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: P1457398

Luminaire Tested: GLAN-SB6D-930-U-T4LG

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: | P1457398 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB6D-930-U-T4LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 6xLight Square PACKAGE 90CRI 3000K FIXTURE w/ TYPE IV LOW GLARE |
| Light Source: | (156) 3000K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 42041.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 95.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B4 - U0 - G4 |

| | |
|---|---|
| Input Watts (W): | 440.1 |
| 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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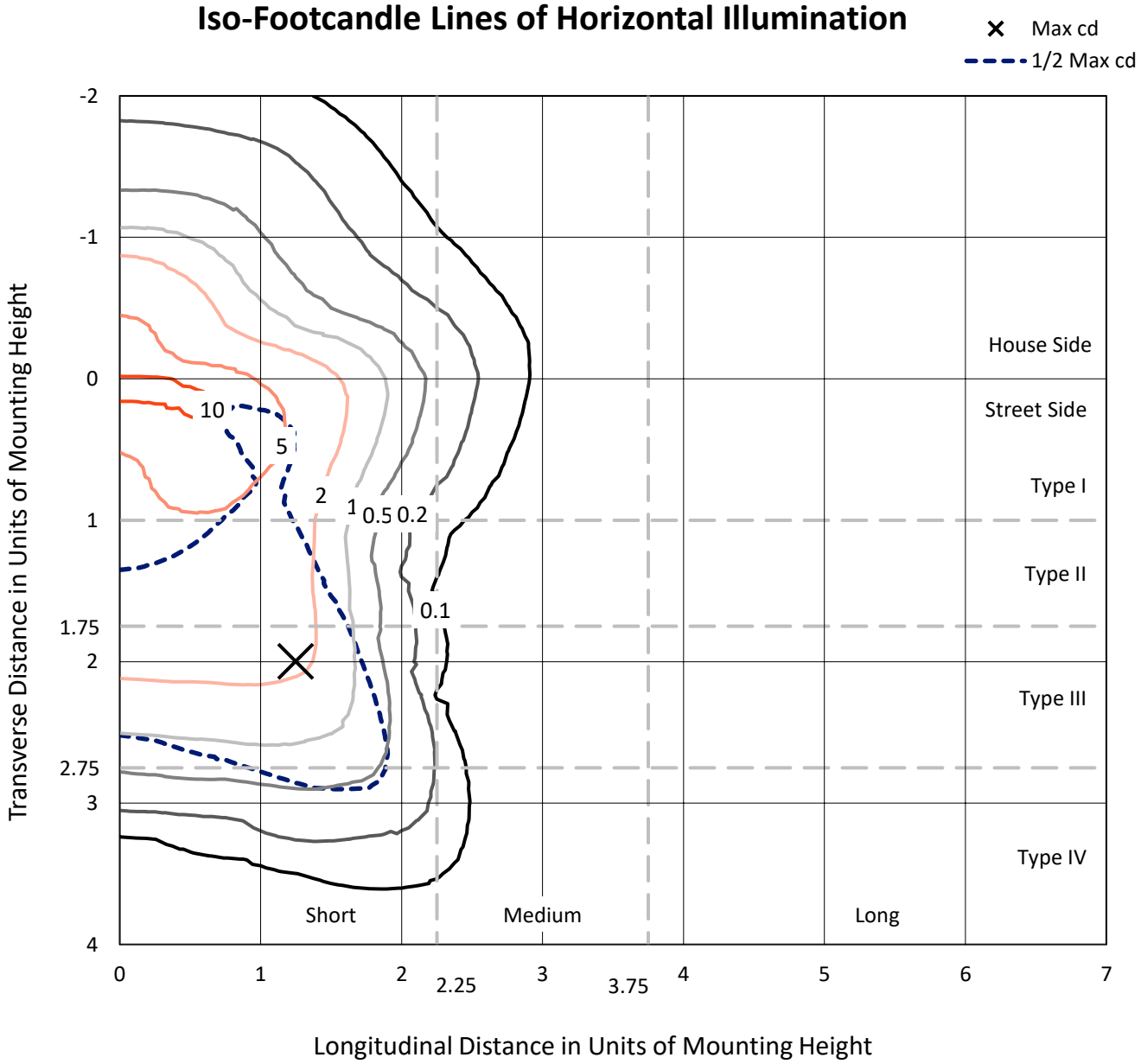
Scaled Data Report

REPORT NUMBER: P1457398
CATALOG NUMBER: GLAN-SB6D-930-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination




Based on 30 foot mounting height. Maximum calculated value = 11.5 fc
Type IV - Short - N/A

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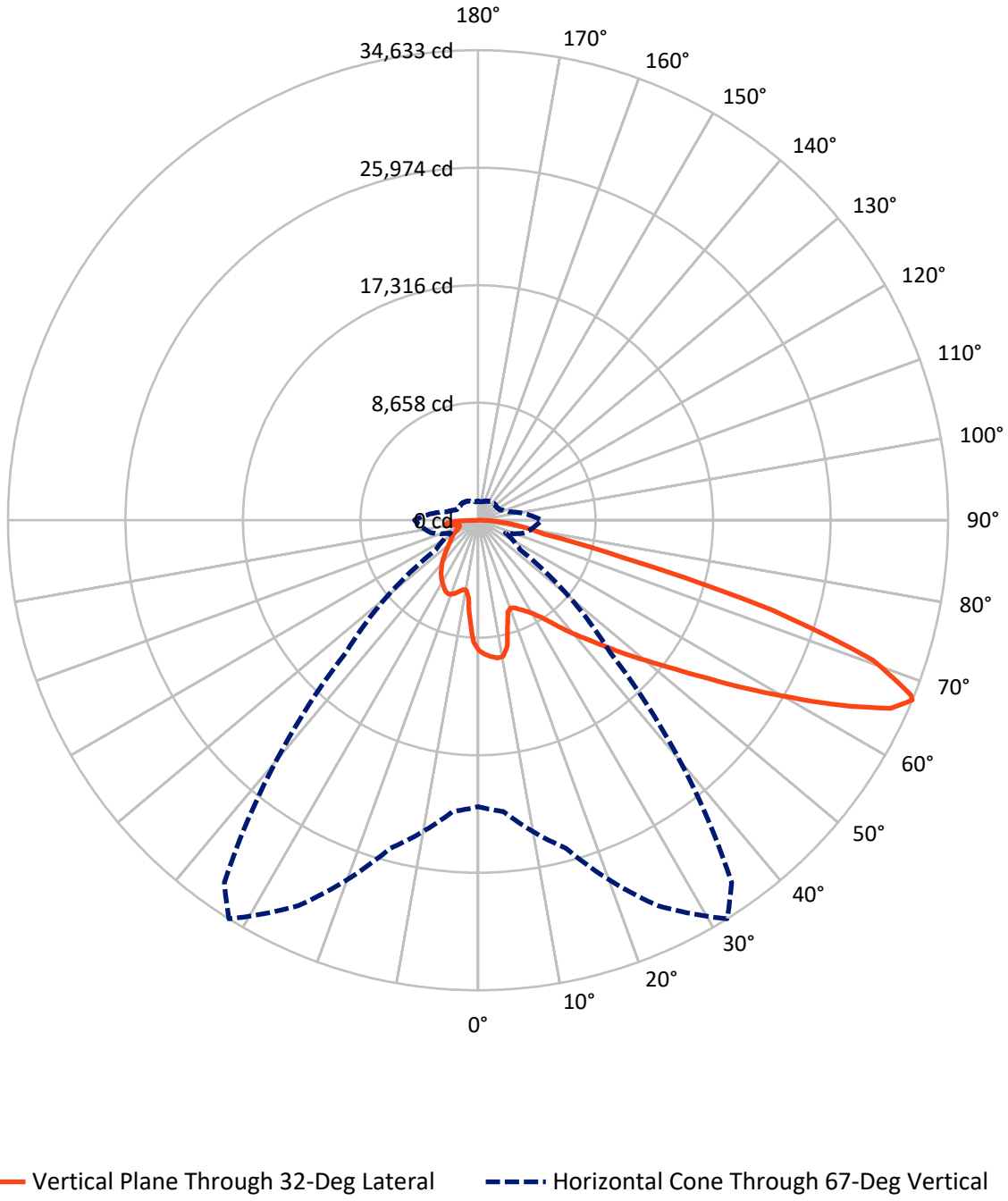
## Luminous Intensity Polar Plot



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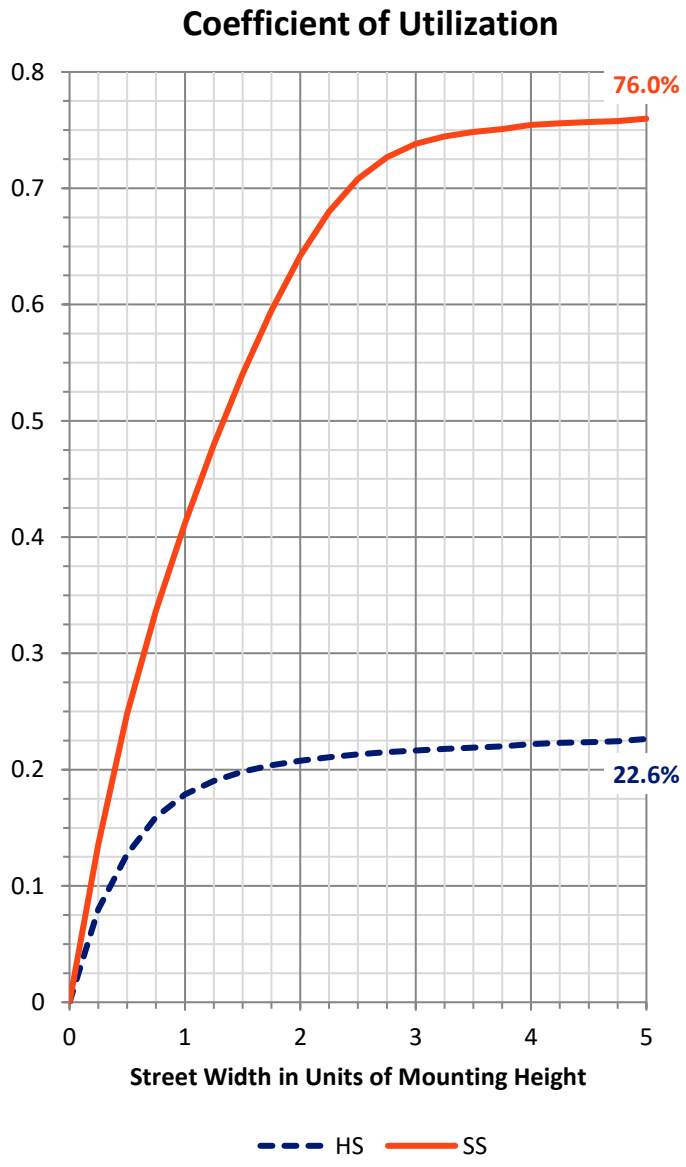
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 9953.2 | 0.0 | 9953.2 |
| | % Fixture | 23.7 | 0.0 | 23.7 |
| **Street Side** | Lumens | 32088.3 | 0.0 | 32088.3 |
| | % Fixture | 76.3 | 0.0 | 76.3 |
| **Total** | Lumens | 42041.5 | 0.0 | 42041.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 839.3 | 2.0 |
| 10°-20° | 2228.4 | 5.3 |
| 20°-30° | 3639.1 | 8.7 |
| 30°-40° | 5363.7 | 12.8 |
| 40°-50° | 7396.8 | 17.6 |
| 50°-60° | 9344.4 | 22.2 |
| 60°-70° | 9043.7 | 21.5 |
| 70°-80° | 3227.6 | 7.7 |
| 80°-90° | 958.5 | 2.3 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 42041.5 | 100.0 |
| 0°-180° | 42041.5 | 100.0 |



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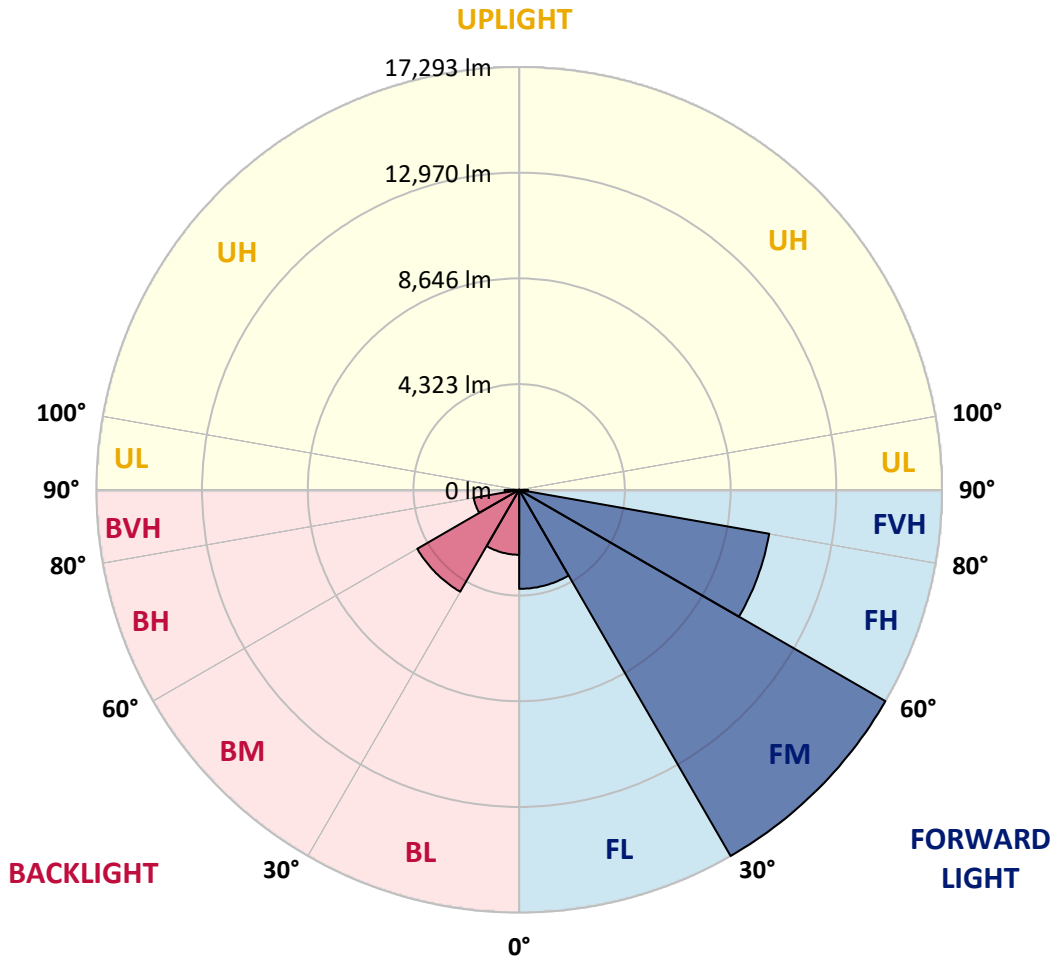
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 4050.8 | 9.6 | | | |
| FM | (30°-60°) | 17293.0 | 41.1 | | | |
| FH | (60°-80°) | 10383.4 | 24.7 | | | G4/12000 |
| FVH | (80°-90°) | 361.2 | 0.9 | | | G3/500 |
| BL | (0°-30°) | 2656.0 | 6.3 | B4/5000 | | |
| BM | (30°-60°) | 4811.9 | 11.4 | B3/5000 | | |
| BH | (60°-80°) | 1888.0 | 4.5 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 597.3 | 1.4 | | | G4/750 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B4-U0-G4**
Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 |
| 2.5° | 9969.7 | 9941.7 | 9913.7 | 9932.4 | 9895.0 | 9885.7 | 9839.0 | 9820.3 | 9764.3 | 9755.0 | 9652.3 |
| 5° | 10175.1 | 10119.1 | 10109.7 | 10128.4 | 10091.1 | 10091.1 | 10053.7 | 10025.7 | 9941.7 | 9895.0 | 9745.7 |
| 7.5° | 10175.1 | 10165.7 | 10184.4 | 10249.7 | 10259.1 | 10259.1 | 10259.1 | 10268.4 | 10184.4 | 10119.1 | 9885.7 |
| 10° | 9596.3 | 9503.0 | 9708.3 | 10035.0 | 10193.7 | 10287.1 | 10455.1 | 10557.8 | 10492.5 | 10445.8 | 10128.4 |
| 12.5° | 7869.3 | 7878.7 | 8205.4 | 8905.5 | 9540.3 | 9811.0 | 10511.1 | 10884.5 | 10912.5 | 10837.8 | 10436.4 |
| 15° | 6674.5 | 6721.1 | 6889.2 | 7393.3 | 8121.4 | 8522.8 | 10184.4 | 11173.9 | 11397.9 | 11323.3 | 10809.8 |
| 17.5° | 6310.4 | 6338.4 | 6413.1 | 6702.5 | 7113.2 | 7439.9 | 9297.6 | 11360.6 | 11986.0 | 11892.7 | 11229.9 |
| 20° | 6254.4 | 6273.1 | 6366.4 | 6609.1 | 6889.2 | 7075.9 | 8392.1 | 11211.2 | 12536.8 | 12499.5 | 11612.6 |
| 22.5° | 6263.7 | 6282.4 | 6403.8 | 6739.8 | 7029.2 | 7187.9 | 8102.7 | 10865.8 | 13115.6 | 13152.9 | 12004.7 |
| 25° | 6282.4 | 6291.7 | 6478.4 | 6926.5 | 7290.6 | 7486.6 | 8289.4 | 10557.8 | 13601.0 | 13918.4 | 12434.1 |
| 27.5° | 6385.1 | 6413.1 | 6665.1 | 7169.2 | 7598.6 | 7822.7 | 8728.2 | 10660.5 | 14133.1 | 14786.5 | 12947.5 |
| 30° | 6665.1 | 6683.8 | 6991.9 | 7514.6 | 7981.4 | 8214.7 | 9250.9 | 11071.2 | 14786.5 | 15682.7 | 13451.6 |
| 32.5° | 7103.9 | 7122.5 | 7477.3 | 8018.7 | 8522.8 | 8802.8 | 9932.4 | 11855.4 | 15514.6 | 16625.5 | 13955.7 |
| 35° | 7710.6 | 7720.0 | 8121.4 | 8700.1 | 9232.2 | 9549.6 | 10725.8 | 12742.2 | 16270.8 | 17428.3 | 14329.1 |
| 37.5° | 8429.4 | 8494.8 | 8905.5 | 9512.3 | 10137.7 | 10427.1 | 11659.3 | 13778.3 | 16942.9 | 18109.7 | 14543.8 |
| 40° | 9418.9 | 9437.6 | 9839.0 | 10427.1 | 11089.9 | 11369.9 | 12592.8 | 14758.5 | 17680.3 | 18511.2 | 14739.8 |
| 42.5° | 10436.4 | 10595.1 | 10931.2 | 11584.6 | 12079.4 | 12303.4 | 13657.0 | 15654.7 | 18268.4 | 18529.8 | 14655.8 |
| 45° | 11799.3 | 11920.7 | 12256.8 | 12835.5 | 13330.3 | 13591.6 | 14805.2 | 16476.1 | 18567.2 | 18371.1 | 14469.1 |
| 47.5° | 13358.3 | 13433.0 | 13703.7 | 14226.4 | 14777.2 | 14963.9 | 16000.1 | 16942.9 | 18679.2 | 18259.1 | 14385.1 |
| 50° | 15197.3 | 15197.3 | 15393.3 | 15841.4 | 16345.4 | 16606.8 | 17101.6 | 17222.9 | 19005.9 | 18063.1 | 14599.8 |
| 52.5° | 16746.9 | 16821.5 | 17082.9 | 17717.7 | 18221.8 | 18520.5 | 17960.4 | 17652.3 | 18343.1 | 16970.9 | 14665.2 |
| 55° | 18231.1 | 18315.1 | 18903.2 | 19696.7 | 20555.5 | 20882.2 | 19033.9 | 17437.6 | 16112.1 | 15374.6 | 14217.1 |
| 57.5° | 19650.0 | 19827.4 | 20564.8 | 22114.4 | 23412.0 | 23384.0 | 20396.8 | 15514.6 | 13152.9 | 13610.3 | 13236.9 |
| 60° | 21629.0 | 21815.7 | 22991.9 | 24942.9 | 26529.8 | 25867.1 | 20415.5 | 12910.2 | 10249.7 | 10865.8 | 11397.9 |
| 62.5° | 23281.3 | 23598.7 | 25325.6 | 28574.2 | 30030.4 | 28994.3 | 18725.9 | 9885.7 | 6805.2 | 7580.0 | 8812.2 |
| 65° | 23131.9 | 23552.0 | 26231.1 | 31244.0 | 33419.0 | 32457.5 | 16252.1 | 6254.4 | 3509.9 | 5180.9 | 6170.4 |
| 67° | 21096.9 | 21554.3 | 25026.9 | 31337.3 | 34632.6 | 32578.9 | 13722.3 | 3780.6 | 2231.0 | 3593.9 | 4284.7 |
| 67.5° | 19930.1 | 20602.2 | 24429.5 | 31160.0 | 34408.5 | 32065.5 | 12583.5 | 3164.5 | 2100.4 | 3341.9 | 3902.0 |
| 70° | 12256.8 | 13339.6 | 18333.8 | 27547.4 | 30842.6 | 26837.9 | 6991.9 | 1792.3 | 1708.3 | 2240.4 | 2697.8 |
| 72.5° | 3687.3 | 4014.0 | 7075.9 | 17671.0 | 22637.2 | 19892.7 | 3145.9 | 1381.6 | 1530.9 | 1801.6 | 2081.7 |
| 75° | 1792.3 | 1913.7 | 2921.8 | 7225.2 | 11024.5 | 10968.5 | 1755.0 | 1185.5 | 1418.9 | 1512.3 | 1642.9 |
| 77.5° | 1148.2 | 1222.9 | 1820.3 | 4042.0 | 5050.2 | 4499.4 | 1269.5 | 1036.2 | 1260.2 | 1241.5 | 1222.9 |
| 80° | 718.8 | 756.1 | 1166.9 | 2343.1 | 3724.6 | 3108.5 | 933.5 | 849.5 | 1082.9 | 961.5 | 868.1 |
| 82.5° | 466.7 | 513.4 | 746.8 | 1428.2 | 2660.5 | 2315.1 | 616.1 | 606.8 | 896.2 | 765.5 | 672.1 |
| 85° | 308.1 | 345.4 | 476.1 | 840.1 | 1577.6 | 1652.3 | 401.4 | 420.1 | 690.8 | 578.8 | 513.4 |
| 87.5° | 112.0 | 140.0 | 242.7 | 373.4 | 737.5 | 914.8 | 168.0 | 158.7 | 336.1 | 270.7 | 214.7 |
| 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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Scaled Data Report

REPORT NUMBER: P1457398
CATALOG NUMBER: GLAN-SB6D-930-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 | 9605.6 |
| 2.5° | 9633.6 | 9605.6 | 9474.9 | 9362.9 | 9278.9 | 9166.9 | 9045.5 | 8905.5 | 8812.2 | 8830.8 | 8802.8 |
| 5° | 9680.3 | 9605.6 | 9353.6 | 8970.9 | 8597.5 | 8130.7 | 7533.3 | 7178.6 | 6907.8 | 6767.8 | 6805.2 |
| 7.5° | 9783.0 | 9652.3 | 9120.2 | 8345.4 | 7374.6 | 6422.4 | 5834.3 | 5498.3 | 5339.6 | 5274.2 | 5264.9 |
| 10° | 9960.4 | 9736.3 | 8821.5 | 7374.6 | 6105.0 | 5460.9 | 5246.2 | 5152.9 | 5134.2 | 5134.2 | 5124.9 |
| 12.5° | 10175.1 | 9820.3 | 8317.4 | 6431.8 | 5498.3 | 5264.9 | 5227.6 | 5236.9 | 5264.9 | 5292.9 | 5246.2 |
| 15° | 10436.4 | 9857.7 | 7692.0 | 5862.3 | 5376.9 | 5320.9 | 5376.9 | 5442.3 | 5488.9 | 5526.3 | 5479.6 |
| 17.5° | 10697.8 | 9820.3 | 7103.9 | 5591.6 | 5395.6 | 5470.3 | 5582.3 | 5685.0 | 5713.0 | 5769.0 | 5731.6 |
| 20° | 10884.5 | 9689.6 | 6599.8 | 5488.9 | 5442.3 | 5610.3 | 5750.3 | 5862.3 | 5918.3 | 5955.7 | 5918.3 |
| 22.5° | 11024.5 | 9521.6 | 6235.7 | 5386.3 | 5442.3 | 5647.6 | 5815.7 | 5946.3 | 6011.7 | 6049.0 | 6002.4 |
| 25° | 11145.9 | 9288.2 | 5955.7 | 5236.9 | 5330.2 | 5526.3 | 5713.0 | 5843.7 | 5937.0 | 5993.0 | 5965.0 |
| 27.5° | 11295.3 | 9101.5 | 5694.3 | 5012.9 | 5096.9 | 5283.6 | 5479.6 | 5638.3 | 5815.7 | 5909.0 | 5890.3 |
| 30° | 11463.3 | 9008.2 | 5442.3 | 4770.1 | 4826.2 | 5012.9 | 5246.2 | 5460.9 | 5703.6 | 5825.0 | 5825.0 |
| 32.5° | 11659.3 | 8942.9 | 5208.9 | 4536.8 | 4583.4 | 4788.8 | 5012.9 | 5208.9 | 5470.3 | 5666.3 | 5657.0 |
| 35° | 11743.3 | 8868.2 | 5022.2 | 4322.1 | 4415.4 | 4583.4 | 4760.8 | 4891.5 | 5162.2 | 5395.6 | 5414.3 |
| 37.5° | 11827.3 | 8840.2 | 4928.8 | 4154.0 | 4228.7 | 4359.4 | 4452.8 | 4518.1 | 4770.1 | 5012.9 | 5022.2 |
| 40° | 11930.0 | 8970.9 | 4994.2 | 4042.0 | 3976.7 | 4107.4 | 4154.0 | 4191.4 | 4322.1 | 4480.8 | 4480.8 |
| 42.5° | 11864.7 | 9064.2 | 5143.5 | 3939.3 | 3668.6 | 3818.0 | 3836.7 | 3827.3 | 3836.7 | 3846.0 | 3836.7 |
| 45° | 11696.7 | 8970.9 | 5143.5 | 3780.6 | 3341.9 | 3500.6 | 3491.3 | 3444.6 | 3369.9 | 3173.9 | 3145.9 |
| 47.5° | 11659.3 | 8914.9 | 4947.5 | 3519.3 | 3015.2 | 3145.9 | 3164.5 | 3071.2 | 2856.5 | 2651.1 | 2585.8 |
| 50° | 11818.0 | 9017.5 | 4639.5 | 3201.9 | 2735.1 | 2847.2 | 2893.8 | 2735.1 | 2492.4 | 2277.7 | 2240.4 |
| 52.5° | 12051.4 | 9148.2 | 4191.4 | 2856.5 | 2501.8 | 2613.8 | 2669.8 | 2492.4 | 2240.4 | 2072.4 | 2053.7 |
| 55° | 12023.4 | 9148.2 | 3687.3 | 2539.1 | 2324.4 | 2408.4 | 2501.8 | 2315.1 | 2119.0 | 2025.7 | 2016.3 |
| 57.5° | 11416.6 | 8802.8 | 3313.9 | 2315.1 | 2156.4 | 2231.0 | 2352.4 | 2175.0 | 1988.3 | 2007.0 | 2035.0 |
| 60° | 10231.1 | 7906.7 | 3033.8 | 2165.7 | 2007.0 | 2081.7 | 2212.4 | 2007.0 | 1764.3 | 1699.0 | 1699.0 |
| 62.5° | 8429.4 | 6515.8 | 2809.8 | 2016.3 | 1867.0 | 1960.3 | 2025.7 | 1755.0 | 1596.3 | 1521.6 | 1521.6 |
| 65° | 6319.7 | 5040.9 | 2576.4 | 1895.0 | 1745.6 | 1848.3 | 1773.6 | 1642.9 | 1484.3 | 1428.2 | 1437.6 |
| 67° | *4686.1* | *3911.3* | *2380.4* | *1792.3* | *1671.0* | *1717.6* | *1661.6* | *1568.3* | *1409.6* | *1362.9* | *1409.6* |
| 67.5° | 4210.0 | 3715.3 | 2333.7 | 1764.3 | 1652.3 | 1689.6 | 1633.6 | 1558.9 | 1390.9 | 1344.2 | 1390.9 |
| 70° | 2893.8 | 2856.5 | 2081.7 | 1633.6 | 1549.6 | 1512.3 | 1540.3 | 1446.9 | 1306.9 | 1288.2 | 1334.9 |
| 72.5° | 2203.0 | 2277.7 | 1867.0 | 1521.6 | 1437.6 | 1390.9 | 1456.2 | 1362.9 | 1222.9 | 1250.9 | 1297.6 |
| 75° | 1727.0 | 1839.0 | 1671.0 | 1362.9 | 1306.9 | 1316.2 | 1446.9 | 1409.6 | 1297.6 | 1325.6 | 1334.9 |
| 77.5° | 1278.9 | 1484.3 | 1428.2 | 1185.5 | 1138.9 | 1269.5 | 1633.6 | 1745.6 | 1549.6 | 1502.9 | 1437.6 |
| 80° | 933.5 | 1064.2 | 1204.2 | 980.2 | 952.2 | 1222.9 | 2016.3 | 2231.0 | 1913.7 | 1727.0 | 1680.3 |
| 82.5° | 690.8 | 746.8 | 989.5 | 784.1 | 690.8 | 1092.2 | 2240.4 | 2623.1 | 2277.7 | 1923.0 | 1867.0 |
| 85° | 494.8 | 578.8 | 784.1 | 578.8 | 457.4 | 896.2 | 2193.7 | 2567.1 | 2259.1 | 1820.3 | 1773.6 |
| 87.5° | 177.4 | 252.0 | 336.1 | 261.4 | 233.4 | 616.1 | 1811.0 | 1848.3 | 1409.6 | 644.1 | 653.4 |
| 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: SP1-2407-184-14

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-930-U-5WQ

Data in this report applies to families of products including GSS-SB1A-930-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

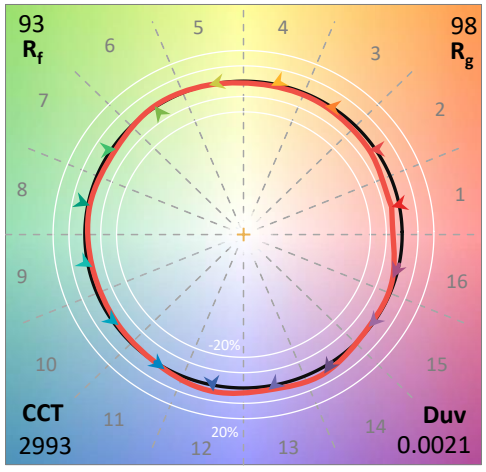
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-14 |
| 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-930-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2993 |
| CIE u': | 0.2501 |
| CIE v': | 0.5245 |
| Duv: | 0.0021 |
| CIE x: | 0.4406 |
| CIE y: | 0.4107 |
| CIE z: | 0.1487 |
| Peak Wavelength (nm): | 621 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.53327 |
| Rf: | 92.6 |
| Rg: | 98.5 |

| | |
|---|---|
| CRI (Ra): | 92.4 |
| R1: | 92.2 |
| R2: | 95.2 |
| R3: | 97.0 |
| R4: | 93.1 |
| R5: | 91.7 |
| R6: | 94.2 |
| R7: | 93.3 |
| R8: | 82.3 |
| R9: | 58.2 |
| R10: | 87.7 |
| R11: | 93.5 |
| R12: | 81.7 |
| R13: | 92.9 |
| R14: | 97.6 |
| R15: | 88.1 |




## 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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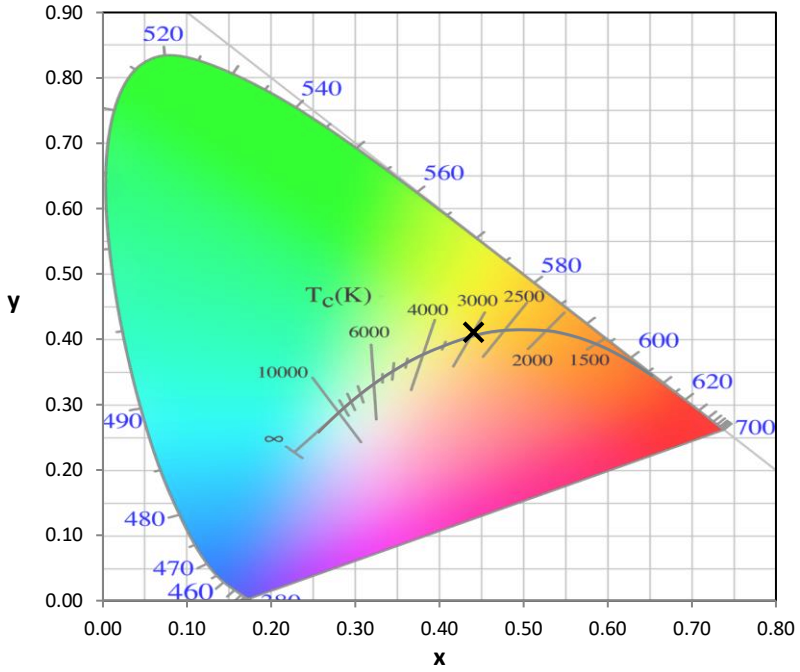
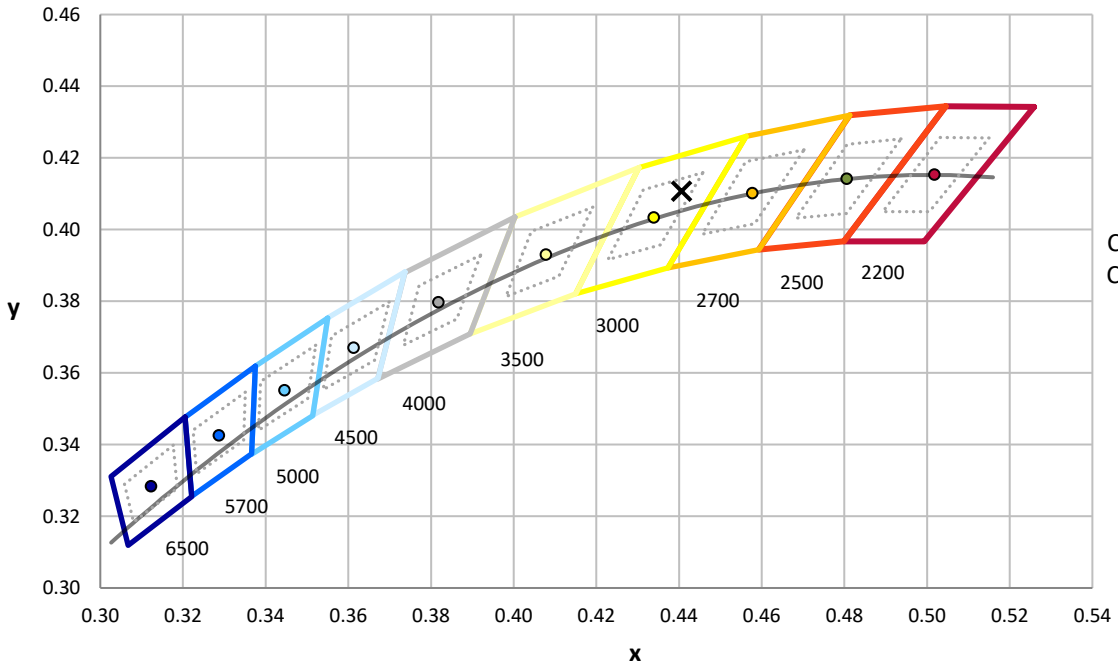
## CIE 1931 Chromaticity Diagram




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




CCT = 2993K
CIE x = 0.4406
CIE y = 0.4107
Duv = 0.0021

Point lies inside the ANSI 3000K 4-step quadrangle

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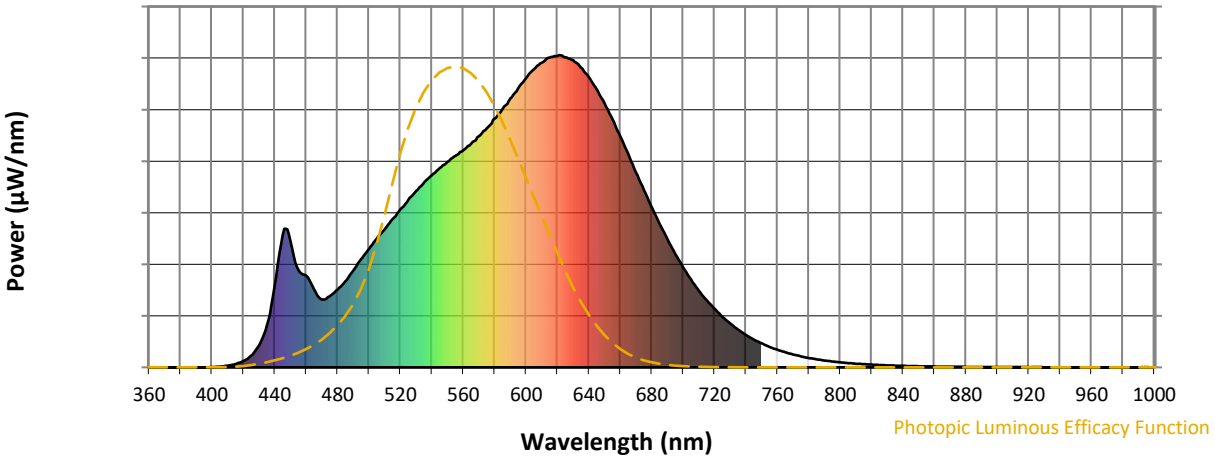
## Photopic Flux vs. Wavelength




## 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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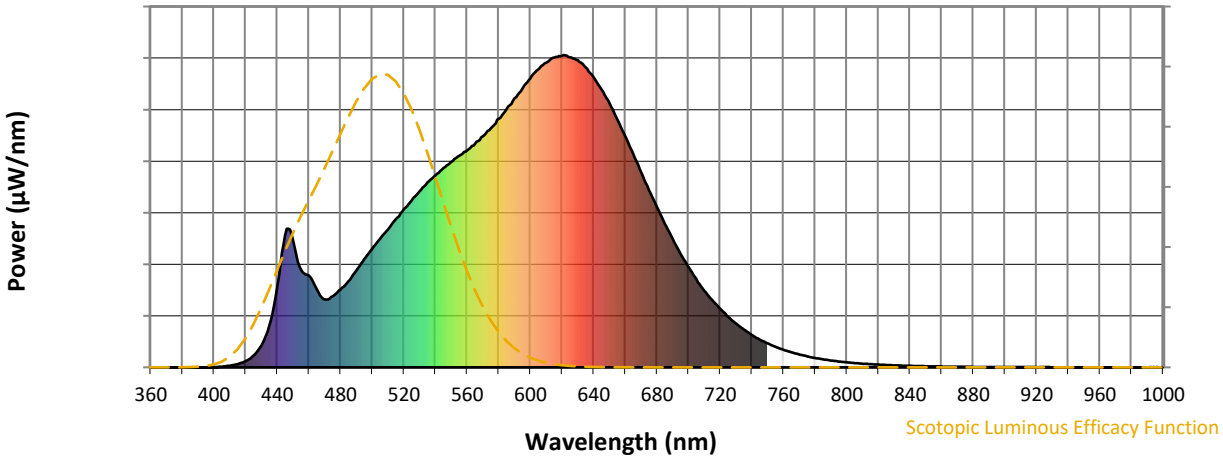
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.39**

| 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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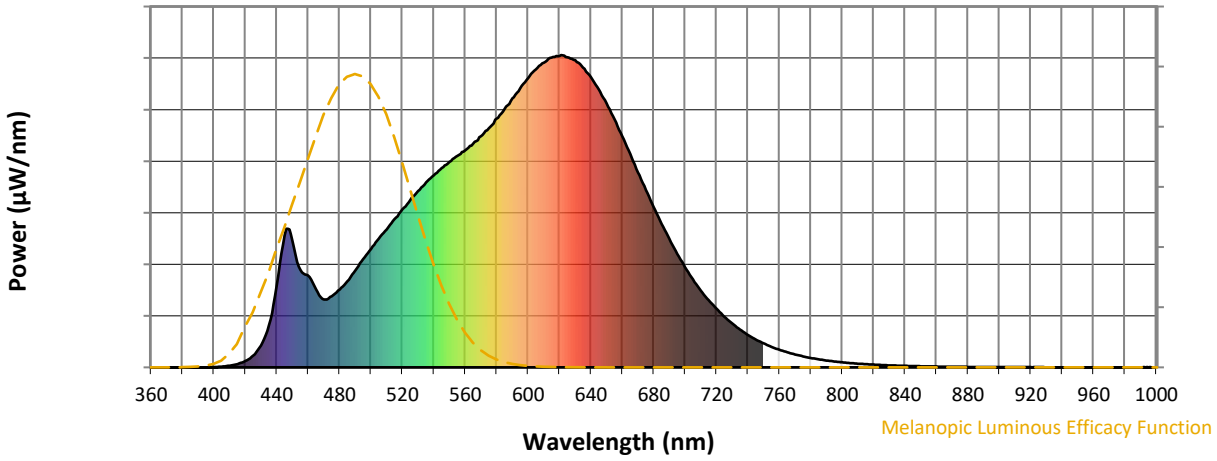
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.69**

| 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 | 310 | NR | 620 | 998 | NR | 750 | 77 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 347 | NR | 625 | 993 | NR | 755 | 66 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 379 | NR | 630 | 983 | NR | 760 | 56 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 960 | NR | 765 | 48 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 442 | NR | 640 | 930 | NR | 770 | 41 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 475 | NR | 645 | 889 | NR | 775 | 35 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 506 | NR | 650 | 846 | NR | 780 | 30 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 535 | NR | 655 | 794 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 565 | NR | 660 | 740 | NR | 790 | 22 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 592 | NR | 665 | 684 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 6 | NR | 540 | 615 | NR | 670 | 624 | NR | 800 | 16 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 638 | NR | 675 | 567 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 658 | NR | 680 | 513 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 38 | NR | 555 | 678 | NR | 685 | 459 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 70 | NR | 560 | 695 | NR | 690 | 412 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 136 | NR | 565 | 716 | NR | 695 | 363 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 262 | NR | 570 | 740 | NR | 700 | 320 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 424 | NR | 575 | 765 | NR | 705 | 281 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 406 | NR | 580 | 796 | NR | 710 | 245 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 313 | NR | 585 | 827 | NR | 715 | 215 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 294 | NR | 590 | 861 | NR | 720 | 188 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 250 | NR | 595 | 894 | NR | 725 | 162 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 217 | NR | 600 | 927 | NR | 730 | 140 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 228 | NR | 605 | 954 | NR | 735 | 121 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 249 | NR | 610 | 976 | NR | 740 | 104 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 276 | NR | 615 | 992 | NR | 745 | 89 | NR | 875 | 2 | NR | | | |

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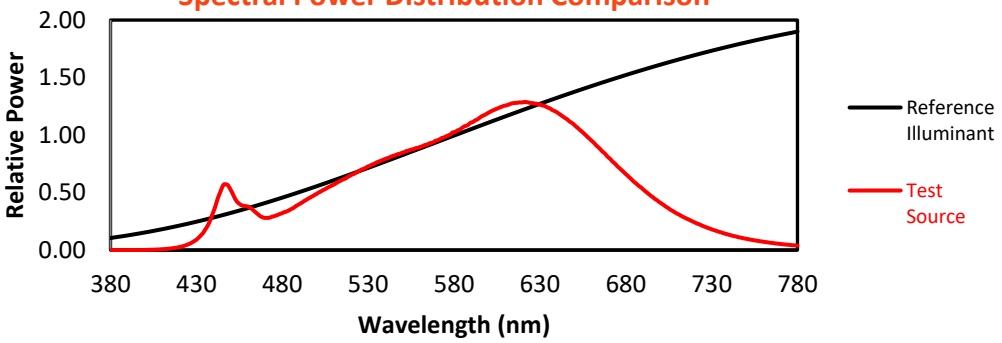
# TM-30-18

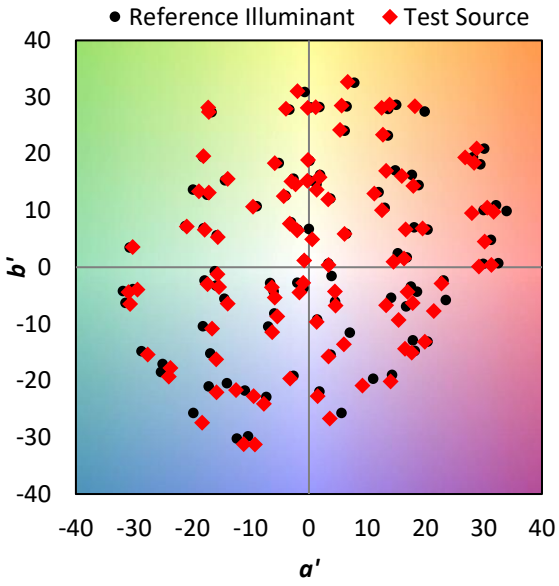
## Summary

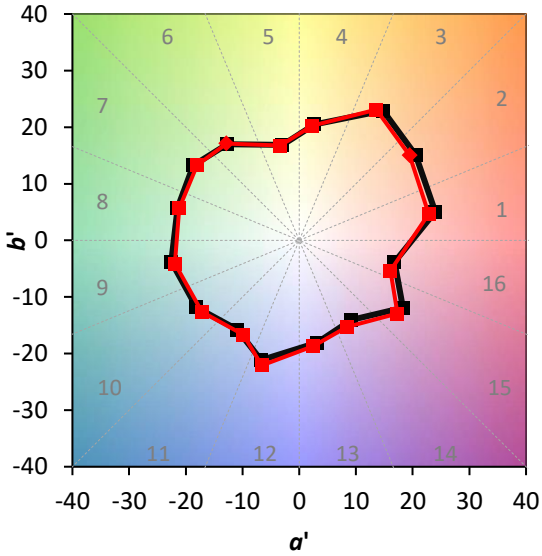
$R_f$ = 92.6
$R_g$ = 98.5
CIE $R_a$ = 92.4
$R_9$ = 58.2

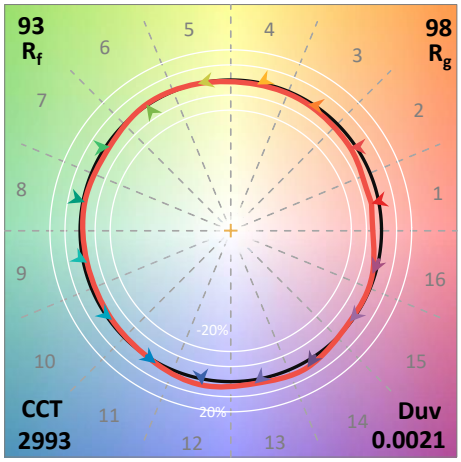
## Spectral Power Distribution Comparison

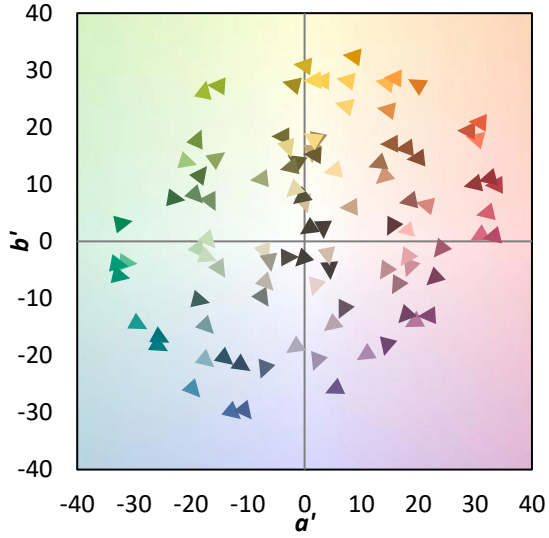



## Color Vector Graphics



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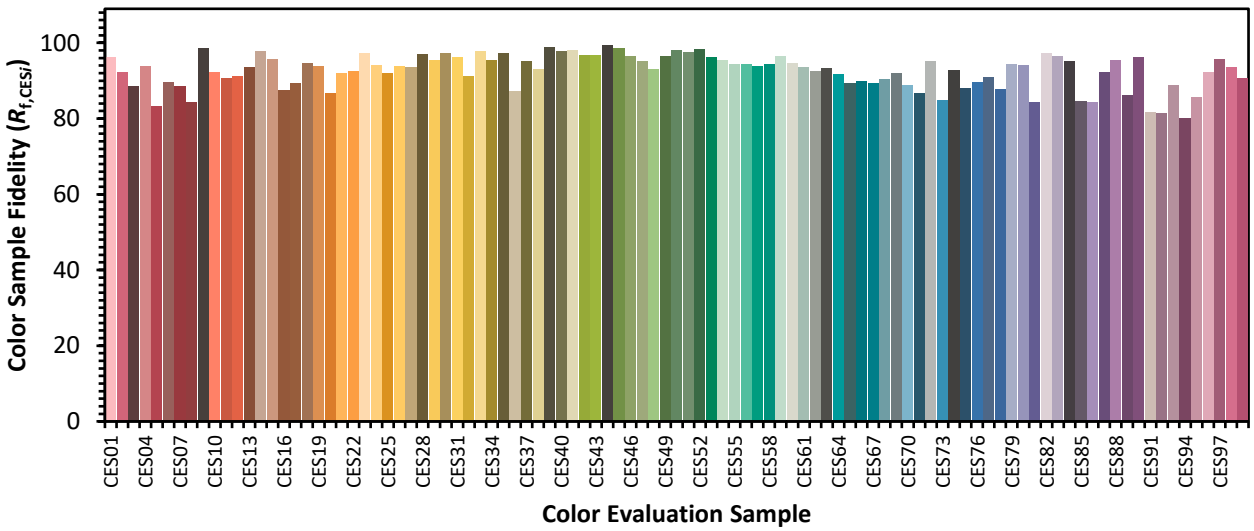
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 63 | CES27 = 94 | CES52 = 98 | CES77 = 91 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 88 |
| CES04 = 70 | CES29 = 95 | CES54 = 95 | CES79 = 94 |
| CES05 = 51 | CES30 = 97 | CES55 = 94 | CES80 = 94 |
| CES06 = 51 | CES31 = 96 | CES56 = 94 | CES81 = 84 |
| CES07 = 43 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 42 | CES33 = 98 | CES58 = 94 | CES83 = 97 |
| CES09 = 29 | CES34 = 96 | CES59 = 97 | CES84 = 95 |
| CES10 = 76 | CES35 = 97 | CES60 = 95 | CES85 = 85 |
| CES11 = 59 | CES36 = 87 | CES61 = 94 | CES86 = 84 |
| CES12 = 65 | CES37 = 95 | CES62 = 92 | CES87 = 92 |
| CES13 = 44 | CES38 = 93 | CES63 = 93 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 86 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 90 | CES91 = 82 |
| CES17 = 50 | CES42 = 97 | CES67 = 89 | CES92 = 81 |
| CES18 = 57 | CES43 = 97 | CES68 = 90 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 92 | CES94 = 80 |
| CES20 = 67 | CES45 = 99 | CES70 = 89 | CES95 = 86 |
| CES21 = 86 | CES46 = 96 | CES71 = 87 | CES96 = 92 |
| CES22 = 79 | CES47 = 95 | CES72 = 95 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 85 | CES98 = 94 |
| CES24 = 91 | CES49 = 97 | CES74 = 93 | CES99 = 91 |
| CES25 = 72 | CES50 = 98 | CES75 = 88 | |



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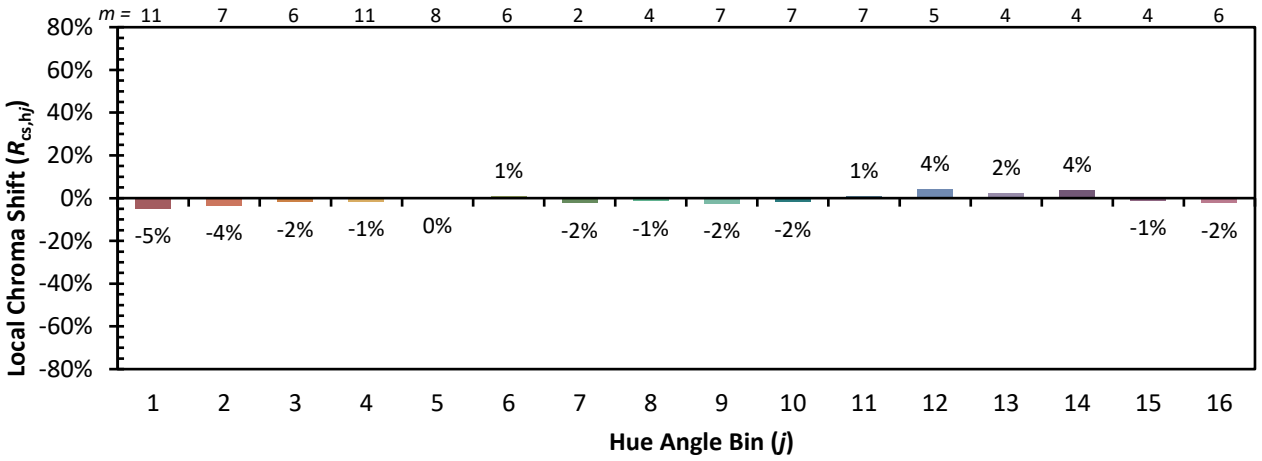
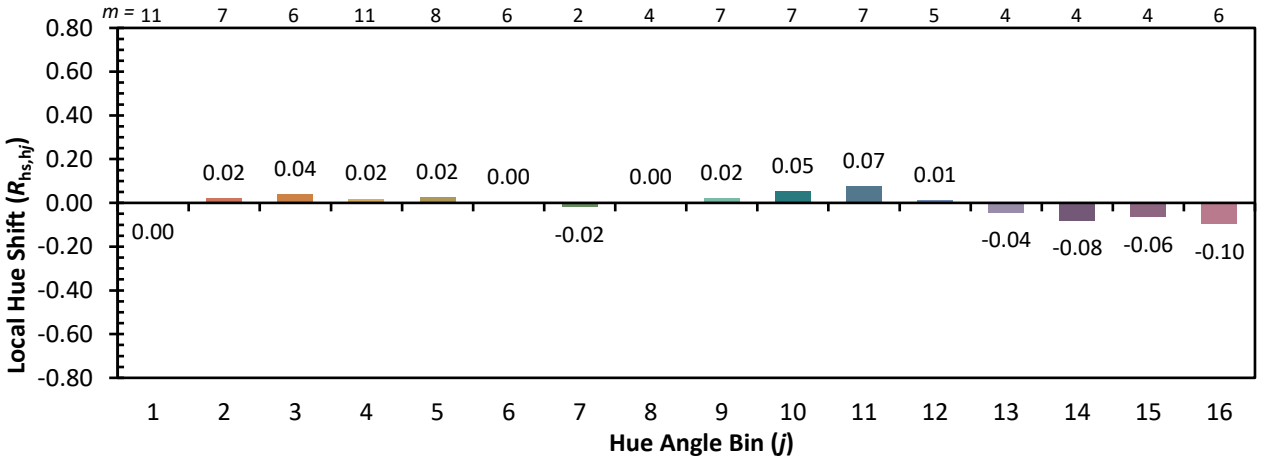
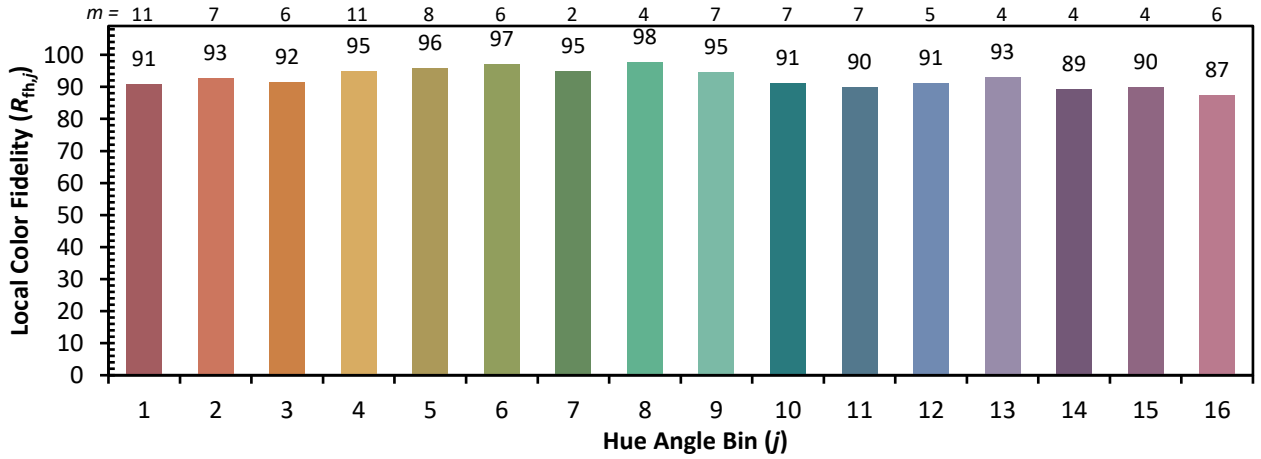
## Color Rendition by Hue-Angle Bin



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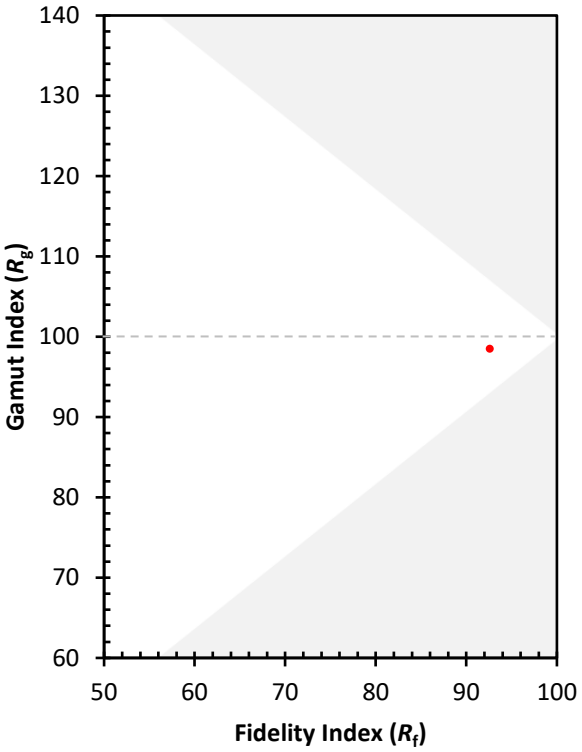
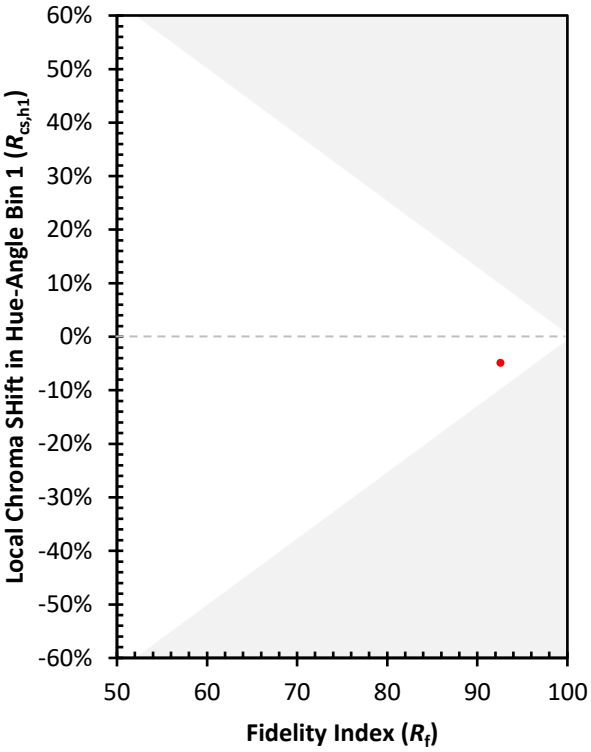
## Measure Comparisons




(END OF REPORT)