Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Cooper Lighting Solutions Photometric Lab
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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: P1456739

Luminaire Tested: GLAN-SB4A-850-U-T3LG

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: | P1456739 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB4A-850-U-T3LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 4xLight Square PACKAGE 80CRI 5000K FIXTURE w/ TYPE III LOW GLARE |
| Light Source: | (104) 5000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 16771.3 lumens |
| Efficiency: | N/A |
| Efficacy: | 147.1 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 114 |
| 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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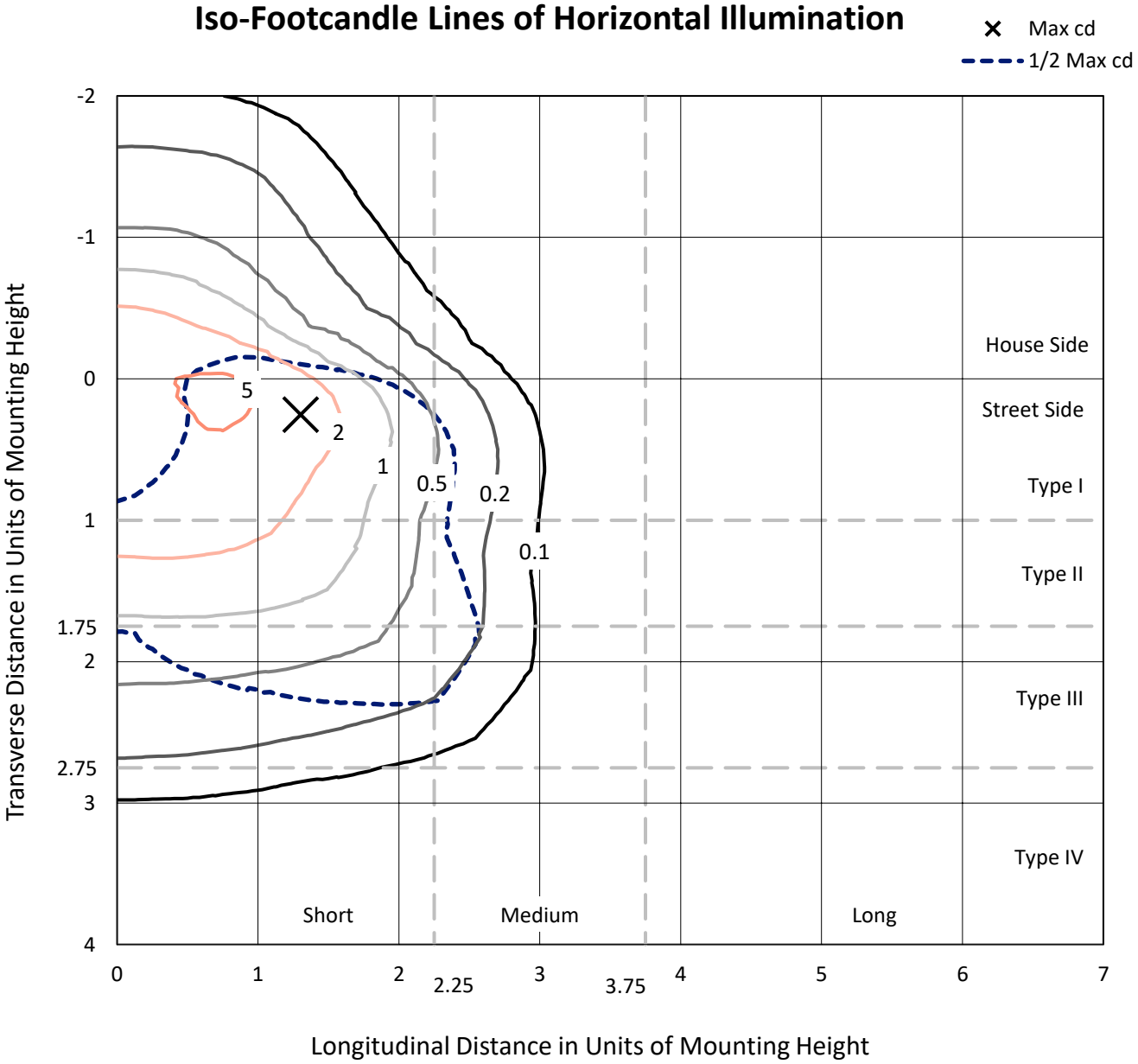
Scaled Data Report

REPORT NUMBER: P1456739
CATALOG NUMBER: GLAN-SB4A-850-U-T3LG

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 6.1 fc
Type III - Short - N/A

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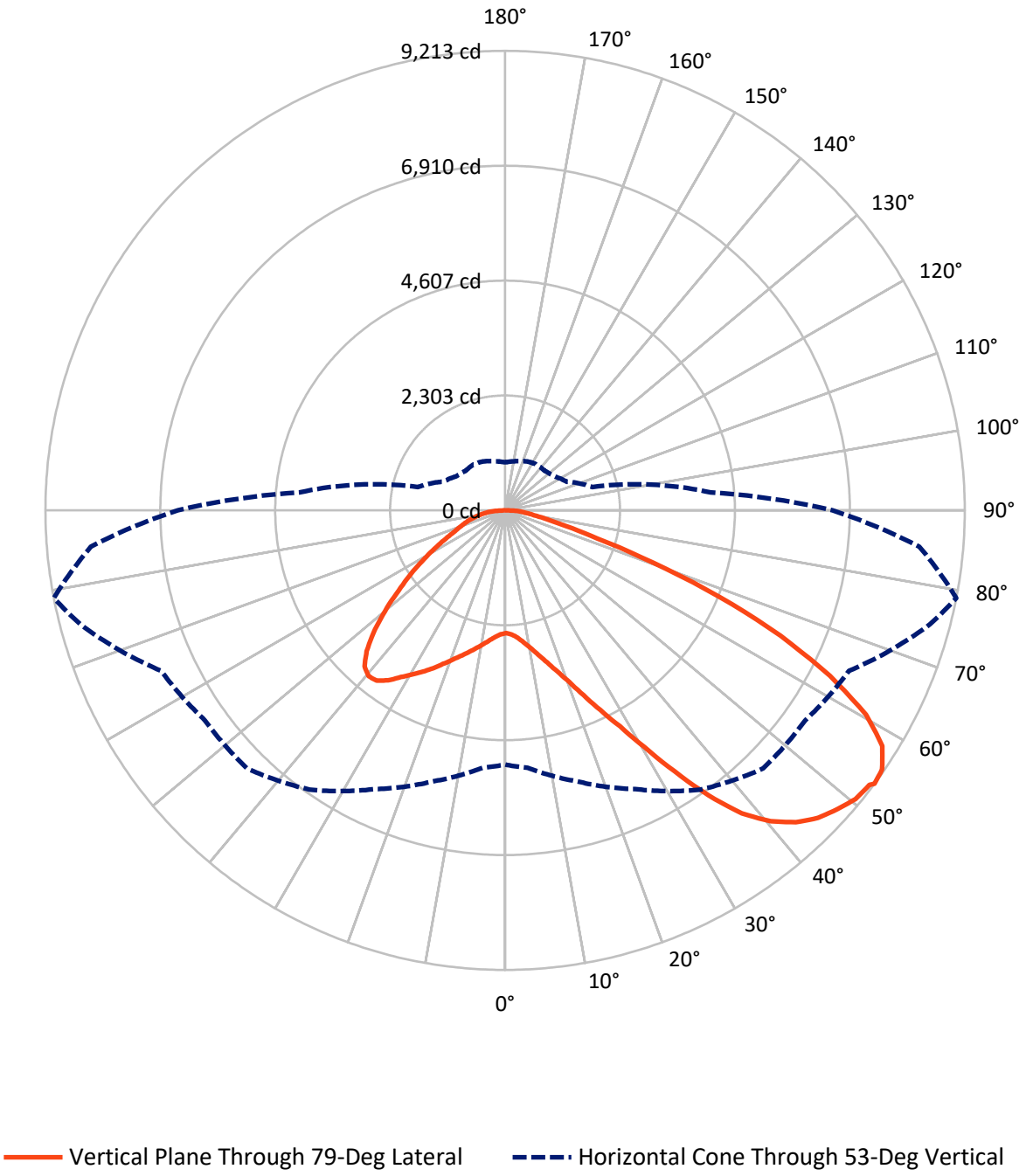
## Luminous Intensity Polar Plot



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REPORT NUMBER: P1456739
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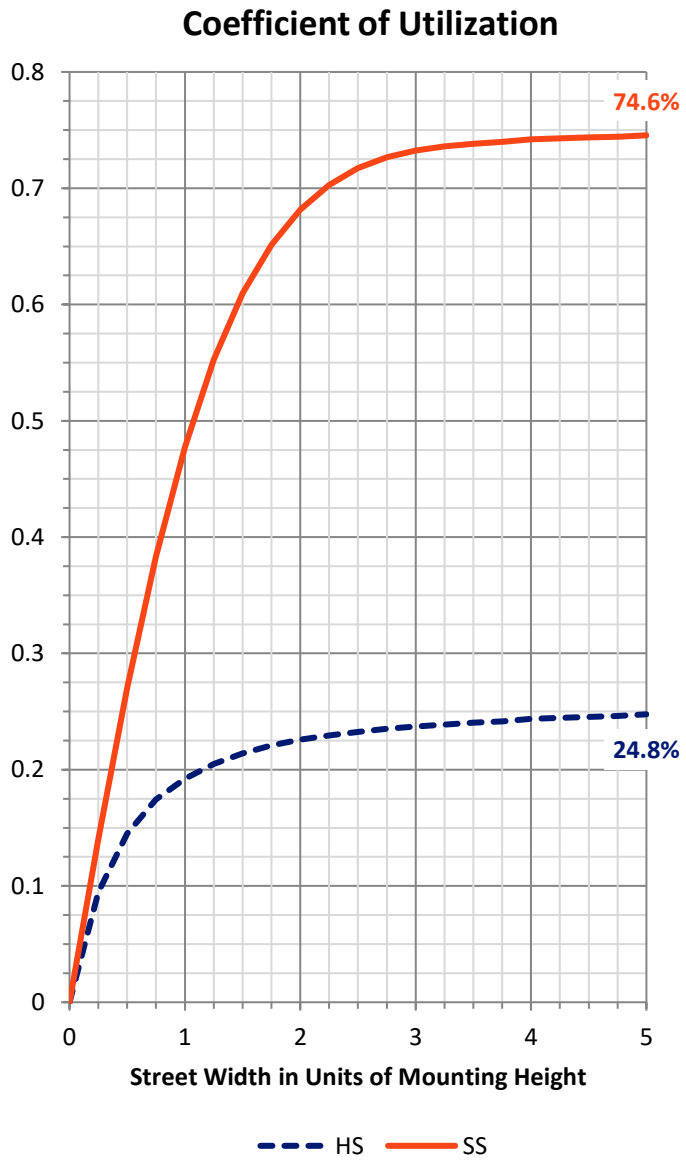
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4227.9 | 0.0 | 4227.9 |
| | % Fixture | 25.2 | 0.0 | 25.2 |
| **Street Side** | Lumens | 12543.3 | 0.0 | 12543.3 |
| | % Fixture | 74.8 | 0.0 | 74.8 |
| **Total** | Lumens | 16771.3 | 0.0 | 16771.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 234.6 | 1.4 |
| 10°-20° | 726.5 | 4.3 |
| 20°-30° | 1388.9 | 8.3 |
| 30°-40° | 2384.7 | 14.2 |
| 40°-50° | 3340.2 | 19.9 |
| 50°-60° | 3790.7 | 22.6 |
| 60°-70° | 3324.2 | 19.8 |
| 70°-80° | 1299.8 | 7.8 |
| 80°-90° | 281.6 | 1.7 |
| 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° | 16771.3 | 100.0 |
| 0°-180° | 16771.3 | 100.0 |



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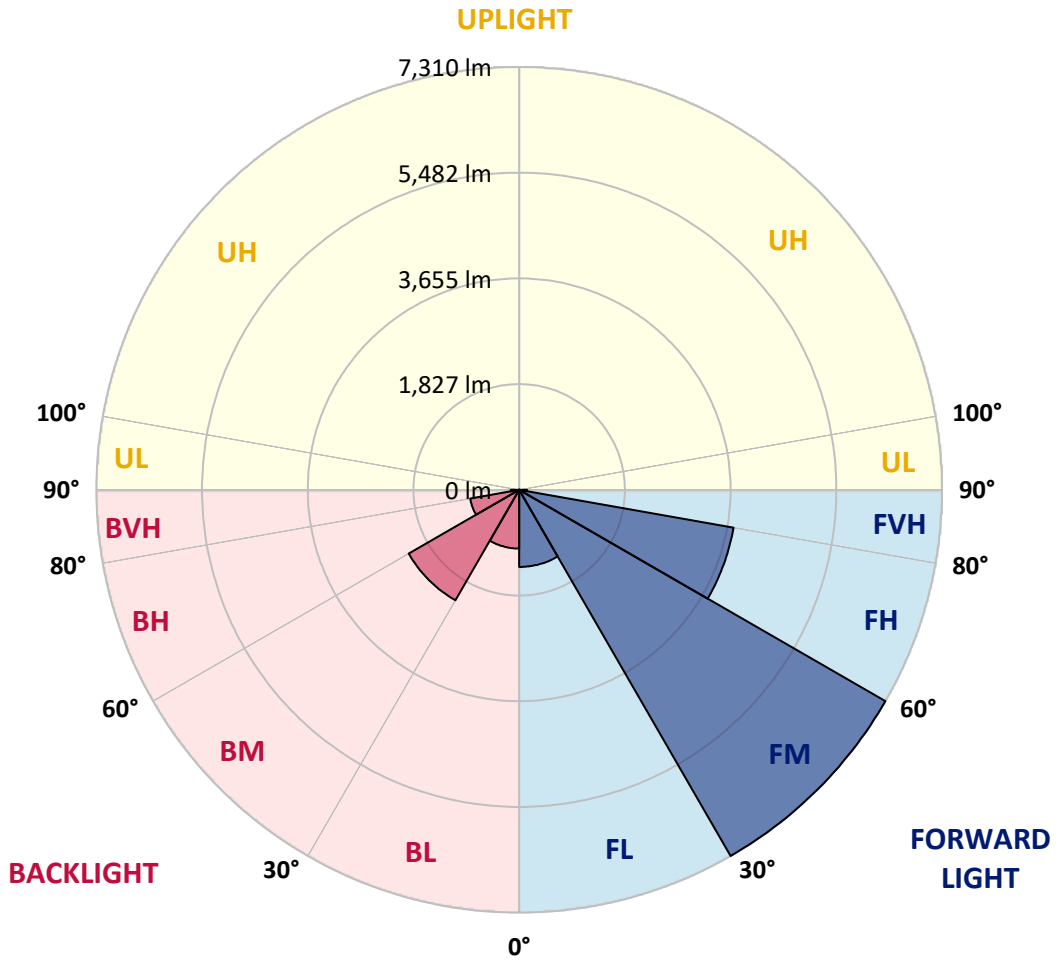
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1333.2 | 7.9 | | | |
| FM | (30°-60°) | 7310.0 | 43.6 | | | |
| FH | (60°-80°) | 3763.6 | 22.4 | | | G2/5000 |
| FVH | (80°-90°) | 136.6 | 0.8 | | | G2/225 |
| BL | (0°-30°) | 1016.8 | 6.1 | B3/2500 | | |
| BM | (30°-60°) | 2205.6 | 13.2 | B2/2500 | | |
| BH | (60°-80°) | 860.4 | 5.1 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 145.0 | 0.9 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G2**
Type III Short



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REPORT NUMBER: P1456739
CATALOG NUMBER: GLAN-SB4A-850-U-T3LG

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | *2462.1* | 2462.1 |
| 2.5° | 2465.8 | 2465.8 | 2450.9 | 2465.8 | 2458.3 | 2469.5 | 2477.0 | 2477.0 | 2491.9 | *2488.2* | 2488.2 |
| 5° | 2424.7 | 2417.2 | 2413.5 | 2439.6 | 2454.6 | 2484.5 | 2518.1 | 2533.0 | 2559.2 | *2559.2* | 2562.9 |
| 7.5° | 2316.4 | 2312.6 | 2331.3 | 2383.6 | 2432.2 | 2506.9 | 2577.9 | 2619.0 | 2660.1 | *2667.5* | 2667.5 |
| 10° | 2249.1 | 2245.4 | 2267.8 | 2331.3 | 2409.8 | 2518.1 | 2630.2 | 2716.1 | 2783.4 | *2802.0* | 2802.0 |
| 12.5° | 2249.1 | 2249.1 | 2267.8 | 2331.3 | 2413.5 | 2544.3 | 2697.4 | 2843.1 | 2947.7 | *2970.2* | 2962.7 |
| 15° | 2312.6 | 2308.9 | 2331.3 | 2398.5 | 2477.0 | 2600.3 | 2787.1 | 2981.4 | 3123.3 | *3164.4* | 3168.2 |
| 17.5° | 2379.9 | 2376.1 | 2409.8 | 2495.7 | 2589.1 | 2712.4 | 2902.9 | 3142.0 | 3343.8 | *3396.1* | 3407.3 |
| 20° | 2484.5 | 2480.7 | 2521.8 | 2604.0 | 2719.8 | 2861.8 | 3059.8 | 3332.6 | 3612.8 | *3668.8* | 3683.8 |
| 22.5° | 2604.0 | 2607.8 | 2652.6 | 2753.5 | 2869.3 | 3056.1 | 3298.9 | 3601.6 | 3937.8 | *4023.7* | 4038.7 |
| 25° | 2854.3 | 2843.1 | 2880.5 | 2951.5 | 3074.8 | 3298.9 | 3597.8 | 3926.6 | 4326.4 | *4431.0* | 4449.6 |
| 27.5° | 3186.9 | 3168.2 | 3209.3 | 3280.3 | 3369.9 | 3579.1 | 3922.9 | 4289.0 | 4770.9 | *4901.7* | 4905.4 |
| 30° | 3485.7 | 3474.5 | 3530.6 | 3676.3 | 3769.7 | 3930.3 | 4296.5 | 4714.9 | 5320.1 | *5510.7* | 5518.2 |
| 32.5° | 3743.5 | 3739.8 | 3844.4 | 4031.2 | 4244.2 | 4416.0 | 4770.9 | 5252.9 | 6015.1 | *6235.5* | 6186.9 |
| 35° | 3990.1 | 4001.3 | 4132.1 | 4326.4 | 4610.3 | 4954.0 | 5312.7 | 5861.9 | 6747.3 | *7012.6* | 6934.1 |
| 37.5° | 4240.4 | 4247.9 | 4419.8 | 4670.1 | 4969.0 | 5417.3 | 5899.2 | 6523.2 | 7382.4 | *7711.2* | 7539.4 |
| 40° | 4472.1 | 4494.5 | 4726.1 | 4995.1 | 5383.7 | 5839.5 | 6377.4 | 6982.7 | 7871.9 | *8196.9* | 8010.1 |
| 42.5° | 4703.7 | 4737.3 | 4987.6 | 5357.5 | 5772.2 | 6246.7 | 6710.0 | 7262.9 | 8185.7 | *8548.1* | 8260.4 |
| 45° | 4942.8 | 4965.2 | 5275.3 | 5660.1 | 6130.9 | 6568.0 | 6900.5 | 7442.2 | 8402.4 | *8794.7* | 8402.4 |
| 47.5° | 5103.5 | 5148.3 | 5488.3 | 5932.9 | 6403.6 | 6814.6 | 7053.7 | 7516.9 | 8540.6 | *8955.3* | 8454.7 |
| 50° | 5167.0 | 5230.5 | 5596.6 | 6089.8 | 6627.8 | 7046.2 | 7173.2 | 7558.0 | 8693.8 | *9097.3* | 8443.5 |
| 52.5° | 5155.8 | 5215.5 | 5615.3 | 6160.8 | 6807.1 | 7259.2 | 7289.0 | 7602.9 | 8802.2 | *9145.9* | 8346.4 |
| 53° | *5096.0* | *5178.2* | *5626.5* | *6164.5* | *6833.2* | *7315.2* | *7341.4* | *7606.6* | *8817.1* | *9213.1* | *8331.4* |
| 55° | 4890.5 | 4935.3 | 5510.7 | 6160.8 | 6956.5 | 7524.4 | 7487.1 | 7718.7 | 8858.2 | *9168.3* | 8167.0 |
| 57.5° | 4703.7 | 4748.5 | 5249.2 | 6089.8 | 7057.4 | 7819.6 | 7722.4 | 7700.0 | 8634.0 | *8914.2* | 7752.3 |
| 60° | 4584.1 | 4599.1 | 5021.3 | 5865.6 | 7016.3 | 8025.1 | 7875.6 | 7479.6 | 8081.1 | *8312.7* | 7023.8 |
| 62.5° | 4483.3 | 4479.5 | 4853.1 | 5544.3 | 6859.4 | 8054.9 | 7905.5 | 6934.1 | 7270.4 | *7307.7* | 6052.4 |
| 65° | 4255.4 | 4229.2 | 4591.6 | 5181.9 | 6534.4 | 7920.4 | 7539.4 | 6108.5 | 6194.4 | *6071.1* | 4860.6 |
| 67.5° | 3803.3 | 3747.3 | 4068.6 | 4629.0 | 5873.1 | 7539.4 | 6840.7 | 5148.3 | 4883.0 | *4636.4* | 3661.3 |
| 70° | 2723.6 | 2723.6 | 2981.4 | 3541.8 | 4714.9 | 6515.7 | 5873.1 | 3896.7 | 3362.5 | *3142.0* | 2447.1 |
| 72.5° | 1333.8 | 1367.4 | 1636.4 | 2092.2 | 3160.7 | 4729.8 | 4498.2 | 2525.6 | 2039.9 | *1931.5* | 1569.1 |
| 75° | 567.9 | 571.6 | 698.6 | 926.5 | 1602.8 | 2798.3 | 2817.0 | 1457.1 | 1307.6 | *1255.3* | 1038.6 |
| 77.5° | 396.0 | 403.5 | 459.5 | 545.5 | 762.2 | 1285.2 | 1464.5 | 881.7 | 878.0 | *840.6* | 739.7 |
| 80° | 302.6 | 310.1 | 347.5 | 407.2 | 511.8 | 657.5 | 758.4 | 597.8 | 627.7 | *590.3* | 534.3 |
| 82.5° | 227.9 | 235.4 | 261.5 | 306.4 | 366.1 | 440.9 | 425.9 | 440.9 | 463.3 | *440.9* | 384.8 |
| 85° | 153.2 | 156.9 | 175.6 | 213.0 | 235.4 | 265.3 | 265.3 | 321.3 | 336.2 | *328.8* | 302.6 |
| 87.5° | 78.5 | 78.5 | 93.4 | 112.1 | 119.6 | 123.3 | 108.3 | 142.0 | 160.7 | *175.6* | 142.0 |
| 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: P1456739
CATALOG NUMBER: GLAN-SB4A-850-U-T3LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 | 2462.1 |
| 2.5° | 2488.2 | 2491.9 | 2480.7 | 2477.0 | 2473.3 | 2454.6 | 2454.6 | 2435.9 | 2432.2 | 2435.9 | 2424.7 |
| 5° | 2570.4 | 2562.9 | 2533.0 | 2510.6 | 2484.5 | 2432.2 | 2402.3 | 2361.2 | 2350.0 | 2338.8 | 2327.6 |
| 7.5° | 2671.3 | 2660.1 | 2607.8 | 2548.0 | 2477.0 | 2376.1 | 2320.1 | 2252.8 | 2230.4 | 2211.7 | 2204.3 |
| 10° | 2798.3 | 2775.9 | 2693.7 | 2566.7 | 2435.9 | 2312.6 | 2234.2 | 2152.0 | 2114.6 | 2107.1 | 2088.5 |
| 12.5° | 2962.7 | 2921.6 | 2768.4 | 2570.4 | 2398.5 | 2237.9 | 2152.0 | 2088.5 | 2073.5 | 2069.8 | 2051.1 |
| 15° | 3145.8 | 3086.0 | 2839.4 | 2574.1 | 2350.0 | 2174.4 | 2122.1 | 2088.5 | 2088.5 | 2084.7 | 2073.5 |
| 17.5° | 3369.9 | 3272.8 | 2906.7 | 2559.2 | 2290.2 | 2155.7 | 2129.6 | 2099.7 | 2092.2 | 2095.9 | 2081.0 |
| 20° | 3638.9 | 3478.3 | 2977.6 | 2540.5 | 2264.1 | 2159.4 | 2129.6 | 2088.5 | 2069.8 | 2066.0 | 2054.8 |
| 22.5° | 3949.0 | 3713.6 | 3056.1 | 2510.6 | 2264.1 | 2155.7 | 2107.1 | 2051.1 | 2013.7 | 1998.8 | 1983.8 |
| 25° | 4303.9 | 3986.4 | 3138.3 | 2499.4 | 2271.5 | 2140.8 | 2062.3 | 1972.6 | 1912.9 | 1890.4 | 1879.2 |
| 27.5° | 4733.6 | 4274.0 | 3198.1 | 2510.6 | 2267.8 | 2107.1 | 1983.8 | 1868.0 | 1800.8 | 1763.4 | 1755.9 |
| 30° | 5208.1 | 4584.1 | 3239.2 | 2529.3 | 2245.4 | 2043.6 | 1890.4 | 1759.7 | 1666.3 | 1621.4 | 1610.2 |
| 32.5° | 5768.5 | 4931.6 | 3280.3 | 2529.3 | 2189.3 | 1954.0 | 1782.1 | 1640.1 | 1543.0 | 1490.7 | 1483.2 |
| 35° | 6388.7 | 5357.5 | 3317.6 | 2525.6 | 2122.1 | 1856.8 | 1673.8 | 1528.0 | 1427.2 | 1374.9 | 1371.1 |
| 37.5° | 6915.4 | 5678.8 | 3336.3 | 2488.2 | 2028.7 | 1744.7 | 1572.9 | 1427.2 | 1322.6 | 1266.5 | 1262.8 |
| 40° | 7240.5 | 5813.3 | 3298.9 | 2413.5 | 1916.6 | 1628.9 | 1460.8 | 1326.3 | 1221.7 | 1154.4 | 1139.5 |
| 42.5° | 7363.8 | 5749.8 | 3179.4 | 2290.2 | 1782.1 | 1513.1 | 1367.4 | 1225.4 | 1087.2 | 1031.2 | 1019.9 |
| 45° | 7322.7 | 5503.2 | 2925.3 | 2114.6 | 1632.7 | 1408.5 | 1285.2 | 1124.6 | 1034.9 | 986.3 | 982.6 |
| 47.5° | 7184.4 | 5122.1 | 2607.8 | 1894.2 | 1475.7 | 1315.1 | 1176.9 | 1098.4 | 1016.2 | 963.9 | 960.2 |
| 50° | 6941.6 | 4714.9 | 2226.7 | 1643.9 | 1333.8 | 1218.0 | 1150.7 | 1087.2 | 1019.9 | 978.8 | 971.4 |
| 52.5° | 6631.5 | 4255.4 | 1875.5 | 1401.0 | 1210.5 | 1132.0 | 1124.6 | 1079.7 | 1027.4 | 982.6 | 963.9 |
| 53° | *6560.5* | *4135.8* | *1808.3* | *1359.9* | *1191.8* | *1120.8* | *1117.1* | *1079.7* | *1019.9* | *978.8* | *963.9* |
| 55° | 6220.5 | 3765.9 | 1595.3 | 1214.2 | 1098.4 | 1083.5 | 1117.1 | 1076.0 | 1001.3 | 967.6 | 956.4 |
| 57.5° | 5675.1 | 3280.3 | 1389.8 | 1079.7 | 1001.3 | 1038.6 | 1105.9 | 1061.0 | 978.8 | 919.1 | 900.4 |
| 60° | 5017.5 | 2723.6 | 1232.9 | 990.1 | 930.3 | 982.6 | 1061.0 | 1008.7 | 896.7 | 866.8 | 863.0 |
| 62.5° | 4233.0 | 2204.3 | 1113.3 | 915.3 | 870.5 | 922.8 | 993.8 | 904.1 | 821.9 | 799.5 | 792.0 |
| 65° | 3306.4 | 1752.2 | 1019.9 | 859.3 | 810.7 | 851.8 | 900.4 | 844.3 | 792.0 | 773.4 | 769.6 |
| 67.5° | 2458.3 | 1374.9 | 945.2 | 810.7 | 750.9 | 777.1 | 833.1 | 818.2 | 773.4 | 762.2 | 758.4 |
| 70° | 1696.2 | 1117.1 | 878.0 | 765.9 | 676.2 | 706.1 | 792.0 | 803.3 | 758.4 | 750.9 | 747.2 |
| 72.5° | 1188.1 | 945.2 | 807.0 | 717.3 | 616.4 | 646.3 | 773.4 | 773.4 | 724.8 | 736.0 | 728.5 |
| 75° | 892.9 | 795.8 | 724.8 | 657.5 | 541.7 | 586.6 | 747.2 | 739.7 | 691.2 | 739.7 | 721.1 |
| 77.5° | 672.5 | 642.6 | 627.7 | 582.8 | 474.5 | 519.3 | 694.9 | 680.0 | 616.4 | 620.2 | 586.6 |
| 80° | 489.4 | 496.9 | 538.0 | 496.9 | 396.0 | 429.6 | 586.6 | 579.1 | 500.6 | 515.6 | 474.5 |
| 82.5° | 351.2 | 369.9 | 459.5 | 399.8 | 287.7 | 306.4 | 403.5 | 437.1 | 392.3 | 369.9 | 377.3 |
| 85° | 265.3 | 276.5 | 369.9 | 295.1 | 179.3 | 201.7 | 276.5 | 313.8 | 306.4 | 283.9 | 287.7 |
| 87.5° | 112.1 | 127.0 | 171.9 | 138.2 | 104.6 | 104.6 | 171.9 | 220.4 | 198.0 | 168.1 | 175.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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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: SP1-2407-184-12

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-850-U-5WQ

Data in this report applies to families of products including GSS-SB1A-850-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

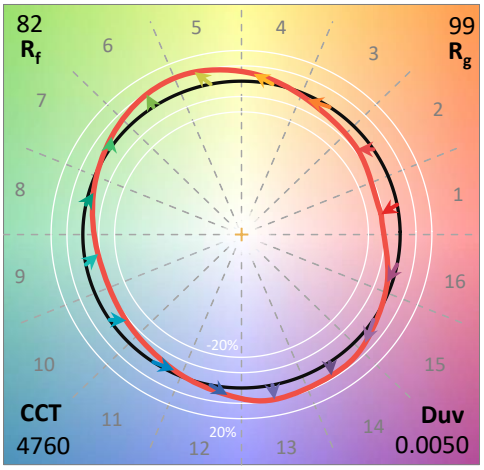
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-12 |
| 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-850-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 5000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4760 |
| CIE u': | 0.2107 |
| CIE v': | 0.4939 |
| Duv: | 0.0050 |
| CIE x: | 0.3537 |
| CIE y: | 0.3685 |
| CIE z: | 0.2779 |
| Peak Wavelength (nm): | 443 |
| Dominant Wavelength (nm): | 571 |
| Purity: | 16.69598 |
| Rf: | 82 |
| Rg: | 99.4 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 81.1 | | | | |
| R1: | 79.8 | R9: | 8.7 | | |
| R2: | 83.5 | R10: | 62.4 | | |
| R3: | 87.9 | R11: | 83.8 | | |
| R4: | 83.1 | R12: | 63.0 | | |
| R5: | 80.5 | R13: | 79.9 | | |
| R6: | 79.1 | R14: | 93.3 | | |
| R7: | 86.1 | R15: | 72.7 | | |
| R8: | 69.0 | | | | |




## Test Conditions

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

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| 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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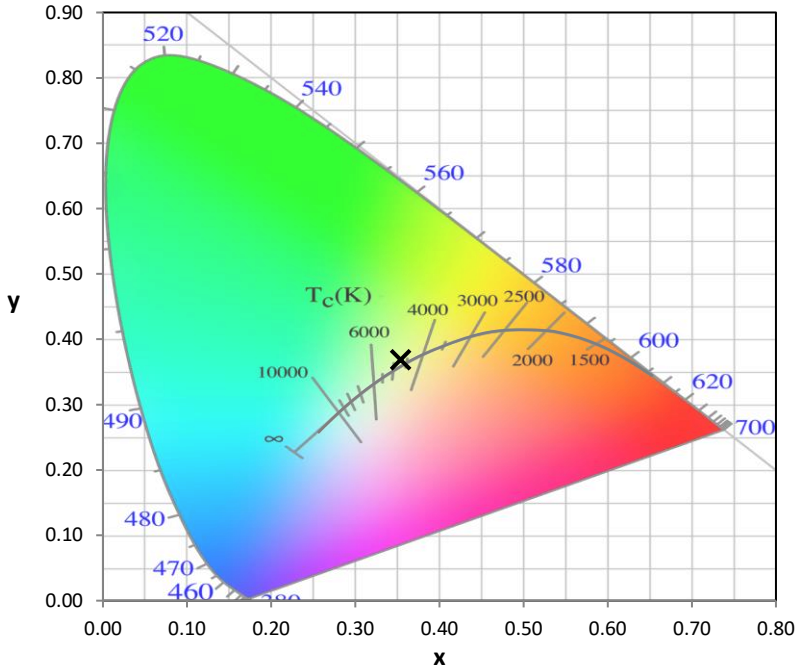
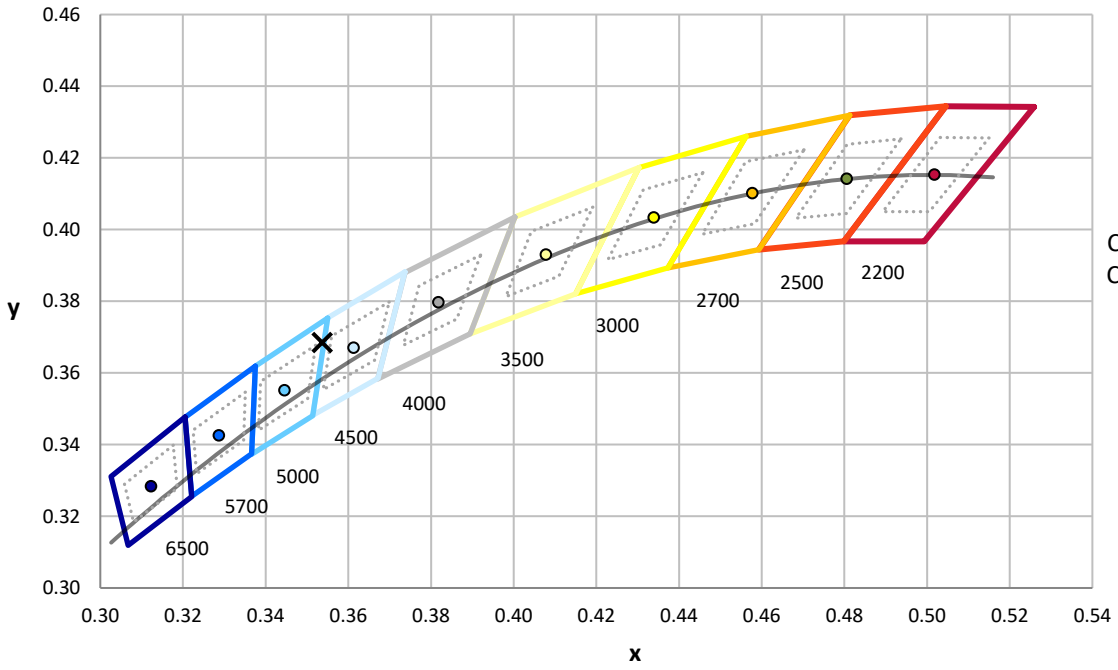
## CIE 1931 Chromaticity Diagram




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




CCT = 4760K
CIE x = 0.3537
CIE y = 0.3685
Duv = 0.0050

Point lies inside the ANSI 5000K 7-step quadrangle

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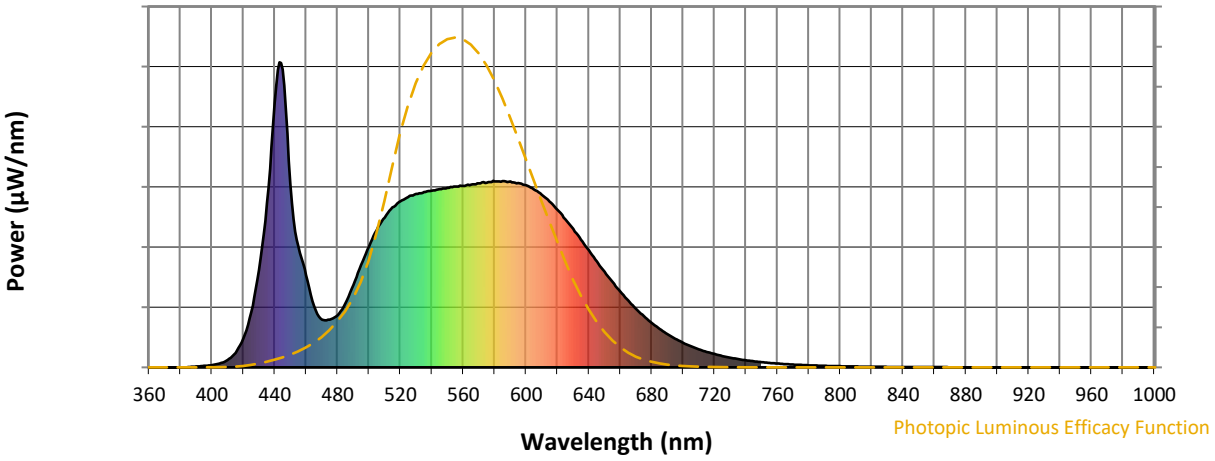
## Photopic Flux vs. Wavelength




## 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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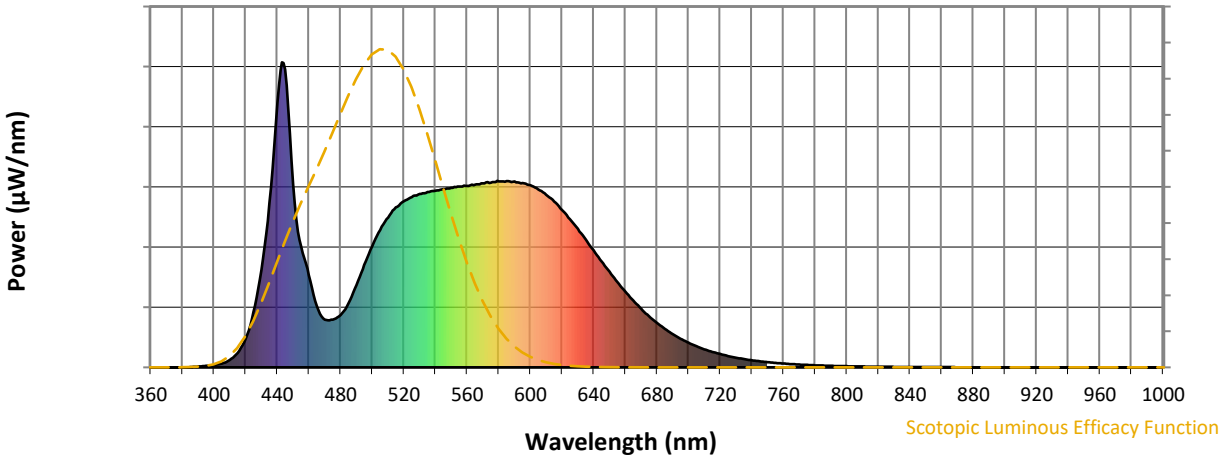
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.83**

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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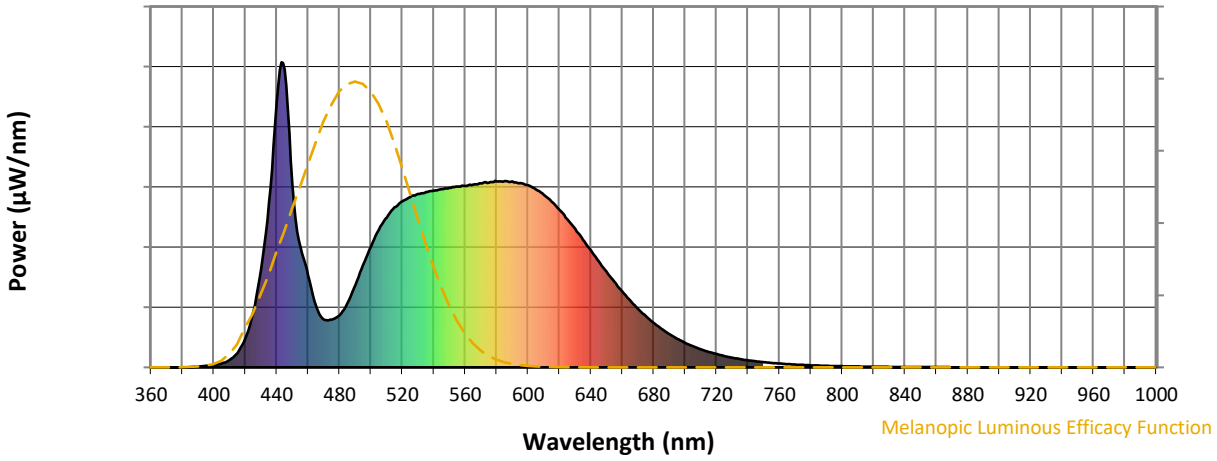
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.74**

| 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 | 270 | NR | 620 | 517 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 335 | NR | 625 | 486 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 397 | NR | 630 | 454 | NR | 760 | 12 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 451 | NR | 635 | 419 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 492 | NR | 640 | 384 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 524 | NR | 645 | 347 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 545 | NR | 650 | 313 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 558 | NR | 655 | 280 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 568 | NR | 660 | 248 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 13 | NR | 535 | 575 | NR | 665 | 219 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 24 | NR | 540 | 579 | NR | 670 | 192 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 47 | NR | 545 | 585 | NR | 675 | 167 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 95 | NR | 550 | 588 | NR | 680 | 146 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 181 | NR | 555 | 593 | NR | 685 | 126 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 319 | NR | 560 | 595 | NR | 690 | 109 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 539 | NR | 565 | 600 | NR | 695 | 94 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 868 | NR | 570 | 603 | NR | 700 | 80 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 977 | NR | 575 | 606 | NR | 705 | 69 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 601 | NR | 580 | 609 | NR | 710 | 59 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 397 | NR | 585 | 611 | NR | 715 | 51 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 302 | NR | 590 | 610 | NR | 720 | 44 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 201 | NR | 595 | 604 | NR | 725 | 37 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 596 | NR | 730 | 32 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 157 | NR | 605 | 583 | NR | 735 | 27 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 171 | NR | 610 | 566 | NR | 740 | 23 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 210 | NR | 615 | 543 | NR | 745 | 20 | NR | 875 | 0 | NR | | | |

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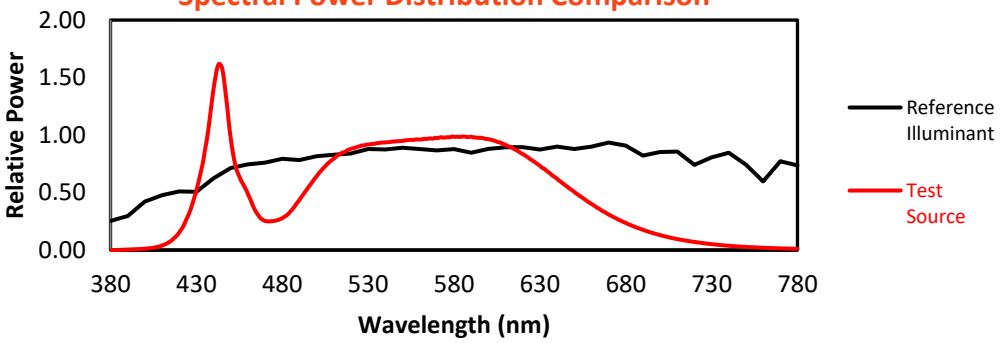
# TM-30-18

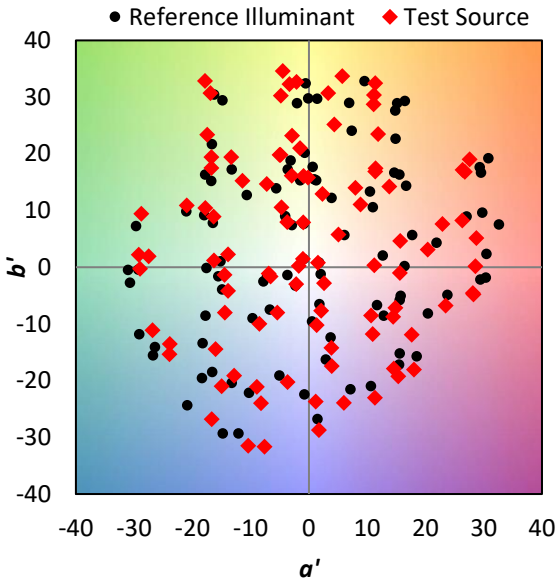
## Summary

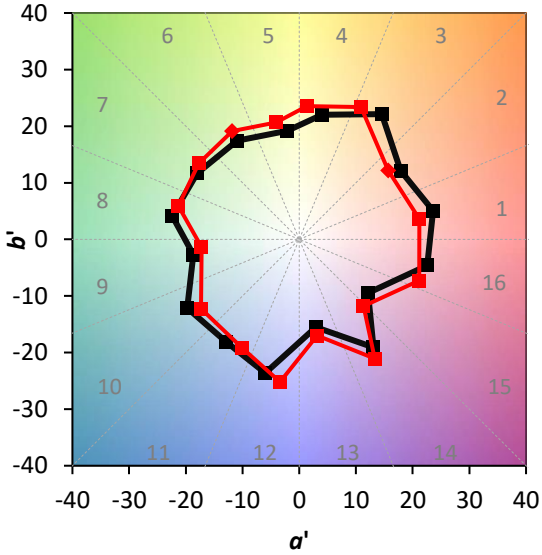
$R_f$ = 82
$R_g$ = 99.4
CIE $R_a$ = 81.1
$R_9$ = 8.7

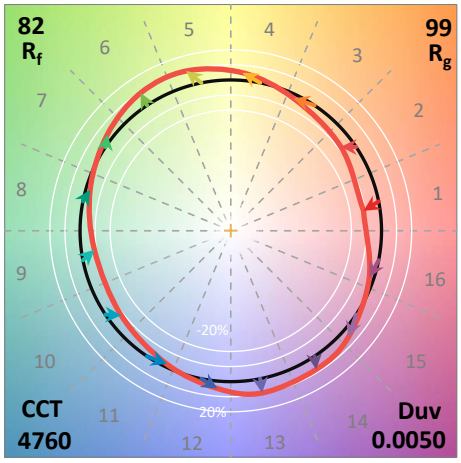
## Spectral Power Distribution Comparison

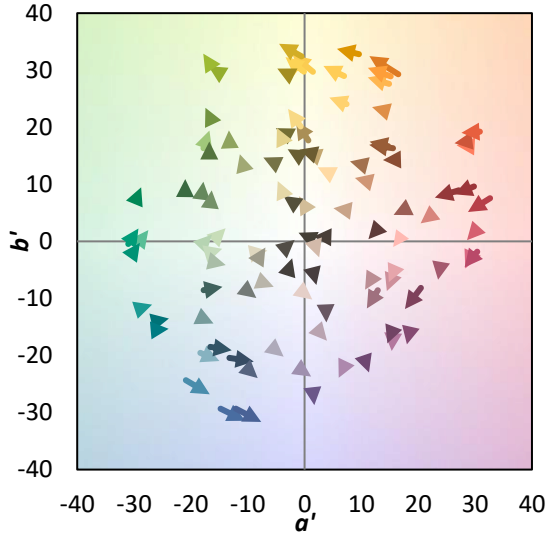



## Color Vector Graphics



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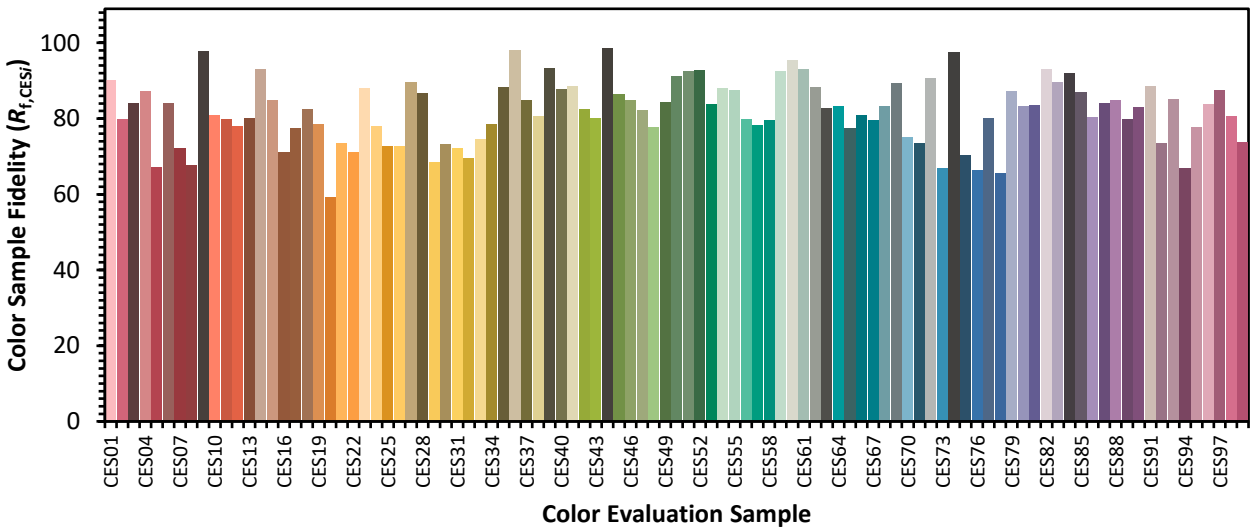
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 73 | CES51 = 92 | CES76 = 66 |
| CES02 = 60 | CES27 = 90 | CES52 = 93 | CES77 = 80 |
| CES03 = 30 | CES28 = 87 | CES53 = 84 | CES78 = 65 |
| CES04 = 69 | CES29 = 69 | CES54 = 88 | CES79 = 87 |
| CES05 = 47 | CES30 = 73 | CES55 = 88 | CES80 = 83 |
| CES06 = 50 | CES31 = 72 | CES56 = 80 | CES81 = 84 |
| CES07 = 40 | CES32 = 69 | CES57 = 78 | CES82 = 93 |
| CES08 = 39 | CES33 = 75 | CES58 = 80 | CES83 = 90 |
| CES09 = 29 | CES34 = 78 | CES59 = 93 | CES84 = 92 |
| CES10 = 73 | CES35 = 88 | CES60 = 95 | CES85 = 87 |
| CES11 = 56 | CES36 = 98 | CES61 = 93 | CES86 = 80 |
| CES12 = 62 | CES37 = 85 | CES62 = 88 | CES87 = 84 |
| CES13 = 42 | CES38 = 81 | CES63 = 83 | CES88 = 85 |
| CES14 = 74 | CES39 = 93 | CES64 = 83 | CES89 = 80 |
| CES15 = 71 | CES40 = 88 | CES65 = 77 | CES90 = 83 |
| CES16 = 46 | CES41 = 89 | CES66 = 81 | CES91 = 89 |
| CES17 = 48 | CES42 = 82 | CES67 = 80 | CES92 = 73 |
| CES18 = 55 | CES43 = 80 | CES68 = 83 | CES93 = 85 |
| CES19 = 70 | CES44 = 99 | CES69 = 89 | CES94 = 67 |
| CES20 = 64 | CES45 = 87 | CES70 = 75 | CES95 = 78 |
| CES21 = 85 | CES46 = 85 | CES71 = 73 | CES96 = 84 |
| CES22 = 77 | CES47 = 82 | CES72 = 91 | CES97 = 87 |
| CES23 = 91 | CES48 = 78 | CES73 = 67 | CES98 = 81 |
| CES24 = 90 | CES49 = 84 | CES74 = 98 | CES99 = 74 |
| CES25 = 71 | CES50 = 91 | CES75 = 70 | |



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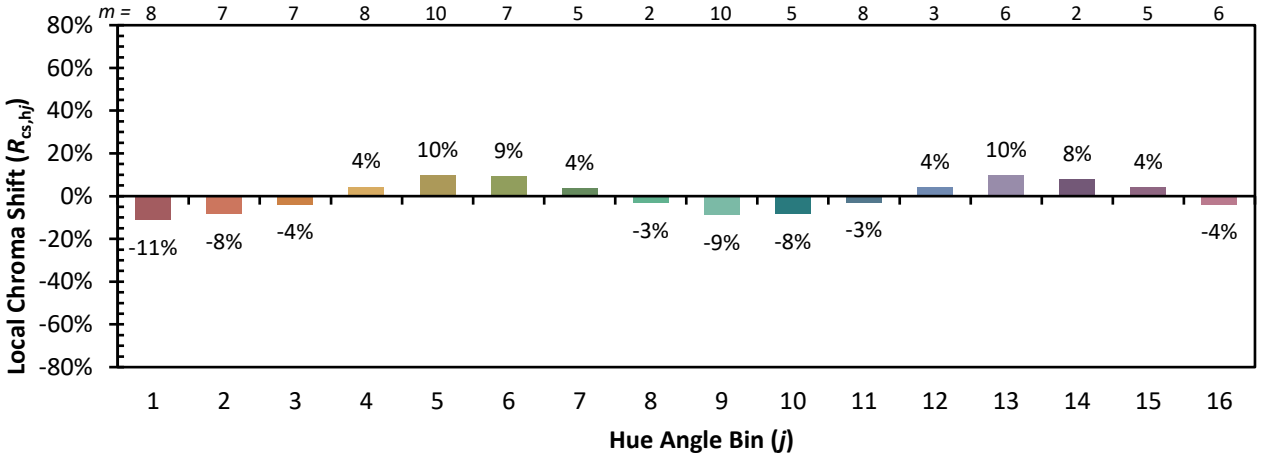
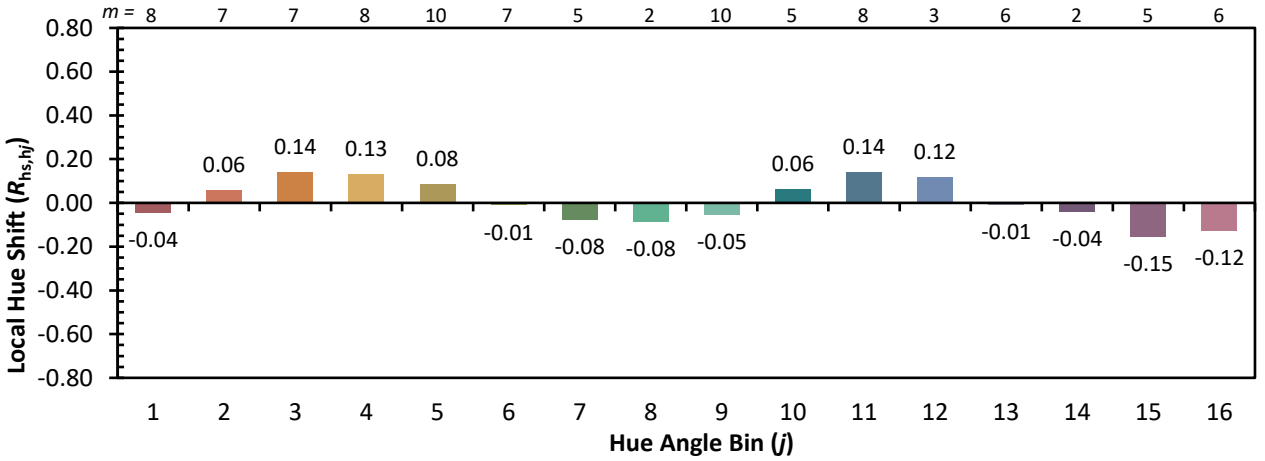
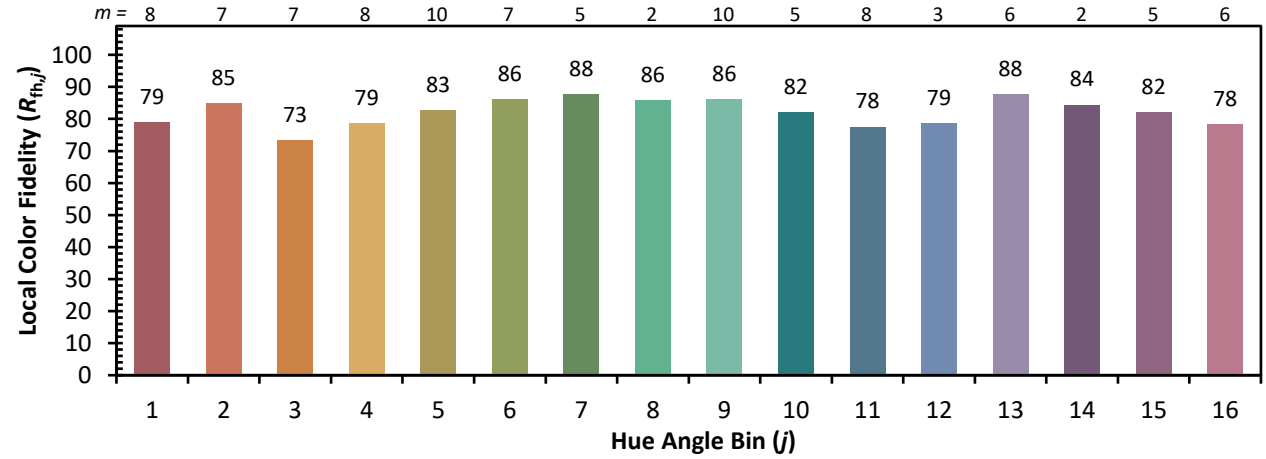
## Color Rendition by Hue-Angle Bin



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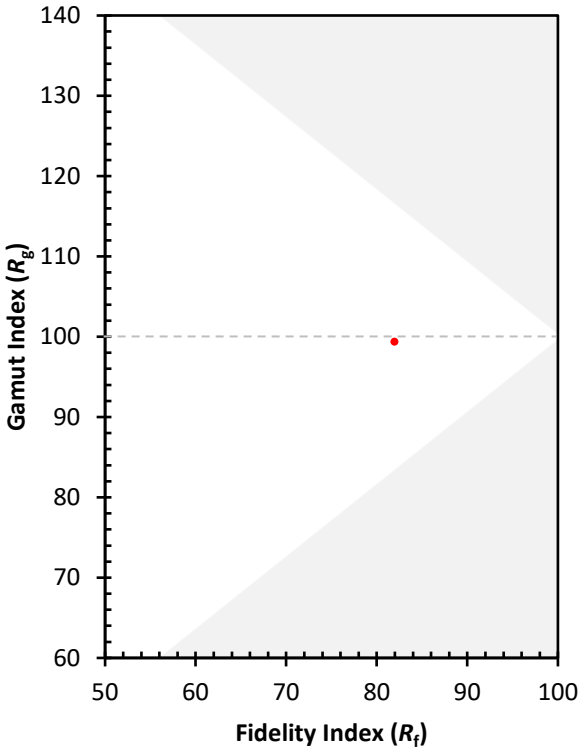
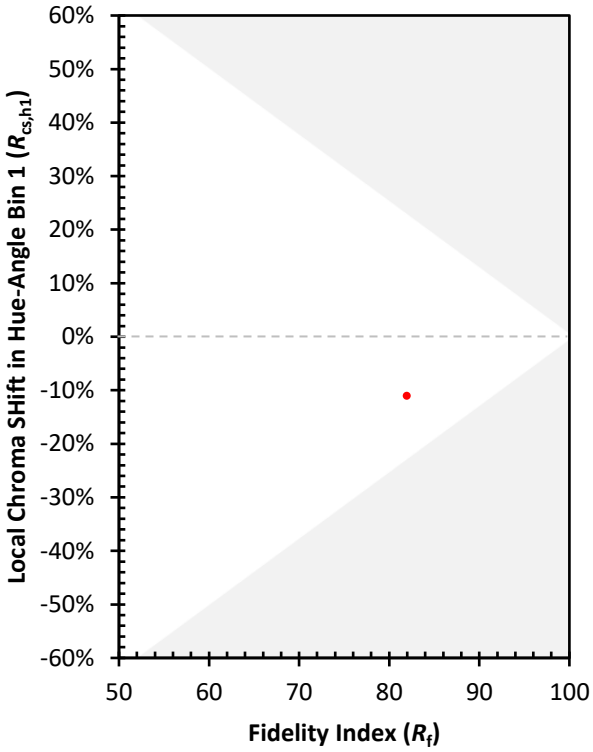
## Measure Comparisons

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