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: McGRAW-EDISON

Report Number: P1502666

Luminaire Tested: GSS-SB6B-827-U-T4LG-HSS

Issue Date: 07/20/2026

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: | P1502666 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB6B-827-U-T4LG-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 6SQUARE 219W 80CRI 2700K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE W/ HOUSE SIDE SHIELD |
| Light Source: | (156) 2700K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 23072.7 lumens |
| Efficiency: | N/A |
| Efficacy: | 105.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B2 - U0 - G3 |

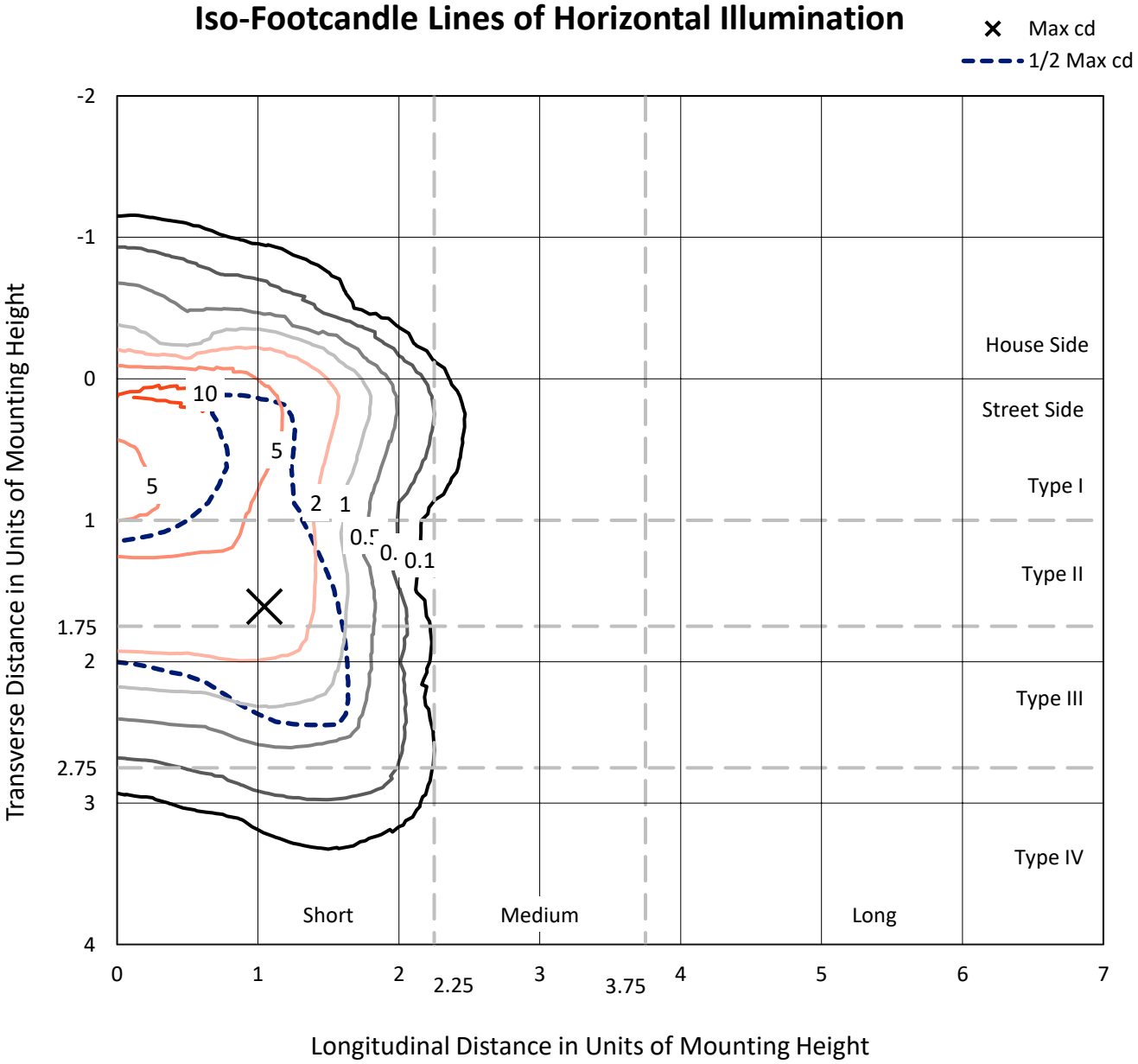
| | |
|---|---|
| Input Watts (W): | 219 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.7% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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REPORT NUMBER: P1502666
CATALOG NUMBER: GSS-SB6B-827-U-T4LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination



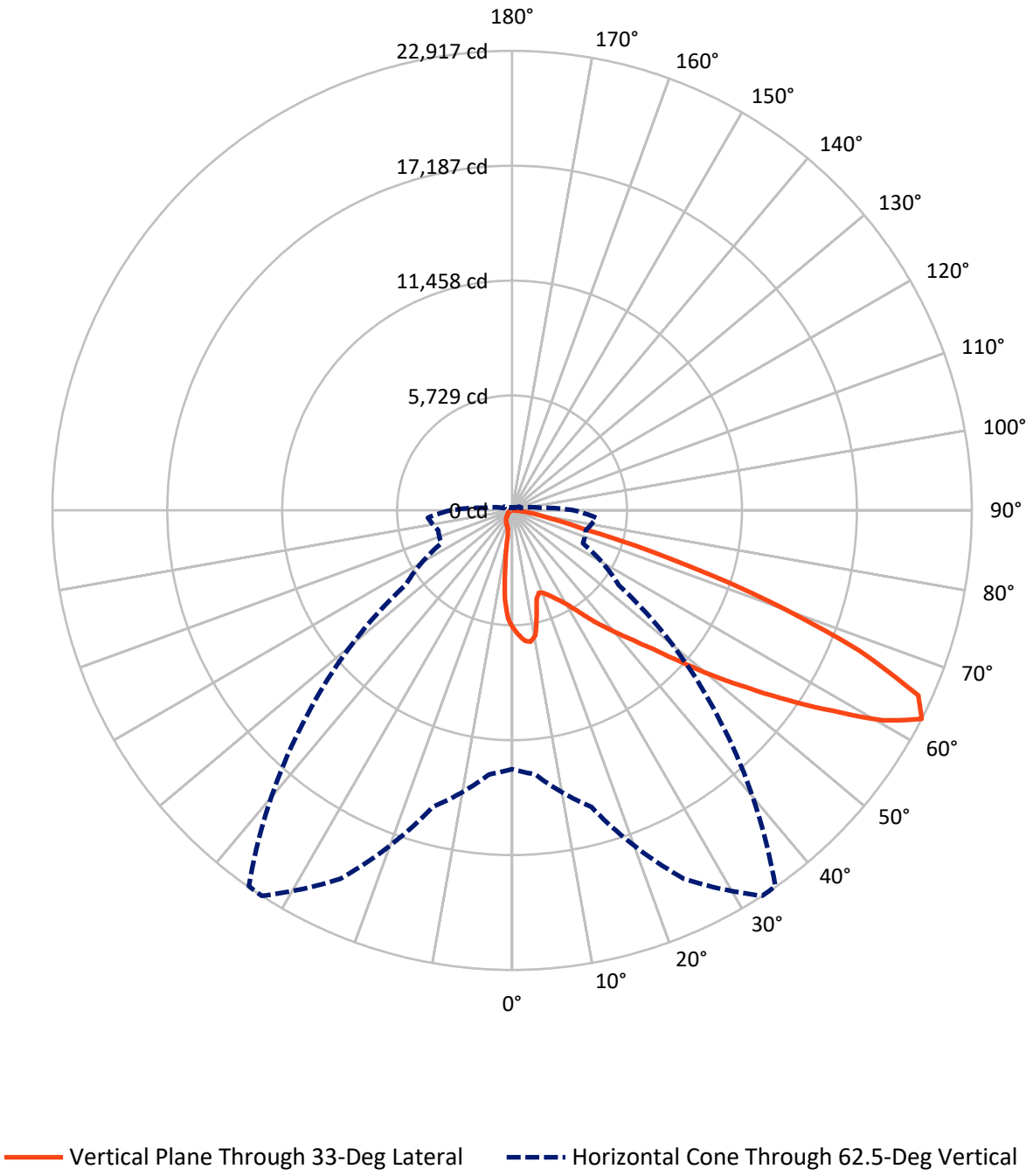

Based on 25 foot mounting height. Maximum calculated value = 11.2 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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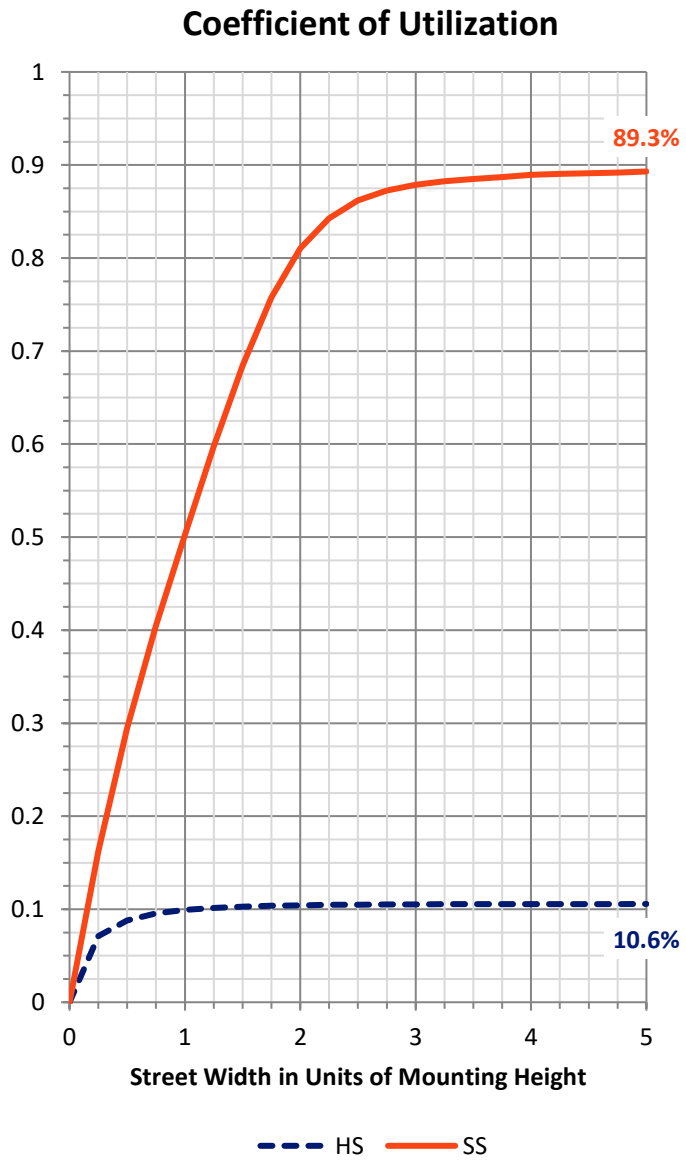
REPORT NUMBER: P1502666
CATALOG NUMBER: GSS-SB6B-827-U-T4LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2455.1 | 0.0 | 2455.1 |
| | % Fixture | 10.6 | 0.0 | 10.6 |
| **Street Side** | Lumens | 20617.6 | 0.0 | 20617.6 |
| | % Fixture | 89.4 | 0.0 | 89.4 |
| **Total** | Lumens | 23072.7 | 0.0 | 23072.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 498.3 | 2.2 |
| 10°-20° | 1111.9 | 4.8 |
| 20°-30° | 1792.1 | 7.8 |
| 30°-40° | 2981.2 | 12.9 |
| 40°-50° | 4711.9 | 20.4 |
| 50°-60° | 6330.4 | 27.4 |
| 60°-70° | 4647.2 | 20.1 |
| 70°-80° | 919.8 | 4.0 |
| 80°-90° | 79.9 | 0.3 |
| 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° | 23072.7 | 100.0 |
| 0°-180° | 23072.7 | 100.0 |



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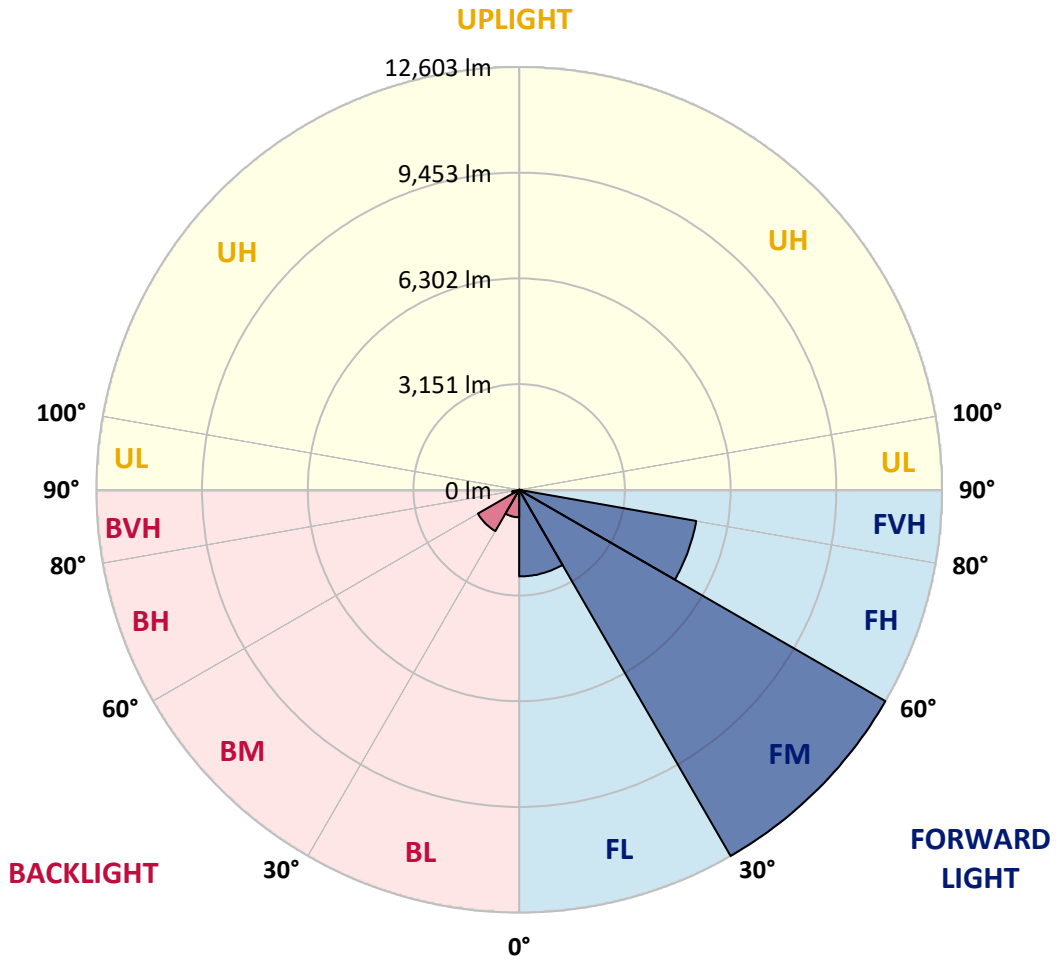
Scaled Data Report

REPORT NUMBER: P1502666
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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°) | 2583.1 | 11.2 | | | |
| FM | (30°-60°) | 12603.4 | 54.6 | | | |
| FH | (60°-80°) | 5357.2 | 23.2 | | | G3/7500 |
| FVH | (80°-90°) | 73.9 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 819.1 | 3.6 | B2/1000 | | |
| BM | (30°-60°) | 1420.2 | 6.2 | B2/2500 | | |
| BH | (60°-80°) | 209.8 | 0.9 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 6.0 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 |
| 2.5° | 6244.1 | 6270.1 | 6270.1 | 6218.1 | 6205.1 | 6179.1 | 6153.1 | 6146.6 | 6062.2 | 5997.2 | 5932.2 |
| 5° | 6562.5 | 6556.0 | 6549.5 | 6523.5 | 6530.0 | 6497.5 | 6478.0 | 6445.5 | 6302.6 | 6205.1 | 6029.7 |
| 7.5° | 6426.0 | 6484.5 | 6510.5 | 6582.0 | 6614.4 | 6607.9 | 6659.9 | 6672.9 | 6549.5 | 6413.0 | 6146.6 |
| 10° | 5535.9 | 5503.4 | 5737.3 | 6042.7 | 6348.0 | 6419.5 | 6698.9 | 6848.4 | 6802.9 | 6679.4 | 6335.0 |
| 12.5° | 4385.8 | 4418.3 | 4580.7 | 4938.1 | 5438.4 | 5594.3 | 6400.0 | 6991.3 | 7121.2 | 7043.3 | 6594.9 |
| 15° | 4015.4 | 4015.4 | 4099.9 | 4268.8 | 4567.7 | 4717.2 | 5711.3 | 6971.8 | 7459.1 | 7465.6 | 6919.8 |
| 17.5° | 3937.5 | 3950.5 | 4021.9 | 4132.4 | 4327.3 | 4392.3 | 5087.5 | 6685.9 | 7790.5 | 7907.4 | 7283.7 |
| 20° | 3950.5 | 3970.0 | 4047.9 | 4203.9 | 4392.3 | 4470.3 | 4925.1 | 6322.1 | 8069.9 | 8388.3 | 7667.0 |
| 22.5° | 3996.0 | 3989.5 | 4125.9 | 4333.8 | 4574.2 | 4645.7 | 5061.5 | 6172.6 | 8303.8 | 8940.5 | 8115.4 |
| 25° | 4047.9 | 4054.4 | 4229.9 | 4522.3 | 4814.6 | 4899.1 | 5366.9 | 6309.1 | 8472.7 | 9531.8 | 8570.2 |
| 27.5° | 4203.9 | 4223.4 | 4437.8 | 4756.2 | 5100.5 | 5211.0 | 5763.3 | 6666.4 | 8765.1 | 10103.6 | 9064.0 |
| 30° | 4444.3 | 4463.8 | 4710.7 | 5094.0 | 5464.4 | 5633.3 | 6257.1 | 7114.7 | 9200.4 | 10766.3 | 9570.8 |
| 32.5° | 4723.7 | 4749.7 | 5068.0 | 5509.9 | 5958.2 | 6120.6 | 6822.4 | 7797.0 | 9778.7 | 11442.1 | 10097.1 |
| 35° | 5074.5 | 5146.0 | 5490.4 | 6016.7 | 6620.9 | 6776.9 | 7517.6 | 8570.2 | 10532.4 | 12046.3 | 10545.4 |
| 37.5° | 5555.4 | 5613.8 | 6036.2 | 6692.4 | 7303.2 | 7511.1 | 8297.3 | 9382.4 | 11214.7 | 12585.6 | 10909.3 |
| 40° | 6140.1 | 6192.1 | 6666.4 | 7381.1 | 8017.9 | 8193.3 | 9116.0 | 10201.1 | 11948.9 | 12884.5 | 10987.2 |
| 42.5° | 7114.7 | 7257.7 | 7556.6 | 8160.8 | 8843.1 | 9064.0 | 10025.6 | 10993.7 | 12481.7 | 12943.0 | 10863.8 |
| 45° | 8817.1 | 8862.6 | 8927.5 | 9213.4 | 9869.7 | 10064.6 | 10987.2 | 11682.5 | 12800.0 | 12956.0 | 10753.3 |
| 47.5° | 10448.0 | 10603.9 | 10694.9 | 10824.8 | 11221.2 | 11292.6 | 11994.4 | 12299.7 | 13053.5 | 12910.5 | 10753.3 |
| 50° | 12078.8 | 12195.8 | 12351.7 | 12507.7 | 12930.0 | 12956.0 | 13059.9 | 12715.6 | 13066.4 | 12540.1 | 10688.4 |
| 52.5° | 13560.3 | 13599.2 | 13865.6 | 14164.5 | 14690.8 | 14833.8 | 14047.6 | 13021.0 | 12280.2 | 11370.6 | 10383.0 |
| 55° | 14885.7 | 14937.7 | 15340.6 | 15951.3 | 16705.0 | 16893.5 | 15256.1 | 12429.7 | 10597.4 | 9856.7 | 9674.8 |
| 57.5° | 15743.4 | 15866.9 | 16672.6 | 18017.5 | 18868.7 | 18784.2 | 16191.7 | 11045.7 | 8511.7 | 8063.4 | 8420.7 |
| 60° | 15314.6 | 15483.5 | 17179.4 | 19752.4 | 21266.3 | 21019.4 | 15931.8 | 9090.0 | 6289.6 | 5964.7 | 6666.4 |
| 62.5° | 12904.0 | 13215.9 | 15314.6 | 20265.7 | 22916.6 | 22877.6 | 14463.4 | 6484.5 | 3898.5 | 3814.0 | 4210.4 |
| 65° | 8973.0 | 9512.3 | 12000.9 | 18550.3 | 22253.9 | 22312.4 | 12176.3 | 3775.0 | 1806.3 | 2241.6 | 2462.5 |
| 67.5° | 5289.0 | 5672.3 | 7732.0 | 15145.6 | 18673.8 | 18134.5 | 8277.8 | 1747.8 | 903.2 | 1364.5 | 1306.0 |
| 70° | 2326.1 | 2586.0 | 4431.3 | 10493.4 | 13605.7 | 12735.1 | 4041.4 | 851.2 | 688.7 | 825.2 | 721.2 |
| 72.5° | 1280.0 | 1397.0 | 2332.6 | 5542.4 | 8277.8 | 7868.5 | 1364.5 | 565.3 | 591.3 | 617.3 | 519.8 |
| 75° | 714.7 | 766.7 | 1228.0 | 3203.3 | 3638.6 | 3385.2 | 662.7 | 370.4 | 500.3 | 500.3 | 383.4 |
| 77.5° | 415.8 | 461.3 | 766.7 | 1994.7 | 1994.7 | 1611.4 | 402.8 | 233.9 | 376.9 | 337.9 | 207.9 |
| 80° | 194.9 | 220.9 | 422.3 | 1104.6 | 1260.5 | 1039.6 | 227.4 | 162.4 | 246.9 | 214.4 | 136.4 |
| 82.5° | 58.5 | 71.5 | 207.9 | 428.8 | 714.7 | 610.8 | 117.0 | 104.0 | 181.9 | 136.4 | 78.0 |
| 85° | 39.0 | 45.5 | 104.0 | 175.4 | 350.9 | 305.4 | 39.0 | 32.5 | 78.0 | 65.0 | 32.5 |
| 87.5° | 6.5 | 6.5 | 13.0 | 13.0 | 13.0 | 13.0 | 6.5 | 6.5 | 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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Scaled Data Report

REPORT NUMBER: P1502666
CATALOG NUMBER: GSS-SB6B-827-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 | 5860.7 |
| 2.5° | 5893.2 | 5847.7 | 5743.8 | 5646.3 | 5594.3 | 5477.4 | 5431.9 | 5379.9 | 5353.9 | 5347.4 | 5308.4 |
| 5° | 5919.2 | 5834.7 | 5574.8 | 5314.9 | 5042.0 | 4782.1 | 4515.8 | 4281.8 | 4093.4 | 4099.9 | 4106.4 |
| 7.5° | 5997.2 | 5828.2 | 5373.4 | 4853.6 | 4268.8 | 3593.1 | 2871.9 | 2332.6 | 1988.2 | 1916.8 | 1851.8 |
| 10° | 6101.1 | 5854.2 | 5126.5 | 4164.9 | 3014.8 | 1897.3 | 1338.5 | 1143.6 | 1059.1 | 1039.6 | 1046.1 |
| 12.5° | 6296.1 | 5919.2 | 4814.6 | 3216.3 | 1669.9 | 1091.6 | 968.1 | 935.6 | 922.6 | 922.6 | 922.6 |
| 15° | 6536.5 | 6010.2 | 4327.3 | 2105.2 | 1091.6 | 909.6 | 883.7 | 877.2 | 864.2 | 864.2 | 870.7 |
| 17.5° | 6737.9 | 6010.2 | 3684.1 | 1371.0 | 896.7 | 844.7 | 825.2 | 818.7 | 818.7 | 825.2 | 818.7 |
| 20° | 6958.8 | 5964.7 | 2962.9 | 1033.1 | 831.7 | 786.2 | 773.2 | 773.2 | 773.2 | 779.7 | 779.7 |
| 22.5° | 7186.2 | 5886.7 | 2293.6 | 883.7 | 773.2 | 734.2 | 727.7 | 734.2 | 740.7 | 747.2 | 747.2 |
| 25° | 7439.6 | 5789.3 | 1812.8 | 818.7 | 721.2 | 688.7 | 688.7 | 688.7 | 695.2 | 708.2 | 714.7 |
| 27.5° | 7719.0 | 5704.8 | 1552.9 | 779.7 | 675.7 | 643.3 | 643.3 | 649.7 | 662.7 | 669.2 | 675.7 |
| 30° | 7978.9 | 5704.8 | 1468.4 | 799.2 | 656.2 | 617.3 | 604.3 | 610.8 | 623.8 | 636.8 | 636.8 |
| 32.5° | 8303.8 | 5769.8 | 1513.9 | 883.7 | 649.7 | 578.3 | 565.3 | 565.3 | 578.3 | 584.8 | 584.8 |
| 35° | 8576.7 | 5893.2 | 1669.9 | 1000.6 | 675.7 | 545.8 | 519.8 | 513.3 | 526.3 | 519.8 | 526.3 |
| 37.5° | 8797.6 | 6062.2 | 1955.7 | 1156.6 | 727.7 | 506.8 | 474.3 | 454.8 | 454.8 | 454.8 | 454.8 |
| 40° | 8862.6 | 6231.1 | 2319.6 | 1260.5 | 721.2 | 461.3 | 415.8 | 396.3 | 389.8 | 383.4 | 383.4 |
| 42.5° | 8771.6 | 6309.1 | 2612.0 | 1254.0 | 643.3 | 428.8 | 370.4 | 344.4 | 324.9 | 318.4 | 318.4 |
| 45° | 8700.1 | 6348.0 | 2715.9 | 1091.6 | 584.8 | 389.8 | 331.4 | 298.9 | 279.4 | 272.9 | 266.4 |
| 47.5° | 8706.6 | 6387.0 | 2560.0 | 890.2 | 532.8 | 357.4 | 298.9 | 266.4 | 246.9 | 240.4 | 233.9 |
| 50° | 8732.6 | 6322.1 | 2170.2 | 740.7 | 487.3 | 324.9 | 266.4 | 240.4 | 220.9 | 214.4 | 207.9 |
| 52.5° | 8459.7 | 5977.7 | 1526.9 | 649.7 | 448.3 | 305.4 | 240.4 | 220.9 | 201.4 | 194.9 | 194.9 |
| 55° | 7745.0 | 5152.5 | 1033.1 | 578.3 | 415.8 | 279.4 | 220.9 | 207.9 | 188.4 | 175.4 | 175.4 |
| 57.5° | 6601.4 | 3885.5 | 714.7 | 526.3 | 363.9 | 253.4 | 207.9 | 188.4 | 168.9 | 155.9 | 155.9 |
| 60° | 5048.5 | 2534.0 | 519.8 | 480.8 | 298.9 | 233.9 | 194.9 | 181.9 | 155.9 | 142.9 | 136.4 |
| 62.5° | *3073.3* | *1422.9* | *422.3* | *422.3* | *253.4* | *220.9* | *175.4* | *162.4* | *136.4* | *117.0* | *110.5* |
| 65° | 1780.3 | 838.2 | 344.4 | 357.4 | 220.9 | 201.4 | 155.9 | 136.4 | 110.5 | 91.0 | 84.5 |
| 67.5° | 857.7 | 487.3 | 272.9 | 253.4 | 194.9 | 168.9 | 136.4 | 117.0 | 97.5 | 78.0 | 71.5 |
| 70° | 526.3 | 376.9 | 207.9 | 181.9 | 155.9 | 129.9 | 110.5 | 104.0 | 84.5 | 65.0 | 65.0 |
| 72.5° | 428.8 | 305.4 | 162.4 | 129.9 | 117.0 | 91.0 | 91.0 | 84.5 | 65.0 | 52.0 | 45.5 |
| 75° | 337.9 | 227.4 | 123.5 | 91.0 | 71.5 | 71.5 | 65.0 | 58.5 | 52.0 | 39.0 | 39.0 |
| 77.5° | 181.9 | 155.9 | 91.0 | 52.0 | 39.0 | 45.5 | 45.5 | 39.0 | 32.5 | 26.0 | 26.0 |
| 80° | 117.0 | 91.0 | 52.0 | 26.0 | 26.0 | 26.0 | 26.0 | 19.5 | 19.5 | 13.0 | 13.0 |
| 82.5° | 58.5 | 45.5 | 26.0 | 6.5 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 6.5 | 6.5 |
| 85° | 13.0 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| 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

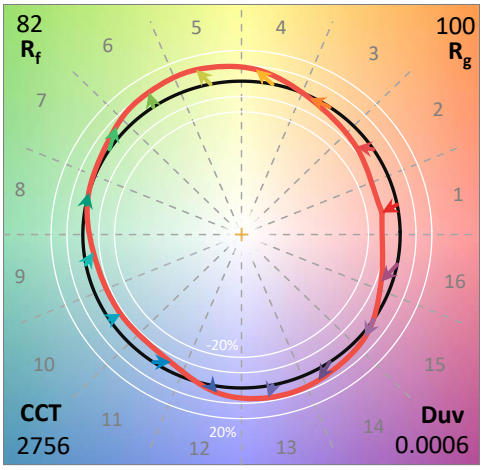
## Test Information

| | |
|---|---|
| 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

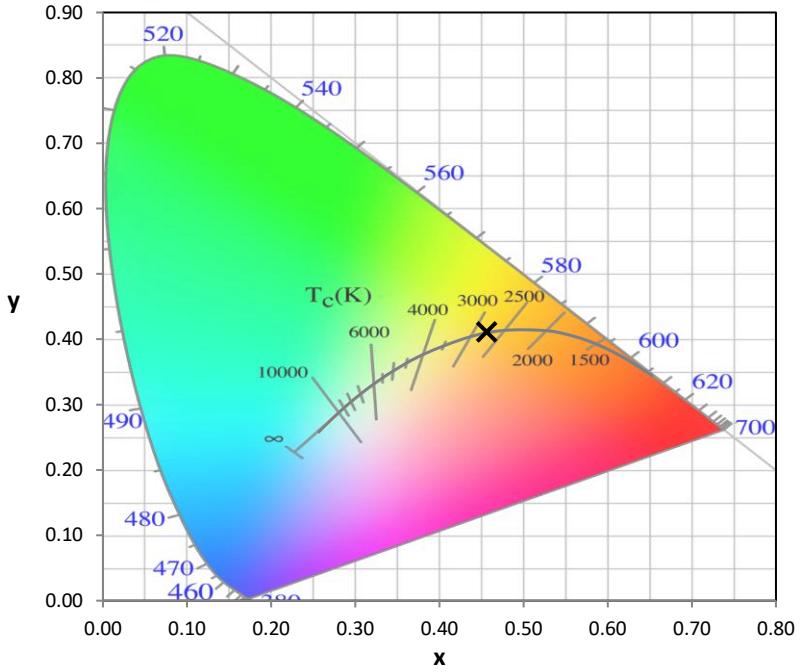
| | |
|---|---|
| Stabilization Time: | 29M |
| Operation Time: | 1H 29M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-8

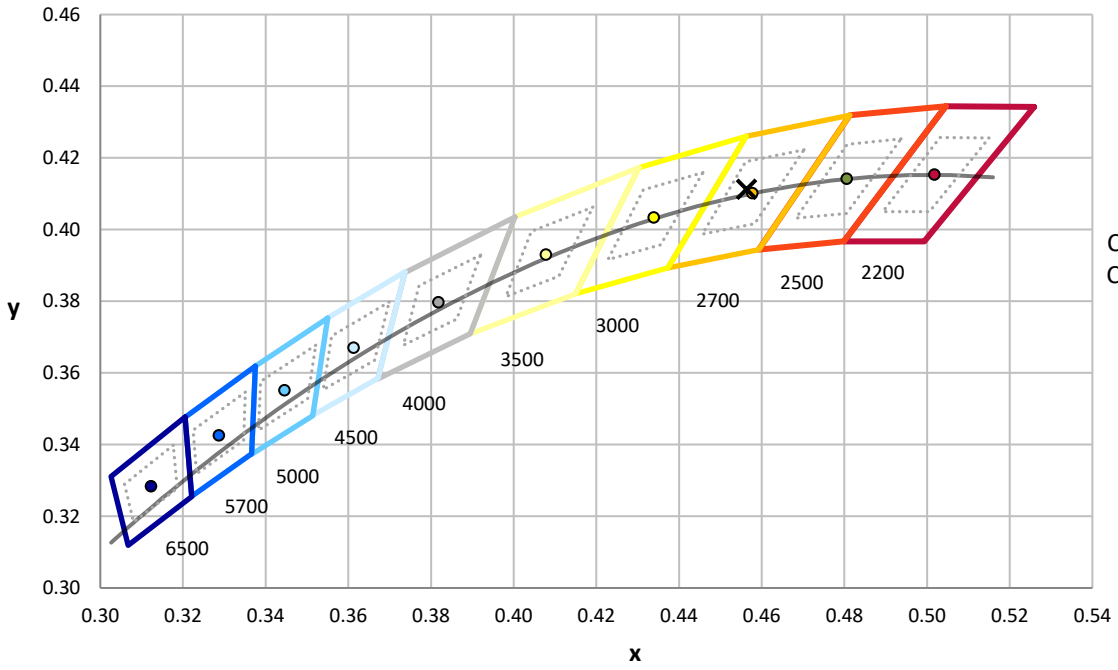
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

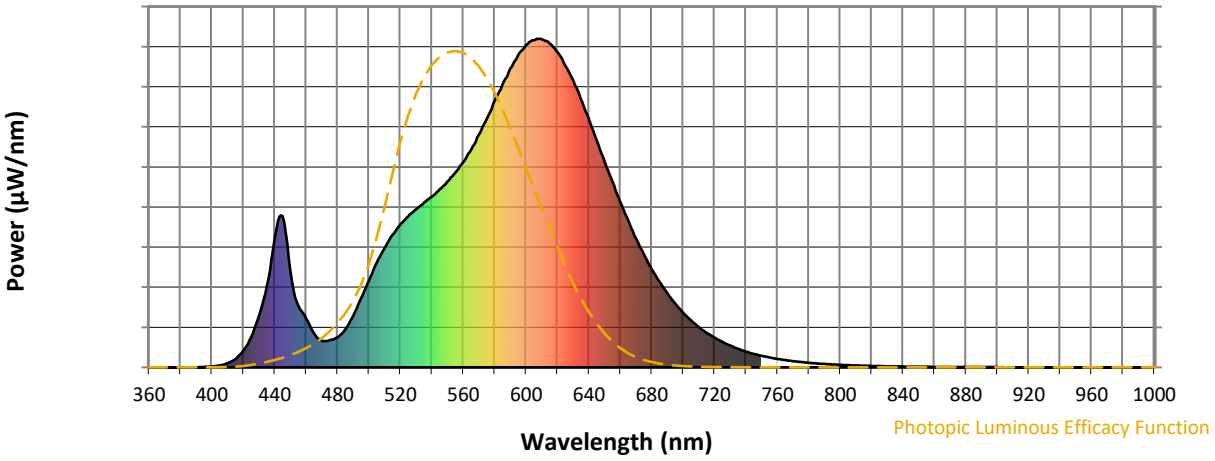



CCT = 2756K
CIE x = 0.4563
CIE y = 0.4112
Duv = 0.0006

Point lies inside the ANSI 2700K 4-step quadrangle

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## Photopic Flux vs. Wavelength

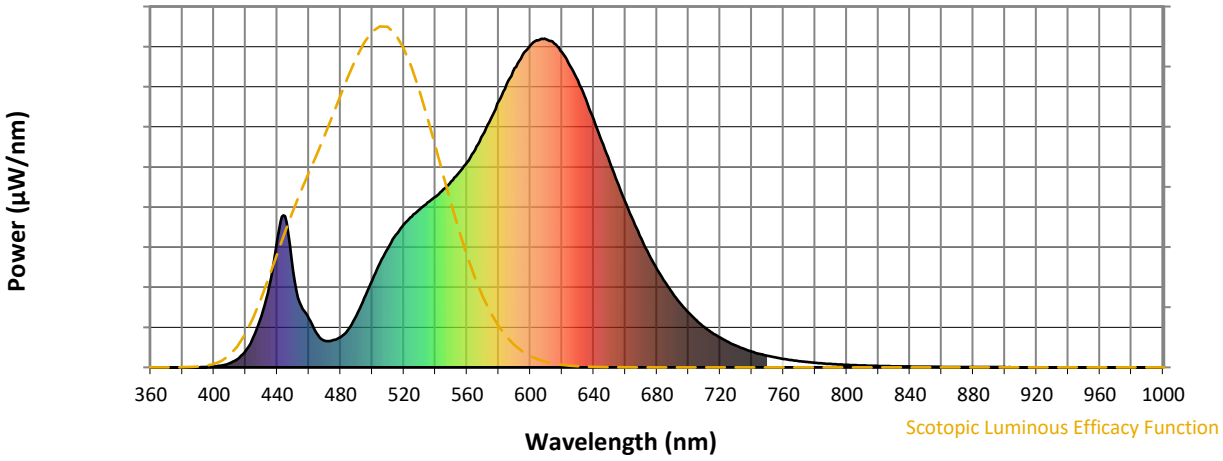



## Photopic Lumens: NR

| 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

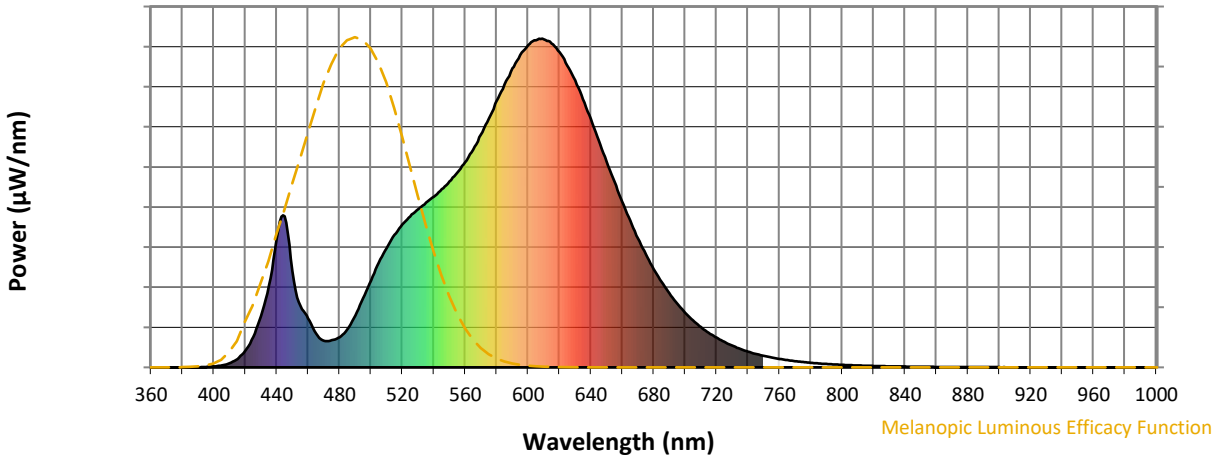



**Scotopic Lumens: NR** **S/P: 1.2**

| 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 | | | |

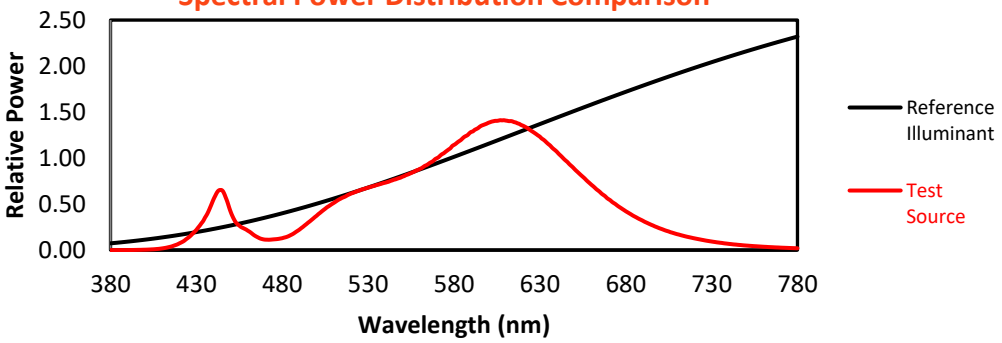
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**TM-30-18**

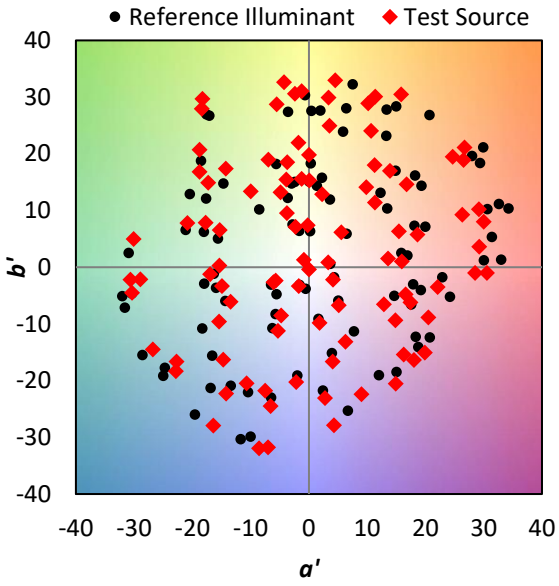
## Summary

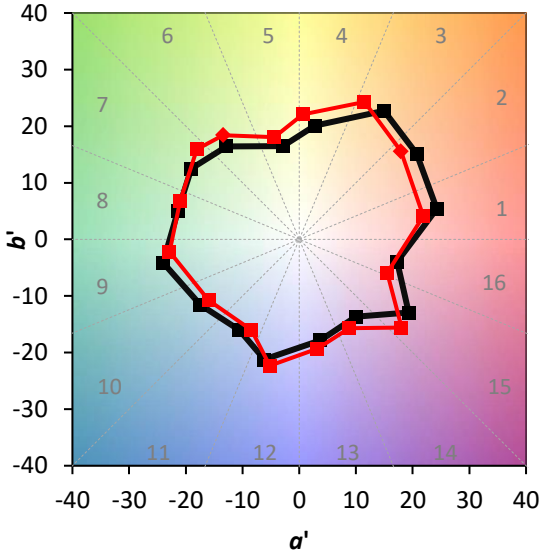
$R_f$ = 82.2
$R_g$ = 99.9
CIE $R_a$ = 82.9
$R_9$ = 10.8

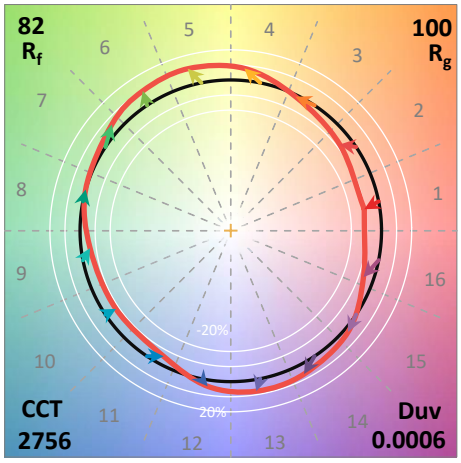
## Spectral Power Distribution Comparison

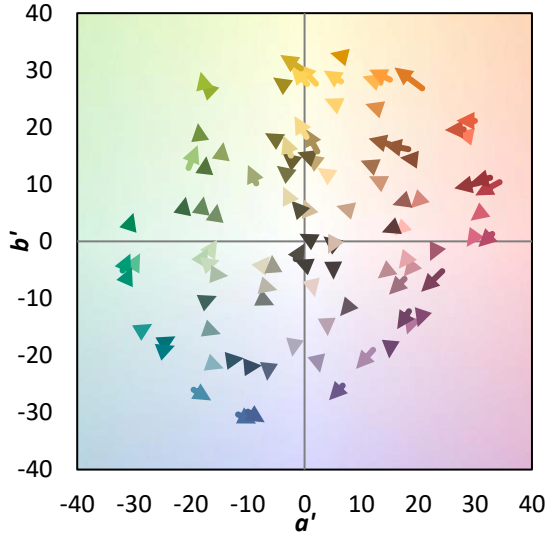



## Color Vector Graphics



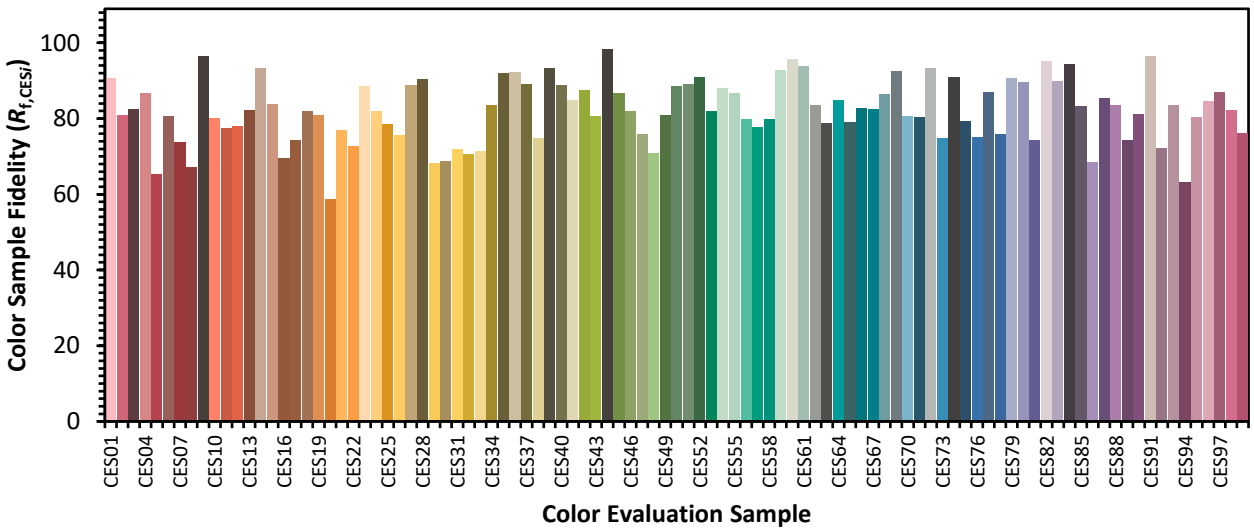



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**Individual Sample Fidelity Index ($R_{f,i}$)**

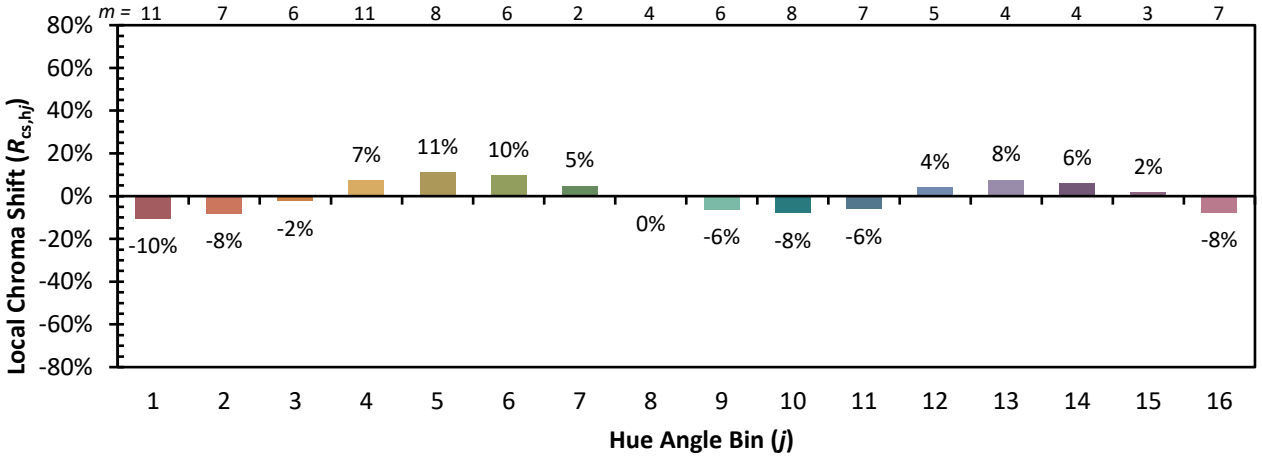
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 76 | CES51 = 89 | CES76 = 75 |
| CES02 = 63 | CES27 = 89 | CES52 = 91 | CES77 = 87 |
| CES03 = 31 | CES28 = 90 | CES53 = 82 | CES78 = 76 |
| CES04 = 71 | CES29 = 68 | CES54 = 88 | CES79 = 91 |
| CES05 = 50 | CES30 = 69 | CES55 = 87 | CES80 = 90 |
| CES06 = 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 | |

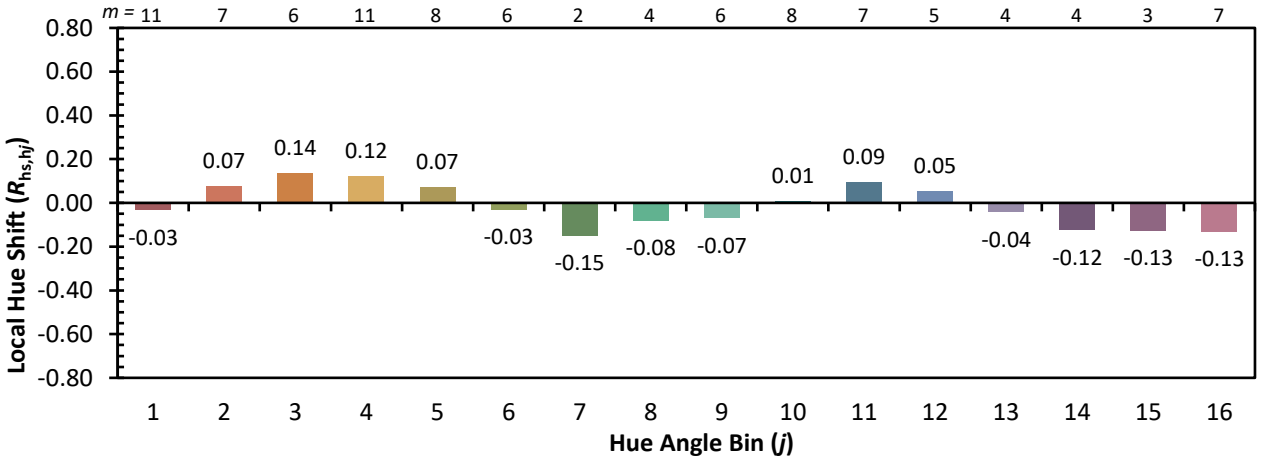


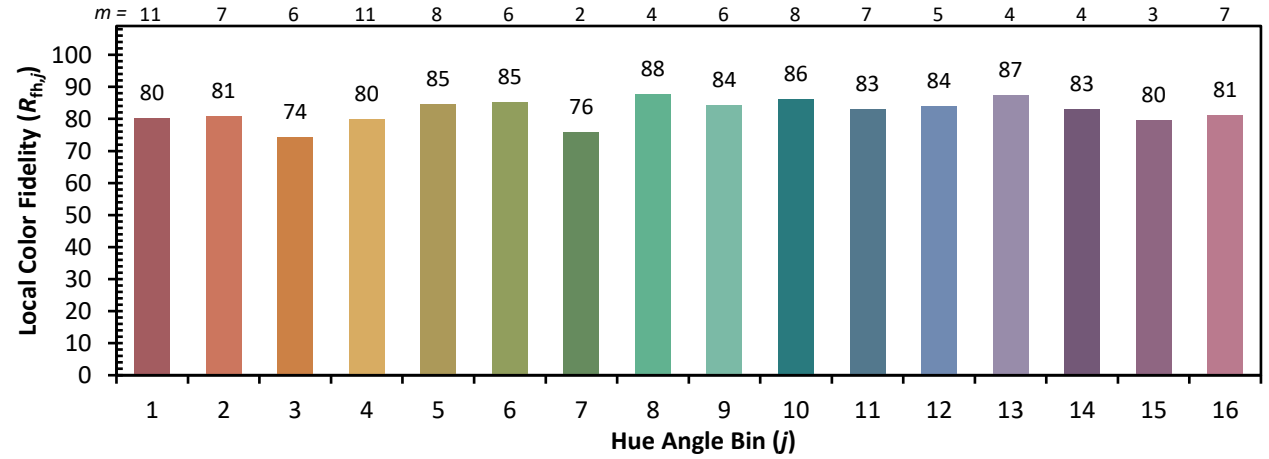
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## Color Rendition by Hue-Angle Bin



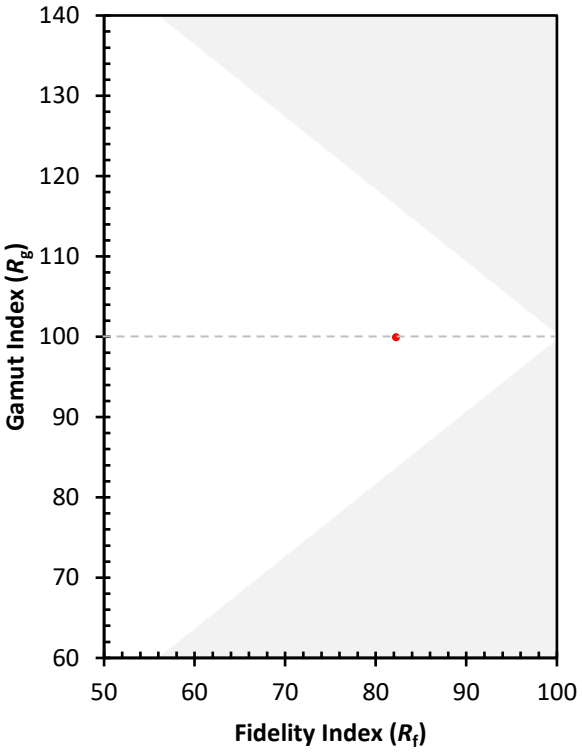



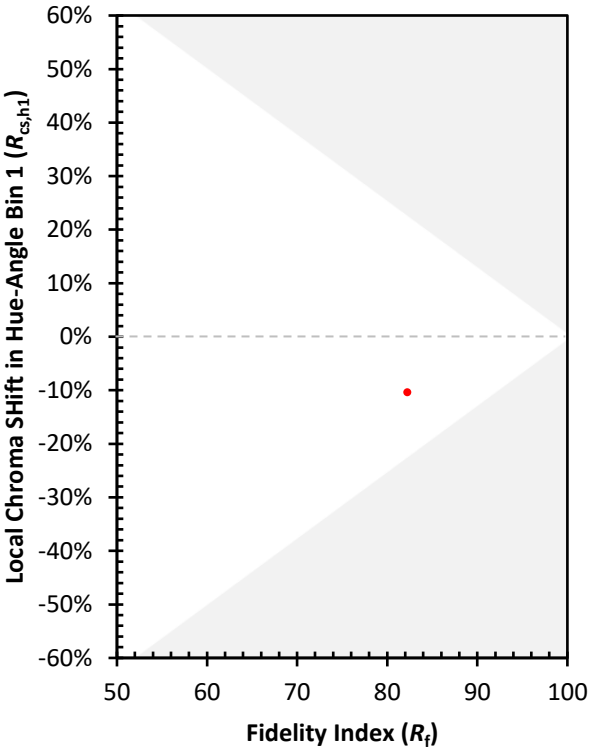



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## Measure Comparisons




(END OF REPORT)