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: STREETWORKS

Report Number: P1456951

Luminaire Tested: GLAN-SB3A-722-U-T4LG

Issue Date: 05/20/2026

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: | P1456951 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/21/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3A-722-U-T4LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 3xLight Square PACKAGE 70CRI 2200K FIXTURE w/ TYPE IV LOW GLARE |
| Light Source: | (78) 2200K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 10883.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 128.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 84.7 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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REPORT NUMBER: P1456951
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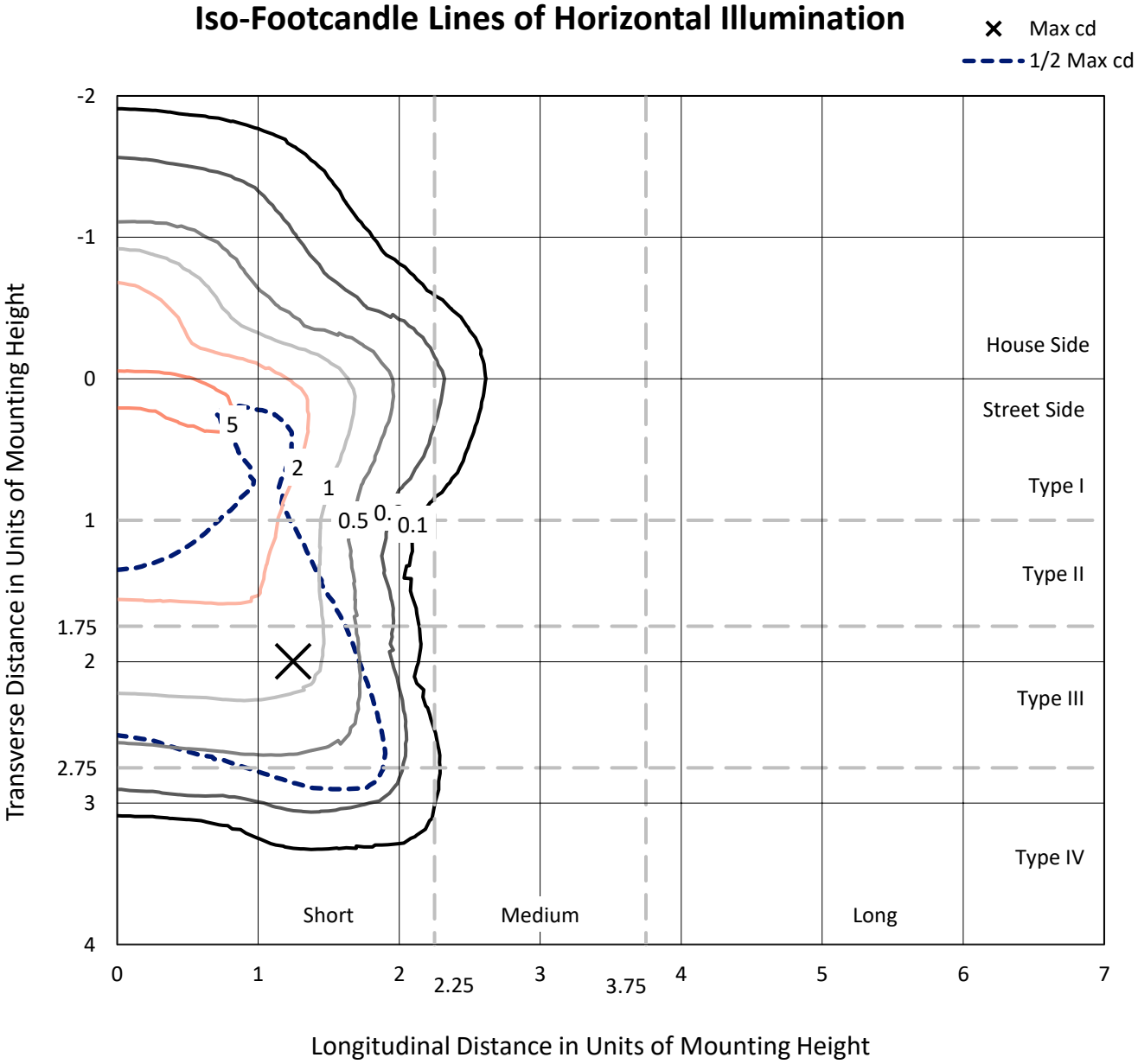
## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 6.7 fc
Type IV - Short - N/A

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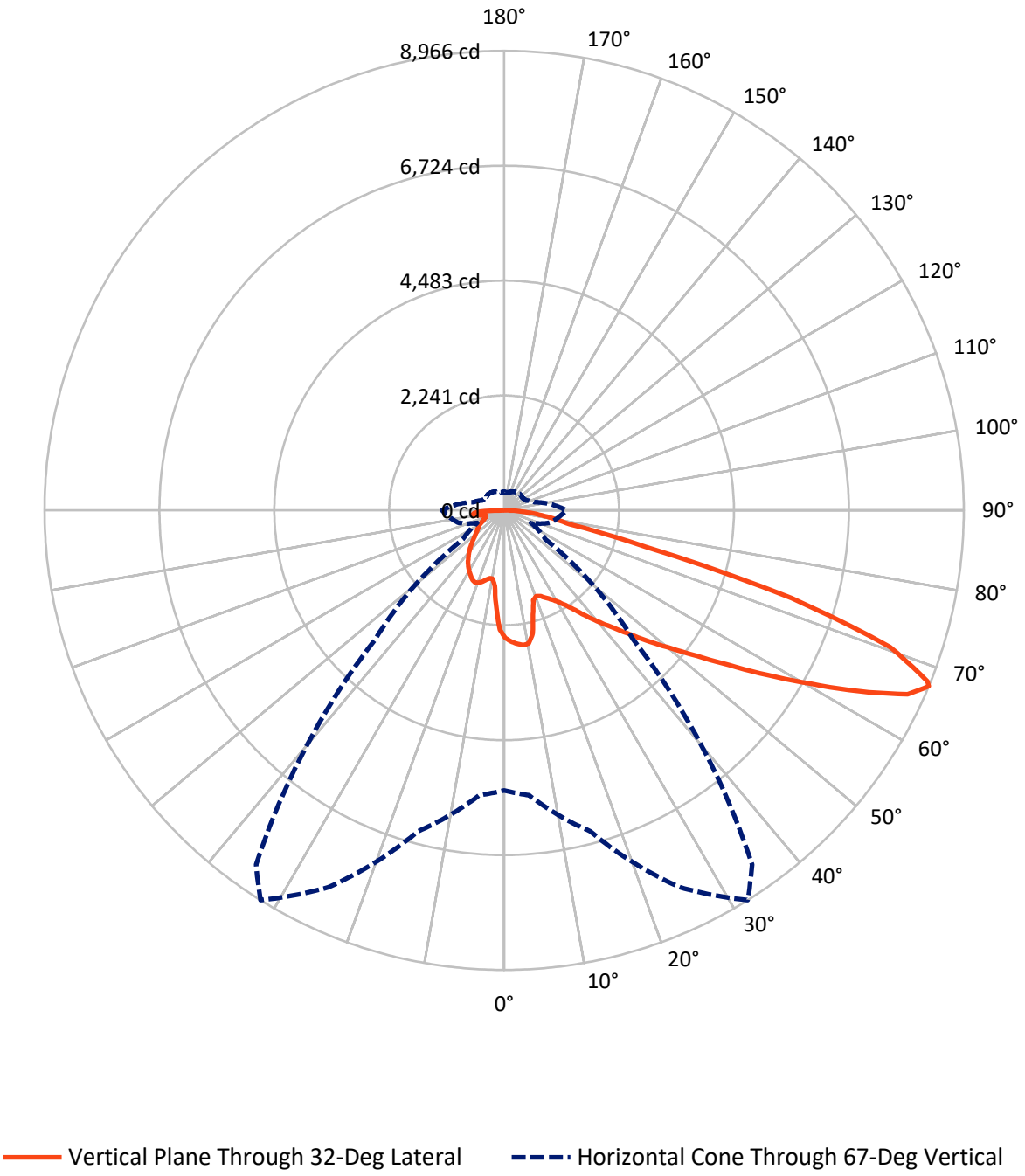
## Luminous Intensity Polar Plot



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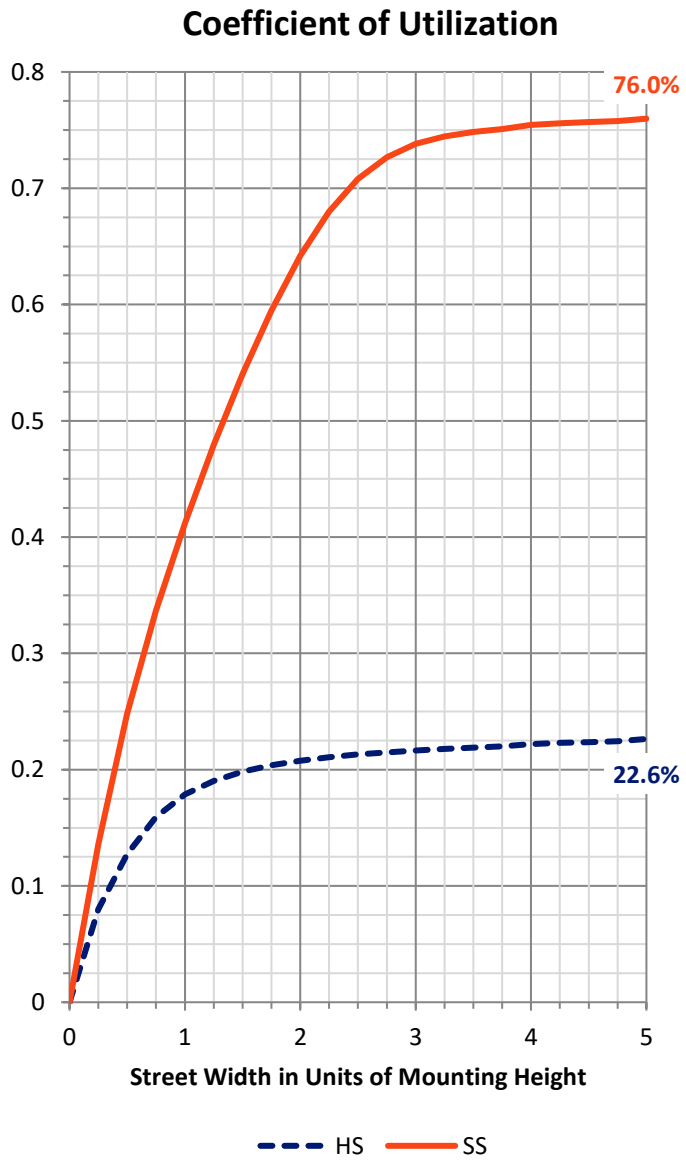
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2576.6 | 0.0 | 2576.6 |
| | % Fixture | 23.7 | 0.0 | 23.7 |
| **Street Side** | Lumens | 8306.9 | 0.0 | 8306.9 |
| | % Fixture | 76.3 | 0.0 | 76.3 |
| **Total** | Lumens | 10883.5 | 0.0 | 10883.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 217.3 | 2.0 |
| 10°-20° | 576.9 | 5.3 |
| 20°-30° | 942.1 | 8.7 |
| 30°-40° | 1388.5 | 12.8 |
| 40°-50° | 1914.8 | 17.6 |
| 50°-60° | 2419.0 | 22.2 |
| 60°-70° | 2341.2 | 21.5 |
| 70°-80° | 835.6 | 7.7 |
| 80°-90° | 248.1 | 2.3 |
| 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° | 10883.5 | 100.0 |
| 0°-180° | 10883.5 | 100.0 |



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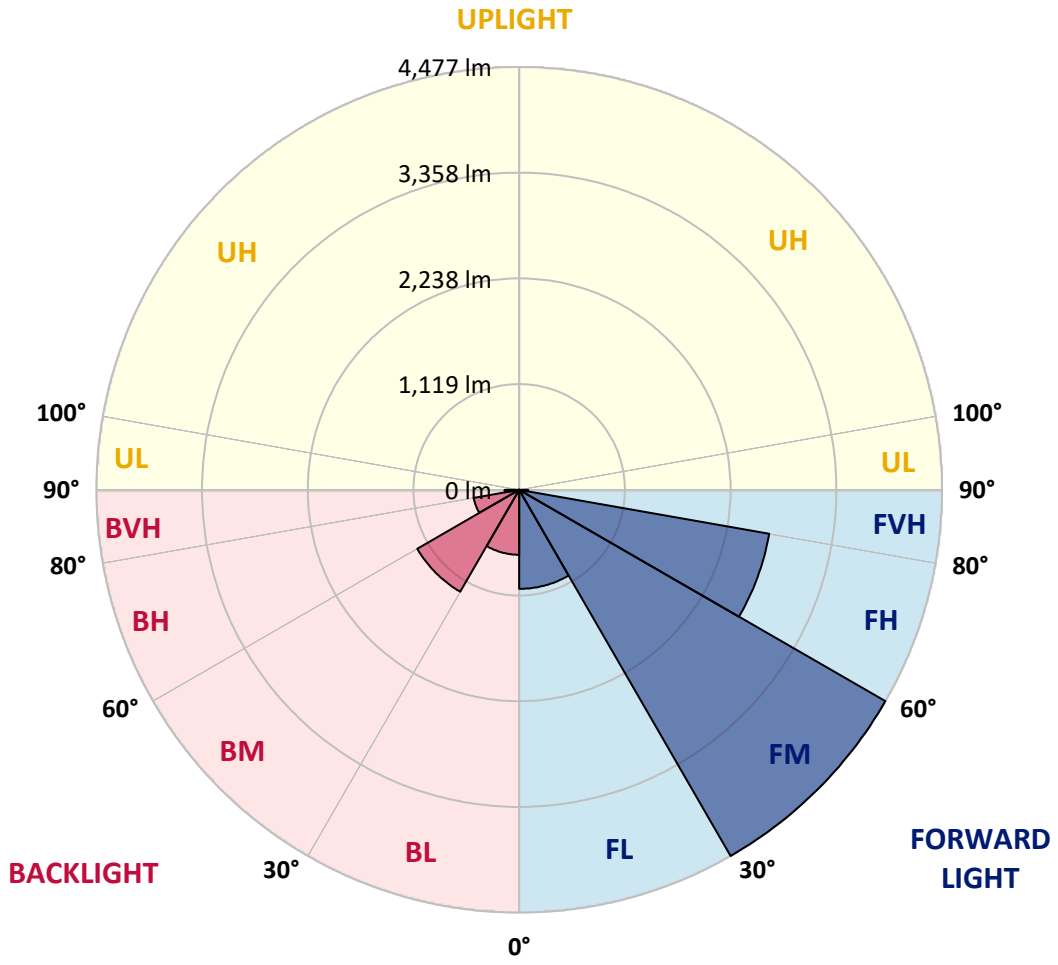
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1048.6 | 9.6 | | | |
| FM | (30°-60°) | 4476.7 | 41.1 | | | |
| FH | (60°-80°) | 2688.0 | 24.7 | | | G2/5000 |
| FVH | (80°-90°) | 93.5 | 0.9 | | | G1/100 |
| BL | (0°-30°) | 687.6 | 6.3 | B2/1000 | | |
| BM | (30°-60°) | 1245.7 | 11.4 | B2/2500 | | |
| BH | (60°-80°) | 488.7 | 4.5 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 154.6 | 1.4 | | | G2/225 |
| 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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CATALOG NUMBER: GLAN-SB3A-722-U-T4LG

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 |
| 2.5° | 2580.9 | 2573.7 | 2566.4 | 2571.2 | 2561.6 | 2559.2 | 2547.1 | 2542.2 | 2527.7 | 2525.3 | 2498.7 |
| 5° | 2634.1 | 2619.6 | 2617.2 | 2622.0 | 2612.3 | 2612.3 | 2602.7 | 2595.4 | 2573.7 | 2561.6 | 2522.9 |
| 7.5° | 2634.1 | 2631.7 | 2636.5 | 2653.4 | 2655.8 | 2655.8 | 2655.8 | 2658.2 | 2636.5 | 2619.6 | 2559.2 |
| 10° | 2484.2 | 2460.1 | 2513.2 | 2597.8 | 2638.9 | 2663.1 | 2706.6 | 2733.2 | 2716.2 | 2704.2 | 2622.0 |
| 12.5° | 2037.2 | 2039.6 | 2124.2 | 2305.4 | 2469.7 | 2539.8 | 2721.1 | 2817.7 | 2825.0 | 2805.7 | 2701.7 |
| 15° | 1727.9 | 1739.9 | 1783.4 | 1913.9 | 2102.4 | 2206.3 | 2636.5 | 2892.6 | 2950.6 | 2931.3 | 2798.4 |
| 17.5° | 1633.6 | 1640.9 | 1660.2 | 1735.1 | 1841.4 | 1926.0 | 2406.9 | 2941.0 | 3102.9 | 3078.7 | 2907.1 |
| 20° | 1619.1 | 1623.9 | 1648.1 | 1710.9 | 1783.4 | 1831.8 | 2172.5 | 2902.3 | 3245.5 | 3235.8 | 3006.2 |
| 22.5° | 1621.5 | 1626.4 | 1657.8 | 1744.8 | 1819.7 | 1860.8 | 2097.6 | 2812.9 | 3395.3 | 3405.0 | 3107.7 |
| 25° | 1626.4 | 1628.8 | 1677.1 | 1793.1 | 1887.4 | 1938.1 | 2145.9 | 2733.2 | 3521.0 | 3603.1 | 3218.9 |
| 27.5° | 1652.9 | 1660.2 | 1725.4 | 1855.9 | 1967.1 | 2025.1 | 2259.5 | 2759.7 | 3658.7 | 3827.9 | 3351.8 |
| 30° | 1725.4 | 1730.3 | 1810.0 | 1945.3 | 2066.2 | 2126.6 | 2394.8 | 2866.1 | 3827.9 | 4059.9 | 3482.3 |
| 32.5° | 1839.0 | 1843.9 | 1935.7 | 2075.8 | 2206.3 | 2278.8 | 2571.2 | 3069.1 | 4016.4 | 4303.9 | 3612.8 |
| 35° | 1996.1 | 1998.5 | 2102.4 | 2252.3 | 2390.0 | 2472.2 | 2776.7 | 3298.6 | 4212.1 | 4511.8 | 3709.5 |
| 37.5° | 2182.2 | 2199.1 | 2305.4 | 2462.5 | 2624.4 | 2699.3 | 3018.3 | 3566.9 | 4386.1 | 4688.2 | 3765.0 |
| 40° | 2438.3 | 2443.2 | 2547.1 | 2699.3 | 2870.9 | 2943.4 | 3260.0 | 3820.6 | 4577.0 | 4792.1 | 3815.8 |
| 42.5° | 2701.7 | 2742.8 | 2829.8 | 2999.0 | 3127.1 | 3185.1 | 3535.5 | 4052.6 | 4729.3 | 4796.9 | 3794.0 |
| 45° | 3054.6 | 3086.0 | 3173.0 | 3322.8 | 3450.9 | 3518.5 | 3832.7 | 4265.3 | 4806.6 | 4755.8 | 3745.7 |
| 47.5° | 3458.1 | 3477.5 | 3547.5 | 3682.9 | 3825.4 | 3873.8 | 4142.0 | 4386.1 | 4835.6 | 4726.8 | 3724.0 |
| 50° | 3934.2 | 3934.2 | 3984.9 | 4100.9 | 4231.4 | 4299.1 | 4427.2 | 4458.6 | 4920.2 | 4676.1 | 3779.5 |
| 52.5° | 4335.3 | 4354.7 | 4422.3 | 4586.7 | 4717.2 | 4794.5 | 4649.5 | 4569.8 | 4748.6 | 4393.3 | 3796.4 |
| 55° | 4719.6 | 4741.3 | 4893.6 | 5099.0 | 5321.3 | 5405.9 | 4927.4 | 4514.2 | 4171.0 | 3980.1 | 3680.5 |
| 57.5° | 5086.9 | 5132.8 | 5323.7 | 5724.9 | 6060.8 | 6053.5 | 5280.2 | 4016.4 | 3405.0 | 3523.4 | 3426.7 |
| 60° | 5599.2 | 5647.6 | 5952.0 | 6457.1 | 6867.9 | 6696.3 | 5285.1 | 3342.1 | 2653.4 | 2812.9 | 2950.6 |
| 62.5° | 6027.0 | 6109.1 | 6556.2 | 7397.2 | 7774.1 | 7505.9 | 4847.7 | 2559.2 | 1761.7 | 1962.3 | 2281.3 |
| 65° | 5988.3 | 6097.0 | 6790.6 | 8088.3 | 8651.4 | 8402.5 | 4207.3 | 1619.1 | 908.6 | 1341.2 | 1597.4 |
| 67° | 5461.5 | 5579.9 | 6478.9 | 8112.5 | 8965.5 | 8433.9 | 3552.4 | 978.7 | 577.6 | 930.4 | 1109.2 |
| 67.5° | 5159.4 | 5333.4 | 6324.2 | 8066.5 | 8907.5 | 8301.0 | 3257.6 | 819.2 | 543.7 | 865.1 | 1010.1 |
| 70° | 3173.0 | 3453.3 | 4746.2 | 7131.3 | 7984.4 | 6947.7 | 1810.0 | 464.0 | 442.2 | 580.0 | 698.4 |
| 72.5° | 954.5 | 1039.1 | 1831.8 | 4574.6 | 5860.2 | 5149.7 | 814.4 | 357.7 | 396.3 | 466.4 | 538.9 |
| 75° | 464.0 | 495.4 | 756.4 | 1870.4 | 2854.0 | 2839.5 | 454.3 | 306.9 | 367.3 | 391.5 | 425.3 |
| 77.5° | 297.2 | 316.6 | 471.2 | 1046.4 | 1307.4 | 1164.8 | 328.7 | 268.2 | 326.2 | 321.4 | 316.6 |
| 80° | 186.1 | 195.7 | 302.1 | 606.6 | 964.2 | 804.7 | 241.7 | 219.9 | 280.3 | 248.9 | 224.7 |
| 82.5° | 120.8 | 132.9 | 193.3 | 369.7 | 688.7 | 599.3 | 159.5 | 157.1 | 232.0 | 198.2 | 174.0 |
| 85° | 79.7 | 89.4 | 123.2 | 217.5 | 408.4 | 427.7 | 103.9 | 108.7 | 178.8 | 149.8 | 132.9 |
| 87.5° | 29.0 | 36.2 | 62.8 | 96.7 | 190.9 | 236.8 | 43.5 | 41.1 | 87.0 | 70.1 | 55.6 |
| 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: P1456951
CATALOG NUMBER: GLAN-SB3A-722-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 | 2486.7 |
| 2.5° | 2493.9 | 2486.7 | 2452.8 | 2423.8 | 2402.1 | 2373.1 | 2341.7 | 2305.4 | 2281.3 | 2286.1 | 2278.8 |
| 5° | 2506.0 | 2486.7 | 2421.4 | 2322.3 | 2225.7 | 2104.8 | 1950.2 | 1858.4 | 1788.3 | 1752.0 | 1761.7 |
| 7.5° | 2532.6 | 2498.7 | 2361.0 | 2160.4 | 1909.1 | 1662.6 | 1510.4 | 1423.4 | 1382.3 | 1365.4 | 1363.0 |
| 10° | 2578.5 | 2520.5 | 2283.7 | 1909.1 | 1580.4 | 1413.7 | 1358.1 | 1334.0 | 1329.1 | 1329.1 | 1326.7 |
| 12.5° | 2634.1 | 2542.2 | 2153.2 | 1665.0 | 1423.4 | 1363.0 | 1353.3 | 1355.7 | 1363.0 | 1370.2 | 1358.1 |
| 15° | 2701.7 | 2551.9 | 1991.3 | 1517.6 | 1392.0 | 1377.5 | 1392.0 | 1408.9 | 1421.0 | 1430.6 | 1418.5 |
| 17.5° | 2769.4 | 2542.2 | 1839.0 | 1447.5 | 1396.8 | 1416.1 | 1445.1 | 1471.7 | 1478.9 | 1493.4 | 1483.8 |
| 20° | 2817.7 | 2508.4 | 1708.5 | 1421.0 | 1408.9 | 1452.4 | 1488.6 | 1517.6 | 1532.1 | 1541.8 | 1532.1 |
| 22.5° | 2854.0 | 2464.9 | 1614.3 | 1394.4 | 1408.9 | 1462.0 | 1505.5 | 1539.4 | 1556.3 | 1565.9 | 1553.9 |
| 25° | 2885.4 | 2404.5 | 1541.8 | 1355.7 | 1379.9 | 1430.6 | 1478.9 | 1512.8 | 1536.9 | 1551.4 | 1544.2 |
| 27.5° | 2924.1 | 2356.2 | 1474.1 | 1297.7 | 1319.5 | 1367.8 | 1418.5 | 1459.6 | 1505.5 | 1529.7 | 1524.9 |
| 30° | 2967.6 | 2332.0 | 1408.9 | 1234.9 | 1249.4 | 1297.7 | 1358.1 | 1413.7 | 1476.5 | 1507.9 | 1507.9 |
| 32.5° | 3018.3 | 2315.1 | 1348.5 | 1174.5 | 1186.5 | 1239.7 | 1297.7 | 1348.5 | 1416.1 | 1466.9 | 1464.4 |
| 35° | 3040.1 | 2295.8 | 1300.1 | 1118.9 | 1143.0 | 1186.5 | 1232.5 | 1266.3 | 1336.4 | 1396.8 | 1401.6 |
| 37.5° | 3061.8 | 2288.5 | 1276.0 | 1075.4 | 1094.7 | 1128.5 | 1152.7 | 1169.6 | 1234.9 | 1297.7 | 1300.1 |
| 40° | 3088.4 | 2322.3 | 1292.9 | 1046.4 | 1029.5 | 1063.3 | 1075.4 | 1085.0 | 1118.9 | 1160.0 | 1160.0 |
| 42.5° | 3071.5 | 2346.5 | 1331.5 | 1019.8 | 949.7 | 988.4 | 993.2 | 990.8 | 993.2 | 995.6 | 993.2 |
| 45° | 3028.0 | 2322.3 | 1331.5 | 978.7 | 865.1 | 906.2 | 903.8 | 891.7 | 872.4 | 821.6 | 814.4 |
| 47.5° | 3018.3 | 2307.8 | 1280.8 | 911.1 | 780.6 | 814.4 | 819.2 | 795.1 | 739.5 | 686.3 | 669.4 |
| 50° | 3059.4 | 2334.4 | 1201.0 | 828.9 | 708.1 | 737.1 | 749.1 | 708.1 | 645.2 | 589.6 | 580.0 |
| 52.5° | 3119.8 | 2368.3 | 1085.0 | 739.5 | 647.6 | 676.6 | 691.1 | 645.2 | 580.0 | 536.5 | 531.6 |
| 55° | 3112.6 | 2368.3 | 954.5 | 657.3 | 601.7 | 623.5 | 647.6 | 599.3 | 548.6 | 524.4 | 522.0 |
| 57.5° | 2955.5 | 2278.8 | 857.9 | 599.3 | 558.2 | 577.6 | 609.0 | 563.1 | 514.7 | 519.6 | 526.8 |
| 60° | 2648.6 | 2046.8 | 785.4 | 560.6 | 519.6 | 538.9 | 572.7 | 519.6 | 456.7 | 439.8 | 439.8 |
| 62.5° | 2182.2 | 1686.8 | 727.4 | 522.0 | 483.3 | 507.5 | 524.4 | 454.3 | 413.2 | 393.9 | 393.9 |
| 65° | 1636.0 | 1305.0 | 667.0 | 490.6 | 451.9 | 478.5 | 459.2 | 425.3 | 384.2 | 369.7 | 372.2 |
| 67° | *1213.1* | *1012.5* | *616.2* | *464.0* | *432.6* | *444.7* | *430.2* | *406.0* | *364.9* | *352.8* | *364.9* |
| 67.5° | 1089.9 | 961.8 | 604.1 | 456.7 | 427.7 | 437.4 | 422.9 | 403.6 | 360.1 | 348.0 | 360.1 |
| 70° | 749.1 | 739.5 | 538.9 | 422.9 | 401.2 | 391.5 | 398.7 | 374.6 | 338.3 | 333.5 | 345.6 |
| 72.5° | 570.3 | 589.6 | 483.3 | 393.9 | 372.2 | 360.1 | 377.0 | 352.8 | 316.6 | 323.8 | 335.9 |
| 75° | 447.1 | 476.1 | 432.6 | 352.8 | 338.3 | 340.7 | 374.6 | 364.9 | 335.9 | 343.2 | 345.6 |
| 77.5° | 331.1 | 384.2 | 369.7 | 306.9 | 294.8 | 328.7 | 422.9 | 451.9 | 401.2 | 389.1 | 372.2 |
| 80° | 241.7 | 275.5 | 311.7 | 253.7 | 246.5 | 316.6 | 522.0 | 577.6 | 495.4 | 447.1 | 435.0 |
| 82.5° | 178.8 | 193.3 | 256.2 | 203.0 | 178.8 | 282.7 | 580.0 | 679.1 | 589.6 | 497.8 | 483.3 |
| 85° | 128.1 | 149.8 | 203.0 | 149.8 | 118.4 | 232.0 | 567.9 | 664.6 | 584.8 | 471.2 | 459.2 |
| 87.5° | 45.9 | 65.2 | 87.0 | 67.7 | 60.4 | 159.5 | 468.8 | 478.5 | 364.9 | 166.7 | 169.2 |
| 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: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

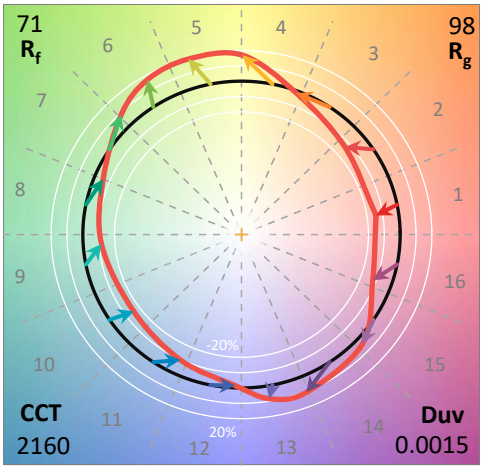
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-2 |
| 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-722-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2200K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2160 |
| CIE u': | 0.2927 |
| CIE v': | 0.5388 |
| Duv: | 0.0015 |
| CIE x: | 0.5130 |
| CIE y: | 0.4197 |
| CIE z: | 0.0674 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 587 |
| Purity: | 79.96089 |
| Rf: | 70.6 |
| Rg: | 97.6 |

| | |
|---|---|
| CRI (Ra): | 71.9 |
| R1: | 68.7 |
| R2: | 82.6 |
| R3: | 95.5 |
| R4: | 66.4 |
| R5: | 65.4 |
| R6: | 75.9 |
| R7: | 77.2 |
| R8: | 43.5 |
| R9: | -17.8 |
| R10: | 60.5 |
| R11: | 60.2 |
| R12: | 48.2 |
| R13: | 70.7 |
| R14: | 96.8 |
| R15: | 61.8 |




## Test Conditions

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

REPORT NUMBER: SP1-2407-184-2

| 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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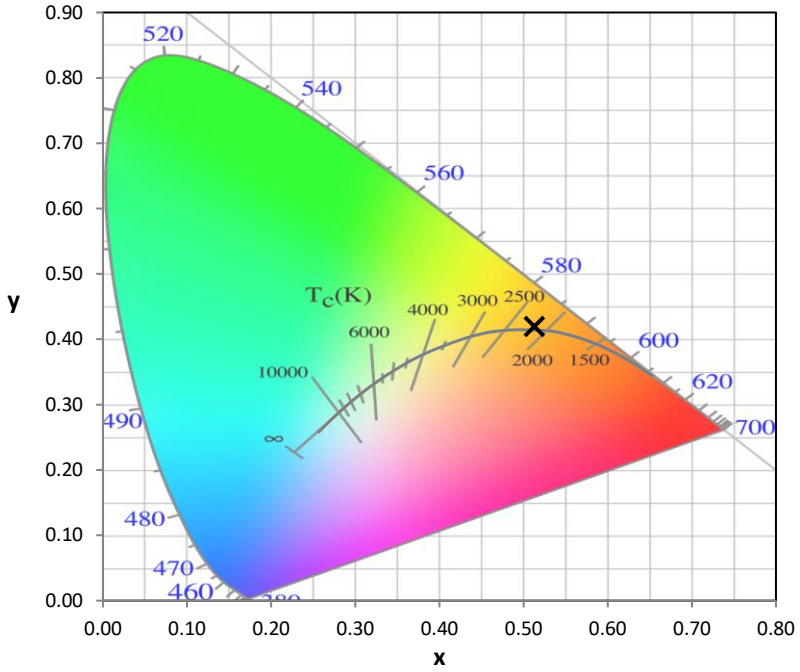
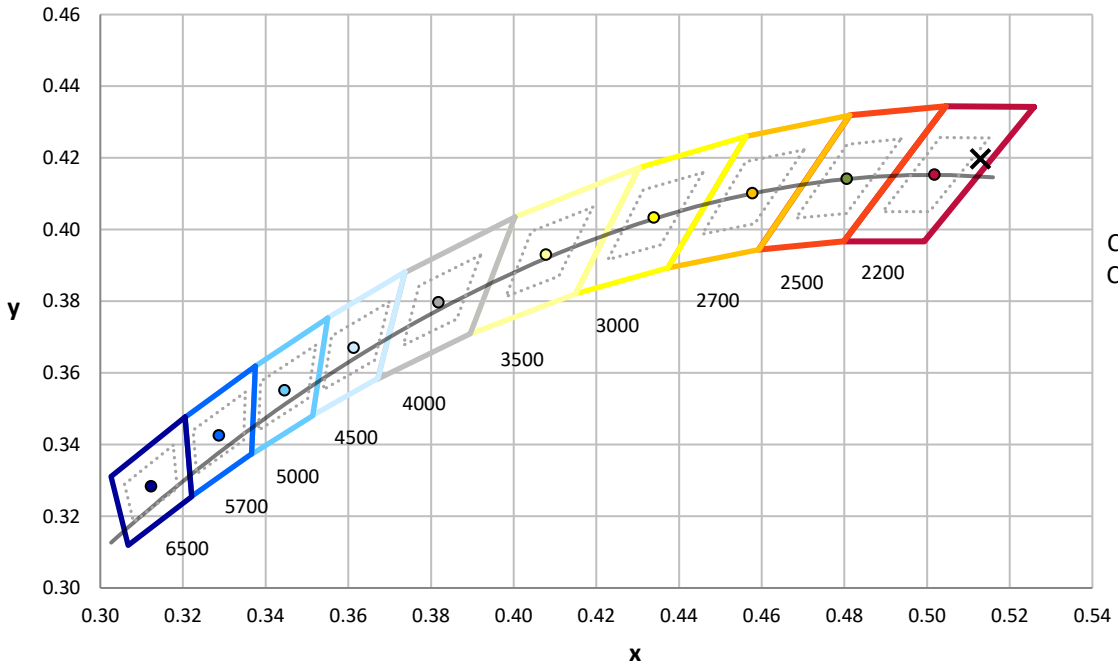
## CIE 1931 Chromaticity Diagram




## CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles




CCT = 2160K
CIE x = 0.5130
CIE y = 0.4197
Duv = 0.0015

Point lies inside the ANSI 2200K 7-step quadrangle

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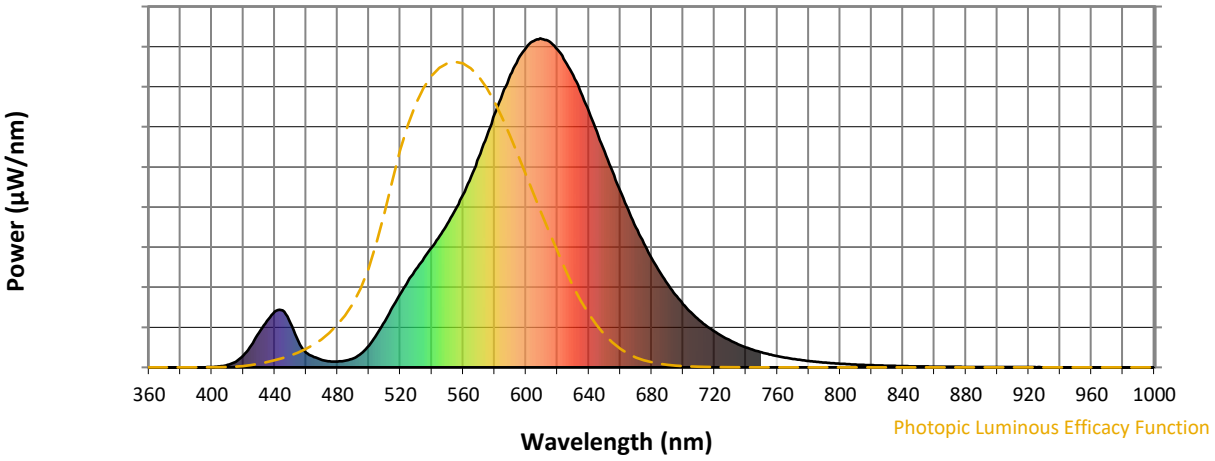
## Photopic Flux vs. Wavelength




## 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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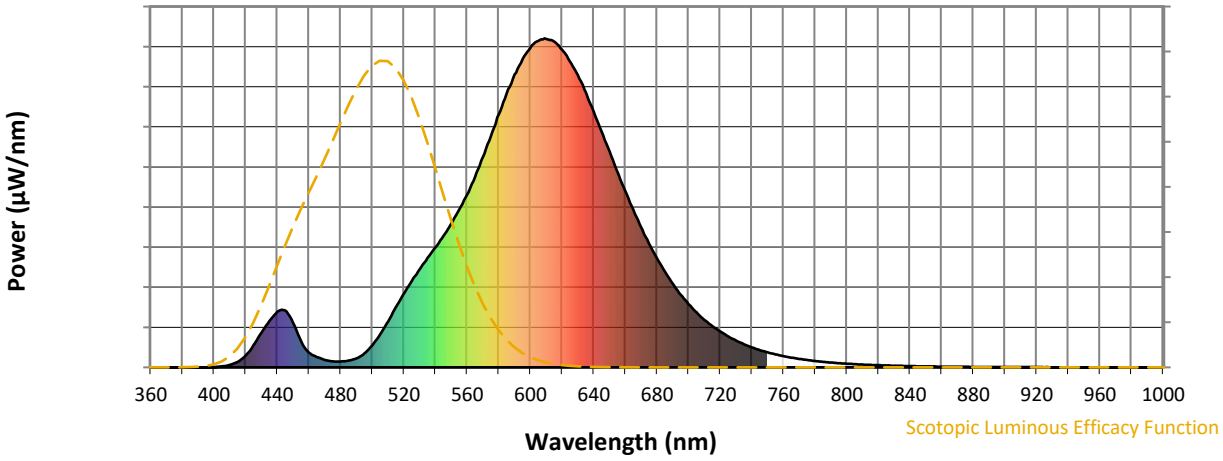
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 0.8**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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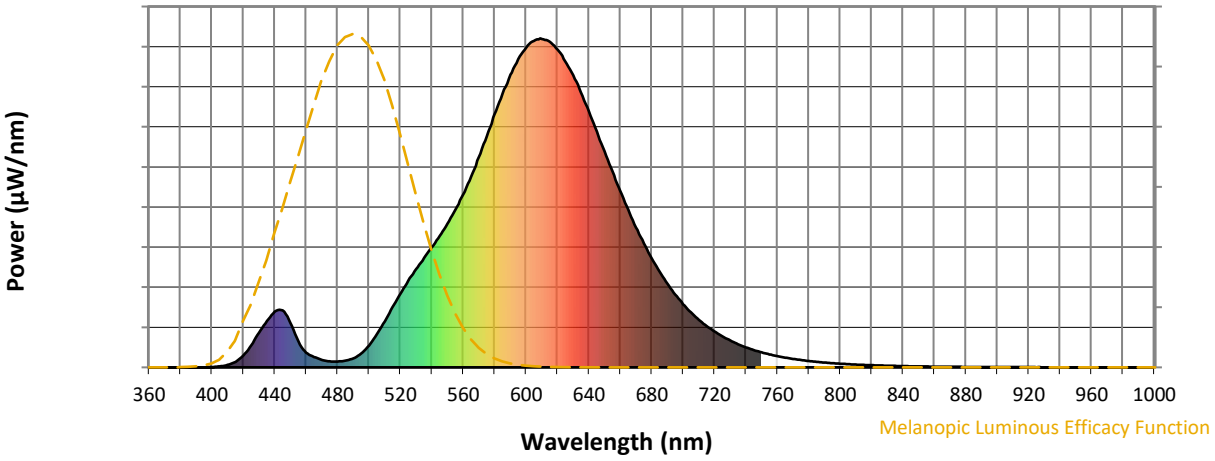
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.21**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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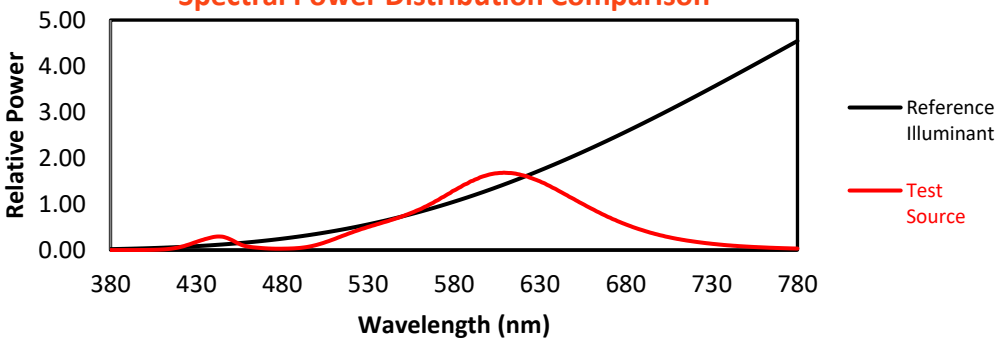
# TM-30-18

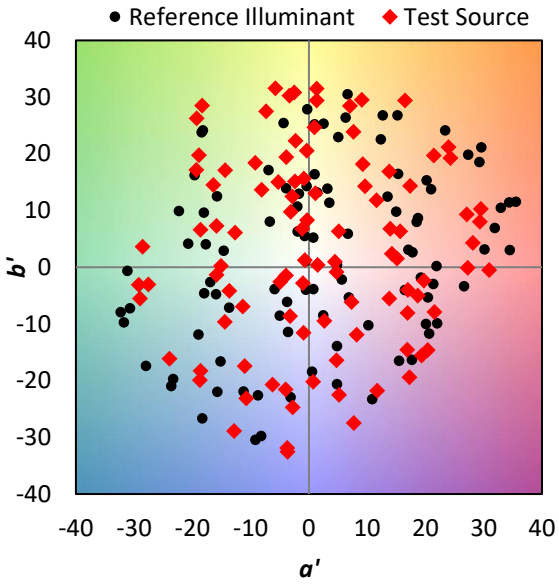
## Summary

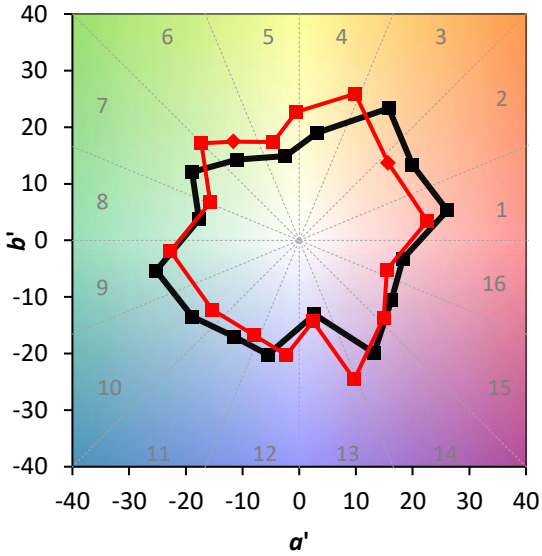
$R_f$ = 70.6
$R_g$ = 97.6
CIE $R_a$ = 71.9
$R_9$ = -17.8

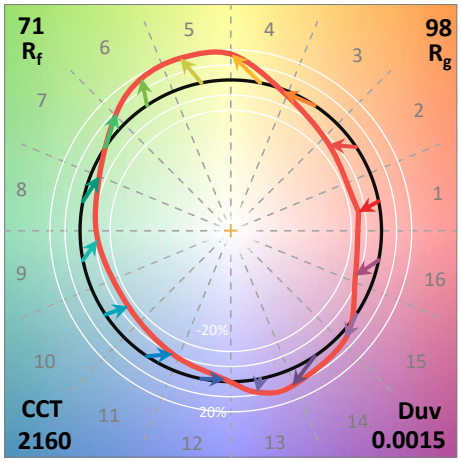
## Spectral Power Distribution Comparison

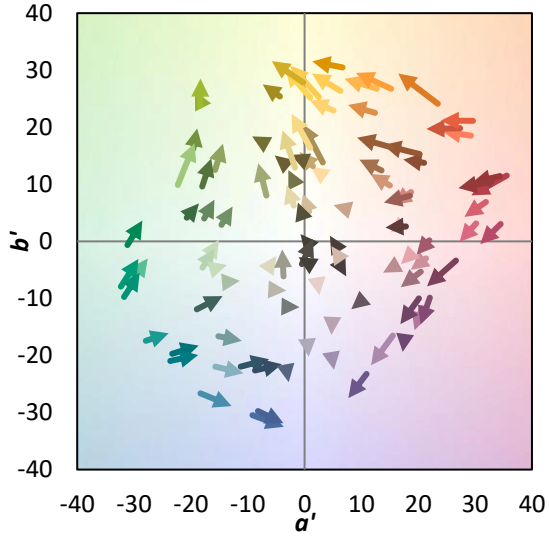



## Color Vector Graphics



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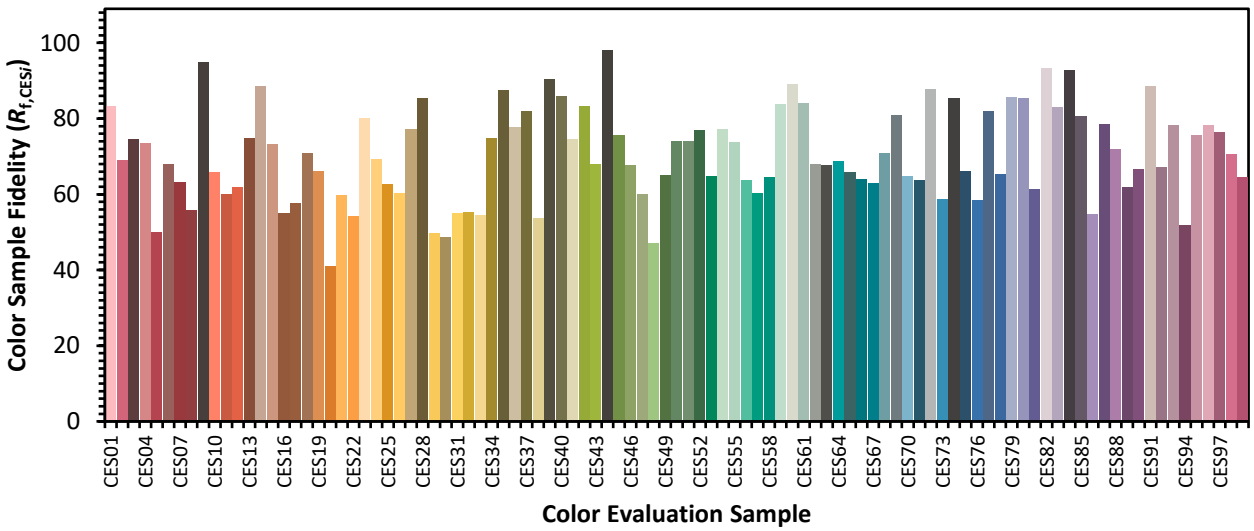
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |



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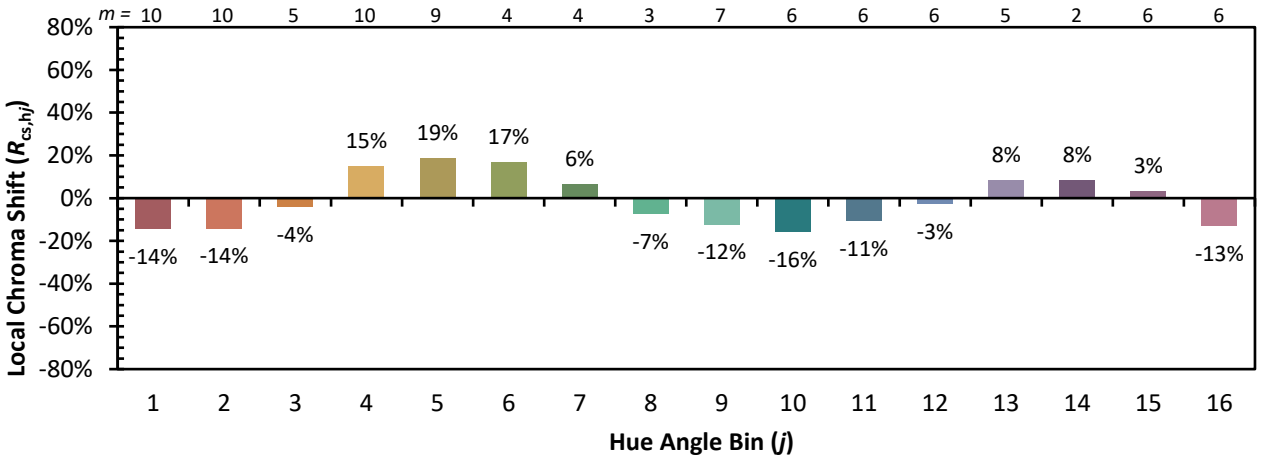
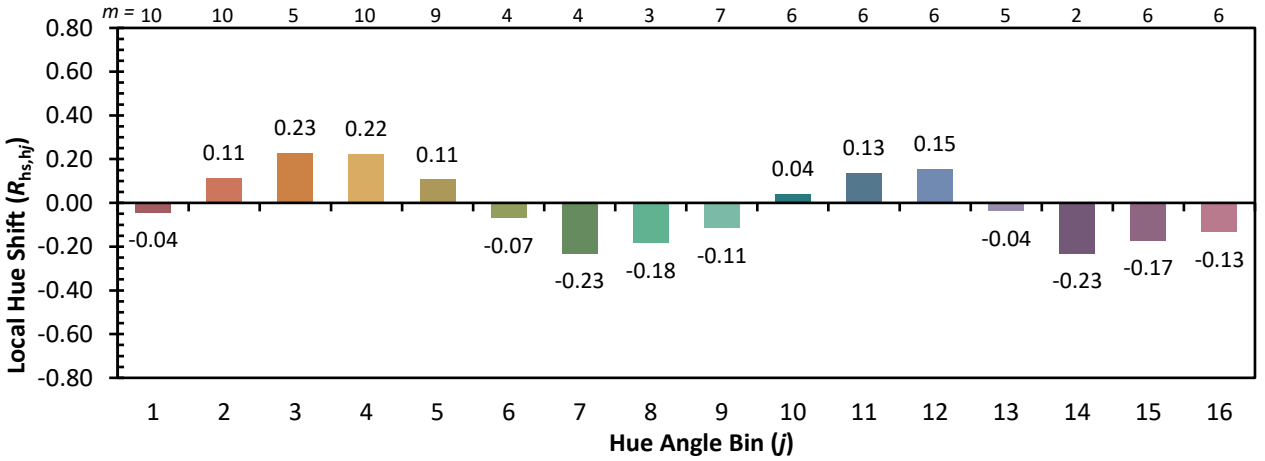
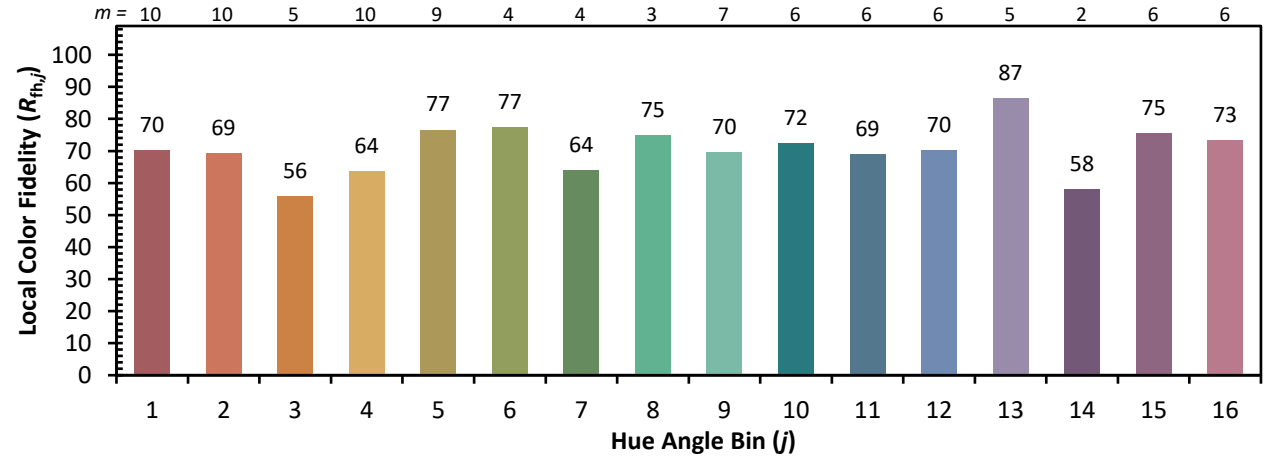
## Color Rendition by Hue-Angle Bin



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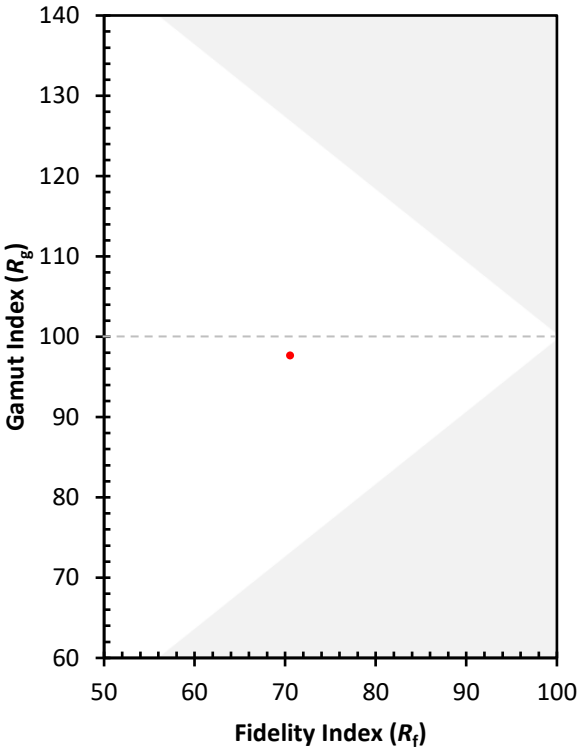
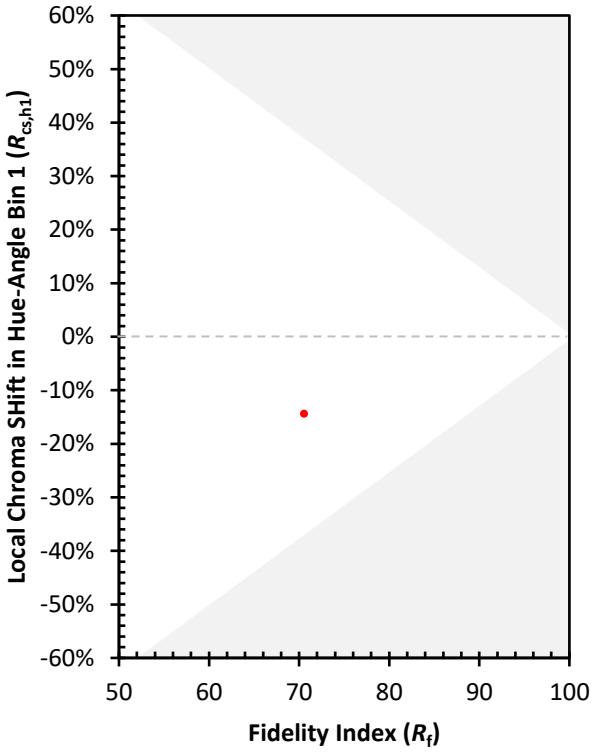
## Measure Comparisons




(END OF REPORT)