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: P1457844

Luminaire Tested: GLAN-SB1B-840-U-T2LG-HSS

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: | P1457844 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB1B-840-U-T2LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 1xLight Square PACKAGE 80CRI 4000K FIXTURE w/ TYPE II LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (26) 4000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 3902.3 lumens |
| Efficiency: | N/A |
| Efficacy: | 98.0 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B1 - U0 - G1 |

| | |
|---|---|
| Input Watts (W): | 39.8 |
| 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: P1457844
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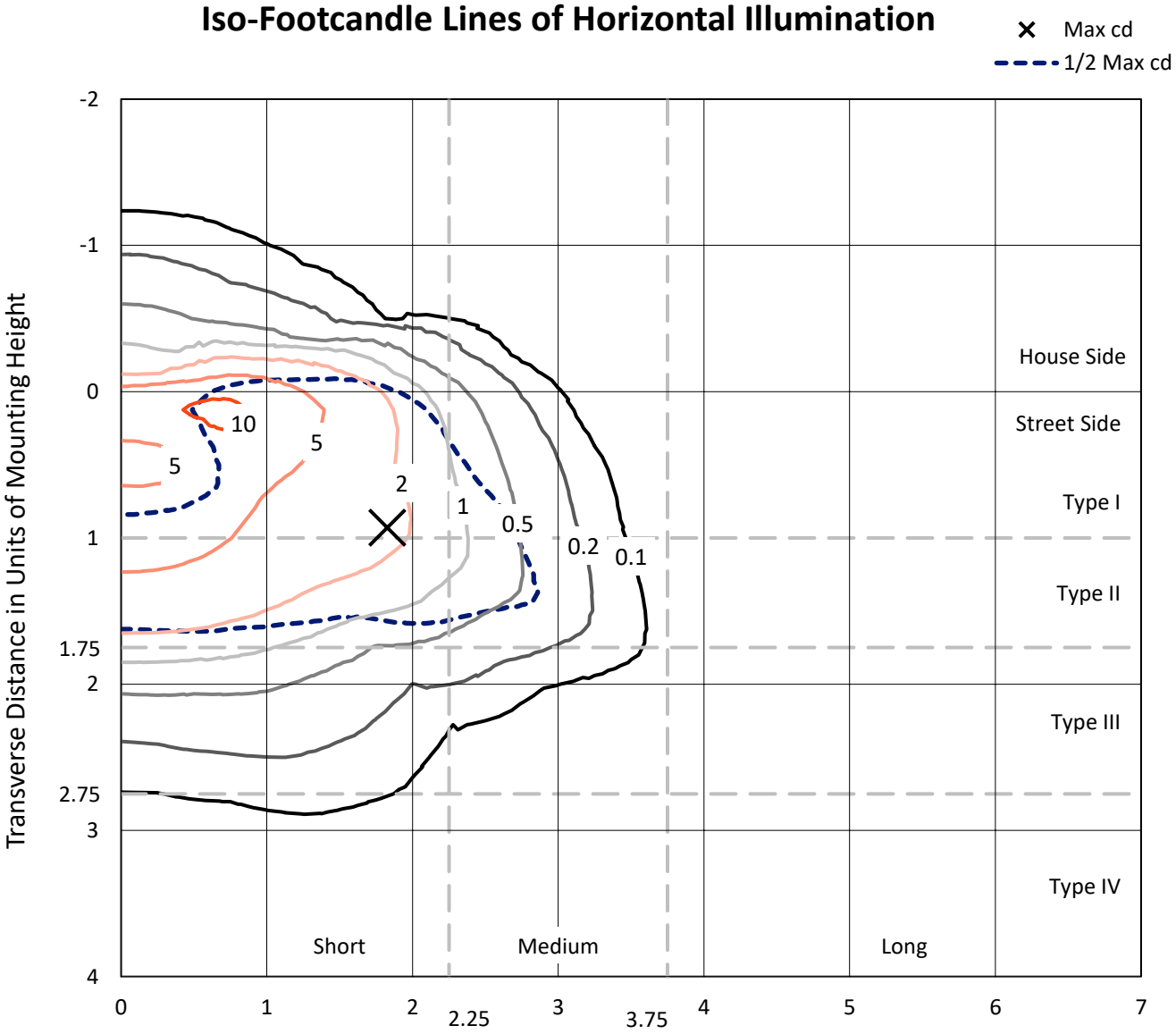
## Iso-Footcandle Lines of Horizontal Illumination




Based on 10 foot mounting height. Maximum calculated value = 11.2 fc
Type II - Short - N/A

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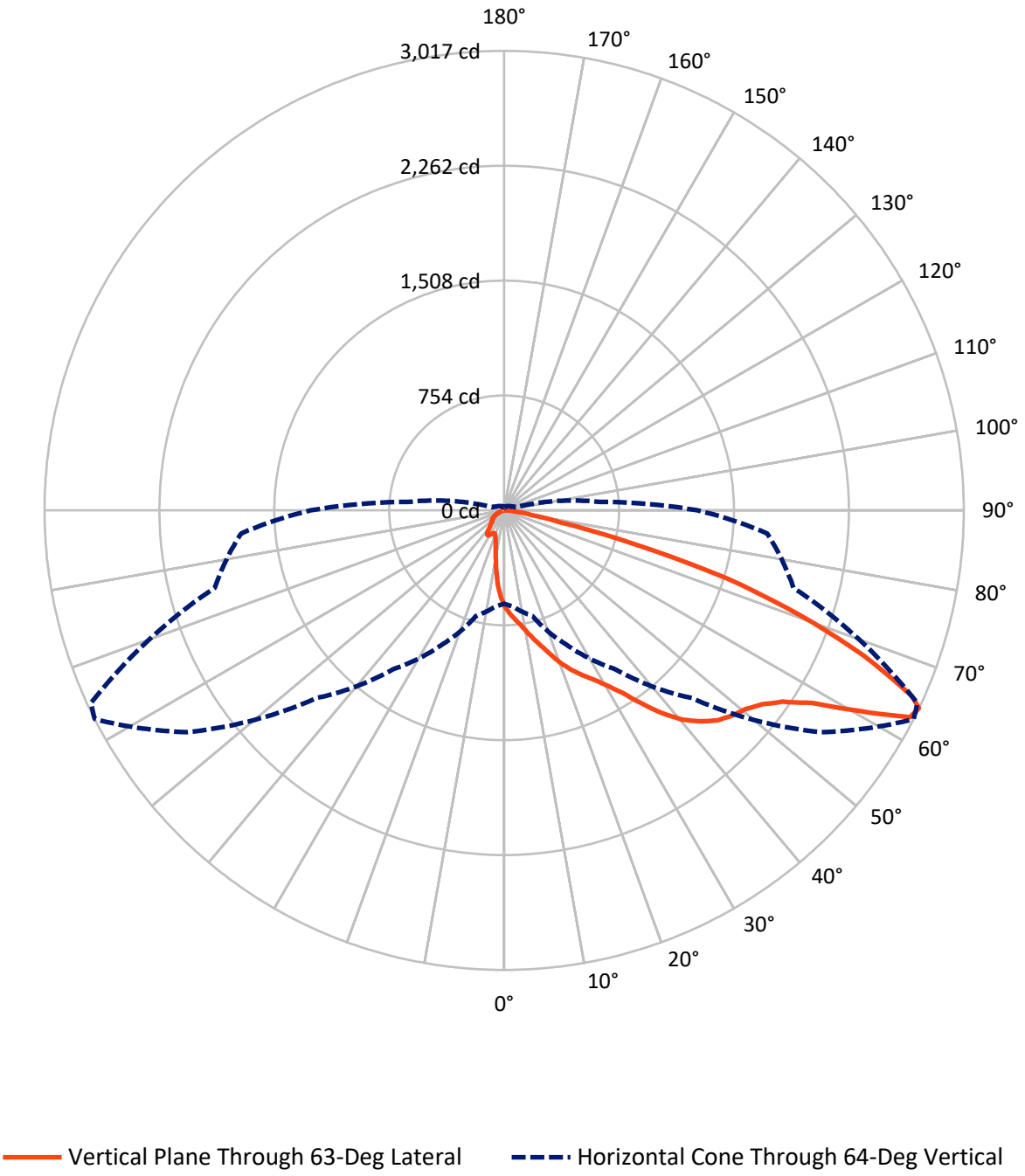
## Luminous Intensity Polar Plot



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REPORT NUMBER: P1457844
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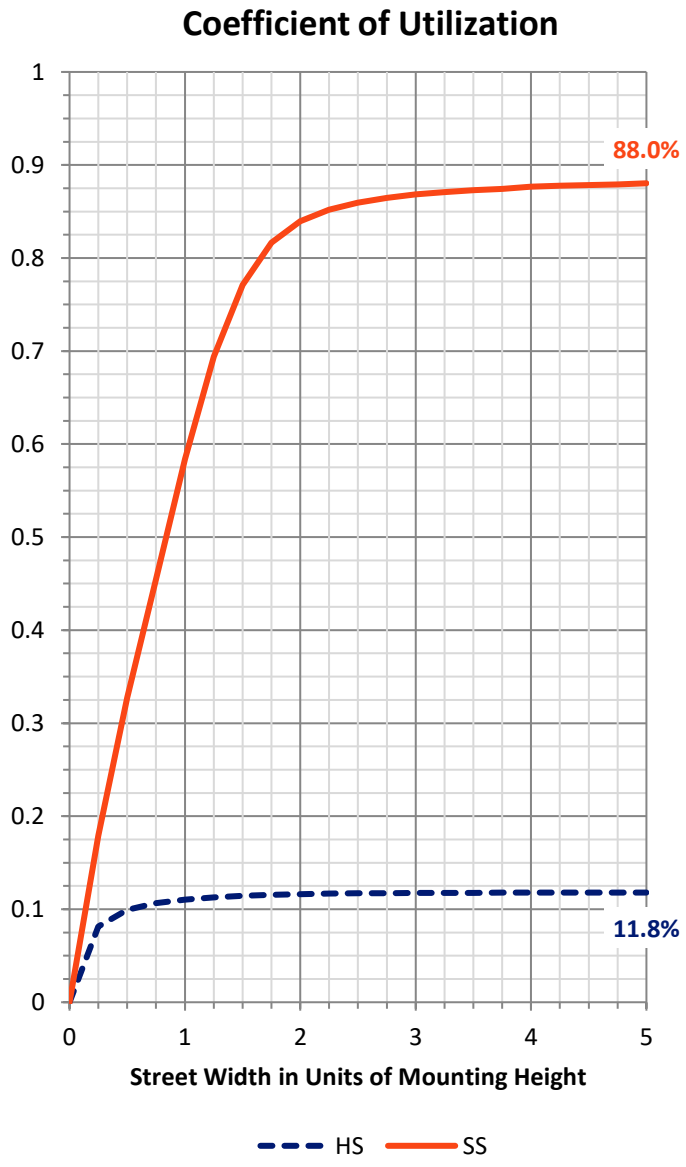
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 463.1 | 0.0 | 463.1 |
| | % Fixture | 11.9 | 0.0 | 11.9 |
| **Street Side** | Lumens | 3439.2 | 0.0 | 3439.2 |
| | % Fixture | 88.1 | 0.0 | 88.1 |
| **Total** | Lumens | 3902.3 | 0.0 | 3902.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 53.1 | 1.4 |
| 10°-20° | 149.3 | 3.8 |
| 20°-30° | 265.9 | 6.8 |
| 30°-40° | 507.9 | 13.0 |
| 40°-50° | 841.9 | 21.6 |
| 50°-60° | 1049.4 | 26.9 |
| 60°-70° | 782.5 | 20.1 |
| 70°-80° | 224.4 | 5.8 |
| 80°-90° | 27.8 | 0.7 |
| 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° | 3902.3 | 100.0 |
| 0°-180° | 3902.3 | 100.0 |



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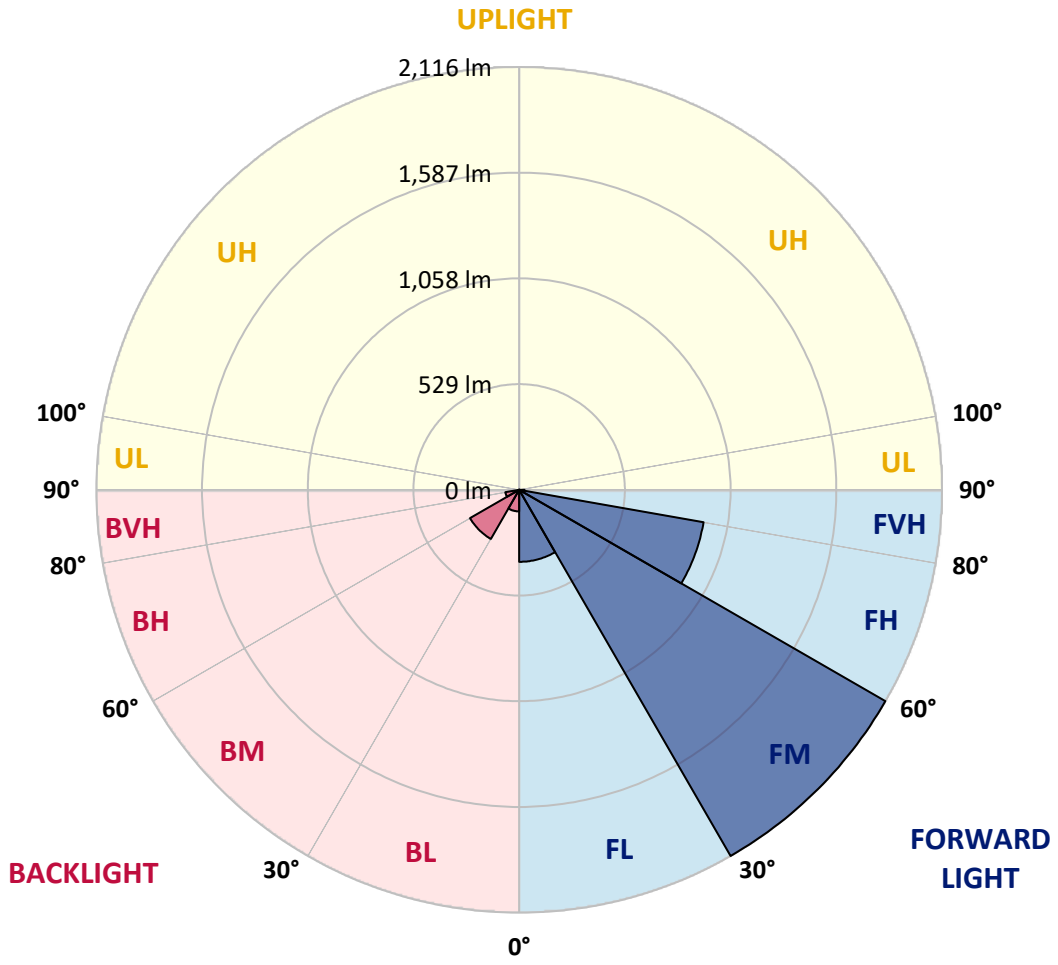
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 360.3 | 9.2 | | | |
| FM | (30°-60°) | 2115.6 | 54.2 | | | |
| FH | (60°-80°) | 936.9 | 24.0 | | | G1/1800 |
| FVH | (80°-90°) | 26.4 | 0.7 | | | G1/100 |
| BL | (0°-30°) | 108.0 | 2.8 | B0/110 | | |
| BM | (30°-60°) | 283.6 | 7.3 | B1/1000 | | |
| BH | (60°-80°) | 70.0 | 1.8 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 1.4 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G1**
Type II Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 63° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | *631.0* | 631.0 | 631.0 | 631.0 |
| 2.5° | 707.0 | 704.7 | 702.4 | 698.9 | 694.2 | 689.5 | 683.6 | *675.4* | 671.9 | 660.2 | 646.2 |
| 5° | 743.3 | 743.3 | 742.2 | 739.8 | 737.5 | 732.8 | 725.8 | *715.2* | 710.6 | 694.2 | 669.6 |
| 7.5° | 752.7 | 753.9 | 757.4 | 762.1 | 769.1 | 767.9 | 767.9 | *756.2* | 753.9 | 736.3 | 703.5 |
| 10° | 736.3 | 737.5 | 746.8 | 759.7 | 780.8 | 800.7 | 814.7 | *807.7* | 804.2 | 786.6 | 745.7 |
| 12.5° | 712.9 | 712.9 | 728.1 | 748.0 | 780.8 | 818.3 | 859.2 | *866.2* | 867.4 | 847.5 | 798.4 |
| 15° | 652.0 | 654.4 | 679.0 | 718.8 | 772.6 | 831.1 | 900.2 | *927.1* | 934.1 | 921.3 | 862.7 |
| 17.5° | 571.3 | 573.6 | 598.2 | 652.0 | 732.8 | 831.1 | 935.3 | *997.4* | 1006.7 | 1009.1 | 944.7 |
| 20° | 537.3 | 537.3 | 551.4 | 592.3 | 676.6 | 808.9 | 956.4 | *1072.3* | 1093.3 | 1119.1 | 1034.8 |
| 22.5° | 542.0 | 542.0 | 550.2 | 573.6 | 641.5 | 778.5 | 969.3 | *1139.0* | 1182.3 | 1247.9 | 1150.7 |
| 25° | 567.7 | 567.7 | 574.8 | 590.0 | 645.0 | 773.8 | 993.8 | *1198.7* | 1267.8 | 1391.8 | 1283.0 |
| 27.5° | 608.7 | 607.5 | 613.4 | 628.6 | 679.0 | 796.0 | 1034.8 | *1258.4* | 1335.7 | 1553.4 | 1435.2 |
| 30° | 668.4 | 664.9 | 667.2 | 684.8 | 734.0 | 847.5 | 1094.5 | *1334.5* | 1412.9 | 1730.2 | 1603.7 |
| 32.5° | 806.5 | 805.4 | 771.4 | 762.1 | 814.7 | 930.6 | 1176.5 | *1429.3* | 1517.1 | 1917.5 | 1777.0 |
| 35° | 1055.9 | 1072.3 | 1024.3 | 901.4 | 911.9 | 1041.8 | 1293.5 | *1558.1* | 1638.8 | 2116.5 | 1965.4 |
| 37.5° | 1308.7 | 1308.7 | 1288.8 | 1143.7 | 1069.9 | 1164.8 | 1419.9 | *1690.4* | 1774.6 | 2276.8 | 2146.9 |
| 40° | 1508.9 | 1519.4 | 1496.0 | 1387.2 | 1291.2 | 1305.2 | 1546.4 | *1806.2* | 1883.5 | 2375.2 | 2275.7 |
| 42.5° | 1657.6 | 1655.2 | 1645.9 | 1574.5 | 1520.6 | 1489.0 | 1661.1 | *1892.9* | 1966.6 | 2425.5 | 2356.4 |
| 45° | 1817.9 | 1817.9 | 1805.1 | 1746.5 | 1702.1 | 1675.1 | 1746.5 | *1965.4* | 2042.7 | 2455.9 | 2406.8 |
| 47.5° | 1985.3 | 1983.0 | 1970.1 | 1905.7 | 1857.8 | 1817.9 | 1833.2 | *2012.3* | 2089.5 | 2436.0 | 2415.0 |
| 50° | 2026.3 | 2024.0 | 2053.2 | 2055.6 | 2012.3 | 1936.2 | 1902.2 | *2052.1* | 2120.0 | 2437.2 | 2440.7 |
| 52.5° | 1978.3 | 1992.4 | 2035.7 | 2088.4 | 2137.5 | 2057.9 | 1976.0 | *2115.3* | 2185.5 | 2470.0 | 2505.1 |
| 55° | 1858.9 | 1864.8 | 1947.9 | 2032.2 | 2146.9 | 2175.0 | 2094.2 | *2216.0* | 2278.0 | 2501.6 | 2562.5 |
| 57.5° | 1636.5 | 1658.7 | 1747.7 | 1894.0 | 2068.5 | 2185.5 | 2300.2 | *2384.5* | 2431.3 | 2514.5 | 2530.8 |
| 60° | 1235.0 | 1246.7 | 1439.8 | 1629.5 | 1905.7 | 2101.2 | 2492.2 | *2670.2* | 2664.3 | 2369.3 | 2309.6 |
| 62.5° | 751.5 | 762.1 | 900.2 | 1201.0 | 1548.7 | 1925.6 | 2556.6 | *2989.7* | 2958.1 | 2124.6 | 1944.4 |
| 64° | *612.2* | *632.1* | *717.6* | *975.1* | *1273.6* | *1741.9* | *2537.9* | *3016.6* | *2992.1* | *1966.6* | *1732.5* |
| 65° | 523.3 | 550.2 | 638.0 | 846.3 | 1082.8 | 1544.0 | 2486.4 | *2941.7* | 2925.3 | 1870.6 | 1556.9 |
| 67.5° | 328.9 | 341.8 | 471.8 | 657.9 | 745.7 | 988.0 | 2137.5 | *2543.7* | 2573.0 | 1666.9 | 1148.4 |
| 70° | 244.7 | 250.5 | 324.3 | 509.2 | 581.8 | 574.8 | 1467.9 | *2060.3* | 2067.3 | 1333.3 | 693.0 |
| 72.5° | 177.9 | 179.1 | 227.1 | 376.9 | 455.4 | 392.2 | 773.8 | *1531.2* | 1480.8 | 780.8 | 378.1 |
| 75° | 118.2 | 122.9 | 159.2 | 265.7 | 354.7 | 288.0 | 352.4 | *872.1* | 856.9 | 381.6 | 216.6 |
| 77.5° | 86.6 | 87.8 | 107.7 | 177.9 | 278.6 | 211.9 | 213.1 | *375.8* | 387.5 | 227.1 | 137.0 |
| 80° | 49.2 | 51.5 | 70.2 | 108.9 | 181.4 | 145.2 | 119.4 | *181.4* | 208.4 | 154.5 | 91.3 |
| 82.5° | 29.3 | 31.6 | 50.3 | 71.4 | 124.1 | 59.7 | 60.9 | *99.5* | 124.1 | 111.2 | 49.2 |
| 85° | 17.6 | 18.7 | 31.6 | 38.6 | 73.7 | 39.8 | 22.2 | *49.2* | 64.4 | 65.6 | 26.9 |
| 87.5° | 11.7 | 11.7 | 17.6 | 16.4 | 21.1 | 18.7 | 9.4 | *12.9* | 16.4 | 22.2 | 10.5 |
| 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: P1457844
CATALOG NUMBER: GLAN-SB1B-840-U-T2LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 | 631.0 |
| 2.5° | 634.5 | 627.4 | 606.4 | 578.3 | 552.5 | 532.6 | 508.0 | 491.7 | 476.4 | 476.4 | 463.6 |
| 5° | 649.7 | 631.0 | 579.4 | 515.1 | 446.0 | 380.4 | 338.3 | 291.5 | 276.3 | 263.4 | 265.7 |
| 7.5° | 675.4 | 641.5 | 550.2 | 434.3 | 324.3 | 254.0 | 207.2 | 186.1 | 176.8 | 170.9 | 172.1 |
| 10° | 707.0 | 660.2 | 515.1 | 352.4 | 238.8 | 186.1 | 163.9 | 155.7 | 152.2 | 151.0 | 151.0 |
| 12.5° | 750.4 | 682.5 | 479.9 | 283.3 | 188.5 | 160.4 | 148.7 | 144.0 | 140.5 | 138.1 | 138.1 |
| 15° | 801.9 | 710.6 | 439.0 | 233.0 | 165.1 | 147.5 | 138.1 | 133.4 | 128.8 | 127.6 | 127.6 |
| 17.5° | 867.4 | 739.8 | 402.7 | 200.2 | 153.3 | 138.1 | 128.8 | 122.9 | 119.4 | 118.2 | 118.2 |
| 20° | 940.0 | 776.1 | 366.4 | 181.4 | 145.2 | 128.8 | 119.4 | 114.7 | 111.2 | 108.9 | 110.0 |
| 22.5° | 1032.5 | 821.8 | 343.0 | 172.1 | 138.1 | 120.6 | 111.2 | 106.5 | 103.0 | 100.7 | 101.8 |
| 25° | 1134.3 | 879.1 | 330.1 | 172.1 | 133.4 | 114.7 | 104.2 | 99.5 | 96.0 | 93.6 | 93.6 |
| 27.5° | 1258.4 | 943.5 | 331.3 | 179.1 | 132.3 | 110.0 | 98.3 | 93.6 | 90.1 | 86.6 | 86.6 |
| 30° | 1395.4 | 1019.6 | 344.2 | 192.0 | 134.6 | 105.4 | 93.6 | 86.6 | 84.3 | 80.8 | 80.8 |
| 32.5° | 1540.5 | 1107.4 | 376.9 | 208.4 | 132.3 | 99.5 | 86.6 | 80.8 | 77.3 | 74.9 | 74.9 |
| 35° | 1693.9 | 1206.9 | 417.9 | 215.4 | 120.6 | 91.3 | 80.8 | 74.9 | 72.6 | 71.4 | 70.2 |
| 37.5° | 1840.2 | 1293.5 | 440.1 | 201.3 | 105.4 | 84.3 | 73.7 | 67.9 | 66.7 | 64.4 | 64.4 |
| 40° | 1953.7 | 1364.9 | 427.3 | 172.1 | 97.2 | 77.3 | 67.9 | 62.0 | 59.7 | 57.4 | 57.4 |
| 42.5° | 2020.5 | 1390.7 | 380.4 | 146.3 | 91.3 | 70.2 | 62.0 | 56.2 | 53.8 | 52.7 | 52.7 |
| 45° | 2059.1 | 1387.2 | 325.4 | 131.1 | 85.5 | 64.4 | 56.2 | 52.7 | 49.2 | 48.0 | 46.8 |
| 47.5° | 2057.9 | 1350.9 | 285.6 | 118.2 | 79.6 | 59.7 | 52.7 | 49.2 | 45.7 | 44.5 | 44.5 |
| 50° | 2049.7 | 1297.0 | 241.1 | 108.9 | 74.9 | 56.2 | 49.2 | 46.8 | 43.3 | 42.1 | 41.0 |
| 52.5° | 2069.6 | 1266.6 | 201.3 | 103.0 | 69.1 | 53.8 | 48.0 | 44.5 | 39.8 | 38.6 | 38.6 |
| 55° | 2094.2 | 1249.0 | 161.5 | 97.2 | 64.4 | 52.7 | 45.7 | 42.1 | 37.5 | 36.3 | 36.3 |
| 57.5° | 2022.8 | 1182.3 | 133.4 | 87.8 | 58.5 | 50.3 | 43.3 | 41.0 | 36.3 | 32.8 | 32.8 |
| 60° | 1798.0 | 977.5 | 110.0 | 77.3 | 53.8 | 46.8 | 41.0 | 37.5 | 32.8 | 28.1 | 28.1 |
| 62.5° | 1462.1 | 745.7 | 91.3 | 65.6 | 50.3 | 43.3 | 37.5 | 33.9 | 28.1 | 22.2 | 22.2 |
| 64° | *1270.1* | *633.3* | *81.9* | *57.4* | *48.0* | *39.8* | *33.9* | *30.4* | *24.6* | *18.7* | *17.6* |
| 65° | 1139.0 | 559.5 | 76.1 | 53.8 | 46.8 | 37.5 | 32.8 | 29.3 | 22.2 | 17.6 | 16.4 |
| 67.5° | 801.9 | 375.8 | 60.9 | 44.5 | 41.0 | 31.6 | 28.1 | 24.6 | 19.9 | 15.2 | 14.0 |
| 70° | 467.1 | 213.1 | 48.0 | 37.5 | 31.6 | 24.6 | 23.4 | 22.2 | 17.6 | 11.7 | 11.7 |
| 72.5° | 254.0 | 106.5 | 36.3 | 30.4 | 24.6 | 17.6 | 19.9 | 17.6 | 14.0 | 9.4 | 8.2 |
| 75° | 155.7 | 65.6 | 26.9 | 22.2 | 16.4 | 12.9 | 15.2 | 12.9 | 8.2 | 5.9 | 4.7 |
| 77.5° | 104.2 | 42.1 | 19.9 | 15.2 | 10.5 | 8.2 | 10.5 | 7.0 | 3.5 | 1.2 | 1.2 |
| 80° | 64.4 | 29.3 | 12.9 | 9.4 | 5.9 | 3.5 | 2.3 | 1.2 | 1.2 | 0.0 | 0.0 |
| 82.5° | 28.1 | 18.7 | 7.0 | 4.7 | 2.3 | 1.2 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 15.2 | 5.9 | 2.3 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 4.7 | 2.3 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-11

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-840-U-5WQ

Data in this report applies to families of products including GSS-SB1A-840-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

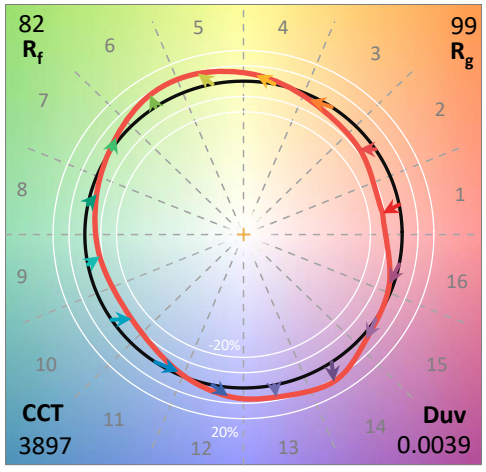
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-11 |
| 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-840-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 4000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3897 |
| CIE u': | 0.2249 |
| CIE v': | 0.5084 |
| Duv: | 0.0039 |
| CIE x: | 0.3882 |
| CIE y: | 0.3900 |
| CIE z: | 0.2218 |
| Peak Wavelength (nm): | 445 |
| Dominant Wavelength (nm): | 577 |
| Purity: | 33.54925 |
| Rf: | 81.8 |
| Rg: | 98.6 |

| | |
|---|---|
| CRI (Ra): | 80.2 |
| R1: | 78.9 |
| R2: | 83.5 |
| R3: | 88.3 |
| R4: | 82.1 |
| R5: | 78.8 |
| R6: | 78.4 |
| R7: | 85.8 |
| R8: | 65.8 |
| R9: | 6.7 |
| R10: | 61.9 |
| R11: | 81.9 |
| R12: | 58.9 |
| R13: | 79.2 |
| R14: | 93.2 |
| R15: | 71.9 |




## Test Conditions

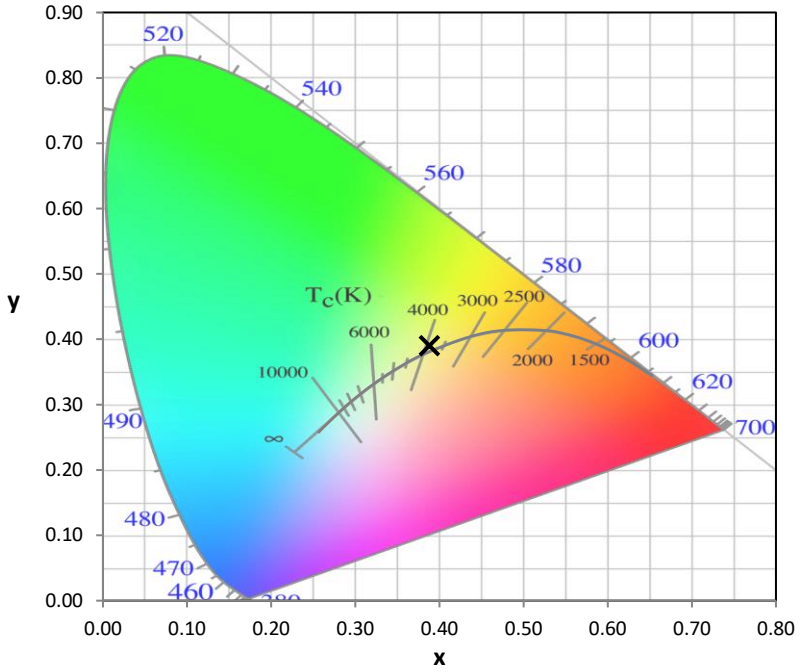
| | |
|---|---|
| Stabilization Time: | 24M |
| Operation Time: | 1H 24M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-11

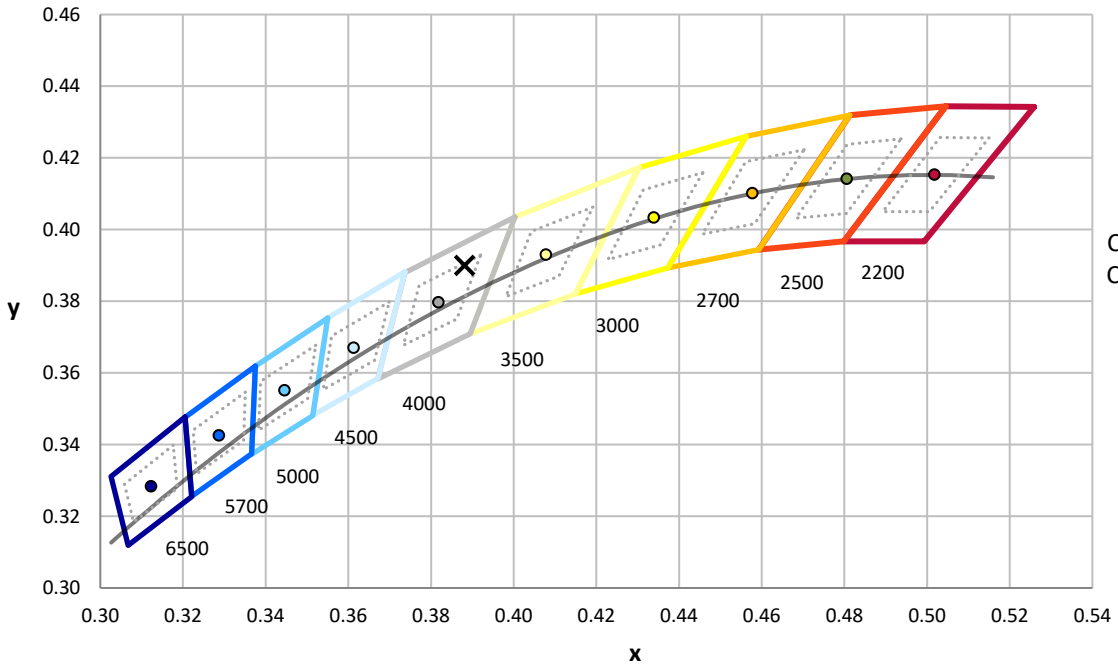
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

REPORT NUMBER: SP1-2407-184-11

## CIE 1931 Chromaticity Diagram




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




CCT = 3897K
CIE x = 0.3882
CIE y = 0.3900
Duv = 0.0039

Point lies inside the ANSI 4000K 4-step quadrangle

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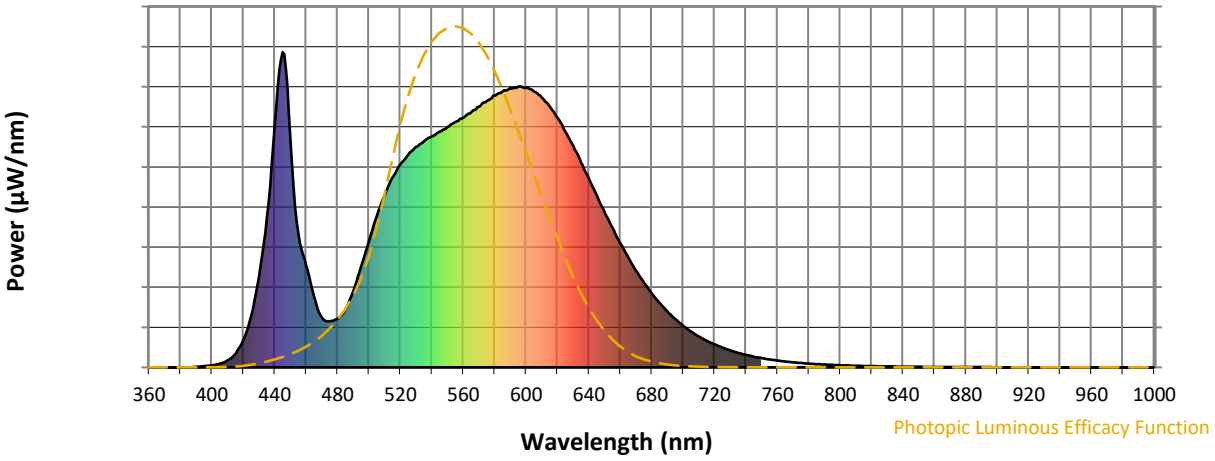
## Photopic Flux vs. Wavelength




## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 242 | NR | 620 | 792 | NR | 750 | 29 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 320 | NR | 625 | 748 | NR | 755 | 25 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 401 | NR | 630 | 703 | NR | 760 | 22 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 479 | NR | 635 | 651 | NR | 765 | 19 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 546 | NR | 640 | 599 | NR | 770 | 16 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 602 | NR | 645 | 545 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 645 | NR | 650 | 493 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 674 | NR | 655 | 443 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 699 | NR | 660 | 394 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 718 | NR | 665 | 349 | NR | 795 | 8 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 732 | NR | 670 | 307 | NR | 800 | 7 | NR | 930 | 0 | NR |
| 415 | 43 | NR | 545 | 749 | NR | 675 | 269 | NR | 805 | 6 | NR | 935 | 0 | NR |
| 420 | 86 | NR | 550 | 762 | NR | 680 | 235 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 164 | NR | 555 | 778 | NR | 685 | 204 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 288 | NR | 560 | 792 | NR | 690 | 178 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 478 | NR | 565 | 809 | NR | 695 | 153 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 766 | NR | 570 | 827 | NR | 700 | 132 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 1000 | NR | 575 | 845 | NR | 705 | 114 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 726 | NR | 580 | 862 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 425 | NR | 585 | 875 | NR | 715 | 84 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 324 | NR | 590 | 887 | NR | 720 | 73 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 225 | NR | 595 | 890 | NR | 725 | 63 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 887 | NR | 730 | 54 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 147 | NR | 605 | 875 | NR | 735 | 46 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 154 | NR | 610 | 856 | NR | 740 | 40 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 184 | NR | 615 | 828 | NR | 745 | 34 | NR | 875 | 1 | NR | | | |

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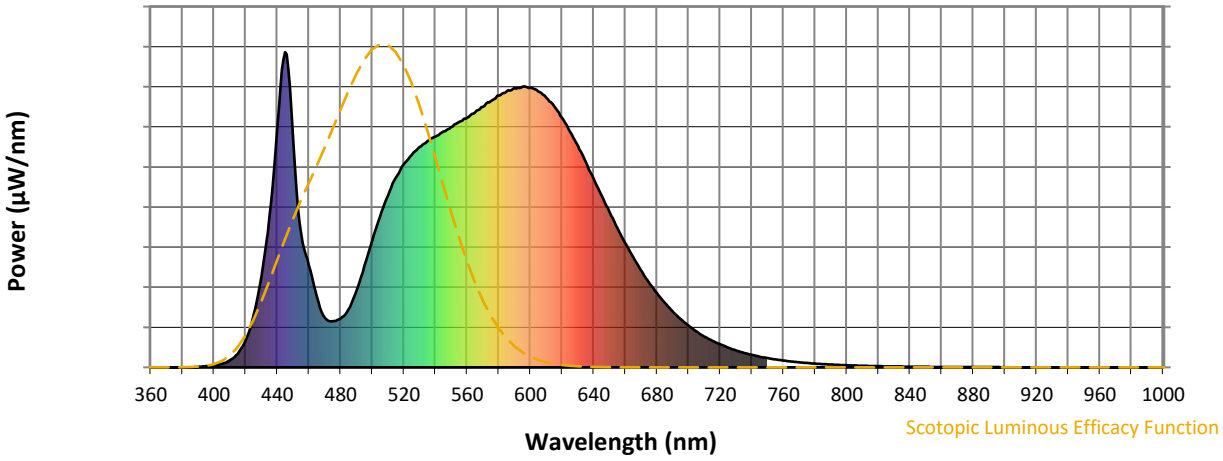
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.57**

| 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 | 242 | NR | 620 | 792 | NR | 750 | 29 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 320 | NR | 625 | 748 | NR | 755 | 25 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 401 | NR | 630 | 703 | NR | 760 | 22 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 479 | NR | 635 | 651 | NR | 765 | 19 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 546 | NR | 640 | 599 | NR | 770 | 16 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 602 | NR | 645 | 545 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 645 | NR | 650 | 493 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 674 | NR | 655 | 443 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 699 | NR | 660 | 394 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 718 | NR | 665 | 349 | NR | 795 | 8 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 732 | NR | 670 | 307 | NR | 800 | 7 | NR | 930 | 0 | NR |
| 415 | 43 | NR | 545 | 749 | NR | 675 | 269 | NR | 805 | 6 | NR | 935 | 0 | NR |
| 420 | 86 | NR | 550 | 762 | NR | 680 | 235 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 164 | NR | 555 | 778 | NR | 685 | 204 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 288 | NR | 560 | 792 | NR | 690 | 178 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 478 | NR | 565 | 809 | NR | 695 | 153 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 766 | NR | 570 | 827 | NR | 700 | 132 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 1000 | NR | 575 | 845 | NR | 705 | 114 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 726 | NR | 580 | 862 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 425 | NR | 585 | 875 | NR | 715 | 84 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 324 | NR | 590 | 887 | NR | 720 | 73 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 225 | NR | 595 | 890 | NR | 725 | 63 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 887 | NR | 730 | 54 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 147 | NR | 605 | 875 | NR | 735 | 46 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 154 | NR | 610 | 856 | NR | 740 | 40 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 184 | NR | 615 | 828 | NR | 745 | 34 | NR | 875 | 1 | NR | | | |

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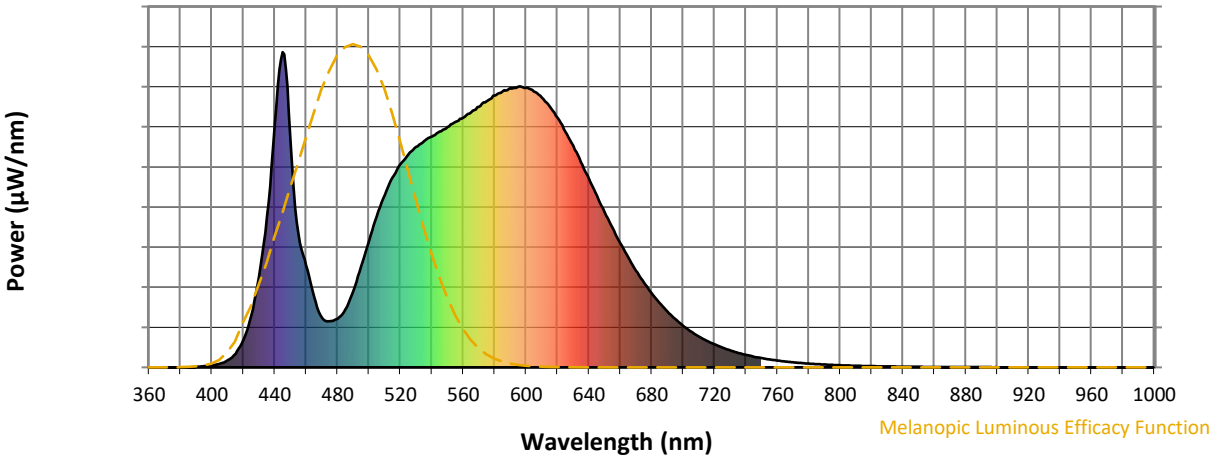
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.06**

| 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 | 242 | NR | 620 | 792 | NR | 750 | 29 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 320 | NR | 625 | 748 | NR | 755 | 25 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 401 | NR | 630 | 703 | NR | 760 | 22 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 479 | NR | 635 | 651 | NR | 765 | 19 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 546 | NR | 640 | 599 | NR | 770 | 16 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 602 | NR | 645 | 545 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 645 | NR | 650 | 493 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 674 | NR | 655 | 443 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 699 | NR | 660 | 394 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 718 | NR | 665 | 349 | NR | 795 | 8 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 732 | NR | 670 | 307 | NR | 800 | 7 | NR | 930 | 0 | NR |
| 415 | 43 | NR | 545 | 749 | NR | 675 | 269 | NR | 805 | 6 | NR | 935 | 0 | NR |
| 420 | 86 | NR | 550 | 762 | NR | 680 | 235 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 164 | NR | 555 | 778 | NR | 685 | 204 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 288 | NR | 560 | 792 | NR | 690 | 178 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 478 | NR | 565 | 809 | NR | 695 | 153 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 766 | NR | 570 | 827 | NR | 700 | 132 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 1000 | NR | 575 | 845 | NR | 705 | 114 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 726 | NR | 580 | 862 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 425 | NR | 585 | 875 | NR | 715 | 84 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 324 | NR | 590 | 887 | NR | 720 | 73 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 225 | NR | 595 | 890 | NR | 725 | 63 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 157 | NR | 600 | 887 | NR | 730 | 54 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 147 | NR | 605 | 875 | NR | 735 | 46 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 154 | NR | 610 | 856 | NR | 740 | 40 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 184 | NR | 615 | 828 | NR | 745 | 34 | NR | 875 | 1 | NR | | | |

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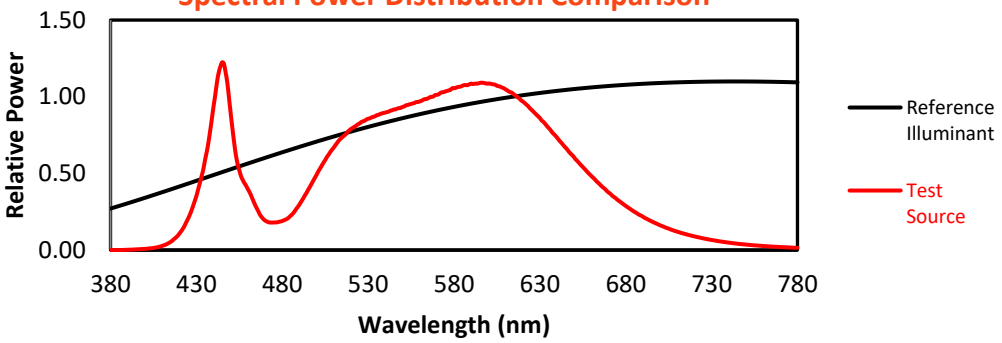
# TM-30-18

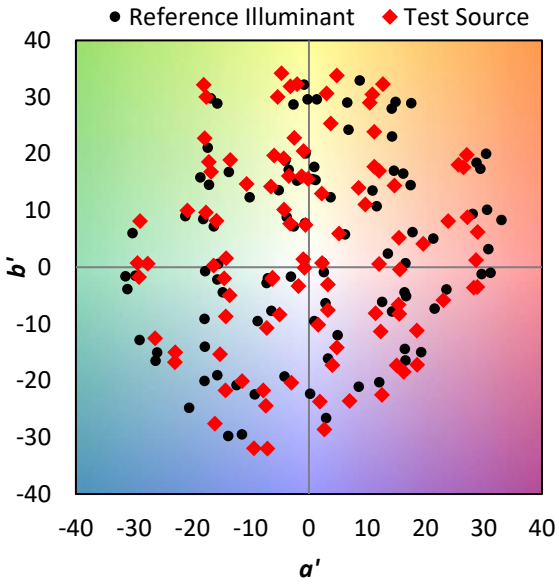
## Summary

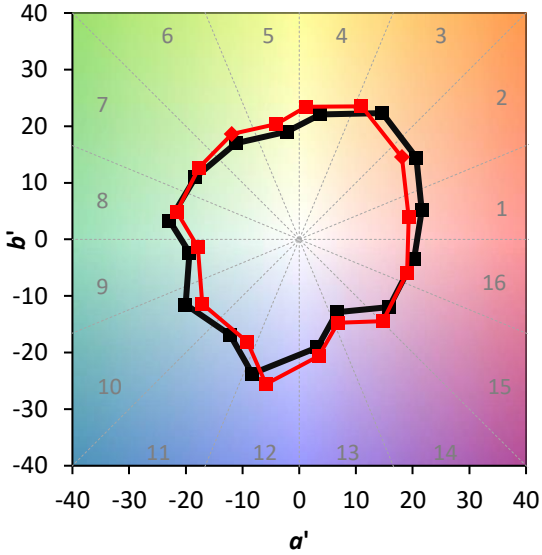
$R_f$ = 81.8
$R_g$ = 98.6
CIE $R_a$ = 80.2
$R_9$ = 6.7

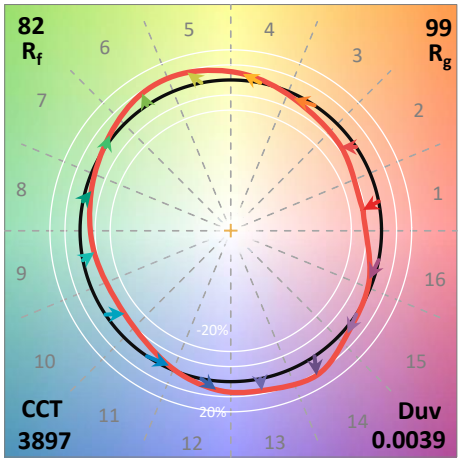
## Spectral Power Distribution Comparison

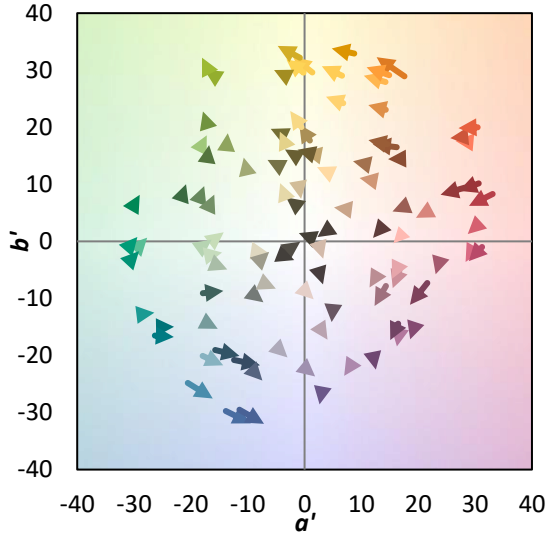



## Color Vector Graphics



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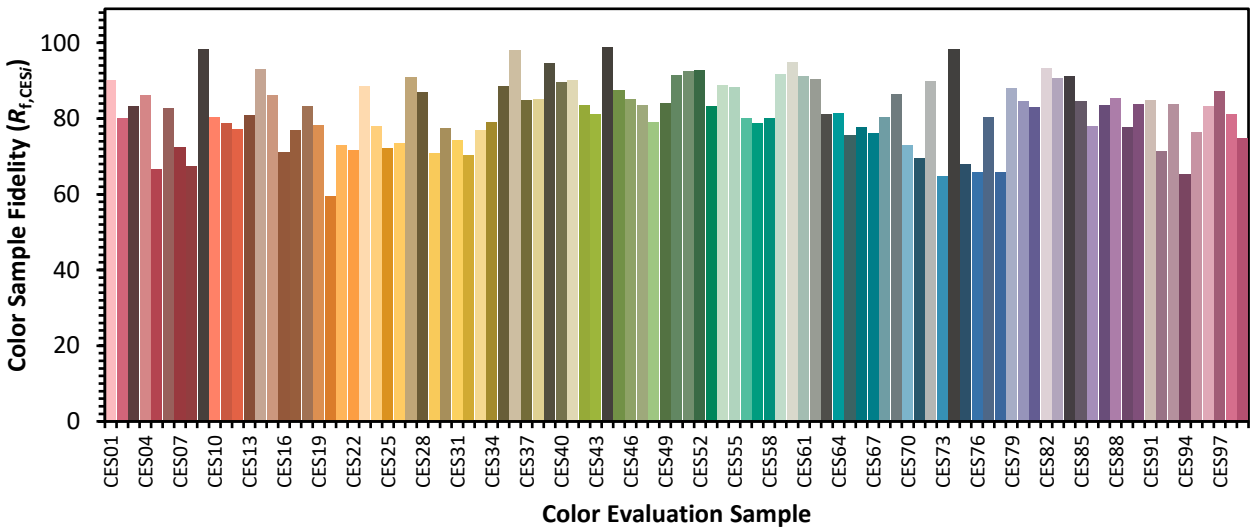
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 73 | CES51 = 93 | CES76 = 66 |
| CES02 = 61 | CES27 = 91 | CES52 = 93 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 83 | CES78 = 66 |
| CES04 = 69 | CES29 = 71 | CES54 = 89 | CES79 = 88 |
| CES05 = 48 | CES30 = 77 | CES55 = 88 | CES80 = 85 |
| CES06 = 50 | CES31 = 74 | CES56 = 80 | CES81 = 83 |
| CES07 = 41 | CES32 = 70 | CES57 = 79 | CES82 = 93 |
| CES08 = 40 | CES33 = 77 | CES58 = 80 | CES83 = 91 |
| CES09 = 29 | CES34 = 79 | CES59 = 92 | CES84 = 91 |
| CES10 = 74 | CES35 = 88 | CES60 = 95 | CES85 = 84 |
| CES11 = 57 | CES36 = 98 | CES61 = 91 | CES86 = 78 |
| CES12 = 63 | CES37 = 85 | CES62 = 90 | CES87 = 84 |
| CES13 = 42 | CES38 = 85 | CES63 = 81 | CES88 = 85 |
| CES14 = 74 | CES39 = 95 | CES64 = 81 | CES89 = 78 |
| CES15 = 71 | CES40 = 90 | CES65 = 76 | CES90 = 84 |
| CES16 = 47 | CES41 = 90 | CES66 = 78 | CES91 = 85 |
| CES17 = 49 | CES42 = 84 | CES67 = 76 | CES92 = 71 |
| CES18 = 56 | CES43 = 81 | CES68 = 80 | CES93 = 84 |
| CES19 = 71 | CES44 = 99 | CES69 = 86 | CES94 = 65 |
| CES20 = 65 | CES45 = 87 | CES70 = 73 | CES95 = 77 |
| CES21 = 86 | CES46 = 85 | CES71 = 70 | CES96 = 83 |
| CES22 = 78 | CES47 = 84 | CES72 = 90 | CES97 = 87 |
| CES23 = 91 | CES48 = 79 | CES73 = 65 | CES98 = 81 |
| CES24 = 90 | CES49 = 84 | CES74 = 98 | CES99 = 75 |
| CES25 = 71 | CES50 = 91 | CES75 = 68 | |



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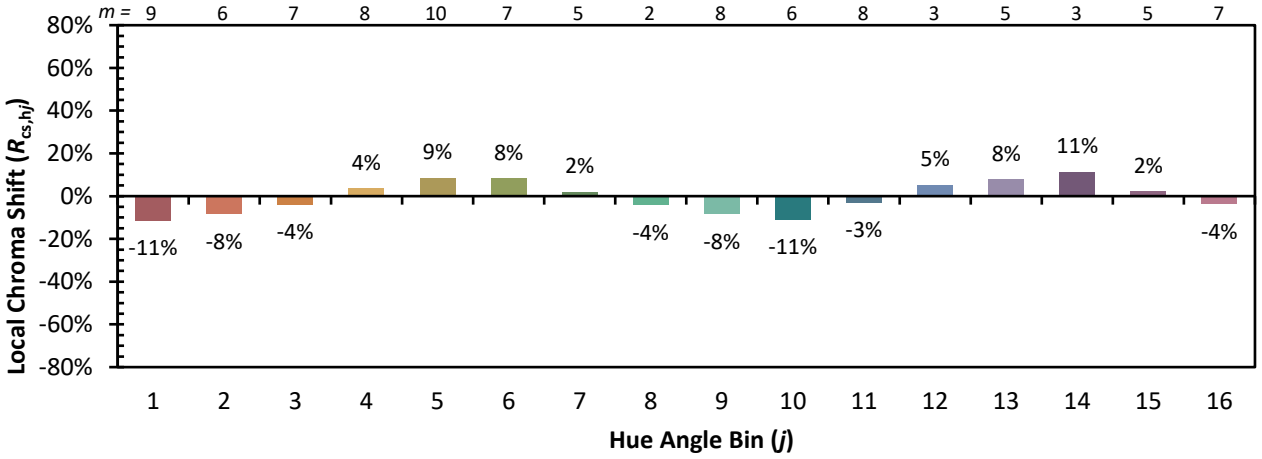
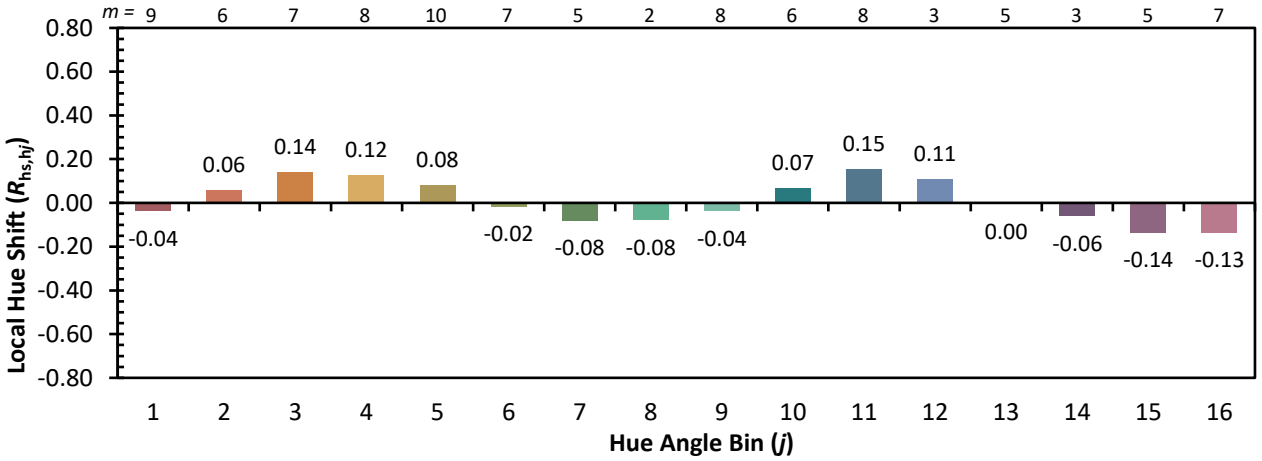
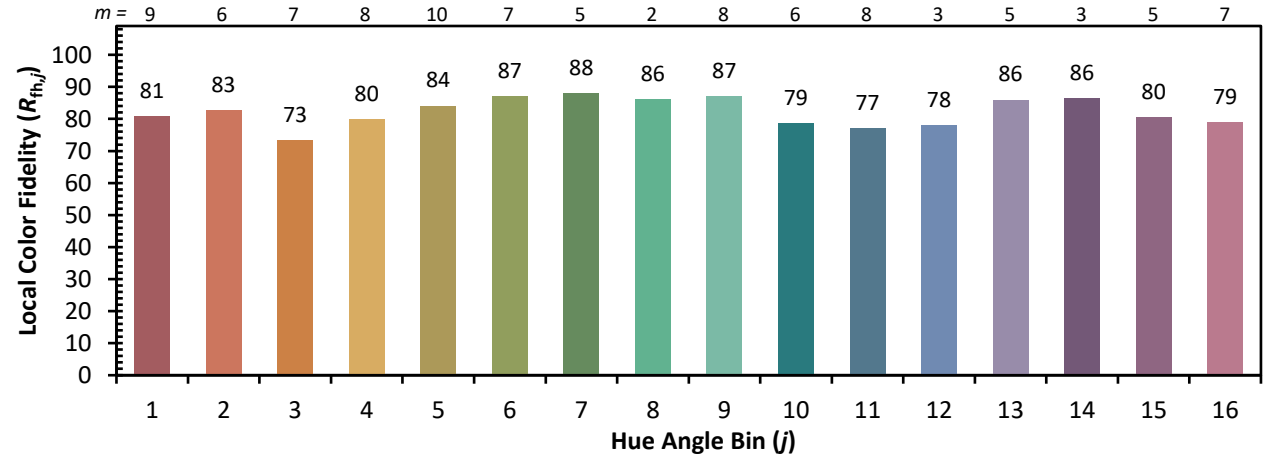
## Color Rendition by Hue-Angle Bin



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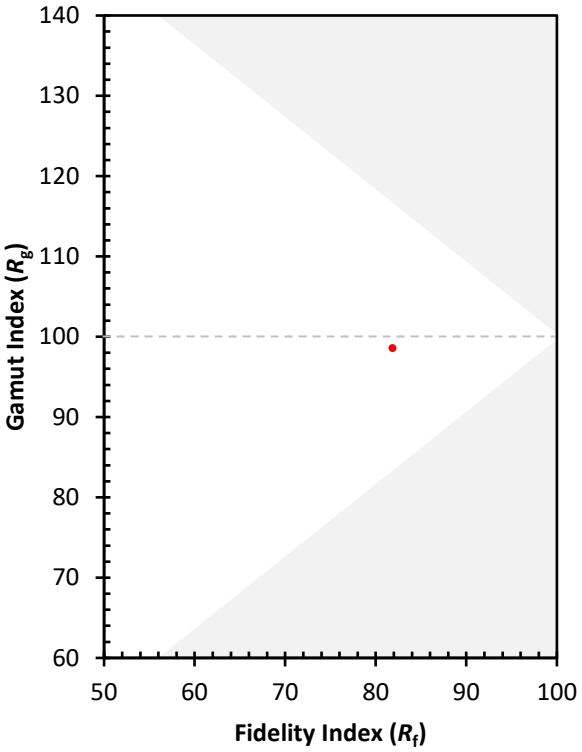
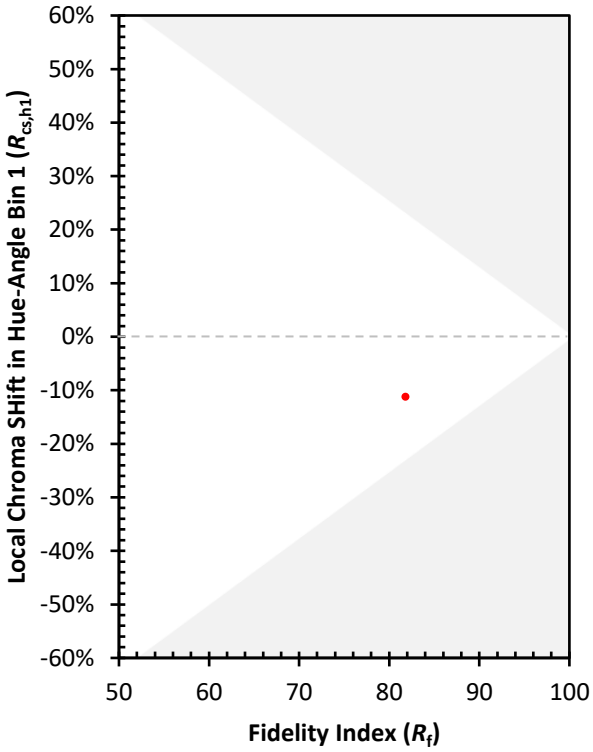
## Measure Comparisons

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