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

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1367291

Luminaire Tested: **GSS-SB2A-735-U-T4W**

Issue Date: 02/18/2026

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1367291 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2A-735-U-T4W |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 58W 70CRI 3500K FIXTURE w/ TYPE IV WIDE DISTRIBUTION OPTIC |
| Light Source: | (52) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 7952 lumens |
| Efficiency: | N/A |
| Efficacy: | 137.1 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G2 |

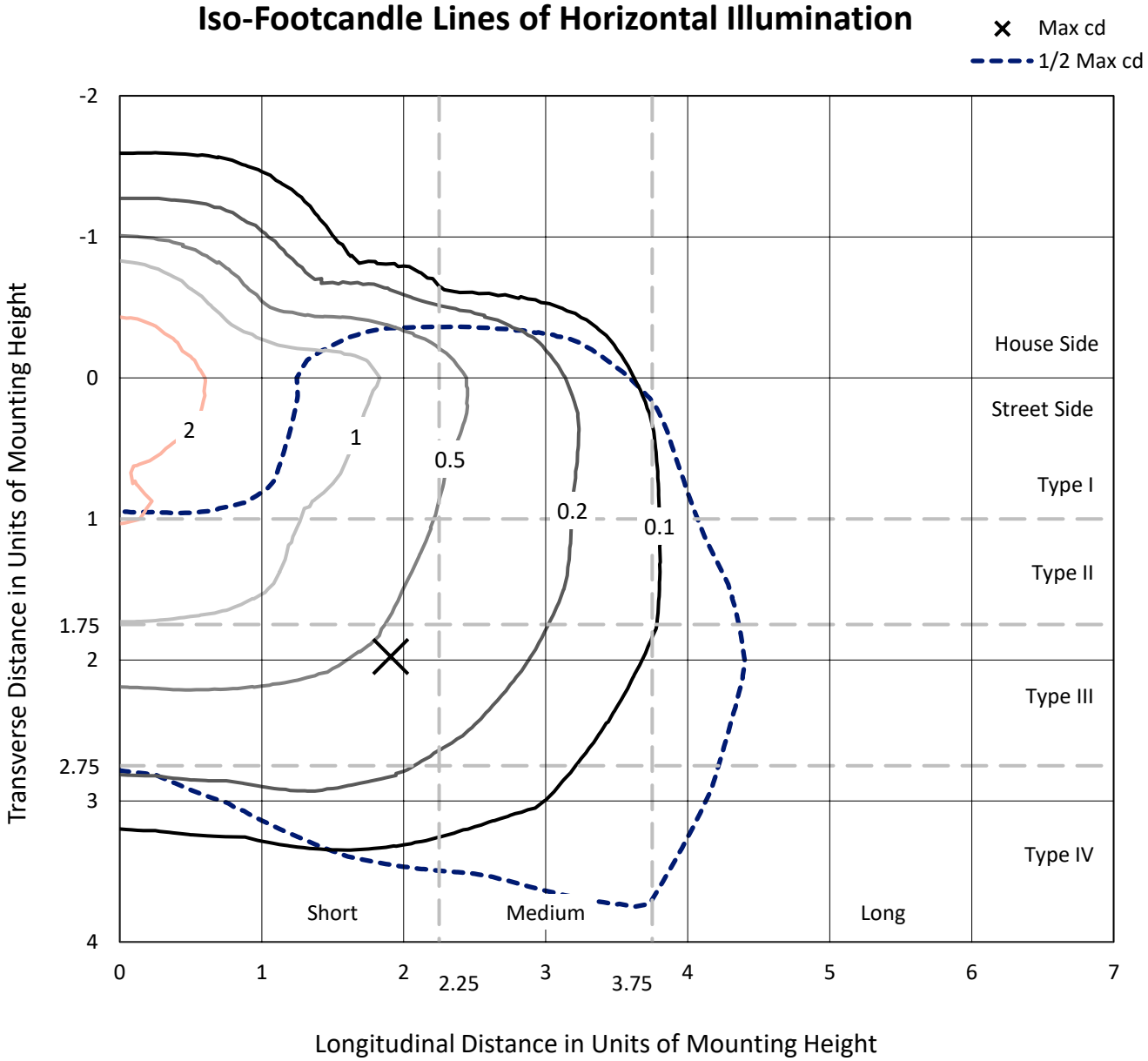
| | |
|---|---|
| Input Watts (W): | 58 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 9.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1367291
CATALOG NUMBER: GSS-SB2A-735-U-T4W

## Iso-Footcandle Lines of Horizontal Illumination



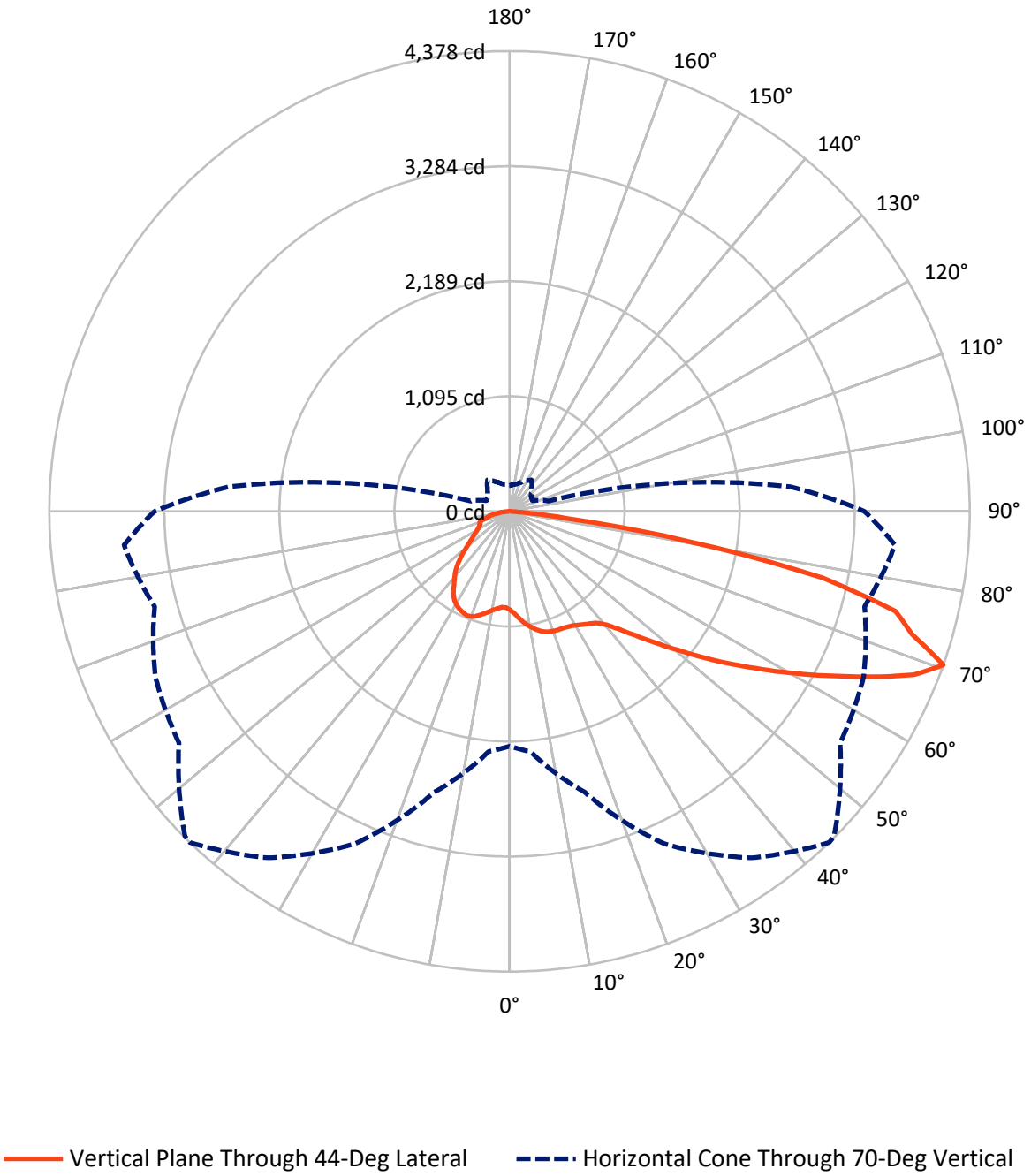

Based on 20 foot mounting height. Maximum calculated value = 2.9 fc
Type IV - Short - N/A

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REPORT NUMBER: P1367291
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## Luminous Intensity Polar Plot



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Scaled Data Report

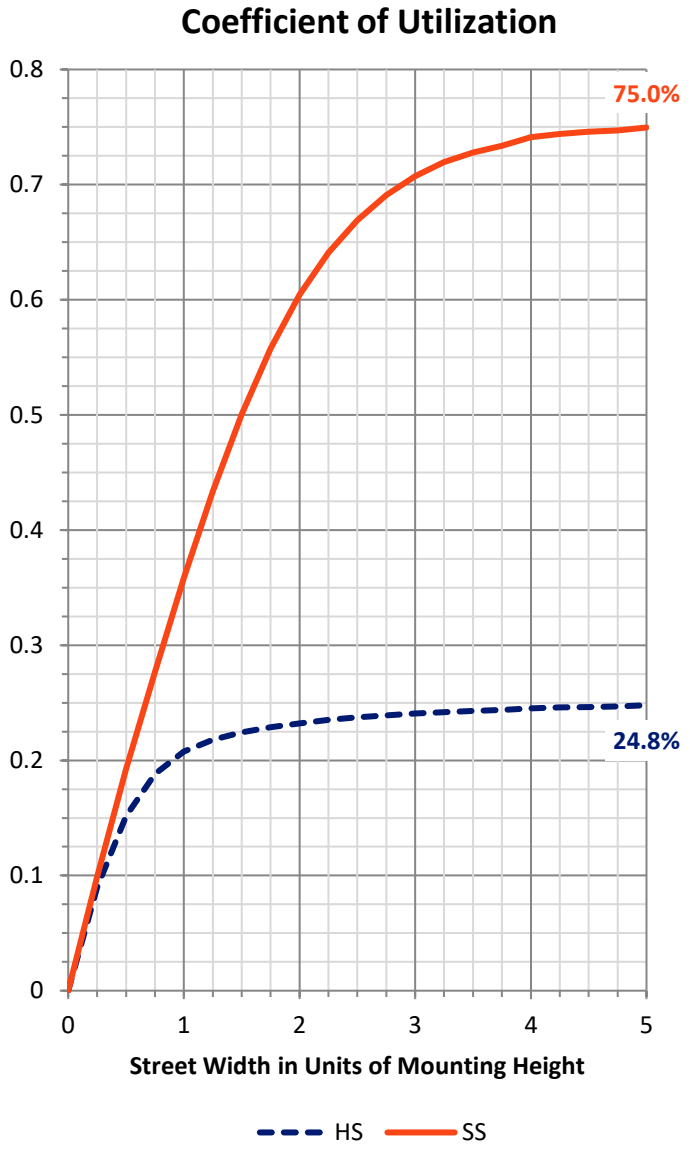
REPORT NUMBER: P1367291
CATALOG NUMBER: GSS-SB2A-735-U-T4W

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1992.5 | 0.0 | 1992.5 |
| | % Fixture | 25.1 | 0.0 | 25.1 |
| **Street Side** | Lumens | 5959.5 | 0.0 | 5959.5 |
| | % Fixture | 74.9 | 0.0 | 74.9 |
| **Total** | Lumens | 7952.0 | 0.0 | 7952.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 94.8 | 1.2 |
| 10°-20° | 311.3 | 3.9 |
| 20°-30° | 535.7 | 6.7 |
| 30°-40° | 755.1 | 9.5 |
| 40°-50° | 1044.9 | 13.1 |
| 50°-60° | 1551.9 | 19.5 |
| 60°-70° | 2074.0 | 26.1 |
| 70°-80° | 1463.1 | 18.4 |
| 80°-90° | 121.2 | 1.5 |
| 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° | 7952.0 | 100.0 |
| 0°-180° | 7952.0 | 100.0 |



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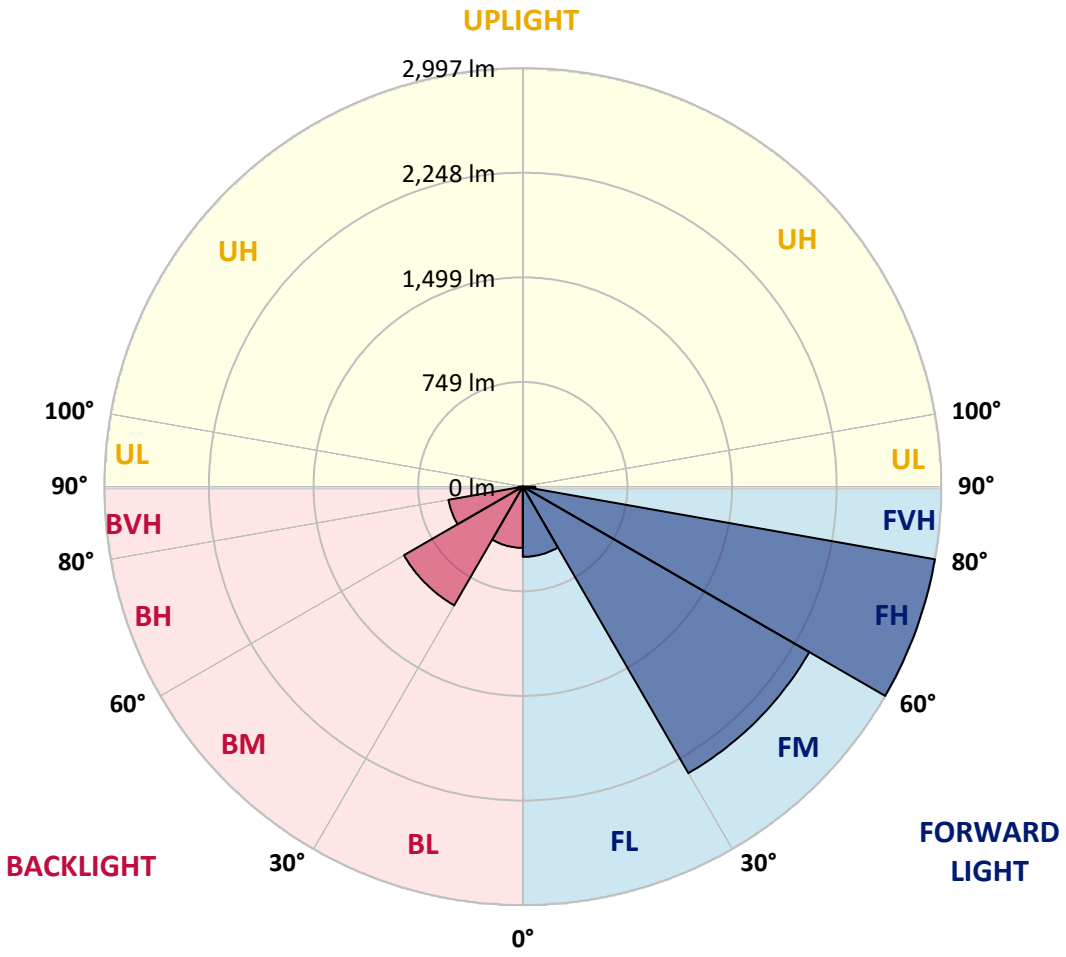
Scaled Data Report

REPORT NUMBER: P1367291
CATALOG NUMBER: GSS-SB2A-735-U-T4W

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 503.3 | 6.3 | | | |
| FM | (30°-60°) | 2369.5 | 29.8 | | | |
| FH | (60°-80°) | 2997.0 | 37.7 | | | G2/5000 |
| FVH | (80°-90°) | 89.7 | 1.1 | | | G1/100 |
| BL | (0°-30°) | 438.6 | 5.5 | B1/500 | | |
| BM | (30°-60°) | 982.4 | 12.4 | B1/1000 | | |
| BH | (60°-80°) | 540.0 | 6.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 31.5 | 0.4 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G2**
Type IV Short



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REPORT NUMBER: P1367291
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | *939.7* | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 |
| 2.5° | 1009.1 | 1003.3 | 997.6 | 995.6 | 987.9 | *976.3* | 976.3 | 972.5 | 962.8 | 955.1 | 949.3 |
| 5° | 1074.7 | 1076.7 | 1067.0 | 1059.3 | 1047.7 | *1028.4* | 1030.4 | 1013.0 | 993.7 | 972.5 | 957.0 |
| 7.5° | 1138.4 | 1138.4 | 1126.8 | 1117.2 | 1101.8 | *1078.6* | 1078.6 | 1051.6 | 1028.4 | 999.5 | 978.3 |
| 10° | 1196.3 | 1192.4 | 1177.0 | 1165.4 | 1144.2 | *1119.1* | 1117.2 | 1090.2 | 1061.2 | 1028.4 | 999.5 |
| 12.5° | 1240.7 | 1240.7 | 1225.2 | 1205.9 | 1182.8 | *1155.8* | 1153.8 | 1124.9 | 1096.0 | 1061.2 | 1026.5 |
| 15° | 1283.1 | 1273.5 | 1260.0 | 1234.9 | 1207.9 | *1186.6* | 1182.8 | 1157.7 | 1128.8 | 1097.9 | 1059.3 |
| 17.5° | 1298.6 | 1294.7 | 1277.3 | 1252.3 | 1227.2 | *1204.0* | 1204.0 | 1180.9 | 1159.6 | 1128.8 | 1090.2 |
| 20° | 1294.7 | 1288.9 | 1273.5 | 1252.3 | 1233.0 | *1213.7* | 1213.7 | 1196.3 | 1184.7 | 1155.8 | 1121.0 |
| 22.5° | 1275.4 | 1269.6 | 1260.0 | 1240.7 | 1231.0 | *1219.5* | 1219.5 | 1209.8 | 1205.9 | 1188.6 | 1155.8 |
| 25° | 1269.6 | 1265.8 | 1252.3 | 1234.9 | 1225.2 | *1223.3* | 1225.2 | 1227.2 | 1231.0 | 1217.5 | 1190.5 |
| 27.5° | 1273.5 | 1273.5 | 1261.9 | 1244.5 | 1233.0 | *1234.9* | 1236.8 | 1248.4 | 1260.0 | 1252.3 | 1229.1 |
| 30° | 1298.6 | 1292.8 | 1285.1 | 1267.7 | 1254.2 | *1256.1* | 1256.1 | 1279.3 | 1290.8 | 1281.2 | 1263.8 |
| 32.5° | 1341.0 | 1335.2 | 1323.6 | 1287.0 | 1273.5 | *1283.1* | 1287.0 | 1306.3 | 1314.0 | 1304.3 | 1296.6 |
| 35° | 1439.4 | 1445.2 | 1406.6 | 1341.0 | 1304.3 | *1312.1* | 1315.9 | 1329.4 | 1339.1 | 1335.2 | 1327.5 |
| 37.5° | 1618.9 | 1620.8 | 1572.6 | 1454.9 | 1370.0 | *1346.8* | 1348.7 | 1368.0 | 1379.6 | 1366.1 | 1360.3 |
| 40° | 1842.7 | 1844.6 | 1777.1 | 1616.9 | 1474.1 | *1416.3* | 1414.3 | 1418.2 | 1435.6 | 1412.4 | 1408.5 |
| 42.5° | 2085.8 | 2058.8 | 2000.9 | 1817.6 | 1628.5 | *1532.0* | 1514.7 | 1503.1 | 1524.3 | 1495.4 | 1476.1 |
| 45° | 2317.3 | 2298.0 | 2218.9 | 2029.8 | 1813.7 | *1684.5* | 1667.1 | 1609.2 | 1643.9 | 1620.8 | 1586.1 |
| 47.5° | 2510.3 | 2494.9 | 2435.0 | 2259.5 | 2024.1 | *1867.8* | 1840.8 | 1750.1 | 1811.8 | 1800.2 | 1757.8 |
| 50° | 2653.1 | 2637.6 | 2597.1 | 2489.1 | 2290.3 | *2072.3* | 2047.2 | 1937.2 | 2000.9 | 2022.1 | 1989.3 |
| 52.5° | 2757.3 | 2753.4 | 2738.0 | 2720.6 | 2560.5 | *2309.6* | 2280.7 | 2143.7 | 2247.9 | 2288.4 | 2278.8 |
| 55° | 2915.5 | 2907.8 | 2913.6 | 2942.5 | 2849.9 | *2562.4* | 2519.9 | 2359.8 | 2502.6 | 2577.8 | 2593.3 |
| 57.5° | 3066.0 | 3066.0 | 3116.2 | 3191.4 | 3179.8 | *2834.5* | 2784.3 | 2612.6 | 2811.3 | 2848.0 | 2921.3 |
| 60° | 3206.8 | 3220.4 | 3289.8 | 3455.8 | 3488.6 | *3129.7* | 3069.9 | 2903.9 | 3104.6 | 3145.1 | 3278.2 |
| 62.5° | 3147.0 | 3179.8 | 3401.7 | 3669.9 | 3778.0 | *3446.1* | 3386.3 | 3224.2 | 3434.5 | 3386.3 | 3505.9 |
| 65° | 2842.2 | 2892.3 | 3235.8 | 3683.4 | 4059.7 | *3793.4* | 3743.2 | 3585.0 | 3615.9 | 3423.0 | 3633.3 |
| 67.5° | 2521.9 | 2595.2 | 2994.6 | 3519.4 | 4133.0 | *4148.4* | 4104.1 | 3806.9 | 3614.0 | 3461.5 | 3762.5 |
| 70° | *2234.4* | *2294.2* | *2765.0* | *3490.5* | *4023.0* | *4378.1* | *4368.4* | *3839.7* | *3718.2* | *3496.3* | *3681.5* |
| 72.5° | 1566.8 | 1649.7 | 2132.1 | 3222.3 | 4055.8 | *4003.7* | 3982.5 | 4069.3 | 3795.3 | 3368.9 | 3262.8 |
| 75° | 563.4 | 596.2 | 1105.6 | 2180.3 | 3224.2 | *3791.5* | 3808.9 | 3770.3 | 3720.1 | 3017.8 | 2452.4 |
| 77.5° | 167.9 | 179.4 | 314.5 | 864.4 | 1808.0 | *3042.8* | 3071.8 | 2969.5 | 2795.9 | 1819.5 | 928.1 |
| 80° | 90.7 | 98.4 | 148.6 | 252.8 | 677.3 | *1717.3* | 1796.4 | 1520.5 | 1007.2 | 480.4 | 208.4 |
| 82.5° | 44.4 | 48.2 | 77.2 | 123.5 | 291.4 | *546.1* | 548.0 | 486.2 | 328.0 | 144.7 | 77.2 |
| 85° | 15.4 | 17.4 | 25.1 | 46.3 | 100.3 | *111.9* | 111.9 | 104.2 | 96.5 | 71.4 | 34.7 |
| 87.5° | 3.9 | 3.9 | 5.8 | 7.7 | 9.6 | *11.6* | 11.6 | 13.5 | 15.4 | 17.4 | 17.4 |
| 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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Scaled Data Report

REPORT NUMBER: P1367291
CATALOG NUMBER: GSS-SB2A-735-U-T4W

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 | 939.7 |
| 2.5° | 945.5 | 937.7 | 932.0 | 926.2 | 922.3 | 914.6 | 912.7 | 912.7 | 910.7 | 912.7 | 910.7 |
| 5° | 951.2 | 939.7 | 930.0 | 922.3 | 918.4 | 914.6 | 914.6 | 916.5 | 914.6 | 916.5 | 914.6 |
| 7.5° | 962.8 | 955.1 | 945.5 | 933.9 | 932.0 | 930.0 | 932.0 | 935.8 | 937.7 | 939.7 | 935.8 |
| 10° | 986.0 | 974.4 | 960.9 | 955.1 | 951.2 | 949.3 | 955.1 | 962.8 | 964.8 | 968.6 | 964.8 |
| 12.5° | 1013.0 | 999.5 | 989.8 | 976.3 | 976.3 | 978.3 | 984.1 | 993.7 | 999.5 | 1005.3 | 999.5 |
| 15° | 1043.9 | 1030.4 | 1016.9 | 1005.3 | 1003.3 | 1007.2 | 1016.9 | 1026.5 | 1028.4 | 1030.4 | 1026.5 |
| 17.5° | 1074.7 | 1061.2 | 1043.9 | 1030.4 | 1028.4 | 1038.1 | 1041.9 | 1041.9 | 1038.1 | 1038.1 | 1032.3 |
| 20° | 1105.6 | 1096.0 | 1078.6 | 1053.5 | 1061.2 | 1065.1 | 1053.5 | 1043.9 | 1038.1 | 1036.1 | 1030.4 |
| 22.5° | 1142.3 | 1126.8 | 1107.5 | 1080.5 | 1086.3 | 1070.9 | 1049.7 | 1045.8 | 1040.0 | 1041.9 | 1036.1 |
| 25° | 1177.0 | 1167.4 | 1136.5 | 1101.8 | 1086.3 | 1061.2 | 1047.7 | 1047.7 | 1041.9 | 1045.8 | 1043.9 |
| 27.5° | 1217.5 | 1205.9 | 1163.5 | 1113.3 | 1072.8 | 1045.8 | 1043.9 | 1043.9 | 1034.2 | 1036.1 | 1034.2 |
| 30° | 1258.0 | 1240.7 | 1184.7 | 1103.7 | 1040.0 | 1022.6 | 1028.4 | 1026.5 | 1022.6 | 1028.4 | 1032.3 |
| 32.5° | 1292.8 | 1279.3 | 1196.3 | 1080.5 | 999.5 | 991.8 | 995.6 | 1005.3 | 1014.9 | 1020.7 | 1028.4 |
| 35° | 1329.4 | 1314.0 | 1205.9 | 1040.0 | 955.1 | 943.5 | 941.6 | 970.5 | 987.9 | 997.6 | 1003.3 |
| 37.5° | 1368.0 | 1348.7 | 1211.7 | 995.6 | 912.7 | 877.9 | 883.7 | 906.9 | 926.2 | 943.5 | 957.0 |
| 40° | 1420.1 | 1400.8 | 1219.5 | 947.4 | 868.3 | 822.0 | 814.3 | 820.0 | 833.5 | 858.6 | 872.1 |
| 42.5° | 1497.3 | 1466.4 | 1219.5 | 885.6 | 804.6 | 771.8 | 744.8 | 723.6 | 715.8 | 731.3 | 739.0 |
| 45° | 1603.4 | 1557.1 | 1211.7 | 822.0 | 731.3 | 708.1 | 663.8 | 629.0 | 598.1 | 582.7 | 578.9 |
| 47.5° | 1779.0 | 1698.0 | 1204.0 | 760.2 | 661.8 | 632.9 | 578.9 | 538.3 | 494.0 | 453.4 | 443.8 |
| 50° | 2014.4 | 1885.1 | 1205.9 | 698.5 | 592.4 | 553.8 | 505.5 | 463.1 | 411.0 | 372.4 | 366.6 |
| 52.5° | 2325.1 | 2147.5 | 1217.5 | 630.9 | 524.8 | 490.1 | 449.6 | 407.1 | 355.0 | 326.1 | 324.2 |
| 55° | 2685.9 | 2464.0 | 1258.0 | 555.7 | 463.1 | 436.1 | 407.1 | 366.6 | 322.2 | 297.1 | 293.3 |
| 57.5° | 3106.5 | 2830.6 | 1339.1 | 476.6 | 407.1 | 397.5 | 374.3 | 335.7 | 299.1 | 274.0 | 270.1 |
| 60° | 3521.4 | 3185.6 | 1400.8 | 407.1 | 362.7 | 362.7 | 341.5 | 312.6 | 262.4 | 241.2 | 237.3 |
| 62.5° | 3714.3 | 3295.6 | 1283.1 | 351.2 | 328.0 | 333.8 | 320.3 | 279.8 | 264.3 | 254.7 | 248.9 |
| 65° | 3760.6 | 3233.9 | 964.8 | 308.7 | 299.1 | 318.4 | 297.1 | 299.1 | 285.6 | 275.9 | 270.1 |
| 67.5° | 3704.7 | 3058.3 | 617.4 | 272.1 | 277.8 | 299.1 | 328.0 | 329.9 | 285.6 | 264.3 | 260.5 |
| 70° | *3376.6* | *2682.0* | *380.1* | *241.2* | *248.9* | *295.2* | *364.7* | *310.7* | *270.1* | *252.8* | *245.0* |
| 72.5° | 2817.1 | 2213.1 | 266.3 | 212.2 | 212.2 | 279.8 | 328.0 | 291.4 | 248.9 | 239.3 | 229.6 |
| 75° | 1977.7 | 1497.3 | 194.9 | 177.5 | 177.5 | 218.0 | 302.9 | 266.3 | 233.5 | 237.3 | 233.5 |
| 77.5° | 673.4 | 486.2 | 140.9 | 137.0 | 131.2 | 187.2 | 270.1 | 254.7 | 216.1 | 204.5 | 189.1 |
| 80° | 198.7 | 156.3 | 104.2 | 96.5 | 94.5 | 150.5 | 227.7 | 187.2 | 154.4 | 140.9 | 131.2 |
| 82.5° | 77.2 | 69.5 | 67.5 | 61.7 | 59.8 | 100.3 | 150.5 | 129.3 | 115.8 | 96.5 | 94.5 |
| 85° | 30.9 | 30.9 | 34.7 | 34.7 | 30.9 | 54.0 | 90.7 | 71.4 | 67.5 | 59.8 | 57.9 |
| 87.5° | 15.4 | 15.4 | 13.5 | 9.6 | 9.6 | 11.6 | 9.6 | 9.6 | 9.6 | 9.6 | 9.6 |
| 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

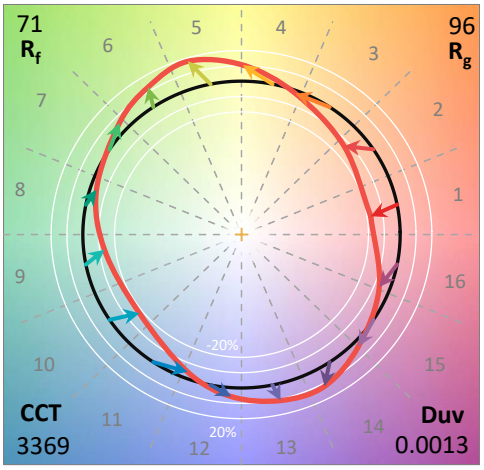
## Test Information

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

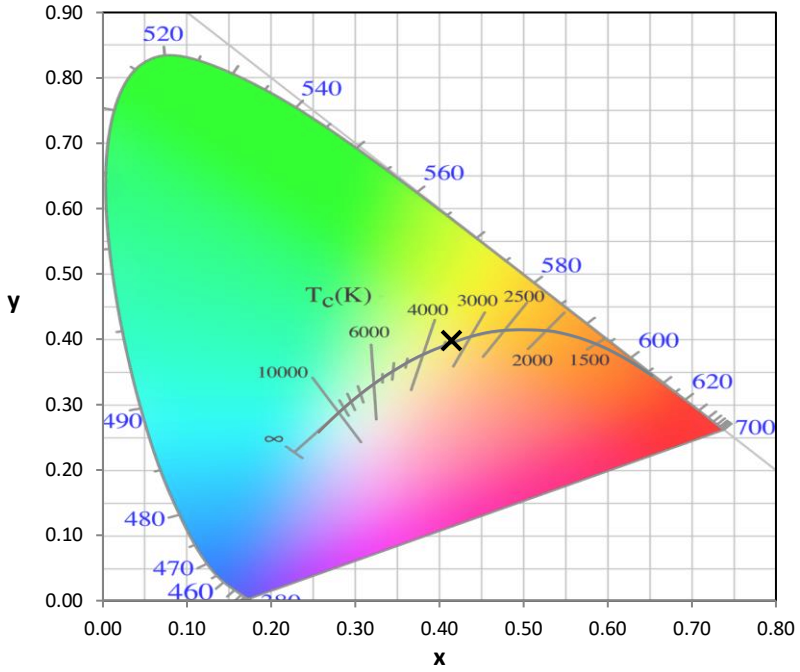
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-5

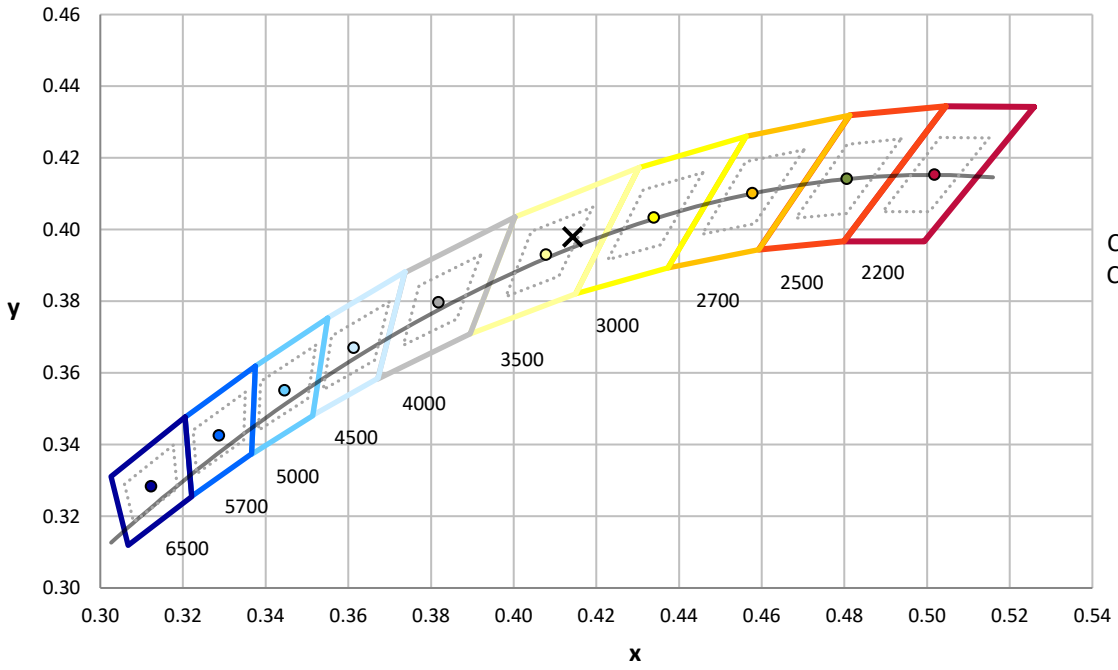
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

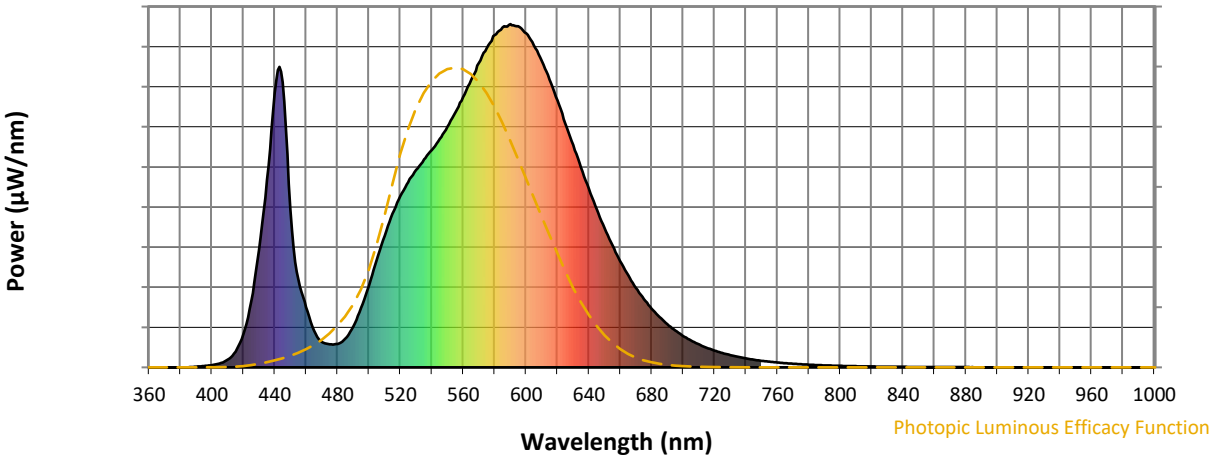



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

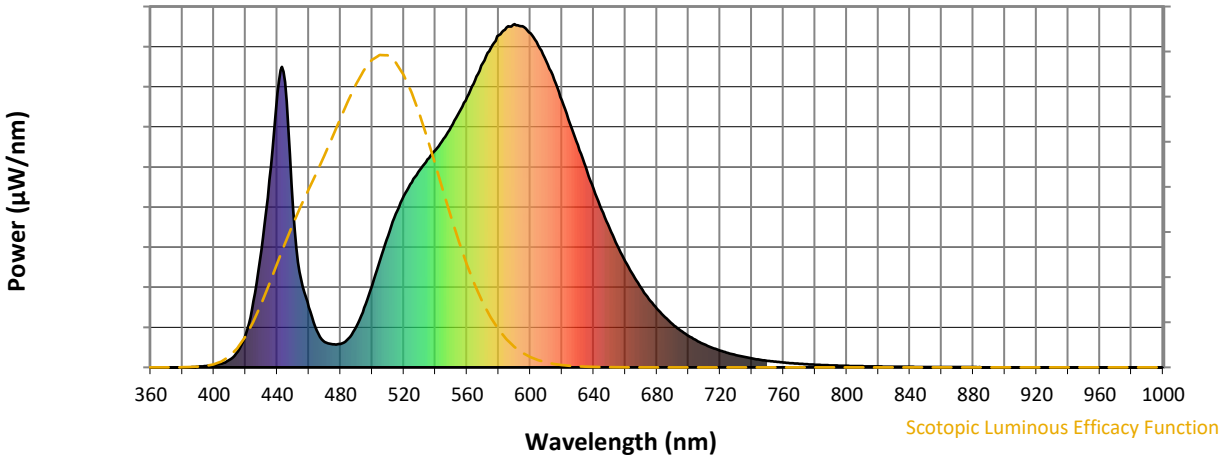



## Photopic Lumens: NR

| 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

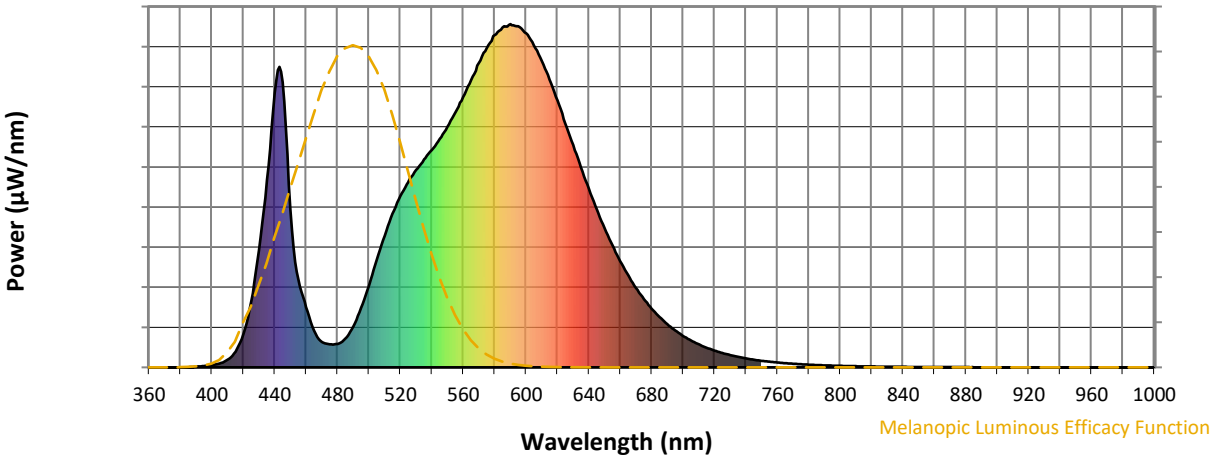



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | | | |

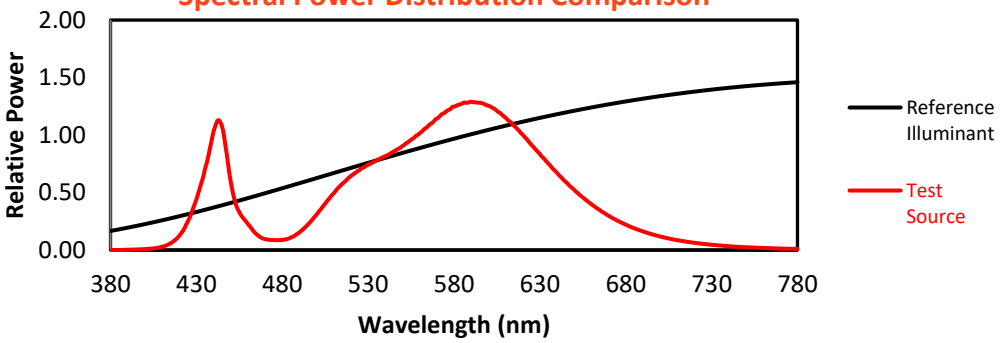
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# TM-30-18

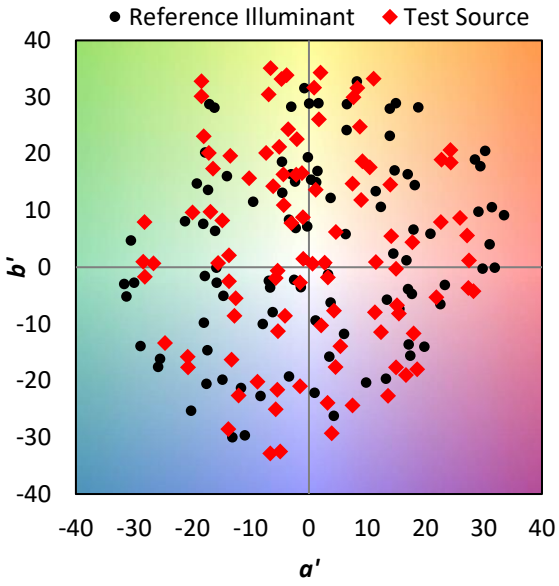
## Summary

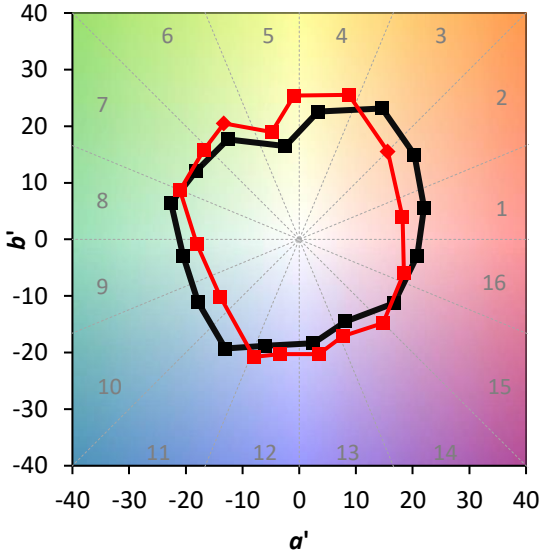
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

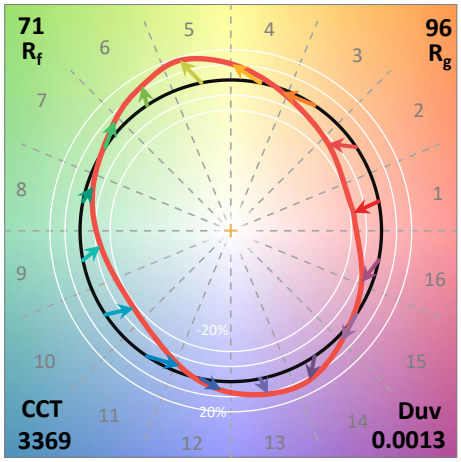
## Spectral Power Distribution Comparison

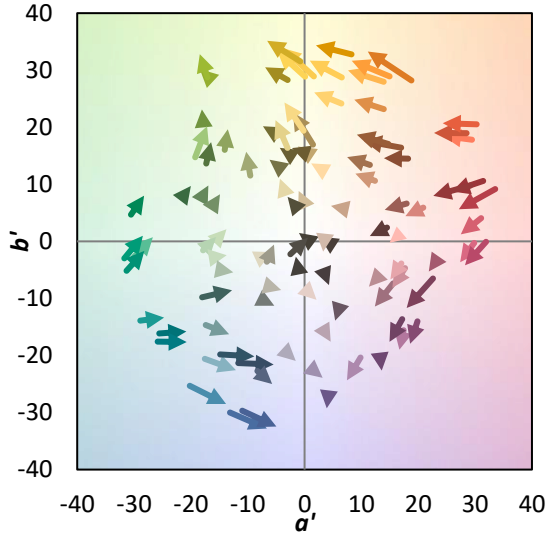



## Color Vector Graphics



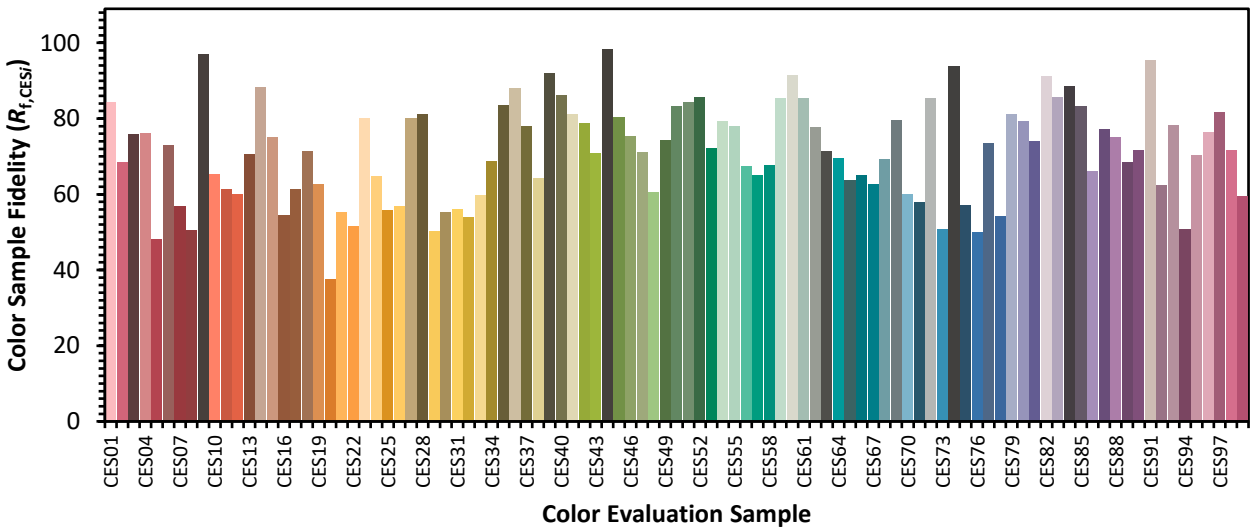



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## Individual Sample Fidelity Index ($R_{f,i}$)

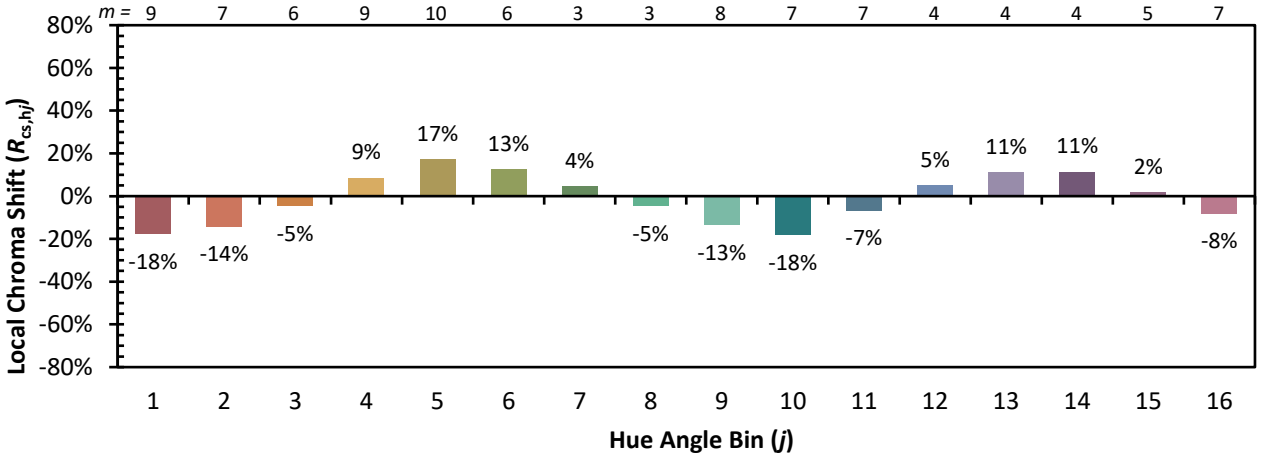
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 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 | |

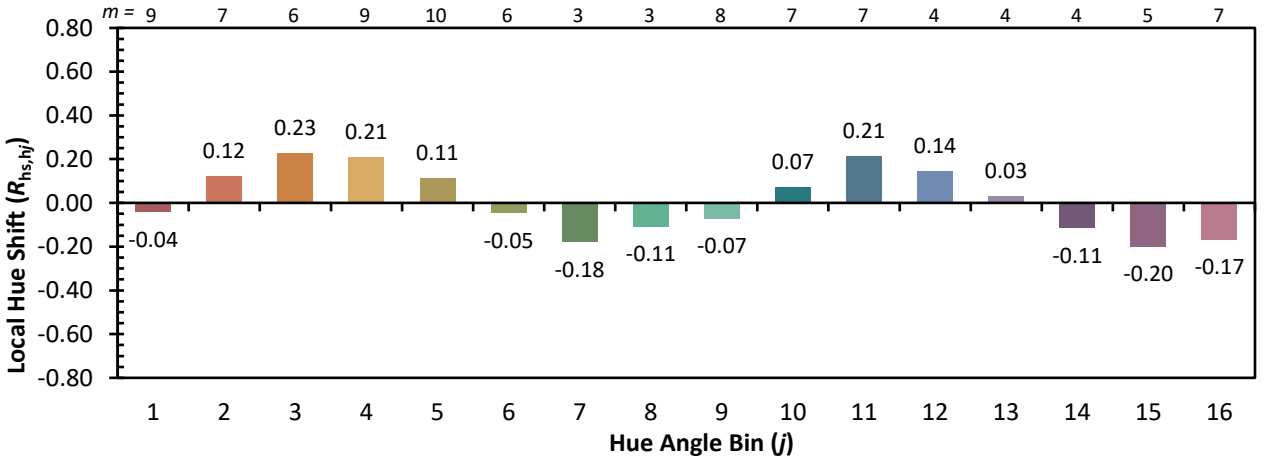


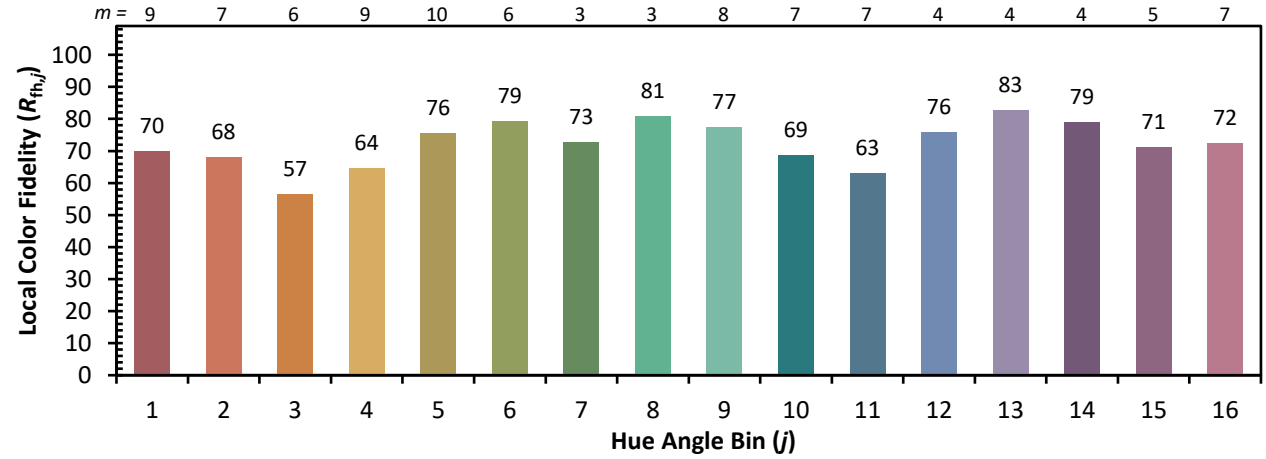
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## Color Rendition by Hue-Angle Bin



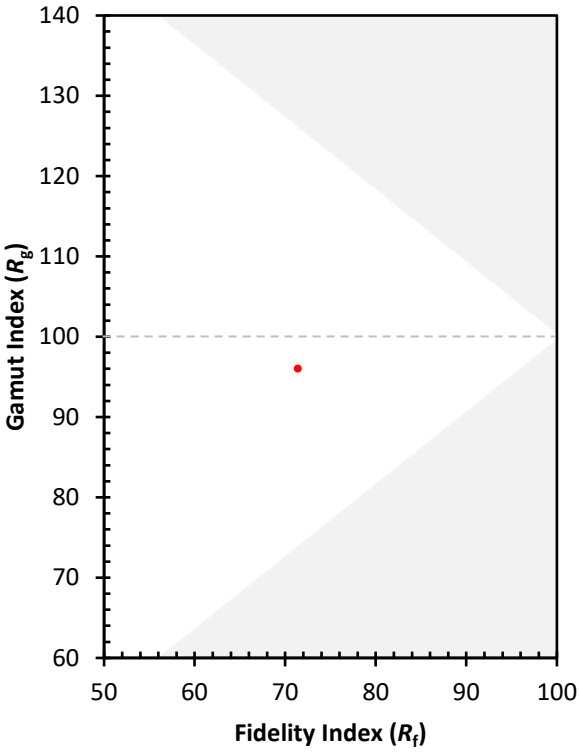



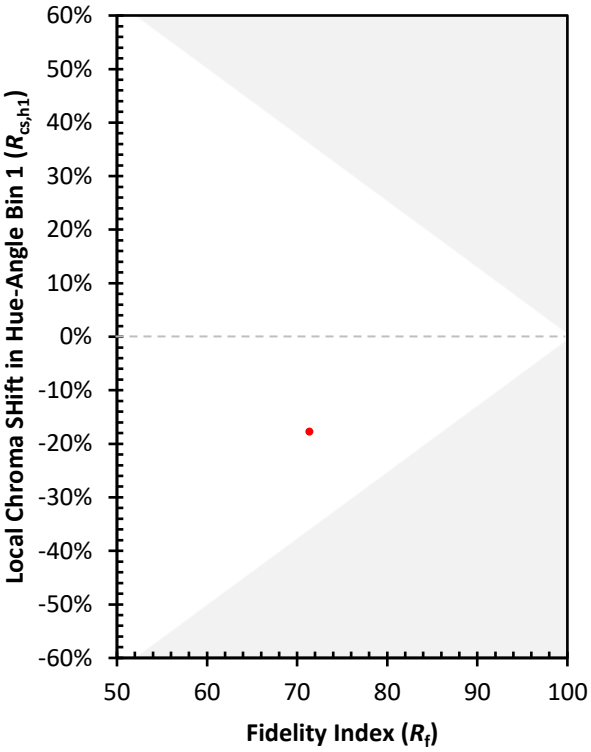



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## Measure Comparisons




(END OF REPORT)