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: P1457803

Luminaire Tested: GLAN-SB9A-830-U-T2LG-HSS

Issue Date: 05/20/2026

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1457803 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB9A-830-U-T2LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 9xLight Square PACKAGE 80CRI 3000K FIXTURE w/ TYPE II LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (234) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 26583.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 104.0 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B2 - U0 - G3 |

| | |
|---|---|
| Input Watts (W): | 255.5 |
| 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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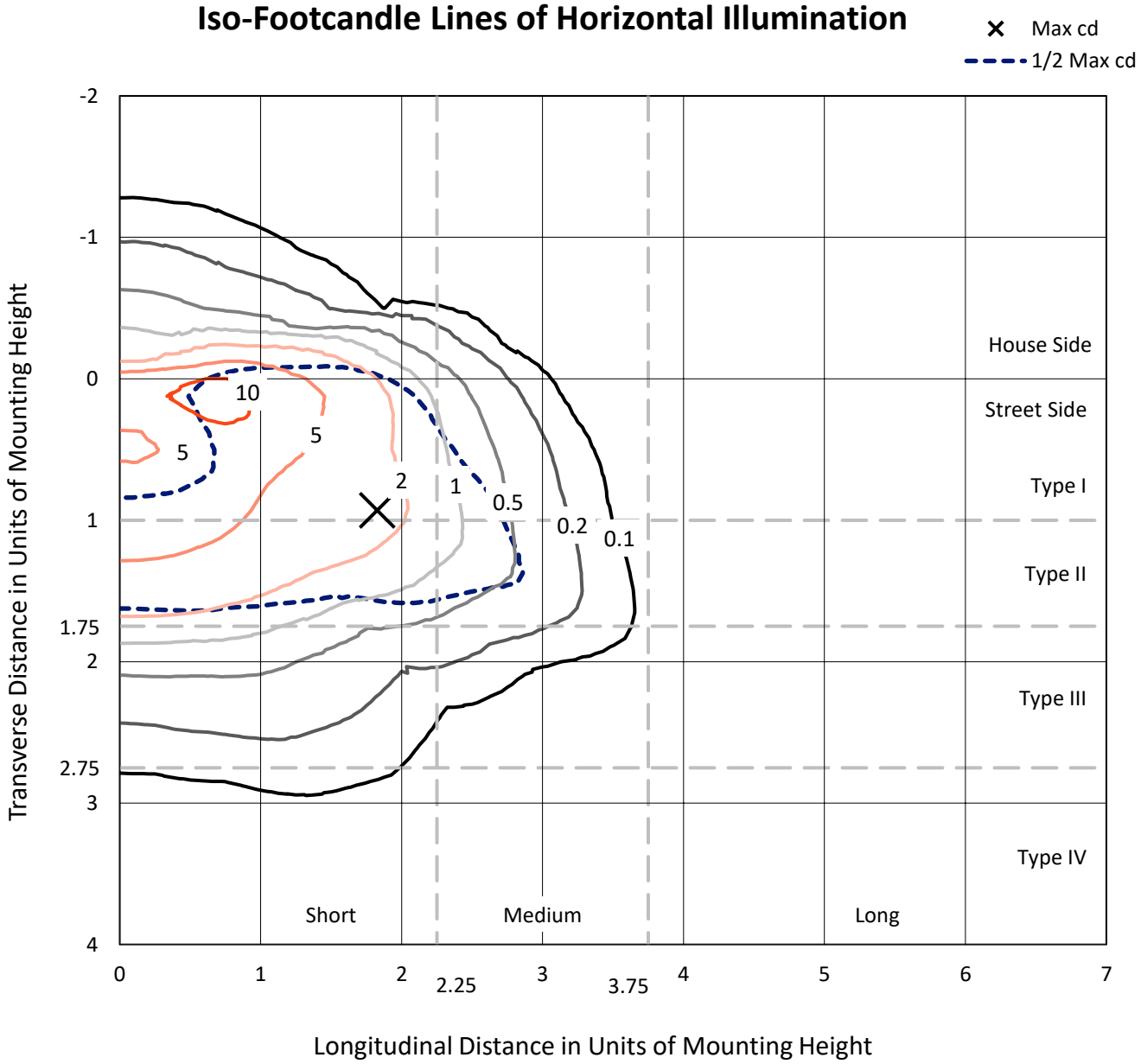
Scaled Data Report

REPORT NUMBER: P1457803
CATALOG NUMBER: GLAN-SB9A-830-U-T2LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 12.2 fc
Type II - Short - N/A

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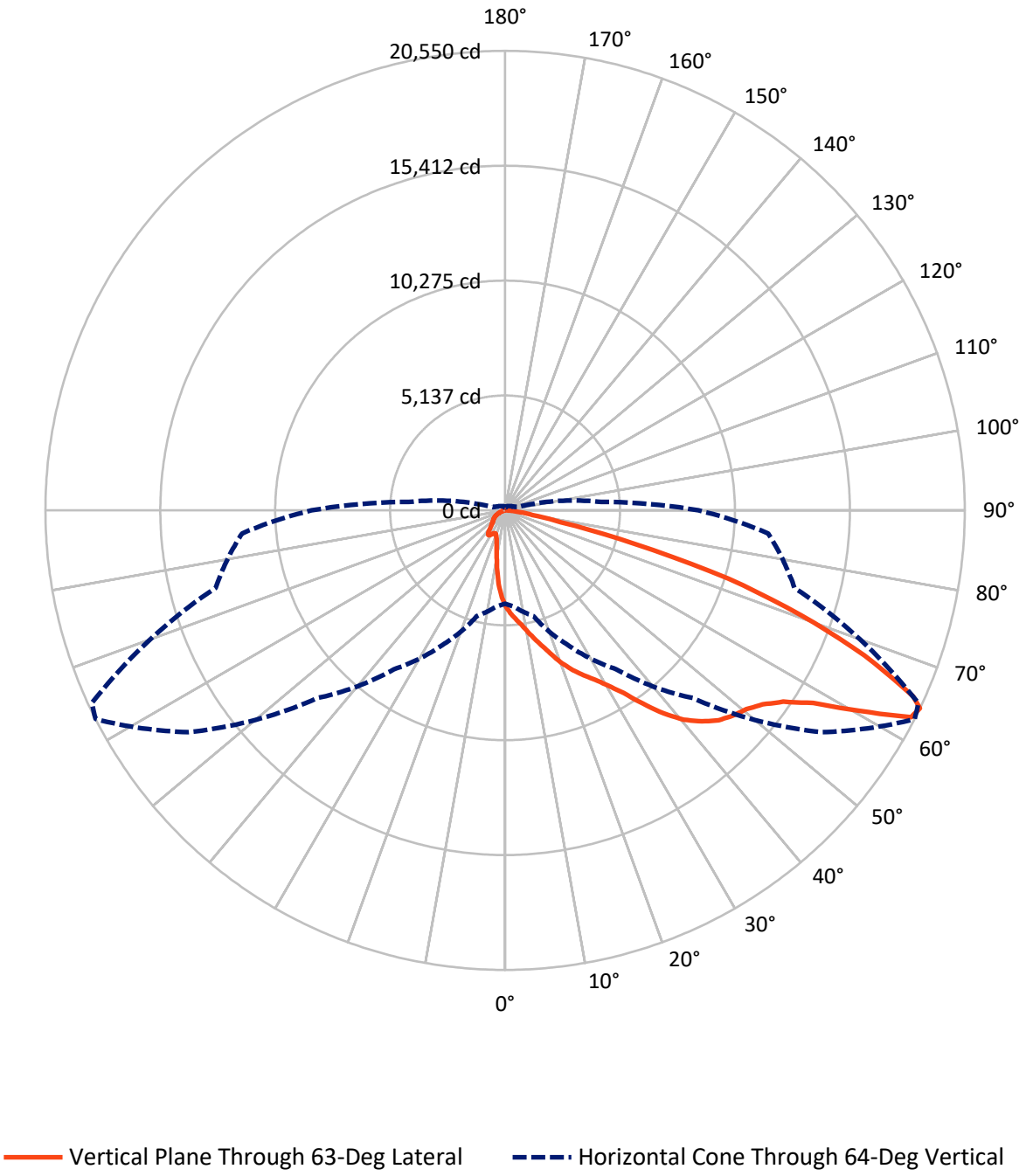
## Luminous Intensity Polar Plot



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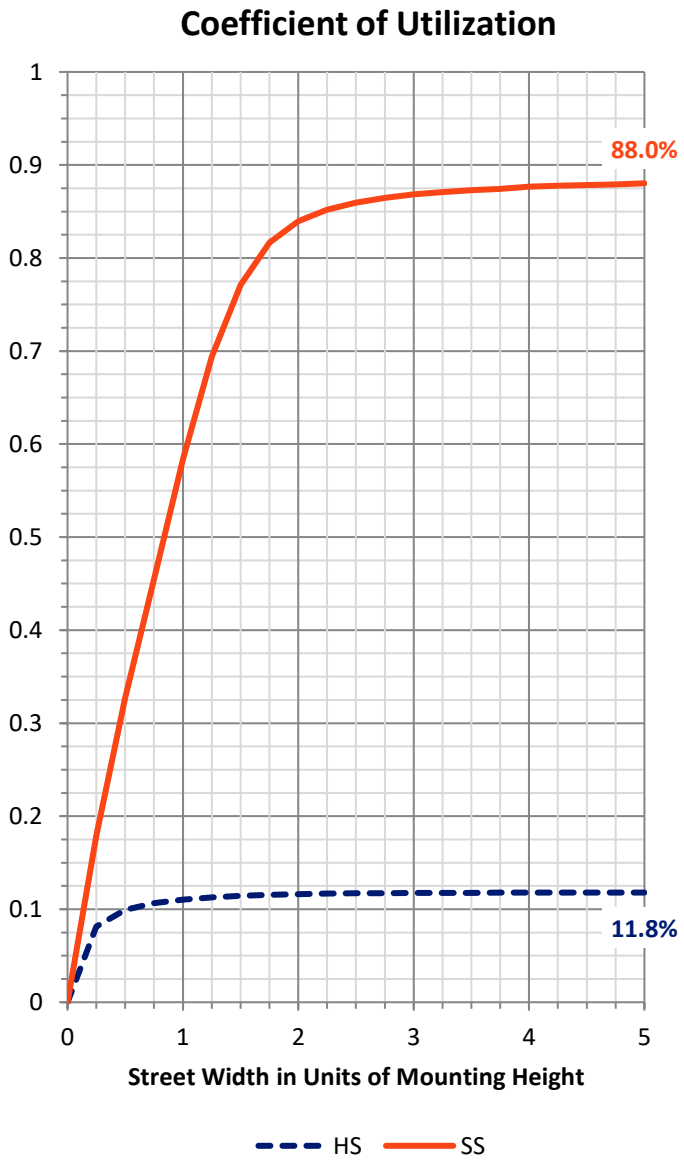
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3154.6 | 0.0 | 3154.6 |
| | % Fixture | 11.9 | 0.0 | 11.9 |
| **Street Side** | Lumens | 23428.6 | 0.0 | 23428.6 |
| | % Fixture | 88.1 | 0.0 | 88.1 |
| **Total** | Lumens | 26583.2 | 0.0 | 26583.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 362.0 | 1.4 |
| 10°-20° | 1017.1 | 3.8 |
| 20°-30° | 1811.5 | 6.8 |
| 30°-40° | 3460.0 | 13.0 |
| 40°-50° | 5735.2 | 21.6 |
| 50°-60° | 7148.9 | 26.9 |
| 60°-70° | 5330.7 | 20.1 |
| 70°-80° | 1528.8 | 5.8 |
| 80°-90° | 189.0 | 0.7 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 26583.2 | 100.0 |
| 0°-180° | 26583.2 | 100.0 |



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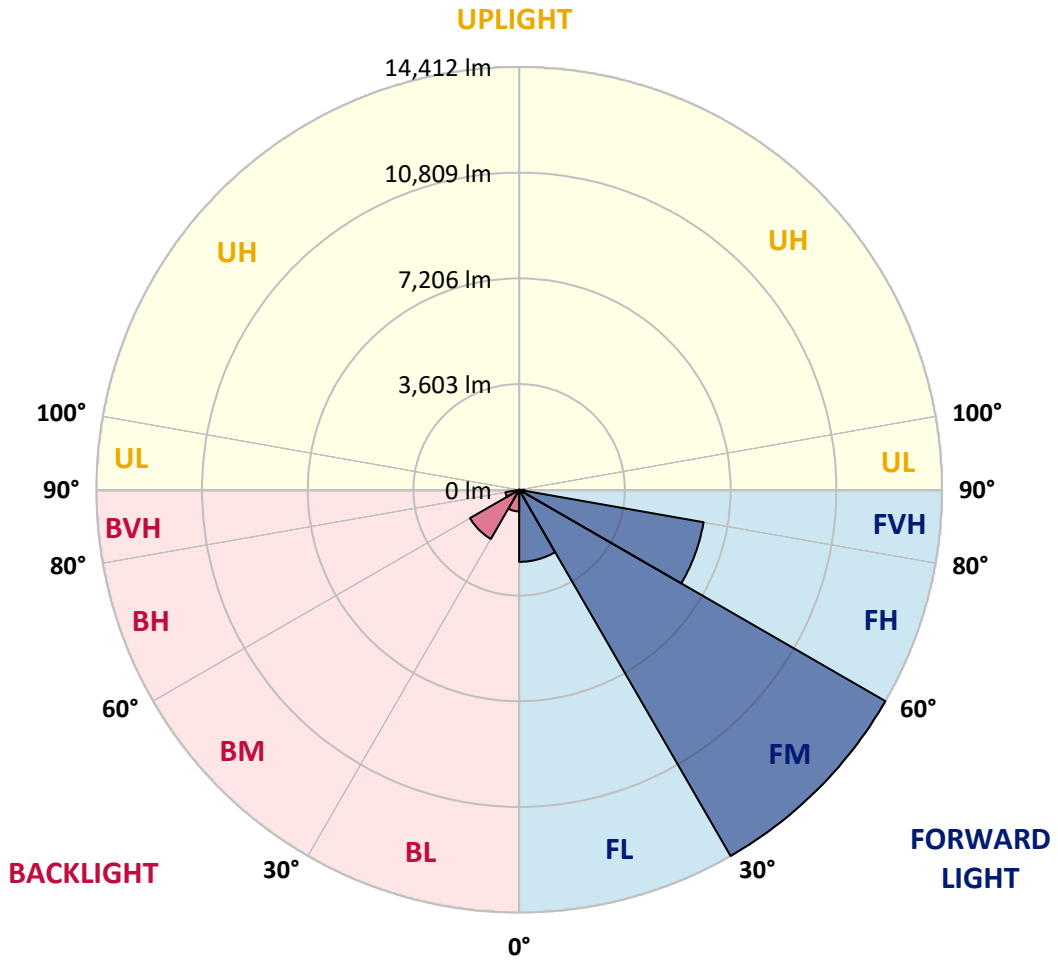
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2454.6 | 9.2 | | | |
| FM | (30°-60°) | 14411.8 | 54.2 | | | |
| FH | (60°-80°) | 6382.4 | 24.0 | | | G3/7500 |
| FVH | (80°-90°) | 179.7 | 0.7 | | | G2/225 |
| BL | (0°-30°) | 736.0 | 2.8 | B2/1000 | | |
| BM | (30°-60°) | 1932.2 | 7.3 | B2/2500 | | |
| BH | (60°-80°) | 477.1 | 1.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 9.3 | 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 II Short



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REPORT NUMBER: P1457803
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 63° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | *4298.2* | 4298.2 | 4298.2 | 4298.2 |
| 2.5° | 4816.5 | 4800.6 | 4784.6 | 4760.7 | 4728.8 | 4696.9 | 4657.0 | *4601.2* | 4577.3 | 4497.5 | 4401.9 |
| 5° | 5063.7 | 5063.7 | 5055.7 | 5039.8 | 5023.9 | 4992.0 | 4944.1 | *4872.3* | 4840.4 | 4728.8 | 4561.3 |
| 7.5° | 5127.5 | 5135.5 | 5159.4 | 5191.3 | 5239.2 | 5231.2 | 5231.2 | *5151.4* | 5135.5 | 5015.9 | 4792.6 |
| 10° | 5015.9 | 5023.9 | 5087.6 | 5175.4 | 5318.9 | 5454.5 | 5550.2 | *5502.3* | 5478.4 | 5358.8 | 5079.7 |
| 12.5° | 4856.4 | 4856.4 | 4960.1 | 5095.6 | 5318.9 | 5574.1 | 5853.2 | *5901.0* | 5909.0 | 5773.4 | 5438.5 |
| 15° | 4441.7 | 4457.7 | 4625.1 | 4896.3 | 5263.1 | 5661.8 | 6132.3 | *6315.7* | 6363.5 | 6275.8 | 5877.1 |
| 17.5° | 3891.5 | 3907.4 | 4074.9 | 4441.7 | 4992.0 | 5661.8 | 6371.5 | *6794.2* | 6858.0 | 6873.9 | 6435.3 |
| 20° | 3660.2 | 3660.2 | 3755.9 | 4035.0 | 4609.2 | 5510.3 | 6515.1 | *7304.5* | 7448.1 | 7623.5 | 7049.3 |
| 22.5° | 3692.1 | 3692.1 | 3748.0 | 3907.4 | 4370.0 | 5303.0 | 6602.8 | *7759.1* | 8054.1 | 8500.7 | 7838.8 |
| 25° | 3867.6 | 3867.6 | 3915.4 | 4019.1 | 4393.9 | 5271.1 | 6770.2 | *8165.8* | 8636.2 | 9481.5 | 8739.9 |
| 27.5° | 4146.7 | 4138.7 | 4178.6 | 4282.2 | 4625.1 | 5422.6 | 7049.3 | *8572.4* | 9098.8 | 10582.0 | 9776.6 |
| 30° | 4553.4 | 4529.4 | 4545.4 | 4665.0 | 4999.9 | 5773.4 | 7456.0 | *9090.8* | 9625.1 | 11786.1 | 10924.9 |
| 32.5° | 5494.3 | 5486.4 | 5255.1 | 5191.3 | 5550.2 | 6339.6 | 8014.2 | *9736.7* | 10334.8 | 13062.0 | 12105.1 |
| 35° | 7192.9 | 7304.5 | 6977.6 | 6140.3 | 6212.0 | 7097.2 | 8811.7 | *10613.9* | 11164.1 | 14417.7 | 13389.0 |
| 37.5° | 8915.3 | 8915.3 | 8779.8 | 7791.0 | 7288.6 | 7934.5 | 9672.9 | *11515.0* | 12089.1 | 15510.1 | 14625.0 |
| 40° | 10279.0 | 10350.7 | 10191.2 | 9449.6 | 8795.7 | 8891.4 | 10534.1 | *12304.5* | 12830.8 | 16180.0 | 15502.2 |
| 42.5° | 11291.7 | 11275.8 | 11212.0 | 10725.5 | 10358.7 | 10143.4 | 11315.6 | *12894.6* | 13396.9 | 16522.9 | 16052.4 |
| 45° | 12384.2 | 12384.2 | 12296.5 | 11897.8 | 11594.7 | 11411.3 | 11897.8 | *13389.0* | 13915.3 | 16730.2 | 16395.3 |
| 47.5° | 13524.5 | 13508.6 | 13420.9 | 12982.3 | 12655.3 | 12384.2 | 12487.9 | *13707.9* | 14234.2 | 16594.7 | 16451.1 |
| 50° | 13803.6 | 13787.7 | 13987.0 | 14003.0 | 13707.9 | 13189.6 | 12958.3 | *13979.1* | 14441.6 | 16602.6 | 16626.6 |
| 52.5° | 13476.7 | 13572.4 | 13867.4 | 14226.3 | 14561.2 | 14018.9 | 13460.7 | *14409.7* | 14888.1 | 16825.9 | 17065.1 |
| 55° | 12663.3 | 12703.2 | 13269.3 | 13843.5 | 14625.0 | 14816.4 | 14266.1 | *15095.5* | 15518.1 | 17041.2 | 17455.9 |
| 57.5° | 11148.2 | 11299.7 | 11905.7 | 12902.5 | 14090.7 | 14888.1 | 15669.6 | *16243.8* | 16562.8 | 17128.9 | 17240.6 |
| 60° | 8413.0 | 8492.7 | 9808.5 | 11100.3 | 12982.3 | 14314.0 | 16977.4 | *18189.5* | 18149.7 | 16140.1 | 15733.4 |
| 62.5° | 5119.5 | 5191.3 | 6132.3 | 8181.7 | 10550.1 | 13117.8 | 17416.0 | *20366.5* | 20151.2 | 14473.5 | 13245.4 |
| 64° | *4170.6* | *4306.2* | *4888.3* | *6642.6* | *8676.1* | *11865.9* | *17288.4* | *20549.9* | *20382.5* | *13396.9* | *11802.1* |
| 65° | 3564.5 | 3748.0 | 4346.0 | 5765.5 | 7376.3 | 10518.2 | 16937.6 | *20039.6* | 19927.9 | 12743.0 | 10605.9 |
| 67.5° | 2240.8 | 2328.5 | 3213.7 | 4481.6 | 5079.7 | 6730.4 | 14561.2 | *17328.3* | 17527.7 | 11355.5 | 7822.9 |
| 70° | 1666.6 | 1706.5 | 2208.9 | 3468.9 | 3963.3 | 3915.4 | 9999.9 | *14034.9* | 14082.7 | 9082.8 | 4720.8 |
| 72.5° | 1212.1 | 1220.1 | 1547.0 | 2567.7 | 3102.0 | 2671.4 | 5271.1 | *10430.5* | 10087.6 | 5318.9 | 2575.7 |
| 75° | 805.4 | 837.3 | 1084.5 | 1810.2 | 2416.2 | 1961.7 | 2400.3 | *5940.9* | 5837.2 | 2599.6 | 1475.3 |
| 77.5° | 590.1 | 598.1 | 733.6 | 1212.1 | 1897.9 | 1443.4 | 1451.3 | *2559.8* | 2639.5 | 1547.0 | 933.0 |
| 80° | 334.9 | 350.9 | 478.5 | 741.6 | 1236.0 | 988.8 | 813.4 | *1236.0* | 1419.4 | 1052.6 | 622.0 |
| 82.5° | 199.4 | 215.3 | 342.9 | 486.4 | 845.3 | 406.7 | 414.7 | *677.8* | 845.3 | 757.6 | 334.9 |
| 85° | 119.6 | 127.6 | 215.3 | 263.2 | 502.4 | 271.1 | 151.5 | *334.9* | 438.6 | 446.6 | 183.4 |
| 87.5° | 79.7 | 79.7 | 119.6 | 111.6 | 143.5 | 127.6 | 63.8 | *87.7* | 111.6 | 151.5 | 71.8 |
| 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: P1457803
CATALOG NUMBER: GLAN-SB9A-830-U-T2LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 | 4298.2 |
| 2.5° | 4322.1 | 4274.3 | 4130.7 | 3939.3 | 3763.9 | 3628.3 | 3460.9 | 3349.2 | 3245.6 | 3245.6 | 3157.8 |
| 5° | 4425.8 | 4298.2 | 3947.3 | 3508.7 | 3038.2 | 2591.7 | 2304.6 | 1985.6 | 1882.0 | 1794.2 | 1810.2 |
| 7.5° | 4601.2 | 4370.0 | 3748.0 | 2958.5 | 2208.9 | 1730.4 | 1411.5 | 1267.9 | 1204.1 | 1164.3 | 1172.2 |
| 10° | 4816.5 | 4497.5 | 3508.7 | 2400.3 | 1626.8 | 1267.9 | 1116.4 | 1060.6 | 1036.7 | 1028.7 | 1028.7 |
| 12.5° | 5111.6 | 4649.1 | 3269.5 | 1929.8 | 1283.9 | 1092.5 | 1012.7 | 980.8 | 956.9 | 941.0 | 941.0 |
| 15° | 5462.4 | 4840.4 | 2990.4 | 1586.9 | 1124.4 | 1004.8 | 941.0 | 909.1 | 877.2 | 869.2 | 869.2 |
| 17.5° | 5909.0 | 5039.8 | 2743.2 | 1363.6 | 1044.6 | 941.0 | 877.2 | 837.3 | 813.4 | 805.4 | 805.4 |
| 20° | 6403.4 | 5287.0 | 2496.0 | 1236.0 | 988.8 | 877.2 | 813.4 | 781.5 | 757.6 | 741.6 | 749.6 |
| 22.5° | 7033.4 | 5598.0 | 2336.5 | 1172.2 | 941.0 | 821.4 | 757.6 | 725.7 | 701.7 | 685.8 | 693.8 |
| 25° | 7727.2 | 5988.8 | 2248.8 | 1172.2 | 909.1 | 781.5 | 709.7 | 677.8 | 653.9 | 637.9 | 637.9 |
| 27.5° | 8572.4 | 6427.3 | 2256.7 | 1220.1 | 901.1 | 749.6 | 669.8 | 637.9 | 614.0 | 590.1 | 590.1 |
| 30° | 9505.4 | 6945.7 | 2344.5 | 1307.8 | 917.1 | 717.7 | 637.9 | 590.1 | 574.2 | 550.2 | 550.2 |
| 32.5° | 10494.3 | 7543.8 | 2567.7 | 1419.4 | 901.1 | 677.8 | 590.1 | 550.2 | 526.3 | 510.4 | 510.4 |
| 35° | 11538.9 | 8221.6 | 2846.8 | 1467.3 | 821.4 | 622.0 | 550.2 | 510.4 | 494.4 | 486.4 | 478.5 |
| 37.5° | 12535.7 | 8811.7 | 2998.4 | 1371.6 | 717.7 | 574.2 | 502.4 | 462.5 | 454.5 | 438.6 | 438.6 |
| 40° | 13309.2 | 9298.1 | 2910.6 | 1172.2 | 661.9 | 526.3 | 462.5 | 422.6 | 406.7 | 390.7 | 390.7 |
| 42.5° | 13763.8 | 9473.5 | 2591.7 | 996.8 | 622.0 | 478.5 | 422.6 | 382.8 | 366.8 | 358.8 | 358.8 |
| 45° | 14026.9 | 9449.6 | 2216.9 | 893.1 | 582.1 | 438.6 | 382.8 | 358.8 | 334.9 | 326.9 | 319.0 |
| 47.5° | 14018.9 | 9202.4 | 1945.7 | 805.4 | 542.3 | 406.7 | 358.8 | 334.9 | 311.0 | 303.0 | 303.0 |
| 50° | 13963.1 | 8835.6 | 1642.7 | 741.6 | 510.4 | 382.8 | 334.9 | 319.0 | 295.1 | 287.1 | 279.1 |
| 52.5° | 14098.7 | 8628.3 | 1371.6 | 701.7 | 470.5 | 366.8 | 326.9 | 303.0 | 271.1 | 263.2 | 263.2 |
| 55° | 14266.1 | 8508.7 | 1100.5 | 661.9 | 438.6 | 358.8 | 311.0 | 287.1 | 255.2 | 247.2 | 247.2 |
| 57.5° | 13779.7 | 8054.1 | 909.1 | 598.1 | 398.7 | 342.9 | 295.1 | 279.1 | 247.2 | 223.3 | 223.3 |
| 60° | 12248.6 | 6658.6 | 749.6 | 526.3 | 366.8 | 319.0 | 279.1 | 255.2 | 223.3 | 191.4 | 191.4 |
| 62.5° | 9960.0 | 5079.7 | 622.0 | 446.6 | 342.9 | 295.1 | 255.2 | 231.3 | 191.4 | 151.5 | 151.5 |
| 64° | *8652.2* | *4314.1* | *558.2* | *390.7* | *326.9* | *271.1* | *231.3* | *207.3* | *167.5* | *127.6* | *119.6* |
| 65° | 7759.1 | 3811.7 | 518.3 | 366.8 | 319.0 | 255.2 | 223.3 | 199.4 | 151.5 | 119.6 | 111.6 |
| 67.5° | 5462.4 | 2559.8 | 414.7 | 303.0 | 279.1 | 215.3 | 191.4 | 167.5 | 135.6 | 103.7 | 95.7 |
| 70° | 3181.8 | 1451.3 | 326.9 | 255.2 | 215.3 | 167.5 | 159.5 | 151.5 | 119.6 | 79.7 | 79.7 |
| 72.5° | 1730.4 | 725.7 | 247.2 | 207.3 | 167.5 | 119.6 | 135.6 | 119.6 | 95.7 | 63.8 | 55.8 |
| 75° | 1060.6 | 446.6 | 183.4 | 151.5 | 111.6 | 87.7 | 103.7 | 87.7 | 55.8 | 39.9 | 31.9 |
| 77.5° | 709.7 | 287.1 | 135.6 | 103.7 | 71.8 | 55.8 | 71.8 | 47.8 | 23.9 | 8.0 | 8.0 |
| 80° | 438.6 | 199.4 | 87.7 | 63.8 | 39.9 | 23.9 | 15.9 | 8.0 | 8.0 | 0.0 | 0.0 |
| 82.5° | 191.4 | 127.6 | 47.8 | 31.9 | 15.9 | 8.0 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 103.7 | 39.9 | 15.9 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 31.9 | 15.9 | 8.0 | 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 |

Cooper Lighting Solutions Photometric Lab
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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

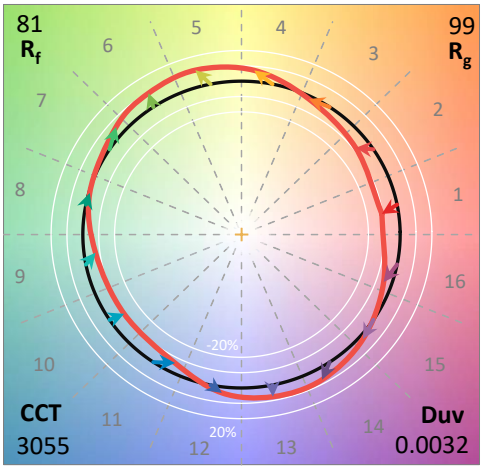
## Test Information

| | |
|---|---|
| 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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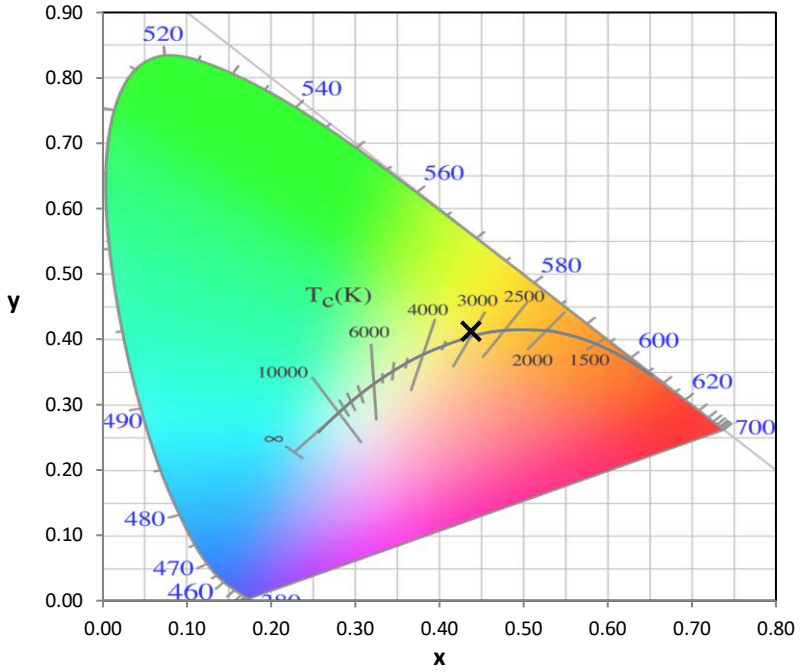
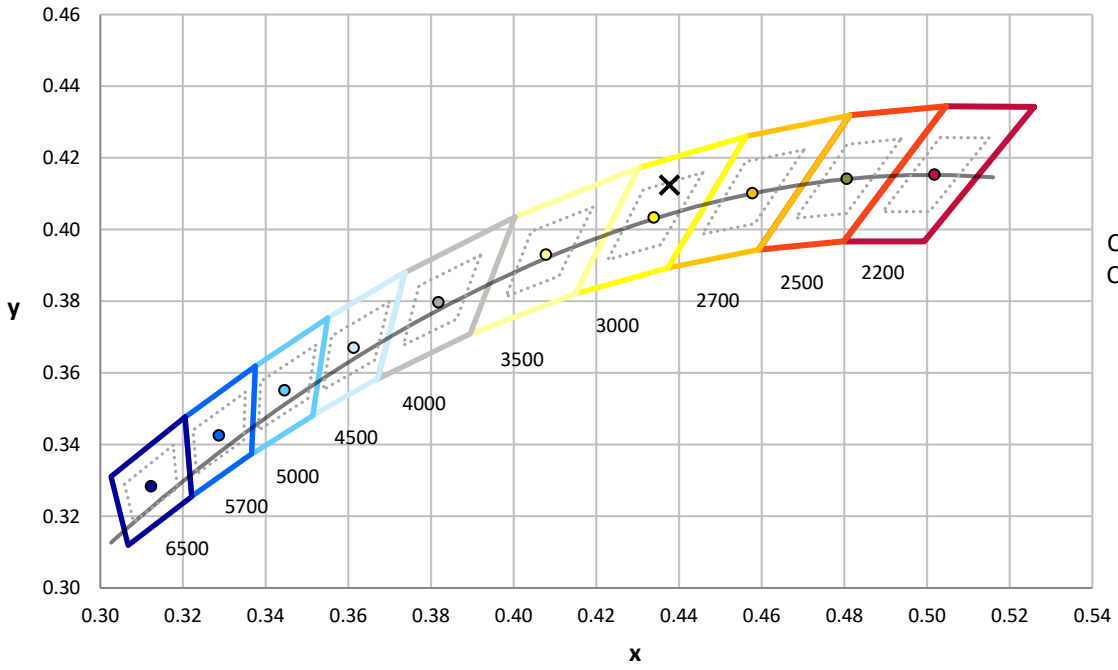
## CIE 1931 Chromaticity Diagram




## 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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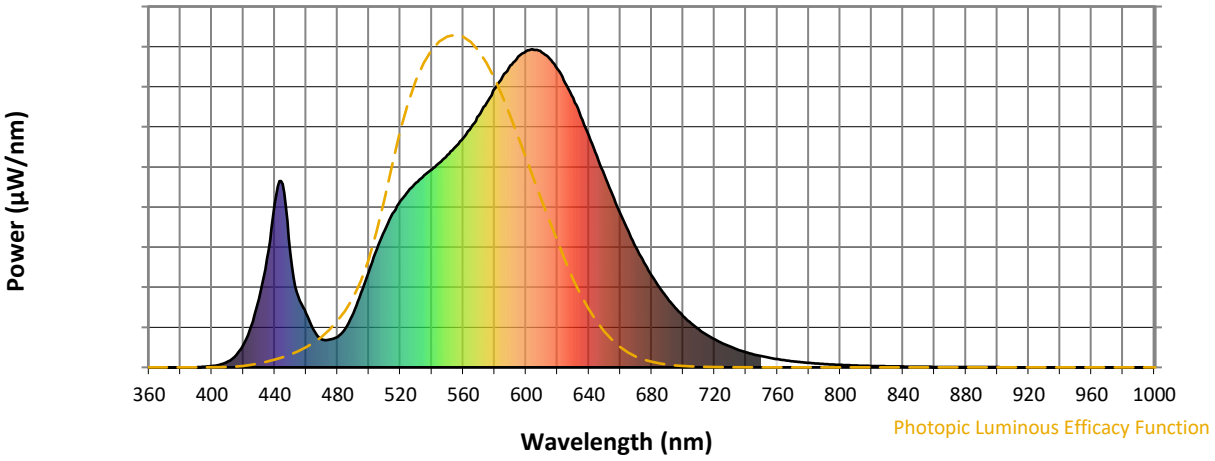
## Photopic Flux vs. Wavelength




## 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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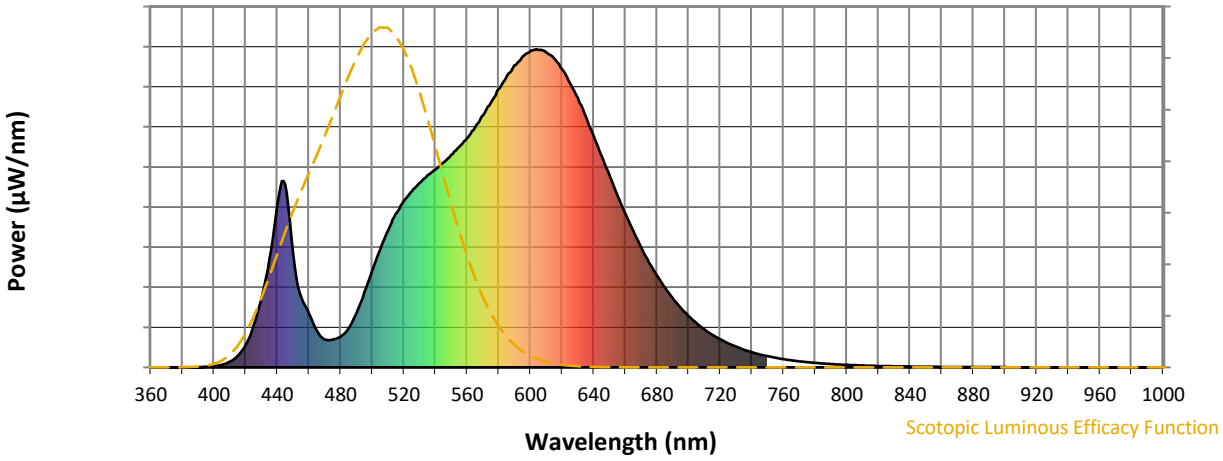
## Scotopic Flux vs. Wavelength




**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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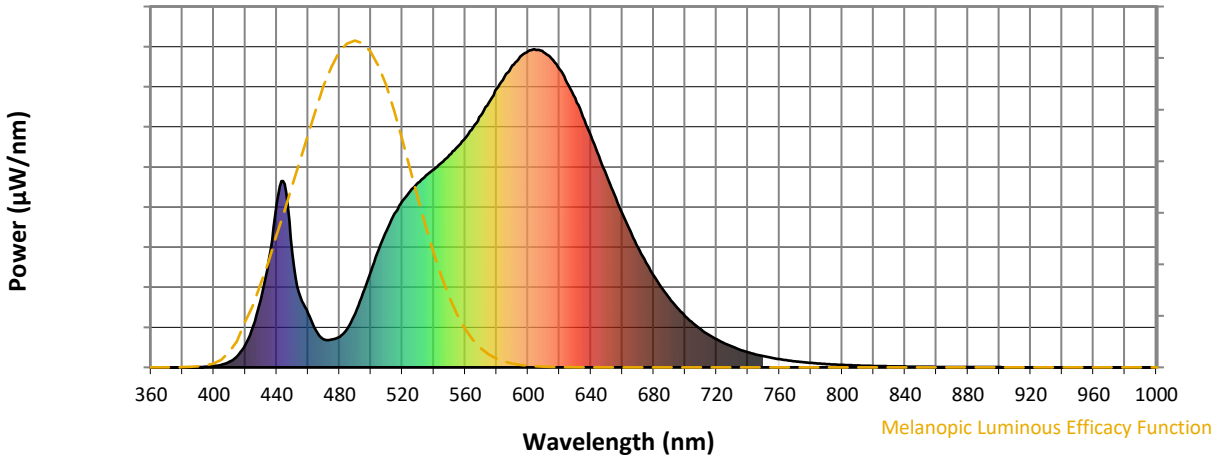
## Melanopic Flux vs. Wavelength




**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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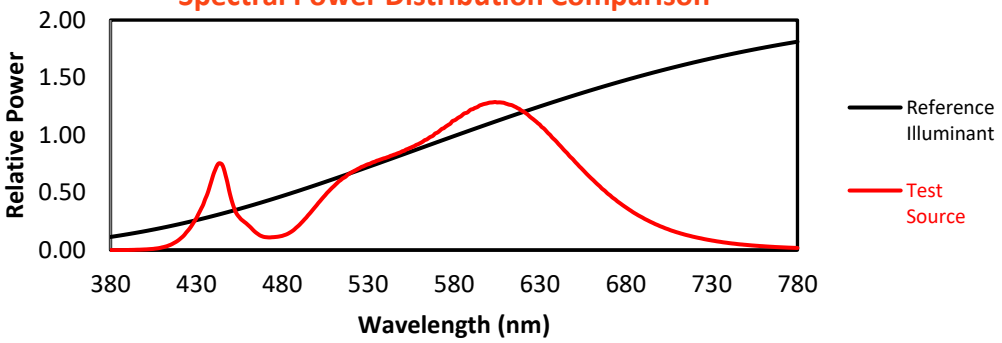
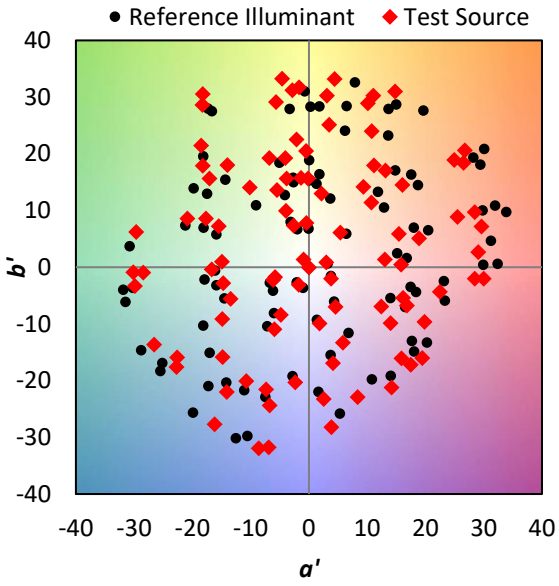
## Summary

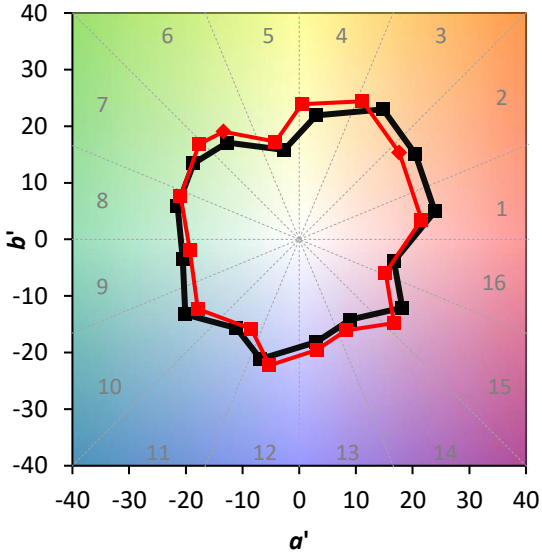
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 80.9
$R_9$ = 6.8

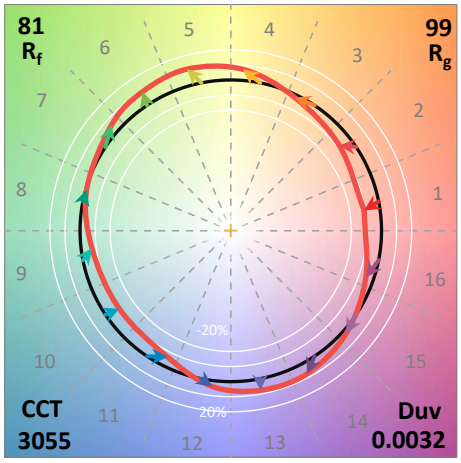
## Spectral Power Distribution Comparison

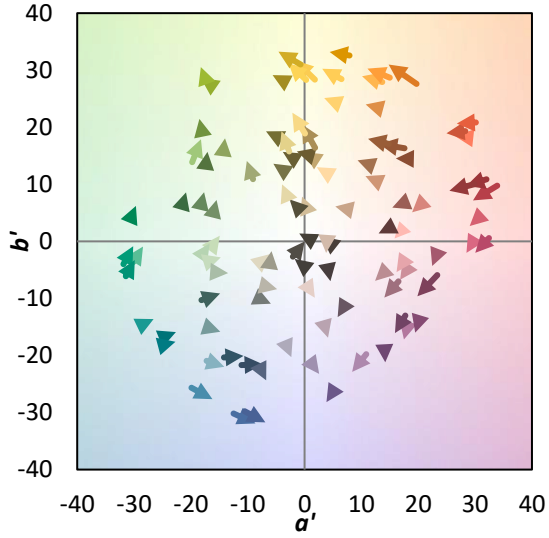



## Color Vector Graphics



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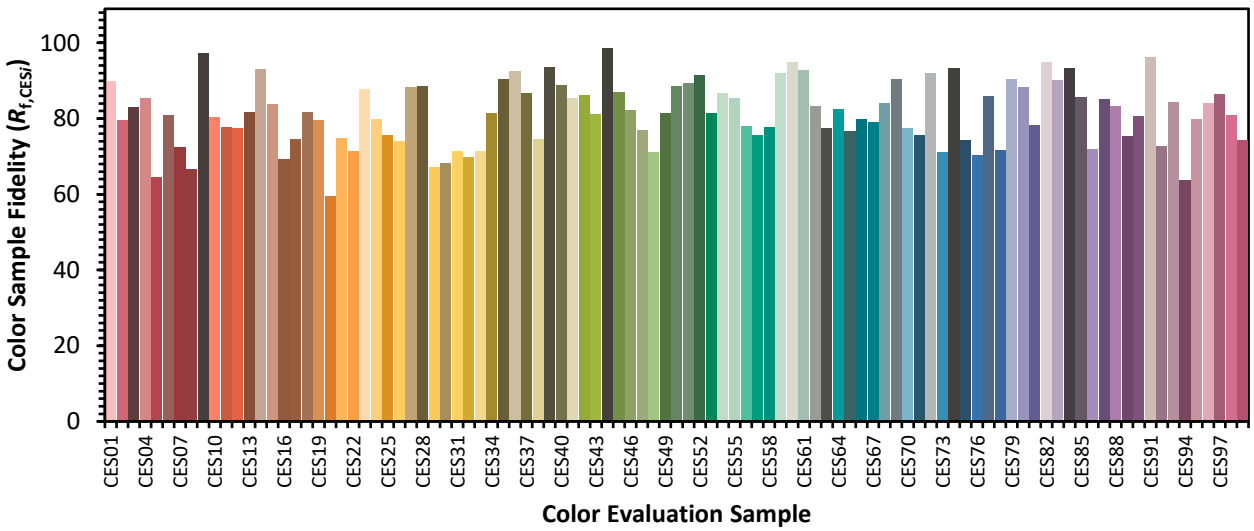
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| 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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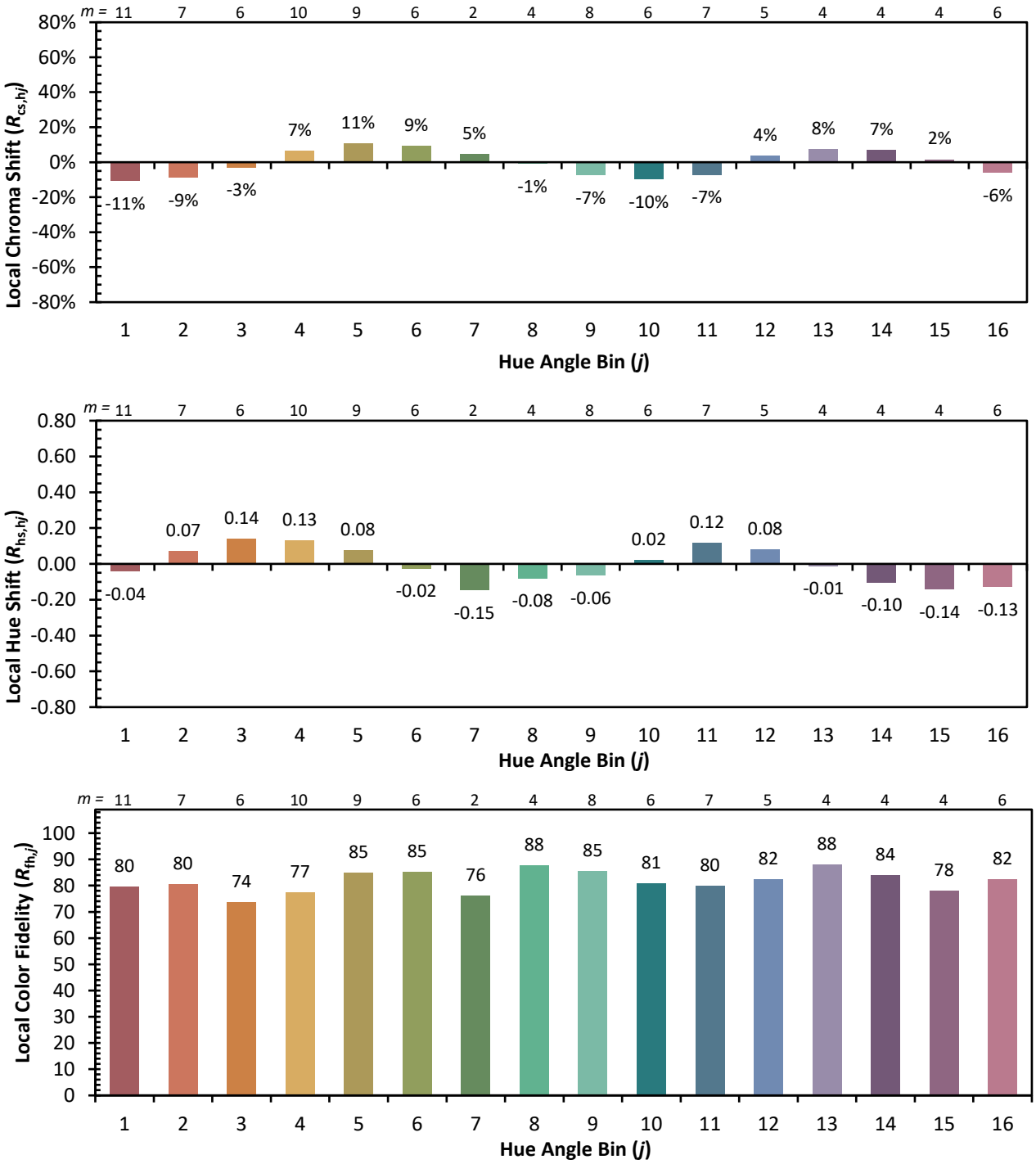
## Color Rendition by Hue-Angle Bin



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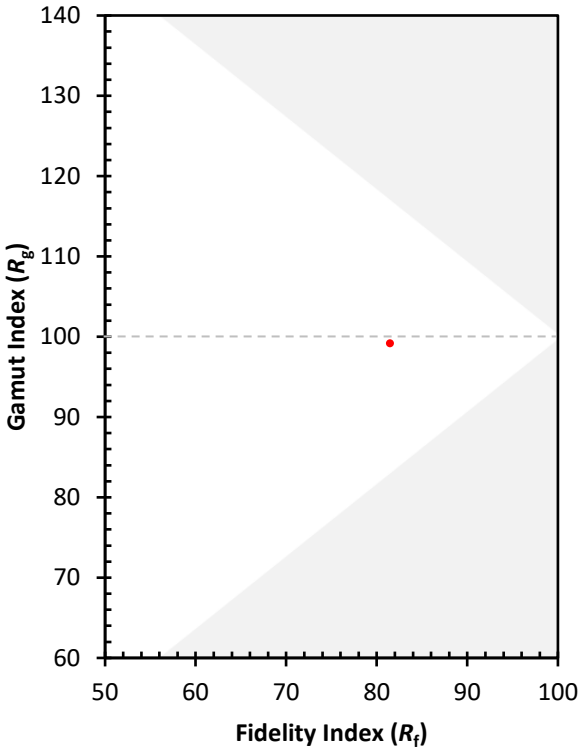
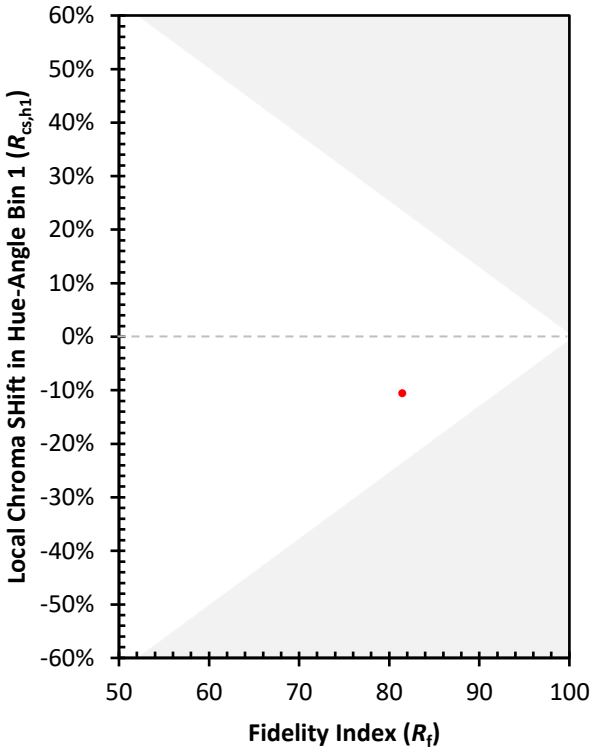
## Measure Comparisons

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