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: P1458366

Luminaire Tested: GLAN-SB5D-830-U-T3LG-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: | P1458366 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB5D-830-U-T3LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 5xLight Square PACKAGE 80CRI 3000K FIXTURE w/ TYPE III LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (130) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 35289.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 96.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G4 |

| | |
|---|---|
| Input Watts (W): | 364.9 |
| 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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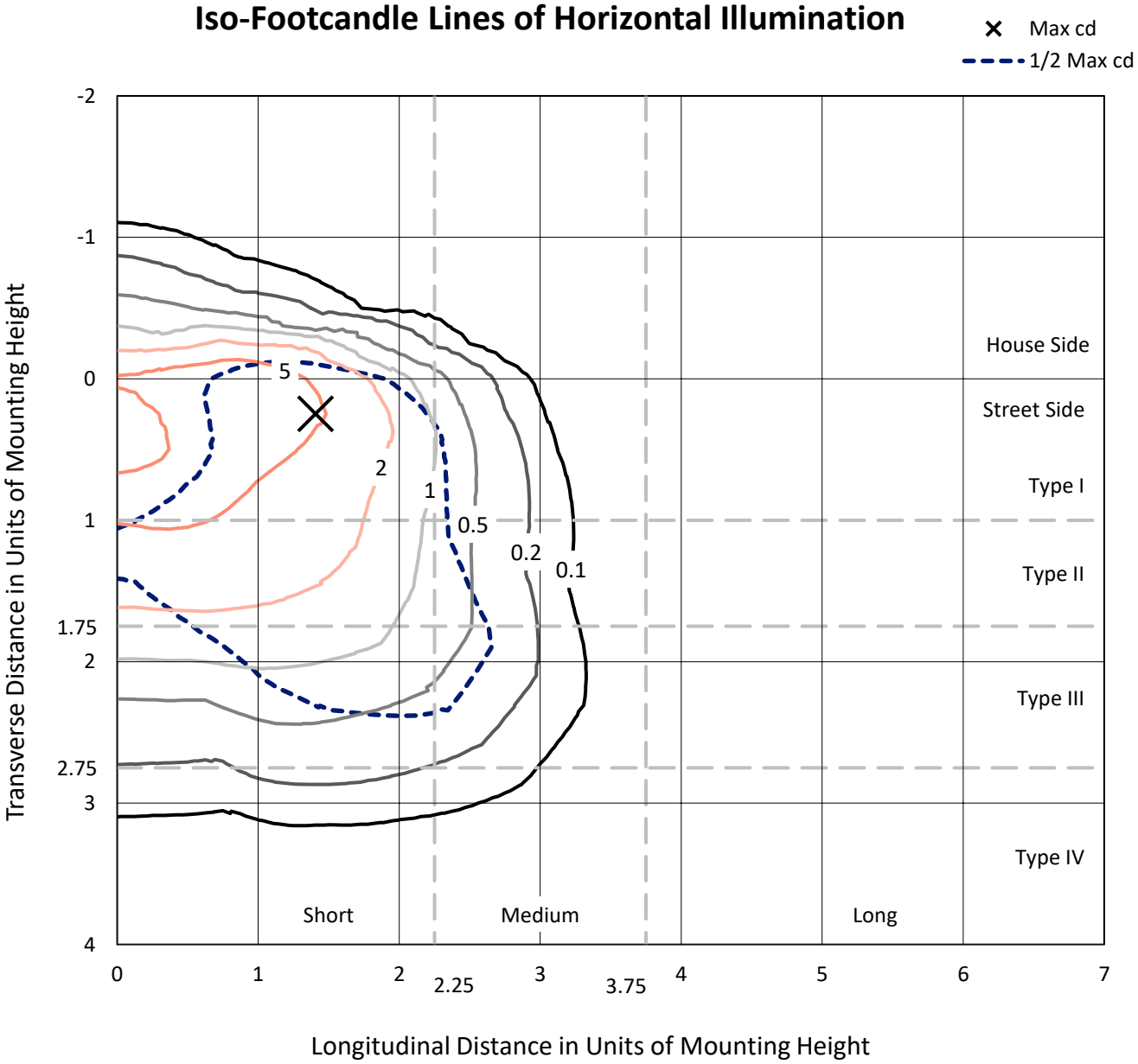
Scaled Data Report

REPORT NUMBER: P1458366
CATALOG NUMBER: GLAN-SB5D-830-U-T3LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 30 foot mounting height. Maximum calculated value = 9.7 fc
Type III - Short - N/A

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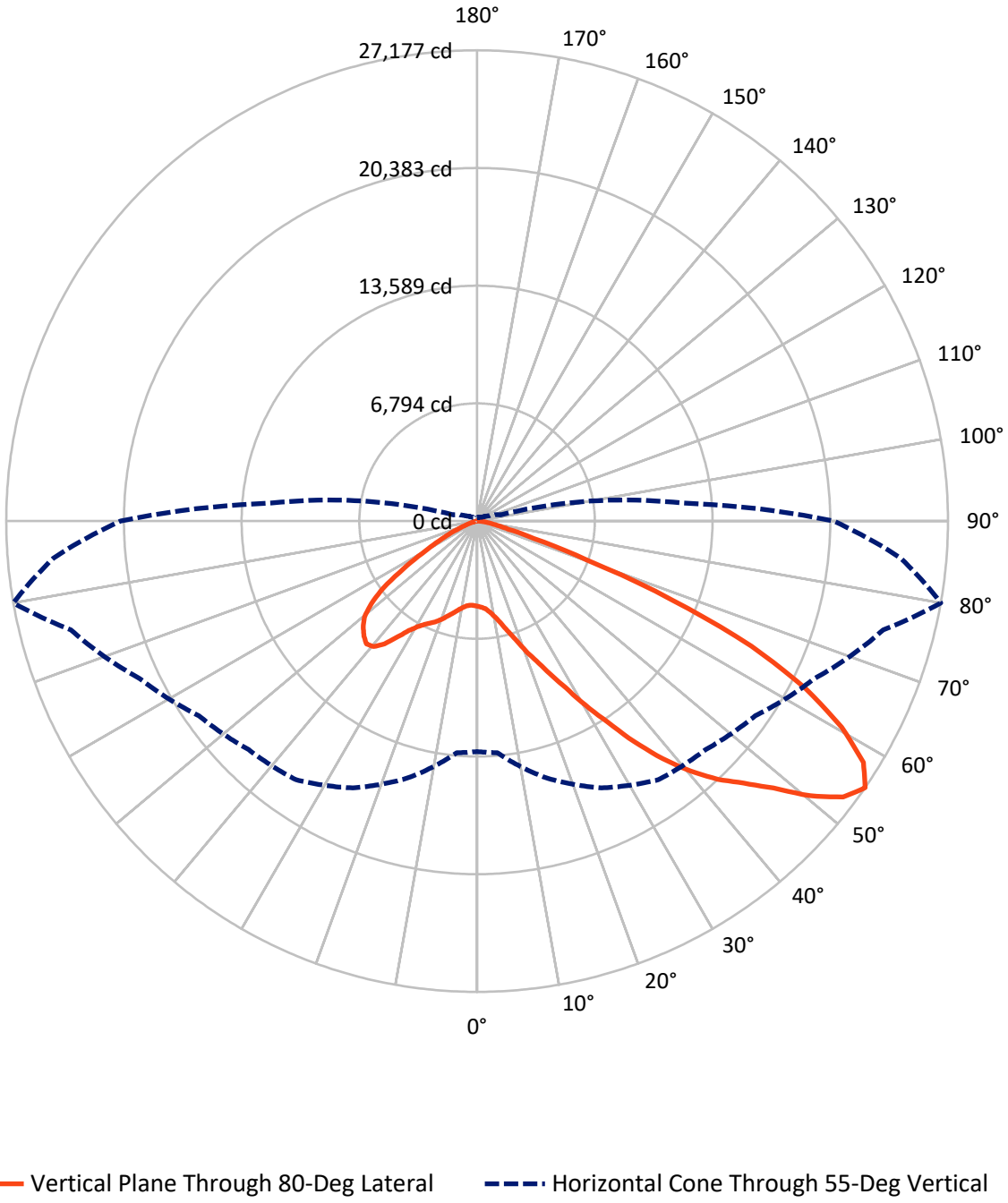
## Luminous Intensity Polar Plot



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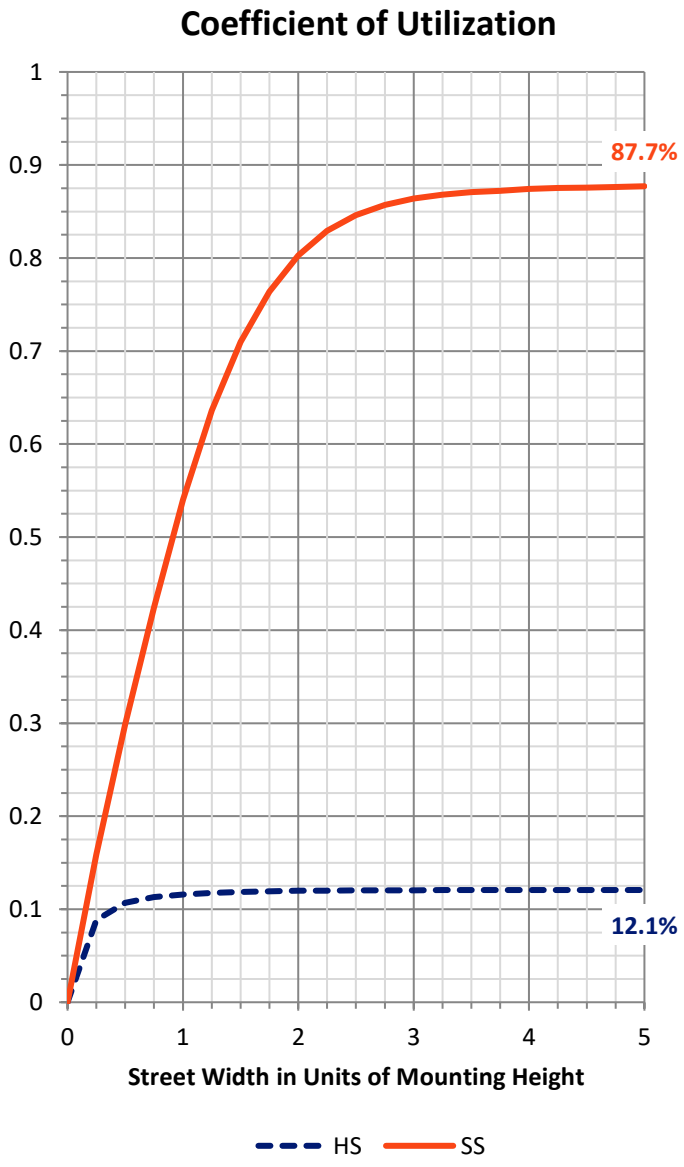
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4289.8 | 0.0 | 4289.8 |
| | % Fixture | 12.2 | 0.0 | 12.2 |
| **Street Side** | Lumens | 30999.6 | 0.0 | 30999.6 |
| | % Fixture | 87.8 | 0.0 | 87.8 |
| **Total** | Lumens | 35289.5 | 0.0 | 35289.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 412.5 | 1.2 |
| 10°-20° | 1087.6 | 3.1 |
| 20°-30° | 2129.2 | 6.0 |
| 30°-40° | 4331.7 | 12.3 |
| 40°-50° | 7302.6 | 20.7 |
| 50°-60° | 9330.5 | 26.4 |
| 60°-70° | 7966.0 | 22.6 |
| 70°-80° | 2545.6 | 7.2 |
| 80°-90° | 183.8 | 0.5 |
| 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° | 35289.5 | 100.0 |
| 0°-180° | 35289.5 | 100.0 |



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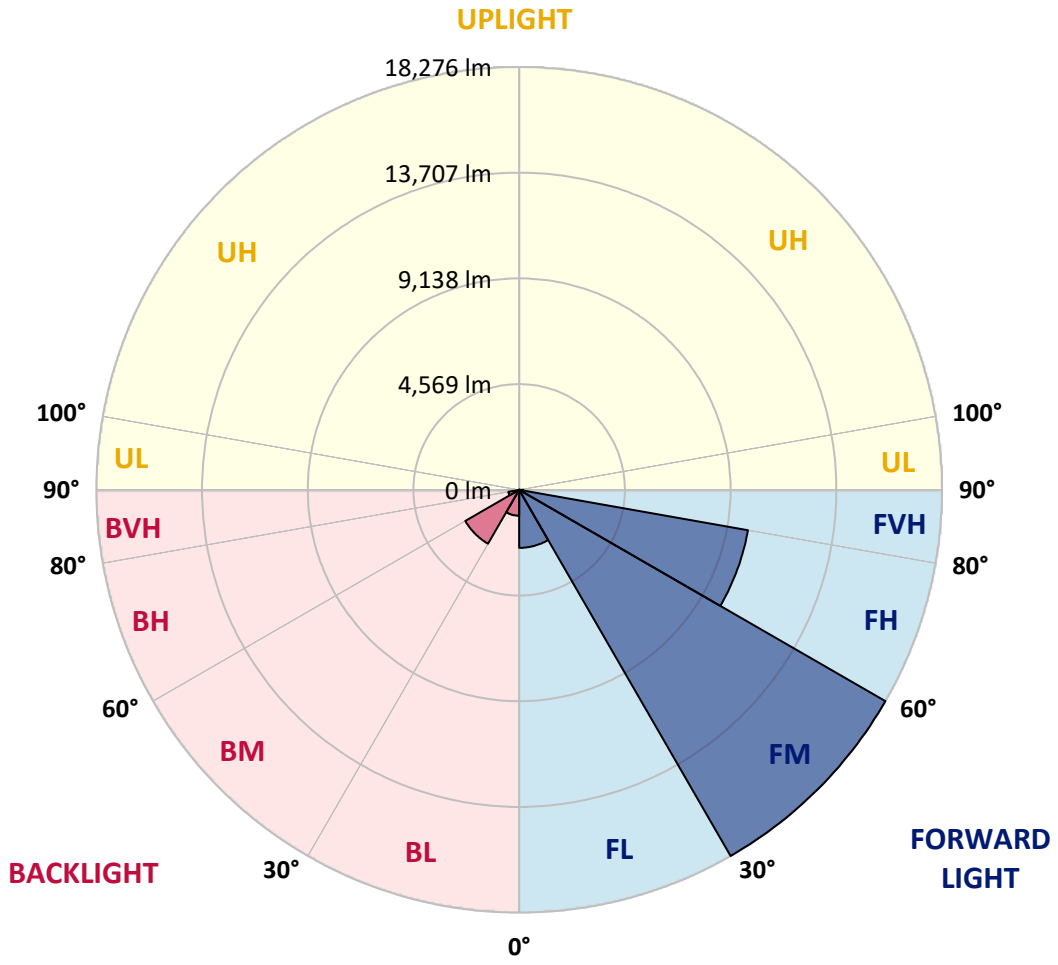
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2509.1 | 7.1 | | | |
| FM | (30°-60°) | 18276.1 | 51.8 | | | |
| FH | (60°-80°) | 10040.1 | 28.5 | | | G4/12000 |
| FVH | (80°-90°) | 174.2 | 0.5 | | | G2/225 |
| BL | (0°-30°) | 1120.2 | 3.2 | B3/2500 | | |
| BM | (30°-60°) | 2688.6 | 7.6 | B3/5000 | | |
| BH | (60°-80°) | 471.5 | 1.3 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 9.6 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G4**
Type III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 80° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | *4915.8* | 4915.8 |
| 2.5° | 4945.9 | 4955.9 | 4945.9 | 4955.9 | 4976.0 | 4965.9 | 5006.1 | 4996.0 | 4996.0 | *4986.0* | 4945.9 |
| 5° | 4665.0 | 4675.0 | 4695.1 | 4745.2 | 4815.4 | 4885.7 | 4976.0 | 5036.2 | 5096.3 | *5086.3* | 5046.2 |
| 7.5° | 4113.2 | 4133.3 | 4213.5 | 4313.8 | 4544.6 | 4755.3 | 4986.0 | 5136.5 | 5266.9 | *5307.0* | 5276.9 |
| 10° | 3802.2 | 3822.3 | 3872.4 | 3972.7 | 4183.4 | 4534.5 | 4986.0 | 5297.0 | 5527.7 | *5608.0* | 5618.0 |
| 12.5° | 3772.1 | 3782.1 | 3822.3 | 3932.6 | 4113.2 | 4414.2 | 4976.0 | 5507.7 | 5898.9 | *6019.3* | 6059.4 |
| 15° | 3792.2 | 3812.2 | 3852.4 | 3942.6 | 4153.3 | 4494.4 | 5056.2 | 5838.7 | 6390.5 | *6561.0* | 6571.1 |
| 17.5° | 3872.4 | 3892.5 | 3942.6 | 4043.0 | 4273.7 | 4705.1 | 5307.0 | 6179.8 | 6982.4 | *7173.0* | 7283.4 |
| 20° | 4032.9 | 4043.0 | 4103.2 | 4233.6 | 4494.4 | 4965.9 | 5678.2 | 6641.3 | 7694.7 | *7975.6* | 8055.8 |
| 22.5° | 4243.6 | 4273.7 | 4354.0 | 4514.5 | 4845.5 | 5327.1 | 6189.9 | 7203.1 | 8477.2 | *8768.1* | 8908.6 |
| 25° | 4474.3 | 4514.5 | 4634.9 | 4895.7 | 5317.1 | 5878.9 | 6821.9 | 7945.5 | 9400.1 | *9751.3* | 9941.9 |
| 27.5° | 4945.9 | 4955.9 | 5036.2 | 5367.2 | 5909.0 | 6601.2 | 7624.5 | 8898.5 | 10483.6 | *10894.9* | 11105.6 |
| 30° | 5979.2 | 5989.2 | 5919.0 | 6009.3 | 6561.0 | 7453.9 | 8567.5 | 10012.1 | 11747.7 | *12319.5* | 12490.1 |
| 32.5° | 7243.2 | 7293.4 | 7283.4 | 7223.2 | 7474.0 | 8306.6 | 9691.1 | 11346.4 | 13232.4 | *13834.4* | 13994.9 |
| 35° | 8677.8 | 8798.2 | 8768.1 | 8748.1 | 8778.2 | 9400.1 | 10975.2 | 12821.1 | 14917.8 | *15650.2* | 15780.6 |
| 37.5° | 10082.3 | 10112.4 | 10252.9 | 10423.4 | 10443.5 | 10874.9 | 12460.0 | 14386.1 | 16482.9 | *17415.9* | 17616.5 |
| 40° | 11165.8 | 11266.1 | 11617.3 | 11958.4 | 12309.5 | 12650.6 | 13683.9 | 15650.2 | 17726.9 | *18980.9* | 19071.2 |
| 42.5° | 12008.5 | 12249.3 | 12760.9 | 13292.6 | 14004.9 | 14386.1 | 14847.6 | 16543.1 | 18740.1 | *20375.3* | 20335.2 |
| 45° | 13031.8 | 13132.1 | 13854.4 | 14556.7 | 15279.0 | 15860.9 | 15850.8 | 17295.5 | 19532.6 | *21569.2* | 21318.4 |
| 47.5° | 13724.0 | 13844.4 | 14827.6 | 15650.2 | 16392.6 | 16683.5 | 16743.7 | 18108.1 | 20626.1 | *23013.8* | 22421.9 |
| 50° | 14095.2 | 14305.9 | 15379.3 | 16422.7 | 17225.2 | 17315.5 | 17586.4 | 19171.5 | 22060.7 | *24930.0* | 23816.4 |
| 52.5° | 14135.3 | 14336.0 | 15569.9 | 16914.2 | 17787.0 | 17967.6 | 18429.1 | 20375.3 | 23455.2 | *26464.9* | 24619.0 |
| 55° | *13302.7* | *13423.0* | *15339.2* | *16994.5* | *18228.5* | *18649.8* | *19592.8* | *21488.9* | *24267.8* | *27177.2* | *24548.7* |
| 57.5° | 12520.2 | 12640.5 | 14305.9 | 16854.1 | 18679.9 | 19542.7 | 20836.8 | 22251.4 | 23635.8 | *26294.3* | 22983.7 |
| 60° | 11848.0 | 11908.2 | 13423.0 | 16202.0 | 18850.5 | 20415.5 | 21910.3 | 21498.9 | 22000.6 | *24177.5* | 20305.1 |
| 62.5° | 10583.9 | 10624.1 | 12419.8 | 15028.2 | 18509.4 | 21087.6 | 22281.5 | 19903.8 | 20204.8 | *21258.2* | 17155.0 |
| 65° | 7995.6 | 8146.1 | 9791.4 | 14145.4 | 17947.6 | 21398.6 | 21418.7 | 17957.6 | 17646.6 | *17395.8* | 13493.3 |
| 67.5° | 5427.4 | 5598.0 | 6591.1 | 12720.8 | 17034.6 | 21529.0 | 19743.3 | 15439.5 | 13443.1 | *12149.0* | 8838.3 |
| 70° | 4333.9 | 4333.9 | 4675.0 | 10222.8 | 14867.7 | 19863.7 | 17666.7 | 11657.4 | 8537.4 | *6711.5* | 4735.2 |
| 72.5° | 2849.1 | 2859.2 | 3180.2 | 6490.8 | 10543.8 | 15148.6 | 14406.2 | 6741.6 | 4434.2 | *3421.0* | 2337.5 |
| 75° | 1033.3 | 1033.3 | 1394.5 | 2598.3 | 5577.9 | 9018.9 | 8778.2 | 3220.3 | 2407.7 | *1866.0* | 1414.5 |
| 77.5° | 551.8 | 571.8 | 672.2 | 1073.4 | 2136.9 | 3671.8 | 3431.0 | 1645.3 | 1364.4 | *1163.7* | 882.8 |
| 80° | 371.2 | 381.2 | 451.4 | 662.1 | 1033.3 | 1414.5 | 1103.5 | 923.0 | 923.0 | *782.5* | 591.9 |
| 82.5° | 200.6 | 210.7 | 301.0 | 431.4 | 551.8 | 662.1 | 531.7 | 541.7 | 652.1 | *531.7* | 341.1 |
| 85° | 140.5 | 140.5 | 230.7 | 311.0 | 311.0 | 321.0 | 230.7 | 341.1 | 381.2 | *331.1* | 230.7 |
| 87.5° | 80.3 | 80.3 | 130.4 | 150.5 | 150.5 | 140.5 | 70.2 | 120.4 | 150.5 | *170.5* | 100.3 |
| 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: P1458366
CATALOG NUMBER: GLAN-SB5D-830-U-T3LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 | 4915.8 |
| 2.5° | 4935.8 | 4905.7 | 4845.5 | 4725.2 | 4665.0 | 4584.7 | 4514.5 | 4424.2 | 4404.1 | 4394.1 | 4354.0 |
| 5° | 5016.1 | 4955.9 | 4775.3 | 4514.5 | 4293.8 | 4083.1 | 3872.4 | 3752.0 | 3651.7 | 3601.6 | 3591.5 |
| 7.5° | 5216.7 | 5096.3 | 4765.3 | 4303.8 | 3892.5 | 3531.3 | 3220.3 | 2949.5 | 2809.0 | 2688.6 | 2698.7 |
| 10° | 5517.7 | 5327.1 | 4785.3 | 4103.2 | 3491.2 | 2909.3 | 2457.9 | 2066.6 | 1785.7 | 1655.3 | 1645.3 |
| 12.5° | 5919.0 | 5648.1 | 4855.6 | 3902.5 | 2999.6 | 2187.0 | 1615.2 | 1384.4 | 1324.2 | 1314.2 | 1304.2 |
| 15° | 6410.6 | 6029.3 | 4925.8 | 3641.7 | 2337.5 | 1514.9 | 1314.2 | 1264.1 | 1254.0 | 1244.0 | 1244.0 |
| 17.5° | 7002.5 | 6470.8 | 4965.9 | 3200.3 | 1705.5 | 1304.2 | 1234.0 | 1203.9 | 1193.8 | 1183.8 | 1183.8 |
| 20° | 7744.8 | 6962.3 | 5016.1 | 2638.5 | 1444.6 | 1254.0 | 1173.8 | 1133.6 | 1123.6 | 1123.6 | 1113.6 |
| 22.5° | 8477.2 | 7514.1 | 4976.0 | 2146.9 | 1394.5 | 1193.8 | 1103.5 | 1063.4 | 1043.3 | 1043.3 | 1033.3 |
| 25° | 9319.9 | 8075.9 | 4855.6 | 1936.2 | 1384.4 | 1143.7 | 1033.3 | 973.1 | 943.0 | 933.0 | 933.0 |
| 27.5° | 10283.0 | 8718.0 | 4665.0 | 1946.2 | 1384.4 | 1103.5 | 943.0 | 862.8 | 842.7 | 822.6 | 822.6 |
| 30° | 11386.5 | 9500.5 | 4524.5 | 2076.7 | 1404.5 | 1063.4 | 862.8 | 762.4 | 732.3 | 712.3 | 722.3 |
| 32.5° | 12650.6 | 10373.3 | 4514.5 | 2287.3 | 1434.6 | 1003.2 | 772.5 | 662.1 | 632.0 | 622.0 | 632.0 |
| 35° | 14085.2 | 11456.7 | 4745.2 | 2447.9 | 1354.3 | 872.8 | 662.1 | 571.8 | 541.7 | 541.7 | 551.8 |
| 37.5° | 15680.3 | 12700.7 | 5056.2 | 2407.7 | 1093.5 | 692.2 | 571.8 | 501.6 | 471.5 | 481.5 | 491.6 |
| 40° | 17135.0 | 13673.9 | 5106.4 | 2056.6 | 822.6 | 591.9 | 491.6 | 441.4 | 421.4 | 431.4 | 441.4 |
| 42.5° | 18238.5 | 14456.4 | 4624.8 | 1595.1 | 692.2 | 501.6 | 421.4 | 381.2 | 371.2 | 391.3 | 391.3 |
| 45° | 19131.4 | 14767.4 | 3862.4 | 1183.8 | 612.0 | 431.4 | 371.2 | 351.1 | 331.1 | 341.1 | 341.1 |
| 47.5° | 20064.3 | 14817.5 | 3150.1 | 953.1 | 541.7 | 391.3 | 341.1 | 321.0 | 301.0 | 301.0 | 301.0 |
| 50° | 20967.2 | 14697.1 | 2407.7 | 842.7 | 501.6 | 351.1 | 311.0 | 290.9 | 270.9 | 260.8 | 260.8 |
| 52.5° | 21188.0 | 13734.0 | 1765.7 | 782.5 | 461.5 | 331.1 | 290.9 | 270.9 | 250.8 | 240.8 | 240.8 |
| 55° | *20576.0* | *11908.2* | *1384.4* | *702.3* | *421.4* | *301.0* | *270.9* | *250.8* | *220.7* | *210.7* | *210.7* |
| 57.5° | 18559.5 | 9079.1 | 1103.5 | 601.9 | 381.2 | 290.9 | 250.8 | 230.7 | 200.6 | 190.6 | 190.6 |
| 60° | 15941.1 | 6440.7 | 892.9 | 491.6 | 351.1 | 260.8 | 230.7 | 200.6 | 180.6 | 160.5 | 160.5 |
| 62.5° | 13041.8 | 4624.8 | 722.3 | 411.3 | 331.1 | 230.7 | 210.7 | 180.6 | 140.5 | 110.4 | 110.4 |
| 65° | 10002.1 | 3320.6 | 561.8 | 331.1 | 301.0 | 200.6 | 180.6 | 150.5 | 110.4 | 80.3 | 80.3 |
| 67.5° | 6470.8 | 2146.9 | 421.4 | 290.9 | 230.7 | 170.5 | 140.5 | 120.4 | 100.3 | 70.2 | 60.2 |
| 70° | 3410.9 | 1254.0 | 311.0 | 250.8 | 170.5 | 130.4 | 120.4 | 100.3 | 80.3 | 50.2 | 50.2 |
| 72.5° | 1765.7 | 822.6 | 230.7 | 220.7 | 130.4 | 90.3 | 100.3 | 80.3 | 60.2 | 30.1 | 30.1 |
| 75° | 1133.6 | 551.8 | 170.5 | 180.6 | 80.3 | 70.2 | 70.2 | 50.2 | 30.1 | 20.1 | 10.0 |
| 77.5° | 732.3 | 371.2 | 120.4 | 150.5 | 50.2 | 40.1 | 40.1 | 20.1 | 10.0 | 0.0 | 0.0 |
| 80° | 431.4 | 230.7 | 80.3 | 100.3 | 20.1 | 20.1 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 220.7 | 120.4 | 40.1 | 40.1 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 140.5 | 60.2 | 10.0 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 70.2 | 20.1 | 10.0 | 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 |

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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-9

Test Date: 10/10/2024

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

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

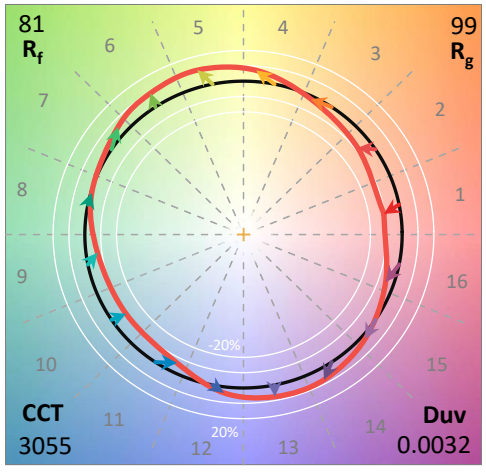
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-9 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-830-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

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

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




## Test Conditions

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

REPORT NUMBER: SP1-2407-184-9

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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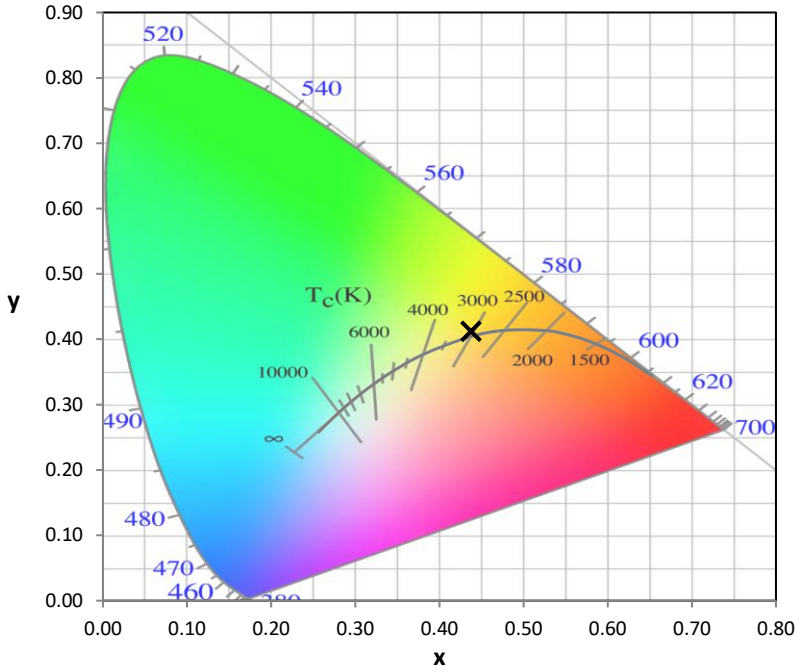
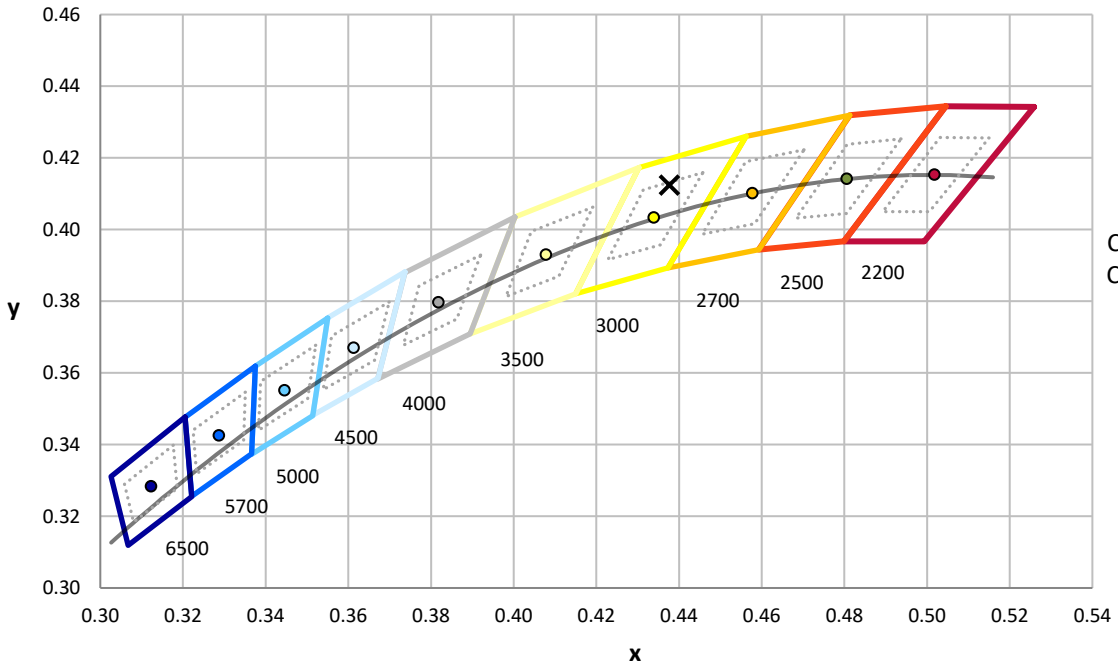
## CIE 1931 Chromaticity Diagram




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




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

Point lies inside the ANSI 3000K 4-step quadrangle

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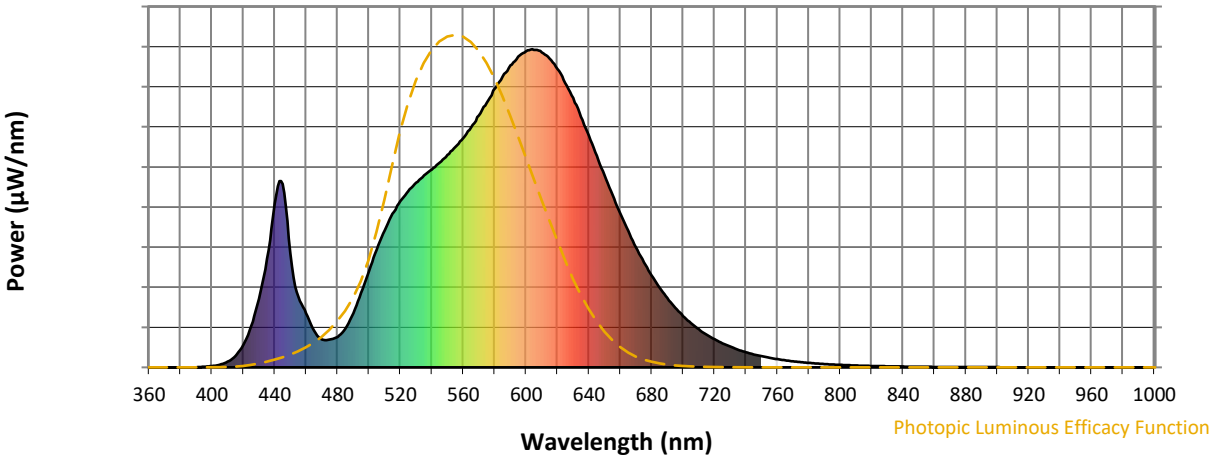
## Photopic Flux vs. Wavelength




## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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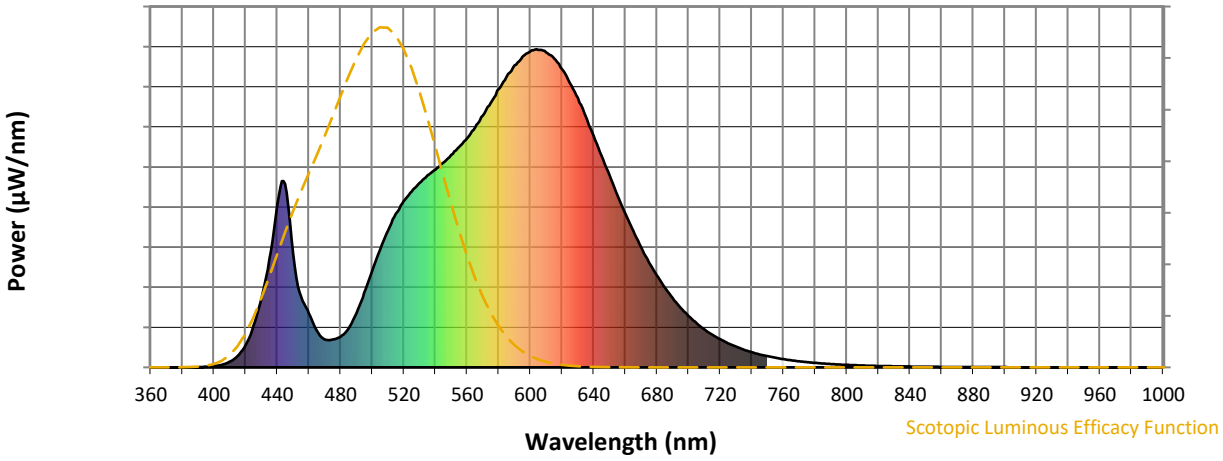
## Scotopic Flux vs. Wavelength




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

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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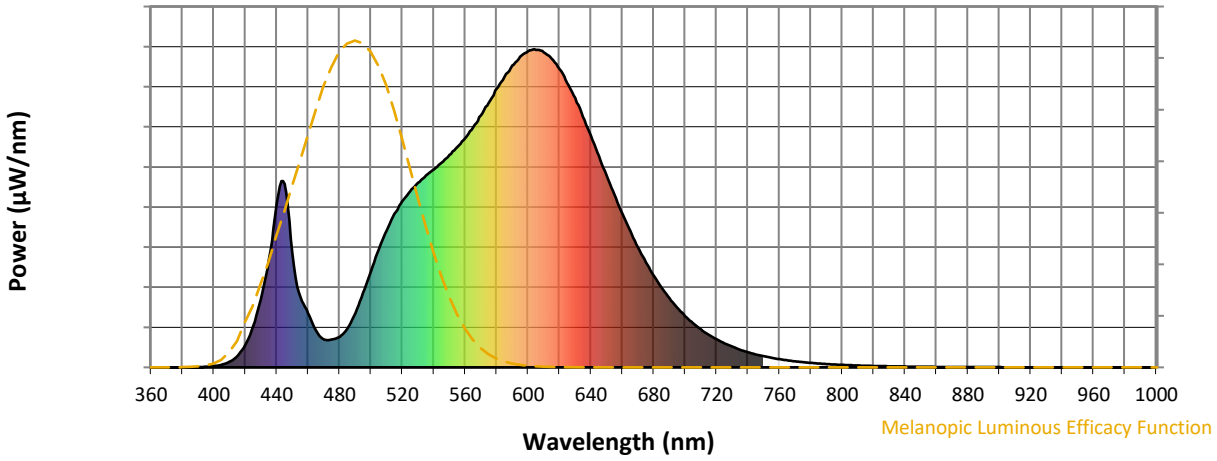
## Melanopic Flux vs. Wavelength




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

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 170 | NR | 620 | 938 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 234 | NR | 625 | 894 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 302 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 371 | NR | 635 | 788 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 431 | NR | 640 | 728 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 482 | NR | 645 | 665 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 523 | NR | 650 | 603 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 553 | NR | 655 | 542 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 580 | NR | 660 | 484 | NR | 790 | 11 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 603 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 18 | NR | 540 | 622 | NR | 670 | 377 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 36 | NR | 545 | 644 | NR | 675 | 330 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 71 | NR | 550 | 668 | NR | 680 | 289 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 693 | NR | 685 | 250 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 215 | NR | 560 | 720 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 341 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 514 | NR | 570 | 792 | NR | 700 | 161 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 576 | NR | 575 | 832 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 358 | NR | 580 | 875 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 222 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 170 | NR | 590 | 950 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 115 | NR | 595 | 977 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 88 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 87 | NR | 605 | 997 | NR | 735 | 56 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 96 | NR | 610 | 990 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 122 | NR | 615 | 971 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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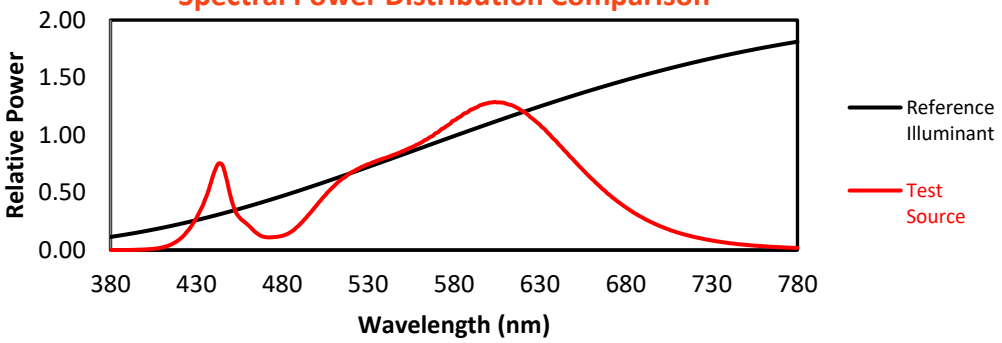
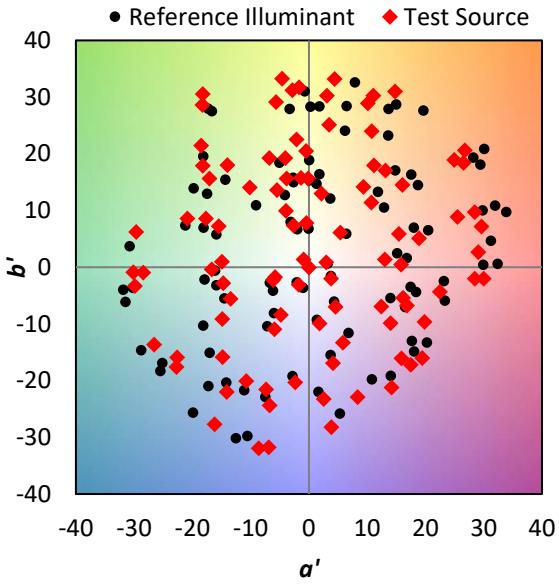
## Summary

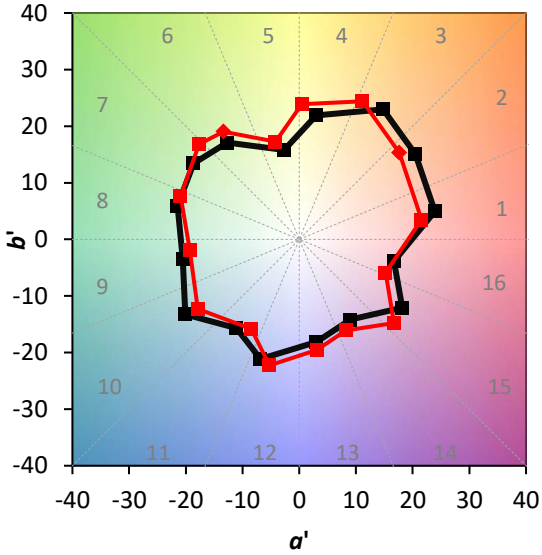
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 80.9
$R_9$ = 6.8

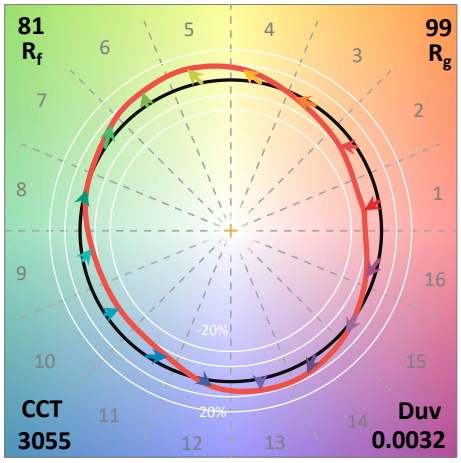
## Spectral Power Distribution Comparison

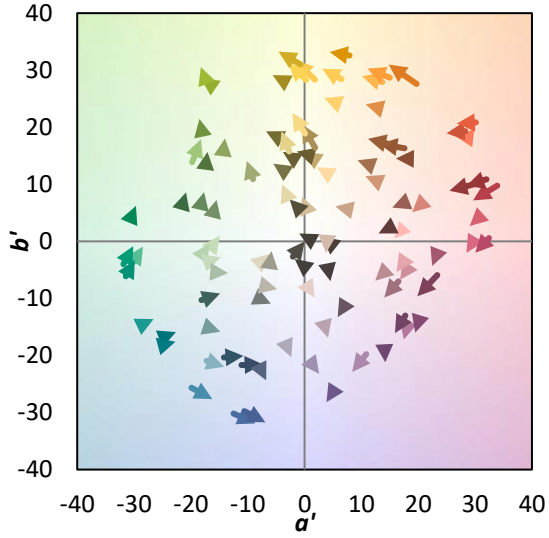



## Color Vector Graphics



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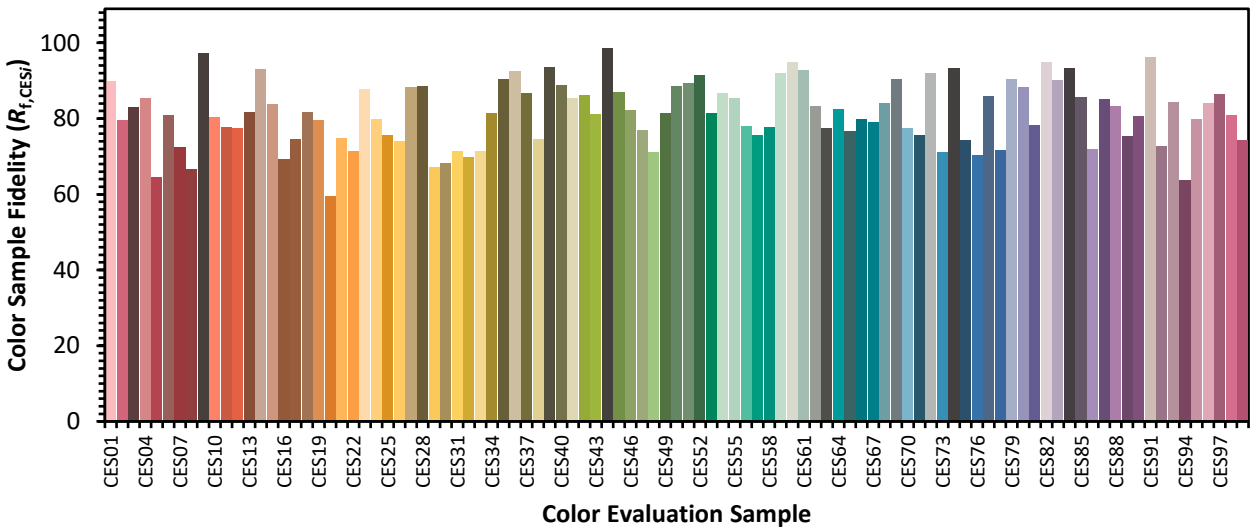
## Individual Sample Fidelity Index ($R_{f,i}$)

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



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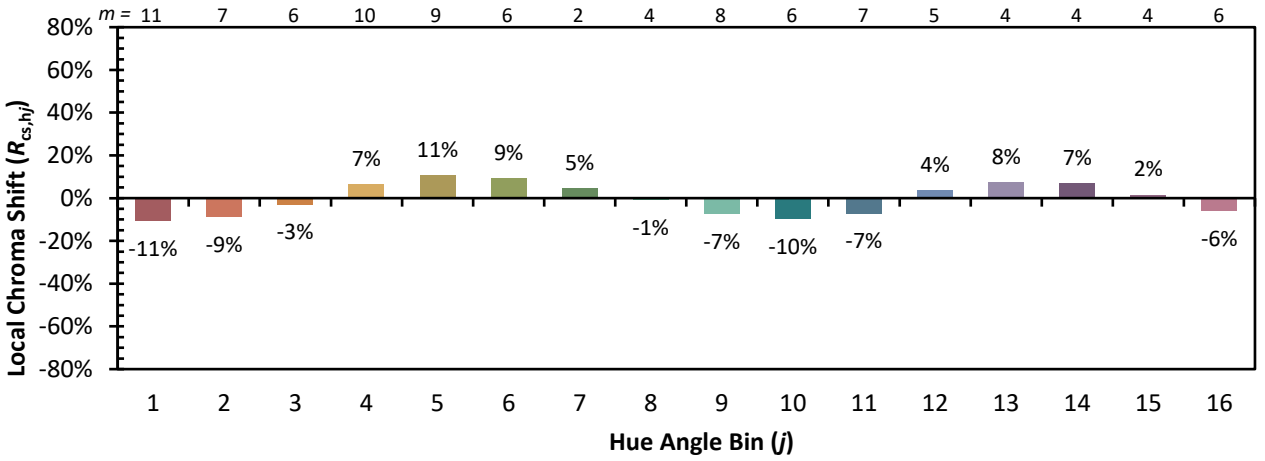
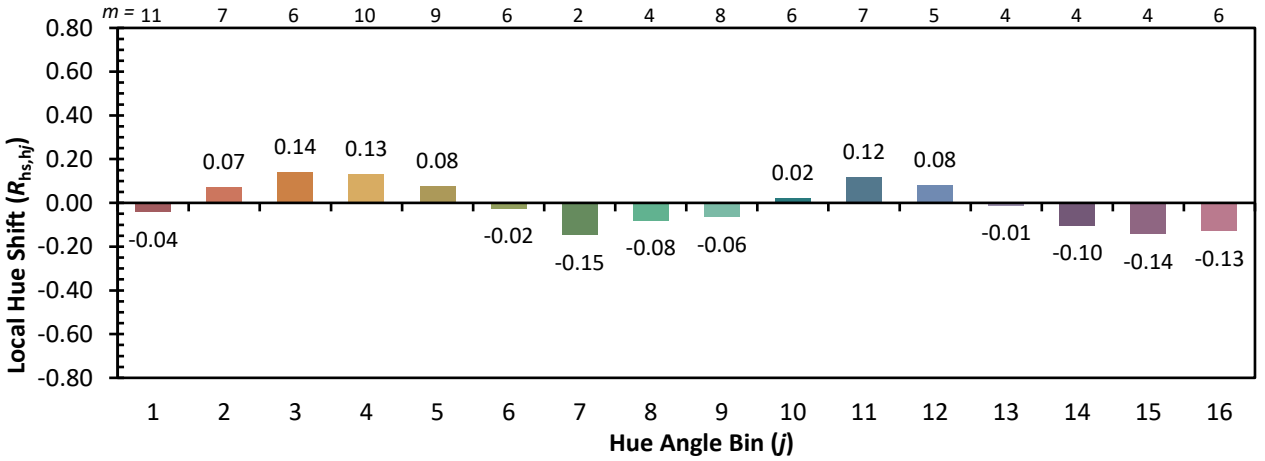
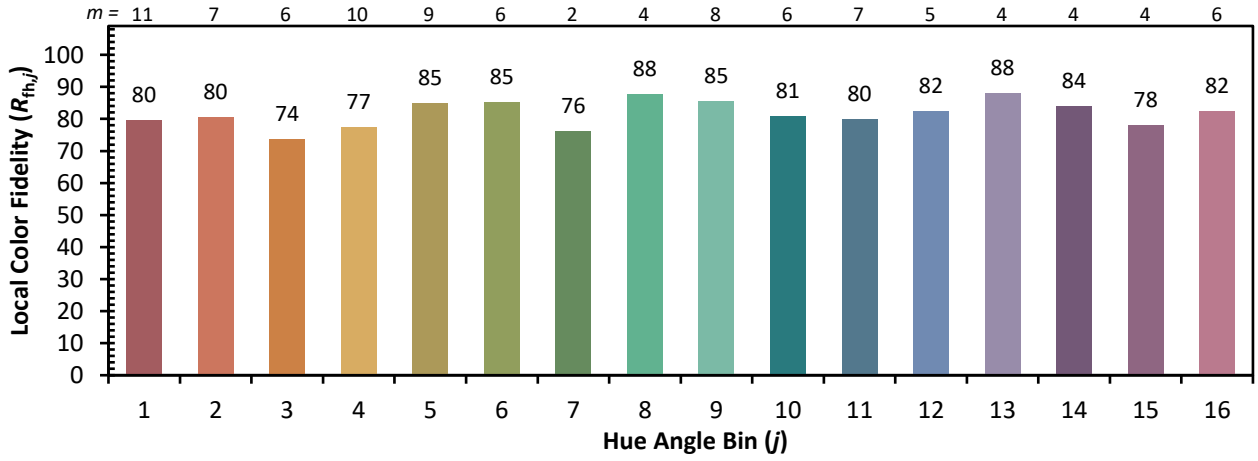
## Color Rendition by Hue-Angle Bin



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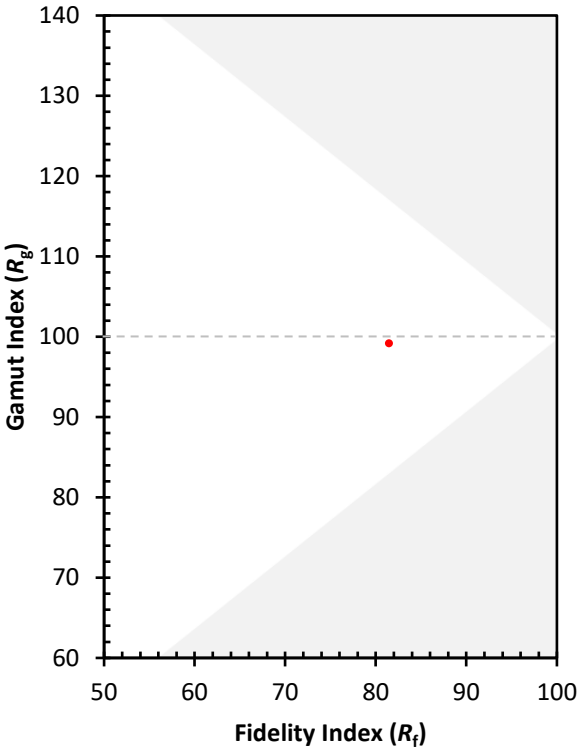
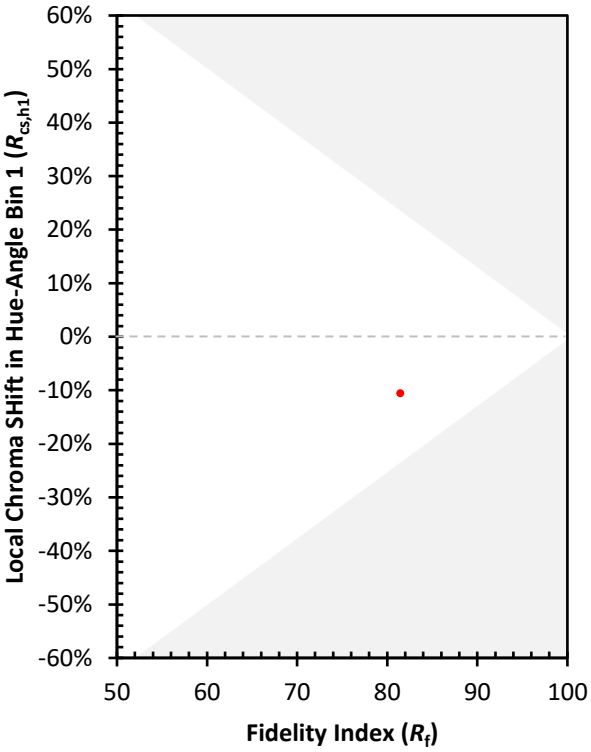
## Measure Comparisons




(END OF REPORT)