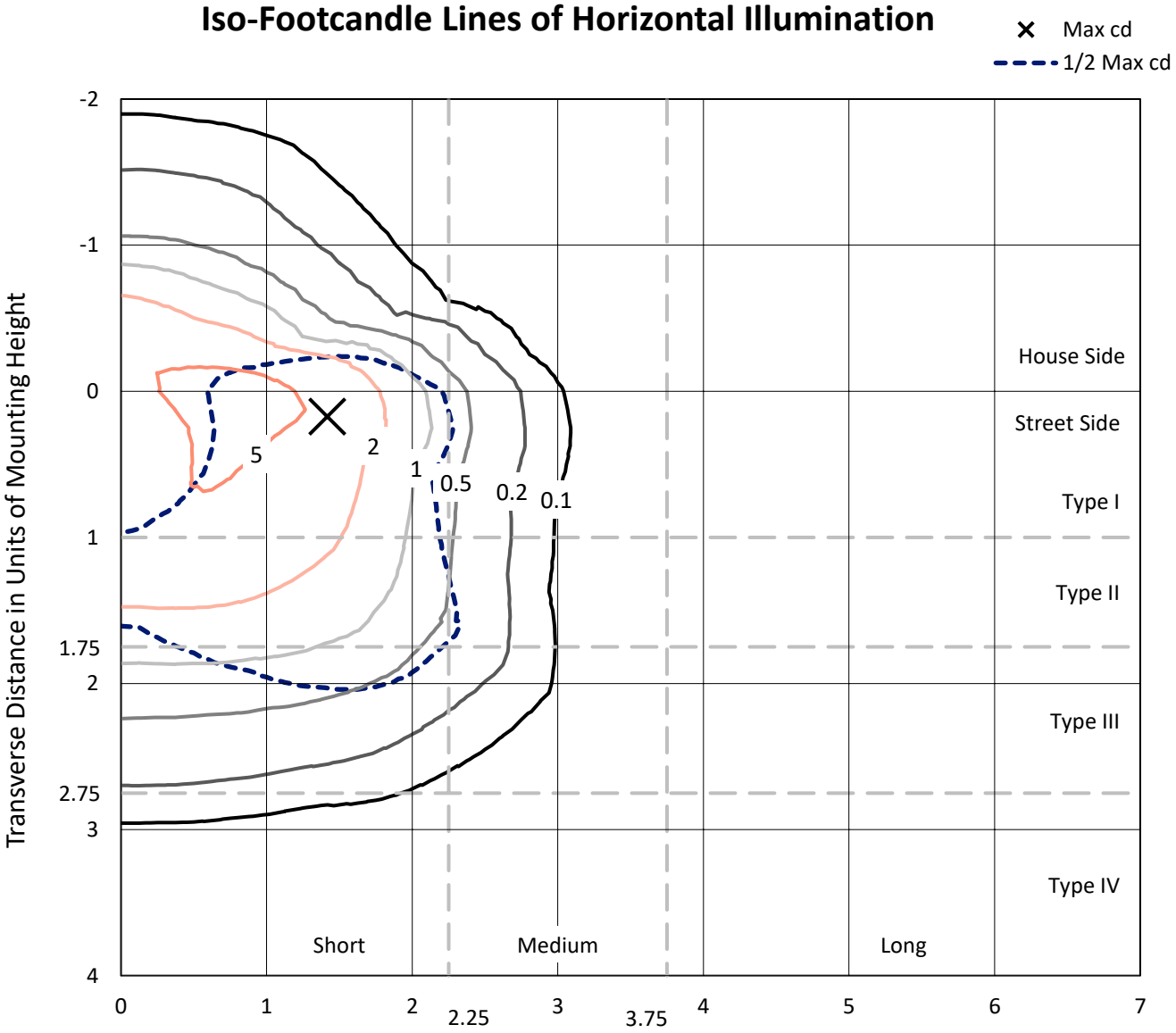
| | |
|---|---|
| Input Watts (W): | 85 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 11.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature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

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Scaled Data Report

REPORT NUMBER: P1500949
CATALOG NUMBER: GSS-SB3A-740-U-T3LG

## Iso-Footcandle Lines of Horizontal Illumination



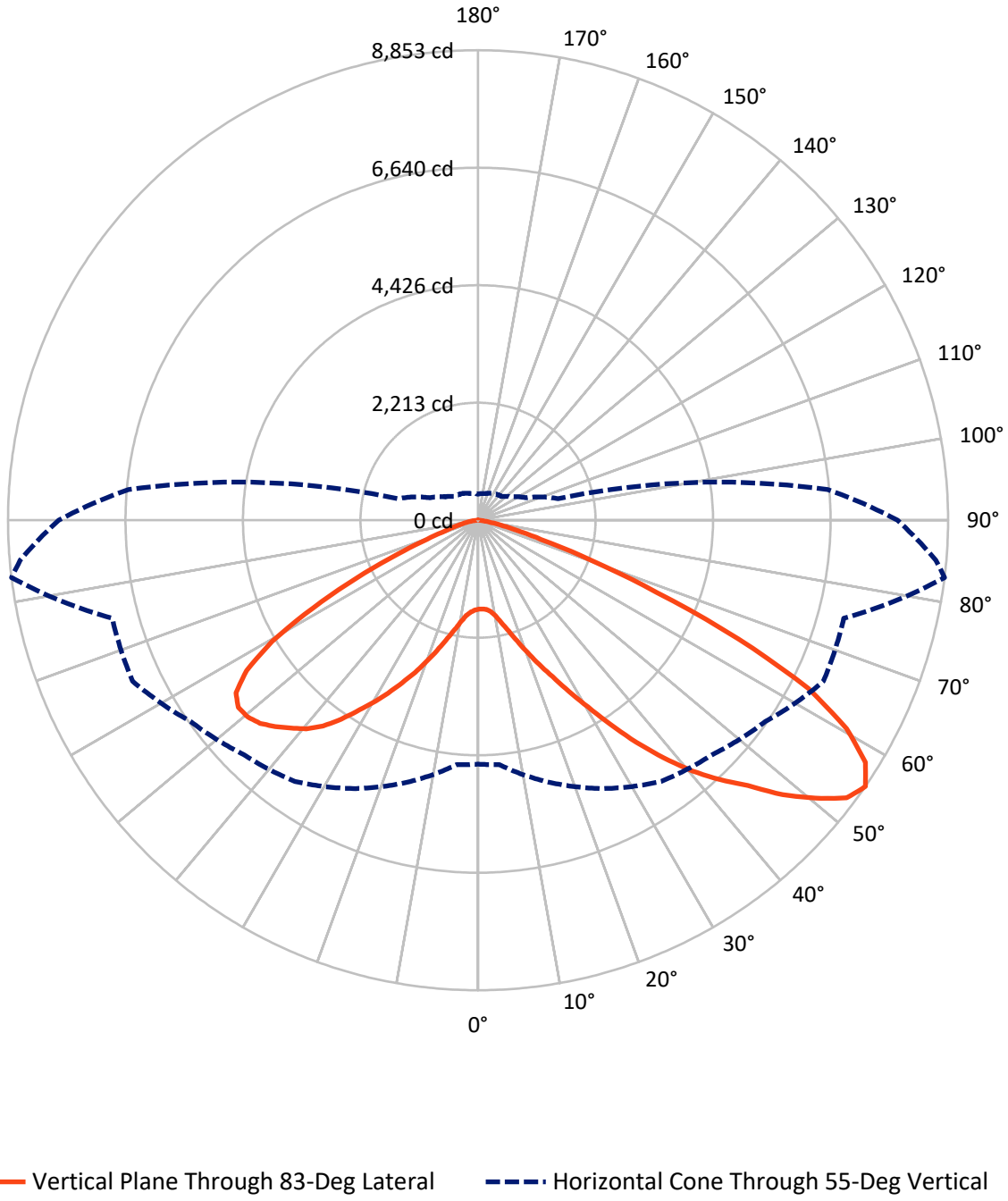

Based on 20 foot mounting height. Maximum calculated value = 7.1 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

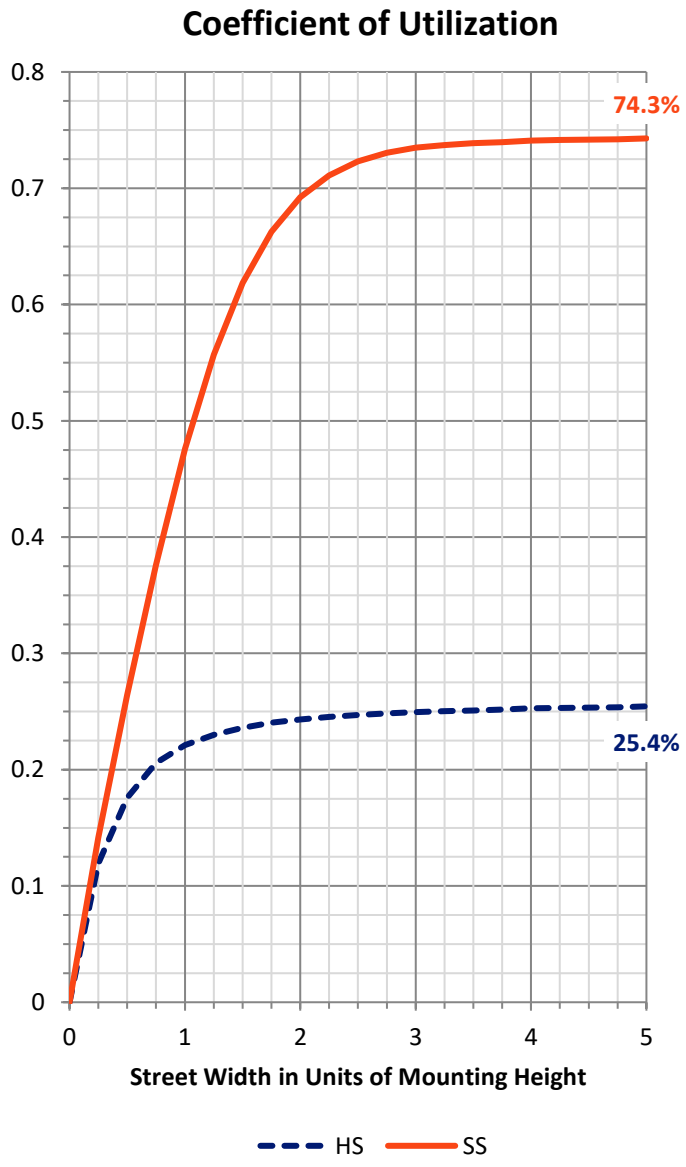
REPORT NUMBER: P1500949
CATALOG NUMBER: GSS-SB3A-740-U-T3LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3473.4 | 0.0 | 3473.4 |
| | % Fixture | 25.7 | 0.0 | 25.7 |
| **Street Side** | Lumens | 10061.6 | 0.0 | 10061.6 |
| | % Fixture | 74.3 | 0.0 | 74.3 |
| **Total** | Lumens | 13535.0 | 0.0 | 13535.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 161.9 | 1.2 |
| 10°-20° | 527.4 | 3.9 |
| 20°-30° | 1055.8 | 7.8 |
| 30°-40° | 1878.5 | 13.9 |
| 40°-50° | 2830.8 | 20.9 |
| 50°-60° | 3449.5 | 25.5 |
| 60°-70° | 2789.4 | 20.6 |
| 70°-80° | 764.0 | 5.6 |
| 80°-90° | 77.8 | 0.6 |
| 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° | 13535.0 | 100.0 |
| 0°-180° | 13535.0 | 100.0 |



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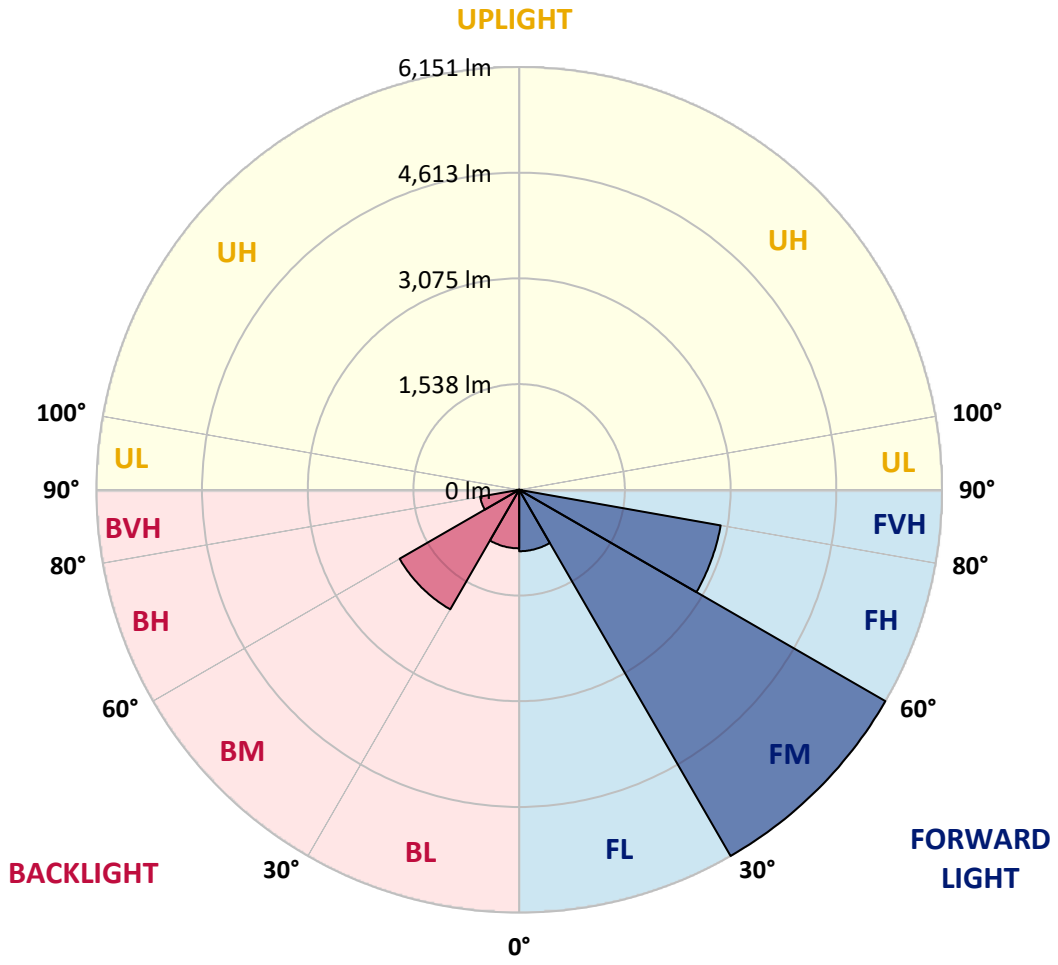
Scaled Data Report

REPORT NUMBER: P1500949
CATALOG NUMBER: GSS-SB3A-740-U-T3LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 893.7 | 6.6 | | | |
| FM | (30°-60°) | 6150.7 | 45.4 | | | |
| FH | (60°-80°) | 2976.7 | 22.0 | | | G2/5000 |
| FVH | (80°-90°) | 40.5 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 851.4 | 6.3 | B2/1000 | | |
| BM | (30°-60°) | 2008.0 | 14.8 | B2/2500 | | |
| BH | (60°-80°) | 576.7 | 4.3 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 37.3 | 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 III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 83° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | *1675.5* | 1675.5 |
| 2.5° | 1627.4 | 1624.4 | 1621.3 | 1618.3 | 1624.4 | 1633.4 | 1642.4 | 1648.4 | 1663.5 | *1675.5* | 1669.5 |
| 5° | 1498.0 | 1492.0 | 1498.0 | 1522.1 | 1543.1 | 1579.2 | 1615.3 | 1639.4 | 1672.5 | *1687.5* | 1693.5 |
| 7.5° | 1383.7 | 1377.7 | 1383.7 | 1413.8 | 1449.9 | 1507.0 | 1582.2 | 1642.4 | 1702.6 | *1738.7* | 1744.7 |
| 10° | 1383.7 | 1386.7 | 1386.7 | 1398.7 | 1416.8 | 1473.9 | 1564.2 | 1678.5 | 1783.8 | *1834.9* | 1846.9 |
| 12.5° | 1428.8 | 1428.8 | 1428.8 | 1443.9 | 1455.9 | 1501.0 | 1603.3 | 1744.7 | 1913.1 | *1988.3* | 1997.4 |
| 15° | 1489.0 | 1486.0 | 1495.0 | 1504.0 | 1525.1 | 1570.2 | 1672.5 | 1840.9 | 2054.5 | *2168.8* | 2180.8 |
| 17.5° | 1573.2 | 1567.2 | 1576.2 | 1597.3 | 1627.4 | 1678.5 | 1780.8 | 1973.3 | 2250.0 | *2394.4* | 2412.5 |
| 20° | 1666.5 | 1663.5 | 1681.5 | 1714.6 | 1756.7 | 1819.9 | 1937.2 | 2132.7 | 2472.6 | *2656.1* | 2689.2 |
| 22.5° | 1777.8 | 1771.7 | 1804.8 | 1865.0 | 1922.1 | 1994.3 | 2135.7 | 2340.3 | 2728.3 | *2947.9* | 2981.0 |
| 25° | 1904.1 | 1904.1 | 1949.2 | 2021.4 | 2108.6 | 2238.0 | 2379.4 | 2605.0 | 3029.1 | *3263.7* | 3314.9 |
| 27.5° | 2111.7 | 2126.7 | 2144.7 | 2219.9 | 2343.3 | 2517.7 | 2668.1 | 2923.8 | 3357.0 | *3651.8* | 3669.8 |
| 30° | 2448.6 | 2442.5 | 2472.6 | 2523.8 | 2626.0 | 2809.5 | 3035.1 | 3308.9 | 3772.1 | *4081.9* | 4127.1 |
| 32.5° | 2752.4 | 2761.4 | 2803.5 | 2899.8 | 3023.1 | 3179.5 | 3450.2 | 3787.1 | 4223.3 | *4581.3* | 4602.3 |
| 35° | 3059.2 | 3065.2 | 3146.4 | 3290.8 | 3474.3 | 3648.8 | 3943.6 | 4274.5 | 4713.6 | *5137.8* | 5194.9 |
| 37.5° | 3489.3 | 3483.3 | 3564.5 | 3687.9 | 3934.5 | 4205.3 | 4442.9 | 4758.7 | 5182.9 | *5679.2* | 5745.4 |
| 40° | 3811.2 | 3844.3 | 3997.7 | 4154.1 | 4385.7 | 4665.5 | 4867.0 | 5164.8 | 5567.9 | *6208.6* | 6268.8 |
| 42.5° | 4142.1 | 4169.2 | 4373.7 | 4608.3 | 4852.0 | 5041.5 | 5197.9 | 5474.7 | 5874.7 | *6677.9* | 6711.0 |
| 45° | 4415.8 | 4451.9 | 4686.6 | 4984.4 | 5237.0 | 5429.5 | 5483.7 | 5742.4 | 6187.6 | *7129.1* | 7180.2 |
| 47.5° | 4590.3 | 4629.4 | 4906.1 | 5255.1 | 5513.8 | 5718.3 | 5700.3 | 6064.2 | 6521.5 | *7727.7* | 7709.7 |
| 50° | 4710.6 | 4734.7 | 5035.5 | 5408.5 | 5745.4 | 5880.8 | 5959.0 | 6428.2 | 6864.4 | *8230.0* | 8163.9 |
| 52.5° | 4797.9 | 4837.0 | 5110.7 | 5519.8 | 5874.7 | 6052.2 | 6262.8 | 6849.3 | 7102.0 | *8690.3* | 8542.9 |
| 55° | *4593.3* | *4623.4* | *5104.7* | *5576.9* | *6007.1* | *6241.7* | *6608.7* | *7177.2* | *7132.1* | *8852.7* | *8654.2* |
| 57.5° | 4382.7 | 4406.8 | 4852.0 | 5561.9 | 6151.5 | 6476.3 | 7002.8 | 7219.3 | 6864.4 | *8603.0* | 8353.4 |
| 60° | 4118.0 | 4136.1 | 4581.3 | 5402.5 | 6154.5 | 6659.8 | 7204.3 | 6912.5 | 6368.1 | *7974.4* | 7736.7 |
| 62.5° | 3630.7 | 3630.7 | 4121.0 | 4972.3 | 6004.1 | 6753.1 | 7150.2 | 6332.0 | 5703.3 | *6984.7* | 6656.8 |
| 65° | 3149.4 | 3128.4 | 3459.3 | 4205.3 | 5604.0 | 6729.0 | 6744.1 | 5598.0 | 4671.5 | *5387.4* | 5131.7 |
| 67.5° | 2626.0 | 2629.0 | 2824.6 | 3414.1 | 4539.2 | 6226.7 | 5886.8 | 4325.6 | 3254.7 | *3627.7* | 3495.4 |
| 70° | 1777.8 | 1822.9 | 2021.4 | 2478.6 | 3423.2 | 4412.8 | 4686.6 | 2929.8 | 2030.4 | *2253.0* | 2144.7 |
| 72.5° | 676.8 | 685.8 | 917.5 | 1299.5 | 2162.8 | 2653.1 | 3269.8 | 1639.4 | 1188.2 | *1242.3* | 1248.3 |
| 75° | 285.8 | 297.8 | 391.0 | 547.5 | 959.6 | 1446.9 | 1720.6 | 830.2 | 721.9 | *743.0* | 737.0 |
| 77.5° | 192.5 | 198.5 | 237.6 | 294.8 | 433.2 | 580.6 | 718.9 | 469.3 | 442.2 | *415.1* | 403.1 |
| 80° | 144.4 | 144.4 | 171.5 | 198.5 | 243.7 | 297.8 | 312.8 | 237.6 | 264.7 | *219.6* | 213.6 |
| 82.5° | 93.2 | 99.3 | 108.3 | 117.3 | 138.4 | 147.4 | 126.3 | 129.3 | 153.4 | *114.3* | 108.3 |
| 85° | 45.1 | 48.1 | 51.1 | 54.1 | 54.1 | 51.1 | 45.1 | 57.2 | 78.2 | *48.1* | 45.1 |
| 87.5° | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 3.0 | 3.0 | *3.0* | 3.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1500949
CATALOG NUMBER: GSS-SB3A-740-U-T3LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 | 1675.5 |
| 2.5° | 1678.5 | 1690.5 | 1699.6 | 1705.6 | 1720.6 | 1717.6 | 1726.6 | 1732.6 | 1738.7 | 1747.7 | 1735.6 |
| 5° | 1708.6 | 1729.6 | 1753.7 | 1771.7 | 1789.8 | 1798.8 | 1801.8 | 1807.8 | 1810.9 | 1816.9 | 1813.9 |
| 7.5° | 1774.8 | 1798.8 | 1834.9 | 1853.0 | 1868.0 | 1868.0 | 1859.0 | 1856.0 | 1846.9 | 1853.0 | 1853.0 |
| 10° | 1886.1 | 1922.1 | 1961.3 | 1964.3 | 1946.2 | 1925.2 | 1892.1 | 1874.0 | 1850.0 | 1843.9 | 1837.9 |
| 12.5° | 2048.5 | 2096.6 | 2126.7 | 2105.6 | 2042.5 | 1964.3 | 1877.0 | 1795.8 | 1732.6 | 1705.6 | 1699.6 |
| 15° | 2232.0 | 2292.1 | 2298.2 | 2238.0 | 2123.7 | 1934.2 | 1750.7 | 1660.4 | 1627.4 | 1627.4 | 1624.4 |
| 17.5° | 2484.7 | 2526.8 | 2502.7 | 2358.3 | 2102.6 | 1792.8 | 1660.4 | 1645.4 | 1654.4 | 1666.5 | 1666.5 |
| 20° | 2749.4 | 2797.5 | 2698.2 | 2442.5 | 1973.3 | 1708.6 | 1669.5 | 1681.5 | 1702.6 | 1714.6 | 1711.6 |
| 22.5° | 3065.2 | 3089.3 | 2896.8 | 2445.6 | 1834.9 | 1687.5 | 1687.5 | 1702.6 | 1717.6 | 1735.6 | 1735.6 |
| 25° | 3390.1 | 3381.1 | 3080.3 | 2334.3 | 1756.7 | 1681.5 | 1675.5 | 1687.5 | 1693.5 | 1702.6 | 1699.6 |
| 27.5° | 3754.1 | 3705.9 | 3221.6 | 2156.8 | 1732.6 | 1663.5 | 1633.4 | 1621.3 | 1627.4 | 1636.4 | 1639.4 |
| 30° | 4172.2 | 4057.9 | 3335.9 | 2045.5 | 1723.6 | 1621.3 | 1549.1 | 1516.1 | 1510.0 | 1522.1 | 1522.1 |
| 32.5° | 4656.5 | 4409.8 | 3405.1 | 2030.4 | 1714.6 | 1546.1 | 1449.9 | 1386.7 | 1374.7 | 1380.7 | 1395.7 |
| 35° | 5152.8 | 4833.9 | 3387.1 | 2069.5 | 1717.6 | 1486.0 | 1344.6 | 1260.4 | 1248.3 | 1254.4 | 1269.4 |
| 37.5° | 5673.2 | 5237.0 | 3317.9 | 2129.7 | 1693.5 | 1404.8 | 1248.3 | 1146.1 | 1128.0 | 1140.1 | 1146.1 |
| 40° | 6076.3 | 5576.9 | 3146.4 | 2153.8 | 1651.4 | 1302.5 | 1137.0 | 1049.8 | 1001.7 | 998.7 | 1013.7 |
| 42.5° | 6449.3 | 5844.7 | 2959.9 | 2114.7 | 1564.2 | 1194.2 | 1022.7 | 935.5 | 860.3 | 803.2 | 803.2 |
| 45° | 6822.3 | 6115.4 | 2770.4 | 2003.4 | 1419.8 | 1079.9 | 902.4 | 785.1 | 697.9 | 655.8 | 658.8 |
| 47.5° | 7195.3 | 6377.1 | 2544.8 | 1834.9 | 1275.4 | 959.6 | 773.1 | 679.8 | 619.7 | 586.6 | 586.6 |
| 50° | 7541.2 | 6566.6 | 2256.0 | 1567.2 | 1110.0 | 839.2 | 682.8 | 628.7 | 583.6 | 553.5 | 547.5 |
| 52.5° | 7845.0 | 6692.9 | 1865.0 | 1242.3 | 929.5 | 703.9 | 634.7 | 592.6 | 559.5 | 526.4 | 517.4 |
| 55° | *7899.2* | *6608.7* | *1561.2* | *998.7* | *767.1* | *631.7* | *598.6* | *562.5* | *517.4* | *502.3* | *493.3* |
| 57.5° | 7565.3 | 6163.5 | 1317.5 | 842.3 | 655.8 | 580.6 | 568.5 | 526.4 | 490.3 | 475.3 | 466.2 |
| 60° | 6996.7 | 5354.3 | 1088.9 | 721.9 | 583.6 | 532.4 | 547.5 | 505.4 | 448.2 | 439.2 | 430.2 |
| 62.5° | 5974.0 | 4178.2 | 869.3 | 607.6 | 529.4 | 496.3 | 511.4 | 451.2 | 403.1 | 391.0 | 388.0 |
| 65° | 4644.4 | 2990.0 | 731.0 | 535.4 | 487.3 | 460.2 | 454.2 | 400.1 | 364.0 | 355.0 | 355.0 |
| 67.5° | 3242.7 | 1901.1 | 610.6 | 490.3 | 433.2 | 415.1 | 412.1 | 376.0 | 351.9 | 342.9 | 342.9 |
| 70° | 1985.3 | 1152.1 | 514.4 | 448.2 | 382.0 | 348.9 | 370.0 | 364.0 | 327.9 | 318.9 | 315.8 |
| 72.5° | 1031.8 | 688.8 | 451.2 | 412.1 | 321.9 | 297.8 | 330.9 | 333.9 | 303.8 | 315.8 | 312.8 |
| 75° | 598.6 | 478.3 | 394.1 | 364.0 | 255.7 | 249.7 | 288.8 | 318.9 | 294.8 | 303.8 | 297.8 |
| 77.5° | 342.9 | 306.8 | 303.8 | 297.8 | 201.5 | 204.5 | 258.7 | 285.8 | 252.7 | 261.7 | 240.6 |
| 80° | 189.5 | 198.5 | 210.6 | 186.5 | 141.4 | 159.4 | 207.6 | 228.6 | 192.5 | 189.5 | 174.5 |
| 82.5° | 99.3 | 123.3 | 141.4 | 120.3 | 81.2 | 96.3 | 141.4 | 141.4 | 123.3 | 117.3 | 114.3 |
| 85° | 45.1 | 51.1 | 66.2 | 60.2 | 30.1 | 36.1 | 66.2 | 72.2 | 63.2 | 57.2 | 54.1 |
| 87.5° | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 6.0 | 9.0 | 3.0 | 3.0 | 3.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-1

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

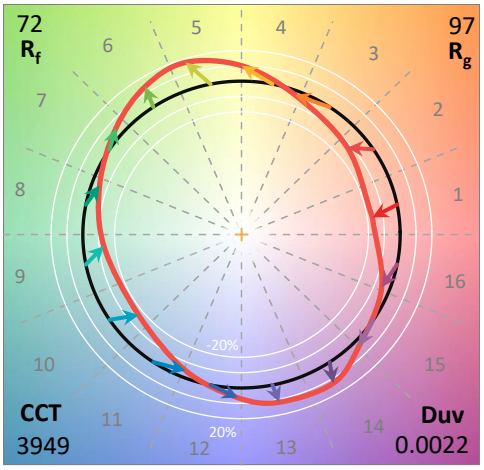
## Test Information

| | |
|---|---|
| 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

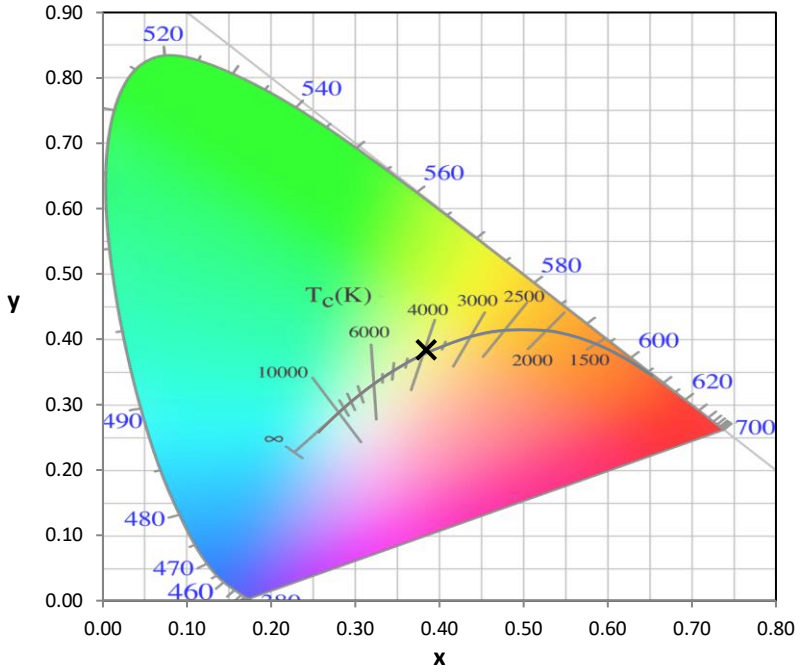
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-1

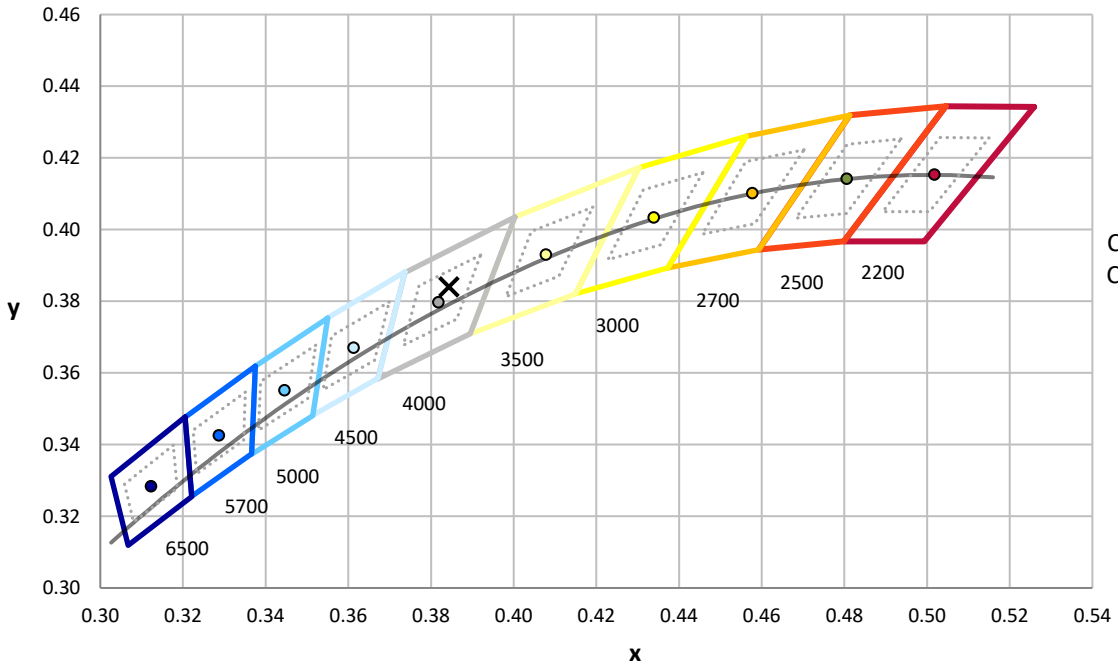
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

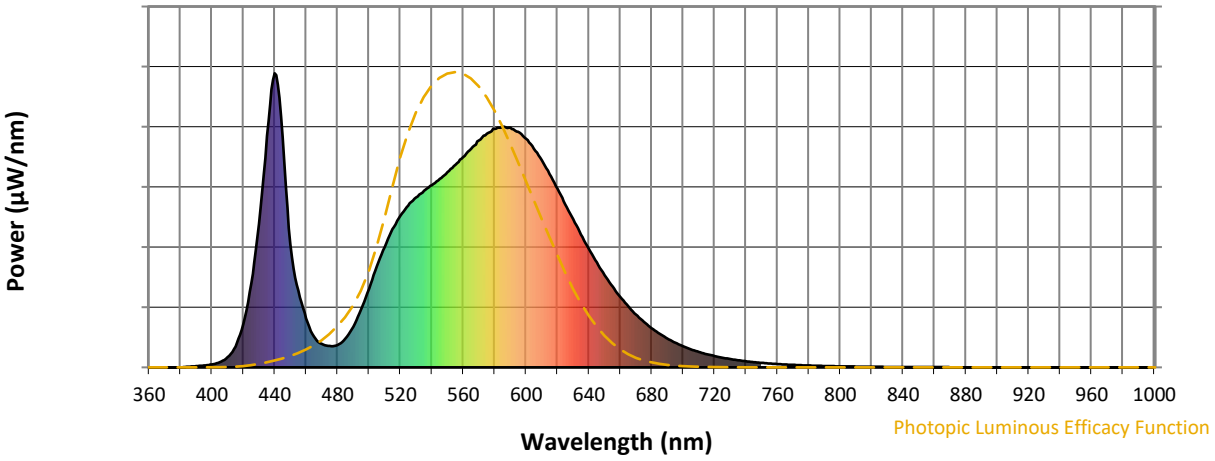



CCT = 3949K
CIE x = 0.3844
CIE y = 0.3840
Duv = 0.0022

Point lies inside the ANSI 4000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

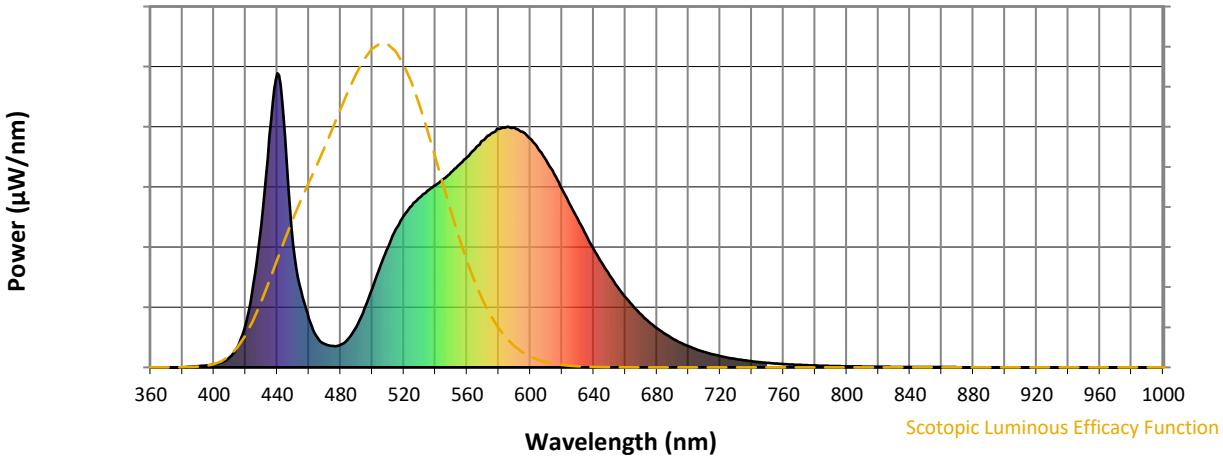



## Photopic Lumens: NR

| 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

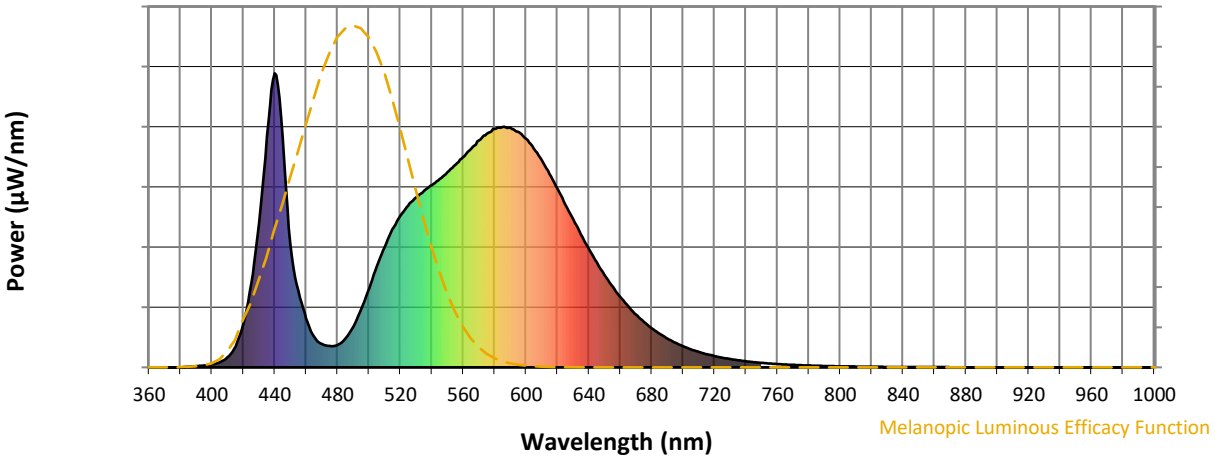



**Scotopic Lumens: NR** **S/P: 1.47**

| 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 | | | |

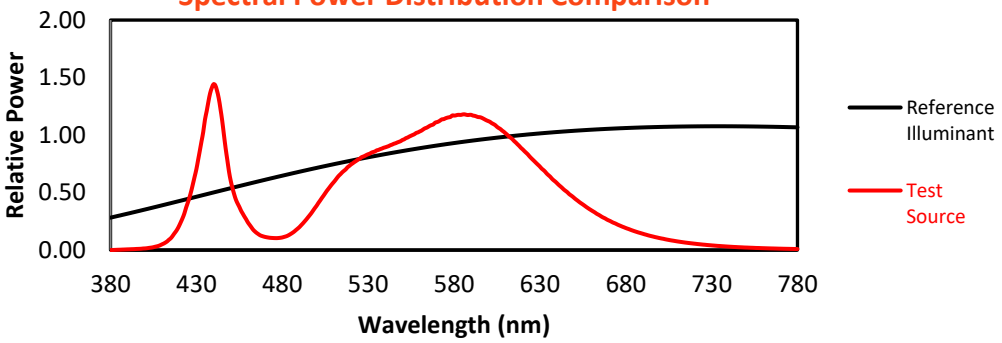
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# TM-30-18

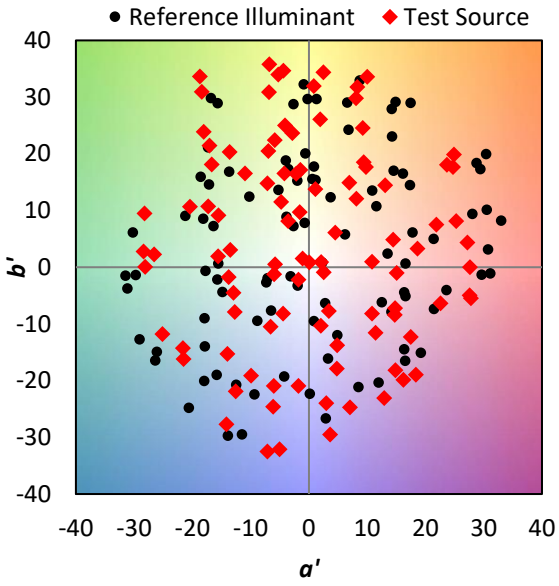
## Summary

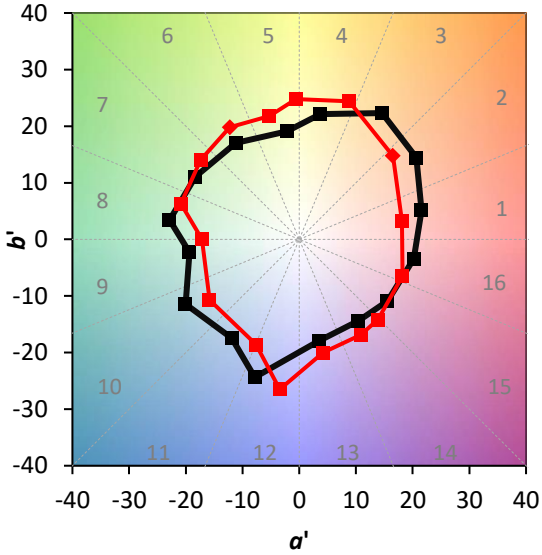
$R_f$ = 71.8
$R_g$ = 96.5
CIE $R_a$ = 70.7
$R_9$ = -36.7

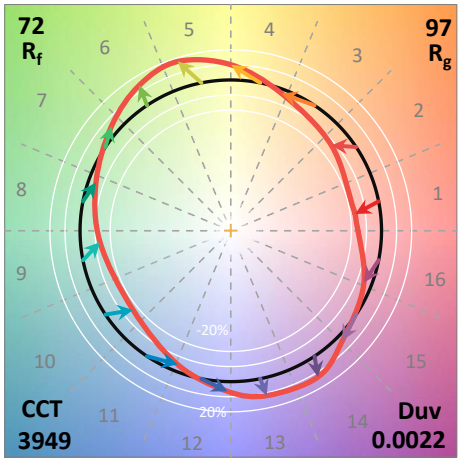
## Spectral Power Distribution Comparison

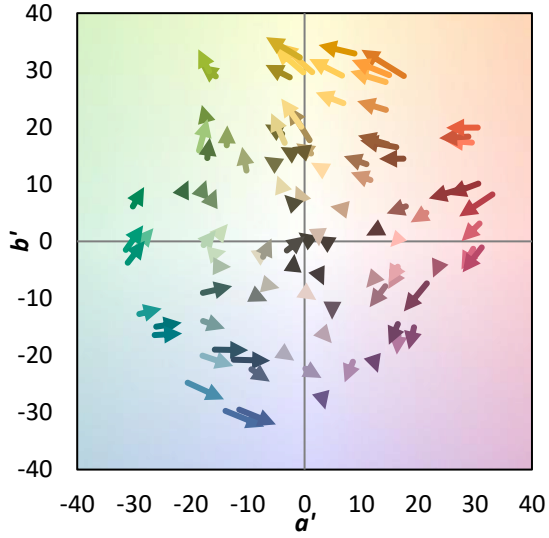



## Color Vector Graphics



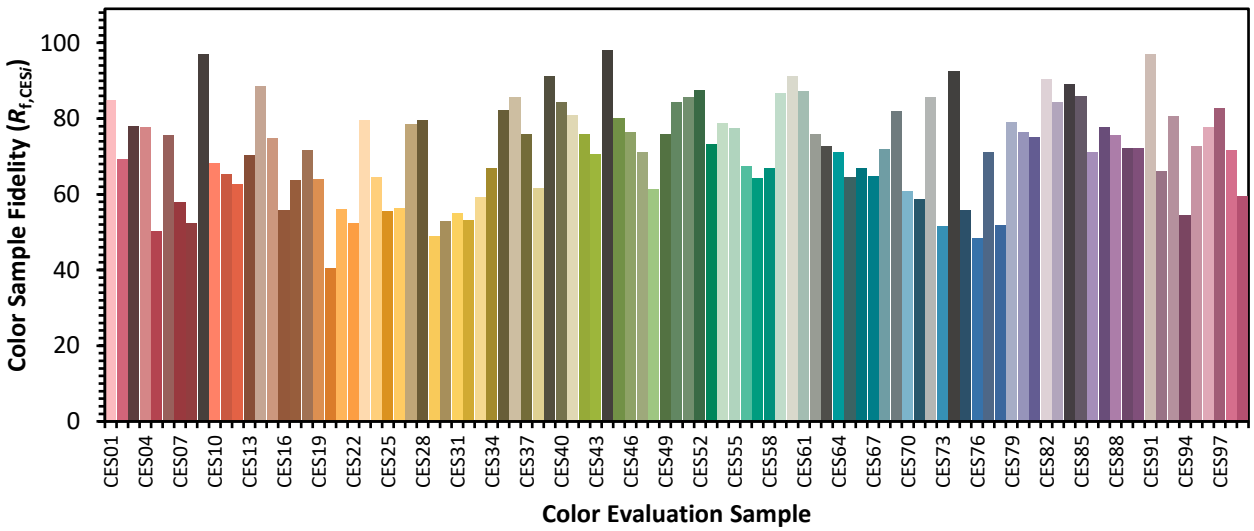



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**Individual Sample Fidelity Index ($R_{f,i}$)**

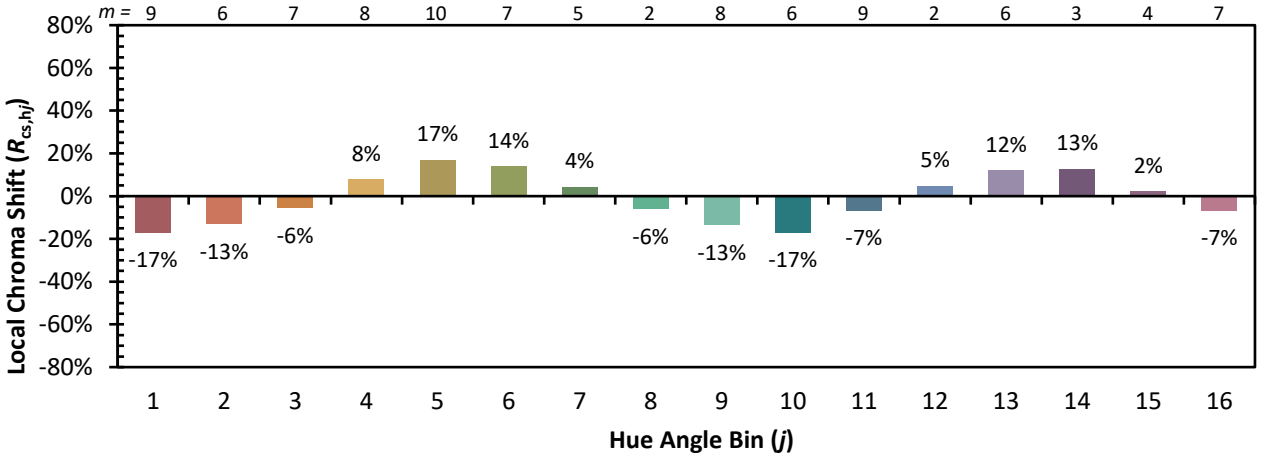
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 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 | |

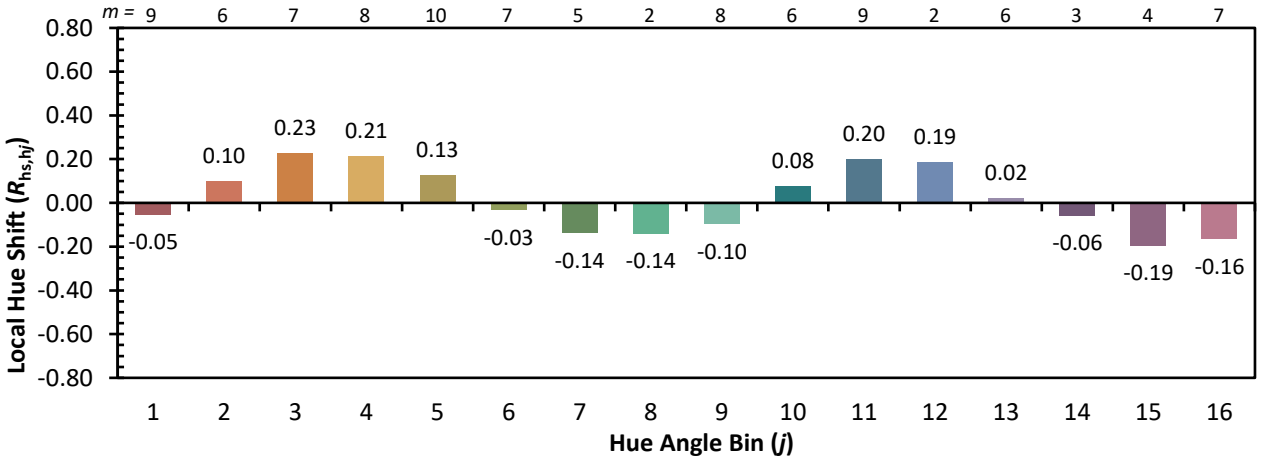


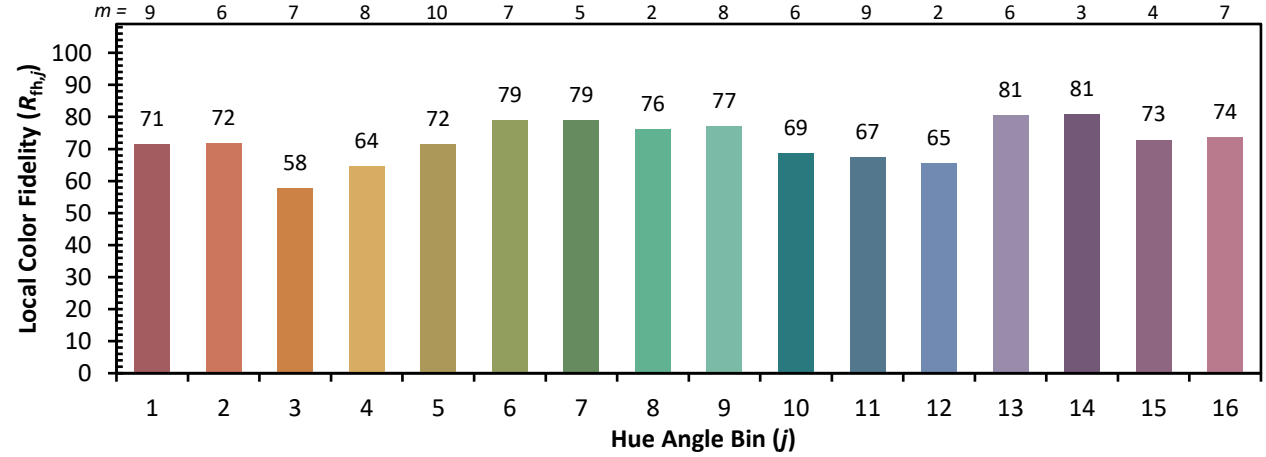
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## Color Rendition by Hue-Angle Bin



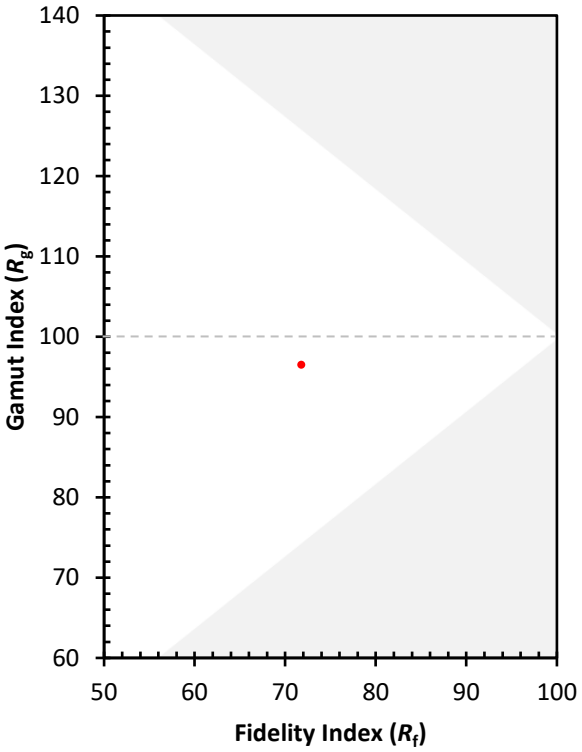



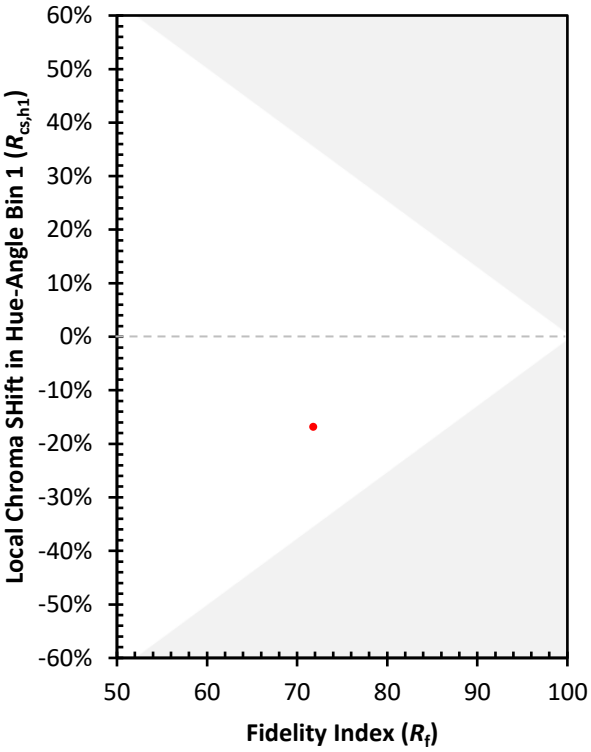



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## Measure Comparisons




(END OF REPORT)