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: P1457385

Luminaire Tested: GLAN-SB3C-930-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: | P1457385 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3C-930-U-T4LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 615mA 3xLight Square PACKAGE 90CRI 3000K FIXTURE w/ TYPE IV LOW GLARE |
| Light Source: | (78) 3000K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 15308.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 102.7 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): | 149.1 |
| 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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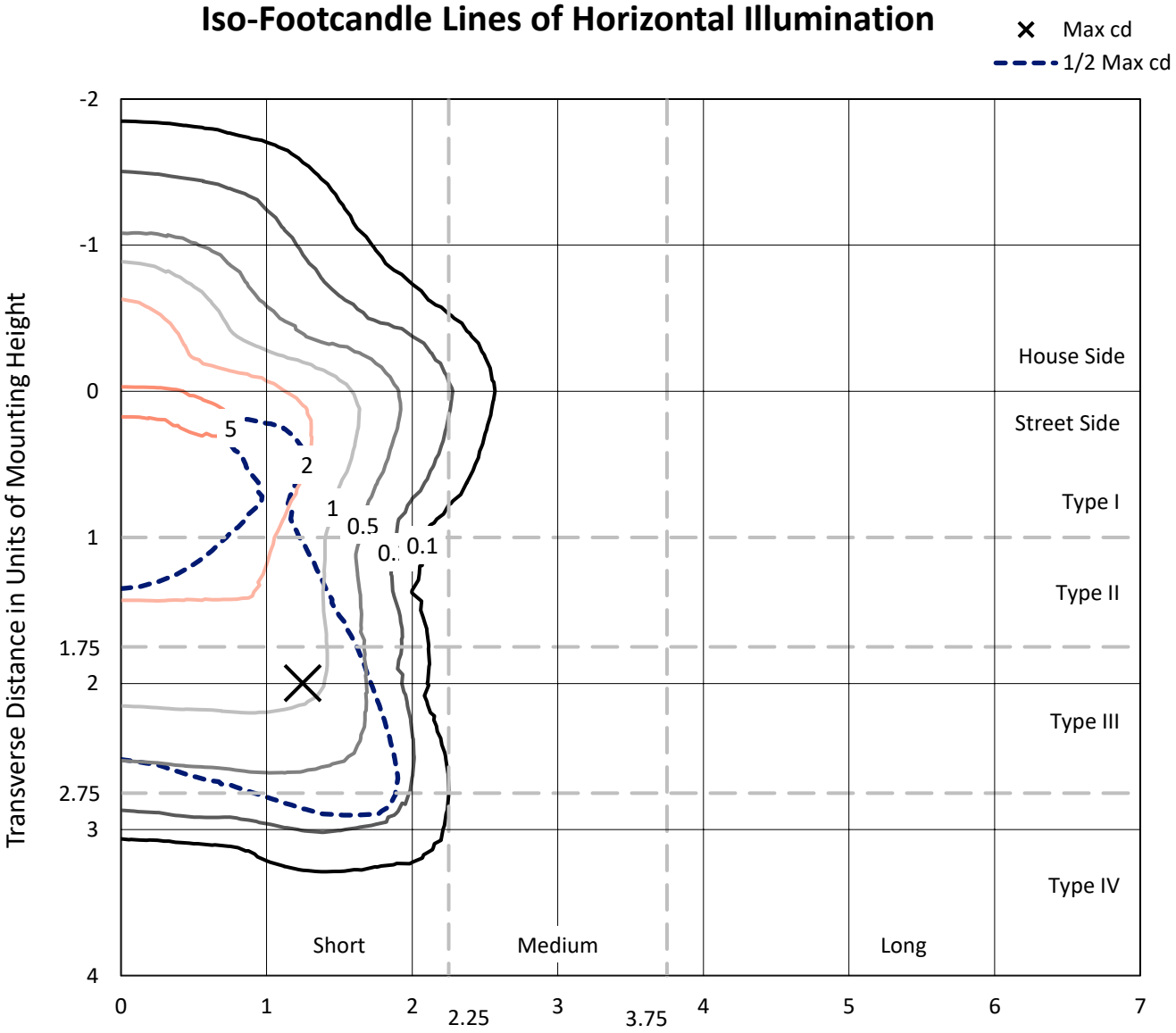
Scaled Data Report

REPORT NUMBER: P1457385
CATALOG NUMBER: GLAN-SB3C-930-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 6 fc
Type IV - Short - N/A

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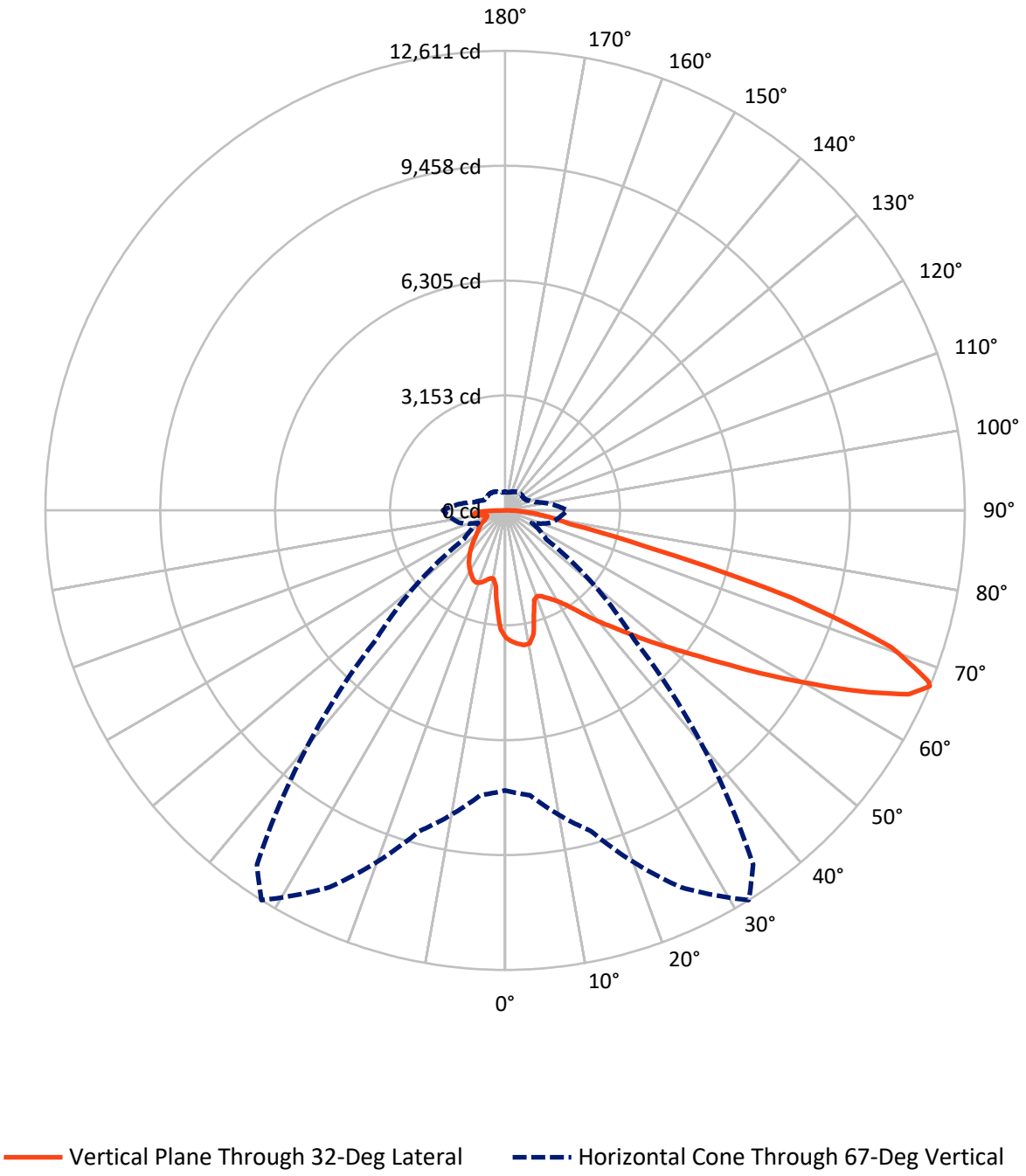
## Luminous Intensity Polar Plot



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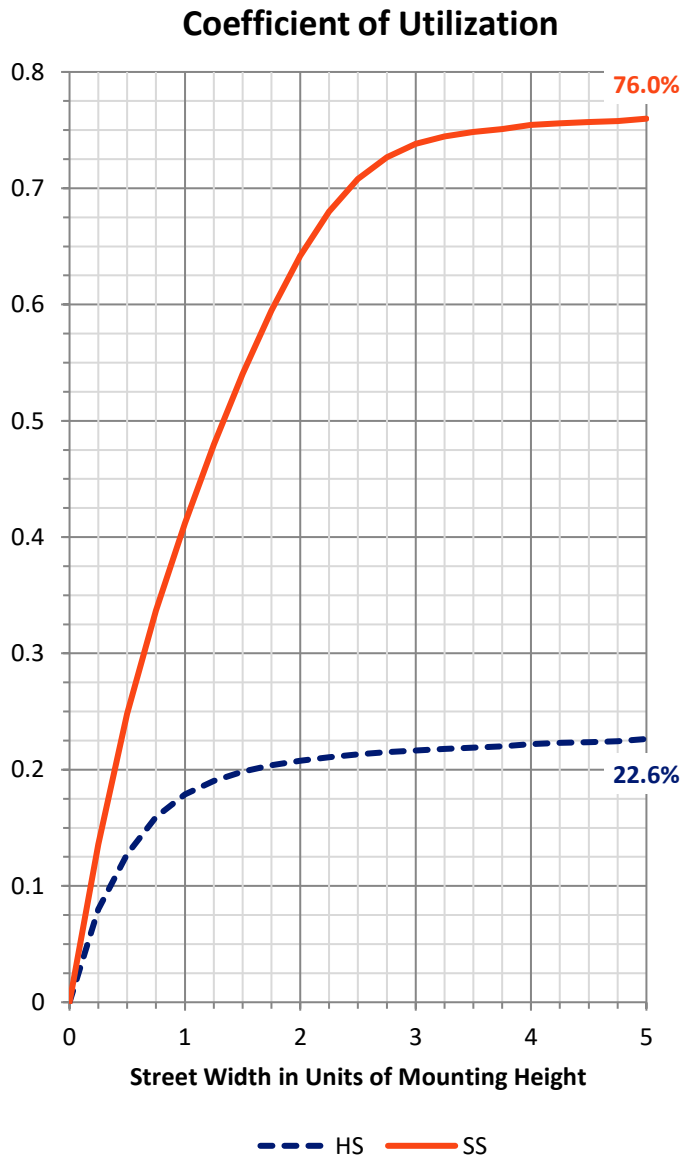
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3624.2 | 0.0 | 3624.2 |
| | % Fixture | 23.7 | 0.0 | 23.7 |
| **Street Side** | Lumens | 11684.3 | 0.0 | 11684.3 |
| | % Fixture | 76.3 | 0.0 | 76.3 |
| **Total** | Lumens | 15308.5 | 0.0 | 15308.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 305.6 | 2.0 |
| 10°-20° | 811.4 | 5.3 |
| 20°-30° | 1325.1 | 8.7 |
| 30°-40° | 1953.1 | 12.8 |
| 40°-50° | 2693.4 | 17.6 |
| 50°-60° | 3402.6 | 22.2 |
| 60°-70° | 3293.1 | 21.5 |
| 70°-80° | 1175.3 | 7.7 |
| 80°-90° | 349.0 | 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° | 15308.5 | 100.0 |
| 0°-180° | 15308.5 | 100.0 |



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REPORT NUMBER: P1457385
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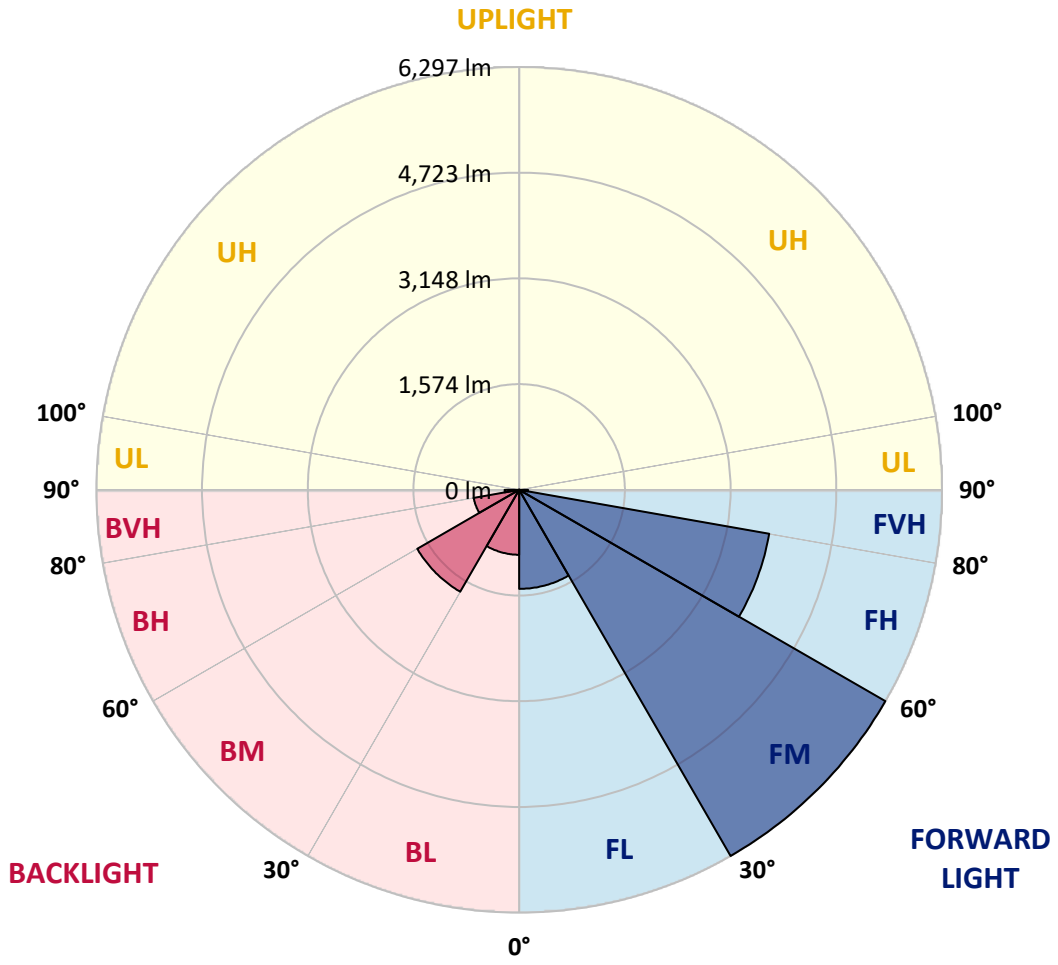
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1475.0 | 9.6 | | | |
| FM | (30°-60°) | 6296.9 | 41.1 | | | |
| FH | (60°-80°) | 3780.9 | 24.7 | | | G2/5000 |
| FVH | (80°-90°) | 131.5 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 967.1 | 6.3 | B2/1000 | | |
| BM | (30°-60°) | 1752.2 | 11.4 | B2/2500 | | |
| BH | (60°-80°) | 687.5 | 4.5 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 217.5 | 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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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 |
| 2.5° | 3630.3 | 3620.1 | 3609.9 | 3616.7 | 3603.1 | 3599.7 | 3582.7 | 3575.9 | 3555.5 | 3552.1 | 3514.7 |
| 5° | 3705.0 | 3684.6 | 3681.2 | 3688.0 | 3674.4 | 3674.4 | 3660.8 | 3650.7 | 3620.1 | 3603.1 | 3548.7 |
| 7.5° | 3705.0 | 3701.6 | 3708.4 | 3732.2 | 3735.6 | 3735.6 | 3735.6 | 3739.0 | 3708.4 | 3684.6 | 3599.7 |
| 10° | 3494.3 | 3460.3 | 3535.1 | 3654.1 | 3711.8 | 3745.8 | 3807.0 | 3844.4 | 3820.6 | 3803.6 | 3688.0 |
| 12.5° | 2865.5 | 2868.9 | 2987.8 | 3242.8 | 3473.9 | 3572.5 | 3827.4 | 3963.4 | 3973.6 | 3946.4 | 3800.2 |
| 15° | 2430.4 | 2447.4 | 2508.5 | 2692.1 | 2957.2 | 3103.4 | 3708.4 | 4068.7 | 4150.3 | 4123.1 | 3936.2 |
| 17.5° | 2297.8 | 2308.0 | 2335.2 | 2440.6 | 2590.1 | 2709.1 | 3385.5 | 4136.7 | 4364.5 | 4330.5 | 4089.1 |
| 20° | 2277.4 | 2284.2 | 2318.2 | 2406.6 | 2508.5 | 2576.5 | 3055.8 | 4082.3 | 4565.0 | 4551.4 | 4228.5 |
| 22.5° | 2280.8 | 2287.6 | 2331.8 | 2454.2 | 2559.5 | 2617.3 | 2950.4 | 3956.6 | 4775.8 | 4789.4 | 4371.3 |
| 25° | 2287.6 | 2291.0 | 2359.0 | 2522.1 | 2654.7 | 2726.1 | 3018.4 | 3844.4 | 4952.5 | 5068.1 | 4527.6 |
| 27.5° | 2325.0 | 2335.2 | 2427.0 | 2610.5 | 2766.9 | 2848.5 | 3178.2 | 3881.8 | 5146.3 | 5384.2 | 4714.6 |
| 30° | 2427.0 | 2433.8 | 2545.9 | 2736.3 | 2906.2 | 2991.2 | 3368.5 | 4031.4 | 5384.2 | 5710.5 | 4898.1 |
| 32.5° | 2586.7 | 2593.5 | 2722.7 | 2919.8 | 3103.4 | 3205.4 | 3616.7 | 4316.9 | 5649.3 | 6053.8 | 5081.7 |
| 35° | 2807.7 | 2811.1 | 2957.2 | 3168.0 | 3361.7 | 3477.3 | 3905.6 | 4639.8 | 5924.7 | 6346.2 | 5217.6 |
| 37.5° | 3069.4 | 3093.2 | 3242.8 | 3463.7 | 3691.4 | 3796.8 | 4245.5 | 5017.1 | 6169.4 | 6594.3 | 5295.8 |
| 40° | 3429.7 | 3436.5 | 3582.7 | 3796.8 | 4038.2 | 4140.1 | 4585.4 | 5374.0 | 6437.9 | 6740.5 | 5367.2 |
| 42.5° | 3800.2 | 3858.0 | 3980.4 | 4218.3 | 4398.5 | 4480.0 | 4972.9 | 5700.3 | 6652.1 | 6747.2 | 5336.6 |
| 45° | 4296.5 | 4340.7 | 4463.0 | 4673.8 | 4853.9 | 4949.1 | 5391.0 | 5999.4 | 6760.8 | 6689.5 | 5268.6 |
| 47.5° | 4864.1 | 4891.3 | 4989.9 | 5180.3 | 5380.8 | 5448.8 | 5826.1 | 6169.4 | 6801.6 | 6648.7 | 5238.0 |
| 50° | 5533.8 | 5533.8 | 5605.1 | 5768.3 | 5951.9 | 6047.0 | 6227.2 | 6271.4 | 6920.6 | 6577.3 | 5316.2 |
| 52.5° | 6098.0 | 6125.2 | 6220.4 | 6451.5 | 6635.1 | 6743.8 | 6539.9 | 6427.7 | 6679.3 | 6179.6 | 5340.0 |
| 55° | 6638.5 | 6669.1 | 6883.2 | 7172.1 | 7484.9 | 7603.8 | 6930.8 | 6349.6 | 5866.9 | 5598.3 | 5176.9 |
| 57.5° | 7155.1 | 7219.7 | 7488.3 | 8052.5 | 8525.0 | 8514.8 | 7427.1 | 5649.3 | 4789.4 | 4955.9 | 4819.9 |
| 60° | 7875.8 | 7943.7 | 8372.0 | 9082.4 | 9660.3 | 9419.0 | 7433.9 | 4701.0 | 3732.2 | 3956.6 | 4150.3 |
| 62.5° | 8477.4 | 8593.0 | 9221.8 | 10404.7 | 10935.0 | 10557.7 | 6818.6 | 3599.7 | 2478.0 | 2760.1 | 3208.8 |
| 65° | 8423.0 | 8576.0 | 9551.5 | 11376.8 | 12168.8 | 11818.7 | 5917.9 | 2277.4 | 1278.1 | 1886.5 | 2246.8 |
| 67° | 7682.0 | 7848.6 | 9113.0 | 11410.8 | 12610.7 | 11862.9 | 4996.7 | 1376.6 | 812.4 | 1308.7 | 1560.2 |
| 67.5° | 7257.1 | 7501.9 | 8895.5 | 11346.3 | 12529.1 | 11676.0 | 4582.0 | 1152.3 | 764.8 | 1216.9 | 1420.8 |
| 70° | 4463.0 | 4857.3 | 6675.9 | 10030.8 | 11230.7 | 9772.5 | 2545.9 | 652.6 | 622.0 | 815.8 | 982.3 |
| 72.5° | 1342.7 | 1461.6 | 2576.5 | 6434.5 | 8242.9 | 7243.5 | 1145.5 | 503.1 | 557.5 | 656.0 | 758.0 |
| 75° | 652.6 | 696.8 | 1063.9 | 2630.9 | 4014.4 | 3994.0 | 639.0 | 431.7 | 516.7 | 550.7 | 598.2 |
| 77.5° | 418.1 | 445.3 | 662.8 | 1471.8 | 1838.9 | 1638.4 | 462.3 | 377.3 | 458.9 | 452.1 | 445.3 |
| 80° | 261.7 | 275.3 | 424.9 | 853.2 | 1356.2 | 1131.9 | 339.9 | 309.3 | 394.3 | 350.1 | 316.1 |
| 82.5° | 170.0 | 187.0 | 271.9 | 520.1 | 968.7 | 843.0 | 224.3 | 220.9 | 326.3 | 278.7 | 244.7 |
| 85° | 112.2 | 125.8 | 173.4 | 305.9 | 574.5 | 601.6 | 146.2 | 153.0 | 251.5 | 210.7 | 187.0 |
| 87.5° | 40.8 | 51.0 | 88.4 | 136.0 | 268.5 | 333.1 | 61.2 | 57.8 | 122.4 | 98.6 | 78.2 |
| 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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Scaled Data Report

REPORT NUMBER: P1457385
CATALOG NUMBER: GLAN-SB3C-930-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 | 3497.7 |
| 2.5° | 3507.9 | 3497.7 | 3450.1 | 3409.3 | 3378.7 | 3337.9 | 3293.7 | 3242.8 | 3208.8 | 3215.6 | 3205.4 |
| 5° | 3524.9 | 3497.7 | 3405.9 | 3266.6 | 3130.6 | 2960.6 | 2743.1 | 2613.9 | 2515.3 | 2464.4 | 2478.0 |
| 7.5° | 3562.3 | 3514.7 | 3320.9 | 3038.8 | 2685.3 | 2338.6 | 2124.4 | 2002.1 | 1944.3 | 1920.5 | 1917.1 |
| 10° | 3626.9 | 3545.3 | 3212.2 | 2685.3 | 2223.0 | 1988.5 | 1910.3 | 1876.3 | 1869.5 | 1869.5 | 1866.1 |
| 12.5° | 3705.0 | 3575.9 | 3028.6 | 2342.0 | 2002.1 | 1917.1 | 1903.5 | 1906.9 | 1917.1 | 1927.3 | 1910.3 |
| 15° | 3800.2 | 3589.5 | 2800.9 | 2134.6 | 1957.9 | 1937.5 | 1957.9 | 1981.7 | 1998.7 | 2012.3 | 1995.3 |
| 17.5° | 3895.4 | 3575.9 | 2586.7 | 2036.1 | 1964.7 | 1991.9 | 2032.7 | 2070.1 | 2080.3 | 2100.7 | 2087.1 |
| 20° | 3963.4 | 3528.3 | 2403.2 | 1998.7 | 1981.7 | 2042.9 | 2093.9 | 2134.6 | 2155.0 | 2168.6 | 2155.0 |
| 22.5° | 4014.4 | 3467.1 | 2270.6 | 1961.3 | 1981.7 | 2056.5 | 2117.7 | 2165.2 | 2189.0 | 2202.6 | 2185.6 |
| 25° | 4058.5 | 3382.1 | 2168.6 | 1906.9 | 1940.9 | 2012.3 | 2080.3 | 2127.8 | 2161.8 | 2182.2 | 2172.0 |
| 27.5° | 4112.9 | 3314.1 | 2073.5 | 1825.3 | 1855.9 | 1923.9 | 1995.3 | 2053.1 | 2117.7 | 2151.6 | 2144.8 |
| 30° | 4174.1 | 3280.1 | 1981.7 | 1736.9 | 1757.3 | 1825.3 | 1910.3 | 1988.5 | 2076.9 | 2121.0 | 2121.0 |
| 32.5° | 4245.5 | 3256.4 | 1896.7 | 1652.0 | 1669.0 | 1743.7 | 1825.3 | 1896.7 | 1991.9 | 2063.3 | 2059.9 |
| 35° | 4276.1 | 3229.2 | 1828.7 | 1573.8 | 1607.8 | 1669.0 | 1733.6 | 1781.1 | 1879.7 | 1964.7 | 1971.5 |
| 37.5° | 4306.7 | 3219.0 | 1794.7 | 1512.6 | 1539.8 | 1587.4 | 1621.4 | 1645.2 | 1736.9 | 1825.3 | 1828.7 |
| 40° | 4344.1 | 3266.6 | 1818.5 | 1471.8 | 1448.0 | 1495.6 | 1512.6 | 1526.2 | 1573.8 | 1631.6 | 1631.6 |
| 42.5° | 4320.3 | 3300.5 | 1872.9 | 1434.4 | 1335.9 | 1390.2 | 1397.0 | 1393.6 | 1397.0 | 1400.4 | 1397.0 |
| 45° | 4259.1 | 3266.6 | 1872.9 | 1376.6 | 1216.9 | 1274.7 | 1271.3 | 1254.3 | 1227.1 | 1155.7 | 1145.5 |
| 47.5° | 4245.5 | 3246.2 | 1801.5 | 1281.5 | 1097.9 | 1145.5 | 1152.3 | 1118.3 | 1040.1 | 965.3 | 941.6 |
| 50° | 4303.3 | 3283.5 | 1689.4 | 1165.9 | 995.9 | 1036.7 | 1053.7 | 995.9 | 907.6 | 829.4 | 815.8 |
| 52.5° | 4388.3 | 3331.1 | 1526.2 | 1040.1 | 911.0 | 951.8 | 972.1 | 907.6 | 815.8 | 754.6 | 747.8 |
| 55° | 4378.1 | 3331.1 | 1342.7 | 924.6 | 846.4 | 877.0 | 911.0 | 843.0 | 771.6 | 737.6 | 734.2 |
| 57.5° | 4157.1 | 3205.4 | 1206.7 | 843.0 | 785.2 | 812.4 | 856.6 | 792.0 | 724.0 | 730.8 | 741.0 |
| 60° | 3725.4 | 2879.1 | 1104.7 | 788.6 | 730.8 | 758.0 | 805.6 | 730.8 | 642.4 | 618.6 | 618.6 |
| 62.5° | 3069.4 | 2372.6 | 1023.1 | 734.2 | 679.8 | 713.8 | 737.6 | 639.0 | 581.2 | 554.1 | 554.1 |
| 65° | 2301.2 | 1835.5 | 938.2 | 690.0 | 635.6 | 673.0 | 645.8 | 598.2 | 540.5 | 520.1 | 523.5 |
| 67° | *1706.4* | *1424.2* | *866.8* | *652.6* | *608.4* | *625.4* | *605.0* | *571.1* | *513.3* | *496.3* | *513.3* |
| 67.5° | 1533.0 | 1352.8 | 849.8 | 642.4 | 601.6 | 615.2 | 594.8 | 567.7 | 506.5 | 489.5 | 506.5 |
| 70° | 1053.7 | 1040.1 | 758.0 | 594.8 | 564.3 | 550.7 | 560.9 | 526.9 | 475.9 | 469.1 | 486.1 |
| 72.5° | 802.2 | 829.4 | 679.8 | 554.1 | 523.5 | 506.5 | 530.3 | 496.3 | 445.3 | 455.5 | 472.5 |
| 75° | 628.8 | 669.6 | 608.4 | 496.3 | 475.9 | 479.3 | 526.9 | 513.3 | 472.5 | 482.7 | 486.1 |
| 77.5° | 465.7 | 540.5 | 520.1 | 431.7 | 414.7 | 462.3 | 594.8 | 635.6 | 564.3 | 547.3 | 523.5 |
| 80° | 339.9 | 387.5 | 438.5 | 356.9 | 346.7 | 445.3 | 734.2 | 812.4 | 696.8 | 628.8 | 611.8 |
| 82.5° | 251.5 | 271.9 | 360.3 | 285.5 | 251.5 | 397.7 | 815.8 | 955.2 | 829.4 | 700.2 | 679.8 |
| 85° | 180.2 | 210.7 | 285.5 | 210.7 | 166.6 | 326.3 | 798.8 | 934.8 | 822.6 | 662.8 | 645.8 |
| 87.5° | 64.6 | 91.8 | 122.4 | 95.2 | 85.0 | 224.3 | 659.4 | 673.0 | 513.3 | 234.5 | 237.9 |
| 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: SP1-2407-184-14

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-930-U-5WQ

Data in this report applies to families of products including GSS-SB1A-930-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

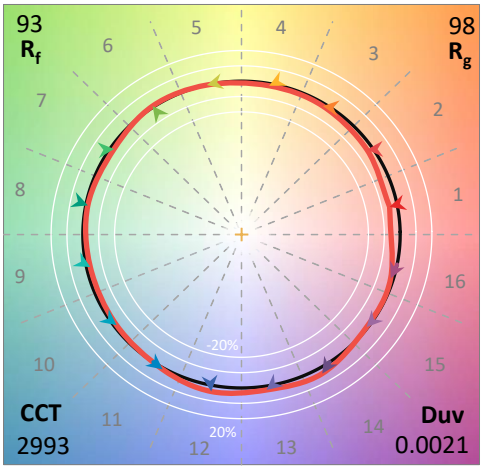
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-14 |
| 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-930-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2993 |
| CIE u': | 0.2501 |
| CIE v': | 0.5245 |
| Duv: | 0.0021 |
| CIE x: | 0.4406 |
| CIE y: | 0.4107 |
| CIE z: | 0.1487 |
| Peak Wavelength (nm): | 621 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.53327 |
| Rf: | 92.6 |
| Rg: | 98.5 |

| | |
|---|---|
| CRI (Ra): | 92.4 |
| R1: | 92.2 |
| R2: | 95.2 |
| R3: | 97.0 |
| R4: | 93.1 |
| R5: | 91.7 |
| R6: | 94.2 |
| R7: | 93.3 |
| R8: | 82.3 |
| R9: | 58.2 |
| R10: | 87.7 |
| R11: | 93.5 |
| R12: | 81.7 |
| R13: | 92.9 |
| R14: | 97.6 |
| R15: | 88.1 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-14

| 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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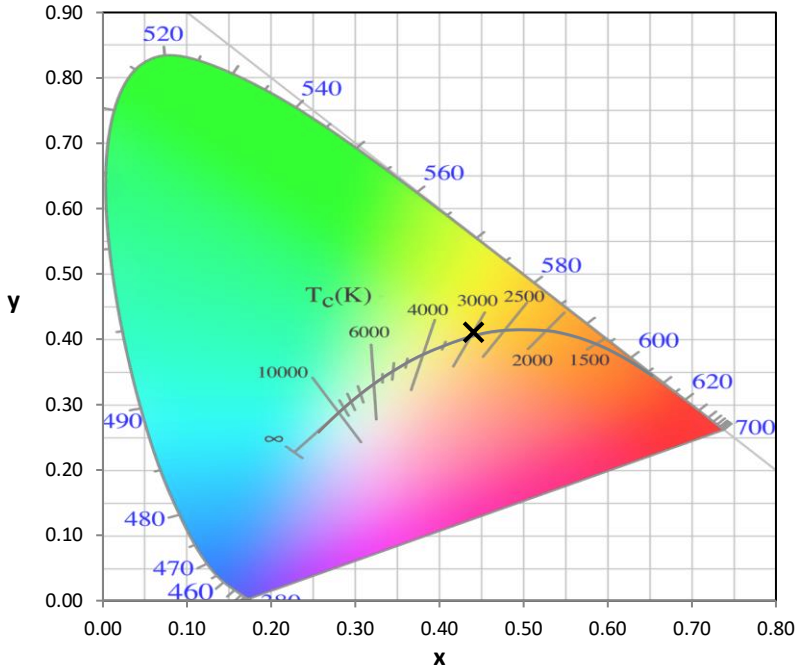
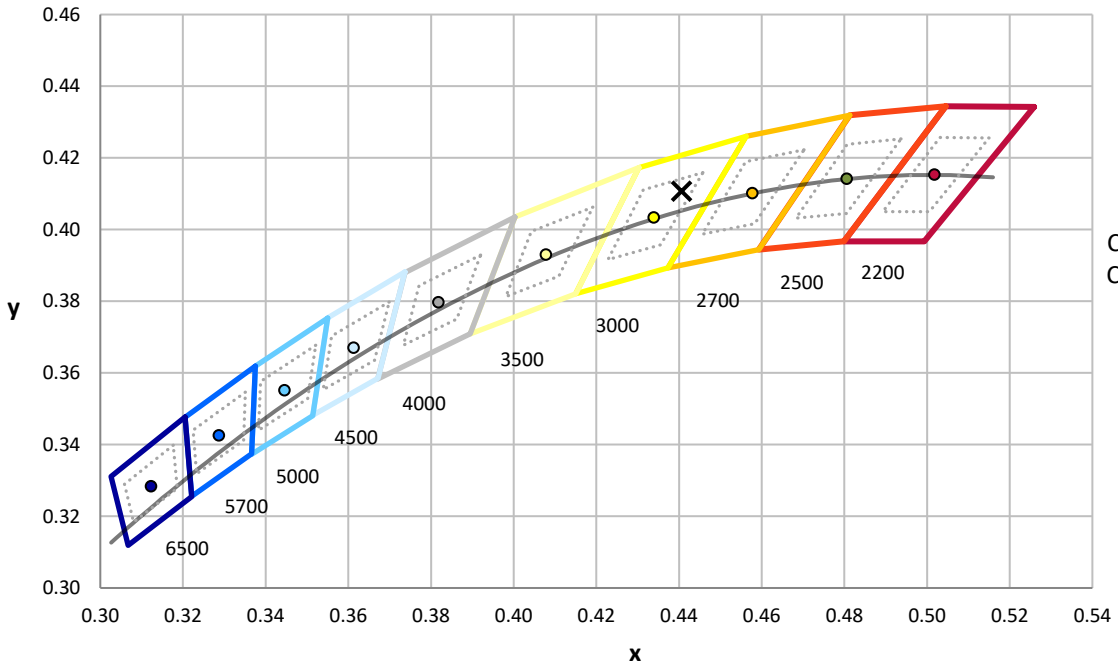
## CIE 1931 Chromaticity Diagram




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




CCT = 2993K
CIE x = 0.4406
CIE y = 0.4107
Duv = 0.0021

Point lies inside the ANSI 3000K 4-step quadrangle

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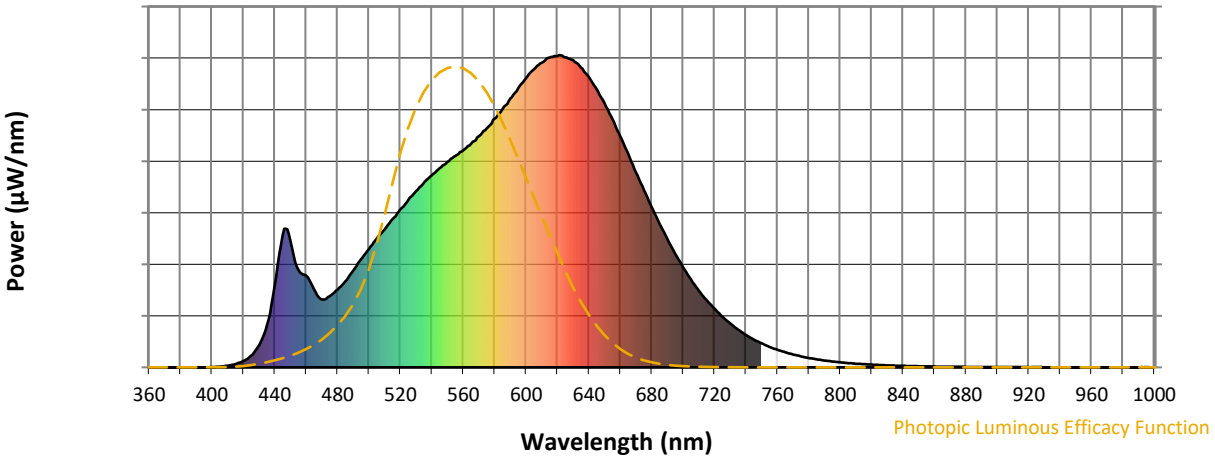
## Photopic Flux vs. Wavelength




## 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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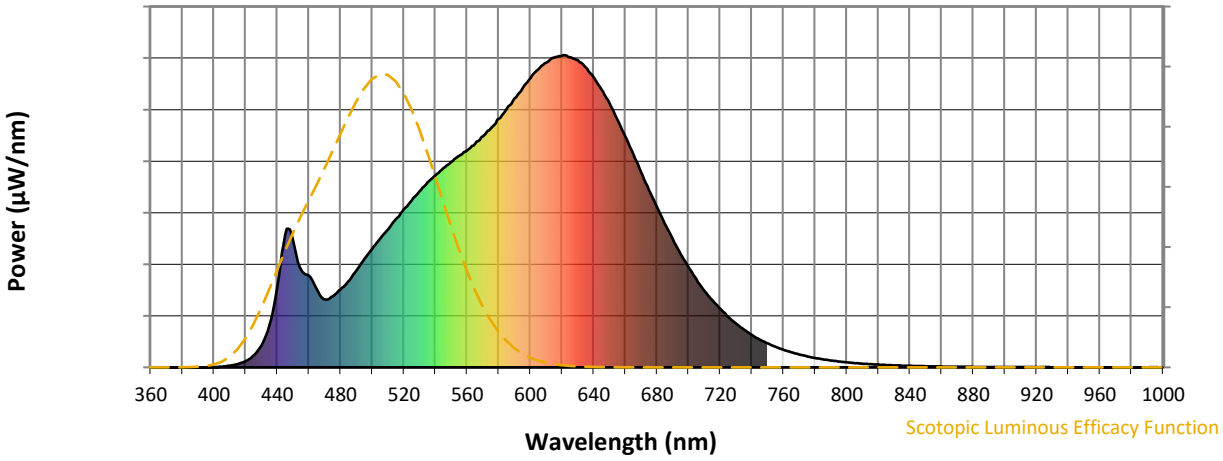
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.39**

| 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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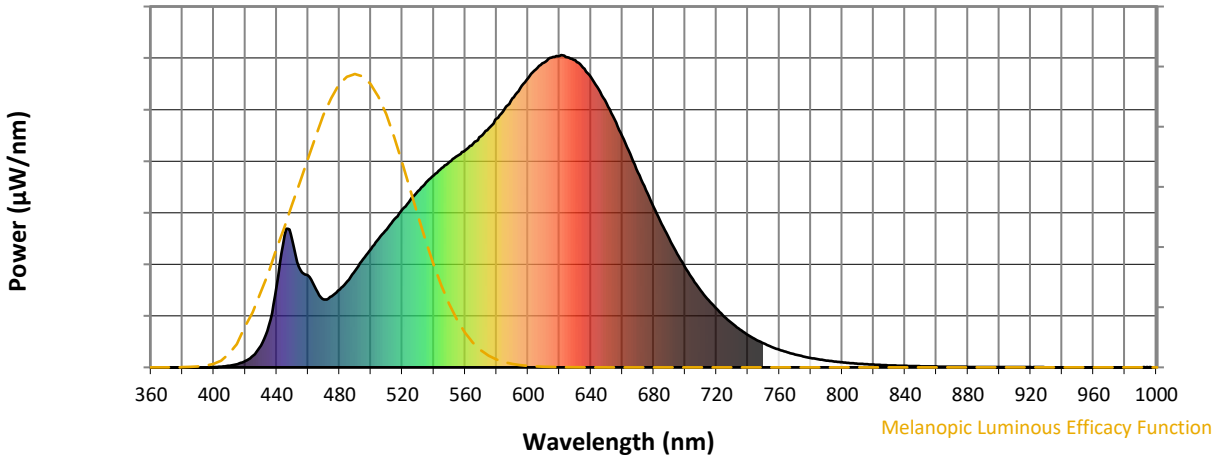
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.69**

| 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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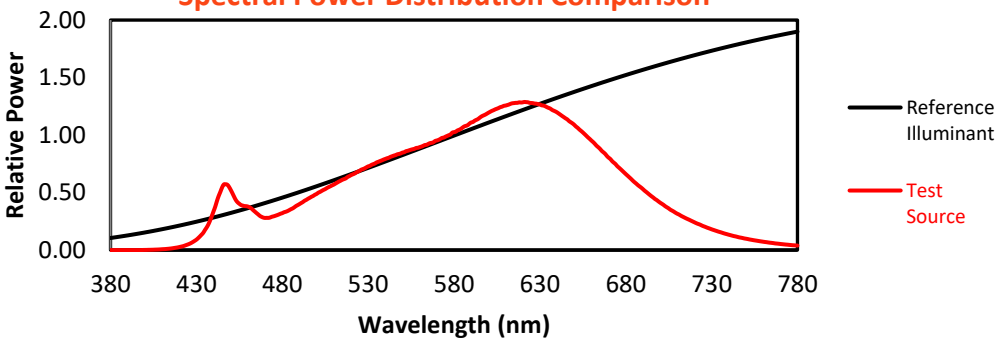
# TM-30-18

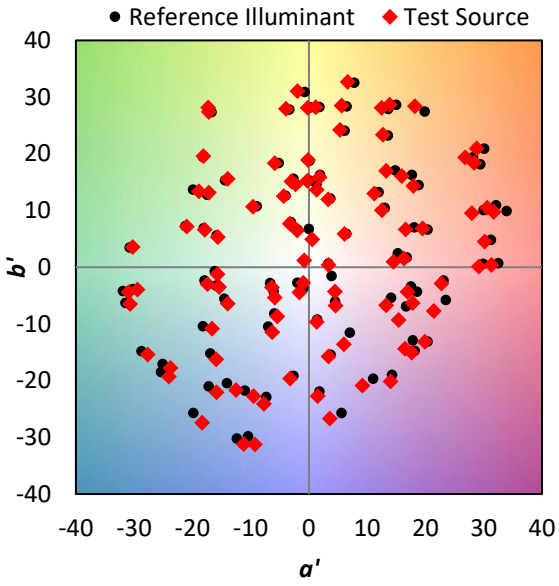
## Summary

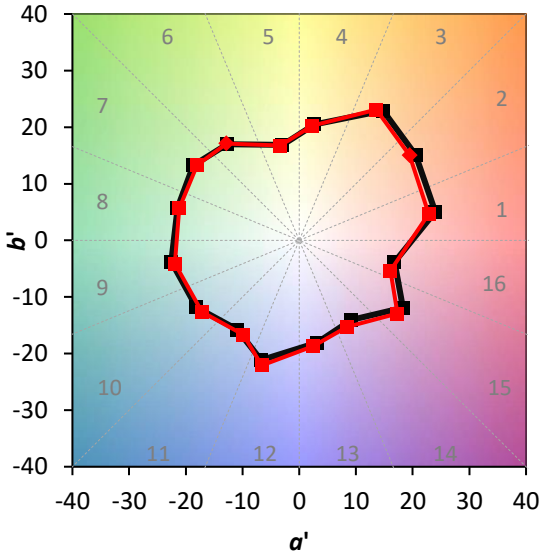
$R_f$ = 92.6
$R_g$ = 98.5
CIE $R_a$ = 92.4
$R_9$ = 58.2

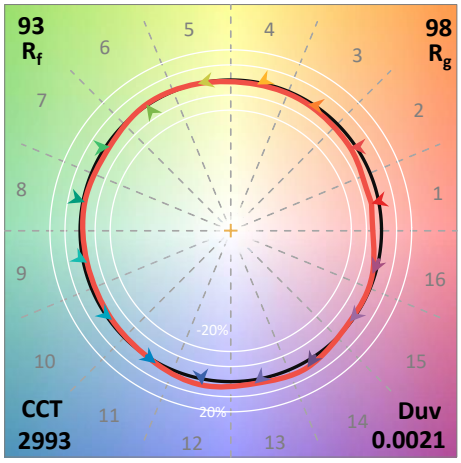
## Spectral Power Distribution Comparison

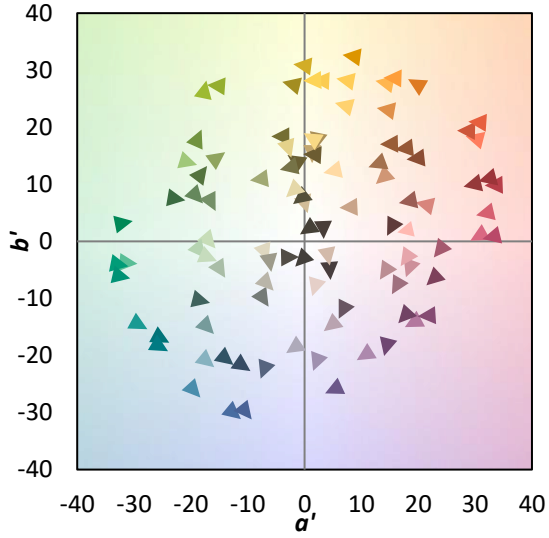



## Color Vector Graphics



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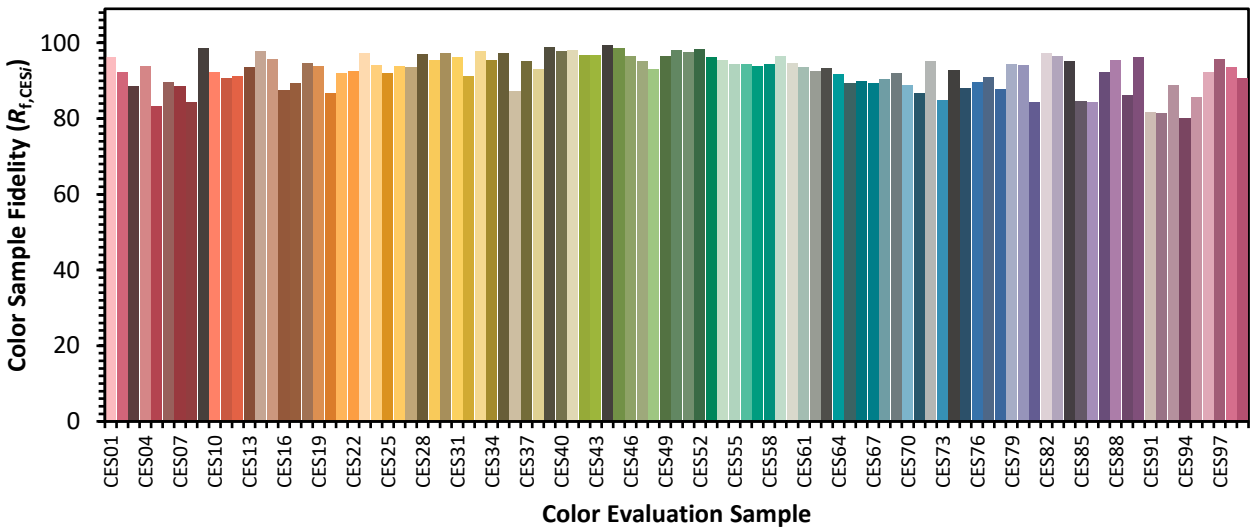
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 63 | CES27 = 94 | CES52 = 98 | CES77 = 91 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 88 |
| CES04 = 70 | CES29 = 95 | CES54 = 95 | CES79 = 94 |
| CES05 = 51 | CES30 = 97 | CES55 = 94 | CES80 = 94 |
| CES06 = 51 | CES31 = 96 | CES56 = 94 | CES81 = 84 |
| CES07 = 43 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 42 | CES33 = 98 | CES58 = 94 | CES83 = 97 |
| CES09 = 29 | CES34 = 96 | CES59 = 97 | CES84 = 95 |
| CES10 = 76 | CES35 = 97 | CES60 = 95 | CES85 = 85 |
| CES11 = 59 | CES36 = 87 | CES61 = 94 | CES86 = 84 |
| CES12 = 65 | CES37 = 95 | CES62 = 92 | CES87 = 92 |
| CES13 = 44 | CES38 = 93 | CES63 = 93 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 86 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 90 | CES91 = 82 |
| CES17 = 50 | CES42 = 97 | CES67 = 89 | CES92 = 81 |
| CES18 = 57 | CES43 = 97 | CES68 = 90 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 92 | CES94 = 80 |
| CES20 = 67 | CES45 = 99 | CES70 = 89 | CES95 = 86 |
| CES21 = 86 | CES46 = 96 | CES71 = 87 | CES96 = 92 |
| CES22 = 79 | CES47 = 95 | CES72 = 95 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 85 | CES98 = 94 |
| CES24 = 91 | CES49 = 97 | CES74 = 93 | CES99 = 91 |
| CES25 = 72 | CES50 = 98 | CES75 = 88 | |



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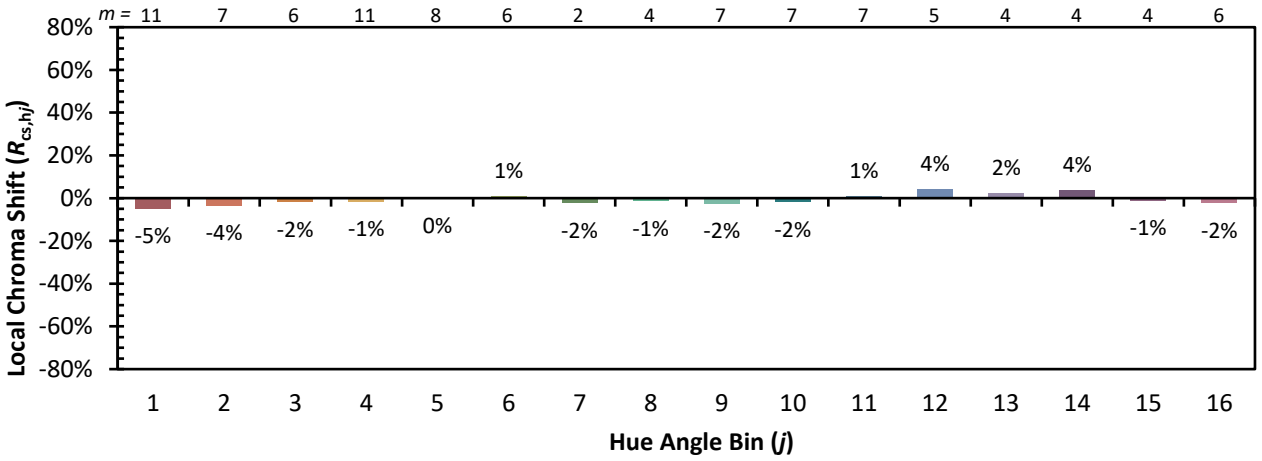
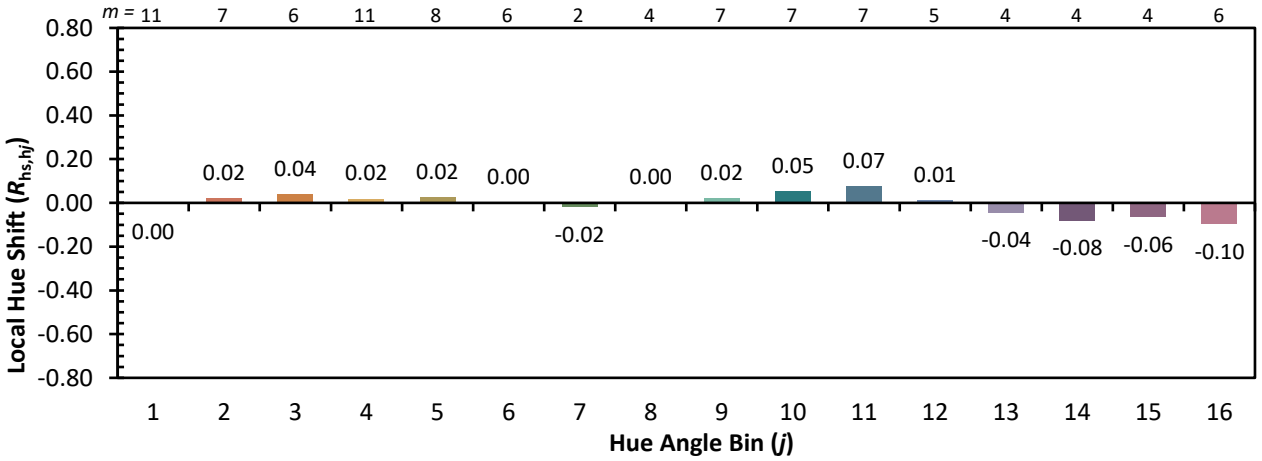
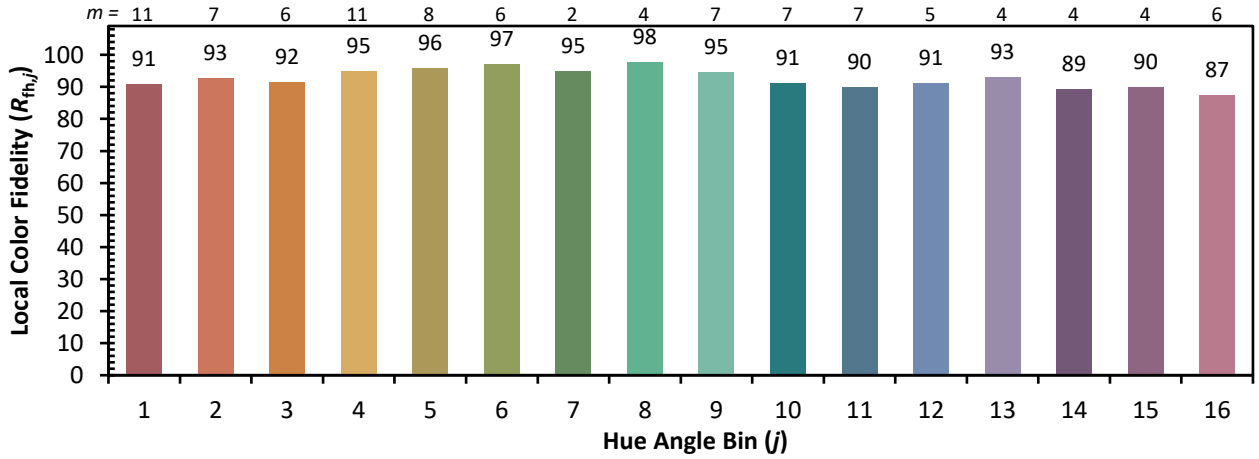
## Color Rendition by Hue-Angle Bin



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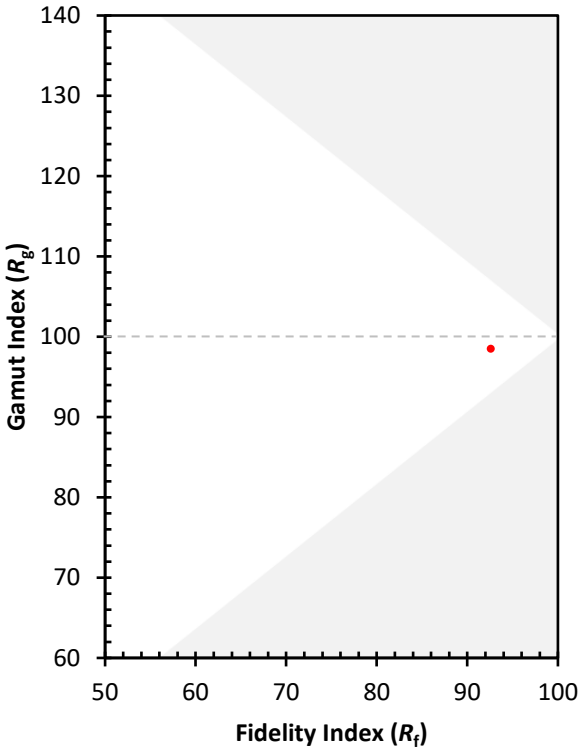
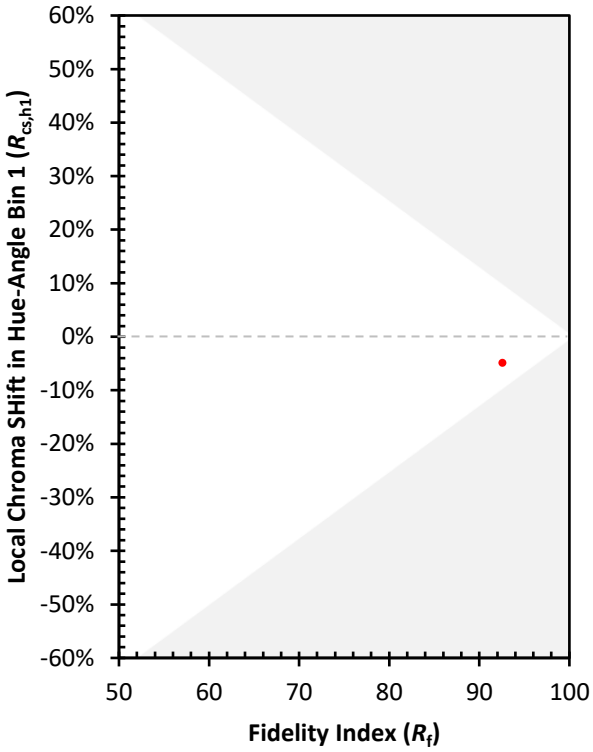
## Measure Comparisons




(END OF REPORT)