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

Cooper Lighting Solutions Photometric Lab
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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: McGRAW-EDISON

Report Number: P1502574

Luminaire Tested: GSS-SB1B-735-U-T4LG-HSS

Issue Date: 07/20/2026

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: | P1502574 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB1B-735-U-T4LG-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 1SQUARE 40W 70CRI 3500K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE W/ HOUSE SIDE SHIELD |
| Light Source: | (26) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4135.7 lumens |
| Efficiency: | N/A |
| Efficacy: | 103.4 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 |

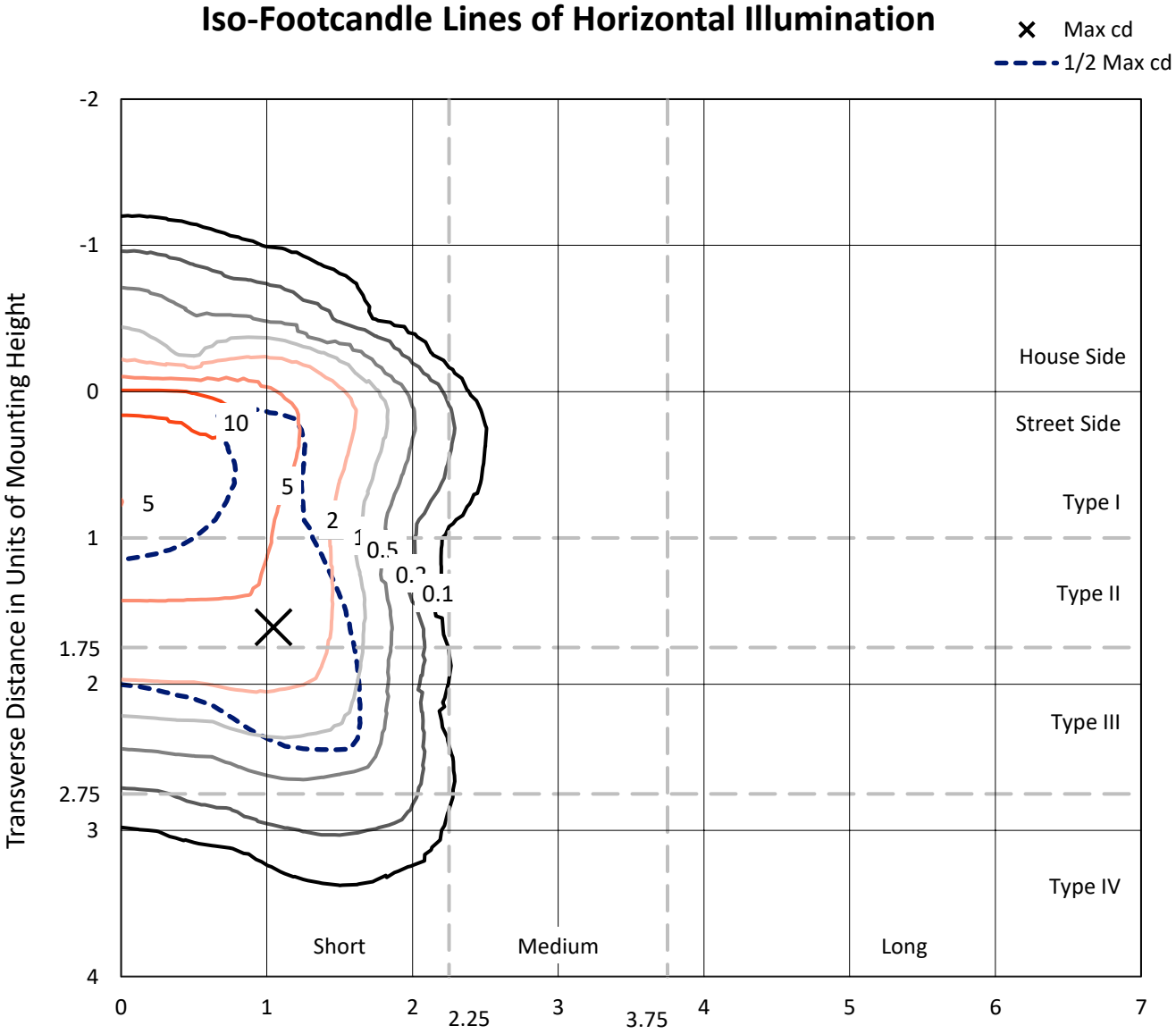
| | |
|---|---|
| Input Watts (W): | 40 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 5.3% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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REPORT NUMBER: P1502574
CATALOG NUMBER: GSS-SB1B-735-U-T4LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination



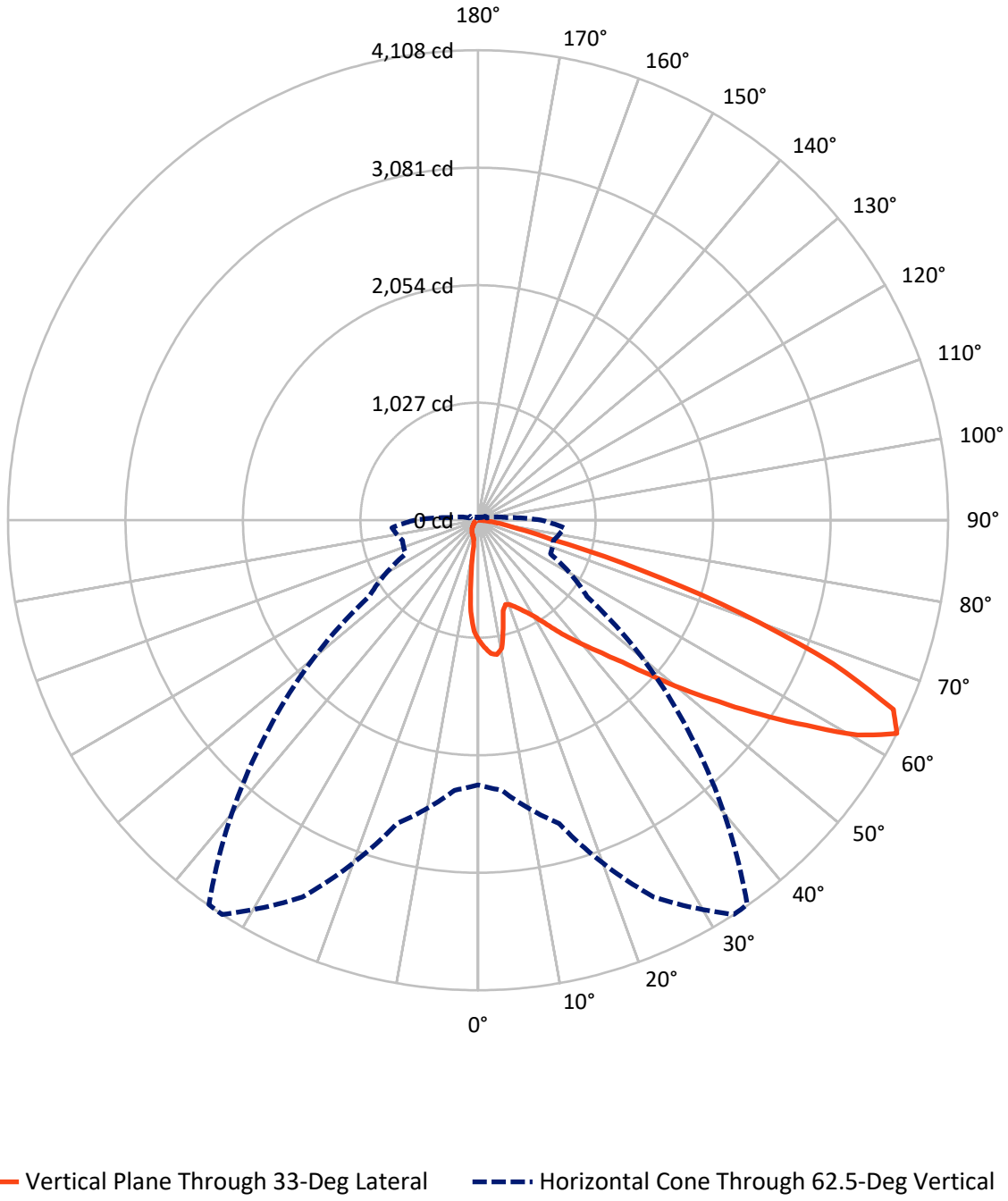

Based on 10 foot mounting height. Maximum calculated value = 12.5 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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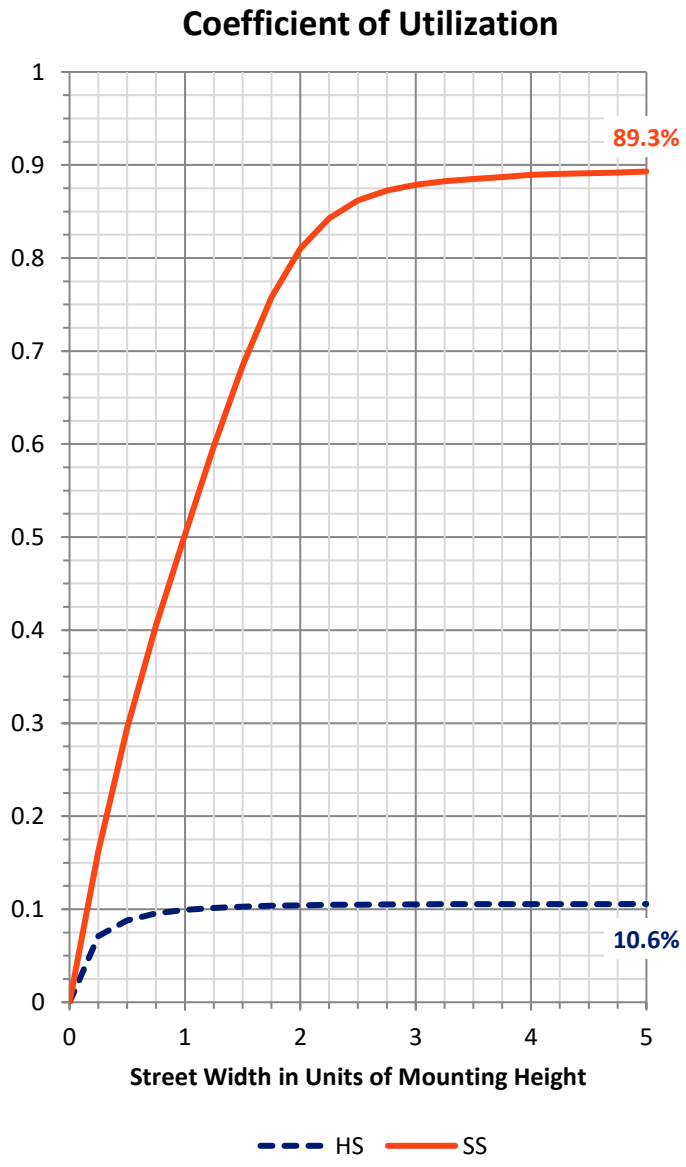
REPORT NUMBER: P1502574
CATALOG NUMBER: GSS-SB1B-735-U-T4LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 440.1 | 0.0 | 440.1 |
| | % Fixture | 10.6 | 0.0 | 10.6 |
| **Street Side** | Lumens | 3695.6 | 0.0 | 3695.6 |
| | % Fixture | 89.4 | 0.0 | 89.4 |
| **Total** | Lumens | 4135.7 | 0.0 | 4135.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 89.3 | 2.2 |
| 10°-20° | 199.3 | 4.8 |
| 20°-30° | 321.2 | 7.8 |
| 30°-40° | 534.4 | 12.9 |
| 40°-50° | 844.6 | 20.4 |
| 50°-60° | 1134.7 | 27.4 |
| 60°-70° | 833.0 | 20.1 |
| 70°-80° | 164.9 | 4.0 |
| 80°-90° | 14.3 | 0.3 |
| 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° | 4135.7 | 100.0 |
| 0°-180° | 4135.7 | 100.0 |



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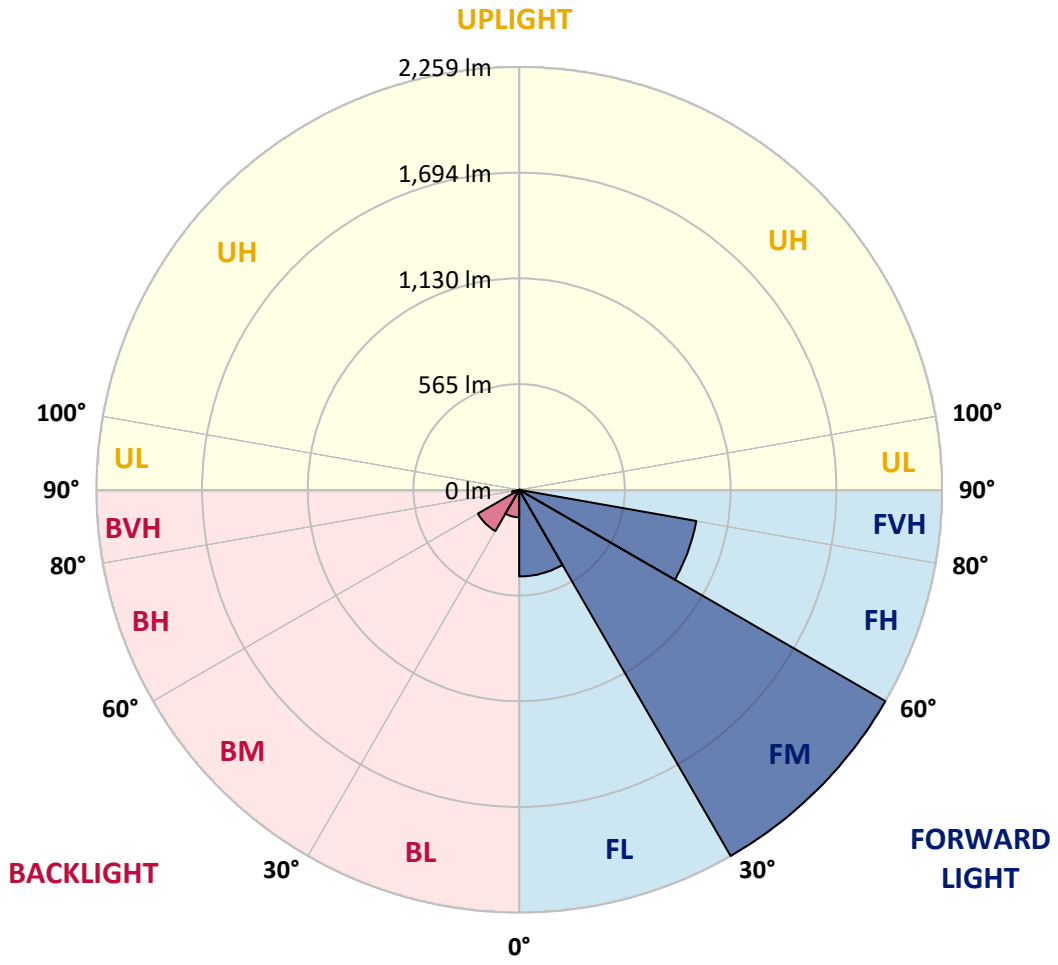
Scaled Data Report

REPORT NUMBER: P1502574
CATALOG NUMBER: GSS-SB1B-735-U-T4LG-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 463.0 | 11.2 | | | |
| FM | (30°-60°) | 2259.1 | 54.6 | | | |
| FH | (60°-80°) | 960.3 | 23.2 | | | G1/1800 |
| FVH | (80°-90°) | 13.2 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 146.8 | 3.6 | B1/500 | | |
| BM | (30°-60°) | 254.6 | 6.2 | B1/1000 | | |
| BH | (60°-80°) | 37.6 | 0.9 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 1.1 | 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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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 |
| 2.5° | 1119.2 | 1123.9 | 1123.9 | 1114.6 | 1112.2 | 1107.6 | 1102.9 | 1101.8 | 1086.6 | 1075.0 | 1063.3 |
| 5° | 1176.3 | 1175.1 | 1174.0 | 1169.3 | 1170.5 | 1164.7 | 1161.2 | 1155.3 | 1129.7 | 1112.2 | 1080.8 |
| 7.5° | 1151.8 | 1162.3 | 1167.0 | 1179.8 | 1185.6 | 1184.5 | 1193.8 | 1196.1 | 1174.0 | 1149.5 | 1101.8 |
| 10° | 992.3 | 986.5 | 1028.4 | 1083.1 | 1137.9 | 1150.7 | 1200.8 | 1227.5 | 1219.4 | 1197.3 | 1135.5 |
| 12.5° | 786.1 | 792.0 | 821.1 | 885.1 | 974.8 | 1002.8 | 1147.2 | 1253.2 | 1276.5 | 1262.5 | 1182.1 |
| 15° | 719.8 | 719.8 | 734.9 | 765.2 | 818.8 | 845.5 | 1023.7 | 1249.7 | 1337.0 | 1338.2 | 1240.4 |
| 17.5° | 705.8 | 708.1 | 720.9 | 740.7 | 775.7 | 787.3 | 911.9 | 1198.4 | 1396.4 | 1417.4 | 1305.6 |
| 20° | 708.1 | 711.6 | 725.6 | 753.5 | 787.3 | 801.3 | 882.8 | 1133.2 | 1446.5 | 1503.6 | 1374.3 |
| 22.5° | 716.3 | 715.1 | 739.6 | 776.8 | 819.9 | 832.7 | 907.3 | 1106.4 | 1488.4 | 1602.6 | 1454.6 |
| 25° | 725.6 | 726.7 | 758.2 | 810.6 | 863.0 | 878.1 | 962.0 | 1130.9 | 1518.7 | 1708.5 | 1536.2 |
| 27.5° | 753.5 | 757.0 | 795.5 | 852.5 | 914.3 | 934.1 | 1033.0 | 1194.9 | 1571.1 | 1811.0 | 1624.7 |
| 30° | 796.6 | 800.1 | 844.4 | 913.1 | 979.5 | 1009.8 | 1121.6 | 1275.3 | 1649.1 | 1929.8 | 1715.5 |
| 32.5° | 846.7 | 851.4 | 908.4 | 987.6 | 1068.0 | 1097.1 | 1222.9 | 1397.6 | 1752.8 | 2051.0 | 1809.9 |
| 35° | 909.6 | 922.4 | 984.1 | 1078.5 | 1186.8 | 1214.7 | 1347.5 | 1536.2 | 1887.9 | 2159.3 | 1890.2 |
| 37.5° | 995.8 | 1006.3 | 1082.0 | 1199.6 | 1309.1 | 1346.3 | 1487.3 | 1681.8 | 2010.2 | 2255.9 | 1955.5 |
| 40° | 1100.6 | 1109.9 | 1194.9 | 1323.0 | 1437.2 | 1468.6 | 1634.0 | 1828.5 | 2141.8 | 2309.5 | 1969.4 |
| 42.5° | 1275.3 | 1300.9 | 1354.5 | 1462.8 | 1585.1 | 1624.7 | 1797.1 | 1970.6 | 2237.3 | 2320.0 | 1947.3 |
| 45° | 1580.4 | 1588.6 | 1600.2 | 1651.5 | 1769.1 | 1804.0 | 1969.4 | 2094.0 | 2294.4 | 2322.3 | 1927.5 |
| 47.5° | 1872.8 | 1900.7 | 1917.0 | 1940.3 | 2011.4 | 2024.2 | 2149.9 | 2204.7 | 2339.8 | 2314.2 | 1927.5 |
| 50° | 2165.1 | 2186.1 | 2214.0 | 2242.0 | 2317.7 | 2322.3 | 2340.9 | 2279.2 | 2342.1 | 2247.8 | 1915.9 |
| 52.5° | 2430.6 | 2437.6 | 2485.4 | 2538.9 | 2633.3 | 2658.9 | 2518.0 | 2334.0 | 2201.2 | 2038.1 | 1861.1 |
| 55° | 2668.2 | 2677.5 | 2749.7 | 2859.2 | 2994.3 | 3028.1 | 2734.6 | 2228.0 | 1899.5 | 1766.8 | 1734.2 |
| 57.5° | 2822.0 | 2844.1 | 2988.5 | 3229.6 | 3382.1 | 3367.0 | 2902.3 | 1979.9 | 1525.7 | 1445.3 | 1509.4 |
| 60° | 2745.1 | 2775.4 | 3079.3 | 3540.5 | 3811.9 | 3767.6 | 2855.7 | 1629.3 | 1127.4 | 1069.2 | 1194.9 |
| 62.5° | 2313.0 | 2368.9 | 2745.1 | 3632.5 | 4107.7 | 4100.7 | 2592.5 | 1162.3 | 698.8 | 683.7 | 754.7 |
| 65° | 1608.4 | 1705.1 | 2151.1 | 3325.1 | 3988.9 | 3999.4 | 2182.6 | 676.7 | 323.8 | 401.8 | 441.4 |
| 67.5° | 948.0 | 1016.7 | 1385.9 | 2714.8 | 3347.2 | 3250.5 | 1483.8 | 313.3 | 161.9 | 244.6 | 234.1 |
| 70° | 416.9 | 463.5 | 794.3 | 1880.9 | 2438.8 | 2282.7 | 724.4 | 152.6 | 123.5 | 147.9 | 129.3 |
| 72.5° | 229.4 | 250.4 | 418.1 | 993.4 | 1483.8 | 1410.4 | 244.6 | 101.3 | 106.0 | 110.6 | 93.2 |
| 75° | 128.1 | 137.4 | 220.1 | 574.2 | 652.2 | 606.8 | 118.8 | 66.4 | 89.7 | 89.7 | 68.7 |
| 77.5° | 74.5 | 82.7 | 137.4 | 357.5 | 357.5 | 288.8 | 72.2 | 41.9 | 67.5 | 60.6 | 37.3 |
| 80° | 34.9 | 39.6 | 75.7 | 198.0 | 225.9 | 186.3 | 40.8 | 29.1 | 44.3 | 38.4 | 24.5 |
| 82.5° | 10.5 | 12.8 | 37.3 | 76.9 | 128.1 | 109.5 | 21.0 | 18.6 | 32.6 | 24.5 | 14.0 |
| 85° | 7.0 | 8.2 | 18.6 | 31.4 | 62.9 | 54.7 | 7.0 | 5.8 | 14.0 | 11.6 | 5.8 |
| 87.5° | 1.2 | 1.2 | 2.3 | 2.3 | 2.3 | 2.3 | 1.2 | 1.2 | 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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Scaled Data Report

REPORT NUMBER: P1502574
CATALOG NUMBER: GSS-SB1B-735-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 | 1050.5 |
| 2.5° | 1056.3 | 1048.2 | 1029.6 | 1012.1 | 1002.8 | 981.8 | 973.6 | 964.3 | 959.7 | 958.5 | 951.5 |
| 5° | 1061.0 | 1045.9 | 999.3 | 952.7 | 903.8 | 857.2 | 809.4 | 767.5 | 733.7 | 734.9 | 736.1 |
| 7.5° | 1075.0 | 1044.7 | 963.2 | 870.0 | 765.2 | 644.1 | 514.8 | 418.1 | 356.4 | 343.6 | 331.9 |
| 10° | 1093.6 | 1049.4 | 918.9 | 746.5 | 540.4 | 340.1 | 239.9 | 205.0 | 189.8 | 186.3 | 187.5 |
| 12.5° | 1128.5 | 1061.0 | 863.0 | 576.5 | 299.3 | 195.7 | 173.5 | 167.7 | 165.4 | 165.4 | 165.4 |
| 15° | 1171.6 | 1077.3 | 775.7 | 377.3 | 195.7 | 163.1 | 158.4 | 157.2 | 154.9 | 154.9 | 156.1 |
| 17.5° | 1207.7 | 1077.3 | 660.4 | 245.7 | 160.7 | 151.4 | 147.9 | 146.7 | 146.7 | 147.9 | 146.7 |
| 20° | 1247.3 | 1069.2 | 531.1 | 185.2 | 149.1 | 140.9 | 138.6 | 138.6 | 138.6 | 139.8 | 139.8 |
| 22.5° | 1288.1 | 1055.2 | 411.1 | 158.4 | 138.6 | 131.6 | 130.4 | 131.6 | 132.8 | 133.9 | 133.9 |
| 25° | 1333.5 | 1037.7 | 324.9 | 146.7 | 129.3 | 123.5 | 123.5 | 123.5 | 124.6 | 126.9 | 128.1 |
| 27.5° | 1383.6 | 1022.6 | 278.4 | 139.8 | 121.1 | 115.3 | 115.3 | 116.5 | 118.8 | 120.0 | 121.1 |
| 30° | 1430.2 | 1022.6 | 263.2 | 143.3 | 117.6 | 110.6 | 108.3 | 109.5 | 111.8 | 114.1 | 114.1 |
| 32.5° | 1488.4 | 1034.2 | 271.4 | 158.4 | 116.5 | 103.7 | 101.3 | 101.3 | 103.7 | 104.8 | 104.8 |
| 35° | 1537.3 | 1056.3 | 299.3 | 179.4 | 121.1 | 97.8 | 93.2 | 92.0 | 94.3 | 93.2 | 94.3 |
| 37.5° | 1576.9 | 1086.6 | 350.6 | 207.3 | 130.4 | 90.8 | 85.0 | 81.5 | 81.5 | 81.5 | 81.5 |
| 40° | 1588.6 | 1116.9 | 415.8 | 225.9 | 129.3 | 82.7 | 74.5 | 71.0 | 69.9 | 68.7 | 68.7 |
| 42.5° | 1572.3 | 1130.9 | 468.2 | 224.8 | 115.3 | 76.9 | 66.4 | 61.7 | 58.2 | 57.1 | 57.1 |
| 45° | 1559.5 | 1137.9 | 486.8 | 195.7 | 104.8 | 69.9 | 59.4 | 53.6 | 50.1 | 48.9 | 47.8 |
| 47.5° | 1560.6 | 1144.9 | 458.9 | 159.6 | 95.5 | 64.1 | 53.6 | 47.8 | 44.3 | 43.1 | 41.9 |
| 50° | 1565.3 | 1133.2 | 389.0 | 132.8 | 87.3 | 58.2 | 47.8 | 43.1 | 39.6 | 38.4 | 37.3 |
| 52.5° | 1516.4 | 1071.5 | 273.7 | 116.5 | 80.4 | 54.7 | 43.1 | 39.6 | 36.1 | 34.9 | 34.9 |
| 55° | 1388.3 | 923.6 | 185.2 | 103.7 | 74.5 | 50.1 | 39.6 | 37.3 | 33.8 | 31.4 | 31.4 |
| 57.5° | 1183.3 | 696.5 | 128.1 | 94.3 | 65.2 | 45.4 | 37.3 | 33.8 | 30.3 | 28.0 | 28.0 |
| 60° | 904.9 | 454.2 | 93.2 | 86.2 | 53.6 | 41.9 | 34.9 | 32.6 | 28.0 | 25.6 | 24.5 |
| 62.5° | *550.9* | *255.1* | *75.7* | *75.7* | *45.4* | *39.6* | *31.4* | *29.1* | *24.5* | *21.0* | *19.8* |
| 65° | 319.1 | 150.2 | 61.7 | 64.1 | 39.6 | 36.1 | 28.0 | 24.5 | 19.8 | 16.3 | 15.1 |
| 67.5° | 153.7 | 87.3 | 48.9 | 45.4 | 34.9 | 30.3 | 24.5 | 21.0 | 17.5 | 14.0 | 12.8 |
| 70° | 94.3 | 67.5 | 37.3 | 32.6 | 28.0 | 23.3 | 19.8 | 18.6 | 15.1 | 11.6 | 11.6 |
| 72.5° | 76.9 | 54.7 | 29.1 | 23.3 | 21.0 | 16.3 | 16.3 | 15.1 | 11.6 | 9.3 | 8.2 |
| 75° | 60.6 | 40.8 | 22.1 | 16.3 | 12.8 | 12.8 | 11.6 | 10.5 | 9.3 | 7.0 | 7.0 |
| 77.5° | 32.6 | 28.0 | 16.3 | 9.3 | 7.0 | 8.2 | 8.2 | 7.0 | 5.8 | 4.7 | 4.7 |
| 80° | 21.0 | 16.3 | 9.3 | 4.7 | 4.7 | 4.7 | 4.7 | 3.5 | 3.5 | 2.3 | 2.3 |
| 82.5° | 10.5 | 8.2 | 4.7 | 1.2 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 1.2 | 1.2 |
| 85° | 2.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 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: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

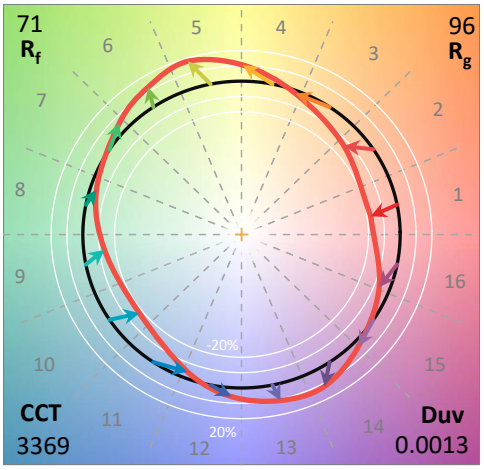
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| 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-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

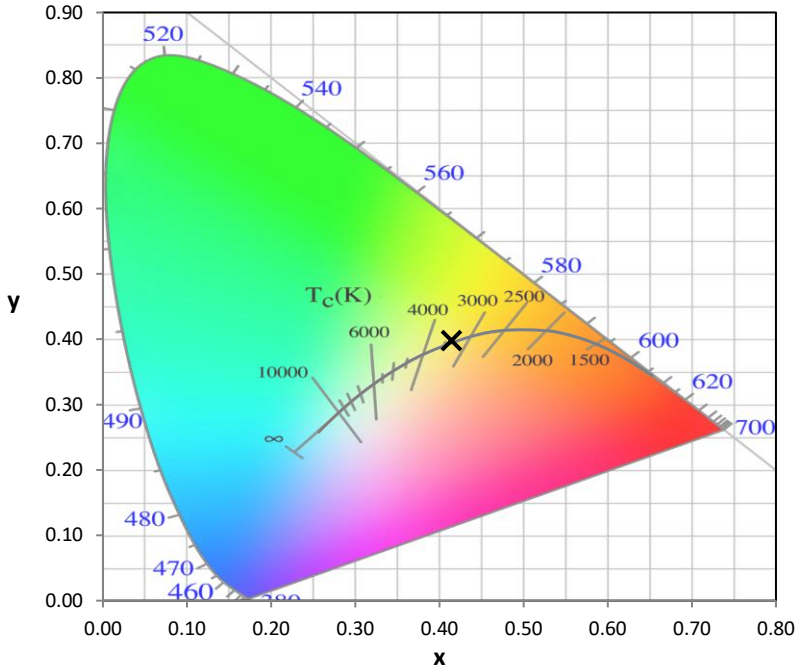
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-5

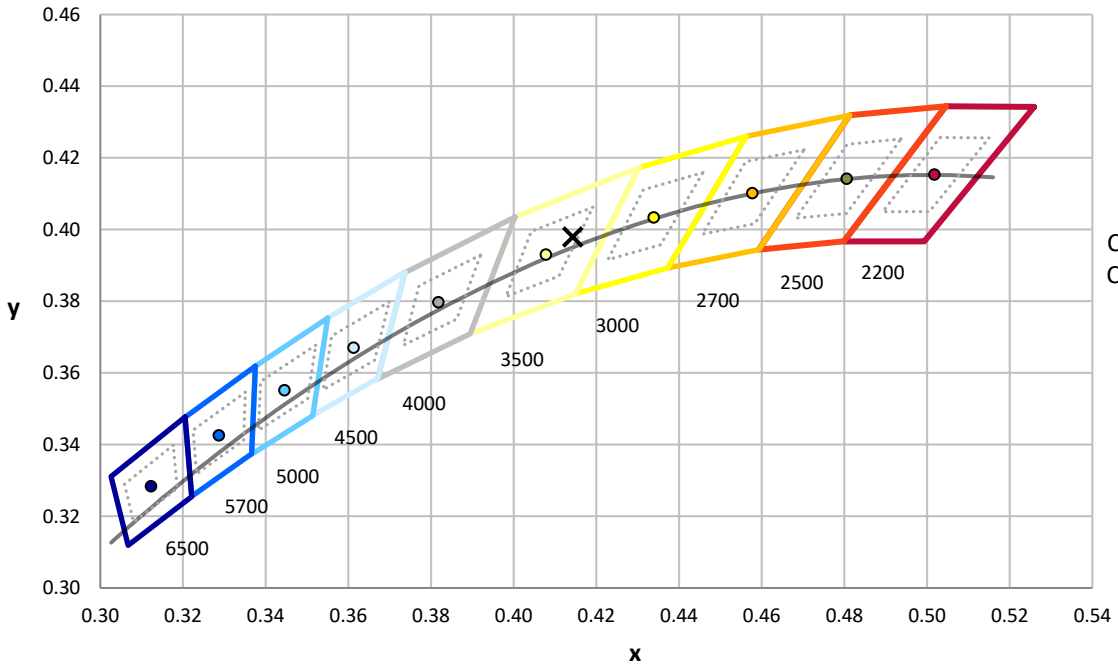
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

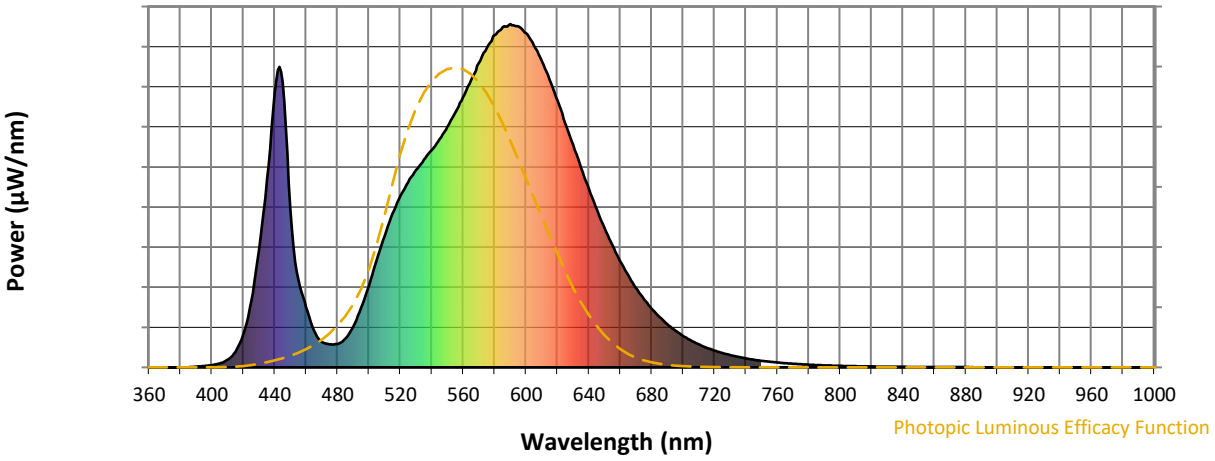



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

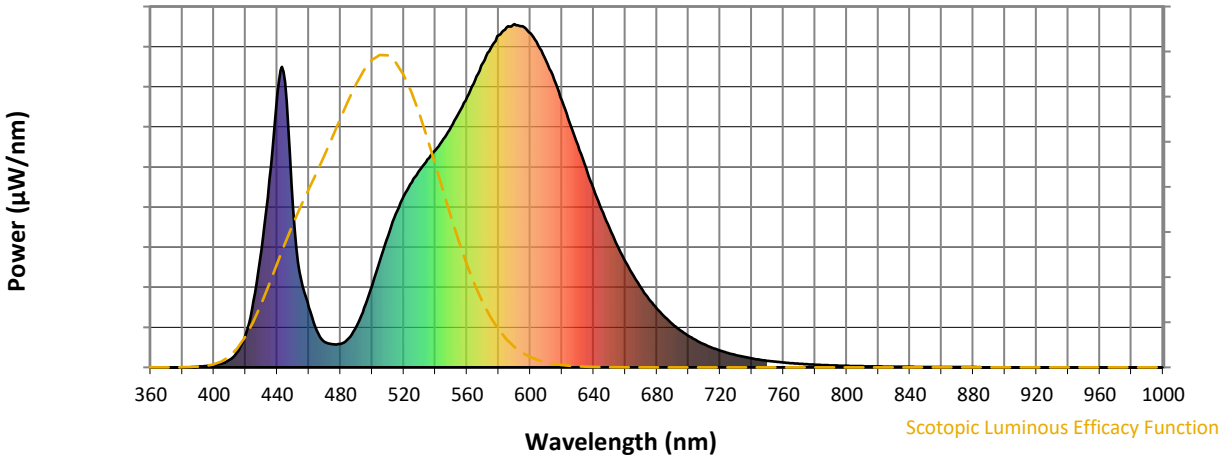



## Photopic Lumens: NR

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

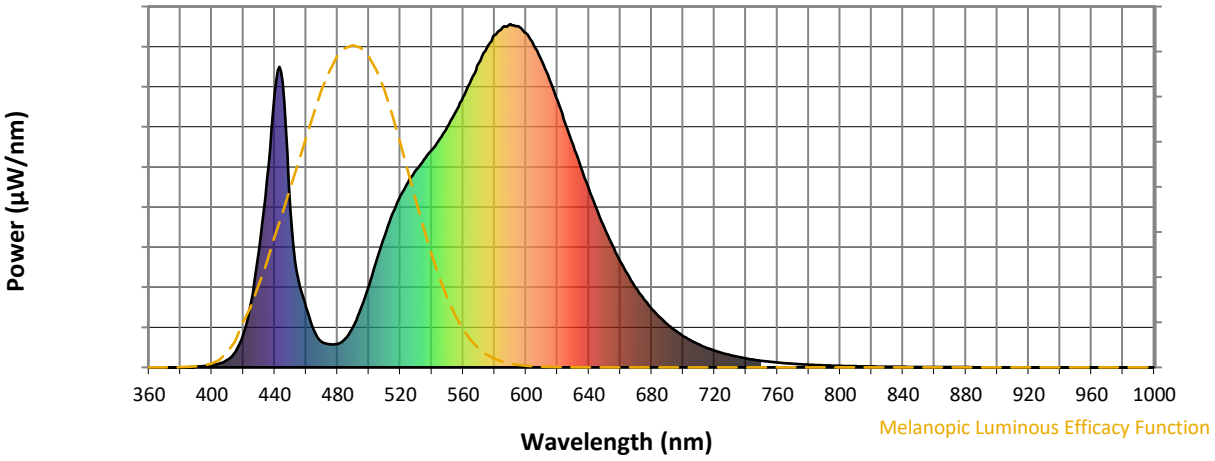



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.36**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

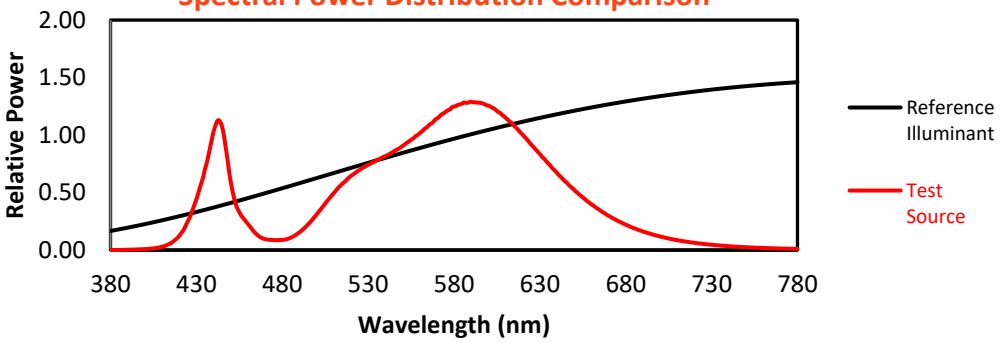
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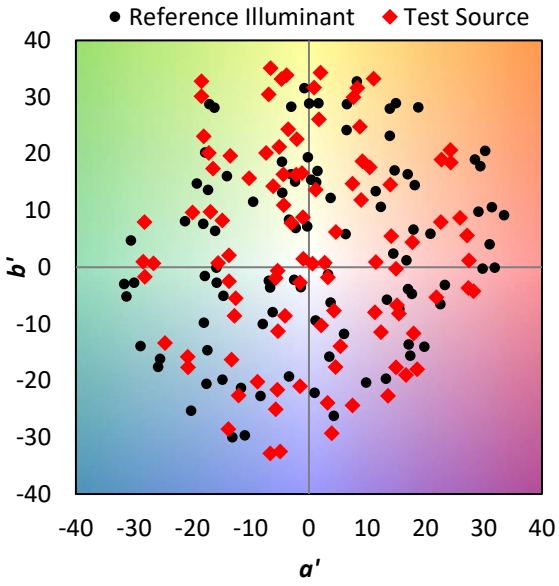
## Summary

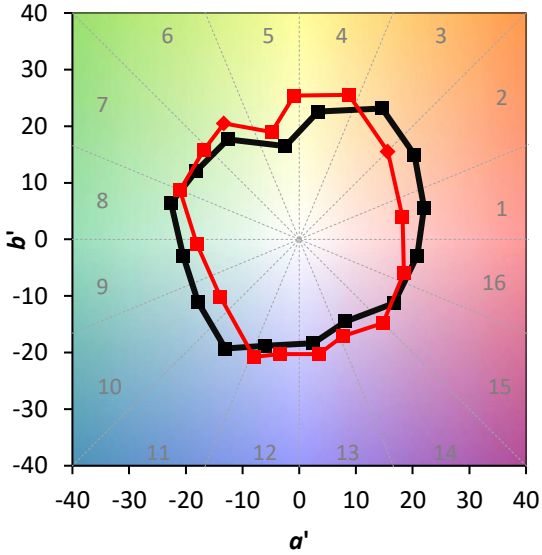
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

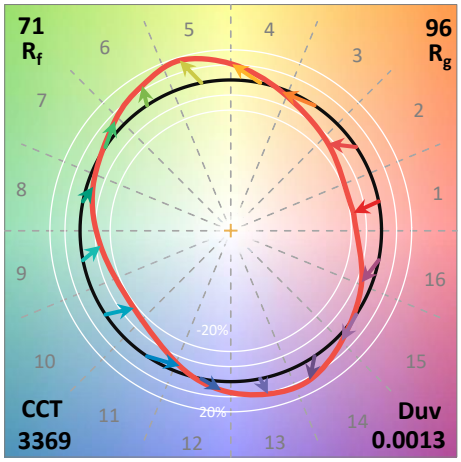
## Spectral Power Distribution Comparison

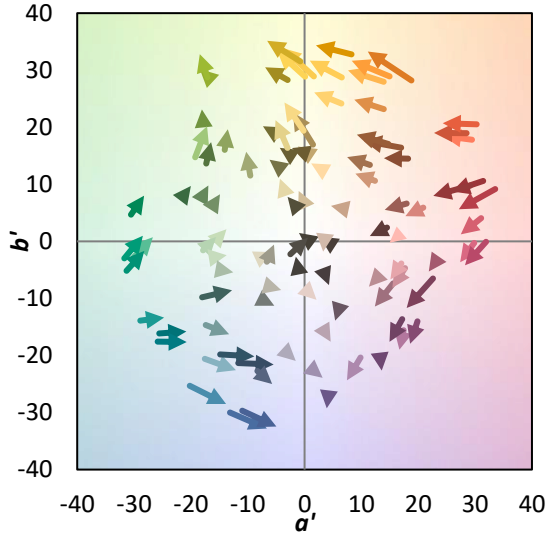



## Color Vector Graphics



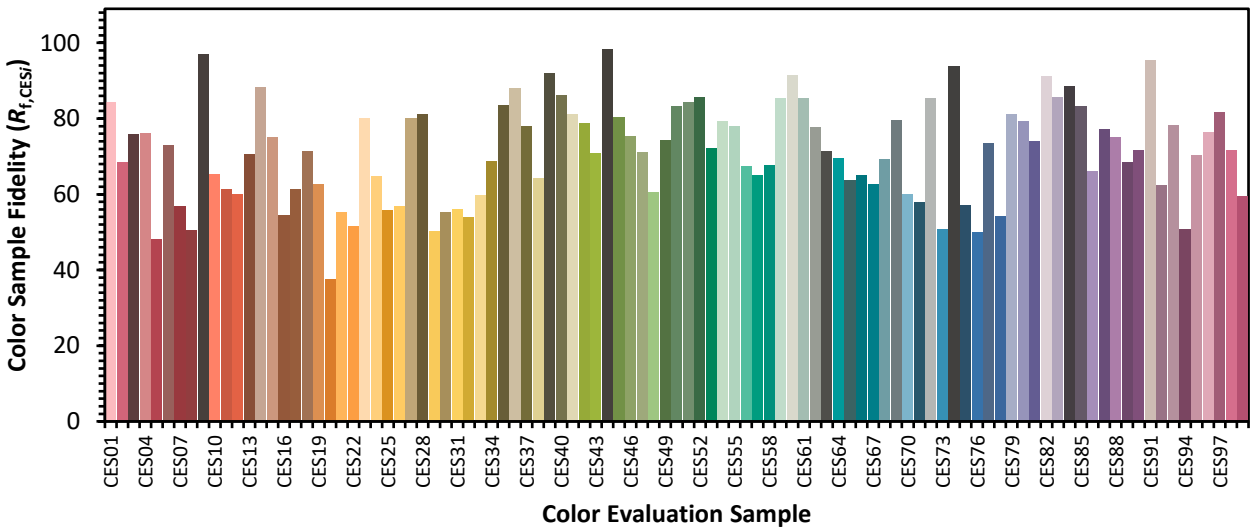



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## Individual Sample Fidelity Index ($R_{f,i}$)

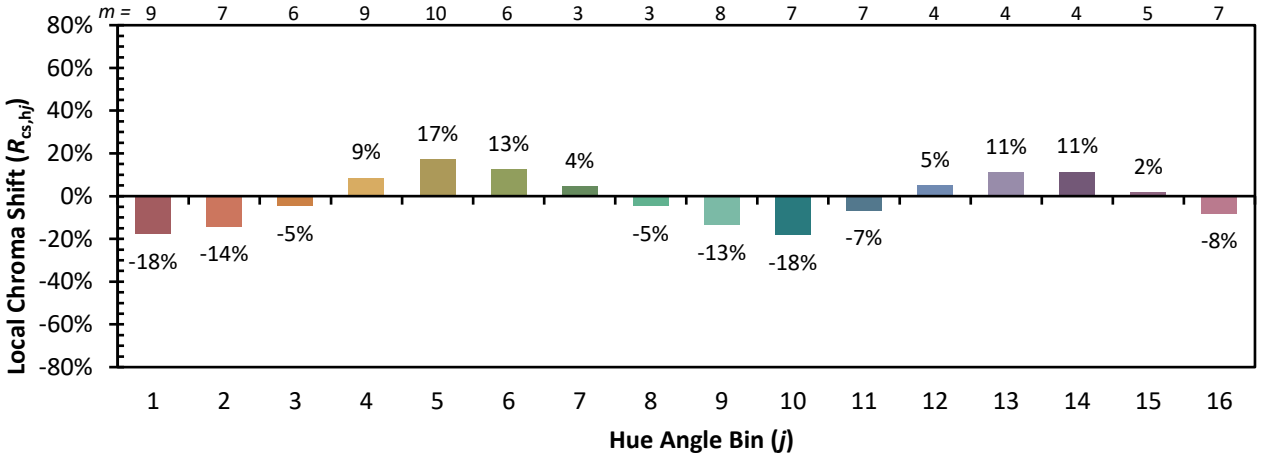
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 | |

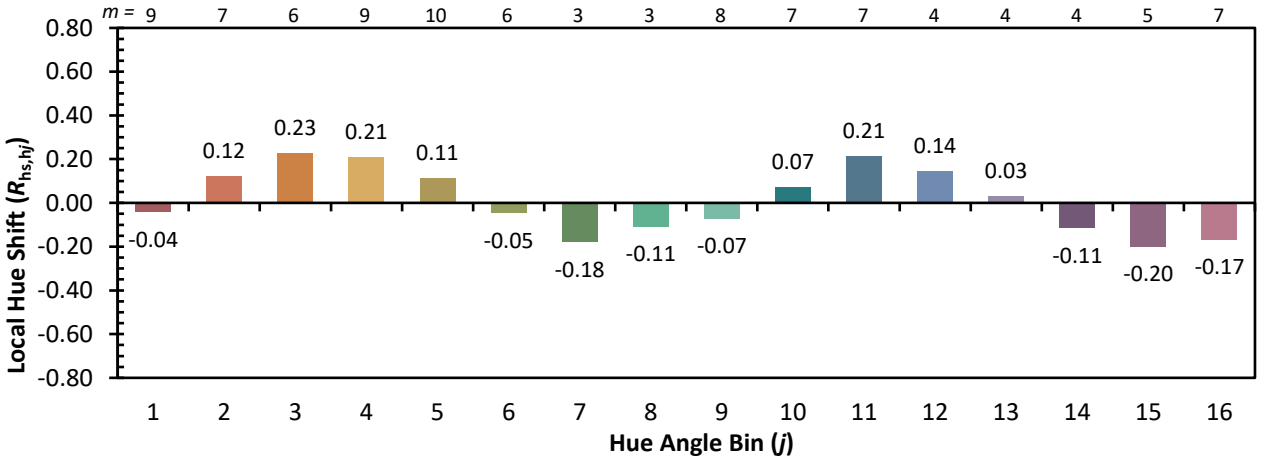


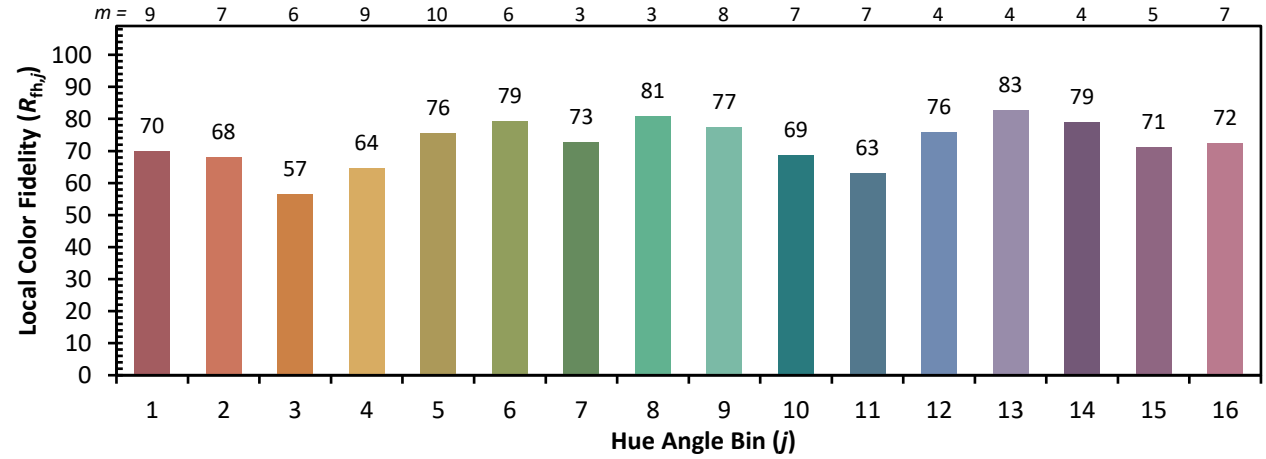
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## Color Rendition by Hue-Angle Bin



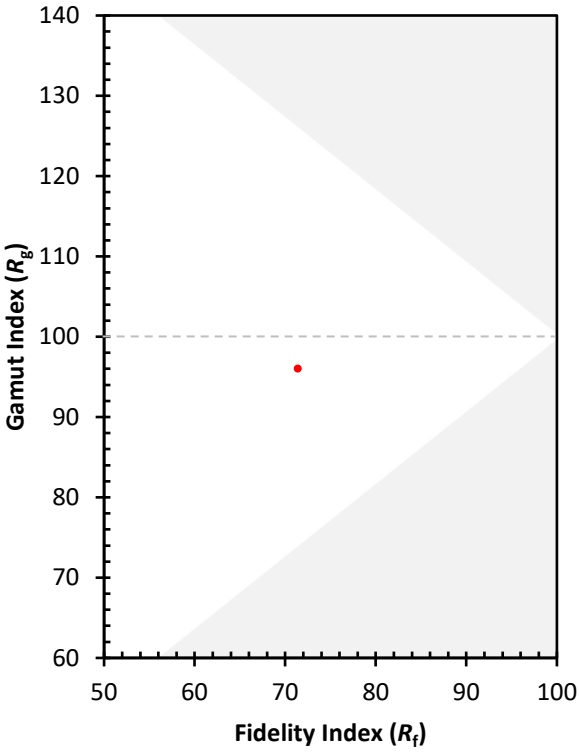



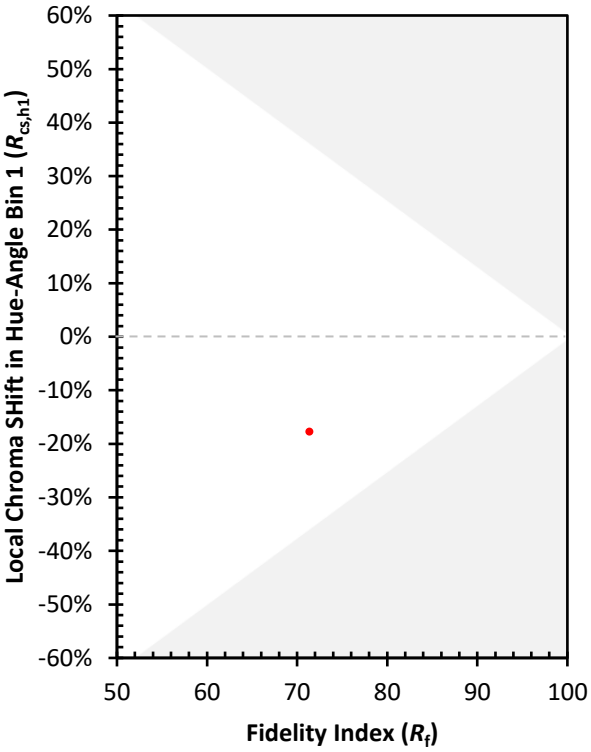



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## Measure Comparisons




(END OF REPORT)