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: P1456070

Luminaire Tested: GLAN-SB7D-830-U-T2LG

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: | P1456070 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB7D-830-U-T2LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 7xLight Square PACKAGE 80CRI 3000K FIXTURE w/ TYPE II LOW GLARE |
| Light Source: | (182) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 62885.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 122.6 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B5 - U0 - G5 |

| | |
|---|---|
| Input Watts (W): | 512.8 |
| 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: P1456070
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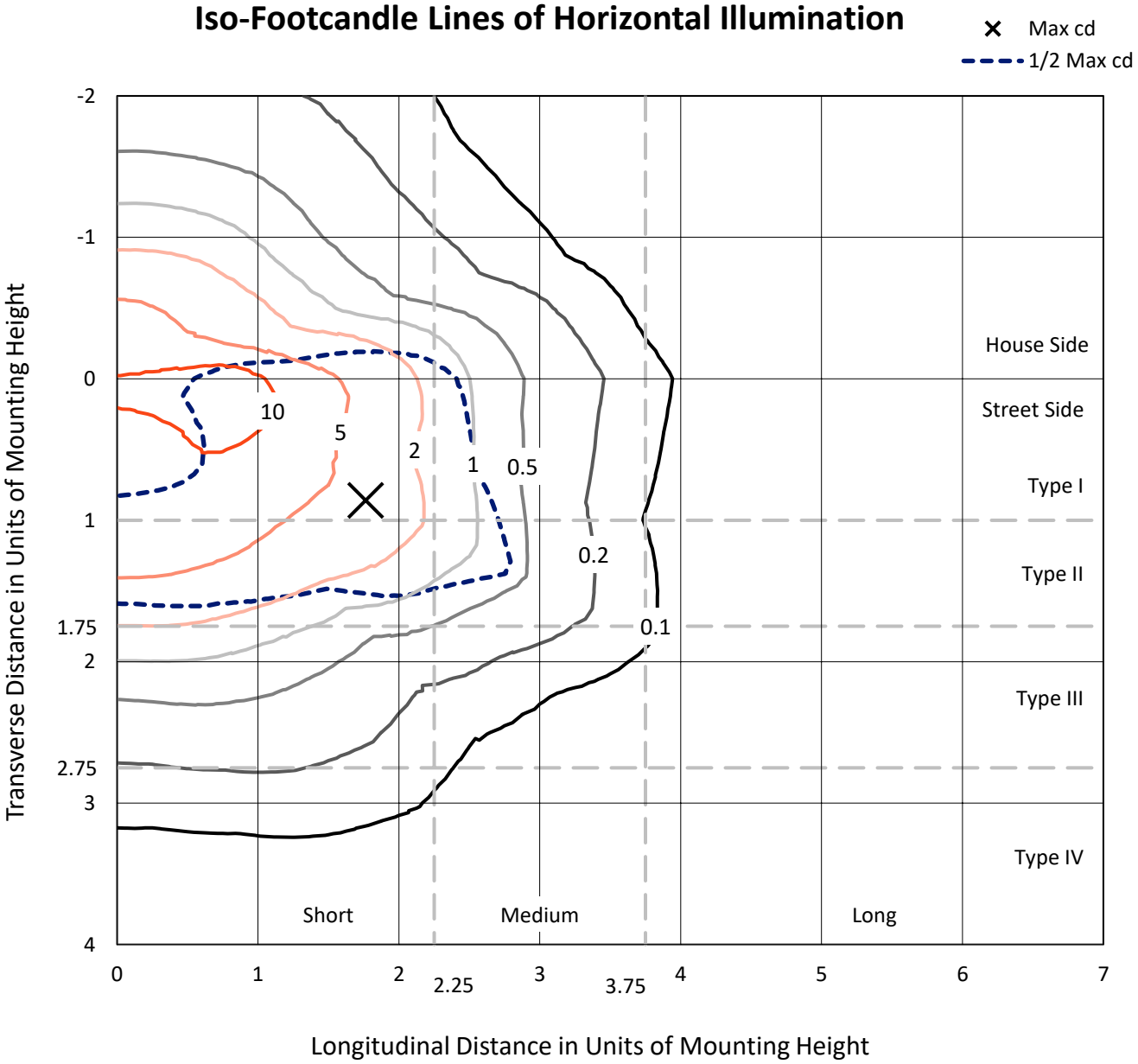
## Iso-Footcandle Lines of Horizontal Illumination




Based on 30 foot mounting height. Maximum calculated value = 16.4 fc
Type II - Short - N/A

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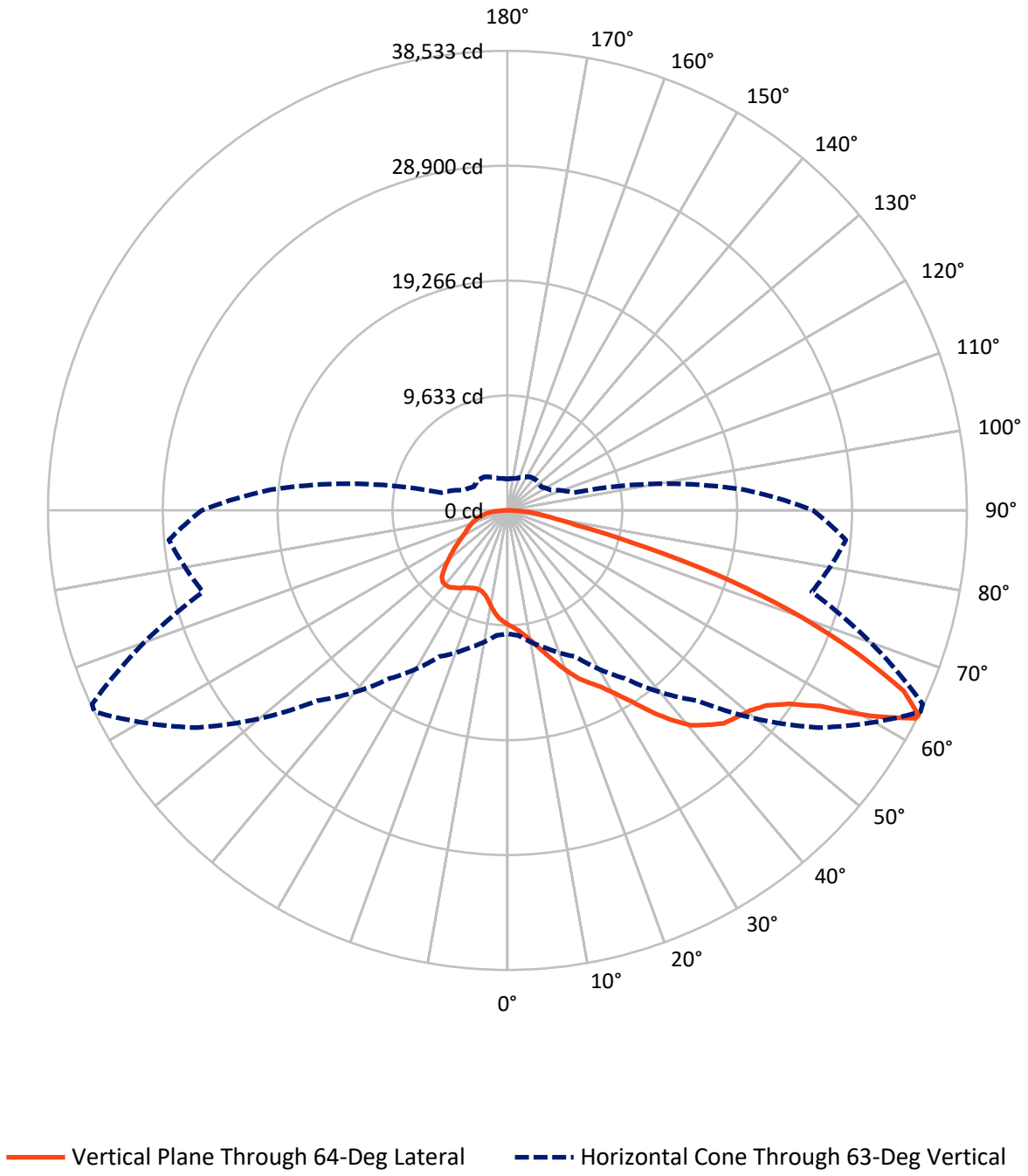
## Luminous Intensity Polar Plot



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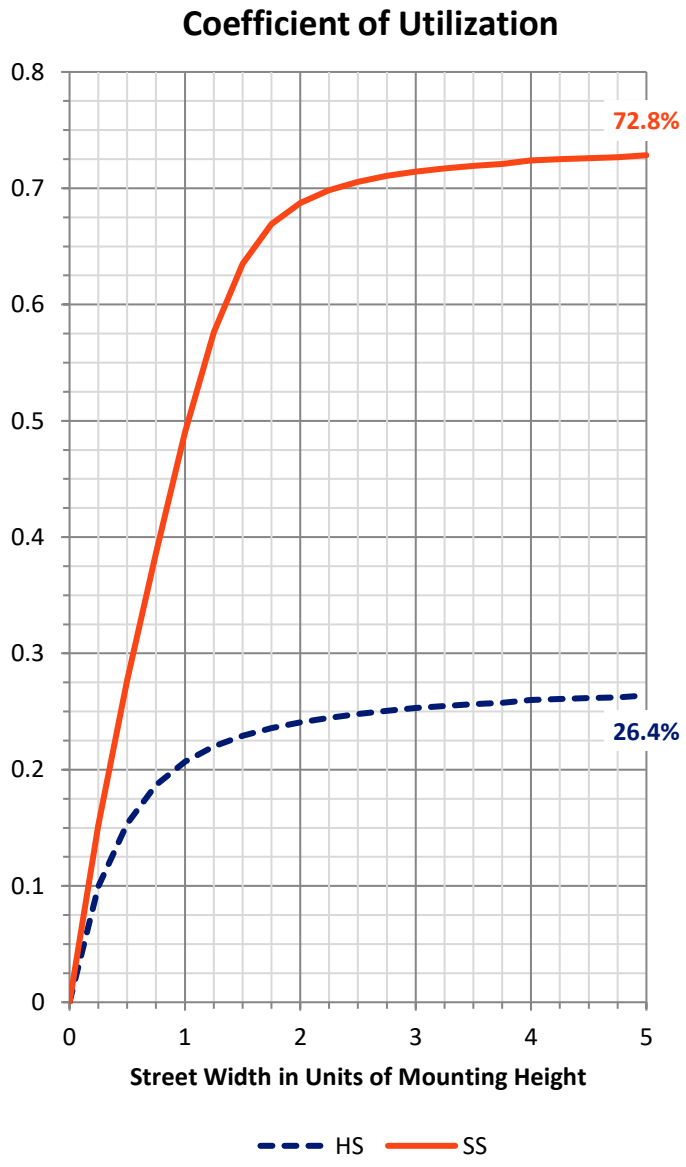
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 16895.5 | 0.0 | 16895.5 |
| | % Fixture | 26.9 | 0.0 | 26.9 |
| **Street Side** | Lumens | 45989.6 | 0.0 | 45989.6 |
| | % Fixture | 73.1 | 0.0 | 73.1 |
| **Total** | Lumens | 62885.1 | 0.0 | 62885.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 879.3 | 1.4 |
| 10°-20° | 2706.9 | 4.3 |
| 20°-30° | 4949.9 | 7.9 |
| 30°-40° | 8514.7 | 13.5 |
| 40°-50° | 12556.9 | 20.0 |
| 50°-60° | 15050.2 | 23.9 |
| 60°-70° | 12079.2 | 19.2 |
| 70°-80° | 4853.8 | 7.7 |
| 80°-90° | 1294.2 | 2.1 |
| 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° | 62885.1 | 100.0 |
| 0°-180° | 62885.1 | 100.0 |



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REPORT NUMBER: P1456070
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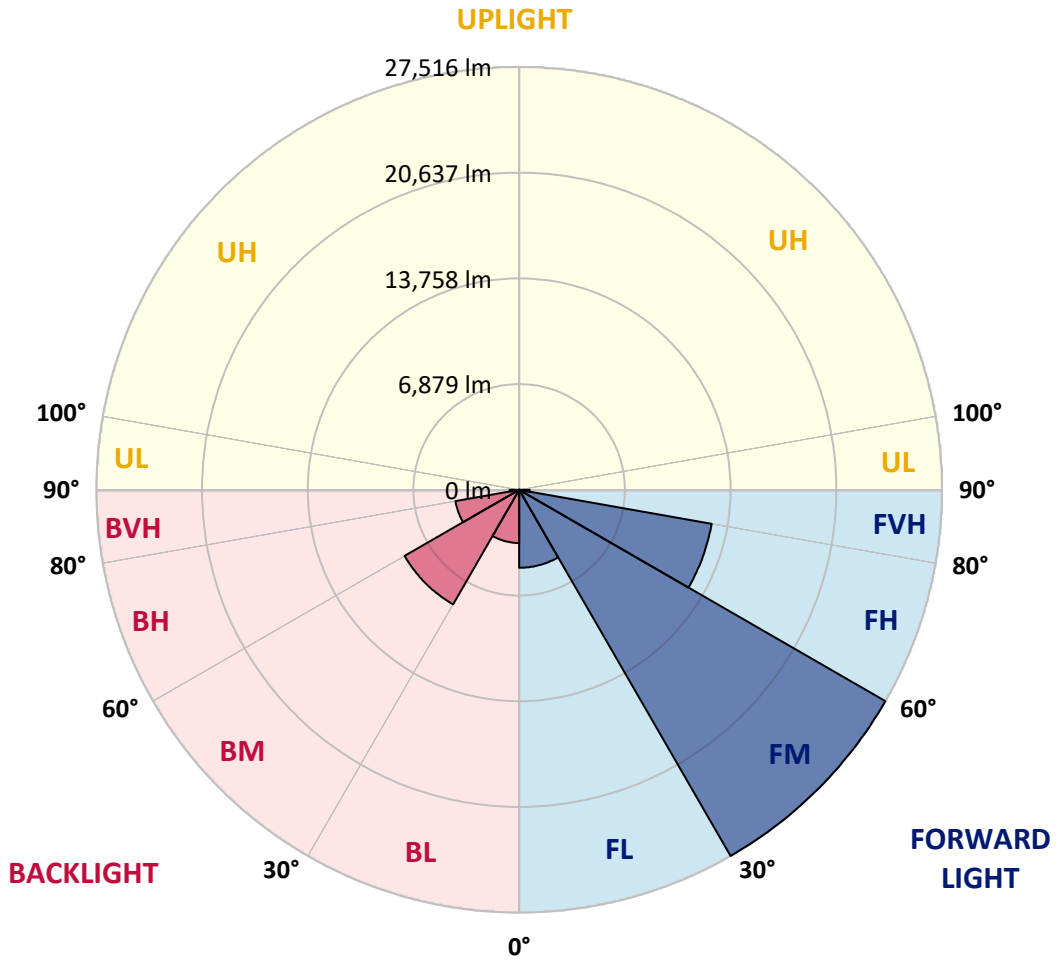
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 5073.6 | 8.1 | | | |
| FM | (30°-60°) | 27515.6 | 43.8 | | | |
| FH | (60°-80°) | 12720.5 | 20.2 | | | G5 |
| FVH | (80°-90°) | 680.0 | 1.1 | | | G4/750 |
| BL | (0°-30°) | 3462.5 | 5.5 | B4/5000 | | |
| BM | (30°-60°) | 8606.2 | 13.7 | B5 | | |
| BH | (60°-80°) | 4212.6 | 6.7 | B4/5000 | | G4/5000 |
| BVH | (80°-90°) | 614.2 | 1.0 | | | G4/750 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B5-U0-G5**
Type II Short



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REPORT NUMBER: P1456070
CATALOG NUMBER: GLAN-SB7D-830-U-T2LG

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | *9576.7* | 9576.7 | 9576.7 | 9576.7 |
| 2.5° | 9972.2 | 9986.3 | 9943.9 | 9929.8 | 9958.1 | 9901.6 | 9887.4 | *9830.9* | 9802.7 | 9746.2 | 9675.6 |
| 5° | 10254.7 | 10268.8 | 10240.6 | 10240.6 | 10268.8 | 10226.4 | 10212.3 | *10155.8* | 10127.6 | 10071.1 | 9929.8 |
| 7.5° | 10240.6 | 10254.7 | 10282.9 | 10395.9 | 10537.2 | 10593.7 | 10636.1 | *10593.7* | 10579.6 | 10494.8 | 10353.6 |
| 10° | 10014.6 | 10028.7 | 10099.3 | 10268.8 | 10621.9 | 10876.2 | 11144.5 | *11144.5* | 11172.8 | 11102.2 | 10847.9 |
| 12.5° | 9703.8 | 9717.9 | 9887.4 | 10155.8 | 10621.9 | 11059.8 | 11610.7 | *11836.7* | 11822.5 | 11780.2 | 11483.5 |
| 15° | 8955.2 | 8955.2 | 9209.4 | 9717.9 | 10466.6 | 11186.9 | 12006.2 | *12613.5* | 12627.7 | 12670.0 | 12316.9 |
| 17.5° | 8319.6 | 8333.7 | 8545.6 | 8997.6 | 9972.2 | 11116.3 | 12429.9 | *13475.2* | 13517.5 | 13757.7 | 13249.2 |
| 20° | 8376.1 | 8376.1 | 8446.7 | 8644.4 | 9435.4 | 10833.8 | 12670.0 | *14393.3* | 14534.5 | 15099.5 | 14463.9 |
| 22.5° | 8813.9 | 8813.9 | 8870.4 | 8856.3 | 9336.6 | 10650.2 | 12825.4 | *15311.4* | 15565.6 | 16738.0 | 15918.8 |
| 25° | 9619.1 | 9604.9 | 9548.4 | 9463.7 | 9746.2 | 10847.9 | 13178.5 | *16017.6* | 16512.0 | 18546.0 | 17599.6 |
| 27.5° | 10607.8 | 10579.6 | 10494.8 | 10353.6 | 10551.3 | 11441.2 | 13785.9 | *16766.3* | 17303.0 | 20523.5 | 19379.4 |
| 30° | 11836.7 | 11751.9 | 11667.2 | 11483.5 | 11695.4 | 12415.8 | 14689.9 | *17825.6* | 18334.1 | 22769.3 | 21526.4 |
| 32.5° | 13291.5 | 13390.4 | 13107.9 | 12853.7 | 13079.7 | 13743.5 | 16031.8 | *19082.7* | 19633.6 | 25114.1 | 23758.1 |
| 35° | 15466.8 | 15763.4 | 15678.6 | 14393.3 | 14605.2 | 15339.6 | 17599.6 | *20707.1* | 21201.5 | 27246.9 | 26046.3 |
| 37.5° | 17613.8 | 17543.1 | 17613.8 | 16540.3 | 16201.3 | 17091.1 | 19280.5 | *22260.8* | 22741.1 | 28984.3 | 28066.2 |
| 40° | 19337.0 | 19548.9 | 19548.9 | 18673.1 | 18235.3 | 18828.5 | 20806.0 | *23687.5* | 24153.6 | 29944.8 | 29521.0 |
| 42.5° | 21215.6 | 21243.9 | 21187.4 | 20424.6 | 20255.1 | 20410.5 | 22147.8 | *24591.5* | 24972.8 | 30439.2 | 30509.8 |
| 45° | 23334.3 | 23320.2 | 23080.1 | 22444.5 | 22190.2 | 22049.0 | 22981.2 | *25467.2* | 25848.6 | 30665.2 | 31046.5 |
| 47.5° | 25085.8 | 25156.5 | 25170.6 | 24492.6 | 24068.8 | 23461.5 | 23701.6 | *25905.1* | 26342.9 | 30410.9 | 31159.5 |
| 50° | 25184.7 | 25297.7 | 25834.4 | 26032.2 | 25947.4 | 24972.8 | 24365.5 | *26371.2* | 26809.1 | 30467.4 | 31569.2 |
| 52.5° | 24563.2 | 24676.2 | 25368.3 | 26187.6 | 27176.3 | 26710.2 | 25410.7 | *27176.3* | 27628.3 | 31018.3 | 32501.4 |
| 55° | 22896.5 | 23080.1 | 24111.2 | 25255.3 | 27020.9 | 27684.8 | 27261.1 | *28631.2* | 29054.9 | 31456.2 | 33589.0 |
| 57.5° | 19930.2 | 20156.2 | 21582.9 | 23405.0 | 25820.3 | 27458.8 | 29944.8 | *30961.8* | 31314.9 | 31766.9 | 33603.1 |
| 60° | 14901.8 | 15085.4 | 17317.1 | 19774.9 | 23405.0 | 26046.3 | 31540.9 | *34959.1* | 35156.9 | 30086.0 | 31696.3 |
| 62.5° | 10975.0 | 11158.7 | 12655.9 | 14421.5 | 18390.6 | 23447.3 | 31851.7 | *38419.7* | 38448.0 | 27049.2 | 29069.1 |
| 63° | *10339.4* | *10523.1* | *11879.0* | *13531.7* | *17204.1* | *22571.6* | *31752.8* | *38532.7* | *38433.9* | *26427.7* | *28489.9* |
| 65° | 8051.2 | 8376.1 | 9788.6 | 11045.7 | 12896.0 | 17966.9 | 30481.5 | *36527.0* | 36668.2 | 24591.5 | 25580.2 |
| 67.5° | 5480.5 | 5720.6 | 7514.4 | 8969.3 | 9746.2 | 11441.2 | 25001.1 | *31258.4* | 31484.4 | 22684.6 | 20410.5 |
| 70° | 4237.5 | 4350.5 | 5395.7 | 7104.8 | 7881.7 | 7274.3 | 16300.1 | *25170.6* | 25170.6 | 17712.6 | 14463.9 |
| 72.5° | 3319.4 | 3361.7 | 4068.0 | 5551.1 | 6342.1 | 5593.5 | 9082.3 | *18305.9* | 17627.9 | 10508.9 | 9647.3 |
| 75° | 2373.0 | 2429.5 | 3065.1 | 4138.6 | 5056.7 | 4407.0 | 5805.3 | *10664.3* | 10254.7 | 6045.5 | 6441.0 |
| 77.5° | 1878.6 | 1906.9 | 2288.2 | 3051.0 | 4096.2 | 3361.7 | 4421.1 | *5819.5* | 5763.0 | 4251.6 | 4138.6 |
| 80° | 1483.1 | 1539.6 | 1793.9 | 2189.4 | 3164.0 | 2627.2 | 3291.1 | *3842.0* | 3729.0 | 2923.9 | 2655.5 |
| 82.5° | 1059.4 | 1158.2 | 1384.2 | 1666.7 | 2344.7 | 1878.6 | 2161.1 | *2712.0* | 2712.0 | 2203.5 | 1751.5 |
| 85° | 649.7 | 734.5 | 819.2 | 1031.1 | 1666.7 | 1214.7 | 1144.1 | *1751.5* | 1793.9 | 1652.6 | 1130.0 |
| 87.5° | 310.7 | 339.0 | 395.5 | 437.9 | 607.4 | 550.9 | 452.0 | *663.9* | 678.0 | 734.5 | 466.1 |
| 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: P1456070
CATALOG NUMBER: GLAN-SB7D-830-U-T2LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 | 9576.7 |
| 2.5° | 9661.4 | 9633.2 | 9491.9 | 9350.7 | 9195.3 | 9054.1 | 8912.8 | 8799.8 | 8672.7 | 8700.9 | 8715.1 |
| 5° | 9845.1 | 9774.4 | 9463.7 | 9096.4 | 8616.2 | 8164.2 | 7726.3 | 7415.6 | 7217.8 | 7161.3 | 7048.3 |
| 7.5° | 10240.6 | 10071.1 | 9506.1 | 8729.2 | 7839.3 | 7133.1 | 6723.5 | 6539.8 | 6483.3 | 6497.5 | 6469.2 |
| 10° | 10692.6 | 10438.3 | 9562.6 | 8291.3 | 7161.3 | 6681.1 | 6624.6 | 6737.6 | 6794.1 | 6850.6 | 6864.7 |
| 12.5° | 11285.8 | 10876.2 | 9534.3 | 7811.1 | 6836.5 | 6751.7 | 6963.6 | 7175.5 | 7302.6 | 7387.3 | 7373.2 |
| 15° | 11977.9 | 11427.0 | 9449.6 | 7415.6 | 6794.1 | 7020.1 | 7288.5 | 7528.6 | 7683.9 | 7768.7 | 7726.3 |
| 17.5° | 12811.3 | 12076.8 | 9350.7 | 7161.3 | 6921.2 | 7189.6 | 7472.1 | 7712.2 | 7881.7 | 7938.2 | 7895.8 |
| 20° | 13842.4 | 12811.3 | 9181.2 | 7048.3 | 7020.1 | 7260.2 | 7514.4 | 7740.4 | 7881.7 | 7938.2 | 7881.7 |
| 22.5° | 15057.1 | 13687.0 | 9039.9 | 7048.3 | 7062.5 | 7260.2 | 7443.8 | 7613.3 | 7740.4 | 7782.8 | 7712.2 |
| 25° | 16610.9 | 14704.0 | 8983.4 | 7161.3 | 7076.6 | 7189.6 | 7288.5 | 7387.3 | 7457.9 | 7486.2 | 7457.9 |
| 27.5° | 18192.9 | 15876.4 | 9011.7 | 7302.6 | 7062.5 | 7090.7 | 7090.7 | 7104.8 | 7119.0 | 7133.1 | 7119.0 |
| 30° | 20015.0 | 17062.9 | 9124.7 | 7486.2 | 7090.7 | 6949.5 | 6907.1 | 6822.3 | 6751.7 | 6695.2 | 6638.7 |
| 32.5° | 21780.6 | 18192.9 | 9322.4 | 7754.6 | 7062.5 | 6794.1 | 6709.3 | 6497.5 | 6299.7 | 6130.2 | 6130.2 |
| 35° | 23687.5 | 19365.2 | 9675.6 | 7952.3 | 7034.2 | 6652.8 | 6412.7 | 6172.6 | 5960.7 | 5720.6 | 5720.6 |
| 37.5° | 25326.0 | 20368.1 | 9958.1 | 8178.3 | 7006.0 | 6483.3 | 6102.0 | 5833.6 | 5607.6 | 5367.5 | 5339.2 |
| 40° | 26470.1 | 20947.2 | 10127.6 | 8263.1 | 6907.1 | 6257.3 | 5805.3 | 5466.3 | 5141.5 | 4816.6 | 4802.5 |
| 42.5° | 27020.9 | 20919.0 | 10028.7 | 8234.8 | 6723.5 | 5974.8 | 5551.1 | 5099.1 | 4661.2 | 4364.6 | 4336.3 |
| 45° | 27317.6 | 20735.4 | 9647.3 | 7994.7 | 6426.8 | 5678.2 | 5226.2 | 4746.0 | 4308.1 | 4039.7 | 3983.2 |
| 47.5° | 27261.1 | 20283.4 | 9124.7 | 7401.4 | 6031.3 | 5353.3 | 4901.3 | 4407.0 | 4053.8 | 3898.5 | 3898.5 |
| 50° | 27416.4 | 19930.2 | 8531.4 | 6723.5 | 5494.6 | 4972.0 | 4604.7 | 4152.7 | 3940.8 | 3743.1 | 3672.5 |
| 52.5° | 28108.6 | 20226.9 | 8022.9 | 6087.8 | 4986.1 | 4604.7 | 4350.5 | 3969.1 | 3700.7 | 3573.6 | 3531.2 |
| 55° | 29026.7 | 20862.5 | 7542.7 | 5522.8 | 4491.7 | 4279.8 | 4152.7 | 3799.6 | 3488.9 | 3361.7 | 3291.1 |
| 57.5° | 29196.2 | 21300.4 | 7076.6 | 4972.0 | 4082.1 | 4025.6 | 3983.2 | 3503.0 | 3248.7 | 3149.9 | 3093.4 |
| 60° | 28023.8 | 20975.5 | 6469.2 | 4477.6 | 3757.2 | 3785.5 | 3672.5 | 3319.4 | 3022.7 | 2923.9 | 2867.4 |
| 62.5° | 26032.2 | 20128.0 | 5861.8 | 4053.8 | 3503.0 | 3559.5 | 3446.5 | 3093.4 | 2796.7 | 2697.9 | 2669.6 |
| 63° | *25636.7* | *19902.0* | *5720.6* | *4011.5* | *3446.5* | *3517.1* | *3418.2* | *3065.1* | *2768.5* | *2669.6* | *2627.2* |
| 65° | 23277.8 | 18546.0 | 5226.2 | 3785.5 | 3262.9 | 3262.9 | 3277.0 | 2923.9 | 2669.6 | 2627.2 | 2599.0 |
| 67.5° | 18983.9 | 15480.9 | 4689.5 | 3517.1 | 3065.1 | 3107.5 | 3178.1 | 2980.4 | 2881.5 | 2853.2 | 2825.0 |
| 70° | 14350.9 | 11653.0 | 4223.3 | 3262.9 | 2853.2 | 2994.5 | 3474.7 | 3390.0 | 3022.7 | 2768.5 | 2712.0 |
| 72.5° | 10169.9 | 7938.2 | 3813.7 | 3008.6 | 2599.0 | 2952.1 | 3601.9 | 3234.6 | 2726.1 | 2429.5 | 2373.0 |
| 75° | 6808.2 | 5113.2 | 3404.1 | 2740.2 | 2316.5 | 2726.1 | 3404.1 | 2952.1 | 2373.0 | 2302.4 | 2217.6 |
| 77.5° | 4279.8 | 3644.2 | 2994.5 | 2429.5 | 2005.7 | 2429.5 | 3093.4 | 2627.2 | 2048.1 | 2076.4 | 1949.2 |
| 80° | 2613.1 | 2599.0 | 2514.2 | 2062.2 | 1610.2 | 1935.1 | 2599.0 | 2217.6 | 1638.5 | 1638.5 | 1454.9 |
| 82.5° | 1553.7 | 1878.6 | 2132.9 | 1709.1 | 1172.4 | 1384.2 | 1878.6 | 1666.7 | 1370.1 | 1327.7 | 1243.0 |
| 85° | 1045.2 | 1271.2 | 1695.0 | 1313.6 | 748.6 | 847.5 | 1299.5 | 1398.4 | 1257.1 | 1101.7 | 1031.1 |
| 87.5° | 381.4 | 508.5 | 776.9 | 536.7 | 324.9 | 508.5 | 974.6 | 1017.0 | 762.7 | 593.2 | 536.7 |
| 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

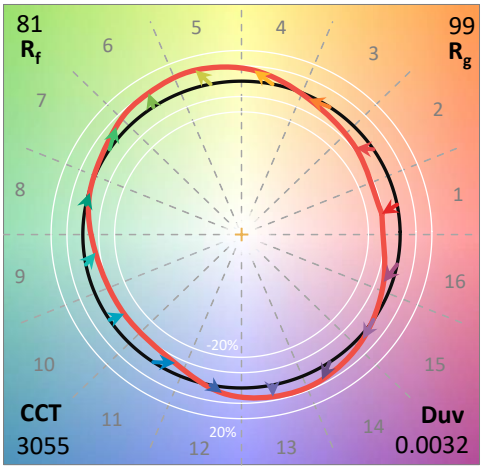
## Test Information

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

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| 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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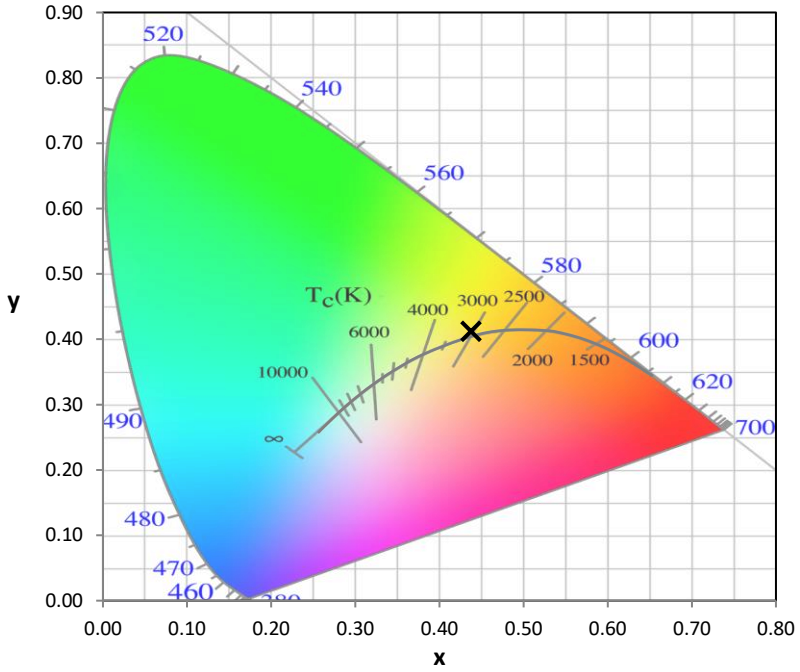
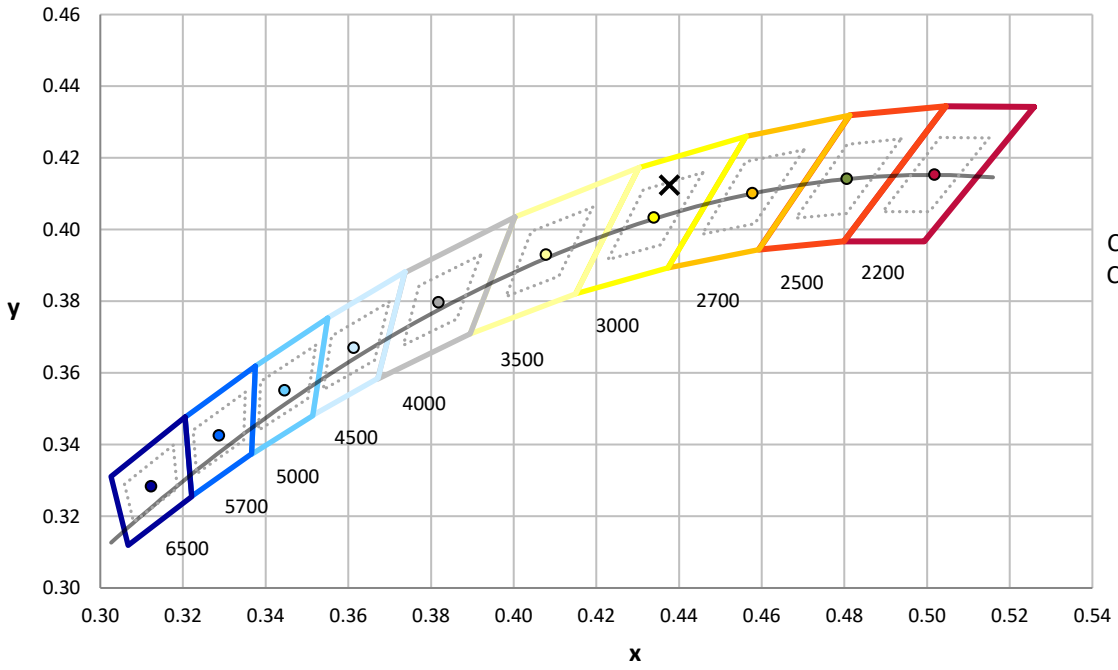
## CIE 1931 Chromaticity Diagram




## 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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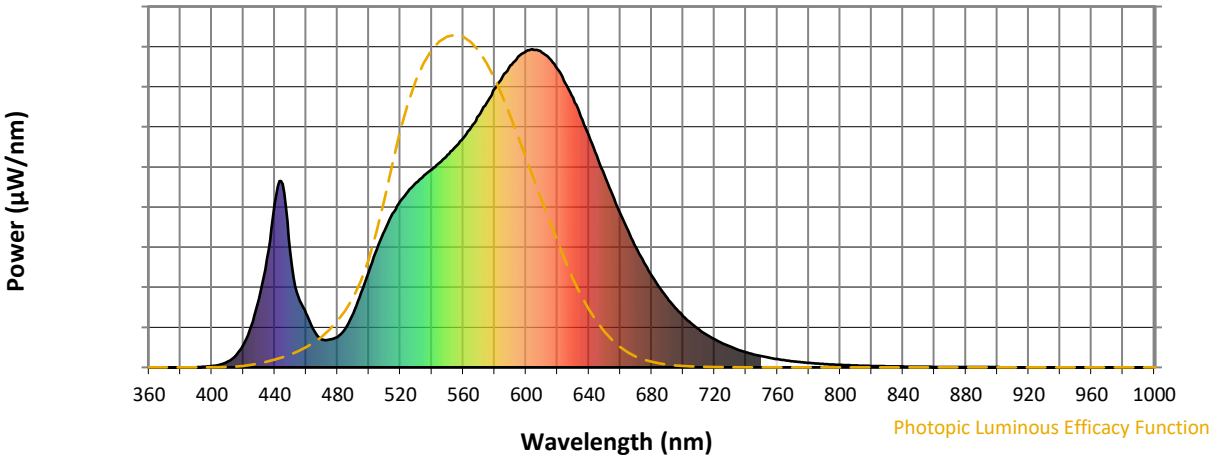
## Photopic Flux vs. Wavelength




## 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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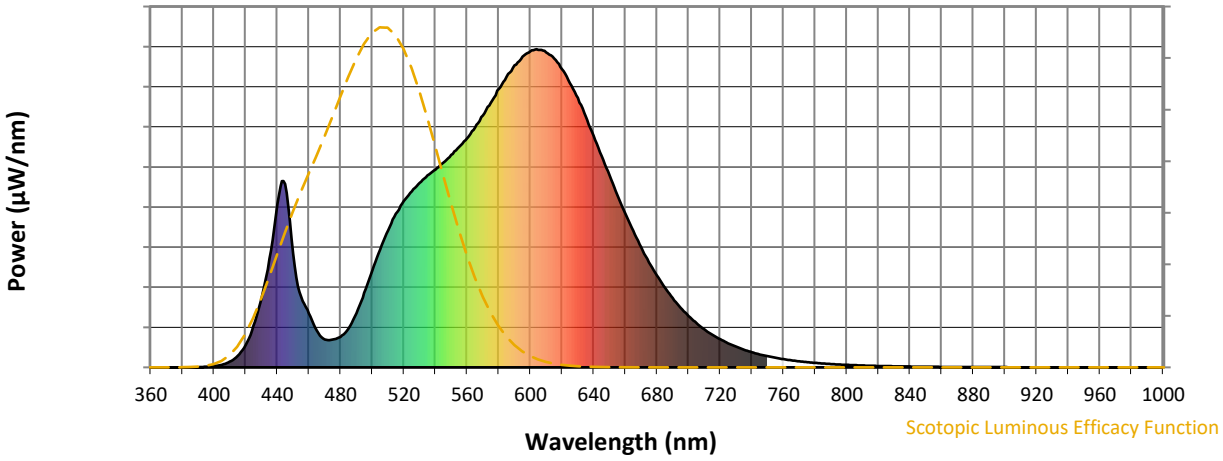
## Scotopic Flux vs. Wavelength




**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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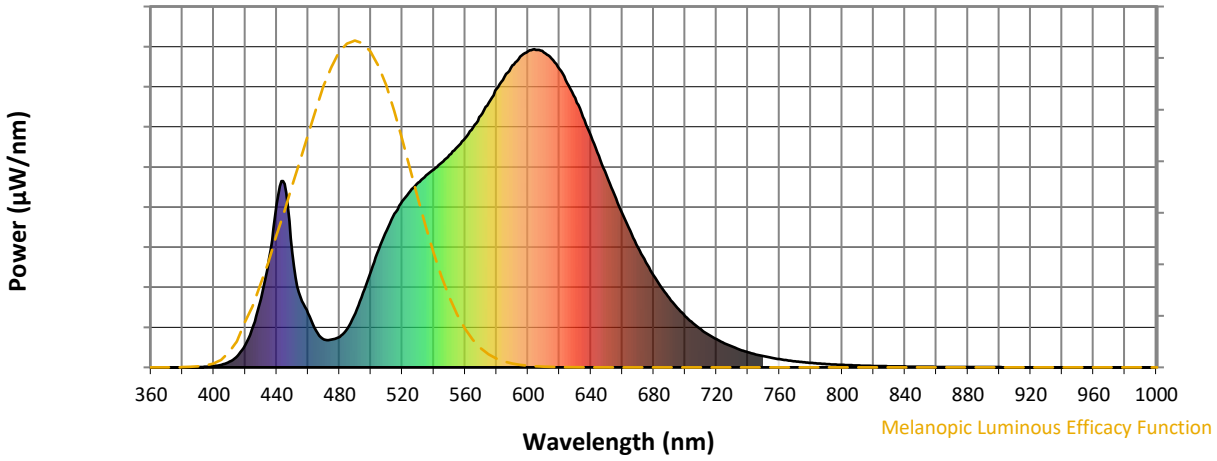
## Melanopic Flux vs. Wavelength




**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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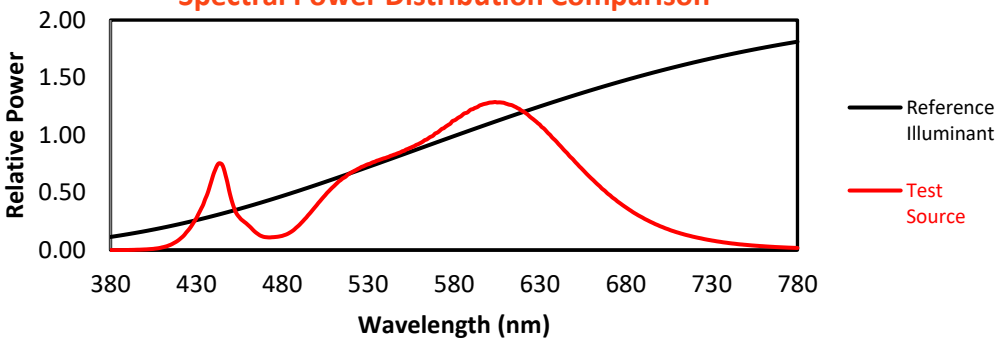
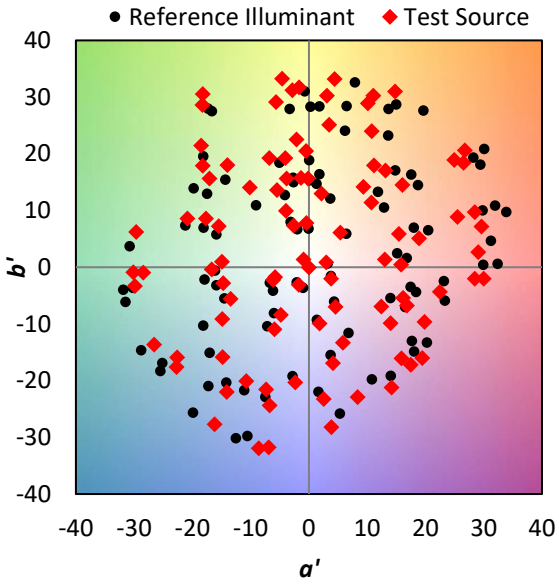
## Summary

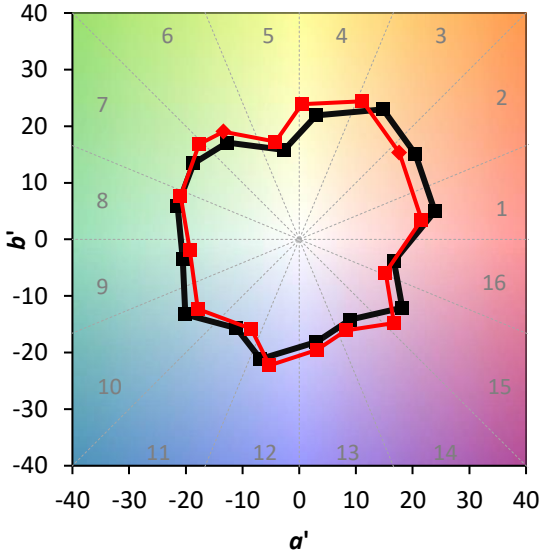
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 80.9
$R_9$ = 6.8

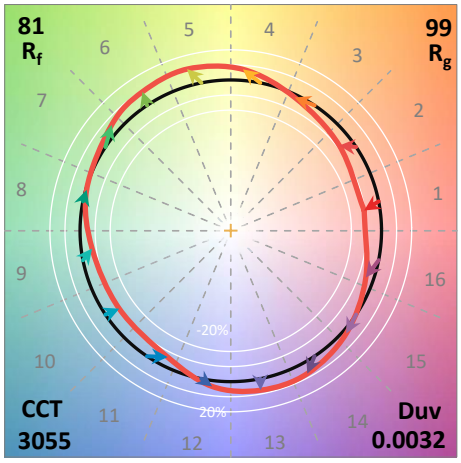
## Spectral Power Distribution Comparison

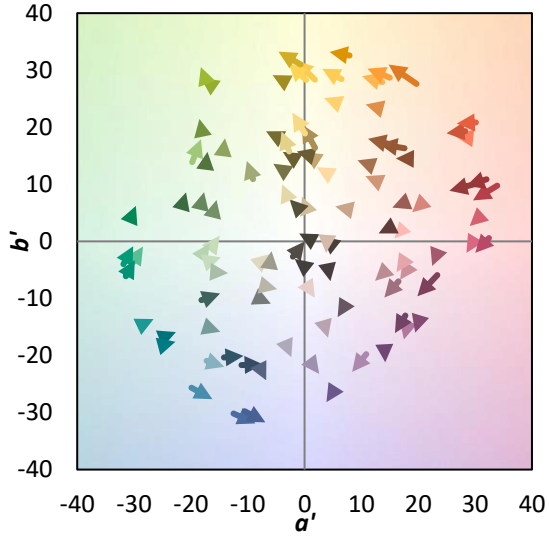



## Color Vector Graphics



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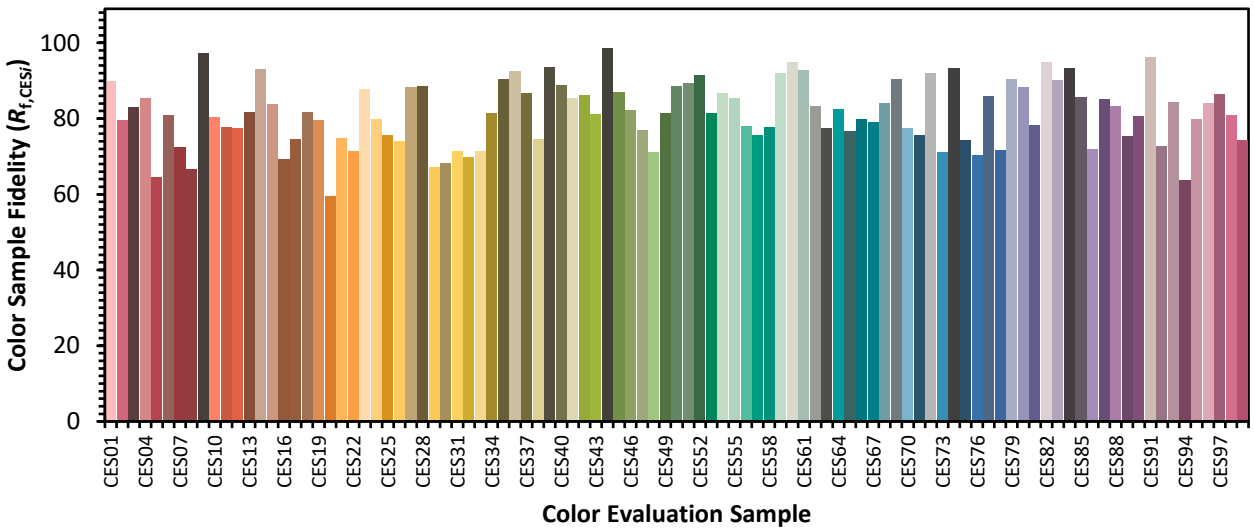
## Individual Sample Fidelity Index ($R_{f,i}$)

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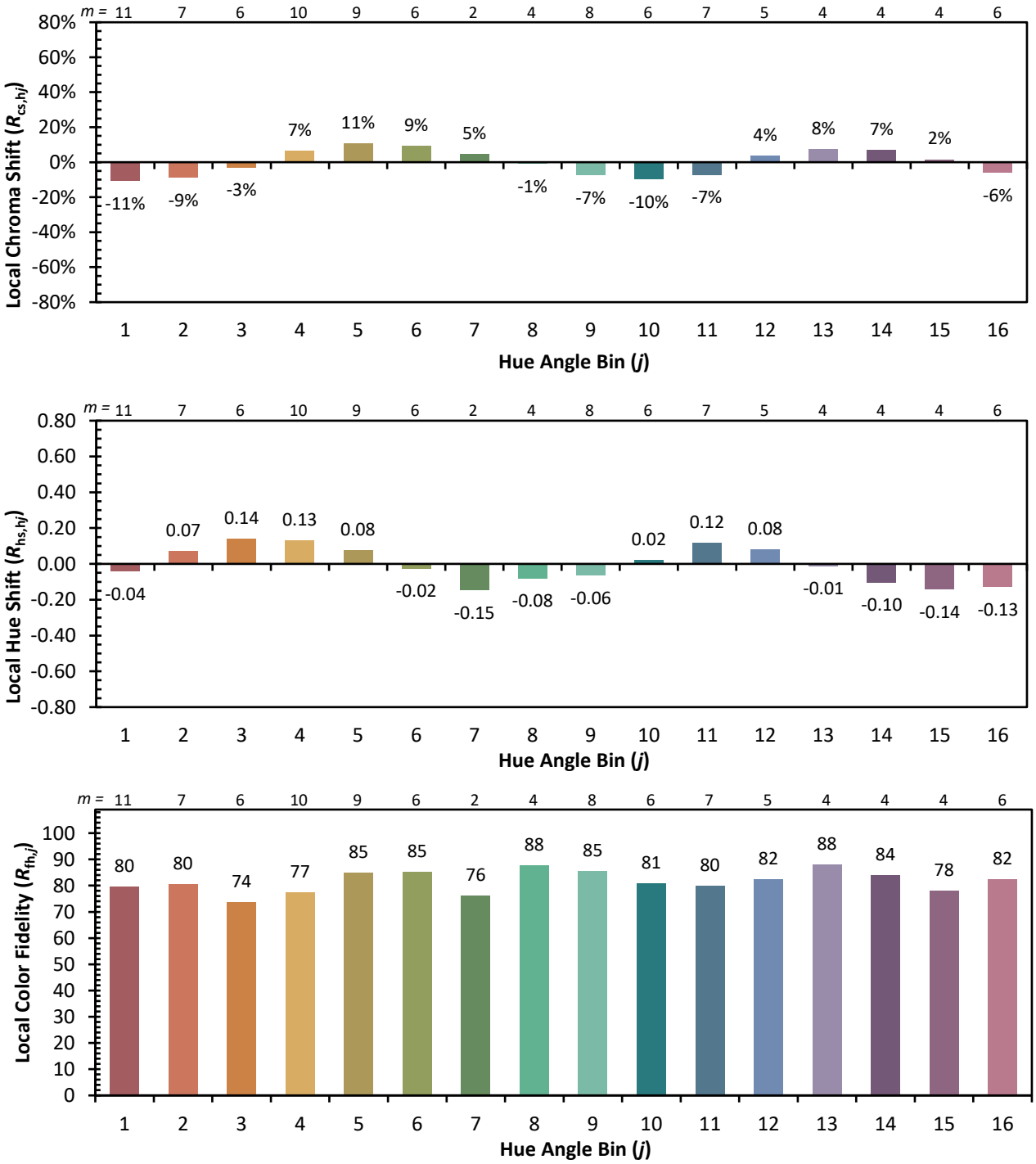
## Color Rendition by Hue-Angle Bin



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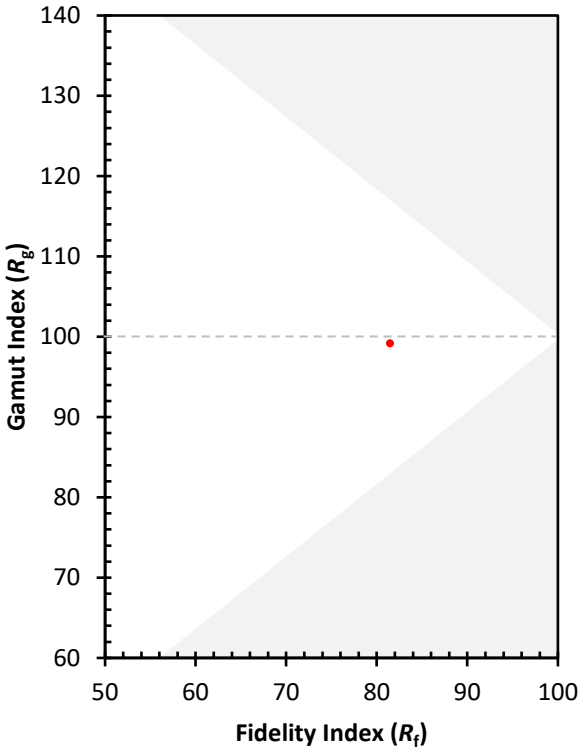
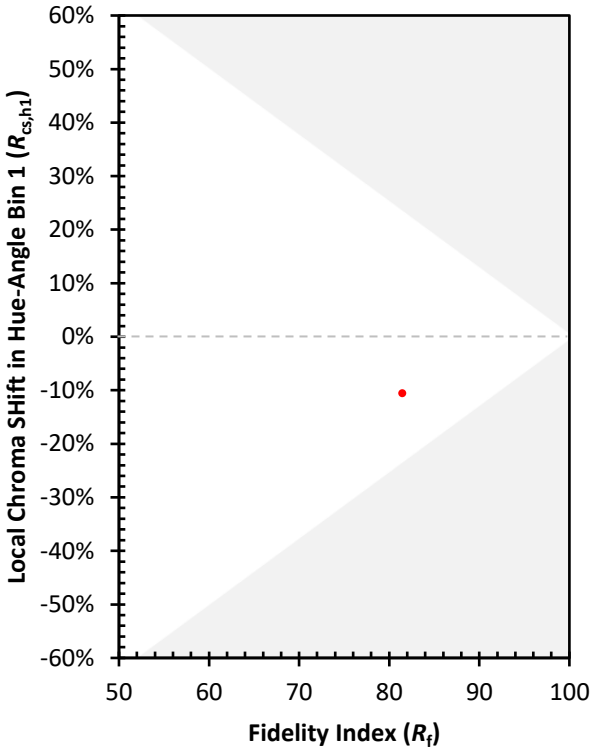
## Measure Comparisons




(END OF REPORT)