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: P1457204

Luminaire Tested: GLAN-SB3B-830-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: | P1457204 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3B-830-U-T4LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 3xLight Square PACKAGE 80CRI 3000K FIXTURE w/ TYPE IV LOW GLARE |
| Light Source: | (78) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14851.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 136.0 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): | 109.2 |
| 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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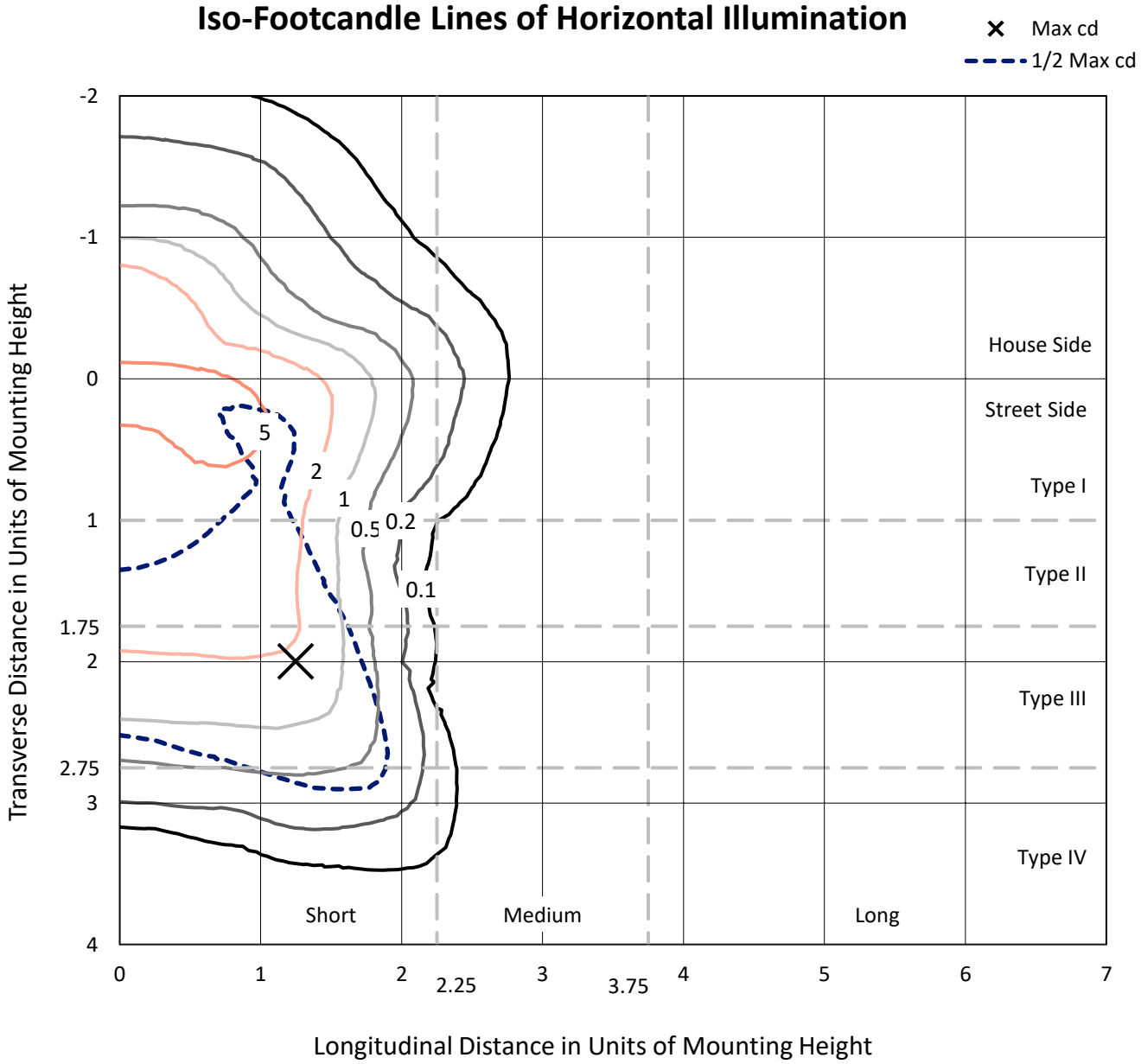
Scaled Data Report

REPORT NUMBER: P1457204
CATALOG NUMBER: GLAN-SB3B-830-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 9.2 fc
Type IV - Short - N/A

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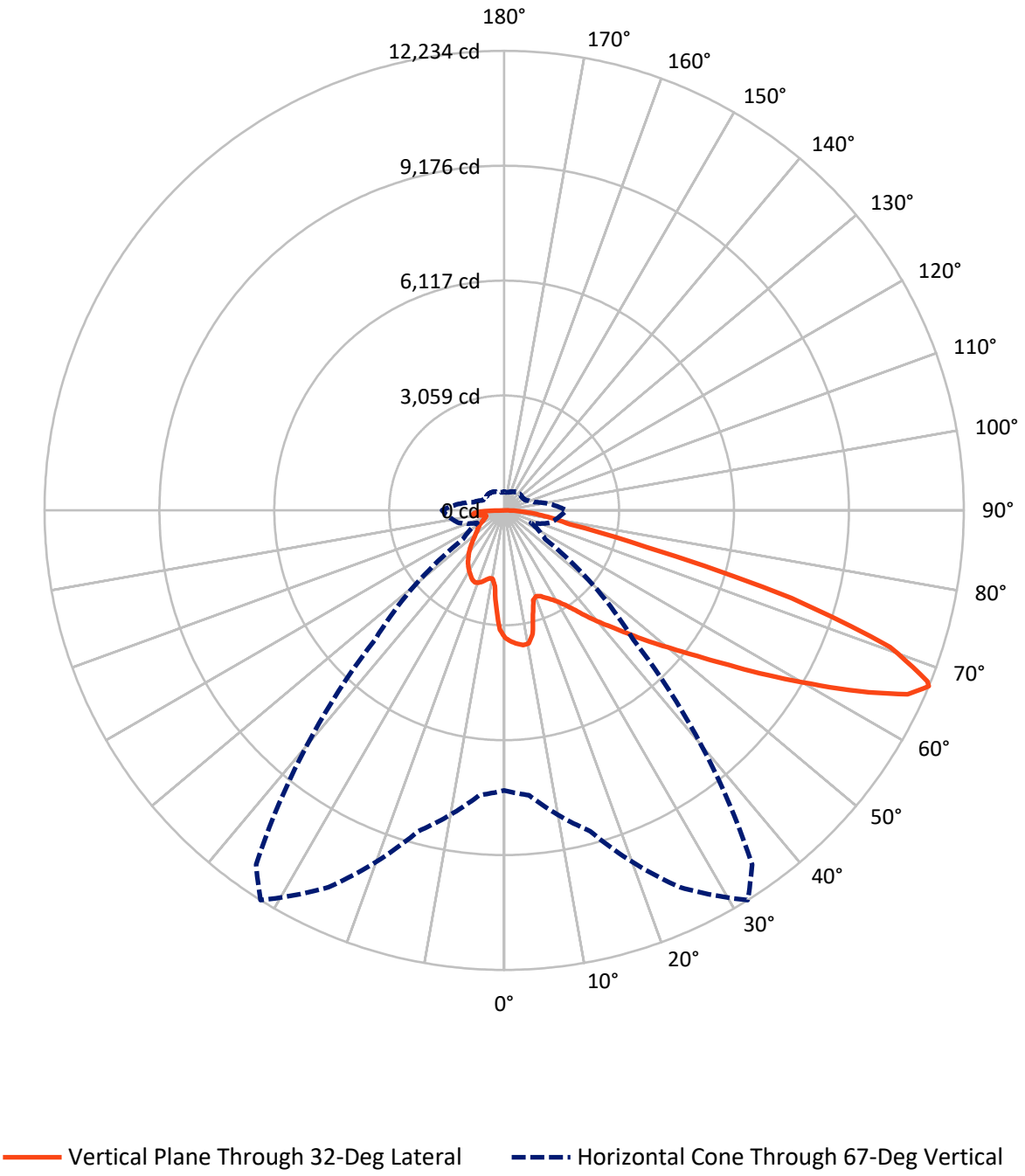
## Luminous Intensity Polar Plot



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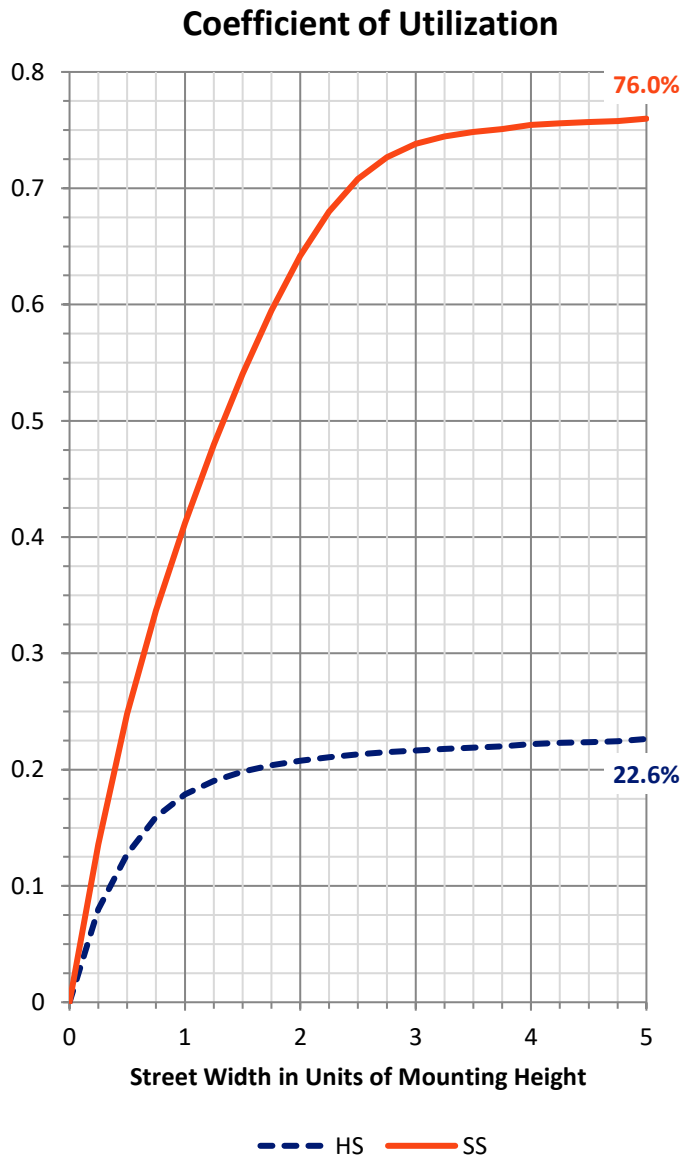
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3516.0 | 0.0 | 3516.0 |
| | % Fixture | 23.7 | 0.0 | 23.7 |
| **Street Side** | Lumens | 11335.5 | 0.0 | 11335.5 |
| | % Fixture | 76.3 | 0.0 | 76.3 |
| **Total** | Lumens | 14851.5 | 0.0 | 14851.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 296.5 | 2.0 |
| 10°-20° | 787.2 | 5.3 |
| 20°-30° | 1285.5 | 8.7 |
| 30°-40° | 1894.8 | 12.8 |
| 40°-50° | 2613.0 | 17.6 |
| 50°-60° | 3301.0 | 22.2 |
| 60°-70° | 3194.8 | 21.5 |
| 70°-80° | 1140.2 | 7.7 |
| 80°-90° | 338.6 | 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° | 14851.5 | 100.0 |
| 0°-180° | 14851.5 | 100.0 |



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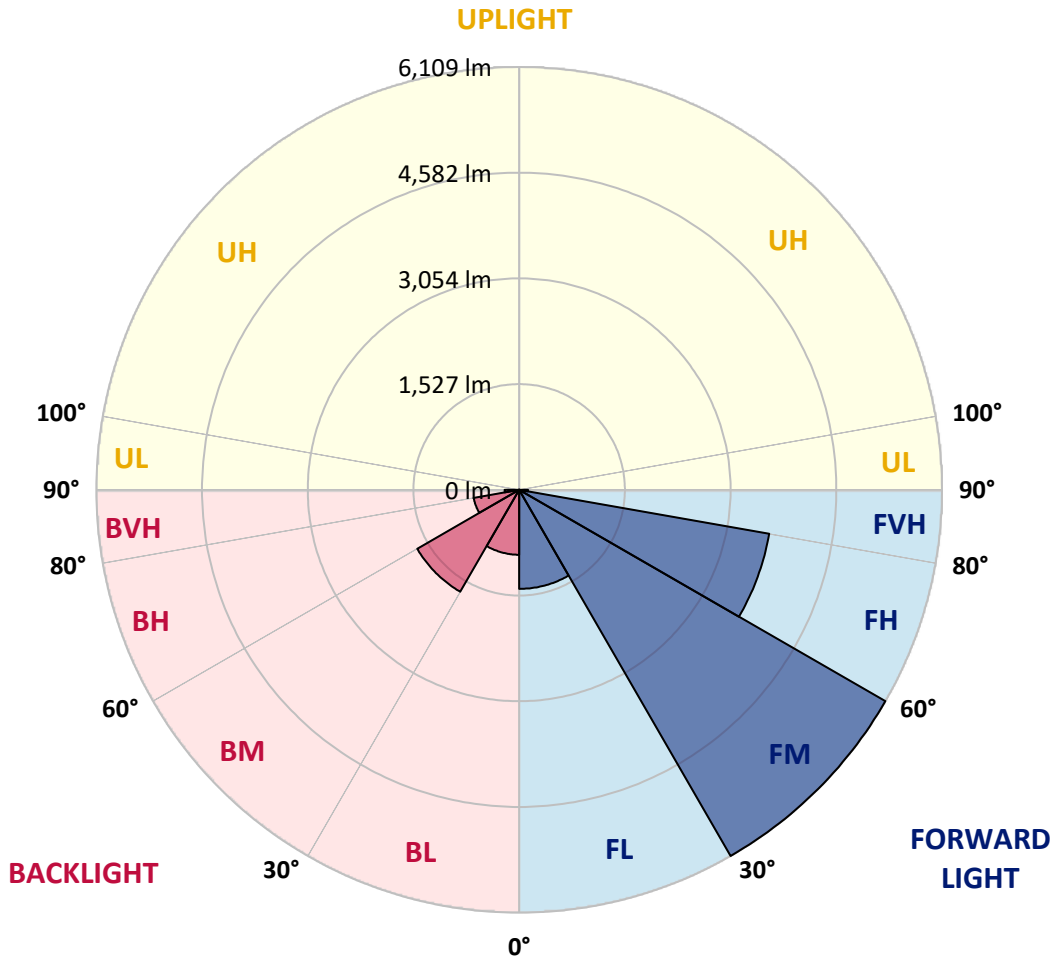
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1431.0 | 9.6 | | | |
| FM | (30°-60°) | 6108.9 | 41.1 | | | |
| FH | (60°-80°) | 3668.0 | 24.7 | | | G2/5000 |
| FVH | (80°-90°) | 127.6 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 938.3 | 6.3 | B2/1000 | | |
| BM | (30°-60°) | 1699.8 | 11.4 | B2/2500 | | |
| BH | (60°-80°) | 666.9 | 4.5 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 211.0 | 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° | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 |
| 2.5° | 3521.9 | 3512.0 | 3502.1 | 3508.7 | 3495.5 | 3492.2 | 3475.7 | 3469.1 | 3449.3 | 3446.0 | 3409.8 |
| 5° | 3594.4 | 3574.6 | 3571.3 | 3577.9 | 3564.8 | 3564.8 | 3551.6 | 3541.7 | 3512.0 | 3495.5 | 3442.7 |
| 7.5° | 3594.4 | 3591.1 | 3597.7 | 3620.8 | 3624.1 | 3624.1 | 3624.1 | 3627.4 | 3597.7 | 3574.6 | 3492.2 |
| 10° | 3390.0 | 3357.0 | 3429.5 | 3545.0 | 3601.0 | 3634.0 | 3693.4 | 3729.6 | 3706.6 | 3690.1 | 3577.9 |
| 12.5° | 2779.9 | 2783.2 | 2898.6 | 3146.0 | 3370.2 | 3465.8 | 3713.1 | 3845.1 | 3854.9 | 3828.6 | 3686.8 |
| 15° | 2357.8 | 2374.3 | 2433.7 | 2611.7 | 2868.9 | 3010.7 | 3597.7 | 3947.3 | 4026.4 | 4000.0 | 3818.7 |
| 17.5° | 2229.2 | 2239.1 | 2265.5 | 2367.7 | 2512.8 | 2628.2 | 3284.5 | 4013.2 | 4234.2 | 4201.2 | 3967.1 |
| 20° | 2209.4 | 2216.0 | 2249.0 | 2334.7 | 2433.7 | 2499.6 | 2964.6 | 3960.5 | 4428.7 | 4415.5 | 4102.3 |
| 22.5° | 2212.7 | 2219.3 | 2262.2 | 2380.9 | 2483.1 | 2539.2 | 2862.4 | 3838.5 | 4633.2 | 4646.4 | 4240.8 |
| 25° | 2219.3 | 2222.6 | 2288.6 | 2446.9 | 2575.5 | 2644.7 | 2928.3 | 3729.6 | 4804.7 | 4916.8 | 4392.5 |
| 27.5° | 2255.6 | 2265.5 | 2354.5 | 2532.6 | 2684.3 | 2763.4 | 3083.3 | 3765.9 | 4992.6 | 5223.5 | 4573.8 |
| 30° | 2354.5 | 2361.1 | 2469.9 | 2654.6 | 2819.5 | 2901.9 | 3268.0 | 3911.0 | 5223.5 | 5540.0 | 4751.9 |
| 32.5° | 2509.5 | 2516.1 | 2641.4 | 2832.7 | 3010.7 | 3109.7 | 3508.7 | 4188.0 | 5480.7 | 5873.1 | 4930.0 |
| 35° | 2723.9 | 2727.2 | 2868.9 | 3073.4 | 3261.4 | 3373.5 | 3789.0 | 4501.3 | 5747.8 | 6156.7 | 5061.9 |
| 37.5° | 2977.8 | 3000.9 | 3146.0 | 3360.3 | 3581.2 | 3683.5 | 4118.8 | 4867.3 | 5985.2 | 6397.4 | 5137.7 |
| 40° | 3327.3 | 3333.9 | 3475.7 | 3683.5 | 3917.6 | 4016.5 | 4448.5 | 5213.6 | 6245.7 | 6539.2 | 5207.0 |
| 42.5° | 3686.8 | 3742.8 | 3861.5 | 4092.4 | 4267.1 | 4346.3 | 4824.5 | 5530.1 | 6453.5 | 6545.8 | 5177.3 |
| 45° | 4168.2 | 4211.1 | 4329.8 | 4534.3 | 4709.0 | 4801.4 | 5230.1 | 5820.3 | 6559.0 | 6489.8 | 5111.3 |
| 47.5° | 4718.9 | 4745.3 | 4840.9 | 5025.6 | 5220.2 | 5286.1 | 5652.2 | 5985.2 | 6598.6 | 6450.2 | 5081.7 |
| 50° | 5368.6 | 5368.6 | 5437.8 | 5596.1 | 5774.2 | 5866.5 | 6041.3 | 6084.2 | 6714.0 | 6380.9 | 5157.5 |
| 52.5° | 5916.0 | 5942.4 | 6034.7 | 6258.9 | 6437.0 | 6542.5 | 6344.7 | 6235.8 | 6479.9 | 5995.1 | 5180.6 |
| 55° | 6440.3 | 6470.0 | 6677.7 | 6958.0 | 7261.4 | 7376.8 | 6723.9 | 6160.0 | 5691.7 | 5431.2 | 5022.3 |
| 57.5° | 6941.5 | 7004.2 | 7264.7 | 7812.1 | 8270.5 | 8260.6 | 7205.3 | 5480.7 | 4646.4 | 4808.0 | 4676.1 |
| 60° | 7640.6 | 7706.6 | 8122.1 | 8811.3 | 9371.9 | 9137.8 | 7211.9 | 4560.6 | 3620.8 | 3838.5 | 4026.4 |
| 62.5° | 8224.3 | 8336.4 | 8946.5 | 10094.1 | 10608.5 | 10242.5 | 6615.1 | 3492.2 | 2404.0 | 2677.7 | 3113.0 |
| 65° | 8171.6 | 8320.0 | 9266.4 | 11037.2 | 11805.6 | 11465.9 | 5741.2 | 2209.4 | 1239.9 | 1830.2 | 2179.7 |
| 67° | 7452.7 | 7614.3 | 8841.0 | 11070.2 | 12234.3 | 11508.8 | 4847.5 | 1335.5 | 788.1 | 1269.6 | 1513.6 |
| 67.5° | 7040.5 | 7277.9 | 8629.9 | 11007.5 | 12155.1 | 11327.4 | 4445.2 | 1117.9 | 742.0 | 1180.6 | 1378.4 |
| 70° | 4329.8 | 4712.3 | 6476.6 | 9731.3 | 10895.4 | 9480.7 | 2469.9 | 633.1 | 603.5 | 791.4 | 953.0 |
| 72.5° | 1302.6 | 1418.0 | 2499.6 | 6242.4 | 7996.8 | 7027.3 | 1111.3 | 488.1 | 540.8 | 636.4 | 735.4 |
| 75° | 633.1 | 676.0 | 1032.2 | 2552.4 | 3894.5 | 3874.7 | 620.0 | 418.8 | 501.2 | 534.2 | 580.4 |
| 77.5° | 405.6 | 432.0 | 643.0 | 1427.9 | 1784.0 | 1589.5 | 448.5 | 366.0 | 445.2 | 438.6 | 432.0 |
| 80° | 253.9 | 267.1 | 412.2 | 827.7 | 1315.8 | 1098.1 | 329.8 | 300.1 | 382.5 | 339.7 | 306.7 |
| 82.5° | 164.9 | 181.4 | 263.8 | 504.5 | 939.8 | 817.8 | 217.6 | 214.3 | 316.6 | 270.4 | 237.4 |
| 85° | 108.8 | 122.0 | 168.2 | 296.8 | 557.3 | 583.7 | 141.8 | 148.4 | 244.0 | 204.5 | 181.4 |
| 87.5° | 39.6 | 49.5 | 85.7 | 131.9 | 260.5 | 323.2 | 59.4 | 56.1 | 118.7 | 95.6 | 75.8 |
| 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: P1457204
CATALOG NUMBER: GLAN-SB3B-830-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 | 3393.3 |
| 2.5° | 3403.2 | 3393.3 | 3347.1 | 3307.5 | 3277.9 | 3238.3 | 3195.4 | 3146.0 | 3113.0 | 3119.6 | 3109.7 |
| 5° | 3419.7 | 3393.3 | 3304.2 | 3169.0 | 3037.1 | 2872.2 | 2661.2 | 2535.9 | 2440.3 | 2390.8 | 2404.0 |
| 7.5° | 3455.9 | 3409.8 | 3221.8 | 2948.1 | 2605.1 | 2268.8 | 2061.0 | 1942.3 | 1886.3 | 1863.2 | 1859.9 |
| 10° | 3518.6 | 3439.4 | 3116.3 | 2605.1 | 2156.7 | 1929.1 | 1853.3 | 1820.3 | 1813.7 | 1813.7 | 1810.4 |
| 12.5° | 3594.4 | 3469.1 | 2938.2 | 2272.1 | 1942.3 | 1859.9 | 1846.7 | 1850.0 | 1859.9 | 1869.8 | 1853.3 |
| 15° | 3686.8 | 3482.3 | 2717.3 | 2070.9 | 1899.4 | 1879.7 | 1899.4 | 1922.5 | 1939.0 | 1952.2 | 1935.7 |
| 17.5° | 3779.1 | 3469.1 | 2509.5 | 1975.3 | 1906.0 | 1932.4 | 1972.0 | 2008.3 | 2018.2 | 2037.9 | 2024.8 |
| 20° | 3845.1 | 3423.0 | 2331.4 | 1939.0 | 1922.5 | 1981.9 | 2031.3 | 2070.9 | 2090.7 | 2103.9 | 2090.7 |
| 22.5° | 3894.5 | 3363.6 | 2202.8 | 1902.7 | 1922.5 | 1995.1 | 2054.4 | 2100.6 | 2123.7 | 2136.9 | 2120.4 |
| 25° | 3937.4 | 3281.2 | 2103.9 | 1850.0 | 1883.0 | 1952.2 | 2018.2 | 2064.3 | 2097.3 | 2117.1 | 2107.2 |
| 27.5° | 3990.1 | 3215.2 | 2011.6 | 1770.8 | 1800.5 | 1866.5 | 1935.7 | 1991.8 | 2054.4 | 2087.4 | 2080.8 |
| 30° | 4049.5 | 3182.2 | 1922.5 | 1685.1 | 1704.9 | 1770.8 | 1853.3 | 1929.1 | 2014.9 | 2057.7 | 2057.7 |
| 32.5° | 4118.8 | 3159.1 | 1840.1 | 1602.7 | 1619.1 | 1691.7 | 1770.8 | 1840.1 | 1932.4 | 2001.7 | 1998.4 |
| 35° | 4148.4 | 3132.8 | 1774.1 | 1526.8 | 1559.8 | 1619.1 | 1681.8 | 1728.0 | 1823.6 | 1906.0 | 1912.6 |
| 37.5° | 4178.1 | 3122.9 | 1741.2 | 1467.5 | 1493.8 | 1540.0 | 1573.0 | 1596.1 | 1685.1 | 1770.8 | 1774.1 |
| 40° | 4214.4 | 3169.0 | 1764.2 | 1427.9 | 1404.8 | 1451.0 | 1467.5 | 1480.6 | 1526.8 | 1582.9 | 1582.9 |
| 42.5° | 4191.3 | 3202.0 | 1817.0 | 1391.6 | 1296.0 | 1348.7 | 1355.3 | 1352.0 | 1355.3 | 1358.6 | 1355.3 |
| 45° | 4131.9 | 3169.0 | 1817.0 | 1335.5 | 1180.6 | 1236.6 | 1233.3 | 1216.8 | 1190.4 | 1121.2 | 1111.3 |
| 47.5° | 4118.8 | 3149.2 | 1747.8 | 1243.2 | 1065.1 | 1111.3 | 1117.9 | 1084.9 | 1009.1 | 936.5 | 913.4 |
| 50° | 4174.8 | 3185.5 | 1638.9 | 1131.1 | 966.2 | 1005.8 | 1022.3 | 966.2 | 880.5 | 804.6 | 791.4 |
| 52.5° | 4257.3 | 3231.7 | 1480.6 | 1009.1 | 883.8 | 923.3 | 943.1 | 880.5 | 791.4 | 732.1 | 725.5 |
| 55° | 4247.4 | 3231.7 | 1302.6 | 897.0 | 821.1 | 850.8 | 883.8 | 817.8 | 748.6 | 715.6 | 712.3 |
| 57.5° | 4033.0 | 3109.7 | 1170.7 | 817.8 | 761.8 | 788.1 | 831.0 | 768.4 | 702.4 | 709.0 | 718.9 |
| 60° | 3614.2 | 2793.1 | 1071.7 | 765.1 | 709.0 | 735.4 | 781.5 | 709.0 | 623.3 | 600.2 | 600.2 |
| 62.5° | 2977.8 | 2301.8 | 992.6 | 712.3 | 659.5 | 692.5 | 715.6 | 620.0 | 563.9 | 537.5 | 537.5 |
| 65° | 2232.5 | 1780.7 | 910.1 | 669.4 | 616.7 | 652.9 | 626.6 | 580.4 | 524.3 | 504.5 | 507.8 |
| 67° | *1655.4* | *1381.7* | *840.9* | *633.1* | *590.3* | *606.8* | *587.0* | *554.0* | *497.9* | *481.5* | *497.9* |
| 67.5° | 1487.2 | 1312.5 | 824.4 | 623.3 | 583.7 | 596.9 | 577.1 | 550.7 | 491.3 | 474.9 | 491.3 |
| 70° | 1022.3 | 1009.1 | 735.4 | 577.1 | 547.4 | 534.2 | 544.1 | 511.1 | 461.7 | 455.1 | 471.6 |
| 72.5° | 778.2 | 804.6 | 659.5 | 537.5 | 507.8 | 491.3 | 514.4 | 481.5 | 432.0 | 441.9 | 458.4 |
| 75° | 610.1 | 649.6 | 590.3 | 481.5 | 461.7 | 465.0 | 511.1 | 497.9 | 458.4 | 468.3 | 471.6 |
| 77.5° | 451.8 | 524.3 | 504.5 | 418.8 | 402.3 | 448.5 | 577.1 | 616.7 | 547.4 | 530.9 | 507.8 |
| 80° | 329.8 | 375.9 | 425.4 | 346.3 | 336.4 | 432.0 | 712.3 | 788.1 | 676.0 | 610.1 | 593.6 |
| 82.5° | 244.0 | 263.8 | 349.6 | 277.0 | 244.0 | 385.8 | 791.4 | 926.6 | 804.6 | 679.3 | 659.5 |
| 85° | 174.8 | 204.5 | 277.0 | 204.5 | 161.6 | 316.6 | 774.9 | 906.9 | 798.0 | 643.0 | 626.6 |
| 87.5° | 62.7 | 89.0 | 118.7 | 92.3 | 82.4 | 217.6 | 639.7 | 652.9 | 497.9 | 227.5 | 230.8 |
| 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: SP1-2407-184-9

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-830-U-5WQ

Data in this report applies to families of products including GSS-SB1A-830-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

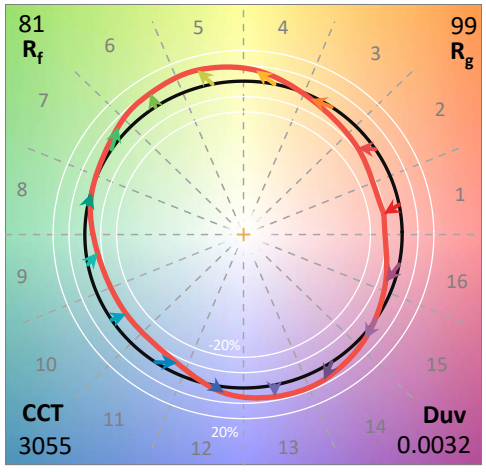
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-9 |
| 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-830-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3055 |
| CIE u': | 0.2475 |
| CIE v': | 0.5247 |
| Duv: | 0.0032 |
| CIE x: | 0.4377 |
| CIE y: | 0.4124 |
| CIE z: | 0.1499 |
| Peak Wavelength (nm): | 604 |
| Dominant Wavelength (nm): | 581 |
| Purity: | 55.16339 |
| Rf: | 81.5 |
| Rg: | 99.2 |

| | |
|---|---|
| CRI (Ra): | 80.9 |
| R1: | 79.5 |
| R2: | 85.6 |
| R3: | 92.1 |
| R4: | 82.4 |
| R5: | 78.9 |
| R6: | 81.7 |
| R7: | 85.1 |
| R8: | 61.9 |
| R9: | 6.8 |
| R10: | 67.1 |
| R11: | 82.5 |
| R12: | 63.4 |
| R13: | 80.2 |
| R14: | 95.1 |
| R15: | 71.7 |




## Test Conditions

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

REPORT NUMBER: SP1-2407-184-9

| 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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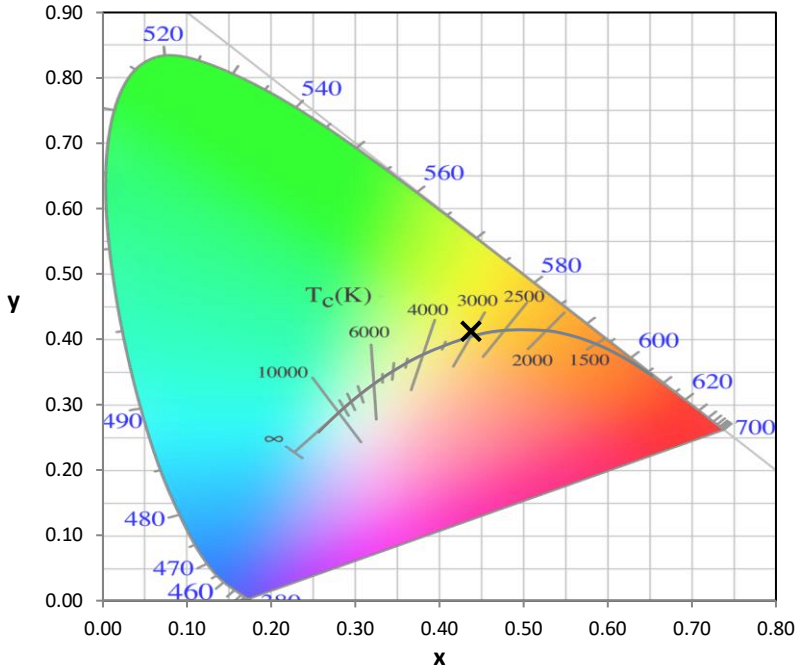
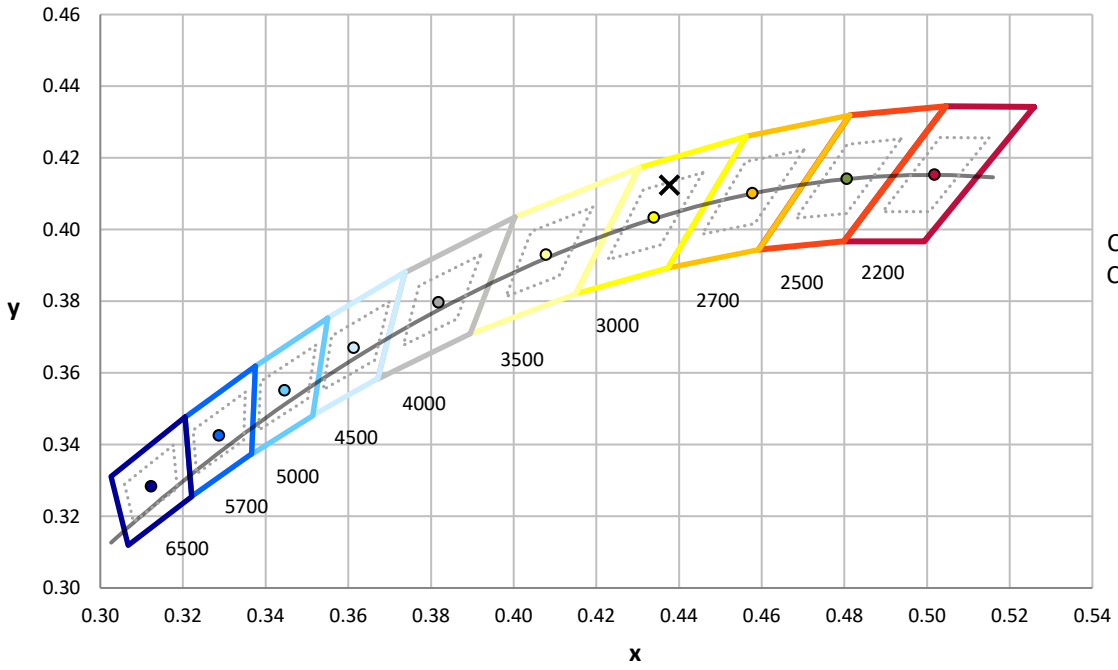
## CIE 1931 Chromaticity Diagram




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




CCT = 3055K
CIE x = 0.4377
CIE y = 0.4124
Duv = 0.0032

Point lies inside the ANSI 3000K 4-step quadrangle

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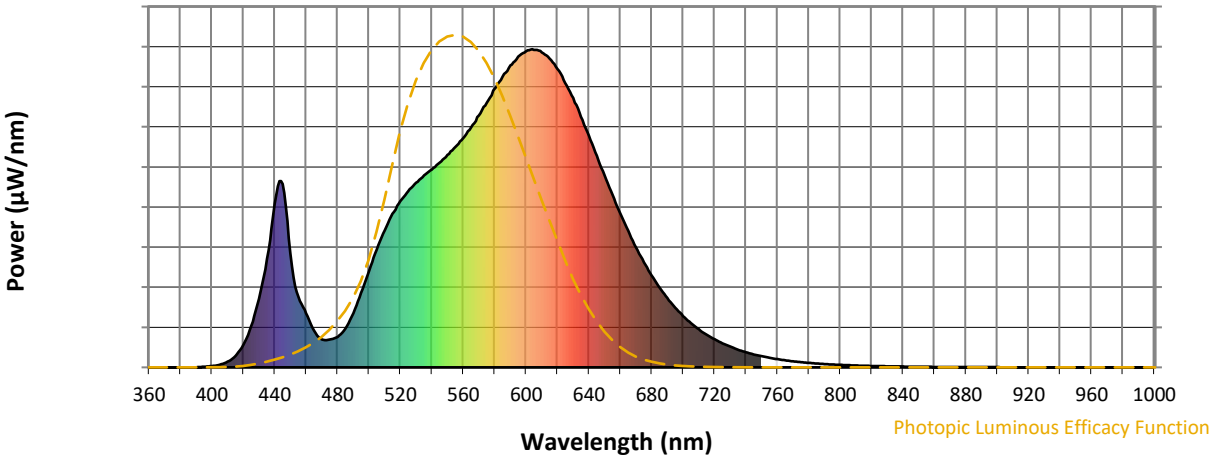
## Photopic Flux vs. Wavelength




## 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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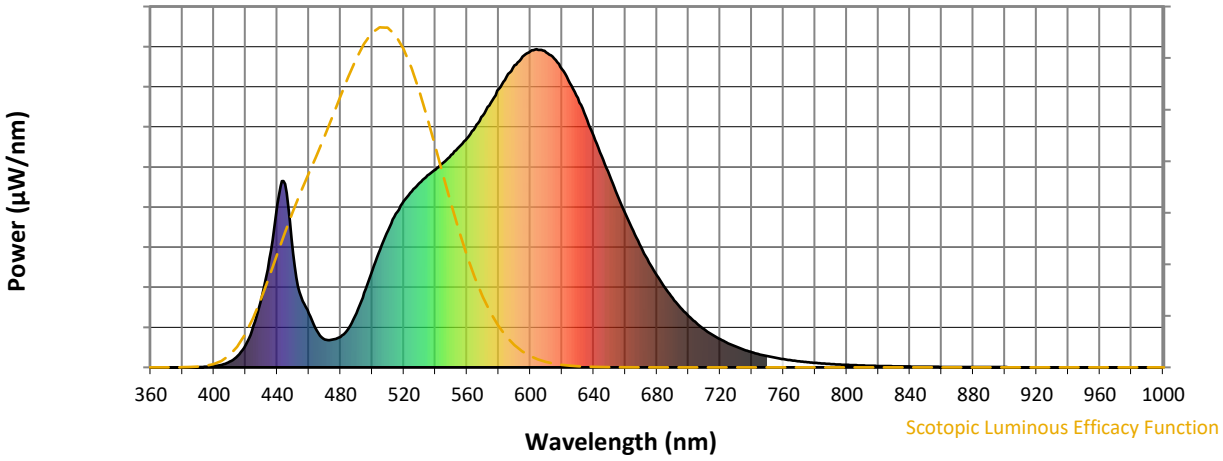
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.28**

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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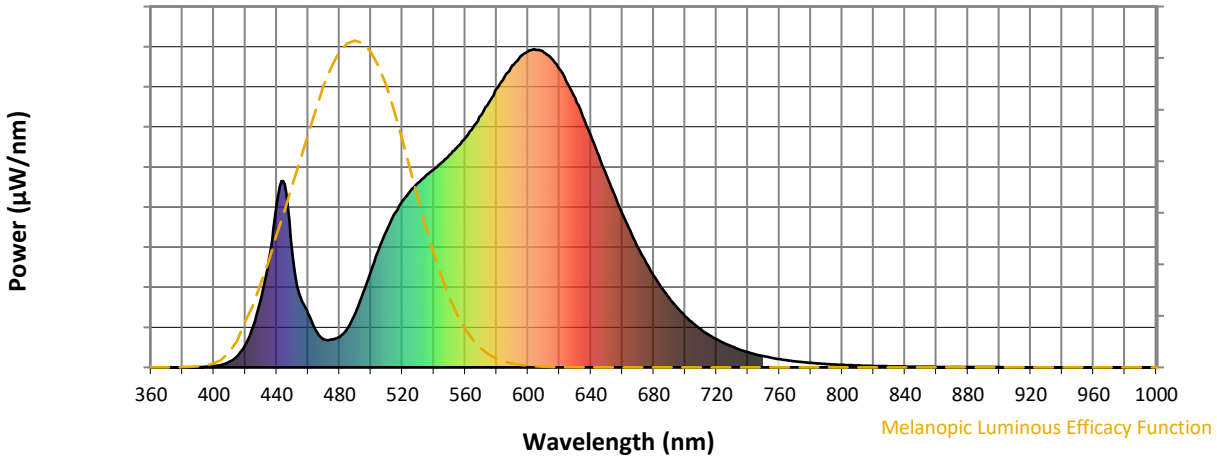
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.33**

| 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 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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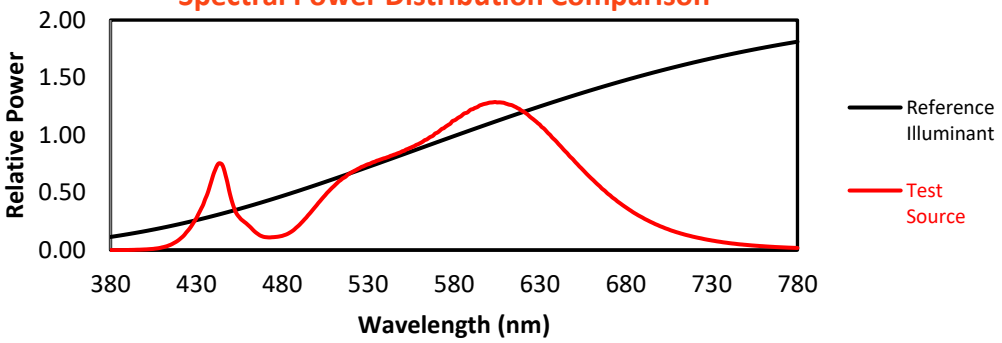
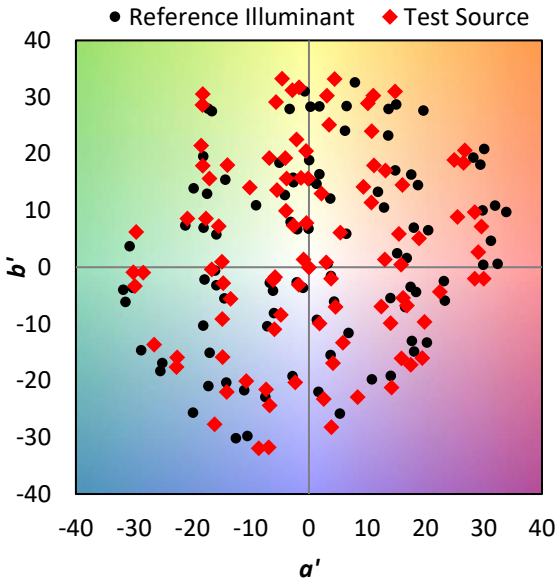
## Summary

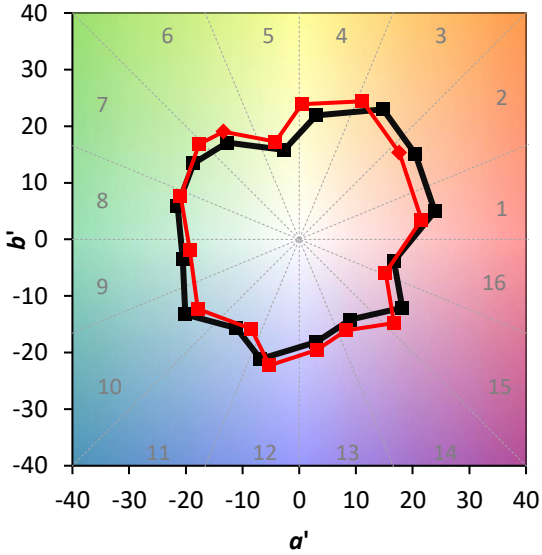
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 80.9
$R_9$ = 6.8

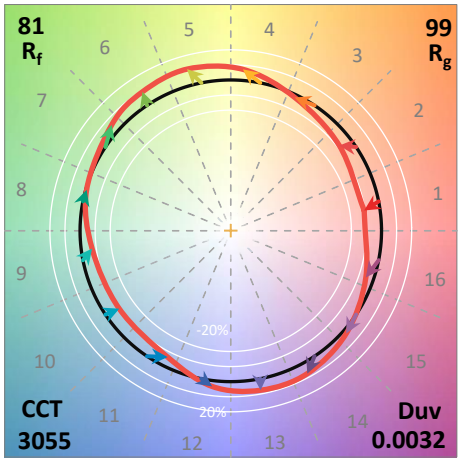
## Spectral Power Distribution Comparison

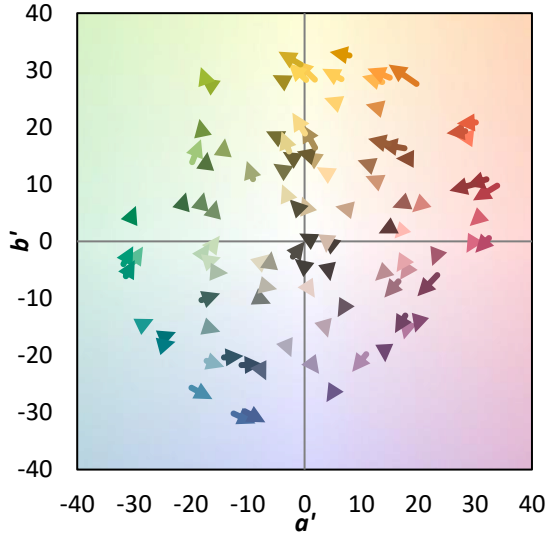



## Color Vector Graphics



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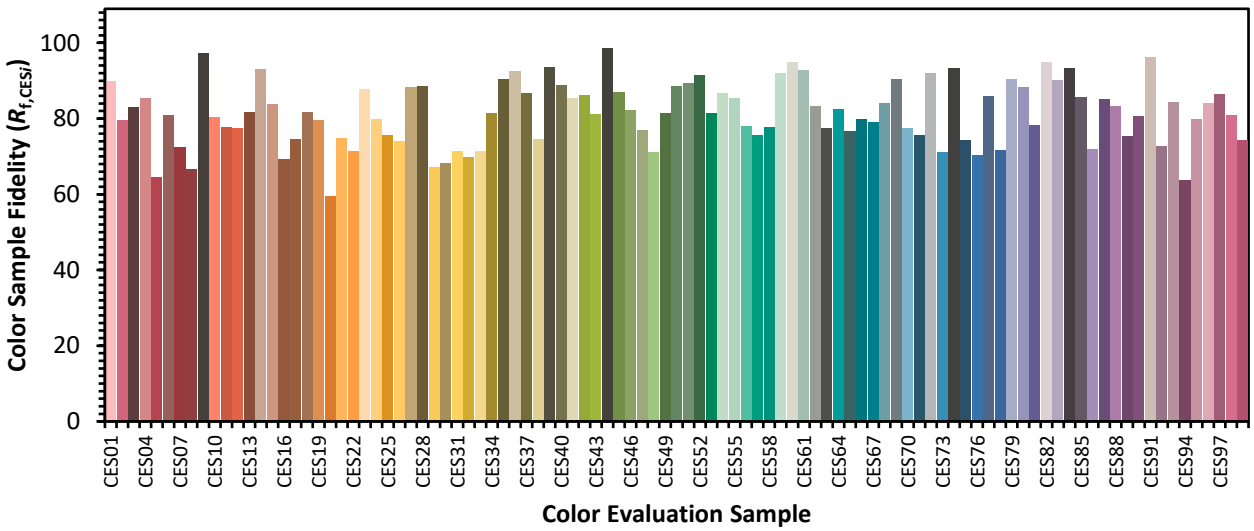
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 91 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 93 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 90 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 77 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 | |



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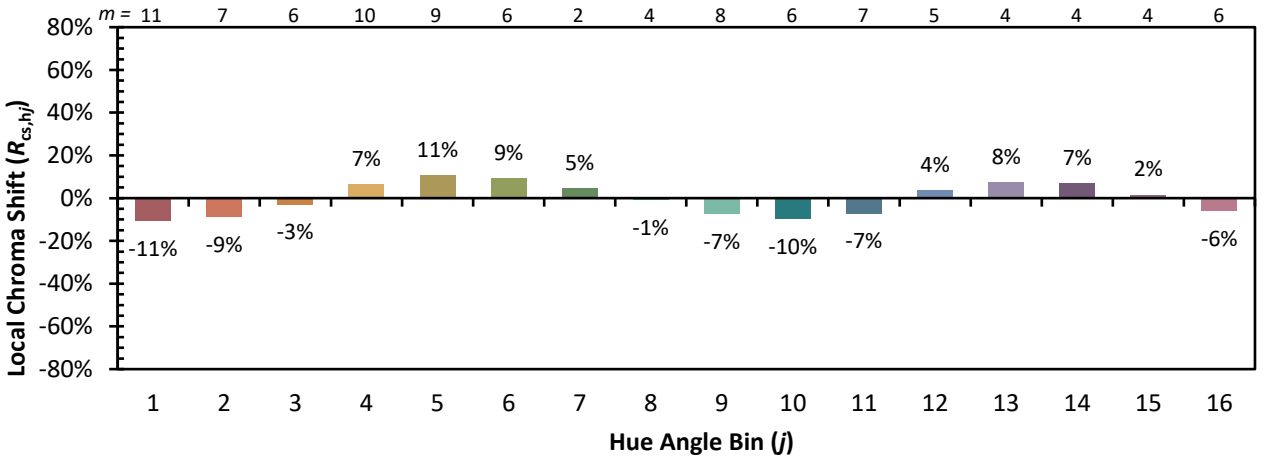
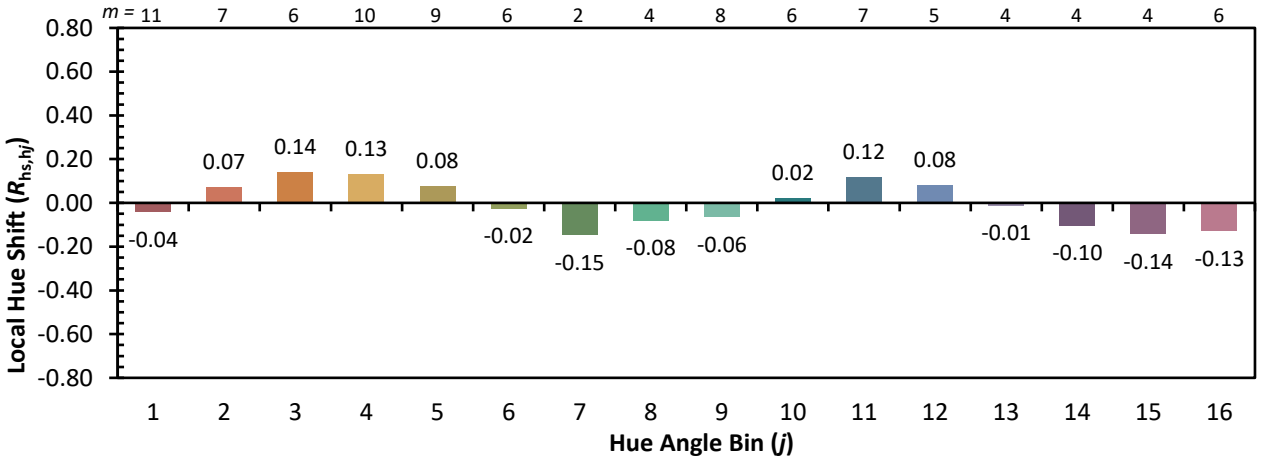
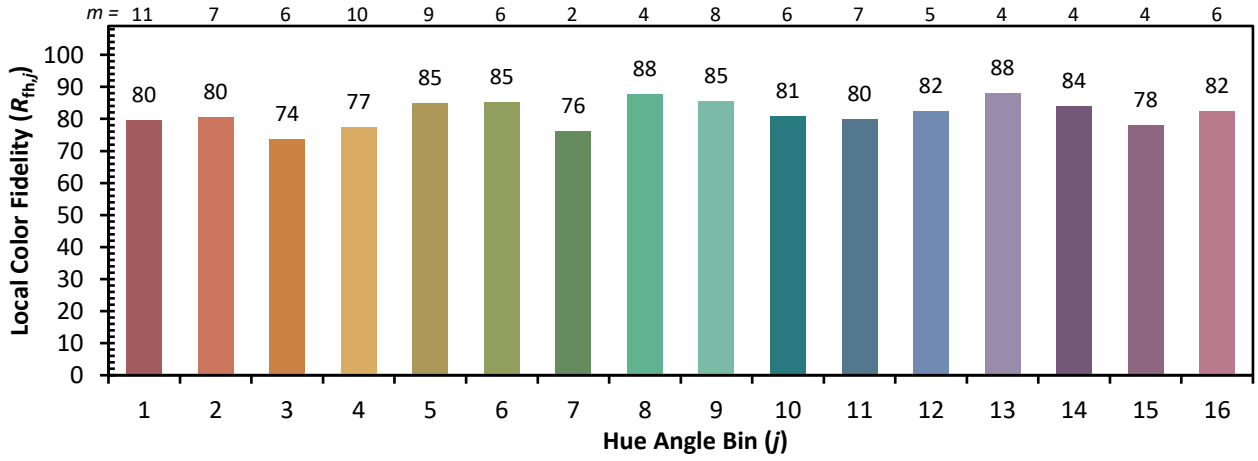
## Color Rendition by Hue-Angle Bin



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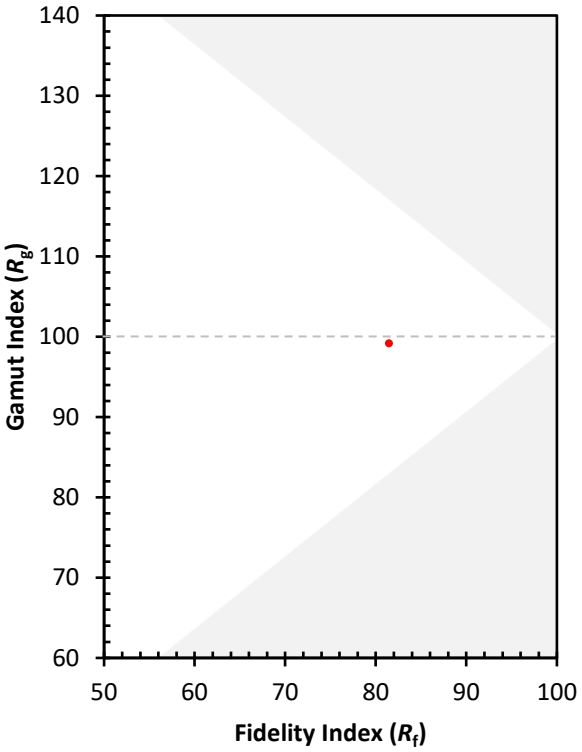
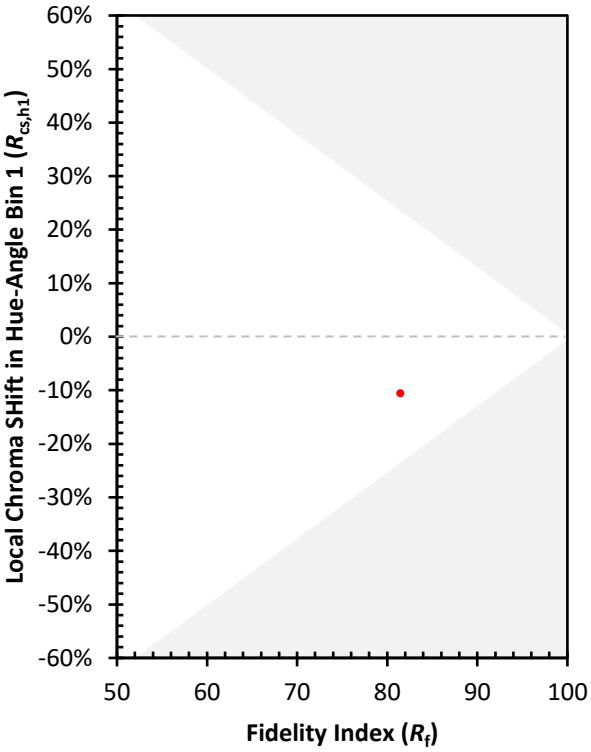
## Measure Comparisons




(END OF REPORT)