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: P1458695

Luminaire Tested: GLAN-SB7A-722-U-T4LG-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: | P1458695 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/21/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB7A-722-U-T4LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 7xLight Square PACKAGE 70CRI 2200K FIXTURE w/ TYPE IV LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (182) 2200K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 19113.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 96.0 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G3 |

| | |
|---|---|
| Input Watts (W): | 199.1 |
| 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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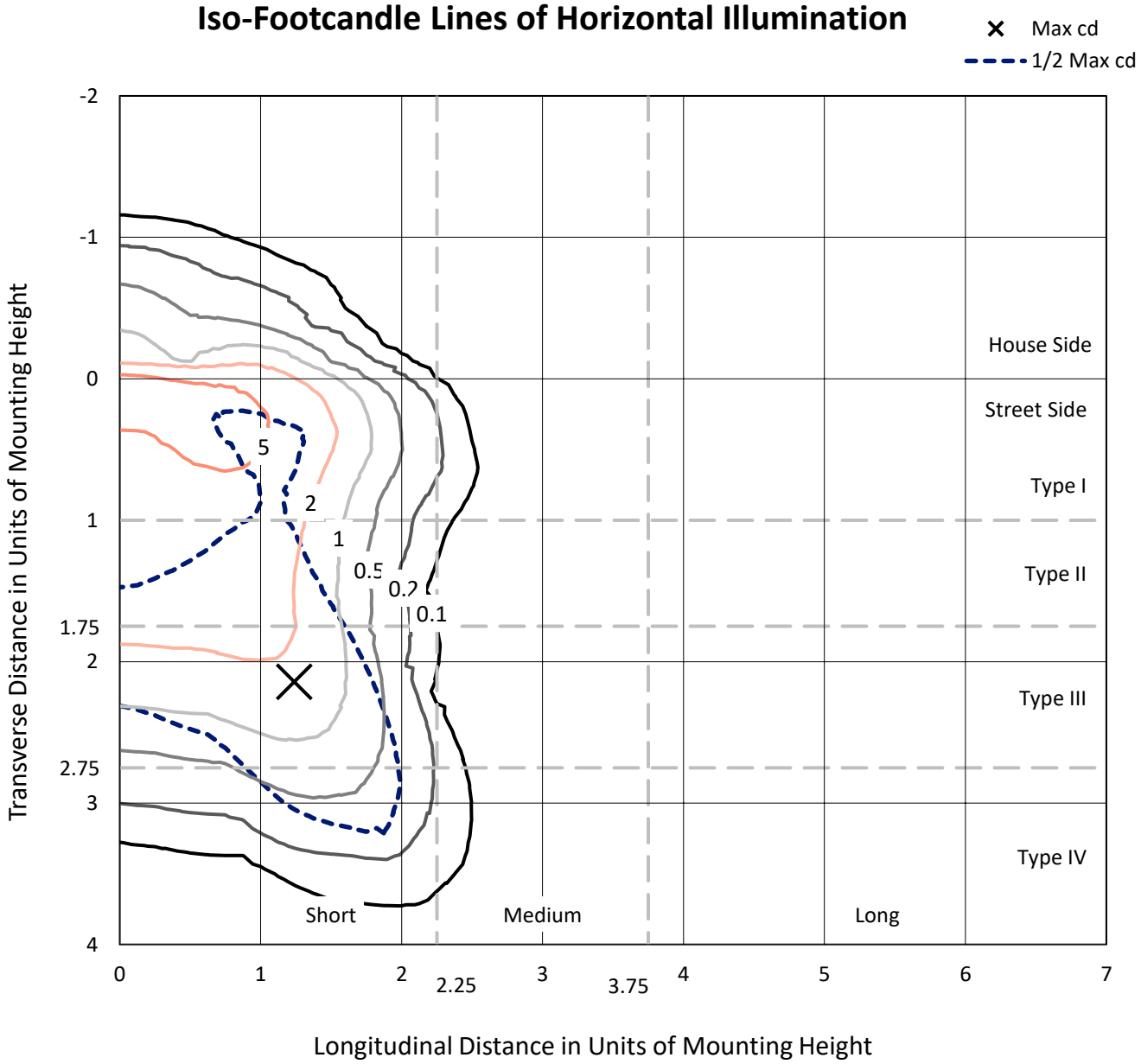
REPORT NUMBER: P1458695
CATALOG NUMBER: GLAN-SB7A-722-U-T4LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 9.2 fc
Type IV - Short - N/A

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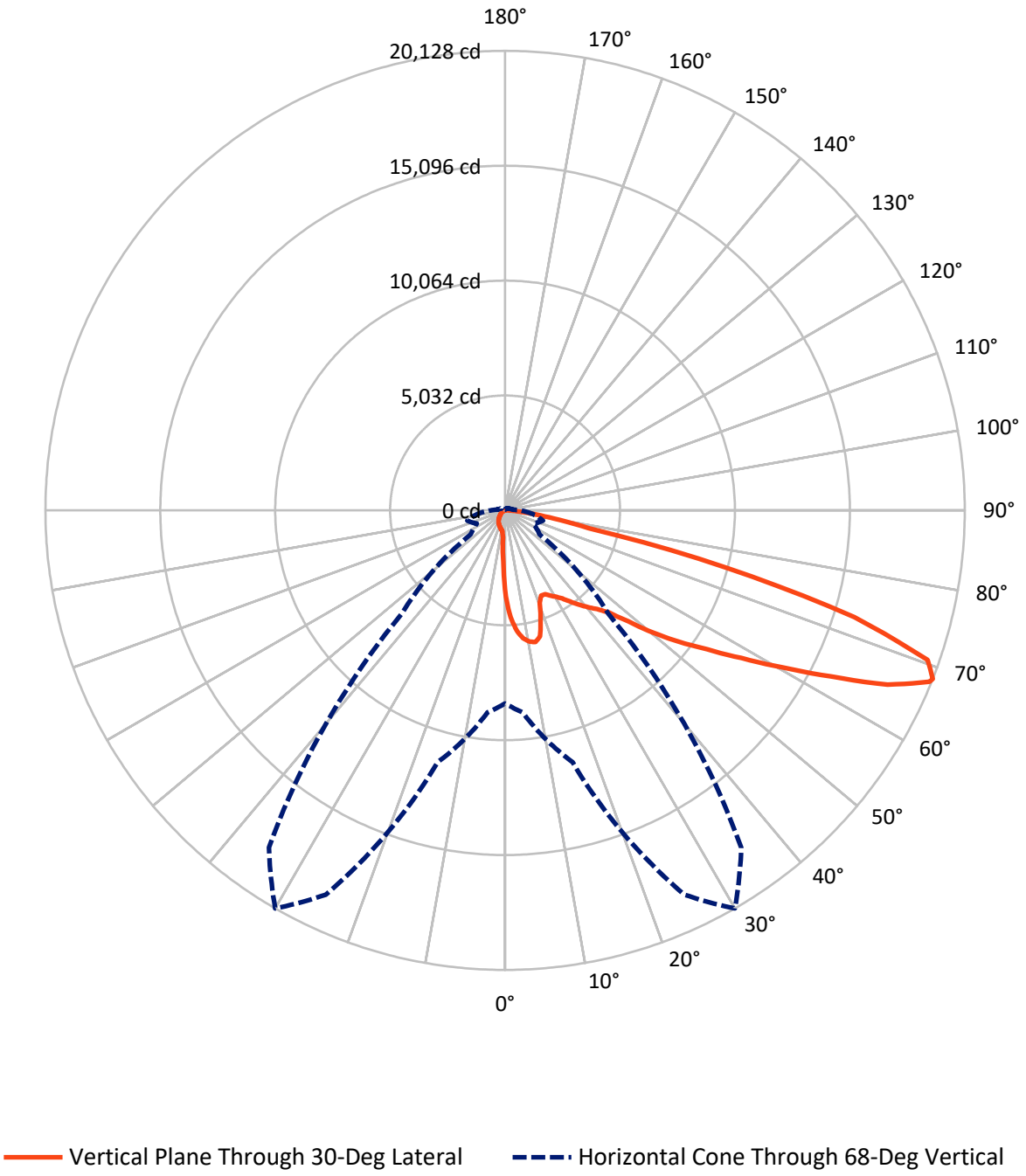
## Luminous Intensity Polar Plot



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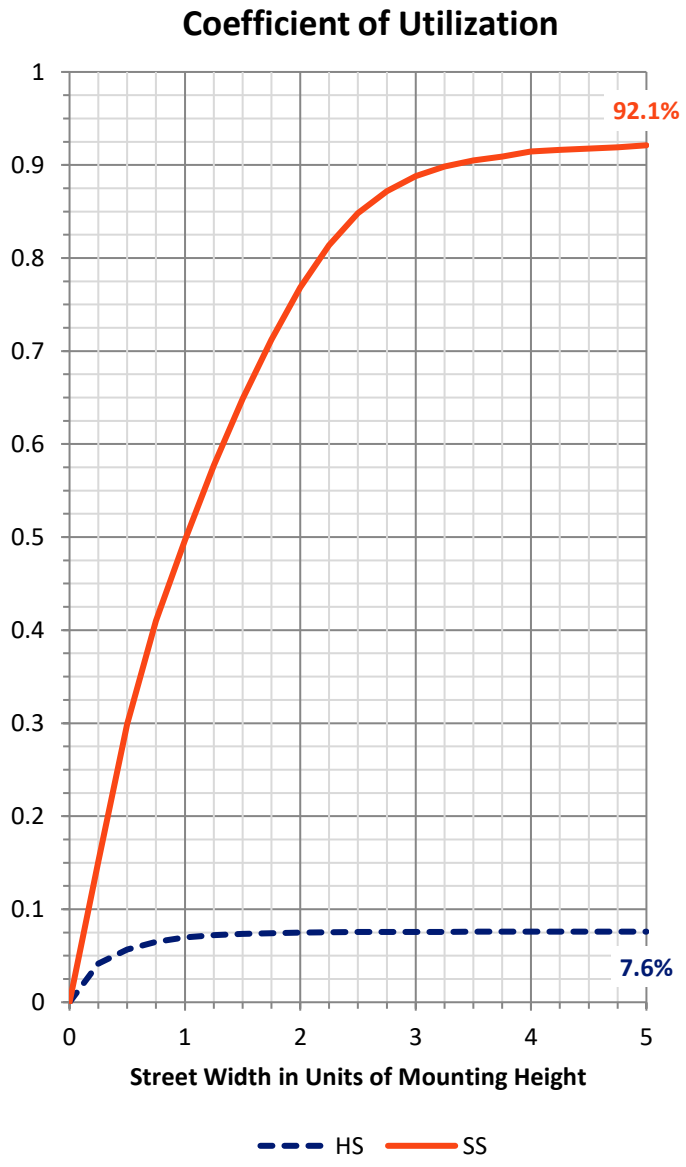
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1458.9 | 0.0 | 1458.9 |
| | % Fixture | 7.6 | 0.0 | 7.6 |
| **Street Side** | Lumens | 17655.0 | 0.0 | 17655.0 |
| | % Fixture | 92.4 | 0.0 | 92.4 |
| **Total** | Lumens | 19113.9 | 0.0 | 19113.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 325.2 | 1.7 |
| 10°-20° | 928.5 | 4.9 |
| 20°-30° | 1459.1 | 7.6 |
| 30°-40° | 2288.5 | 12.0 |
| 40°-50° | 3420.6 | 17.9 |
| 50°-60° | 4550.5 | 23.8 |
| 60°-70° | 4398.9 | 23.0 |
| 70°-80° | 1581.2 | 8.3 |
| 80°-90° | 161.4 | 0.8 |
| 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° | 19113.9 | 100.0 |
| 0°-180° | 19113.9 | 100.0 |



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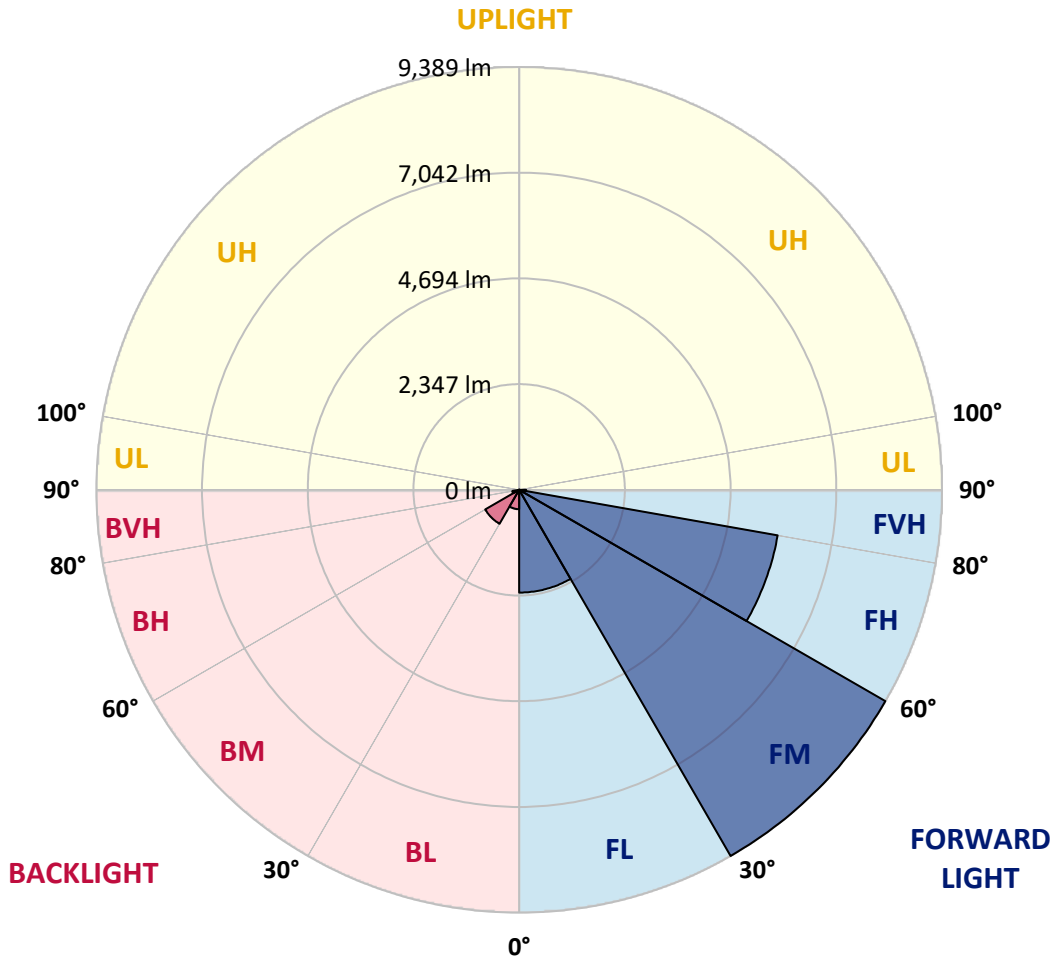
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2282.2 | 11.9 | | | |
| FM | (30°-60°) | 9388.7 | 49.1 | | | |
| FH | (60°-80°) | 5828.4 | 30.5 | | | G3/7500 |
| FVH | (80°-90°) | 155.6 | 0.8 | | | G2/225 |
| BL | (0°-30°) | 430.6 | 2.3 | B1/500 | | |
| BM | (30°-60°) | 870.8 | 4.6 | B1/1000 | | |
| BH | (60°-80°) | 151.7 | 0.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 5.7 | 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-G3**
Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 30° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 |
| 2.5° | 4817.3 | 4817.3 | 4782.9 | 4737.1 | 4685.5 | 4668.3 | 4571.0 | 4433.5 | 4290.3 | 4124.2 | 3883.6 |
| 5° | 5435.9 | 5430.2 | 5361.4 | 5361.4 | 5292.7 | 5229.7 | 5132.3 | 4931.8 | 4702.7 | 4404.8 | 3986.7 |
| 7.5° | 5710.8 | 5722.3 | 5693.6 | 5693.6 | 5653.6 | 5607.7 | 5550.4 | 5355.7 | 5086.5 | 4685.5 | 4089.8 |
| 10° | 5808.2 | 5813.9 | 5813.9 | 5854.0 | 5842.6 | 5836.8 | 5831.1 | 5722.3 | 5441.6 | 4971.9 | 4198.6 |
| 12.5° | 5573.4 | 5602.0 | 5682.2 | 5859.8 | 5917.0 | 5980.0 | 6066.0 | 6031.6 | 5836.8 | 5332.8 | 4364.7 |
| 15° | 4817.3 | 4823.0 | 5046.4 | 5487.4 | 5722.3 | 5962.9 | 6295.1 | 6363.8 | 6237.8 | 5722.3 | 4536.6 |
| 17.5° | 3975.2 | 3992.4 | 4170.0 | 4662.6 | 5040.7 | 5596.3 | 6426.8 | 6707.5 | 6661.7 | 6106.1 | 4697.0 |
| 20° | 3625.8 | 3648.7 | 3734.7 | 4044.0 | 4330.4 | 4845.9 | 6295.1 | 7034.0 | 7051.2 | 6489.8 | 4845.9 |
| 22.5° | 3545.6 | 3562.8 | 3631.6 | 3872.1 | 4049.7 | 4393.4 | 5848.3 | 7291.8 | 7492.2 | 6930.9 | 5023.5 |
| 25° | 3522.7 | 3539.9 | 3643.0 | 3906.5 | 4072.6 | 4359.0 | 5441.6 | 7429.2 | 8013.5 | 7389.1 | 5195.3 |
| 27.5° | 3505.5 | 3528.5 | 3694.6 | 4032.5 | 4227.3 | 4502.2 | 5367.2 | 7457.9 | 8511.8 | 7876.0 | 5476.0 |
| 30° | 3528.5 | 3562.8 | 3780.5 | 4164.3 | 4387.7 | 4697.0 | 5544.7 | 7486.5 | 9061.7 | 8431.6 | 5831.1 |
| 32.5° | 3620.1 | 3648.7 | 3912.2 | 4341.8 | 4599.6 | 4949.0 | 5848.3 | 7658.4 | 9583.0 | 8998.7 | 6169.1 |
| 35° | 3723.2 | 3763.3 | 4078.3 | 4593.9 | 4903.2 | 5298.4 | 6260.7 | 7996.3 | 10081.3 | 9537.1 | 6518.5 |
| 37.5° | 3849.2 | 3895.1 | 4273.1 | 4880.3 | 5235.4 | 5682.2 | 6707.5 | 8466.0 | 10522.4 | 9978.2 | 6867.9 |
| 40° | 4021.1 | 4072.6 | 4496.5 | 5183.9 | 5567.6 | 6014.4 | 7148.6 | 8930.0 | 10860.3 | 10241.7 | 7097.0 |
| 42.5° | 4697.0 | 4765.7 | 4943.3 | 5481.7 | 5911.3 | 6369.6 | 7583.9 | 9371.0 | 10986.3 | 10327.6 | 7142.8 |
| 45° | 5957.1 | 6025.9 | 5980.0 | 6083.2 | 6369.6 | 6799.2 | 8059.3 | 9794.9 | 11003.5 | 10304.7 | 7119.9 |
| 47.5° | 7223.0 | 7303.2 | 7263.1 | 7205.8 | 7268.9 | 7475.1 | 8592.0 | 10064.1 | 10911.9 | 10293.2 | 7119.9 |
| 50° | 8431.6 | 8385.8 | 8391.5 | 8374.4 | 8431.6 | 8540.5 | 9107.5 | 10115.7 | 10889.0 | 10402.1 | 7182.9 |
| 52.5° | 9078.9 | 9101.8 | 9245.0 | 9457.0 | 9583.0 | 9691.8 | 9697.5 | 10195.9 | 10722.8 | 10218.8 | 7108.5 |
| 55° | 9714.7 | 9760.5 | 10092.8 | 10453.6 | 10734.3 | 10940.5 | 10287.5 | 10144.3 | 9731.9 | 9605.9 | 6719.0 |
| 57.5° | 10430.7 | 10493.7 | 10963.4 | 11708.1 | 12200.7 | 12309.5 | 10871.8 | 9182.0 | 8236.9 | 8729.5 | 5962.9 |
| 60° | 11415.9 | 11490.4 | 12114.8 | 13231.7 | 13964.9 | 13741.5 | 10917.6 | 7652.6 | 6541.4 | 7245.9 | 4920.4 |
| 62.5° | 12189.2 | 12338.1 | 13466.6 | 15207.9 | 16015.5 | 15305.3 | 10064.1 | 5865.5 | 4571.0 | 5092.2 | 3591.5 |
| 65° | 11364.4 | 11650.8 | 13489.5 | 17470.4 | 18404.1 | 17144.0 | 8723.8 | 4003.9 | 2577.6 | 3293.6 | 2296.9 |
| 67.5° | 9187.7 | 9588.7 | 11977.3 | 18570.2 | 20042.3 | 18112.0 | 6867.9 | 2125.1 | 1477.8 | 1913.2 | 1208.6 |
| 68° | 8454.6 | 8889.9 | 11421.7 | 18570.2 | 20128.2 | 18026.1 | 6375.3 | 1838.7 | 1363.3 | 1718.4 | 1048.2 |
| 70° | 5842.6 | 6151.9 | 8781.0 | 17527.7 | 19624.2 | 16433.7 | 4198.6 | 1054.0 | 1025.3 | 1180.0 | 693.1 |
| 72.5° | 2864.0 | 3196.2 | 4697.0 | 13890.4 | 15986.9 | 12630.3 | 1913.2 | 698.8 | 779.0 | 864.9 | 544.2 |
| 75° | 1139.9 | 1208.6 | 1850.1 | 6850.7 | 9989.7 | 8059.3 | 1002.4 | 527.0 | 670.2 | 675.9 | 429.6 |
| 77.5° | 653.0 | 693.1 | 1025.3 | 2520.3 | 3746.1 | 3602.9 | 647.3 | 378.0 | 532.7 | 486.9 | 280.7 |
| 80° | 366.6 | 372.3 | 578.5 | 1328.9 | 2142.3 | 1918.9 | 441.1 | 274.9 | 406.7 | 343.7 | 189.0 |
| 82.5° | 183.3 | 206.2 | 366.6 | 733.2 | 1191.4 | 1220.1 | 234.8 | 194.8 | 326.5 | 246.3 | 154.7 |
| 85° | 131.7 | 143.2 | 263.5 | 406.7 | 549.9 | 824.8 | 143.2 | 97.4 | 246.3 | 166.1 | 108.8 |
| 87.5° | 68.7 | 85.9 | 166.1 | 200.5 | 223.4 | 280.7 | 68.7 | 45.8 | 137.5 | 97.4 | 57.3 |
| 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: P1458695
CATALOG NUMBER: GLAN-SB7A-722-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 | 3769.0 |
| 2.5° | 3769.0 | 3637.3 | 3368.1 | 3053.0 | 2806.7 | 2554.7 | 2348.5 | 2153.7 | 2062.1 | 2050.6 | 2073.5 |
| 5° | 3751.9 | 3465.4 | 2852.6 | 2251.1 | 1758.5 | 1414.8 | 1225.8 | 1128.4 | 1076.9 | 1054.0 | 1059.7 |
| 7.5° | 3717.5 | 3282.2 | 2302.7 | 1523.7 | 1139.9 | 990.9 | 945.1 | 927.9 | 922.2 | 922.2 | 922.2 |
| 10° | 3683.1 | 3035.8 | 1764.2 | 1117.0 | 933.7 | 893.6 | 882.1 | 882.1 | 876.4 | 876.4 | 882.1 |
| 12.5° | 3665.9 | 2806.7 | 1369.0 | 933.7 | 870.7 | 853.5 | 842.0 | 836.3 | 836.3 | 836.3 | 842.0 |
| 15° | 3625.8 | 2554.7 | 1105.5 | 864.9 | 830.6 | 807.7 | 801.9 | 796.2 | 796.2 | 796.2 | 796.2 |
| 17.5° | 3591.5 | 2308.4 | 962.3 | 819.1 | 790.5 | 767.6 | 761.8 | 756.1 | 756.1 | 761.8 | 761.8 |
| 20° | 3539.9 | 2073.5 | 864.9 | 773.3 | 750.4 | 727.5 | 721.7 | 716.0 | 721.7 | 721.7 | 721.7 |
| 22.5° | 3476.9 | 1878.8 | 807.7 | 738.9 | 710.3 | 687.4 | 687.4 | 687.4 | 687.4 | 687.4 | 693.1 |
| 25° | 3436.8 | 1741.3 | 767.6 | 698.8 | 670.2 | 653.0 | 647.3 | 647.3 | 658.7 | 658.7 | 664.4 |
| 27.5° | 3499.8 | 1706.9 | 773.3 | 687.4 | 635.8 | 618.6 | 612.9 | 612.9 | 624.4 | 630.1 | 635.8 |
| 30° | 3688.8 | 1770.0 | 842.0 | 721.7 | 612.9 | 584.3 | 578.5 | 578.5 | 595.7 | 601.4 | 607.2 |
| 32.5° | 3906.5 | 1901.7 | 945.1 | 767.6 | 595.7 | 549.9 | 538.4 | 538.4 | 555.6 | 561.3 | 567.1 |
| 35° | 4204.4 | 2107.9 | 1082.6 | 807.7 | 607.2 | 515.5 | 492.6 | 492.6 | 504.1 | 515.5 | 521.2 |
| 37.5° | 4588.1 | 2445.9 | 1243.0 | 836.3 | 607.2 | 475.4 | 446.8 | 441.1 | 452.5 | 452.5 | 458.2 |
| 40° | 4989.1 | 2886.9 | 1409.1 | 836.3 | 578.5 | 435.3 | 406.7 | 389.5 | 395.2 | 389.5 | 395.2 |
| 42.5° | 5212.5 | 3242.1 | 1552.3 | 784.7 | 544.2 | 395.2 | 366.6 | 343.7 | 338.0 | 326.5 | 332.2 |
| 45° | 5338.5 | 3402.4 | 1512.2 | 727.5 | 509.8 | 366.6 | 332.2 | 303.6 | 292.1 | 274.9 | 274.9 |
| 47.5° | 5338.5 | 3419.6 | 1294.5 | 681.6 | 475.4 | 343.7 | 297.9 | 269.2 | 252.0 | 234.8 | 240.6 |
| 50° | 5275.5 | 3265.0 | 1025.3 | 635.8 | 435.3 | 320.8 | 269.2 | 246.3 | 223.4 | 211.9 | 211.9 |
| 52.5° | 5012.0 | 2760.9 | 784.7 | 578.5 | 389.5 | 292.1 | 240.6 | 217.7 | 194.8 | 189.0 | 189.0 |
| 55° | 4559.5 | 2027.7 | 635.8 | 521.2 | 349.4 | 269.2 | 217.7 | 200.5 | 177.6 | 166.1 | 166.1 |
| 57.5° | 3706.0 | 1386.2 | 527.0 | 469.7 | 309.3 | 240.6 | 194.8 | 177.6 | 148.9 | 137.5 | 137.5 |
| 60° | 2749.4 | 905.0 | 446.8 | 412.4 | 263.5 | 217.7 | 171.8 | 148.9 | 126.0 | 114.6 | 108.8 |
| 62.5° | 1855.9 | 612.9 | 372.3 | 326.5 | 223.4 | 189.0 | 148.9 | 126.0 | 97.4 | 74.5 | 74.5 |
| 65° | 1157.1 | 475.4 | 309.3 | 257.8 | 194.8 | 166.1 | 126.0 | 97.4 | 68.7 | 51.6 | 45.8 |
| 67.5° | 664.4 | 383.8 | 252.0 | 200.5 | 166.1 | 131.7 | 97.4 | 80.2 | 57.3 | 40.1 | 34.4 |
| 68° | *612.9* | *366.6* | *234.8* | *189.0* | *154.7* | *126.0* | *91.6* | *74.5* | *51.6* | *34.4* | *34.4* |
| 70° | 498.3 | 326.5 | 200.5 | 154.7 | 131.7 | 103.1 | 80.2 | 63.0 | 40.1 | 22.9 | 22.9 |
| 72.5° | 441.1 | 274.9 | 171.8 | 120.3 | 91.6 | 85.9 | 63.0 | 45.8 | 28.6 | 17.2 | 11.5 |
| 75° | 360.9 | 217.7 | 137.5 | 91.6 | 63.0 | 63.0 | 45.8 | 28.6 | 11.5 | 0.0 | 0.0 |
| 77.5° | 234.8 | 160.4 | 108.8 | 57.3 | 34.4 | 40.1 | 28.6 | 11.5 | 0.0 | 0.0 | 0.0 |
| 80° | 154.7 | 120.3 | 74.5 | 28.6 | 17.2 | 17.2 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 108.8 | 80.2 | 45.8 | 11.5 | 5.7 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 68.7 | 34.4 | 17.2 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 28.6 | 11.5 | 5.7 | 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: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

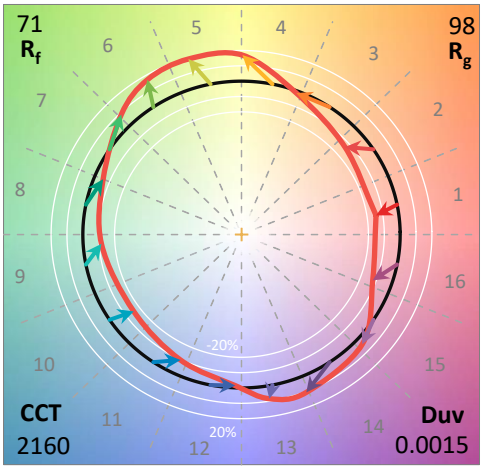
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-2 |
| 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-722-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2200K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2160 |
| CIE u': | 0.2927 |
| CIE v': | 0.5388 |
| Duv: | 0.0015 |
| CIE x: | 0.5130 |
| CIE y: | 0.4197 |
| CIE z: | 0.0674 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 587 |
| Purity: | 79.96089 |
| Rf: | 70.6 |
| Rg: | 97.6 |

| | |
|---|---|
| CRI (Ra): | 71.9 |
| R1: | 68.7 |
| R2: | 82.6 |
| R3: | 95.5 |
| R4: | 66.4 |
| R5: | 65.4 |
| R6: | 75.9 |
| R7: | 77.2 |
| R8: | 43.5 |
| R9: | -17.8 |
| R10: | 60.5 |
| R11: | 60.2 |
| R12: | 48.2 |
| R13: | 70.7 |
| R14: | 96.8 |
| R15: | 61.8 |




## Test Conditions

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

REPORT NUMBER: SP1-2407-184-2

| 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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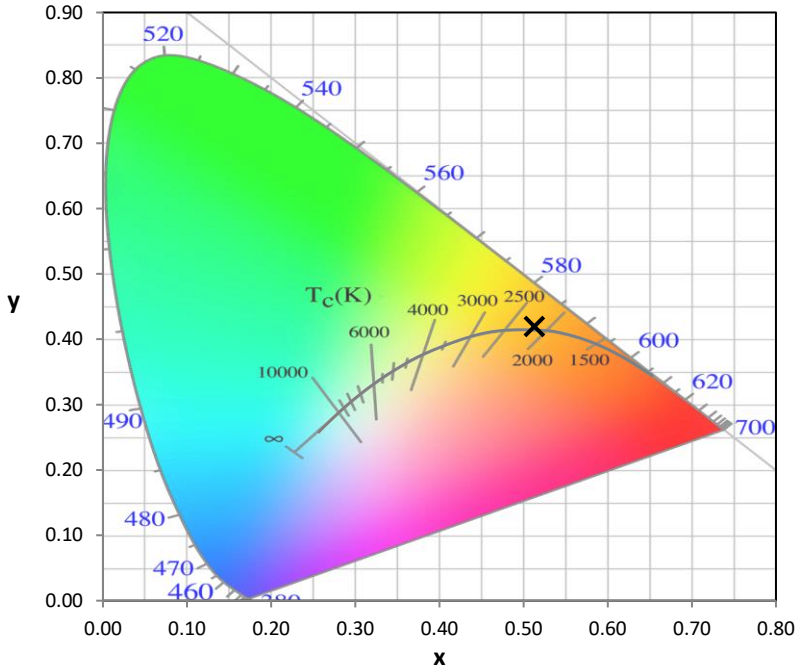
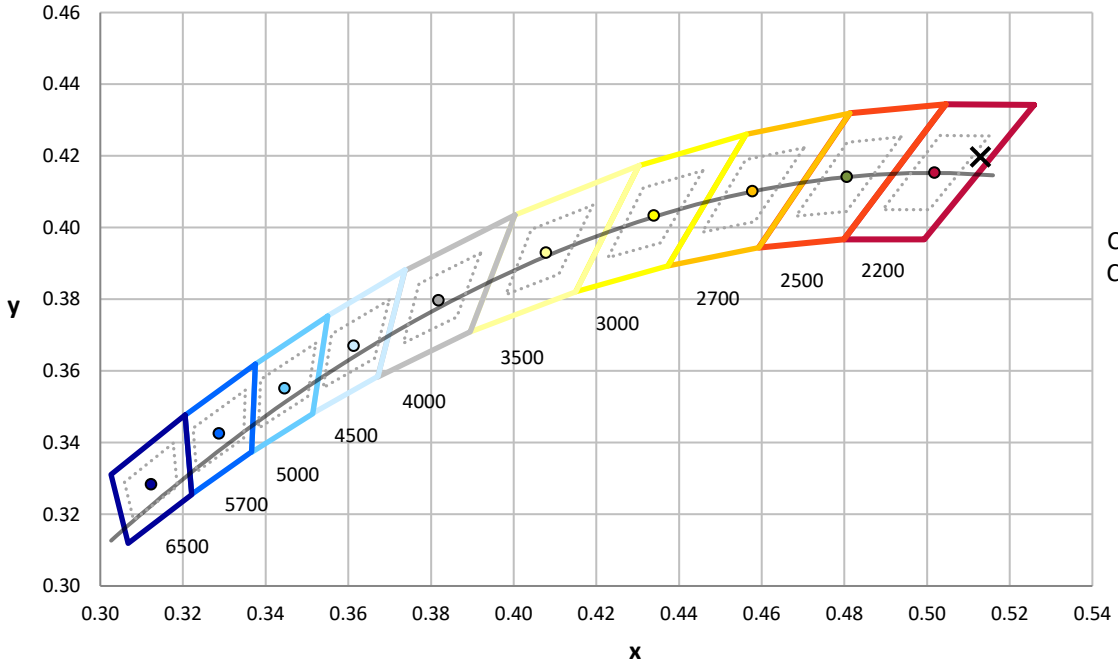
## CIE 1931 Chromaticity Diagram




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




CCT = 2160K
CIE x = 0.5130
CIE y = 0.4197
Duv = 0.0015

Point lies inside the ANSI 2200K 7-step quadrangle

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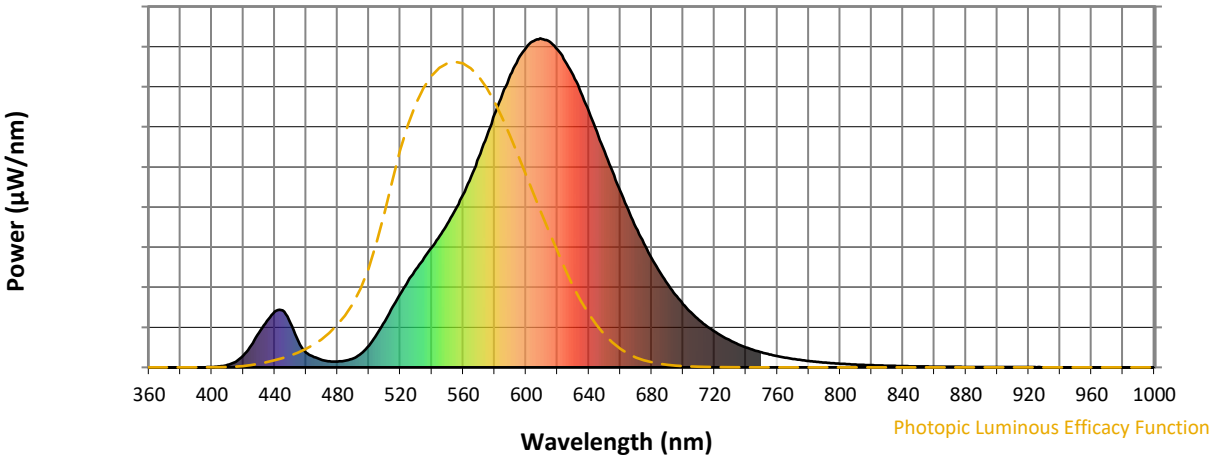
## Photopic Flux vs. Wavelength




## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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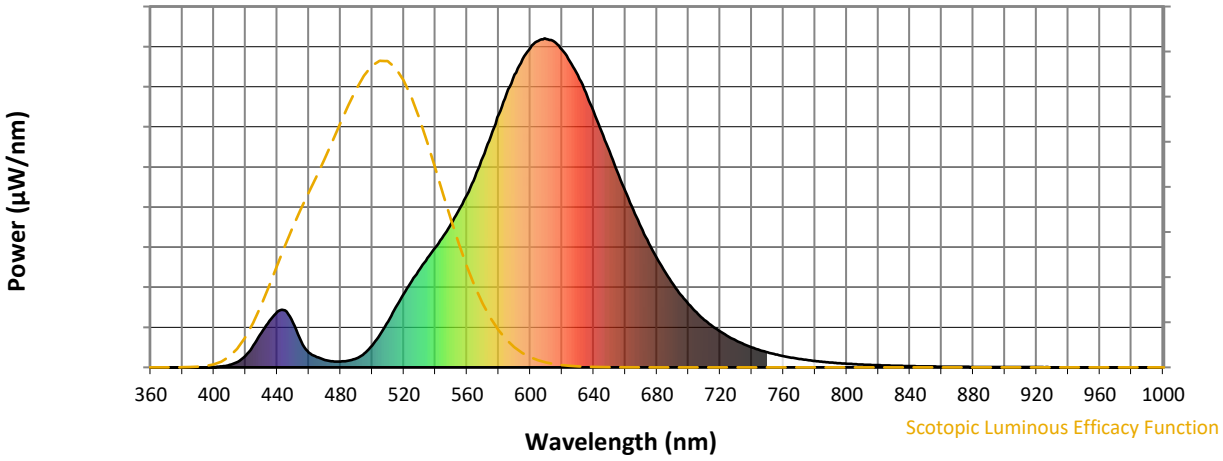
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 0.8**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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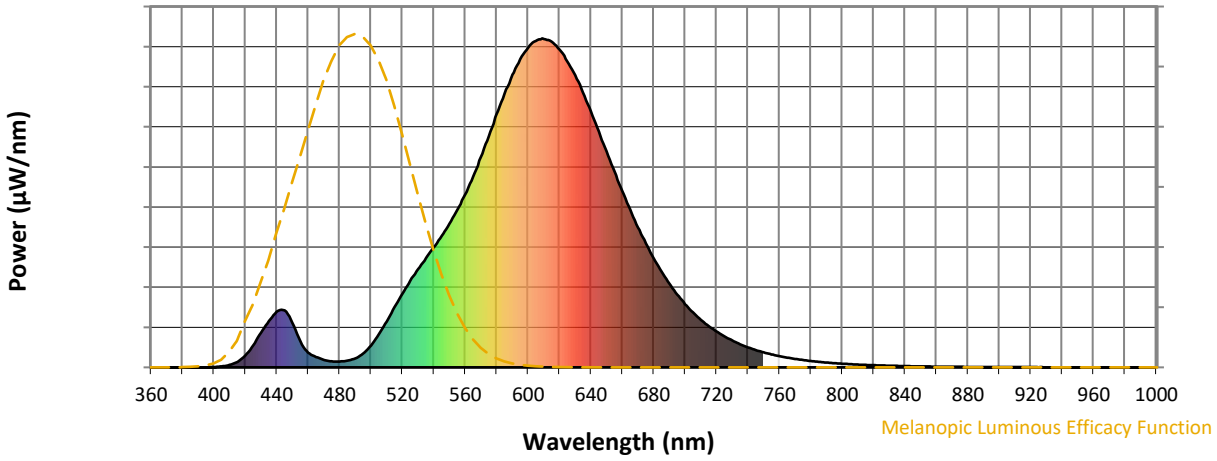
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.21**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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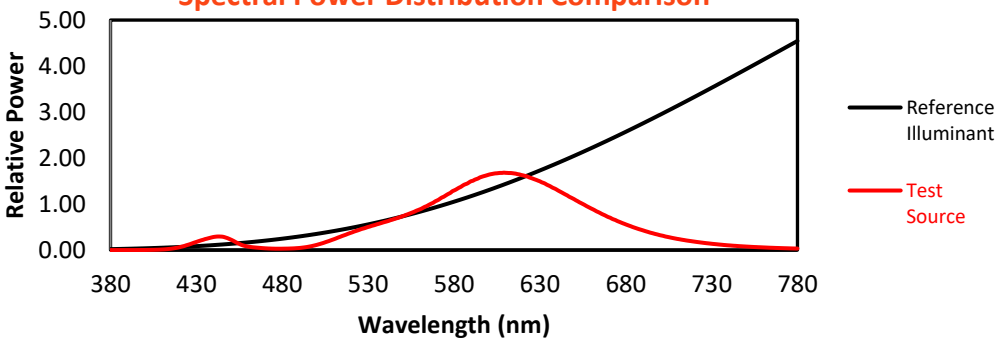
# TM-30-18

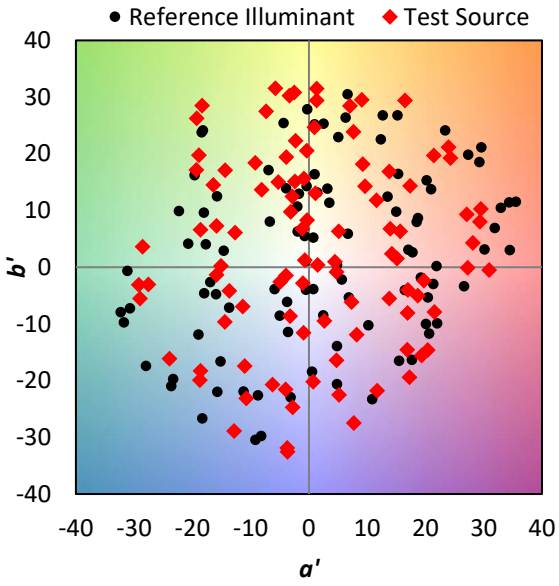
## Summary

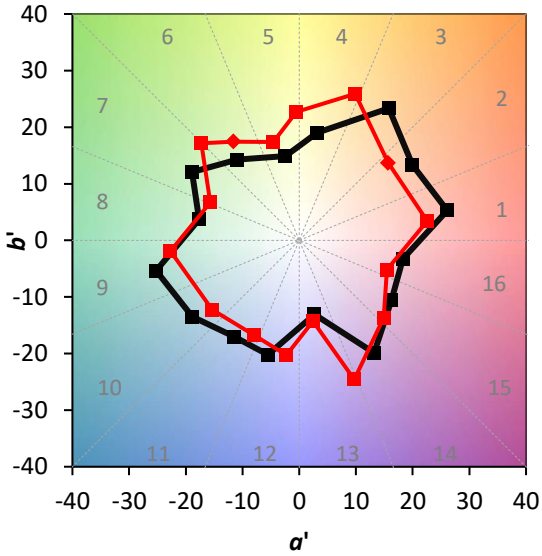
$R_f$ = 70.6
$R_g$ = 97.6
CIE $R_a$ = 71.9
$R_9$ = -17.8

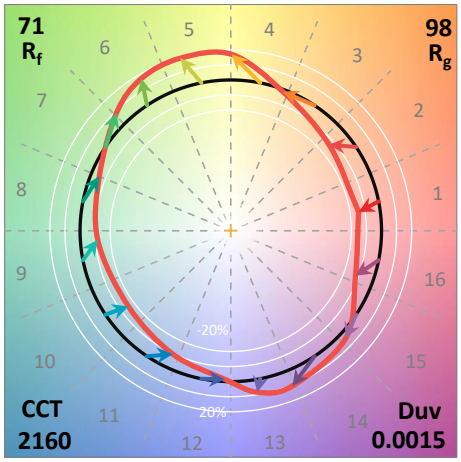
## Spectral Power Distribution Comparison

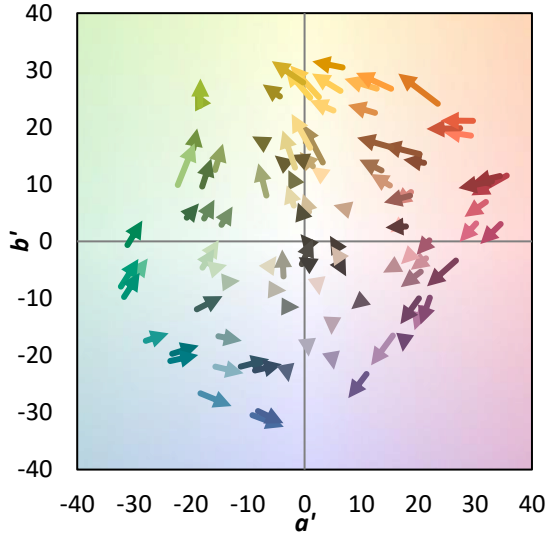



## Color Vector Graphics



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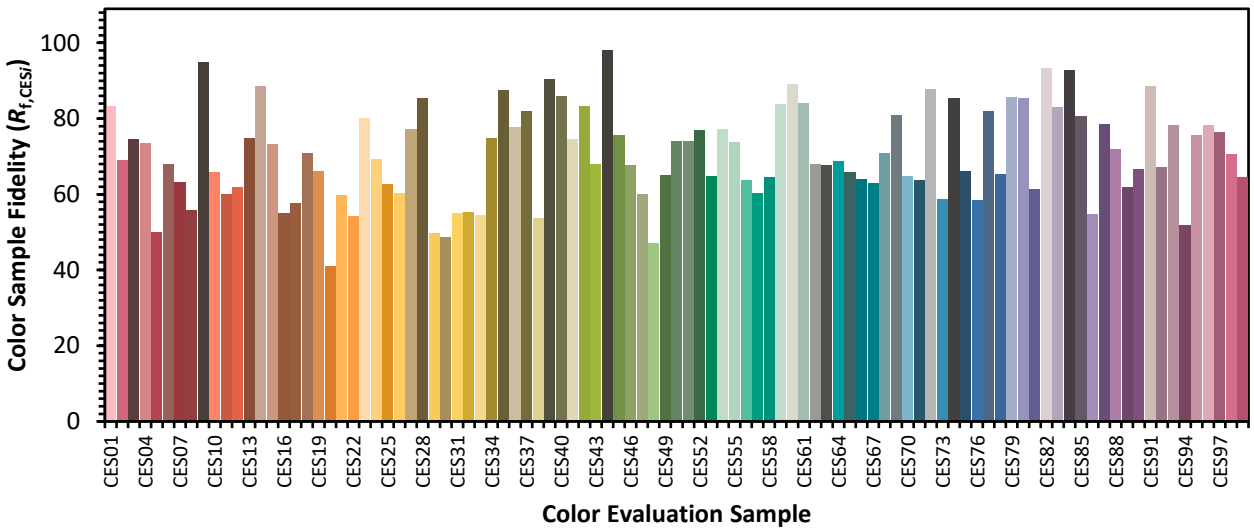
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |



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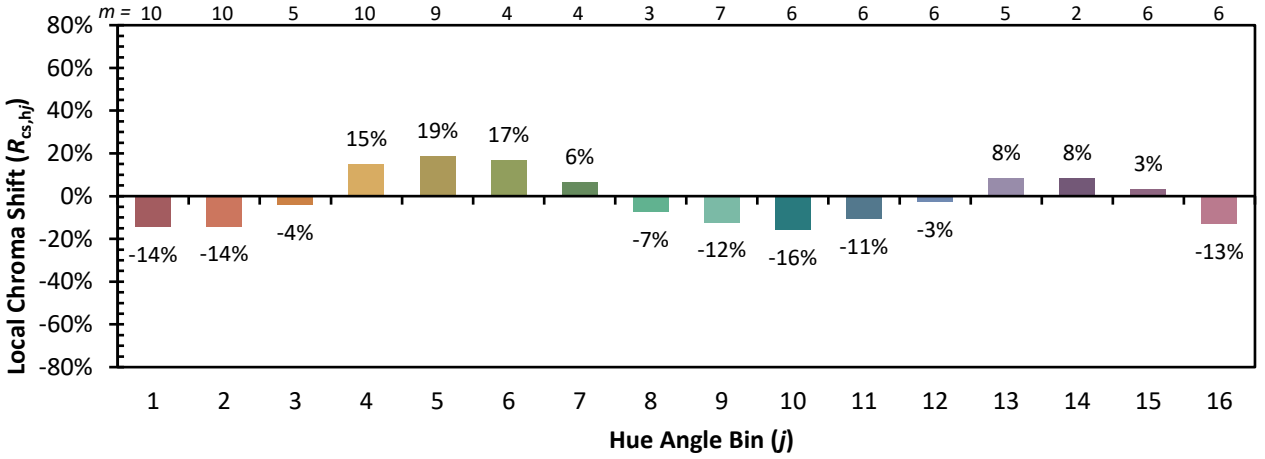
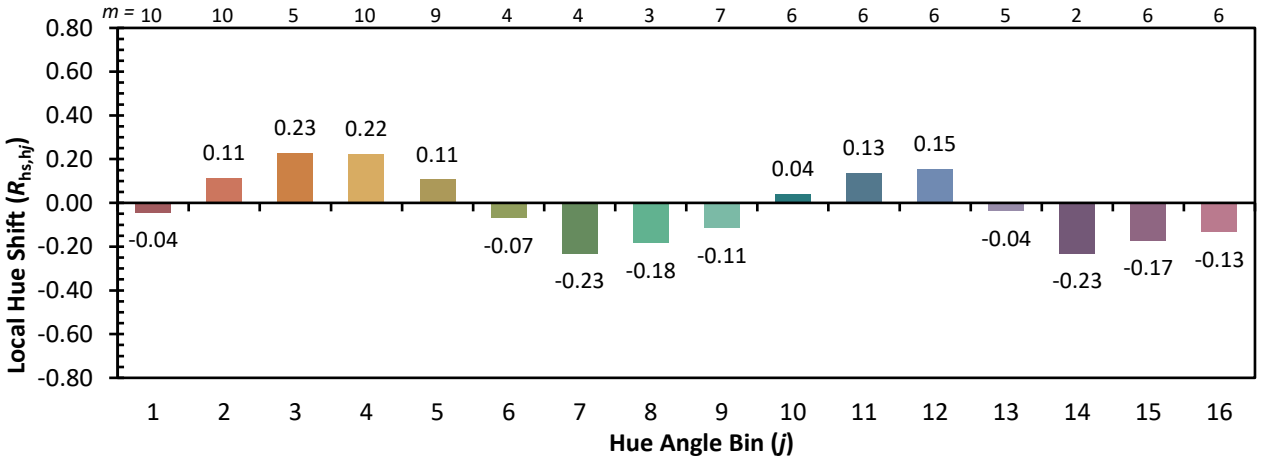
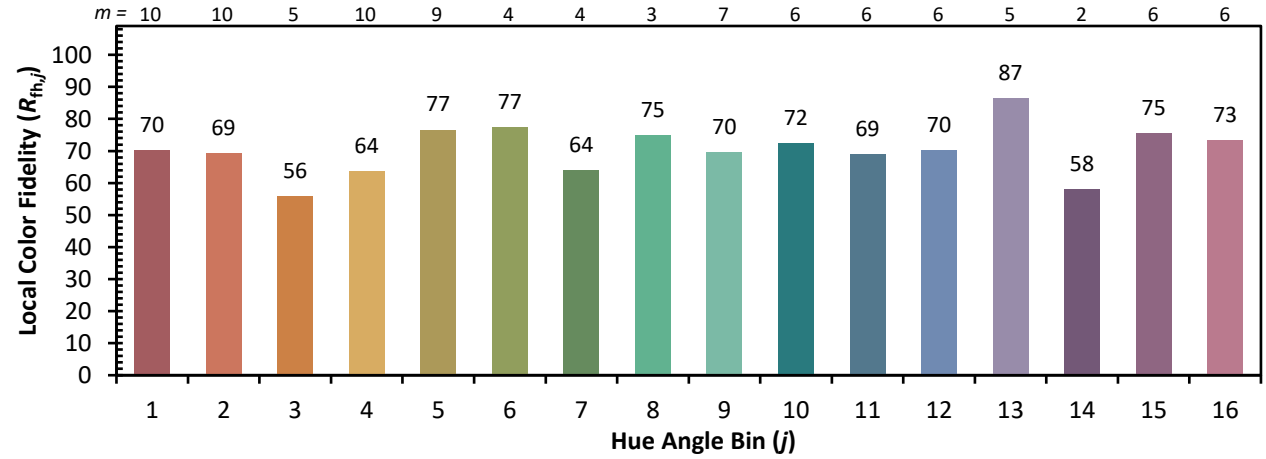
## Color Rendition by Hue-Angle Bin



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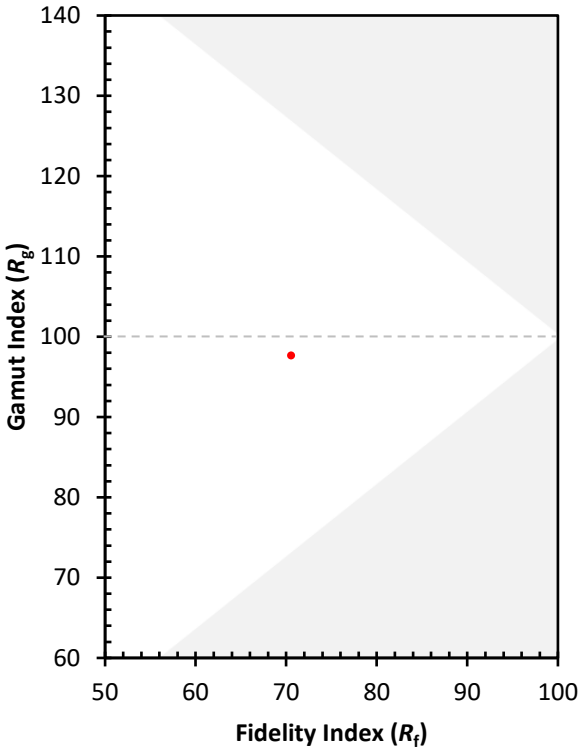
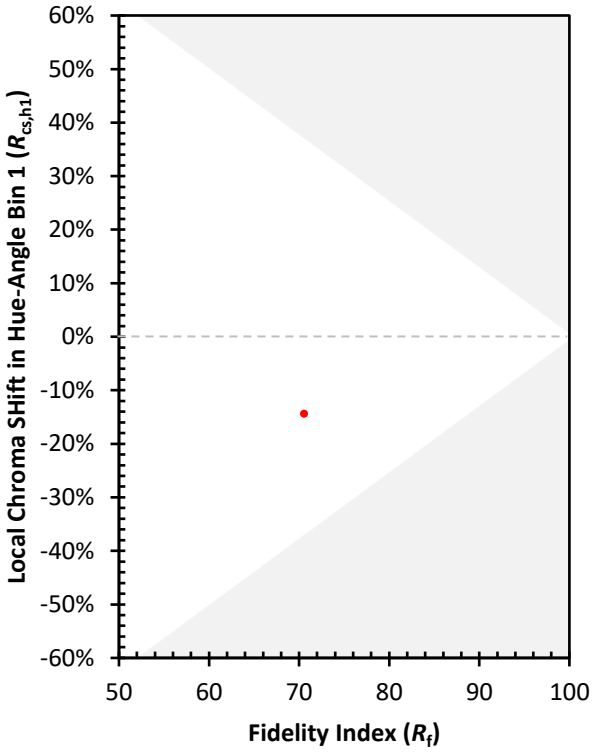
## Measure Comparisons

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