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: P1457168

Luminaire Tested: GLAN-SB3B-827-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: | P1457168 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/21/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB3B-827-U-T4LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 3xLight Square PACKAGE 80CRI 2700K FIXTURE w/ TYPE IV LOW GLARE |
| Light Source: | (78) 2700K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14379.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 131.7 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): | 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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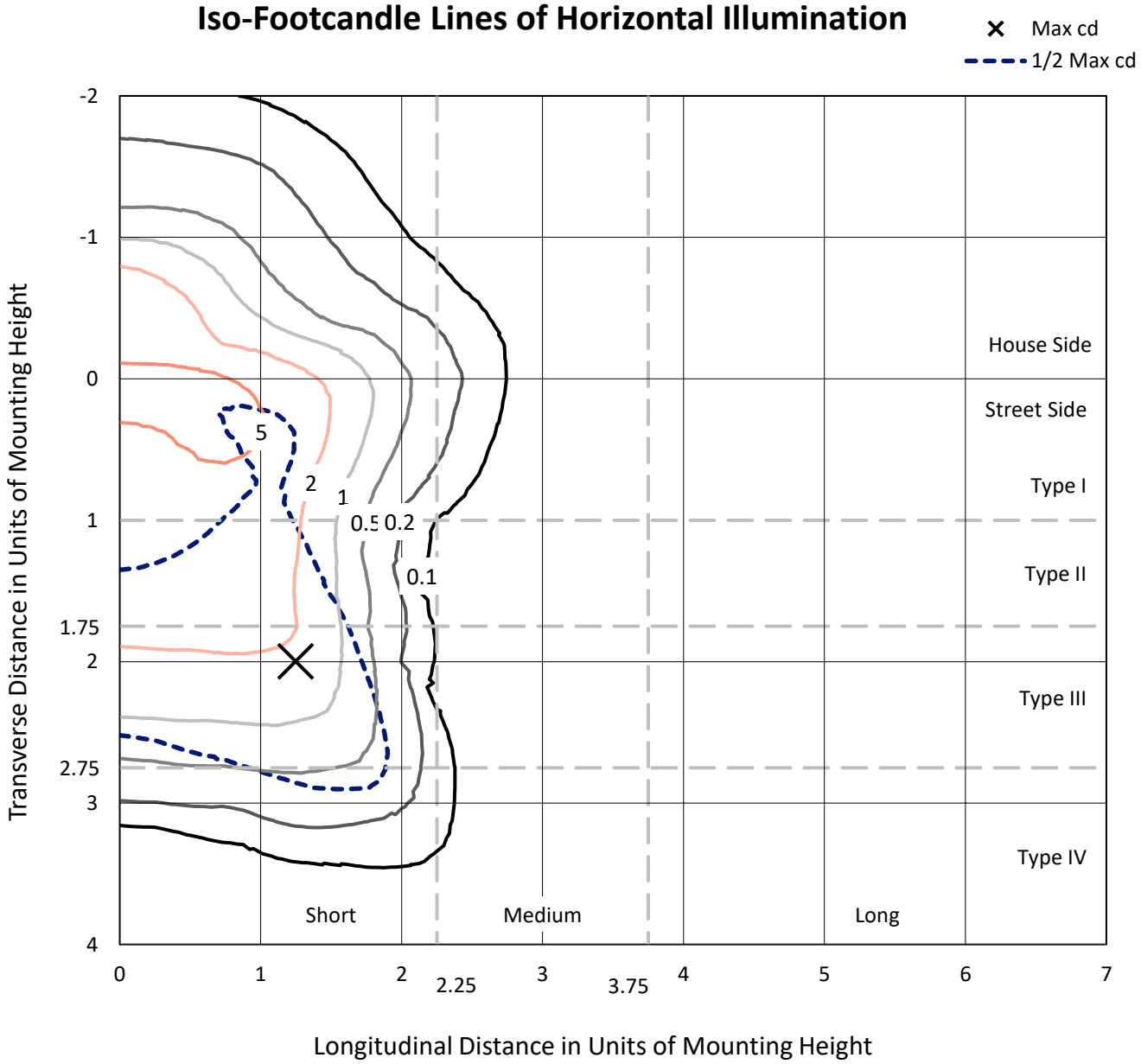
Scaled Data Report

REPORT NUMBER: P1457168
CATALOG NUMBER: GLAN-SB3B-827-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 8.9 fc
Type IV - Short - N/A

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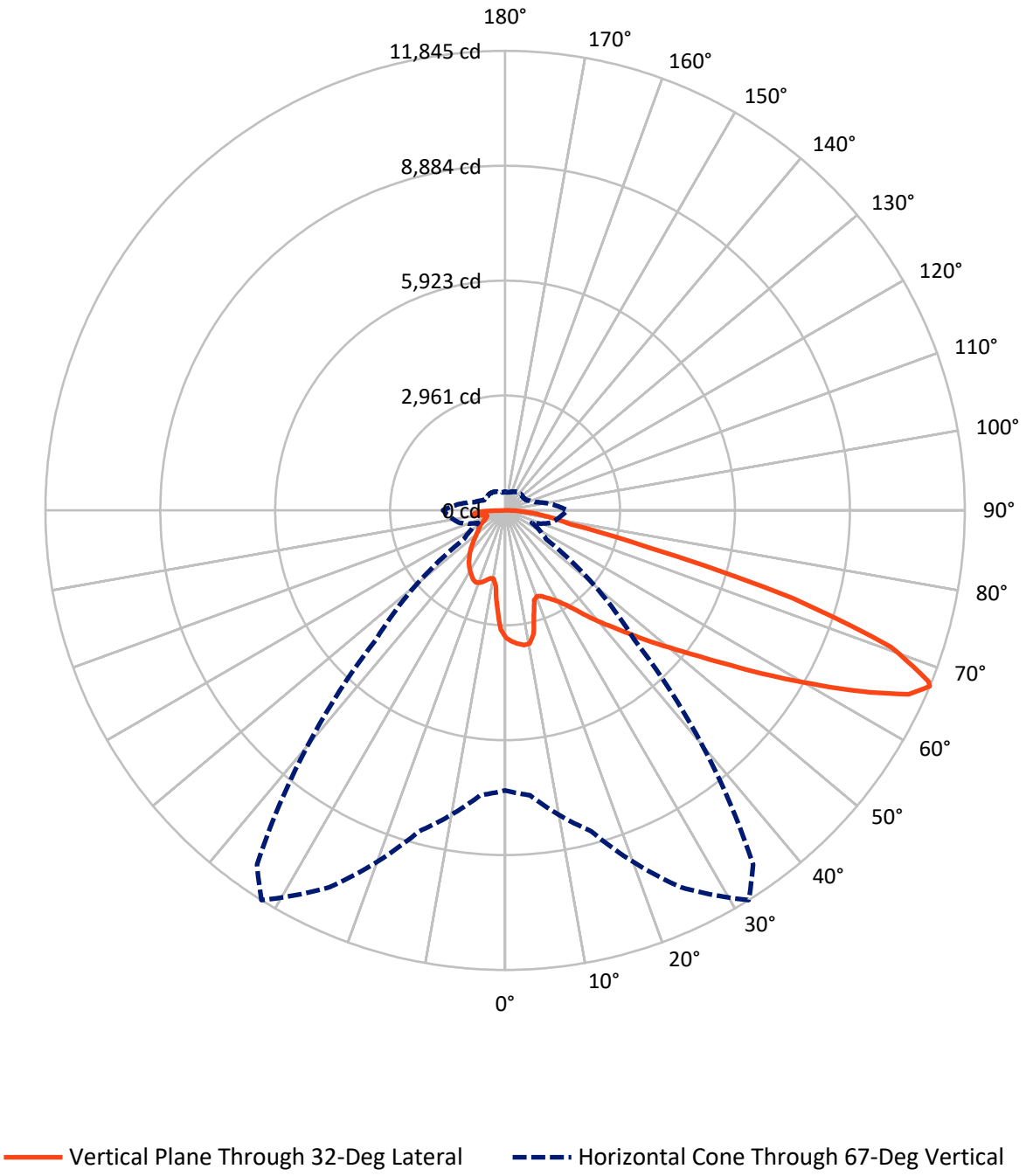
## Luminous Intensity Polar Plot



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REPORT NUMBER: P1457168
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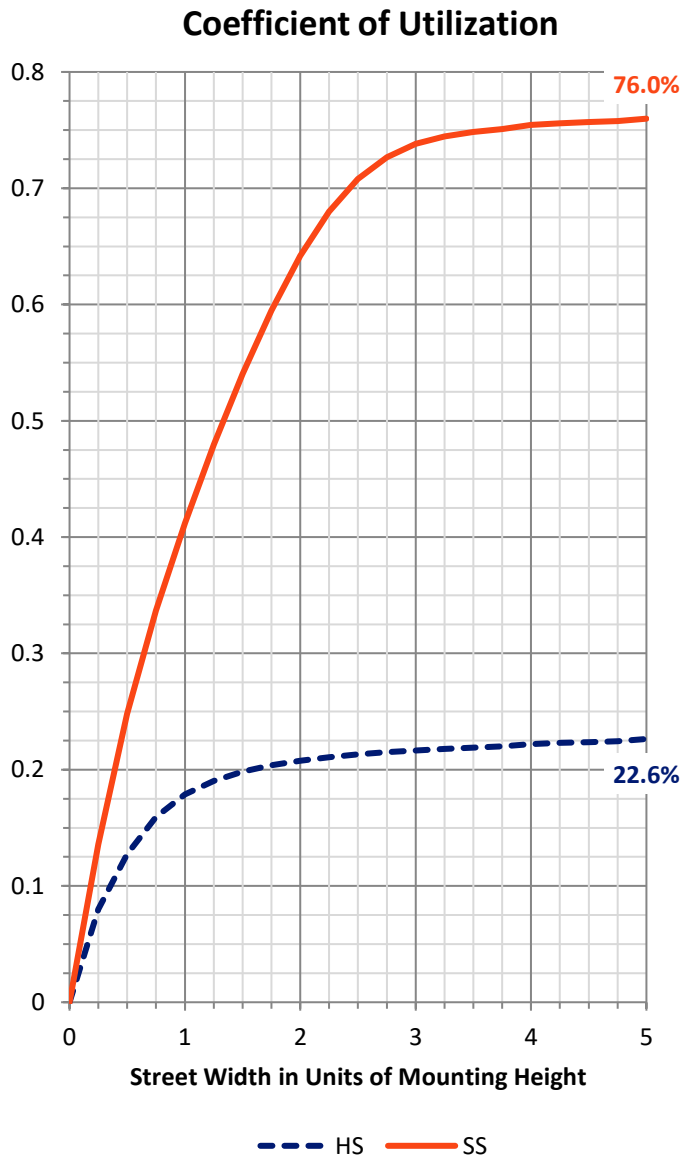
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3404.2 | 0.0 | 3404.2 |
| | % Fixture | 23.7 | 0.0 | 23.7 |
| **Street Side** | Lumens | 10975.0 | 0.0 | 10975.0 |
| | % Fixture | 76.3 | 0.0 | 76.3 |
| **Total** | Lumens | 14379.2 | 0.0 | 14379.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 287.1 | 2.0 |
| 10°-20° | 762.2 | 5.3 |
| 20°-30° | 1244.7 | 8.7 |
| 30°-40° | 1834.5 | 12.8 |
| 40°-50° | 2529.9 | 17.6 |
| 50°-60° | 3196.0 | 22.2 |
| 60°-70° | 3093.2 | 21.5 |
| 70°-80° | 1103.9 | 7.7 |
| 80°-90° | 327.8 | 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° | 14379.2 | 100.0 |
| 0°-180° | 14379.2 | 100.0 |



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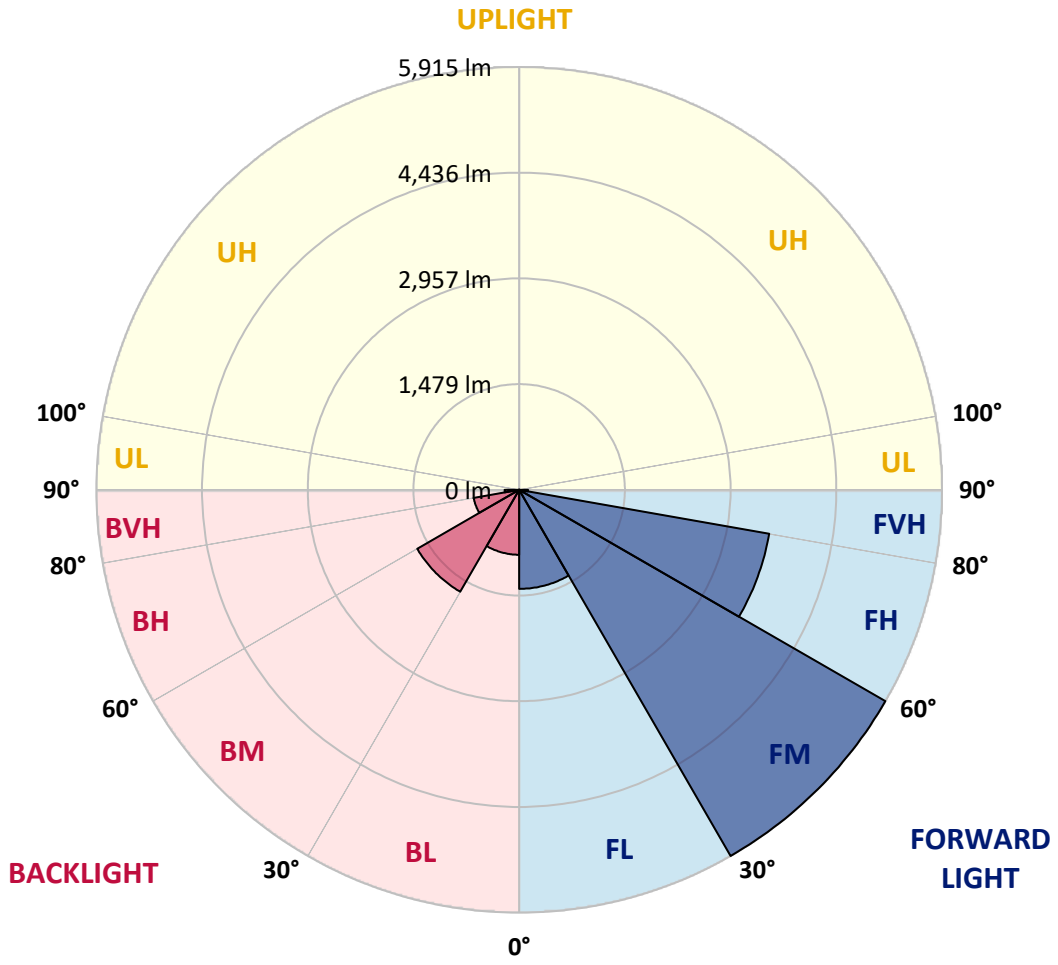
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1385.5 | 9.6 | | | |
| FM | (30°-60°) | 5914.6 | 41.1 | | | |
| FH | (60°-80°) | 3551.4 | 24.7 | | | G2/5000 |
| FVH | (80°-90°) | 123.5 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 908.4 | 6.3 | B2/1000 | | |
| BM | (30°-60°) | 1645.8 | 11.4 | B2/2500 | | |
| BH | (60°-80°) | 645.7 | 4.5 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 204.3 | 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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REPORT NUMBER: P1457168
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 |
| 2.5° | 3409.9 | 3400.3 | 3390.7 | 3397.1 | 3384.3 | 3381.1 | 3365.2 | 3358.8 | 3339.6 | 3336.4 | 3301.3 |
| 5° | 3480.1 | 3461.0 | 3457.8 | 3464.2 | 3451.4 | 3451.4 | 3438.6 | 3429.0 | 3400.3 | 3384.3 | 3333.3 |
| 7.5° | 3480.1 | 3476.9 | 3483.3 | 3505.7 | 3508.9 | 3508.9 | 3508.9 | 3512.0 | 3483.3 | 3461.0 | 3381.1 |
| 10° | 3282.2 | 3250.2 | 3320.5 | 3432.2 | 3486.5 | 3518.4 | 3575.9 | 3611.0 | 3588.7 | 3572.7 | 3464.2 |
| 12.5° | 2691.5 | 2694.7 | 2806.4 | 3045.9 | 3263.0 | 3355.6 | 3595.1 | 3722.8 | 3732.3 | 3706.8 | 3569.5 |
| 15° | 2282.8 | 2298.8 | 2356.3 | 2528.7 | 2777.7 | 2915.0 | 3483.3 | 3821.7 | 3898.4 | 3872.8 | 3697.2 |
| 17.5° | 2158.3 | 2167.9 | 2193.4 | 2292.4 | 2432.9 | 2544.6 | 3180.0 | 3885.6 | 4099.5 | 4067.6 | 3840.9 |
| 20° | 2139.2 | 2145.5 | 2177.5 | 2260.5 | 2356.3 | 2420.1 | 2870.3 | 3834.5 | 4287.9 | 4275.1 | 3971.8 |
| 22.5° | 2142.3 | 2148.7 | 2190.2 | 2305.2 | 2404.2 | 2458.4 | 2771.3 | 3716.4 | 4485.8 | 4498.6 | 4105.9 |
| 25° | 2148.7 | 2151.9 | 2215.8 | 2369.0 | 2493.6 | 2560.6 | 2835.2 | 3611.0 | 4651.9 | 4760.4 | 4252.8 |
| 27.5° | 2183.9 | 2193.4 | 2279.6 | 2452.0 | 2598.9 | 2675.5 | 2985.2 | 3646.1 | 4833.9 | 5057.3 | 4428.4 |
| 30° | 2279.6 | 2286.0 | 2391.4 | 2570.2 | 2729.8 | 2809.6 | 3164.0 | 3786.6 | 5057.3 | 5363.9 | 4600.8 |
| 32.5° | 2429.7 | 2436.1 | 2557.4 | 2742.6 | 2915.0 | 3010.8 | 3397.1 | 4054.8 | 5306.4 | 5686.3 | 4773.2 |
| 35° | 2637.2 | 2640.4 | 2777.7 | 2975.7 | 3157.7 | 3266.2 | 3668.5 | 4358.1 | 5565.0 | 5960.9 | 4900.9 |
| 37.5° | 2883.1 | 2905.4 | 3045.9 | 3253.4 | 3467.3 | 3566.3 | 3987.8 | 4712.5 | 5794.9 | 6194.0 | 4974.3 |
| 40° | 3221.5 | 3227.9 | 3365.2 | 3566.3 | 3793.0 | 3888.8 | 4307.0 | 5047.8 | 6047.1 | 6331.3 | 5041.4 |
| 42.5° | 3569.5 | 3623.8 | 3738.7 | 3962.2 | 4131.4 | 4208.1 | 4671.0 | 5354.3 | 6248.3 | 6337.6 | 5012.6 |
| 45° | 4035.7 | 4077.2 | 4192.1 | 4390.1 | 4559.3 | 4648.7 | 5063.7 | 5635.2 | 6350.4 | 6283.4 | 4948.8 |
| 47.5° | 4568.9 | 4594.4 | 4687.0 | 4865.8 | 5054.2 | 5118.0 | 5472.4 | 5794.9 | 6388.7 | 6245.1 | 4920.1 |
| 50° | 5197.8 | 5197.8 | 5264.9 | 5418.1 | 5590.5 | 5679.9 | 5849.2 | 5890.7 | 6500.5 | 6178.0 | 4993.5 |
| 52.5° | 5727.8 | 5753.4 | 5842.8 | 6059.9 | 6232.3 | 6334.5 | 6142.9 | 6037.5 | 6273.8 | 5804.5 | 5015.8 |
| 55° | 6235.5 | 6264.2 | 6465.4 | 6736.7 | 7030.5 | 7142.2 | 6510.1 | 5964.1 | 5510.7 | 5258.5 | 4862.6 |
| 57.5° | 6720.8 | 6781.4 | 7033.7 | 7563.7 | 8007.5 | 7997.9 | 6976.2 | 5306.4 | 4498.6 | 4655.1 | 4527.3 |
| 60° | 7397.6 | 7461.5 | 7863.8 | 8531.1 | 9073.9 | 8847.2 | 6982.6 | 4415.6 | 3505.7 | 3716.4 | 3898.4 |
| 62.5° | 7962.8 | 8071.3 | 8662.0 | 9773.1 | 10271.1 | 9916.7 | 6404.7 | 3381.1 | 2327.5 | 2592.5 | 3014.0 |
| 65° | 7911.7 | 8055.4 | 8971.7 | 10686.2 | 11430.1 | 11101.3 | 5558.6 | 2139.2 | 1200.5 | 1772.0 | 2110.4 |
| 67° | 7215.7 | 7372.1 | 8559.8 | 10718.1 | 11845.2 | 11142.8 | 4693.4 | 1293.1 | 763.1 | 1229.2 | 1465.5 |
| 67.5° | 6816.6 | 7046.4 | 8355.5 | 10657.5 | 11768.6 | 10967.2 | 4303.9 | 1082.3 | 718.4 | 1143.0 | 1334.6 |
| 70° | 4192.1 | 4562.5 | 6270.6 | 9421.9 | 10548.9 | 9179.2 | 2391.4 | 613.0 | 584.3 | 766.3 | 922.7 |
| 72.5° | 1261.1 | 1372.9 | 2420.1 | 6043.9 | 7742.5 | 6803.8 | 1076.0 | 472.5 | 523.6 | 616.2 | 712.0 |
| 75° | 613.0 | 654.5 | 999.3 | 2471.2 | 3770.7 | 3751.5 | 600.2 | 405.5 | 485.3 | 517.2 | 561.9 |
| 77.5° | 392.7 | 418.3 | 622.6 | 1382.5 | 1727.3 | 1538.9 | 434.2 | 354.4 | 431.0 | 424.6 | 418.3 |
| 80° | 245.8 | 258.6 | 399.1 | 801.4 | 1273.9 | 1063.2 | 319.3 | 290.5 | 370.4 | 328.9 | 296.9 |
| 82.5° | 159.6 | 175.6 | 255.4 | 488.5 | 909.9 | 791.8 | 210.7 | 207.5 | 306.5 | 261.8 | 229.9 |
| 85° | 105.4 | 118.1 | 162.8 | 287.3 | 539.6 | 565.1 | 137.3 | 143.7 | 236.3 | 198.0 | 175.6 |
| 87.5° | 38.3 | 47.9 | 83.0 | 127.7 | 252.2 | 312.9 | 57.5 | 54.3 | 114.9 | 92.6 | 73.4 |
| 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: P1457168
CATALOG NUMBER: GLAN-SB3B-827-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 | 3285.4 |
| 2.5° | 3294.9 | 3285.4 | 3240.7 | 3202.3 | 3173.6 | 3135.3 | 3093.8 | 3045.9 | 3014.0 | 3020.4 | 3010.8 |
| 5° | 3310.9 | 3285.4 | 3199.2 | 3068.3 | 2940.5 | 2780.9 | 2576.6 | 2455.2 | 2362.7 | 2314.8 | 2327.5 |
| 7.5° | 3346.0 | 3301.3 | 3119.3 | 2854.3 | 2522.3 | 2196.6 | 1995.5 | 1880.5 | 1826.3 | 1803.9 | 1800.7 |
| 10° | 3406.7 | 3330.1 | 3017.2 | 2522.3 | 2088.1 | 1867.8 | 1794.3 | 1762.4 | 1756.0 | 1756.0 | 1752.8 |
| 12.5° | 3480.1 | 3358.8 | 2844.8 | 2199.8 | 1880.5 | 1800.7 | 1788.0 | 1791.1 | 1800.7 | 1810.3 | 1794.3 |
| 15° | 3569.5 | 3371.6 | 2630.8 | 2005.1 | 1839.0 | 1819.9 | 1839.0 | 1861.4 | 1877.3 | 1890.1 | 1874.2 |
| 17.5° | 3658.9 | 3358.8 | 2429.7 | 1912.5 | 1845.4 | 1871.0 | 1909.3 | 1944.4 | 1954.0 | 1973.1 | 1960.4 |
| 20° | 3722.8 | 3314.1 | 2257.3 | 1877.3 | 1861.4 | 1918.9 | 1966.7 | 2005.1 | 2024.2 | 2037.0 | 2024.2 |
| 22.5° | 3770.7 | 3256.6 | 2132.8 | 1842.2 | 1861.4 | 1931.6 | 1989.1 | 2033.8 | 2056.1 | 2068.9 | 2053.0 |
| 25° | 3812.2 | 3176.8 | 2037.0 | 1791.1 | 1823.1 | 1890.1 | 1954.0 | 1998.7 | 2030.6 | 2049.8 | 2040.2 |
| 27.5° | 3863.3 | 3113.0 | 1947.6 | 1714.5 | 1743.3 | 1807.1 | 1874.2 | 1928.4 | 1989.1 | 2021.0 | 2014.6 |
| 30° | 3920.7 | 3081.0 | 1861.4 | 1631.5 | 1650.7 | 1714.5 | 1794.3 | 1867.8 | 1950.8 | 1992.3 | 1992.3 |
| 32.5° | 3987.8 | 3058.7 | 1781.6 | 1551.7 | 1567.7 | 1637.9 | 1714.5 | 1781.6 | 1871.0 | 1938.0 | 1934.8 |
| 35° | 4016.5 | 3033.1 | 1717.7 | 1478.3 | 1510.2 | 1567.7 | 1628.3 | 1673.0 | 1765.6 | 1845.4 | 1851.8 |
| 37.5° | 4045.2 | 3023.6 | 1685.8 | 1420.8 | 1446.3 | 1491.0 | 1523.0 | 1545.3 | 1631.5 | 1714.5 | 1717.7 |
| 40° | 4080.4 | 3068.3 | 1708.1 | 1382.5 | 1360.1 | 1404.8 | 1420.8 | 1433.6 | 1478.3 | 1532.5 | 1532.5 |
| 42.5° | 4058.0 | 3100.2 | 1759.2 | 1347.3 | 1254.8 | 1305.8 | 1312.2 | 1309.0 | 1312.2 | 1315.4 | 1312.2 |
| 45° | 4000.5 | 3068.3 | 1759.2 | 1293.1 | 1143.0 | 1197.3 | 1194.1 | 1178.1 | 1152.6 | 1085.5 | 1076.0 |
| 47.5° | 3987.8 | 3049.1 | 1692.2 | 1203.7 | 1031.3 | 1076.0 | 1082.3 | 1050.4 | 977.0 | 906.7 | 884.4 |
| 50° | 4042.0 | 3084.2 | 1586.8 | 1095.1 | 935.5 | 973.8 | 989.8 | 935.5 | 852.5 | 779.0 | 766.3 |
| 52.5° | 4121.9 | 3128.9 | 1433.6 | 977.0 | 855.7 | 894.0 | 913.1 | 852.5 | 766.3 | 708.8 | 702.4 |
| 55° | 4112.3 | 3128.9 | 1261.1 | 868.4 | 795.0 | 823.7 | 855.7 | 791.8 | 724.8 | 692.8 | 689.6 |
| 57.5° | 3904.8 | 3010.8 | 1133.4 | 791.8 | 737.5 | 763.1 | 804.6 | 743.9 | 680.1 | 686.4 | 696.0 |
| 60° | 3499.3 | 2704.3 | 1037.7 | 740.7 | 686.4 | 712.0 | 756.7 | 686.4 | 603.4 | 581.1 | 581.1 |
| 62.5° | 2883.1 | 2228.6 | 961.0 | 689.6 | 638.6 | 670.5 | 692.8 | 600.2 | 546.0 | 520.4 | 520.4 |
| 65° | 2161.5 | 1724.1 | 881.2 | 648.1 | 597.0 | 632.2 | 606.6 | 561.9 | 507.7 | 488.5 | 491.7 |
| 67° | *1602.8* | *1337.8* | *814.2* | *613.0* | *571.5* | *587.5* | *568.3* | *536.4* | *482.1* | *466.1* | *482.1* |
| 67.5° | 1439.9 | 1270.7 | 798.2 | 603.4 | 565.1 | 577.9 | 558.7 | 533.2 | 475.7 | 459.8 | 475.7 |
| 70° | 989.8 | 977.0 | 712.0 | 558.7 | 530.0 | 517.2 | 526.8 | 494.9 | 447.0 | 440.6 | 456.6 |
| 72.5° | 753.5 | 779.0 | 638.6 | 520.4 | 491.7 | 475.7 | 498.1 | 466.1 | 418.3 | 427.8 | 443.8 |
| 75° | 590.7 | 629.0 | 571.5 | 466.1 | 447.0 | 450.2 | 494.9 | 482.1 | 443.8 | 453.4 | 456.6 |
| 77.5° | 437.4 | 507.7 | 488.5 | 405.5 | 389.5 | 434.2 | 558.7 | 597.0 | 530.0 | 514.0 | 491.7 |
| 80° | 319.3 | 364.0 | 411.9 | 335.2 | 325.7 | 418.3 | 689.6 | 763.1 | 654.5 | 590.7 | 574.7 |
| 82.5° | 236.3 | 255.4 | 338.4 | 268.2 | 236.3 | 373.6 | 766.3 | 897.2 | 779.0 | 657.7 | 638.6 |
| 85° | 169.2 | 198.0 | 268.2 | 198.0 | 156.4 | 306.5 | 750.3 | 878.0 | 772.7 | 622.6 | 606.6 |
| 87.5° | 60.7 | 86.2 | 114.9 | 89.4 | 79.8 | 210.7 | 619.4 | 632.2 | 482.1 | 220.3 | 223.5 |
| 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-8

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-827-U-5WQ

Data in this report applies to families of products including GSS-SB1A-827-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

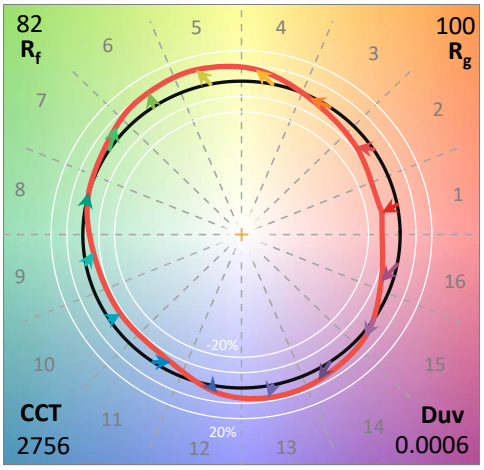
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-8 |
| 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-827-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2756 |
| CIE u': | 0.2599 |
| CIE v': | 0.5271 |
| Duv: | 0.0006 |
| CIE x: | 0.4563 |
| CIE y: | 0.4112 |
| CIE z: | 0.1325 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 583 |
| Purity: | 60.41121 |
| Rf: | 82.2 |
| Rg: | 99.9 |

| | |
|---|---|
| CRI (Ra): | 82.9 |
| R1: | 81.6 |
| R2: | 88.8 |
| R3: | 96.0 |
| R4: | 83.4 |
| R5: | 81.4 |
| R6: | 87.0 |
| R7: | 84.0 |
| R8: | 60.8 |
| R9: | 10.8 |
| R10: | 74.8 |
| R11: | 84.3 |
| R12: | 72.1 |
| R13: | 82.9 |
| R14: | 97.3 |
| R15: | 73.7 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 29M |
| Operation Time: | 1H 29M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-8

| 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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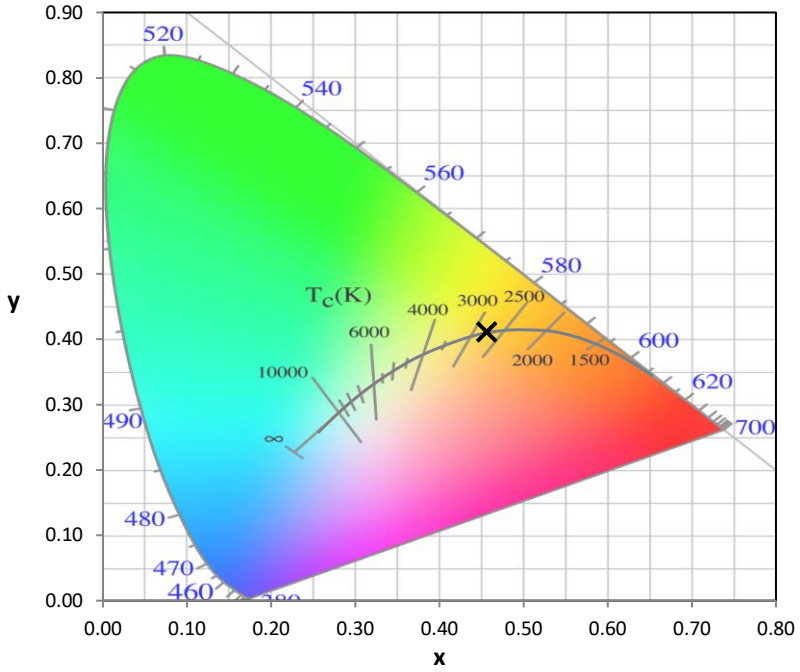
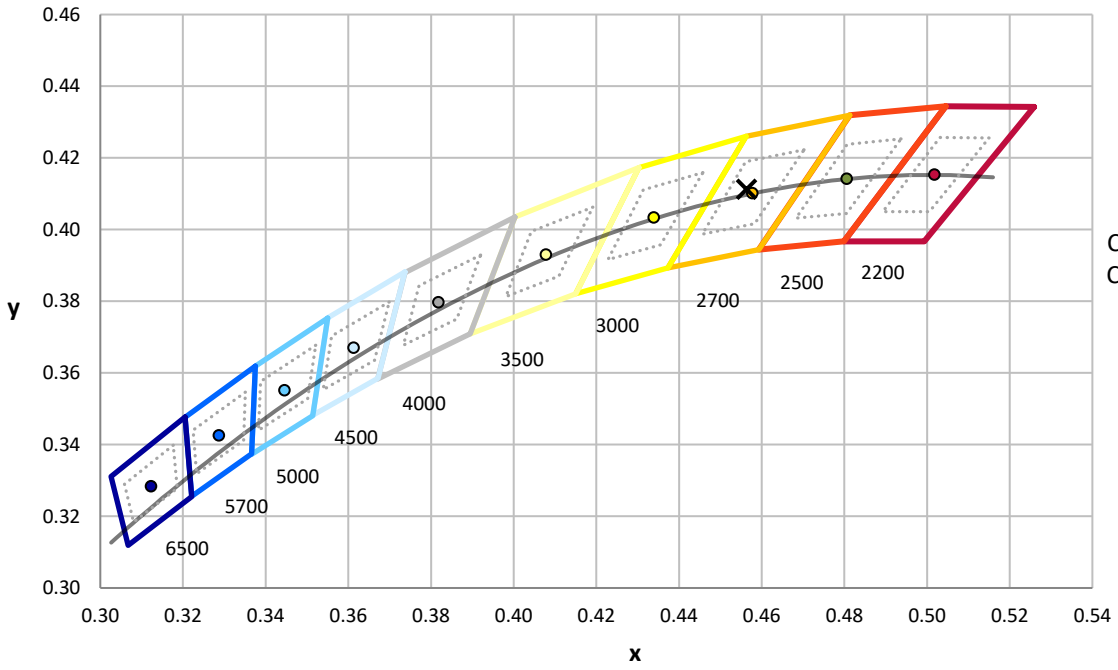
## CIE 1931 Chromaticity Diagram




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




CCT = 2756K
CIE x = 0.4563
CIE y = 0.4112
Duv = 0.0006

Point lies inside the ANSI 2700K 4-step quadrangle

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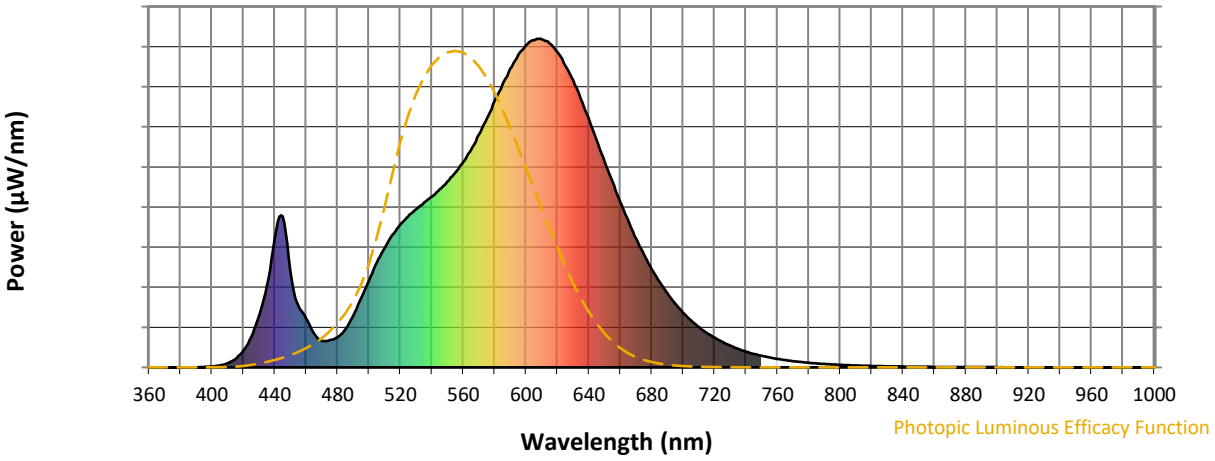
## Photopic Flux vs. Wavelength




## 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 | 158 | NR | 620 | 959 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 211 | NR | 625 | 918 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 264 | NR | 630 | 873 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 318 | NR | 635 | 816 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 363 | NR | 640 | 755 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 403 | NR | 645 | 689 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 435 | NR | 650 | 626 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 459 | NR | 655 | 564 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 481 | NR | 660 | 503 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 501 | NR | 665 | 447 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 519 | NR | 670 | 392 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 26 | NR | 545 | 542 | NR | 675 | 343 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 565 | NR | 680 | 299 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 93 | NR | 555 | 593 | NR | 685 | 260 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 156 | NR | 560 | 624 | NR | 690 | 225 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 250 | NR | 565 | 662 | NR | 695 | 194 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 707 | NR | 700 | 166 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 460 | NR | 575 | 756 | NR | 705 | 143 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 293 | NR | 580 | 810 | NR | 710 | 122 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 188 | NR | 585 | 860 | NR | 715 | 105 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 149 | NR | 590 | 910 | NR | 720 | 90 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 103 | NR | 595 | 950 | NR | 725 | 77 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 80 | NR | 600 | 980 | NR | 730 | 66 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 82 | NR | 605 | 995 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 92 | NR | 610 | 998 | NR | 740 | 48 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 116 | NR | 615 | 985 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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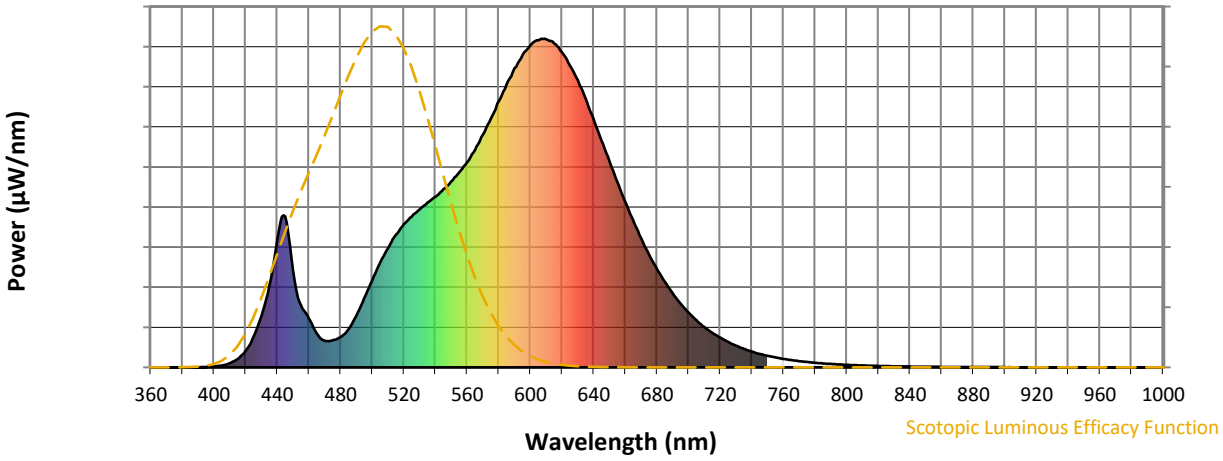
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.2**

| 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 | 158 | NR | 620 | 959 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 211 | NR | 625 | 918 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 264 | NR | 630 | 873 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 318 | NR | 635 | 816 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 363 | NR | 640 | 755 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 403 | NR | 645 | 689 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 435 | NR | 650 | 626 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 459 | NR | 655 | 564 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 481 | NR | 660 | 503 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 501 | NR | 665 | 447 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 519 | NR | 670 | 392 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 26 | NR | 545 | 542 | NR | 675 | 343 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 565 | NR | 680 | 299 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 93 | NR | 555 | 593 | NR | 685 | 260 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 156 | NR | 560 | 624 | NR | 690 | 225 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 250 | NR | 565 | 662 | NR | 695 | 194 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 707 | NR | 700 | 166 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 460 | NR | 575 | 756 | NR | 705 | 143 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 293 | NR | 580 | 810 | NR | 710 | 122 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 188 | NR | 585 | 860 | NR | 715 | 105 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 149 | NR | 590 | 910 | NR | 720 | 90 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 103 | NR | 595 | 950 | NR | 725 | 77 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 80 | NR | 600 | 980 | NR | 730 | 66 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 82 | NR | 605 | 995 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 92 | NR | 610 | 998 | NR | 740 | 48 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 116 | NR | 615 | 985 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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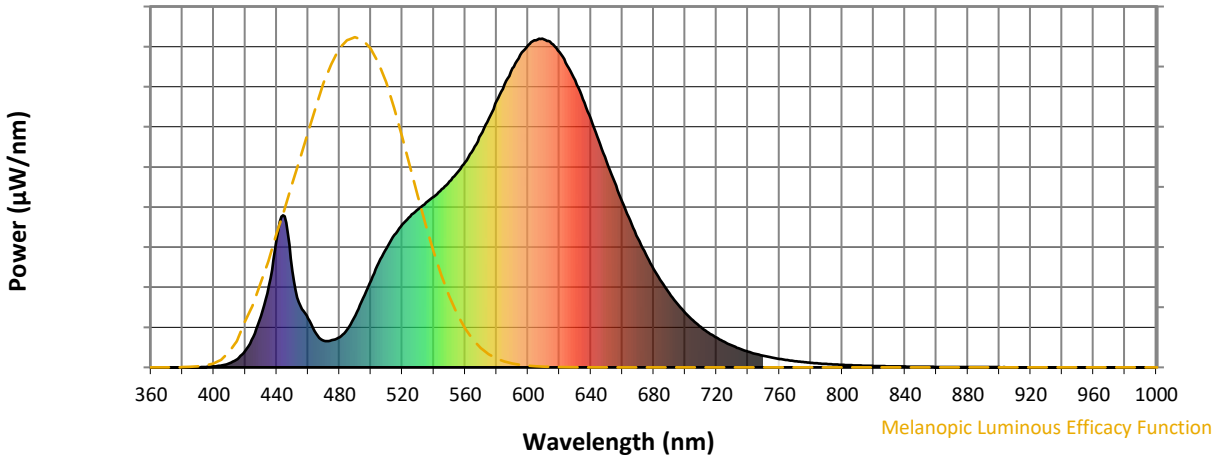
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.16**

| 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 | 158 | NR | 620 | 959 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 211 | NR | 625 | 918 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 264 | NR | 630 | 873 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 318 | NR | 635 | 816 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 363 | NR | 640 | 755 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 403 | NR | 645 | 689 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 435 | NR | 650 | 626 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 459 | NR | 655 | 564 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 481 | NR | 660 | 503 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 501 | NR | 665 | 447 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 519 | NR | 670 | 392 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 26 | NR | 545 | 542 | NR | 675 | 343 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 51 | NR | 550 | 565 | NR | 680 | 299 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 93 | NR | 555 | 593 | NR | 685 | 260 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 156 | NR | 560 | 624 | NR | 690 | 225 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 250 | NR | 565 | 662 | NR | 695 | 194 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 707 | NR | 700 | 166 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 460 | NR | 575 | 756 | NR | 705 | 143 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 293 | NR | 580 | 810 | NR | 710 | 122 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 188 | NR | 585 | 860 | NR | 715 | 105 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 149 | NR | 590 | 910 | NR | 720 | 90 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 103 | NR | 595 | 950 | NR | 725 | 77 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 80 | NR | 600 | 980 | NR | 730 | 66 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 82 | NR | 605 | 995 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 92 | NR | 610 | 998 | NR | 740 | 48 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 116 | NR | 615 | 985 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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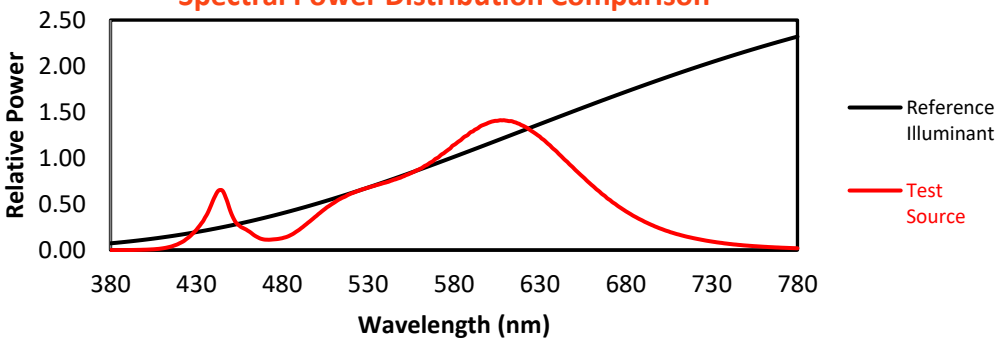
**TM-30-18**

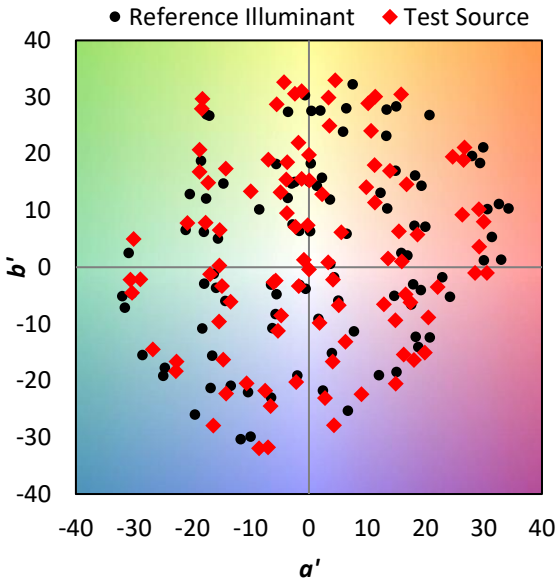
## Summary

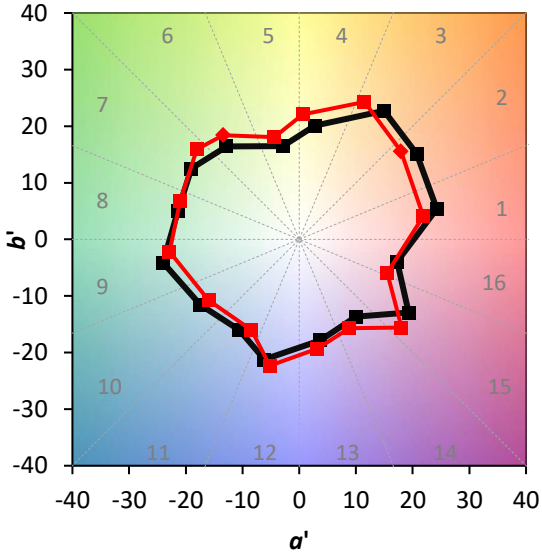
$R_f$ = 82.2
$R_g$ = 99.9
CIE $R_a$ = 82.9
$R_9$ = 10.8

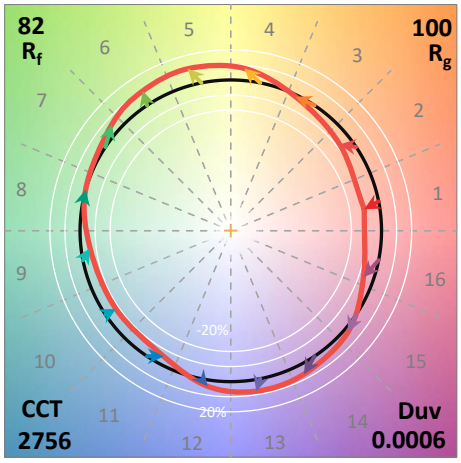
## Spectral Power Distribution Comparison

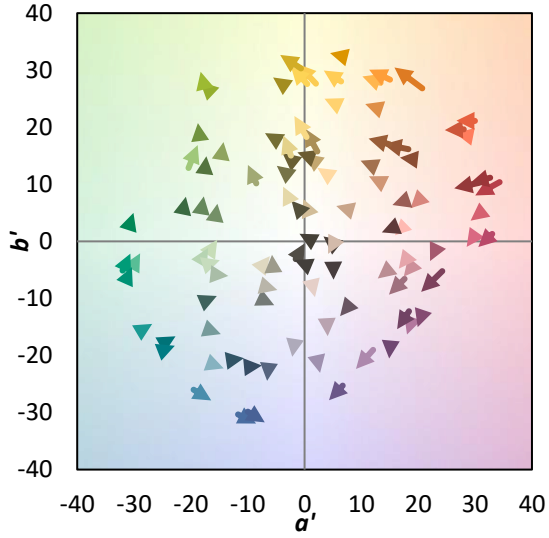



## Color Vector Graphics



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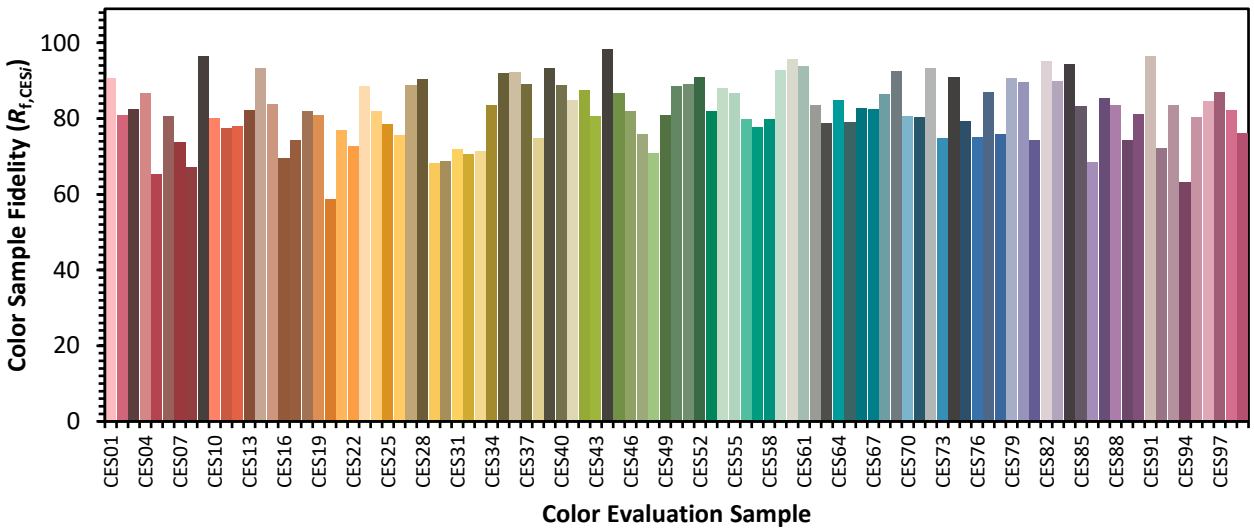
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 76 | CES51 = 89 | CES76 = 75 |
| CES02 = 63 | CES27 = 89 | CES52 = 91 | CES77 = 87 |
| CES03 = 31 | CES28 = 90 | CES53 = 82 | CES78 = 76 |
| CES04 = 71 | CES29 = 68 | CES54 = 88 | CES79 = 91 |
| CES05 = 50 | CES30 = 69 | CES55 = 87 | CES80 = 90 |
| CES06 = 52 | CES31 = 72 | CES56 = 80 | CES81 = 74 |
| CES07 = 43 | CES32 = 71 | CES57 = 78 | CES82 = 95 |
| CES08 = 42 | CES33 = 71 | CES58 = 80 | CES83 = 90 |
| CES09 = 29 | CES34 = 84 | CES59 = 93 | CES84 = 94 |
| CES10 = 77 | CES35 = 92 | CES60 = 96 | CES85 = 83 |
| CES11 = 59 | CES36 = 92 | CES61 = 94 | CES86 = 69 |
| CES12 = 66 | CES37 = 89 | CES62 = 84 | CES87 = 85 |
| CES13 = 44 | CES38 = 75 | CES63 = 79 | CES88 = 84 |
| CES14 = 74 | CES39 = 93 | CES64 = 85 | CES89 = 74 |
| CES15 = 72 | CES40 = 89 | CES65 = 79 | CES90 = 81 |
| CES16 = 48 | CES41 = 85 | CES66 = 83 | CES91 = 96 |
| CES17 = 50 | CES42 = 88 | CES67 = 82 | CES92 = 72 |
| CES18 = 57 | CES43 = 81 | CES68 = 86 | CES93 = 84 |
| CES19 = 73 | CES44 = 98 | CES69 = 92 | CES94 = 63 |
| CES20 = 67 | CES45 = 87 | CES70 = 81 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 81 | CES96 = 85 |
| CES22 = 79 | CES47 = 76 | CES72 = 93 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 75 | CES98 = 82 |
| CES24 = 91 | CES49 = 81 | CES74 = 91 | CES99 = 76 |
| CES25 = 72 | CES50 = 88 | CES75 = 79 | |



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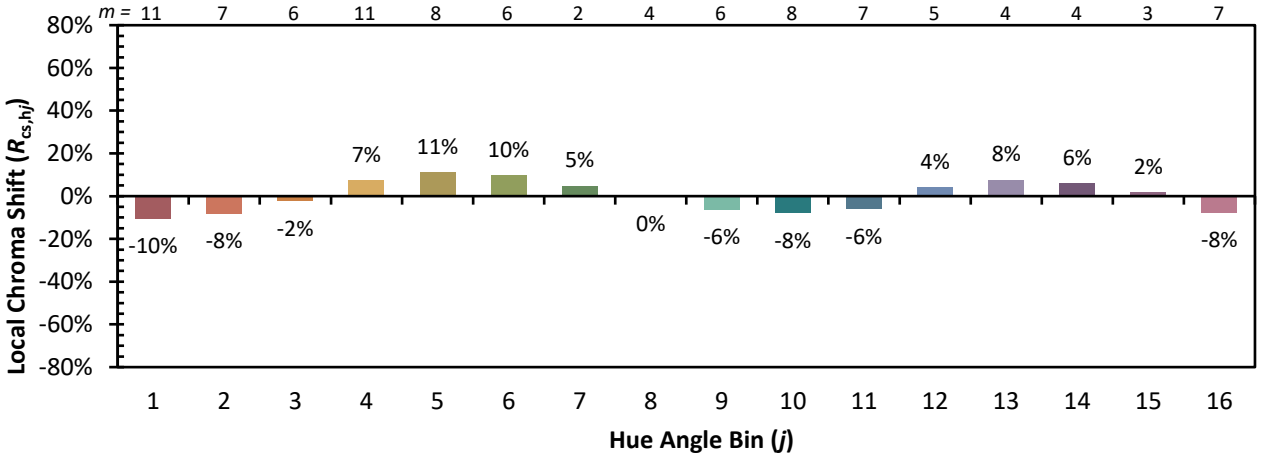
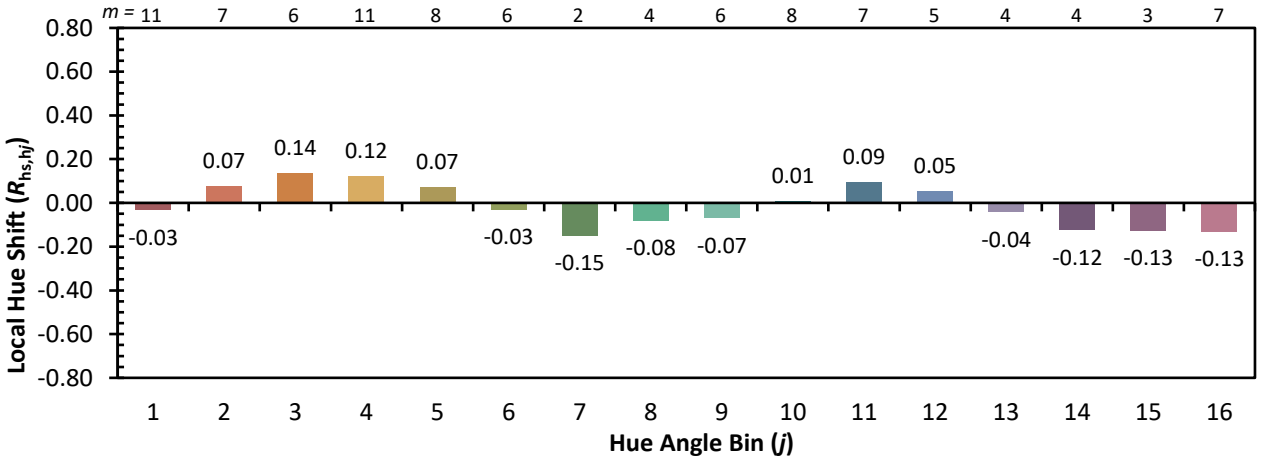
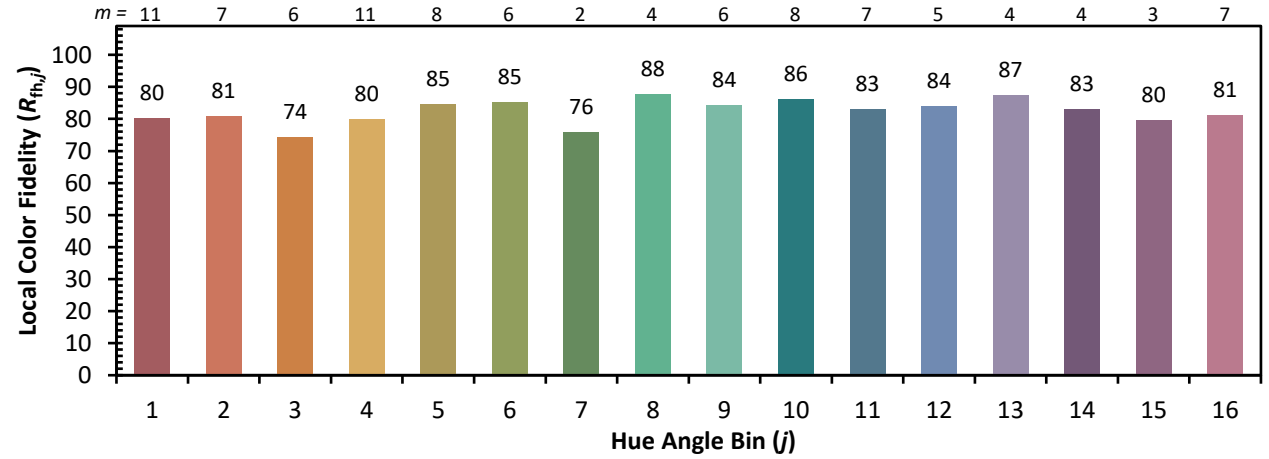
## Color Rendition by Hue-Angle Bin



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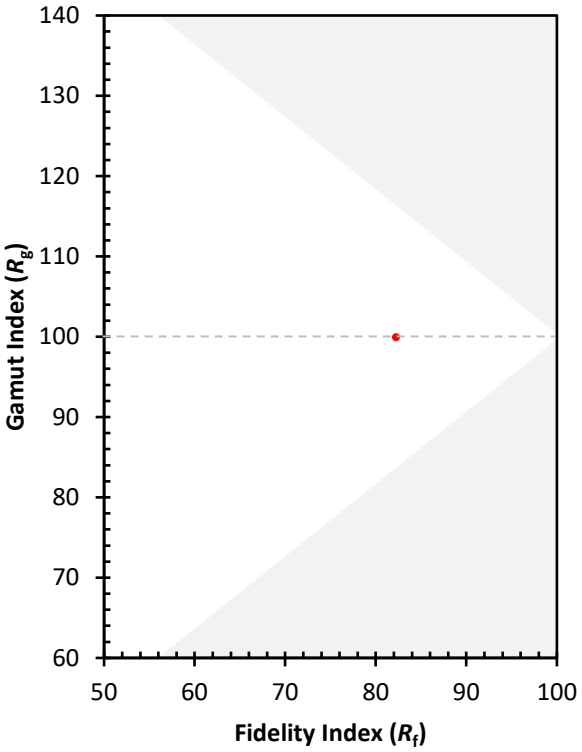
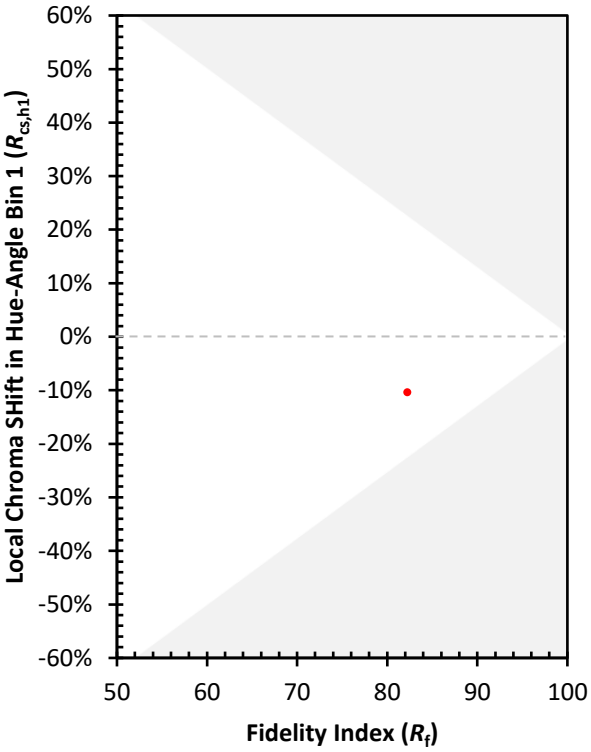
## Measure Comparisons




(END OF REPORT)