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: P1458602

Luminaire Tested: GLAN-SB1D-940-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: | P1458602 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB1D-940-U-T3LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 1xLight Square PACKAGE 90CRI 4000K FIXTURE w/ TYPE III LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (26) 4000K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 5638.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 70.8 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B1 - U0 - G1 |

| | |
|---|---|
| Input Watts (W): | 79.6 |
| 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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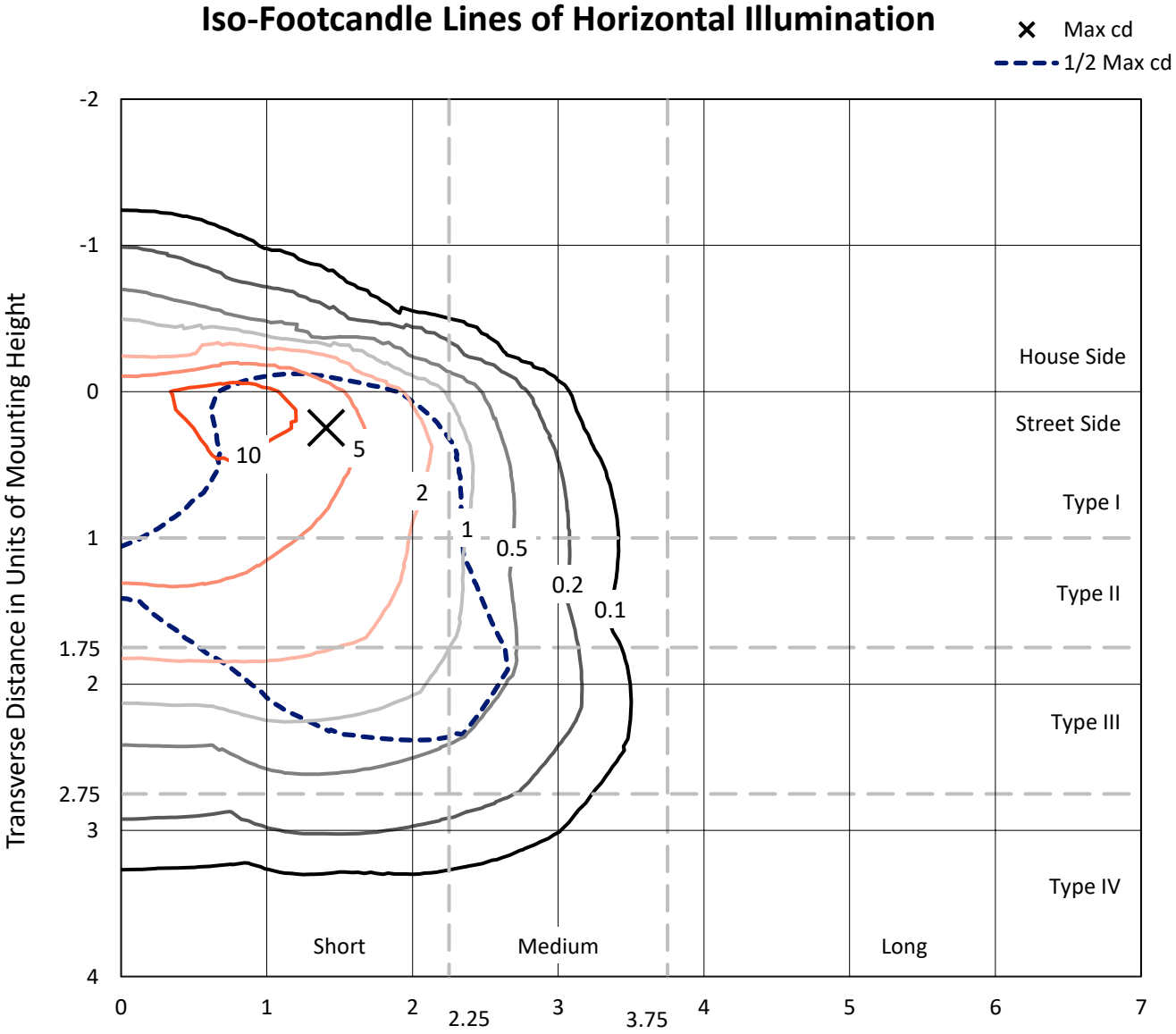
Scaled Data Report

REPORT NUMBER: P1458602
CATALOG NUMBER: GLAN-SB1D-940-U-T3LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 10 foot mounting height. Maximum calculated value = 13.9 fc
Type III - Short - N/A

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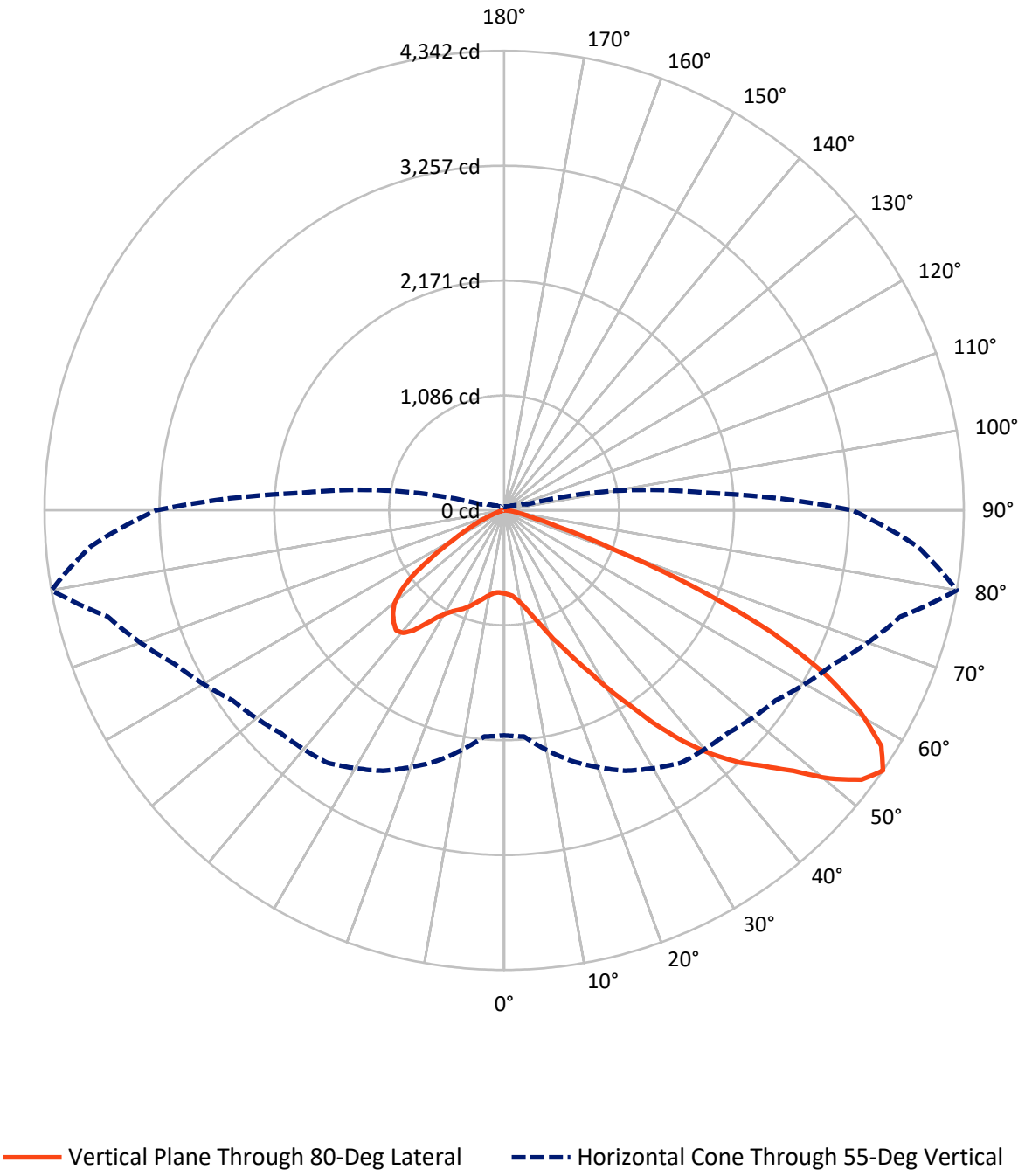
## Luminous Intensity Polar Plot



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REPORT NUMBER: P1458602
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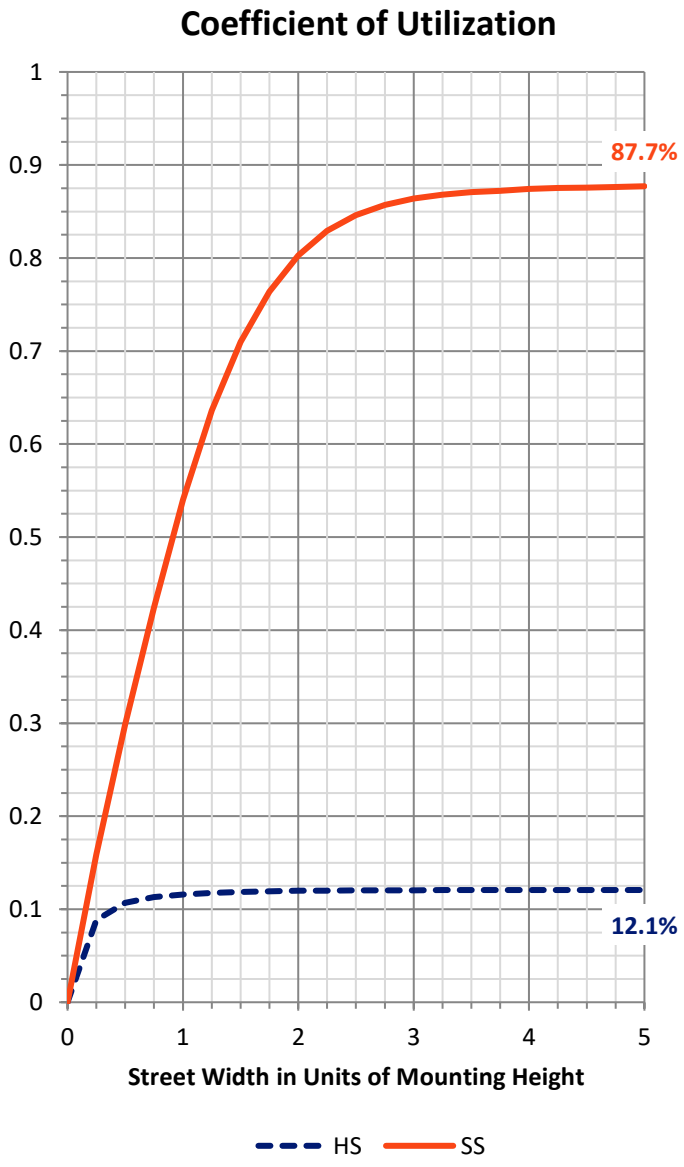
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 685.4 | 0.0 | 685.4 |
| | % Fixture | 12.2 | 0.0 | 12.2 |
| **Street Side** | Lumens | 4952.8 | 0.0 | 4952.8 |
| | % Fixture | 87.8 | 0.0 | 87.8 |
| **Total** | Lumens | 5638.2 | 0.0 | 5638.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 65.9 | 1.2 |
| 10°-20° | 173.8 | 3.1 |
| 20°-30° | 340.2 | 6.0 |
| 30°-40° | 692.1 | 12.3 |
| 40°-50° | 1166.7 | 20.7 |
| 50°-60° | 1490.7 | 26.4 |
| 60°-70° | 1272.7 | 22.6 |
| 70°-80° | 406.7 | 7.2 |
| 80°-90° | 29.4 | 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° | 5638.2 | 100.0 |
| 0°-180° | 5638.2 | 100.0 |



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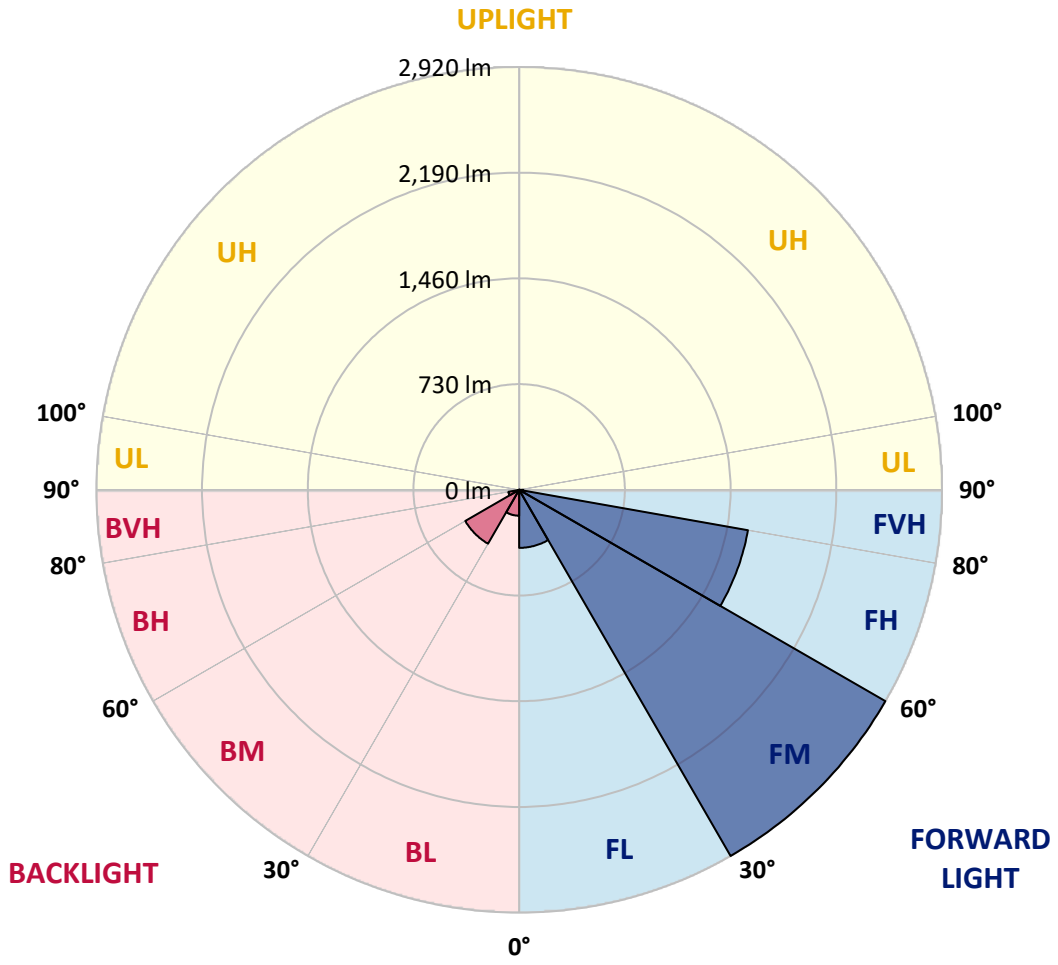
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 400.9 | 7.1 | | | |
| FM | (30°-60°) | 2920.0 | 51.8 | | | |
| FH | (60°-80°) | 1604.1 | 28.5 | | | G1/1800 |
| FVH | (80°-90°) | 27.8 | 0.5 | | | G1/100 |
| BL | (0°-30°) | 179.0 | 3.2 | B1/500 | | |
| BM | (30°-60°) | 429.6 | 7.6 | B1/1000 | | |
| BH | (60°-80°) | 75.3 | 1.3 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 1.5 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G1**
Type III Short



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REPORT NUMBER: P1458602
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 80° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | *785.4* | 785.4 |
| 2.5° | 790.2 | 791.8 | 790.2 | 791.8 | 795.0 | 793.4 | 799.8 | 798.2 | 798.2 | *796.6* | 790.2 |
| 5° | 745.3 | 746.9 | 750.1 | 758.1 | 769.4 | 780.6 | 795.0 | 804.6 | 814.2 | *812.6* | 806.2 |
| 7.5° | 657.2 | 660.4 | 673.2 | 689.2 | 726.1 | 759.7 | 796.6 | 820.7 | 841.5 | *847.9* | 843.1 |
| 10° | 607.5 | 610.7 | 618.7 | 634.7 | 668.4 | 724.5 | 796.6 | 846.3 | 883.2 | *896.0* | 897.6 |
| 12.5° | 602.7 | 604.3 | 610.7 | 628.3 | 657.2 | 705.3 | 795.0 | 880.0 | 942.5 | *961.7* | 968.1 |
| 15° | 605.9 | 609.1 | 615.5 | 629.9 | 663.6 | 718.1 | 807.8 | 932.9 | 1021.0 | *1048.3* | 1049.9 |
| 17.5° | 618.7 | 621.9 | 629.9 | 645.9 | 682.8 | 751.7 | 847.9 | 987.4 | 1115.6 | *1146.0* | 1163.7 |
| 20° | 644.3 | 645.9 | 655.6 | 676.4 | 718.1 | 793.4 | 907.2 | 1061.1 | 1229.4 | *1274.3* | 1287.1 |
| 22.5° | 678.0 | 682.8 | 695.6 | 721.3 | 774.2 | 851.1 | 989.0 | 1150.8 | 1354.4 | *1400.9* | 1423.3 |
| 25° | 714.9 | 721.3 | 740.5 | 782.2 | 849.5 | 939.3 | 1089.9 | 1269.5 | 1501.9 | *1558.0* | 1588.4 |
| 27.5° | 790.2 | 791.8 | 804.6 | 857.5 | 944.1 | 1054.7 | 1218.2 | 1421.7 | 1675.0 | *1740.7* | 1774.3 |
| 30° | 955.3 | 956.9 | 945.7 | 960.1 | 1048.3 | 1190.9 | 1368.8 | 1599.6 | 1876.9 | *1968.3* | 1995.5 |
| 32.5° | 1157.3 | 1165.3 | 1163.7 | 1154.0 | 1194.1 | 1327.2 | 1548.3 | 1812.8 | 2114.2 | *2210.3* | 2236.0 |
| 35° | 1386.5 | 1405.7 | 1400.9 | 1397.7 | 1402.5 | 1501.9 | 1753.5 | 2048.4 | 2383.4 | *2500.4* | 2521.3 |
| 37.5° | 1610.9 | 1615.7 | 1638.1 | 1665.4 | 1668.6 | 1737.5 | 1990.7 | 2298.5 | 2633.5 | *2782.5* | 2814.6 |
| 40° | 1784.0 | 1800.0 | 1856.1 | 1910.6 | 1966.7 | 2021.2 | 2186.3 | 2500.4 | 2832.2 | *3032.6* | 3047.0 |
| 42.5° | 1918.6 | 1957.1 | 2038.8 | 2123.8 | 2237.6 | 2298.5 | 2372.2 | 2643.1 | 2994.1 | *3255.4* | 3249.0 |
| 45° | 2082.1 | 2098.1 | 2213.5 | 2325.7 | 2441.1 | 2534.1 | 2532.5 | 2763.3 | 3120.7 | *3446.1* | 3406.0 |
| 47.5° | 2192.7 | 2211.9 | 2369.0 | 2500.4 | 2619.0 | 2665.5 | 2675.1 | 2893.1 | 3295.5 | *3676.9* | 3582.4 |
| 50° | 2252.0 | 2285.7 | 2457.2 | 2623.9 | 2752.1 | 2766.5 | 2809.8 | 3063.0 | 3524.7 | *3983.1* | 3805.2 |
| 52.5° | 2258.4 | 2290.5 | 2487.6 | 2702.4 | 2841.8 | 2870.7 | 2944.4 | 3255.4 | 3747.5 | *4228.3* | 3933.4 |
| 55° | *2125.4* | *2144.6* | *2450.8* | *2715.2* | *2912.4* | *2979.7* | *3130.4* | *3433.3* | *3877.3* | *4342.1* | *3922.2* |
| 57.5° | 2000.4 | 2019.6 | 2285.7 | 2692.8 | 2984.5 | 3122.3 | 3329.1 | 3555.1 | 3776.3 | *4201.1* | 3672.1 |
| 60° | 1893.0 | 1902.6 | 2144.6 | 2588.6 | 3011.7 | 3261.8 | 3500.6 | 3434.9 | 3515.0 | *3862.9* | 3244.2 |
| 62.5° | 1691.0 | 1697.4 | 1984.3 | 2401.1 | 2957.2 | 3369.2 | 3559.9 | 3180.0 | 3228.1 | *3396.4* | 2740.9 |
| 65° | 1277.5 | 1301.5 | 1564.4 | 2260.0 | 2867.5 | 3418.9 | 3422.1 | 2869.1 | 2819.4 | *2779.3* | 2155.8 |
| 67.5° | 867.1 | 894.4 | 1053.1 | 2032.4 | 2721.6 | 3439.7 | 3154.4 | 2466.8 | 2147.8 | *1941.0* | 1412.1 |
| 70° | 692.4 | 692.4 | 746.9 | 1633.3 | 2375.4 | 3173.6 | 2822.6 | 1862.5 | 1364.0 | *1072.3* | 756.5 |
| 72.5° | 455.2 | 456.8 | 508.1 | 1037.0 | 1684.6 | 2420.3 | 2301.7 | 1077.1 | 708.5 | *546.6* | 373.5 |
| 75° | 165.1 | 165.1 | 222.8 | 415.1 | 891.2 | 1441.0 | 1402.5 | 514.5 | 384.7 | *298.1* | 226.0 |
| 77.5° | 88.2 | 91.4 | 107.4 | 171.5 | 341.4 | 586.6 | 548.2 | 262.9 | 218.0 | *185.9* | 141.1 |
| 80° | 59.3 | 60.9 | 72.1 | 105.8 | 165.1 | 226.0 | 176.3 | 147.5 | 147.5 | *125.0* | 94.6 |
| 82.5° | 32.1 | 33.7 | 48.1 | 68.9 | 88.2 | 105.8 | 85.0 | 86.6 | 104.2 | *85.0* | 54.5 |
| 85° | 22.4 | 22.4 | 36.9 | 49.7 | 49.7 | 51.3 | 36.9 | 54.5 | 60.9 | *52.9* | 36.9 |
| 87.5° | 12.8 | 12.8 | 20.8 | 24.0 | 24.0 | 22.4 | 11.2 | 19.2 | 24.0 | *27.2* | 16.0 |
| 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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Scaled Data Report

REPORT NUMBER: P1458602
CATALOG NUMBER: GLAN-SB1D-940-U-T3LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 | 785.4 |
| 2.5° | 788.6 | 783.8 | 774.2 | 754.9 | 745.3 | 732.5 | 721.3 | 706.9 | 703.6 | 702.0 | 695.6 |
| 5° | 801.4 | 791.8 | 763.0 | 721.3 | 686.0 | 652.4 | 618.7 | 599.5 | 583.4 | 575.4 | 573.8 |
| 7.5° | 833.5 | 814.2 | 761.4 | 687.6 | 621.9 | 564.2 | 514.5 | 471.2 | 448.8 | 429.6 | 431.2 |
| 10° | 881.6 | 851.1 | 764.6 | 655.6 | 557.8 | 464.8 | 392.7 | 330.2 | 285.3 | 264.5 | 262.9 |
| 12.5° | 945.7 | 902.4 | 775.8 | 623.5 | 479.3 | 349.4 | 258.1 | 221.2 | 211.6 | 210.0 | 208.4 |
| 15° | 1024.2 | 963.3 | 787.0 | 581.8 | 373.5 | 242.0 | 210.0 | 202.0 | 200.4 | 198.8 | 198.8 |
| 17.5° | 1118.8 | 1033.8 | 793.4 | 511.3 | 272.5 | 208.4 | 197.1 | 192.3 | 190.7 | 189.1 | 189.1 |
| 20° | 1237.4 | 1112.4 | 801.4 | 421.5 | 230.8 | 200.4 | 187.5 | 181.1 | 179.5 | 179.5 | 177.9 |
| 22.5° | 1354.4 | 1200.5 | 795.0 | 343.0 | 222.8 | 190.7 | 176.3 | 169.9 | 166.7 | 166.7 | 165.1 |
| 25° | 1489.0 | 1290.3 | 775.8 | 309.3 | 221.2 | 182.7 | 165.1 | 155.5 | 150.7 | 149.1 | 149.1 |
| 27.5° | 1642.9 | 1392.9 | 745.3 | 311.0 | 221.2 | 176.3 | 150.7 | 137.8 | 134.6 | 131.4 | 131.4 |
| 30° | 1819.2 | 1517.9 | 722.9 | 331.8 | 224.4 | 169.9 | 137.8 | 121.8 | 117.0 | 113.8 | 115.4 |
| 32.5° | 2021.2 | 1657.3 | 721.3 | 365.4 | 229.2 | 160.3 | 123.4 | 105.8 | 101.0 | 99.4 | 101.0 |
| 35° | 2250.4 | 1830.4 | 758.1 | 391.1 | 216.4 | 139.4 | 105.8 | 91.4 | 86.6 | 86.6 | 88.2 |
| 37.5° | 2505.2 | 2029.2 | 807.8 | 384.7 | 174.7 | 110.6 | 91.4 | 80.1 | 75.3 | 76.9 | 78.5 |
| 40° | 2737.7 | 2184.7 | 815.8 | 328.6 | 131.4 | 94.6 | 78.5 | 70.5 | 67.3 | 68.9 | 70.5 |
| 42.5° | 2914.0 | 2309.7 | 738.9 | 254.9 | 110.6 | 80.1 | 67.3 | 60.9 | 59.3 | 62.5 | 62.5 |
| 45° | 3056.6 | 2359.4 | 617.1 | 189.1 | 97.8 | 68.9 | 59.3 | 56.1 | 52.9 | 54.5 | 54.5 |
| 47.5° | 3205.7 | 2367.4 | 503.3 | 152.3 | 86.6 | 62.5 | 54.5 | 51.3 | 48.1 | 48.1 | 48.1 |
| 50° | 3349.9 | 2348.2 | 384.7 | 134.6 | 80.1 | 56.1 | 49.7 | 46.5 | 43.3 | 41.7 | 41.7 |
| 52.5° | 3385.2 | 2194.3 | 282.1 | 125.0 | 73.7 | 52.9 | 46.5 | 43.3 | 40.1 | 38.5 | 38.5 |
| 55° | *3287.4* | *1902.6* | *221.2* | *112.2* | *67.3* | *48.1* | *43.3* | *40.1* | *35.3* | *33.7* | *33.7* |
| 57.5° | 2965.3 | 1450.6 | 176.3 | 96.2 | 60.9 | 46.5 | 40.1 | 36.9 | 32.1 | 30.5 | 30.5 |
| 60° | 2546.9 | 1029.0 | 142.7 | 78.5 | 56.1 | 41.7 | 36.9 | 32.1 | 28.9 | 25.6 | 25.6 |
| 62.5° | 2083.7 | 738.9 | 115.4 | 65.7 | 52.9 | 36.9 | 33.7 | 28.9 | 22.4 | 17.6 | 17.6 |
| 65° | 1598.0 | 530.5 | 89.8 | 52.9 | 48.1 | 32.1 | 28.9 | 24.0 | 17.6 | 12.8 | 12.8 |
| 67.5° | 1033.8 | 343.0 | 67.3 | 46.5 | 36.9 | 27.2 | 22.4 | 19.2 | 16.0 | 11.2 | 9.6 |
| 70° | 545.0 | 200.4 | 49.7 | 40.1 | 27.2 | 20.8 | 19.2 | 16.0 | 12.8 | 8.0 | 8.0 |
| 72.5° | 282.1 | 131.4 | 36.9 | 35.3 | 20.8 | 14.4 | 16.0 | 12.8 | 9.6 | 4.8 | 4.8 |
| 75° | 181.1 | 88.2 | 27.2 | 28.9 | 12.8 | 11.2 | 11.2 | 8.0 | 4.8 | 3.2 | 1.6 |
| 77.5° | 117.0 | 59.3 | 19.2 | 24.0 | 8.0 | 6.4 | 6.4 | 3.2 | 1.6 | 0.0 | 0.0 |
| 80° | 68.9 | 36.9 | 12.8 | 16.0 | 3.2 | 3.2 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 35.3 | 19.2 | 6.4 | 6.4 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 22.4 | 9.6 | 1.6 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 11.2 | 3.2 | 1.6 | 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: SP1-2407-184-16

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-940-U-5WQ

Data in this report applies to families of products including GSS-SB1A-940-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

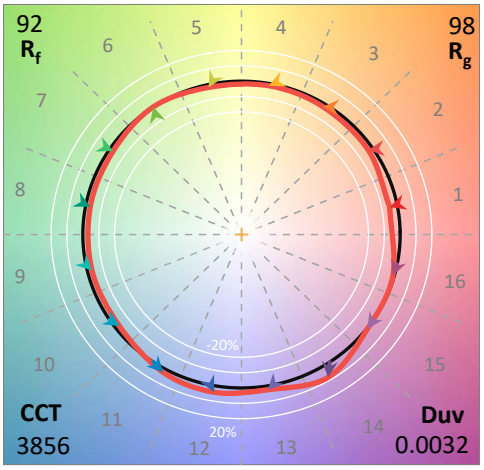
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-16 |
| 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-940-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 4000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3856 |
| CIE u': | 0.2261 |
| CIE v': | 0.5084 |
| Duv: | 0.0032 |
| CIE x: | 0.3896 |
| CIE y: | 0.3894 |
| CIE z: | 0.2211 |
| Peak Wavelength (nm): | 614 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 33.77304 |
| Rf: | 91.8 |
| Rg: | 98.4 |

| | |
|---|---|
| CRI (Ra): | 92.1 |
| R1: | 91.8 |
| R2: | 94.1 |
| R3: | 95.3 |
| R4: | 92.8 |
| R5: | 91.0 |
| R6: | 91.6 |
| R7: | 95.0 |
| R8: | 85.2 |
| R9: | 60.7 |
| R10: | 85.2 |
| R11: | 92.4 |
| R12: | 74.5 |
| R13: | 92.3 |
| R14: | 97.0 |
| R15: | 88.5 |




## Test Conditions

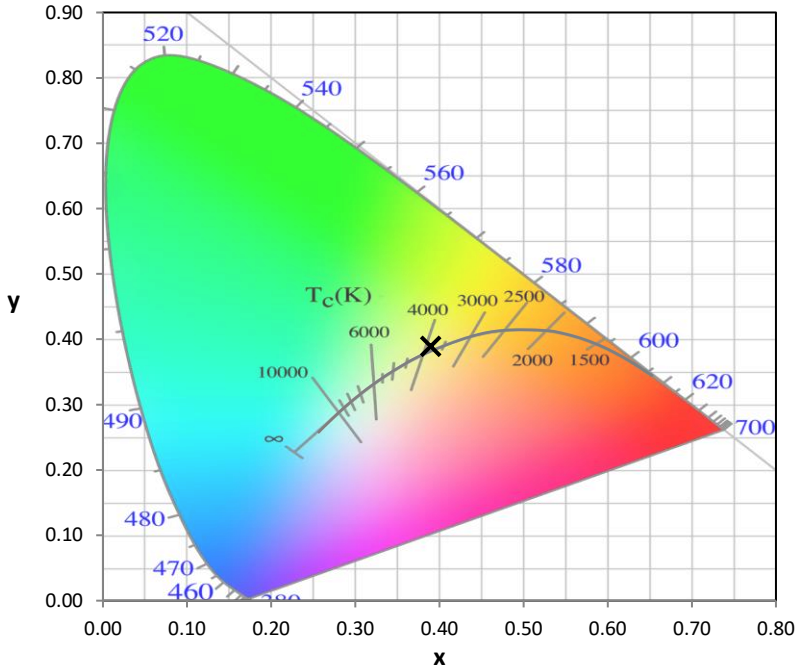
| | |
|---|---|
| Stabilization Time: | 23M |
| Operation Time: | 1H 23M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-16

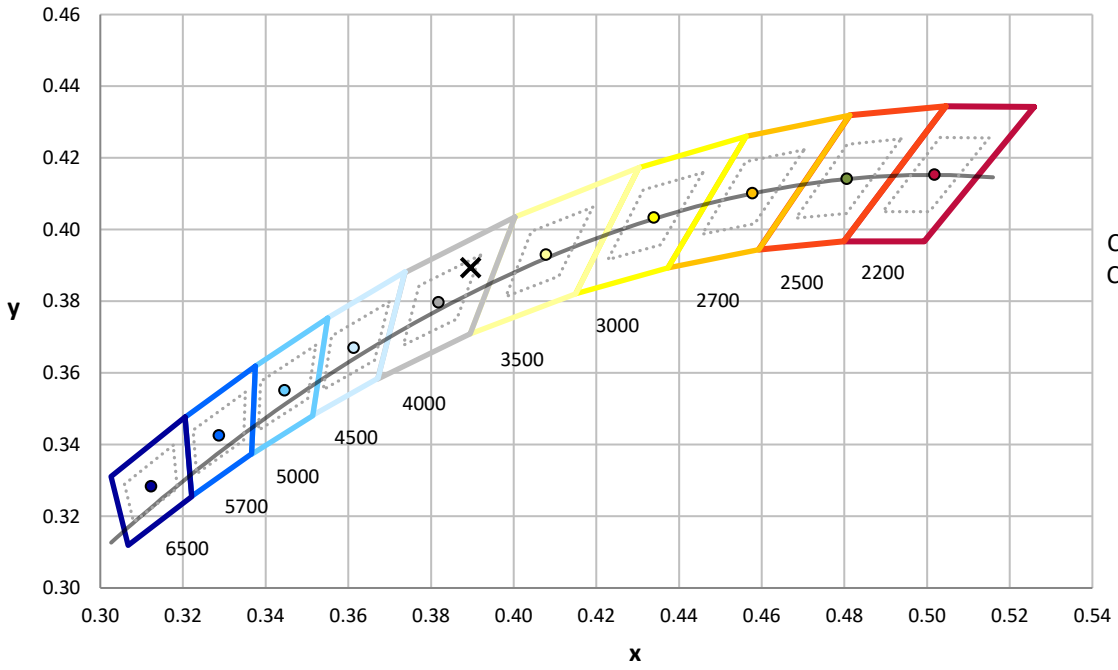
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

REPORT NUMBER: SP1-2407-184-16

## CIE 1931 Chromaticity Diagram




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




CCT = 3856K
CIE x = 0.3896
CIE y = 0.3894
Duv = 0.0032

Point lies inside the ANSI 4000K 4-step quadrangle

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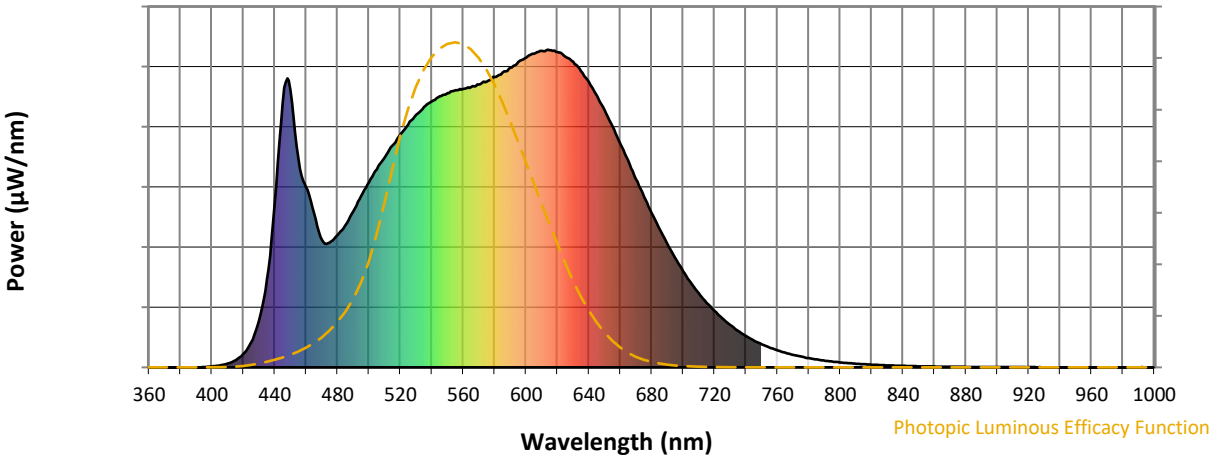
## Photopic Flux vs. Wavelength




## 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 | 492 | NR | 620 | 993 | NR | 750 | 73 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 539 | NR | 625 | 978 | NR | 755 | 62 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 583 | NR | 630 | 962 | NR | 760 | 54 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 623 | NR | 635 | 933 | NR | 765 | 46 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 661 | NR | 640 | 898 | NR | 770 | 39 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 698 | NR | 645 | 855 | NR | 775 | 34 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 733 | NR | 650 | 810 | NR | 780 | 29 | NR | 910 | 1 | NR |
| 395 | 1 | NR | 525 | 764 | NR | 655 | 759 | NR | 785 | 25 | NR | 915 | 1 | NR |
| 400 | 3 | NR | 530 | 794 | NR | 660 | 704 | NR | 790 | 21 | NR | 920 | 1 | NR |
| 405 | 6 | NR | 535 | 820 | NR | 665 | 651 | NR | 795 | 18 | NR | 925 | 1 | NR |
| 410 | 12 | NR | 540 | 837 | NR | 670 | 592 | NR | 800 | 16 | NR | 930 | 1 | NR |
| 415 | 22 | NR | 545 | 853 | NR | 675 | 538 | NR | 805 | 13 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 864 | NR | 680 | 486 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 79 | NR | 555 | 872 | NR | 685 | 435 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 876 | NR | 690 | 389 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 278 | NR | 565 | 883 | NR | 695 | 344 | NR | 825 | 7 | NR | 955 | 0 | NR |
| 440 | 515 | NR | 570 | 891 | NR | 700 | 303 | NR | 830 | 6 | NR | 960 | 0 | NR |
| 445 | 832 | NR | 575 | 900 | NR | 705 | 266 | NR | 835 | 5 | NR | 965 | 0 | NR |
| 450 | 874 | NR | 580 | 914 | NR | 710 | 233 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 659 | NR | 585 | 927 | NR | 715 | 203 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 567 | NR | 590 | 944 | NR | 720 | 178 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 485 | NR | 595 | 961 | NR | 725 | 154 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 401 | NR | 600 | 975 | NR | 730 | 133 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 393 | NR | 605 | 988 | NR | 735 | 115 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 417 | NR | 610 | 996 | NR | 740 | 98 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 448 | NR | 615 | 998 | NR | 745 | 85 | NR | 875 | 2 | NR | | | |

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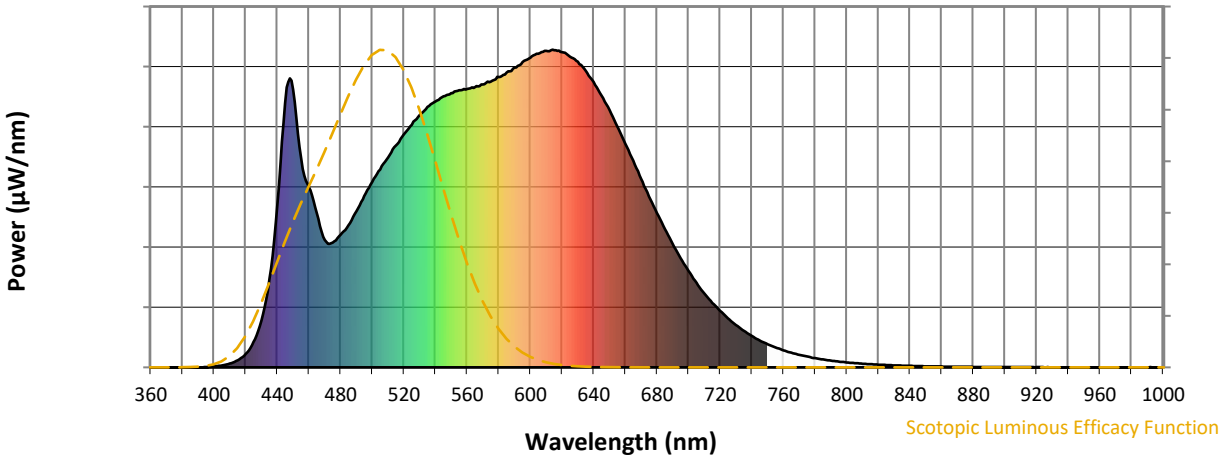
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.72**

| 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 | 492 | NR | 620 | 993 | NR | 750 | 73 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 539 | NR | 625 | 978 | NR | 755 | 62 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 583 | NR | 630 | 962 | NR | 760 | 54 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 623 | NR | 635 | 933 | NR | 765 | 46 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 661 | NR | 640 | 898 | NR | 770 | 39 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 698 | NR | 645 | 855 | NR | 775 | 34 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 733 | NR | 650 | 810 | NR | 780 | 29 | NR | 910 | 1 | NR |
| 395 | 1 | NR | 525 | 764 | NR | 655 | 759 | NR | 785 | 25 | NR | 915 | 1 | NR |
| 400 | 3 | NR | 530 | 794 | NR | 660 | 704 | NR | 790 | 21 | NR | 920 | 1 | NR |
| 405 | 6 | NR | 535 | 820 | NR | 665 | 651 | NR | 795 | 18 | NR | 925 | 1 | NR |
| 410 | 12 | NR | 540 | 837 | NR | 670 | 592 | NR | 800 | 16 | NR | 930 | 1 | NR |
| 415 | 22 | NR | 545 | 853 | NR | 675 | 538 | NR | 805 | 13 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 864 | NR | 680 | 486 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 79 | NR | 555 | 872 | NR | 685 | 435 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 876 | NR | 690 | 389 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 278 | NR | 565 | 883 | NR | 695 | 344 | NR | 825 | 7 | NR | 955 | 0 | NR |
| 440 | 515 | NR | 570 | 891 | NR | 700 | 303 | NR | 830 | 6 | NR | 960 | 0 | NR |
| 445 | 832 | NR | 575 | 900 | NR | 705 | 266 | NR | 835 | 5 | NR | 965 | 0 | NR |
| 450 | 874 | NR | 580 | 914 | NR | 710 | 233 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 659 | NR | 585 | 927 | NR | 715 | 203 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 567 | NR | 590 | 944 | NR | 720 | 178 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 485 | NR | 595 | 961 | NR | 725 | 154 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 401 | NR | 600 | 975 | NR | 730 | 133 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 393 | NR | 605 | 988 | NR | 735 | 115 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 417 | NR | 610 | 996 | NR | 740 | 98 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 448 | NR | 615 | 998 | NR | 745 | 85 | NR | 875 | 2 | NR | | | |

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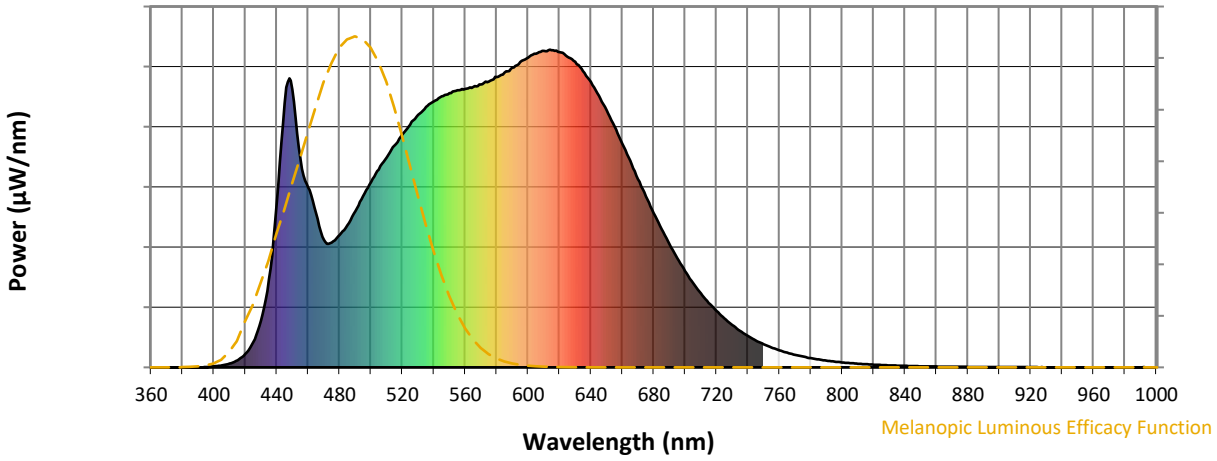
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.52**

| 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 | 492 | NR | 620 | 993 | NR | 750 | 73 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 539 | NR | 625 | 978 | NR | 755 | 62 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 583 | NR | 630 | 962 | NR | 760 | 54 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 623 | NR | 635 | 933 | NR | 765 | 46 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 661 | NR | 640 | 898 | NR | 770 | 39 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 698 | NR | 645 | 855 | NR | 775 | 34 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 733 | NR | 650 | 810 | NR | 780 | 29 | NR | 910 | 1 | NR |
| 395 | 1 | NR | 525 | 764 | NR | 655 | 759 | NR | 785 | 25 | NR | 915 | 1 | NR |
| 400 | 3 | NR | 530 | 794 | NR | 660 | 704 | NR | 790 | 21 | NR | 920 | 1 | NR |
| 405 | 6 | NR | 535 | 820 | NR | 665 | 651 | NR | 795 | 18 | NR | 925 | 1 | NR |
| 410 | 12 | NR | 540 | 837 | NR | 670 | 592 | NR | 800 | 16 | NR | 930 | 1 | NR |
| 415 | 22 | NR | 545 | 853 | NR | 675 | 538 | NR | 805 | 13 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 864 | NR | 680 | 486 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 79 | NR | 555 | 872 | NR | 685 | 435 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 876 | NR | 690 | 389 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 278 | NR | 565 | 883 | NR | 695 | 344 | NR | 825 | 7 | NR | 955 | 0 | NR |
| 440 | 515 | NR | 570 | 891 | NR | 700 | 303 | NR | 830 | 6 | NR | 960 | 0 | NR |
| 445 | 832 | NR | 575 | 900 | NR | 705 | 266 | NR | 835 | 5 | NR | 965 | 0 | NR |
| 450 | 874 | NR | 580 | 914 | NR | 710 | 233 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 659 | NR | 585 | 927 | NR | 715 | 203 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 567 | NR | 590 | 944 | NR | 720 | 178 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 485 | NR | 595 | 961 | NR | 725 | 154 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 401 | NR | 600 | 975 | NR | 730 | 133 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 393 | NR | 605 | 988 | NR | 735 | 115 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 417 | NR | 610 | 996 | NR | 740 | 98 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 448 | NR | 615 | 998 | NR | 745 | 85 | NR | 875 | 2 | NR | | | |

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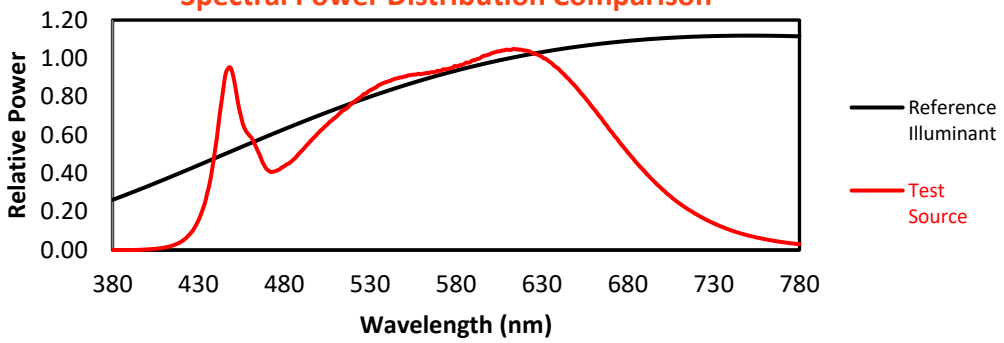
# TM-30-18

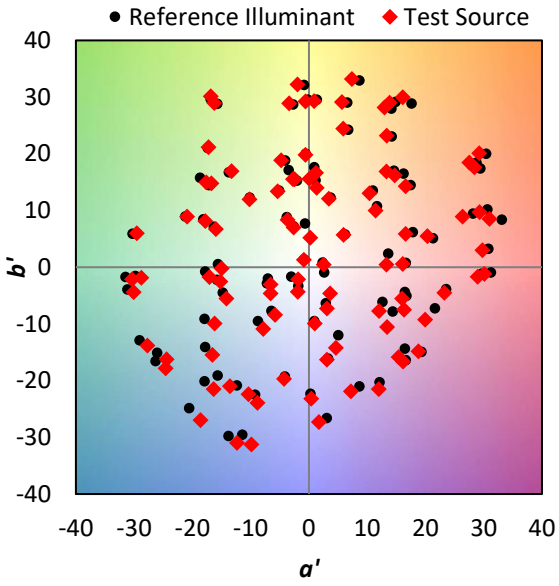
## Summary

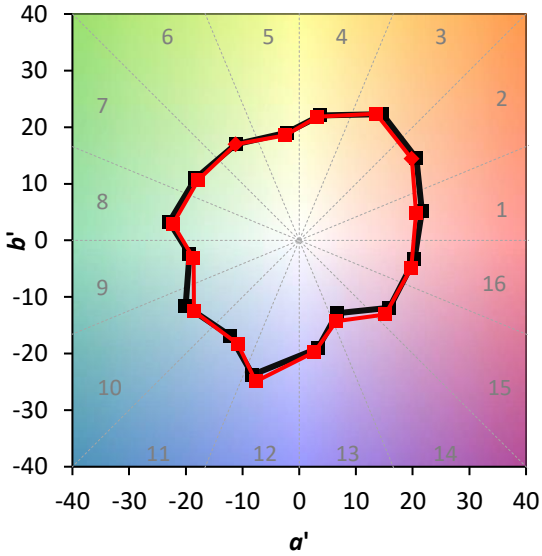
$R_f$ = 91.8
$R_g$ = 98.4
CIE $R_a$ = 92.1
$R_9$ = 60.7

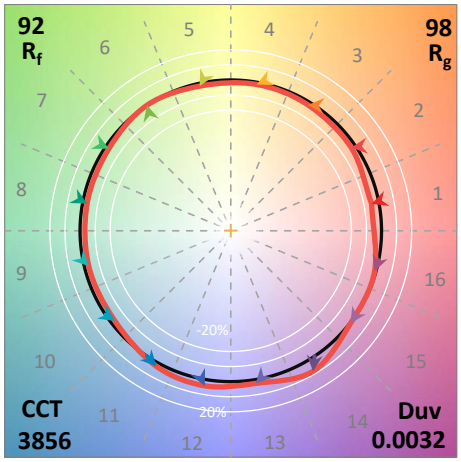
## Spectral Power Distribution Comparison

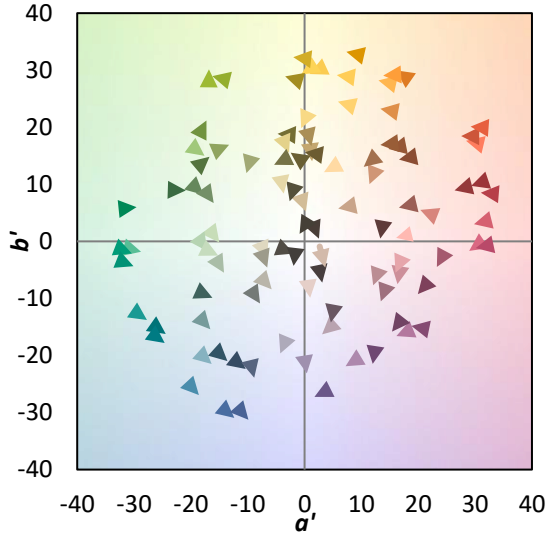



## Color Vector Graphics



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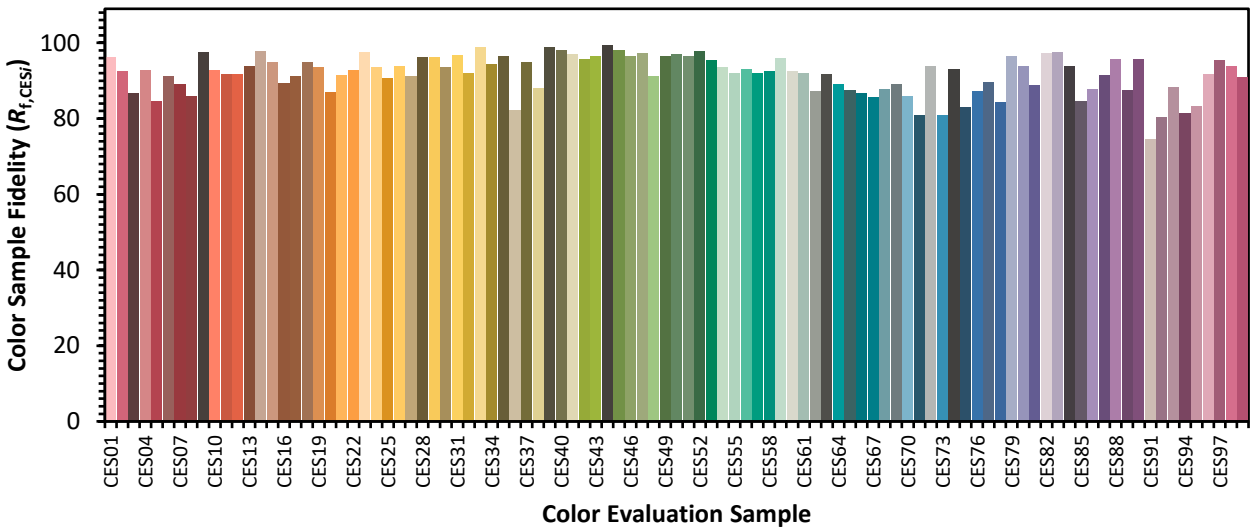
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 96 | CES76 = 87 |
| CES02 = 62 | CES27 = 91 | CES52 = 98 | CES77 = 90 |
| CES03 = 31 | CES28 = 96 | CES53 = 95 | CES78 = 84 |
| CES04 = 69 | CES29 = 96 | CES54 = 94 | CES79 = 96 |
| CES05 = 49 | CES30 = 93 | CES55 = 92 | CES80 = 94 |
| CES06 = 50 | CES31 = 97 | CES56 = 93 | CES81 = 89 |
| CES07 = 42 | CES32 = 92 | CES57 = 92 | CES82 = 97 |
| CES08 = 41 | CES33 = 99 | CES58 = 92 | CES83 = 98 |
| CES09 = 29 | CES34 = 94 | CES59 = 96 | CES84 = 94 |
| CES10 = 74 | CES35 = 96 | CES60 = 93 | CES85 = 85 |
| CES11 = 57 | CES36 = 82 | CES61 = 92 | CES86 = 88 |
| CES12 = 63 | CES37 = 95 | CES62 = 87 | CES87 = 92 |
| CES13 = 43 | CES38 = 88 | CES63 = 92 | CES88 = 96 |
| CES14 = 74 | CES39 = 99 | CES64 = 89 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 88 | CES90 = 96 |
| CES16 = 47 | CES41 = 97 | CES66 = 87 | CES91 = 74 |
| CES17 = 49 | CES42 = 96 | CES67 = 86 | CES92 = 80 |
| CES18 = 56 | CES43 = 96 | CES68 = 88 | CES93 = 88 |
| CES19 = 71 | CES44 = 99 | CES69 = 89 | CES94 = 82 |
| CES20 = 66 | CES45 = 98 | CES70 = 86 | CES95 = 83 |
| CES21 = 85 | CES46 = 97 | CES71 = 81 | CES96 = 92 |
| CES22 = 78 | CES47 = 97 | CES72 = 94 | CES97 = 95 |
| CES23 = 91 | CES48 = 91 | CES73 = 81 | CES98 = 94 |
| CES24 = 90 | CES49 = 96 | CES74 = 93 | CES99 = 91 |
| CES25 = 71 | CES50 = 97 | CES75 = 83 | |



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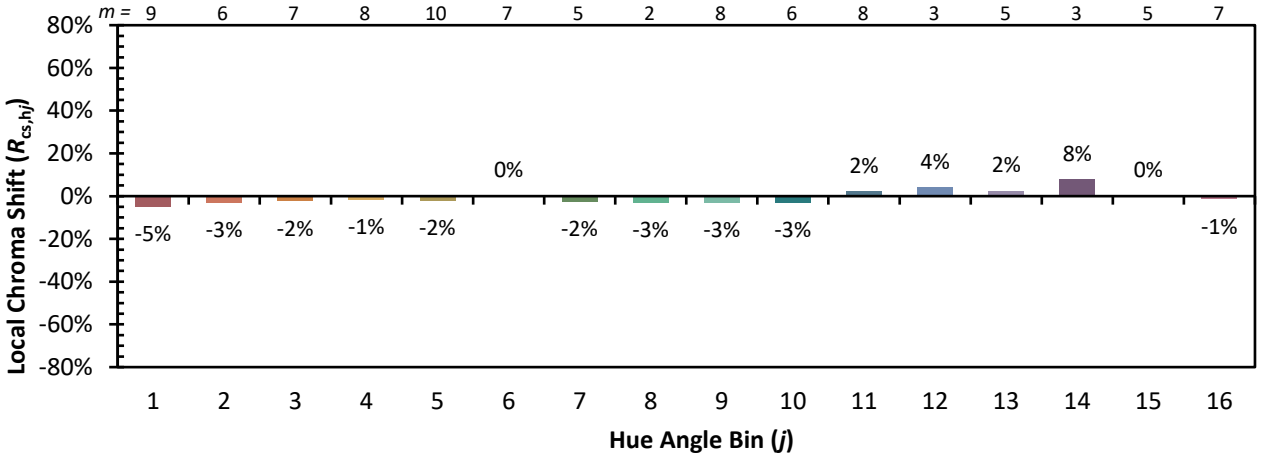
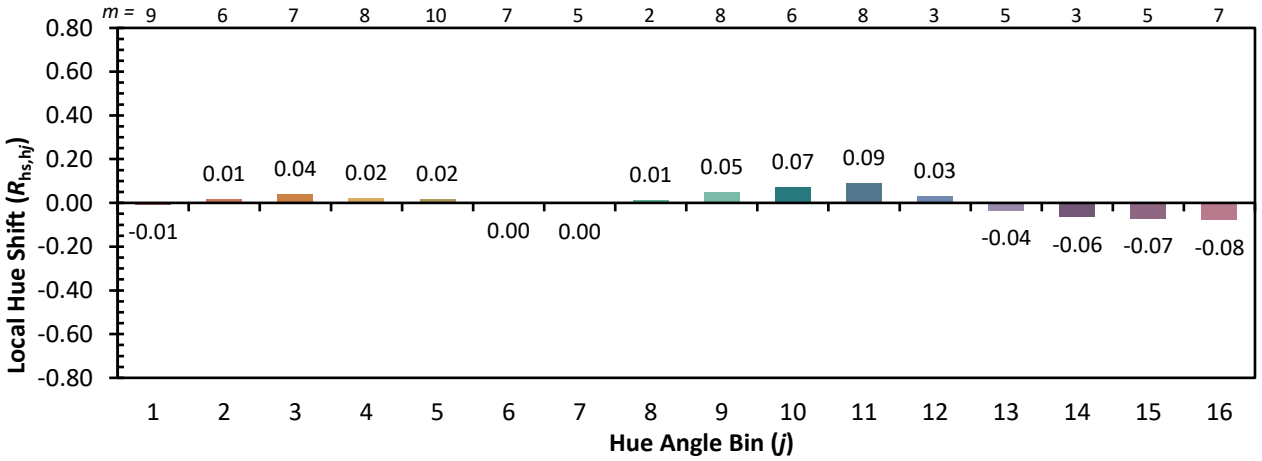
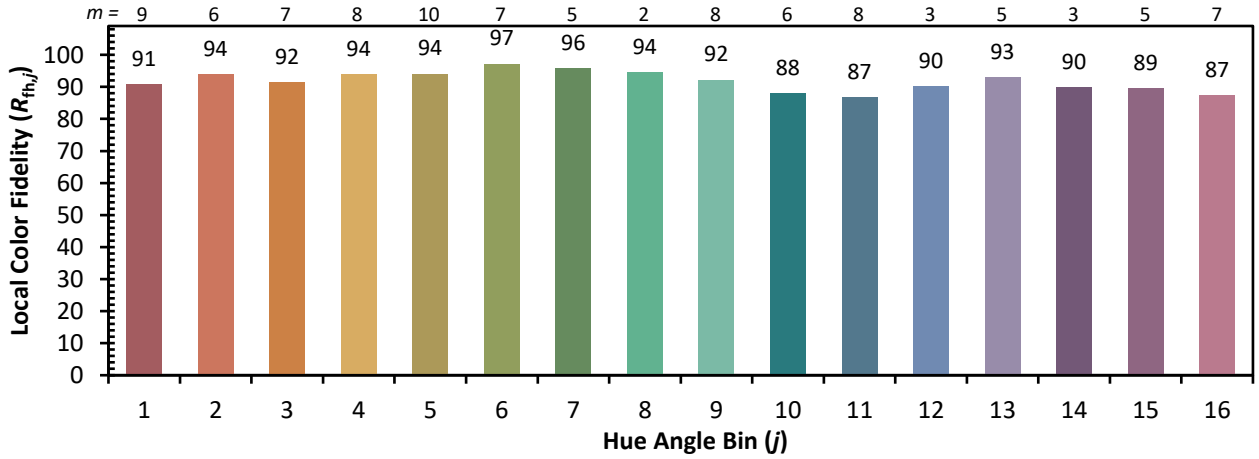
## Color Rendition by Hue-Angle Bin



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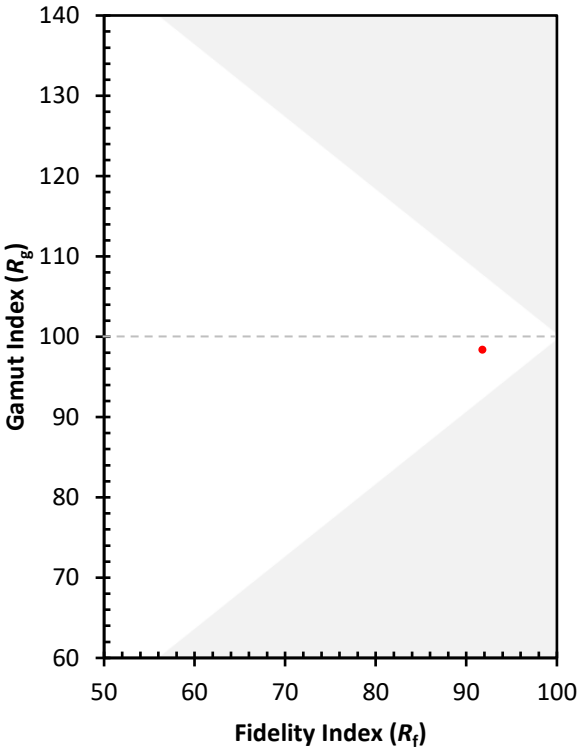
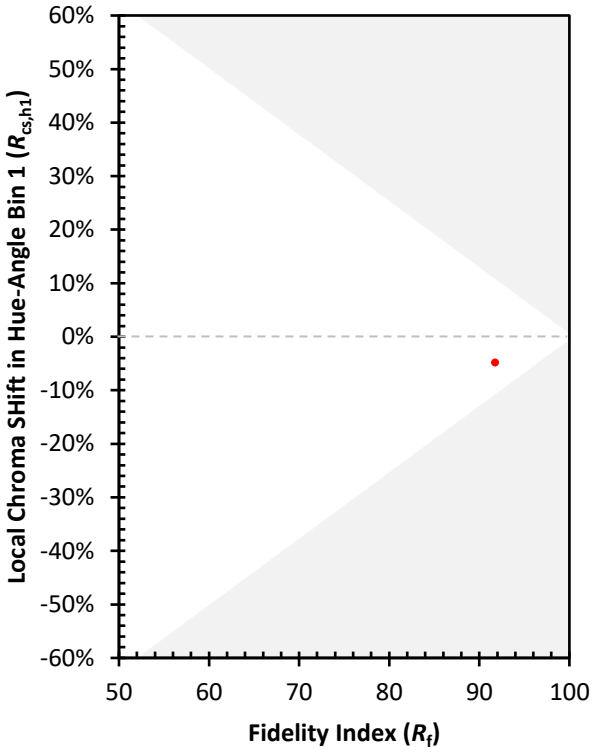
## Measure Comparisons




(END OF REPORT)