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: P1360363

Luminaire Tested: **GSS-SB4A-730-U-T3-HSS**

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: | P1360363 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4A-730-U-T3-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 114W 70CRI 3000K FIXTURE w/ TYPE III DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (104) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 12638.4 lumens |
| Efficiency: | N/A |
| Efficacy: | 110.9 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B1 - U0 - G2 |

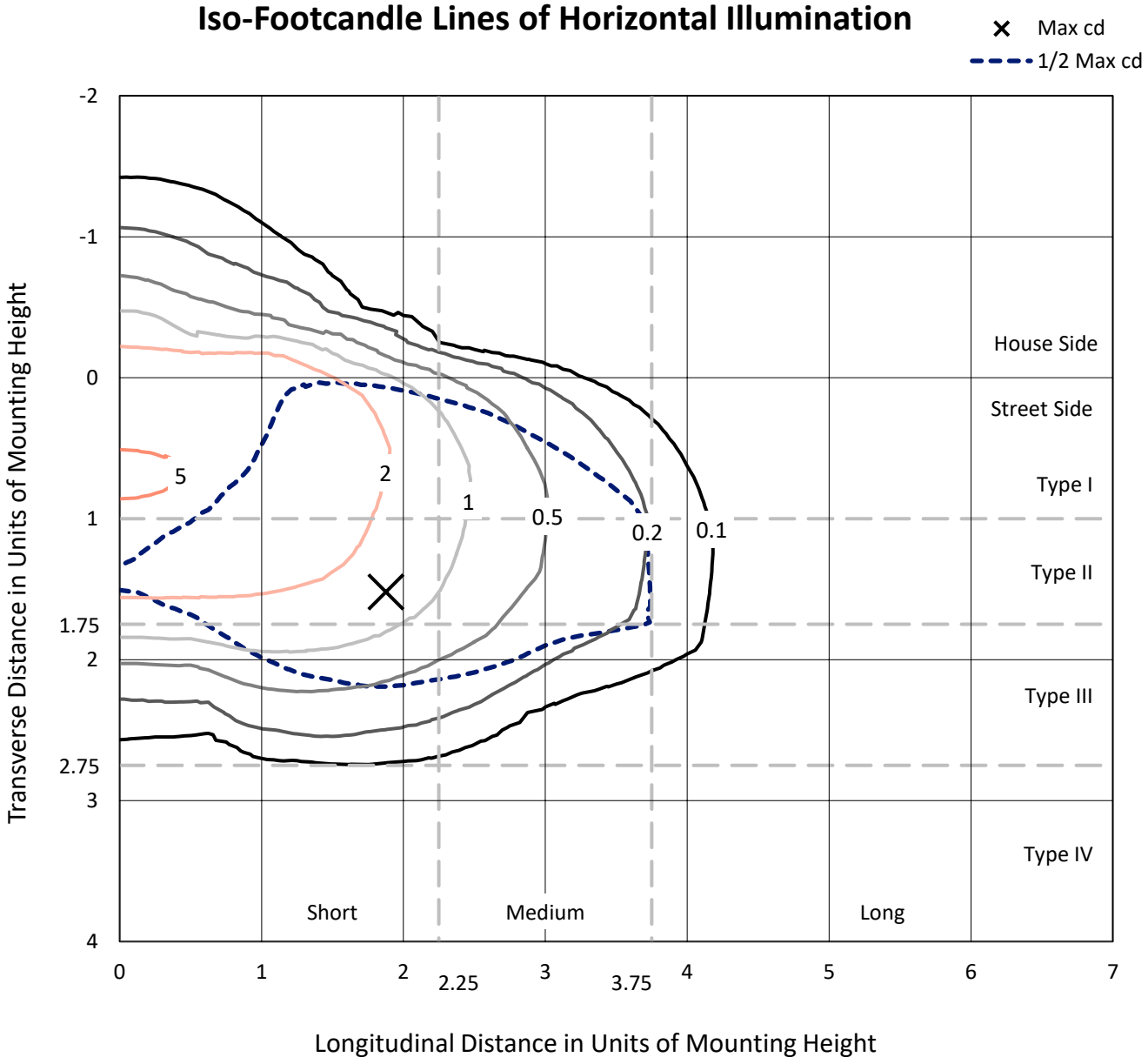
| | |
|---|---|
| Input Watts (W): | 114 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.2% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1360363
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## Iso-Footcandle Lines of Horizontal Illumination



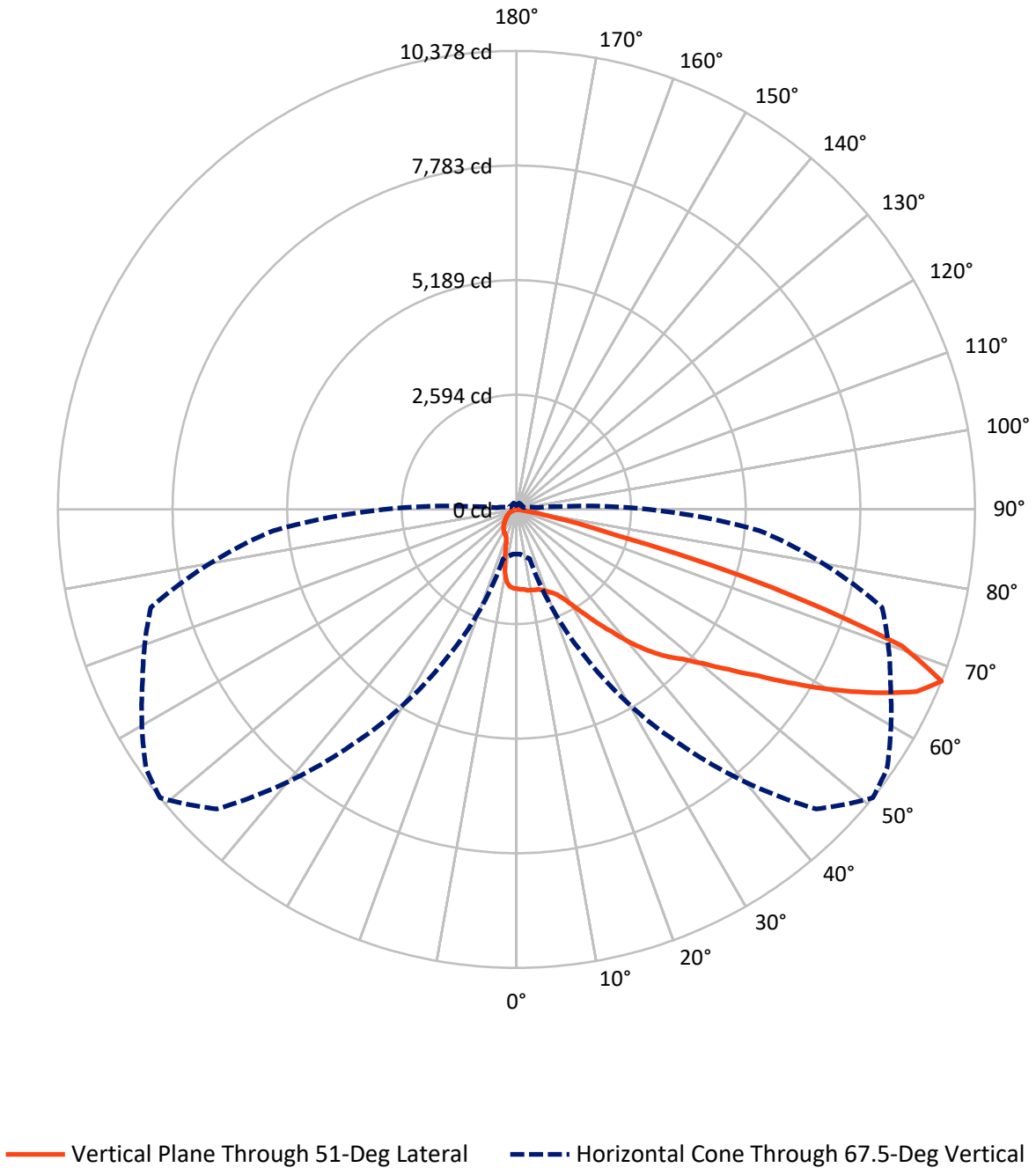

Based on 20 foot mounting height. Maximum calculated value = 5.7 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

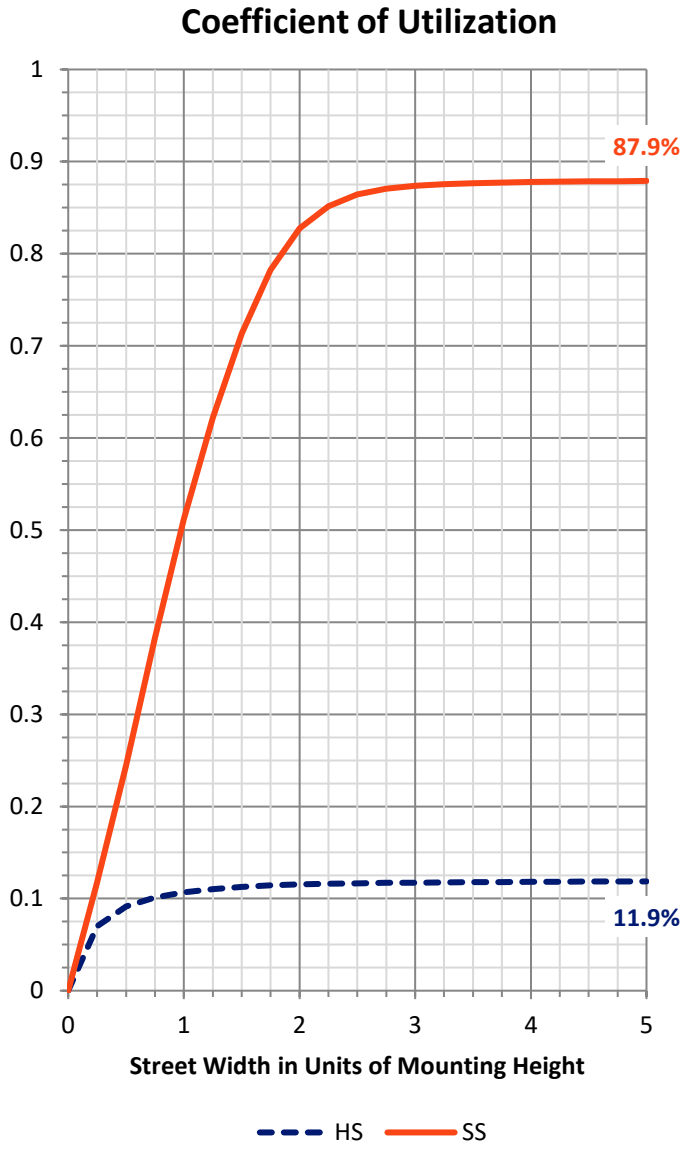
REPORT NUMBER: P1360363
CATALOG NUMBER: GSS-SB4A-730-U-T3-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1511.1 | 0.0 | 1511.1 |
| | % Fixture | 12.0 | 0.0 | 12.0 |
| **Street Side** | Lumens | 11127.2 | 0.0 | 11127.2 |
| | % Fixture | 88.0 | 0.0 | 88.0 |
| **Total** | Lumens | 12638.4 | 0.0 | 12638.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 163.9 | 1.3 |
| 10°-20° | 421.3 | 3.3 |
| 20°-30° | 751.0 | 5.9 |
| 30°-40° | 1344.1 | 10.6 |
| 40°-50° | 2117.3 | 16.8 |
| 50°-60° | 3079.6 | 24.4 |
| 60°-70° | 3350.7 | 26.5 |
| 70°-80° | 1353.6 | 10.7 |
| 80°-90° | 56.9 | 0.4 |
| 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° | 12638.4 | 100.0 |
| 0°-180° | 12638.4 | 100.0 |



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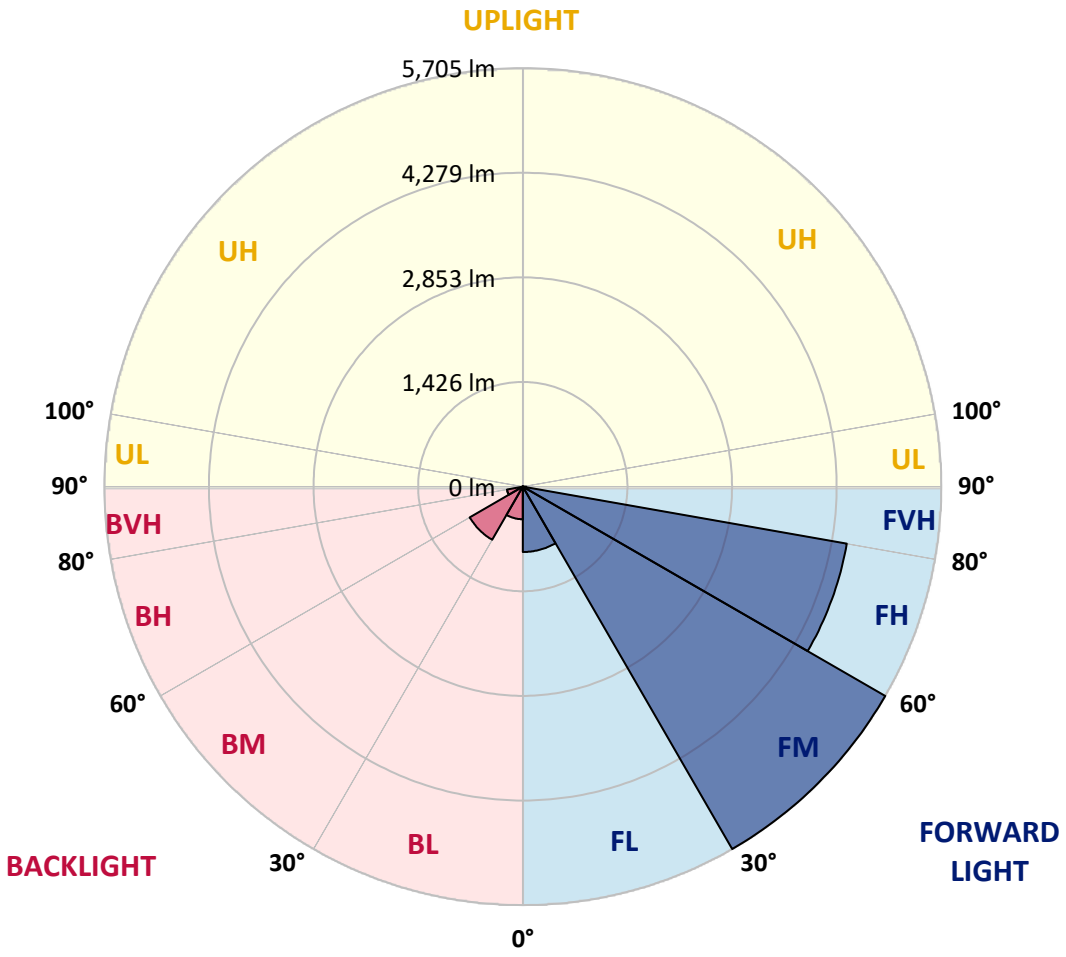
Scaled Data Report

REPORT NUMBER: P1360363
CATALOG NUMBER: GSS-SB4A-730-U-T3-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 891.2 | 7.1 | | | |
| FM | (30°-60°) | 5705.3 | 45.1 | | | |
| FH | (60°-80°) | 4484.6 | 35.5 | | | G2/5000 |
| FVH | (80°-90°) | 46.1 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 445.0 | 3.5 | B1/500 | | |
| BM | (30°-60°) | 835.8 | 6.6 | B1/1000 | | |
| BH | (60°-80°) | 219.7 | 1.7 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 10.7 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G2**
Type III Short



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REPORT NUMBER: P1360363
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 51° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | *1794.6* | 1794.6 | 1794.6 | 1794.6 | 1794.6 |
| 2.5° | 1809.8 | 1806.0 | 1809.8 | 1794.6 | 1802.2 | 1806.0 | *1813.6* | 1802.2 | 1798.4 | 1802.2 | 1798.4 |
| 5° | 1802.2 | 1798.4 | 1802.2 | 1806.0 | 1813.6 | 1824.9 | *1821.1* | 1821.1 | 1828.7 | 1813.6 | 1813.6 |
| 7.5° | 1737.8 | 1734.0 | 1756.8 | 1764.3 | 1794.6 | 1821.1 | *1851.4* | 1840.1 | 1855.2 | 1851.4 | 1840.1 |
| 10° | 1658.3 | 1647.0 | 1669.7 | 1711.3 | 1756.8 | 1824.9 | *1855.2* | 1862.8 | 1896.8 | 1912.0 | 1904.4 |
| 12.5° | 1612.9 | 1601.5 | 1631.8 | 1662.1 | 1734.0 | 1817.3 | *1870.3* | 1889.3 | 1927.1 | 1957.4 | 1965.0 |
| 15° | 1578.8 | 1590.2 | 1620.5 | 1677.3 | 1745.4 | 1832.5 | *1877.9* | 1915.8 | 1995.3 | 2025.6 | 2025.6 |
| 17.5° | 1601.5 | 1597.7 | 1624.2 | 1681.0 | 1764.3 | 1851.4 | *1919.6* | 1957.4 | 2052.1 | 2093.7 | 2089.9 |
| 20° | 1824.9 | 1802.2 | 1798.4 | 1768.1 | 1794.6 | 1896.8 | *1980.1* | 2018.0 | 2108.9 | 2165.7 | 2161.9 |
| 22.5° | 2112.7 | 2135.4 | 2074.8 | 2006.6 | 1923.4 | 1957.4 | *2044.5* | 2097.5 | 2188.4 | 2249.0 | 2226.2 |
| 25° | 2502.6 | 2491.3 | 2449.6 | 2313.3 | 2161.9 | 2089.9 | *2135.4* | 2188.4 | 2302.0 | 2351.2 | 2313.3 |
| 27.5° | 2915.3 | 2866.1 | 2813.1 | 2623.8 | 2423.1 | 2290.6 | *2298.2* | 2332.3 | 2464.8 | 2495.1 | 2408.0 |
| 30° | 3358.3 | 3365.9 | 3278.8 | 3021.3 | 2744.9 | 2544.3 | *2529.1* | 2544.3 | 2650.3 | 2646.5 | 2525.3 |
| 32.5° | 3865.6 | 3846.7 | 3763.4 | 3487.0 | 3180.3 | 2851.0 | *2813.1* | 2786.6 | 2832.0 | 2790.4 | 2650.3 |
| 35° | 4221.5 | 4240.5 | 4149.6 | 3967.9 | 3661.2 | 3252.3 | *3161.4* | 3097.1 | 3051.6 | 3006.2 | 2854.7 |
| 37.5° | 4539.6 | 4516.8 | 4463.8 | 4361.6 | 4062.5 | 3687.7 | *3513.5* | 3456.7 | 3358.3 | 3233.4 | 3093.3 |
| 40° | 4611.5 | 4600.1 | 4573.6 | 4577.4 | 4384.3 | 4092.8 | *3967.9* | 3865.6 | 3695.3 | 3593.0 | 3411.3 |
| 42.5° | 4600.1 | 4638.0 | 4645.6 | 4675.9 | 4566.1 | 4494.1 | *4365.4* | 4267.0 | 4107.9 | 3983.0 | 3793.7 |
| 45° | 4660.7 | 4725.1 | 4778.1 | 4804.6 | 4732.7 | 4725.1 | *4740.2* | 4694.8 | 4585.0 | 4456.3 | 4240.5 |
| 47.5° | 4781.9 | 4891.7 | 4975.0 | 5031.8 | 5016.6 | 5141.6 | *5062.1* | 5050.7 | 5096.1 | 4971.2 | 4755.4 |
| 50° | 5009.0 | 5039.3 | 5236.2 | 5319.5 | 5459.6 | 5641.3 | *5486.1* | 5524.0 | 5614.8 | 5626.2 | 5228.6 |
| 52.5° | 5179.4 | 5205.9 | 5402.8 | 5648.9 | 5959.4 | 6160.0 | *6019.9* | 6016.2 | 6179.0 | 6224.4 | 5686.8 |
| 55° | 5224.9 | 5285.4 | 5539.1 | 5966.9 | 6550.0 | 6754.4 | *6656.0* | 6621.9 | 6837.7 | 6917.3 | 6091.9 |
| 57.5° | 5160.5 | 5183.2 | 5546.7 | 6163.8 | 6977.8 | 7420.8 | *7451.1* | 7345.1 | 7542.0 | 7560.9 | 6391.0 |
| 60° | 4463.8 | 4562.3 | 5198.4 | 6288.8 | 7341.3 | 8144.0 | *8303.0* | 8242.4 | 8257.5 | 8223.5 | 6614.4 |
| 62.5° | 3085.7 | 3104.6 | 4039.8 | 6156.2 | 7640.4 | 8874.7 | *9139.7* | 9094.3 | 8965.5 | 8643.7 | 6500.8 |
| 65° | 1469.0 | 1571.2 | 2169.5 | 5209.7 | 7682.1 | 9431.2 | *9946.2* | 9976.4 | 9378.2 | 8647.5 | 6061.6 |
| 67.5° | *1010.9* | *1014.7* | *1154.8* | *3676.3* | *6515.9* | *9590.3* | *10377.8* | *10237.7* | *9340.4* | *8568.0* | *5524.0* |
| 70° | 639.9 | 594.4 | 666.4 | 2097.5 | 4403.3 | 7530.6 | *9257.1* | 9749.3 | 9181.4 | 8049.3 | 4668.3 |
| 72.5° | 253.7 | 272.6 | 314.2 | 689.1 | 2158.1 | 4289.7 | *6046.4* | 7420.8 | 8280.3 | 6962.7 | 3646.0 |
| 75° | 113.6 | 121.2 | 159.0 | 287.7 | 556.6 | 1749.2 | *2339.8* | 3278.8 | 6625.7 | 5497.5 | 2582.1 |
| 77.5° | 75.7 | 79.5 | 102.2 | 166.6 | 253.7 | 488.4 | *855.7* | 1003.3 | 3971.6 | 3006.2 | 1211.6 |
| 80° | 45.4 | 49.2 | 68.2 | 102.2 | 140.1 | 174.2 | *261.2* | 302.9 | 1048.8 | 995.8 | 333.2 |
| 82.5° | 30.3 | 26.5 | 45.4 | 56.8 | 83.3 | 71.9 | *83.3* | 98.4 | 287.7 | 253.7 | 90.9 |
| 85° | 11.4 | 11.4 | 18.9 | 22.7 | 30.3 | 37.9 | *34.1* | 41.6 | 68.2 | 68.2 | 41.6 |
| 87.5° | 0.0 | 0.0 | 3.8 | 3.8 | 11.4 | 15.1 | *18.9* | 18.9 | 26.5 | 26.5 | 22.7 |
| 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: P1360363
CATALOG NUMBER: GSS-SB4A-730-U-T3-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 | 1794.6 |
| 2.5° | 1802.2 | 1790.8 | 1794.6 | 1787.1 | 1790.8 | 1783.3 | 1768.1 | 1783.3 | 1771.9 | 1771.9 | 1783.3 |
| 5° | 1813.6 | 1809.8 | 1798.4 | 1779.5 | 1768.1 | 1741.6 | 1700.0 | 1681.0 | 1662.1 | 1650.8 | 1658.3 |
| 7.5° | 1851.4 | 1836.3 | 1817.3 | 1771.9 | 1711.3 | 1631.8 | 1548.5 | 1453.9 | 1381.9 | 1374.4 | 1347.9 |
| 10° | 1900.6 | 1885.5 | 1843.8 | 1741.6 | 1616.7 | 1389.5 | 1207.8 | 1082.8 | 1007.1 | 957.9 | 939.0 |
| 12.5° | 1965.0 | 1946.1 | 1870.3 | 1696.2 | 1389.5 | 1071.5 | 855.7 | 764.8 | 738.3 | 726.9 | 723.2 |
| 15° | 2025.6 | 2002.9 | 1870.3 | 1548.5 | 1124.5 | 806.4 | 696.6 | 673.9 | 670.1 | 673.9 | 670.1 |
| 17.5° | 2082.4 | 2052.1 | 1851.4 | 1347.9 | 863.2 | 681.5 | 655.0 | 643.6 | 639.9 | 636.1 | 636.1 |
| 20° | 2150.5 | 2101.3 | 1798.4 | 1128.3 | 711.8 | 647.4 | 636.1 | 620.9 | 620.9 | 605.8 | 609.6 |
| 22.5° | 2214.9 | 2146.7 | 1696.2 | 908.7 | 655.0 | 628.5 | 617.1 | 602.0 | 594.4 | 583.1 | 583.1 |
| 25° | 2279.2 | 2192.2 | 1575.0 | 753.4 | 620.9 | 609.6 | 598.2 | 583.1 | 564.1 | 549.0 | 549.0 |
| 27.5° | 2373.9 | 2252.7 | 1431.2 | 689.1 | 602.0 | 583.1 | 571.7 | 552.8 | 530.1 | 511.1 | 511.1 |
| 30° | 2479.9 | 2336.0 | 1313.8 | 677.7 | 594.4 | 549.0 | 530.1 | 499.8 | 484.6 | 469.5 | 469.5 |
| 32.5° | 2608.6 | 2449.6 | 1226.7 | 696.6 | 575.5 | 503.6 | 473.3 | 443.0 | 431.6 | 431.6 | 431.6 |
| 35° | 2797.9 | 2616.2 | 1132.1 | 700.4 | 552.8 | 458.1 | 408.9 | 378.6 | 378.6 | 393.8 | 393.8 |
| 37.5° | 3051.6 | 2797.9 | 1082.8 | 692.9 | 533.8 | 412.7 | 355.9 | 333.2 | 329.4 | 344.5 | 344.5 |
| 40° | 3343.1 | 2998.6 | 1101.8 | 666.4 | 507.3 | 367.3 | 314.2 | 295.3 | 291.5 | 295.3 | 299.1 |
| 42.5° | 3661.2 | 3214.4 | 1147.2 | 628.5 | 461.9 | 329.4 | 284.0 | 272.6 | 268.8 | 268.8 | 268.8 |
| 45° | 3998.1 | 3362.1 | 1192.6 | 590.6 | 416.5 | 299.1 | 265.0 | 257.5 | 253.7 | 253.7 | 253.7 |
| 47.5° | 4320.0 | 3479.5 | 1162.3 | 556.6 | 378.6 | 280.2 | 249.9 | 249.9 | 246.1 | 246.1 | 246.1 |
| 50° | 4596.4 | 3468.1 | 1033.6 | 522.5 | 337.0 | 265.0 | 242.3 | 238.5 | 238.5 | 234.7 | 234.7 |
| 52.5° | 4751.6 | 3237.1 | 832.9 | 484.6 | 299.1 | 249.9 | 234.7 | 231.0 | 227.2 | 223.4 | 223.4 |
| 55° | 4812.2 | 2930.5 | 647.4 | 427.8 | 272.6 | 238.5 | 227.2 | 223.4 | 215.8 | 212.0 | 208.2 |
| 57.5° | 4706.2 | 2479.9 | 499.8 | 340.8 | 249.9 | 223.4 | 215.8 | 212.0 | 204.5 | 193.1 | 189.3 |
| 60° | 4490.3 | 1987.7 | 374.8 | 261.2 | 223.4 | 204.5 | 204.5 | 200.7 | 185.5 | 166.6 | 162.8 |
| 62.5° | 4111.7 | 1427.4 | 284.0 | 212.0 | 193.1 | 185.5 | 193.1 | 185.5 | 162.8 | 136.3 | 132.5 |
| 65° | 3577.9 | 882.2 | 219.6 | 181.7 | 170.4 | 162.8 | 174.2 | 166.6 | 140.1 | 109.8 | 102.2 |
| 67.5° | *2991.0* | *450.5* | *170.4* | *155.2* | *143.9* | *136.3* | *147.7* | *147.7* | *121.2* | *90.9* | *87.1* |
| 70° | 2309.5 | 249.9 | 136.3 | 128.7 | 117.4 | 106.0 | 124.9 | 128.7 | 106.0 | 79.5 | 75.7 |
| 72.5° | 1715.1 | 159.0 | 109.8 | 106.0 | 90.9 | 75.7 | 102.2 | 109.8 | 90.9 | 60.6 | 56.8 |
| 75° | 1120.7 | 124.9 | 83.3 | 83.3 | 64.4 | 60.6 | 87.1 | 94.7 | 79.5 | 45.4 | 45.4 |
| 77.5° | 537.6 | 94.7 | 64.4 | 56.8 | 45.4 | 45.4 | 75.7 | 79.5 | 56.8 | 34.1 | 34.1 |
| 80° | 177.9 | 64.4 | 45.4 | 37.9 | 30.3 | 30.3 | 60.6 | 45.4 | 30.3 | 26.5 | 26.5 |
| 82.5° | 60.6 | 41.6 | 30.3 | 26.5 | 22.7 | 18.9 | 18.9 | 22.7 | 22.7 | 18.9 | 18.9 |
| 85° | 30.3 | 26.5 | 22.7 | 18.9 | 15.1 | 15.1 | 15.1 | 15.1 | 18.9 | 18.9 | 18.9 |
| 87.5° | 18.9 | 18.9 | 15.1 | 11.4 | 11.4 | 11.4 | 11.4 | 11.4 | 15.1 | 7.6 | 7.6 |
| 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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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: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

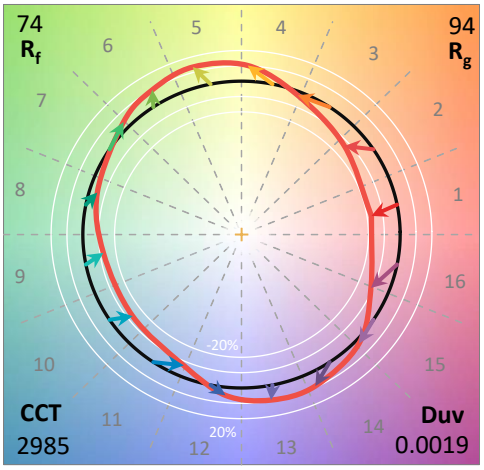
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-4 |
| 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-730-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2985 |
| CIE u': | 0.2504 |
| CIE v': | 0.5243 |
| Duv: | 0.0019 |
| CIE x: | 0.4408 |
| CIE y: | 0.4101 |
| CIE z: | 0.1491 |
| Peak Wavelength (nm): | 595 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.41818 |
| Rf: | 73.8 |
| Rg: | 94.4 |

| | |
|---|---|
| CRI (Ra): | 70.8 |
| R1: | 66.3 |
| R2: | 80.6 |
| R3: | 94.5 |
| R4: | 68.2 |
| R5: | 66.5 |
| R6: | 74.7 |
| R7: | 76.2 |
| R8: | 39.6 |
| R9: | -43.2 |
| R10: | 57.6 |
| R11: | 64.8 |
| R12: | 53.5 |
| R13: | 68.7 |
| R14: | 97.0 |
| R15: | 56.4 |




## Test Conditions

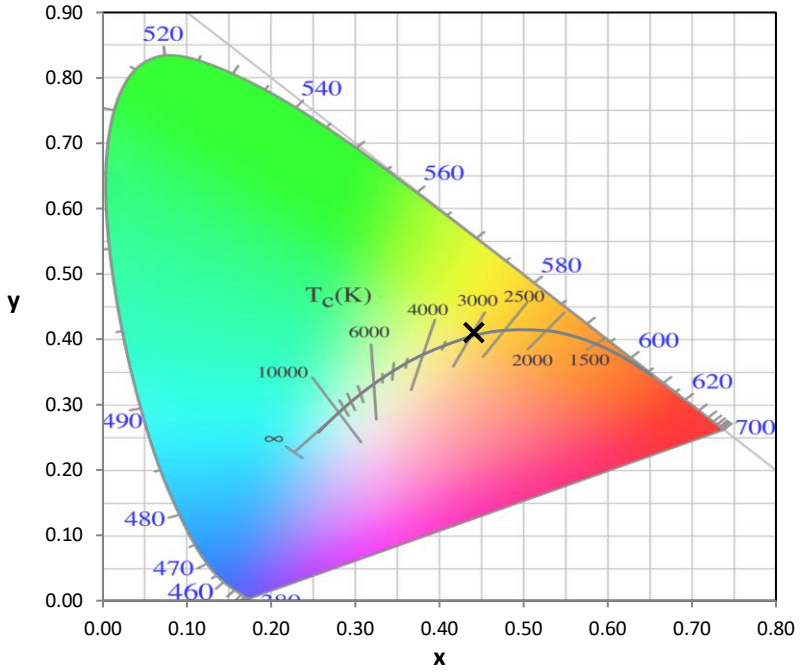
| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-4

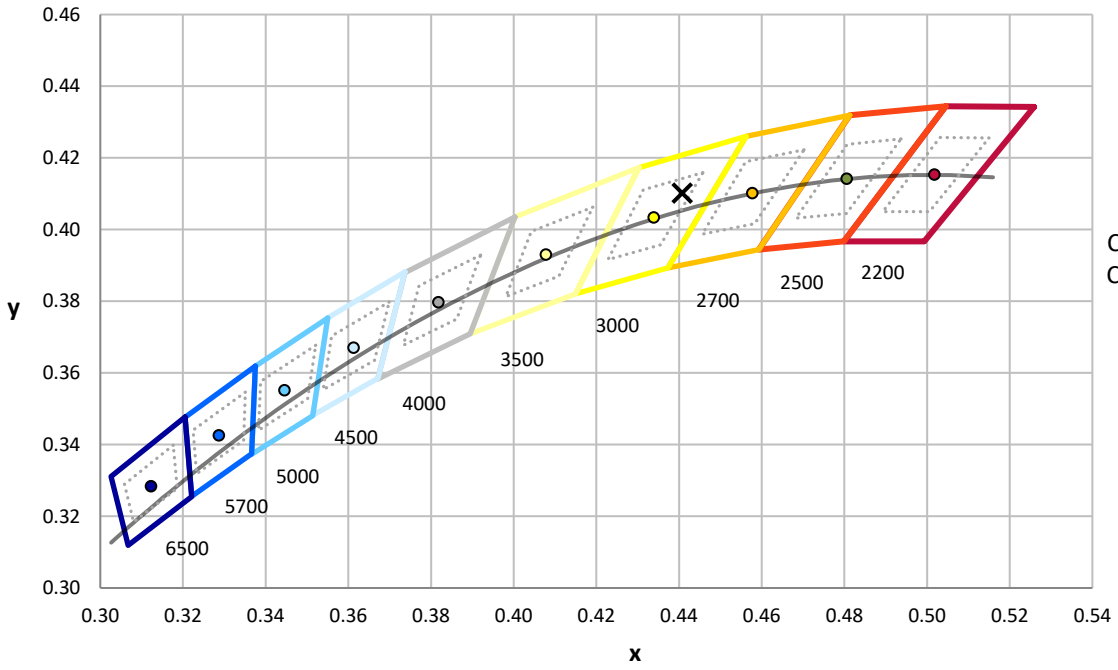
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

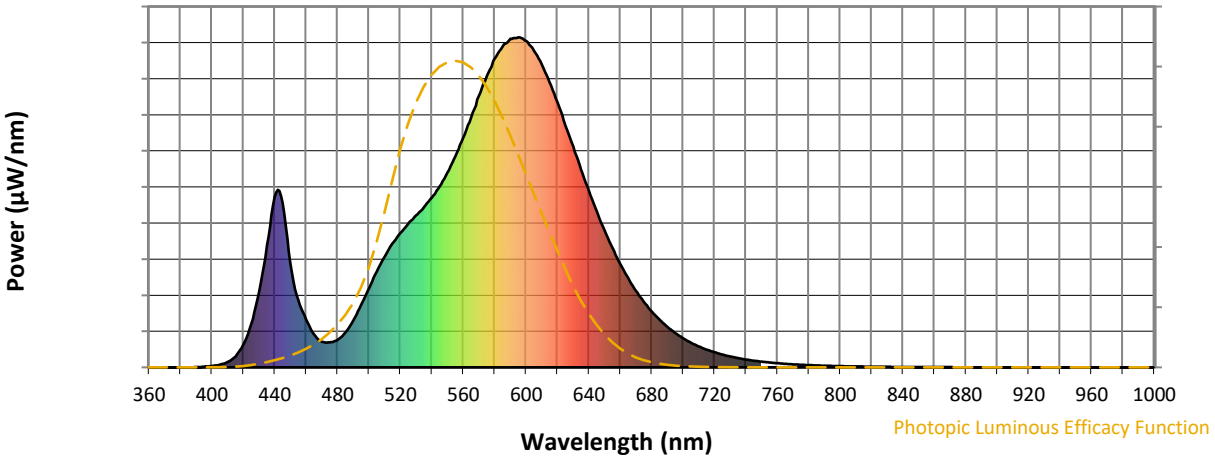



CCT = 2985K
CIE x = 0.4408
CIE y = 0.4101
Duv = 0.0019

Point lies inside the ANSI 3000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

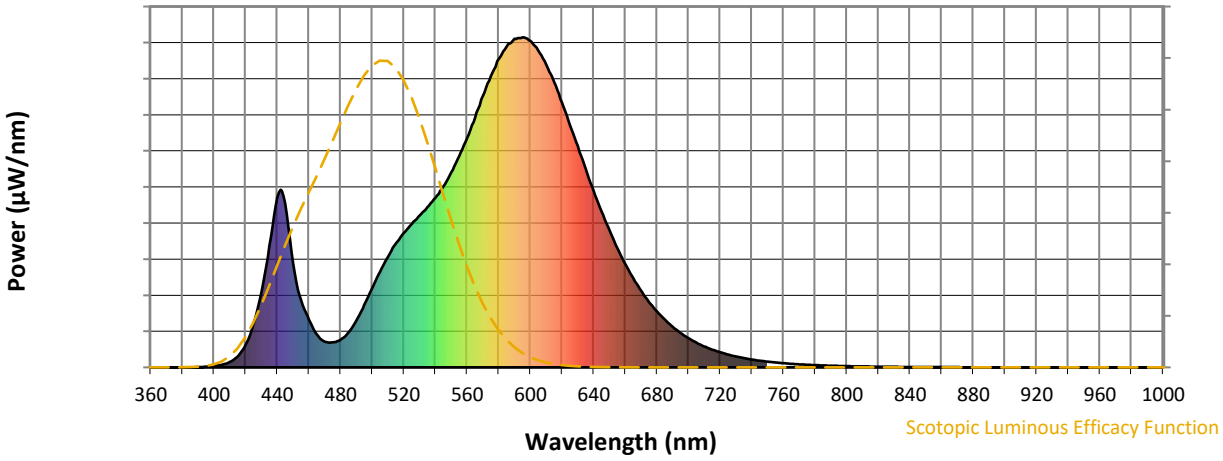



## Photopic Lumens: NR

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

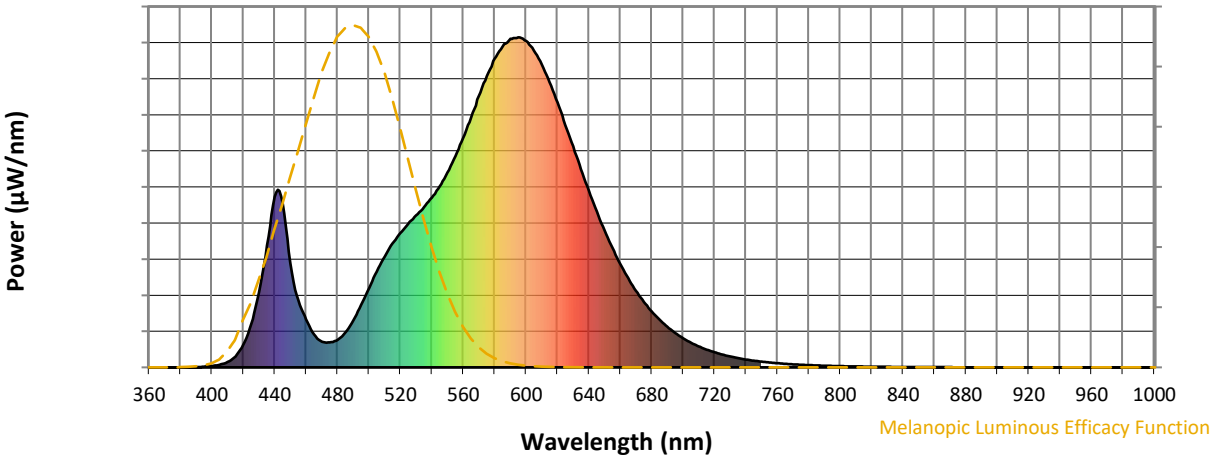



**Scotopic Lumens: NR** **S/P: 1.19**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.13**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

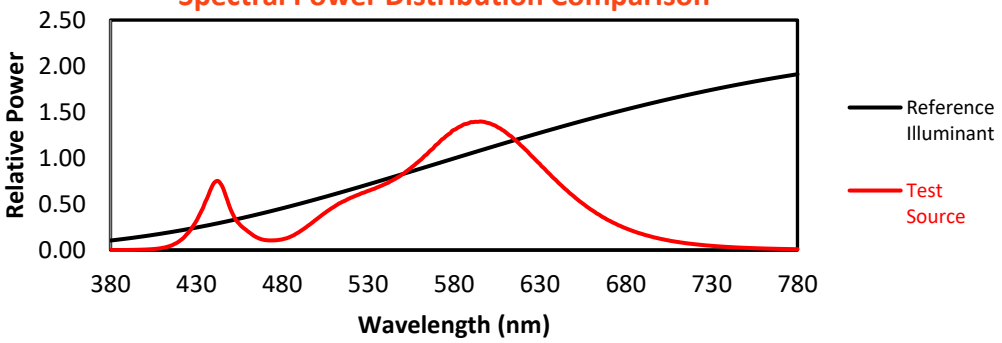
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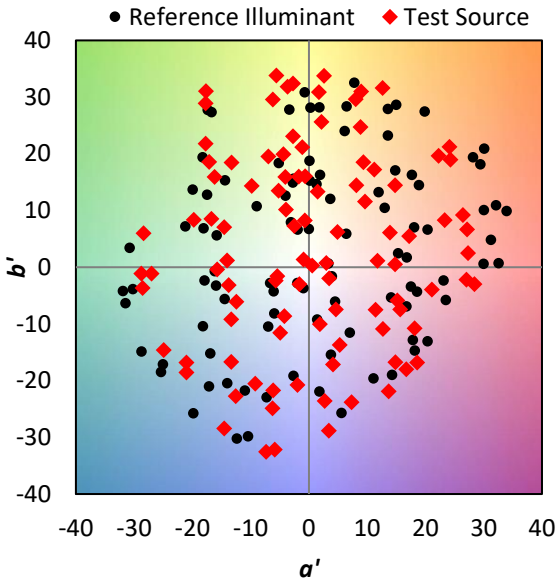
## Summary

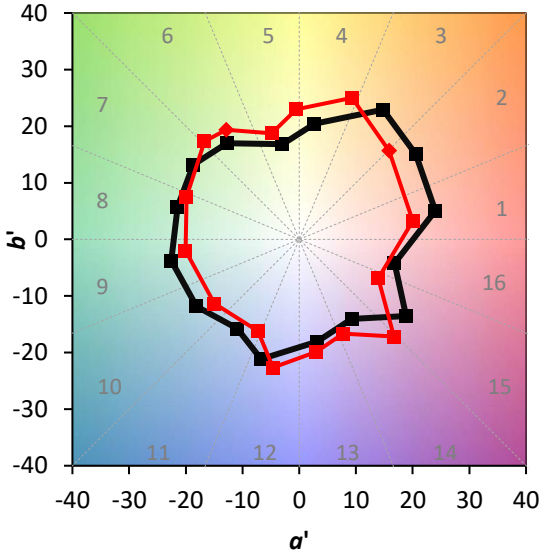
$R_f$ = 73.8
$R_g$ = 94.4
CIE $R_a$ = 70.8
$R_9$ = -43.2

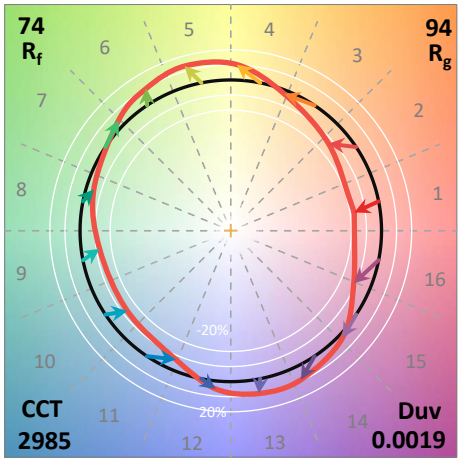
## Spectral Power Distribution Comparison

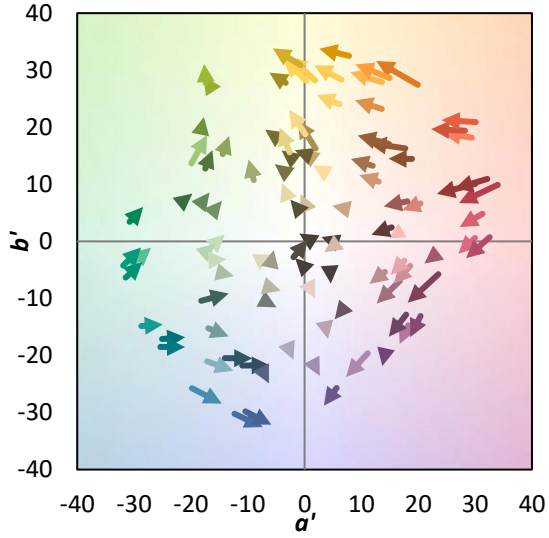



## Color Vector Graphics



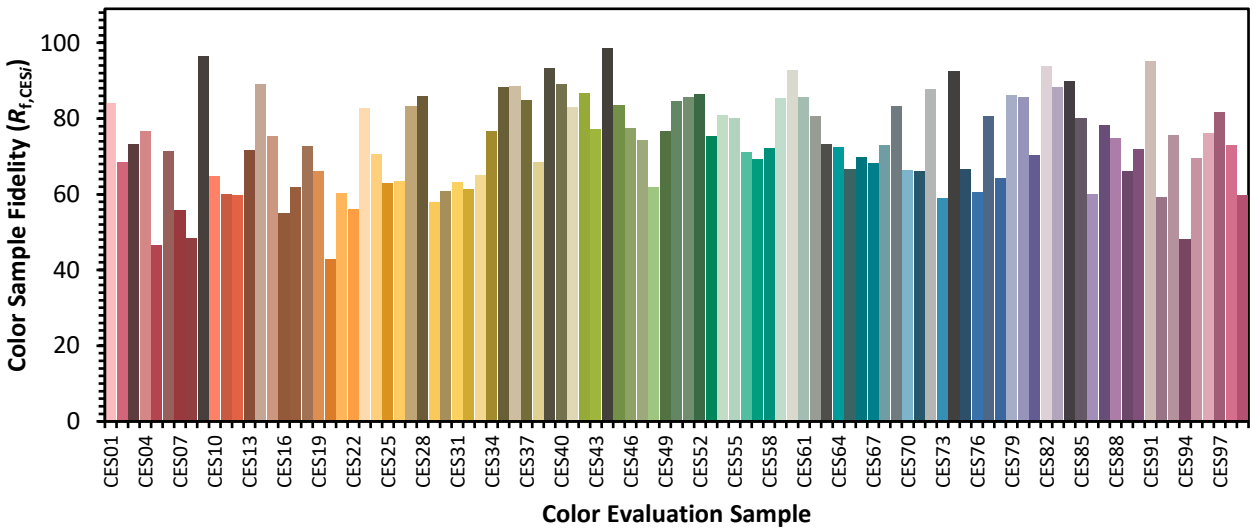



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**Individual Sample Fidelity Index ($R_{f,i}$)**

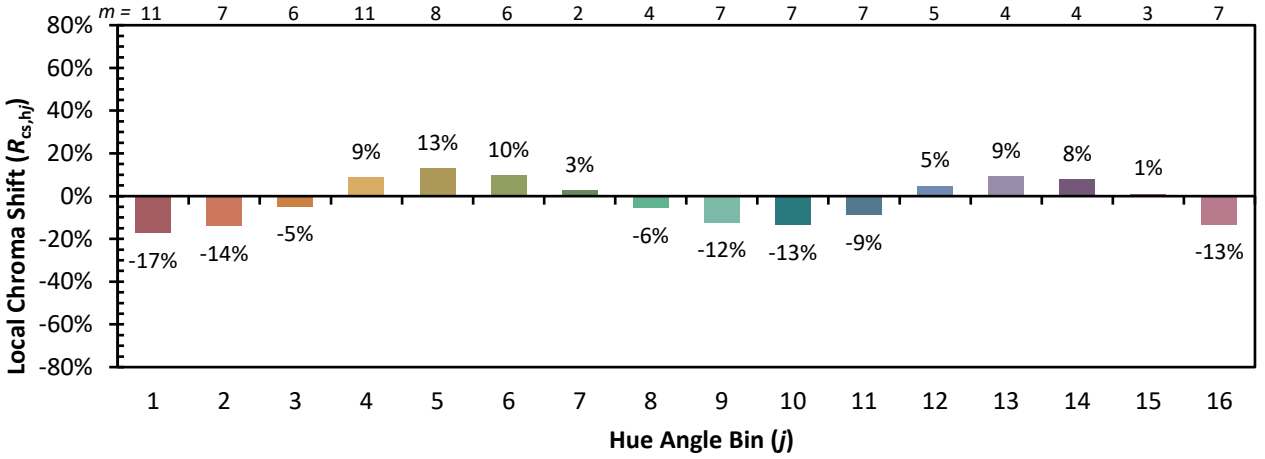
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 51 | CES31 = 63 | CES56 = 71 | CES81 = 70 |
| CES07 = 41 | CES32 = 61 | CES57 = 69 | CES82 = 94 |
| CES08 = 40 | CES33 = 65 | CES58 = 72 | CES83 = 88 |
| CES09 = 29 | CES34 = 77 | CES59 = 85 | CES84 = 90 |
| CES10 = 76 | CES35 = 88 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 89 | CES61 = 86 | CES86 = 60 |
| CES12 = 65 | CES37 = 85 | CES62 = 81 | CES87 = 78 |
| CES13 = 43 | CES38 = 69 | CES63 = 73 | CES88 = 75 |
| CES14 = 74 | CES39 = 93 | CES64 = 72 | CES89 = 66 |
| CES15 = 71 | CES40 = 89 | CES65 = 67 | CES90 = 72 |
| CES16 = 47 | CES41 = 83 | CES66 = 70 | CES91 = 95 |
| CES17 = 50 | CES42 = 87 | CES67 = 68 | CES92 = 59 |
| CES18 = 56 | CES43 = 77 | CES68 = 73 | CES93 = 76 |
| CES19 = 73 | CES44 = 99 | CES69 = 83 | CES94 = 48 |
| CES20 = 66 | CES45 = 83 | CES70 = 66 | CES95 = 70 |
| CES21 = 87 | CES46 = 77 | CES71 = 66 | CES96 = 76 |
| CES22 = 79 | CES47 = 74 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 62 | CES73 = 59 | CES98 = 73 |
| CES24 = 91 | CES49 = 77 | CES74 = 93 | CES99 = 60 |
| CES25 = 73 | CES50 = 85 | CES75 = 67 | |

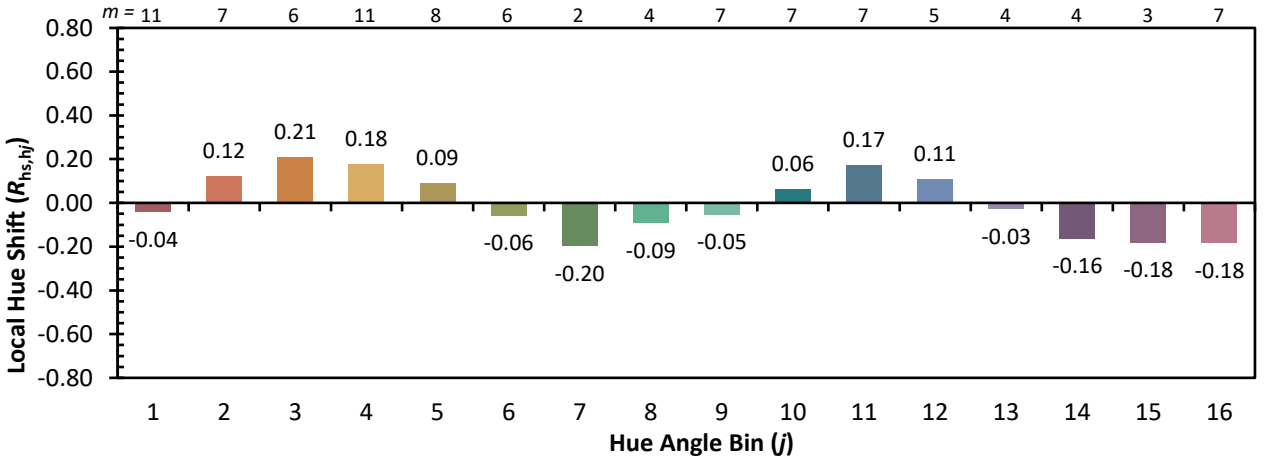


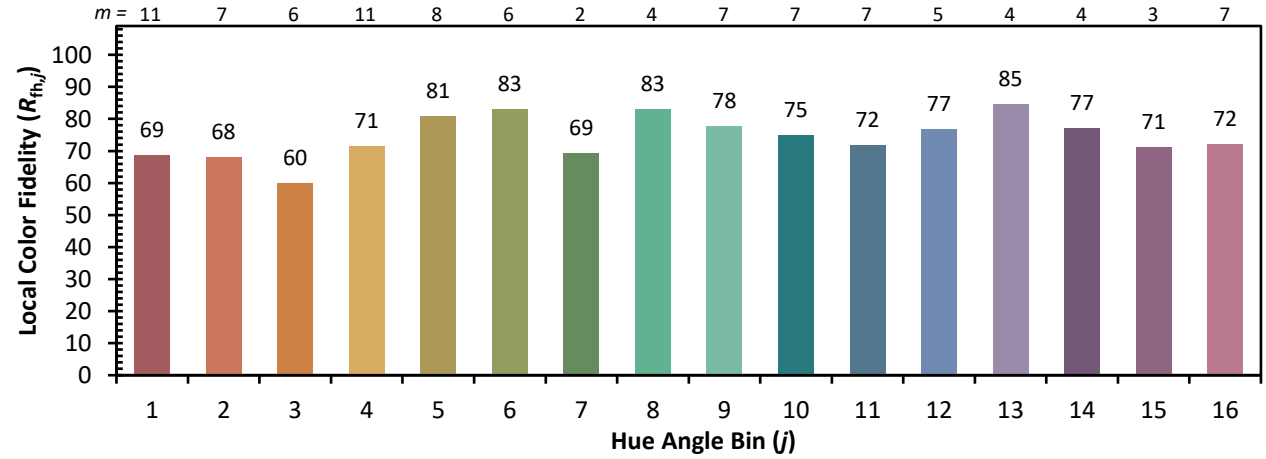
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## Color Rendition by Hue-Angle Bin



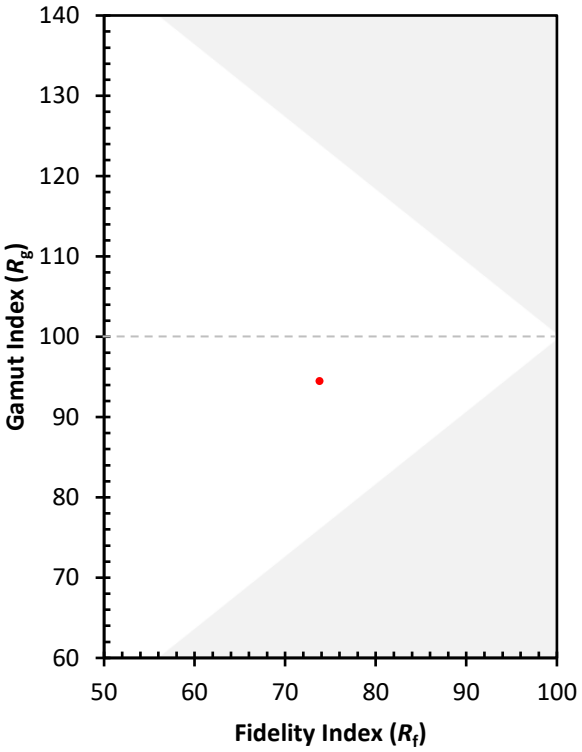



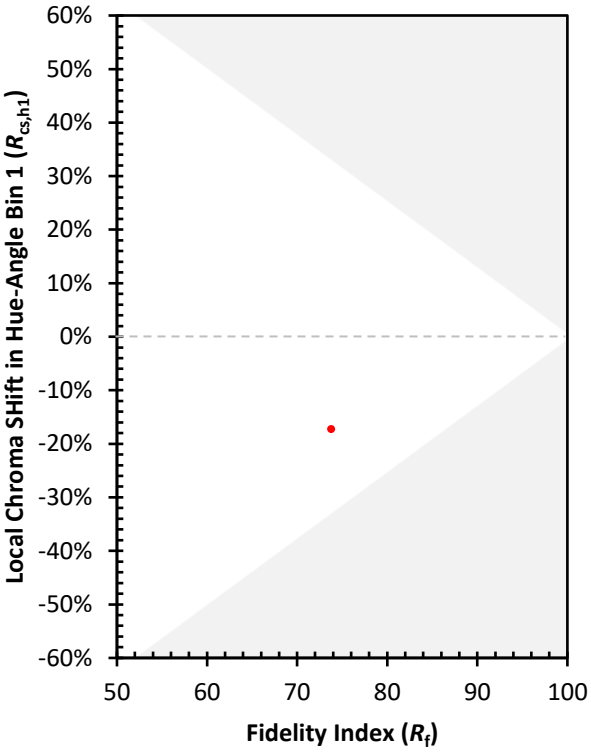



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## Measure Comparisons




(END OF REPORT)