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: P1359256

Luminaire Tested: **GSS-SB3B-750-U-T2**

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: | P1359256 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3B-750-U-T2 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 109W 70CRI 5000K FIXTURE w/ TYPE II DISTRIBUTION OPTIC |
| Light Source: | (78) 5000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 16261 lumens |
| Efficiency: | N/A |
| Efficacy: | 149.2 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B3 - U0 - G3 |

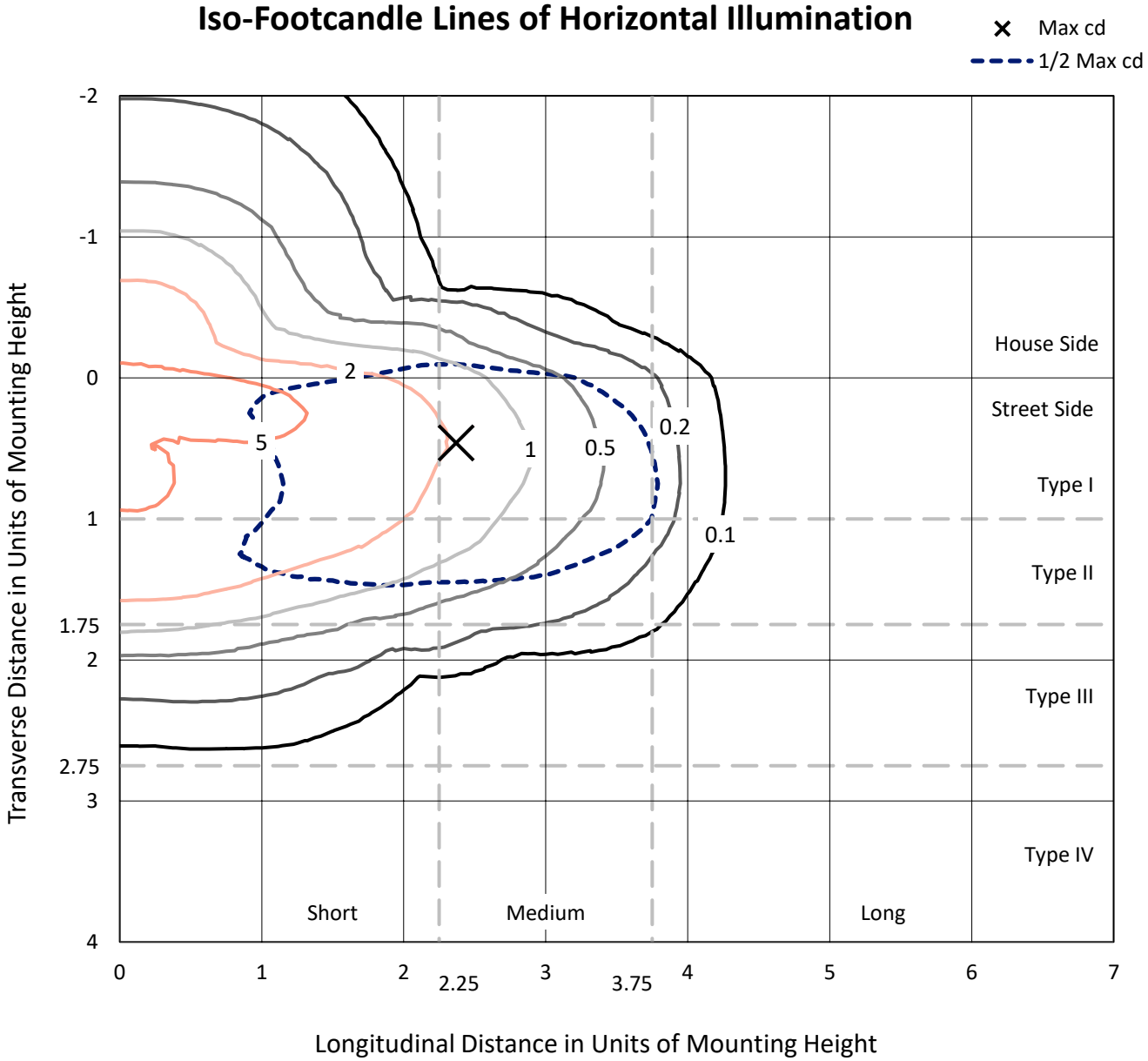
| | |
|---|---|
| Input Watts (W): | 109 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.7% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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

Scaled Data Report

REPORT NUMBER: P1359256
CATALOG NUMBER: GSS-SB3B-750-U-T2

## Iso-Footcandle Lines of Horizontal Illumination



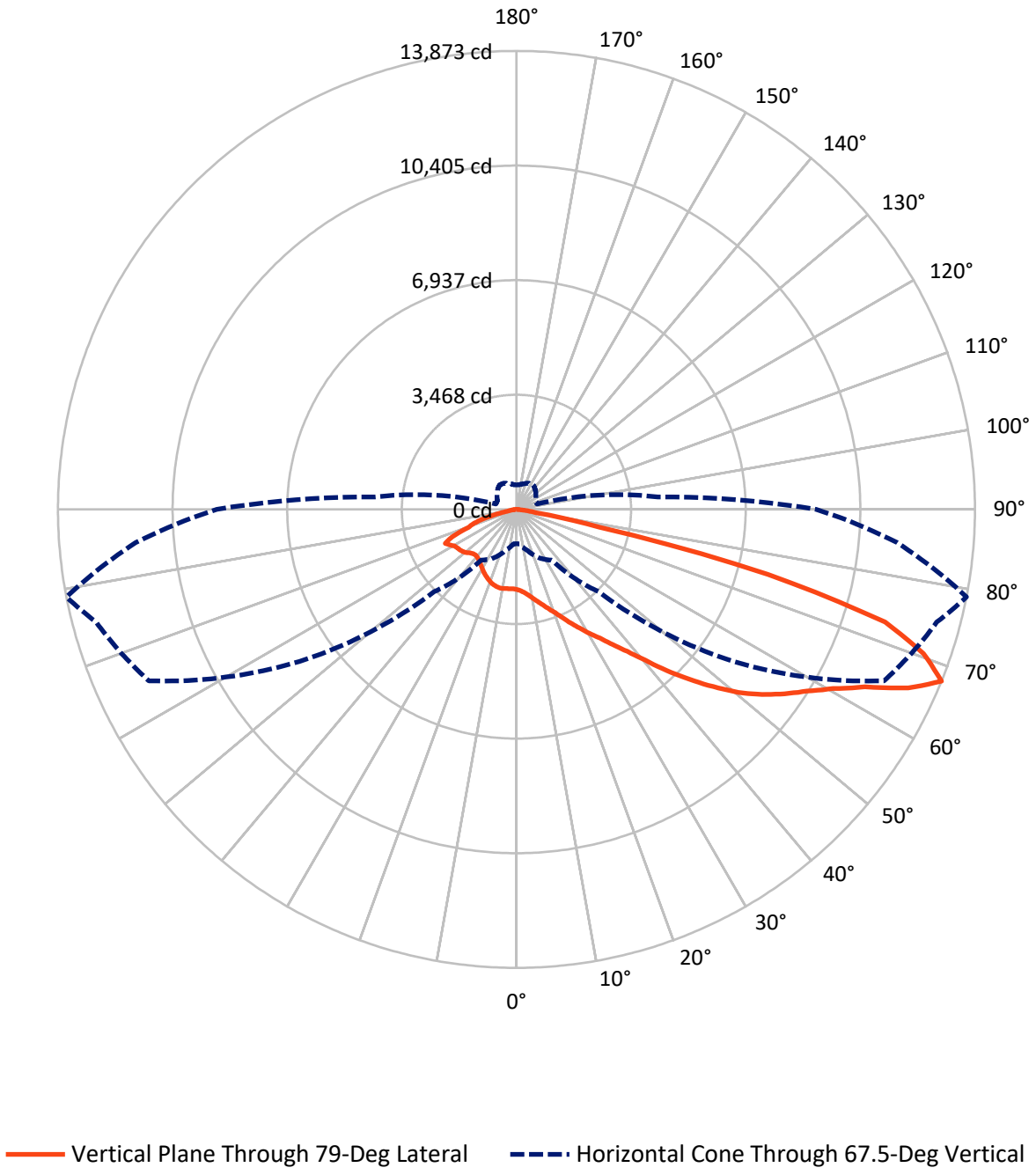

Based on 20 foot mounting height. Maximum calculated value = 7.2 fc
Type II - Medium - N/A

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

Scaled Data Report

REPORT NUMBER: P1359256
CATALOG NUMBER: GSS-SB3B-750-U-T2

## Luminous Intensity Polar Plot



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

Scaled Data Report

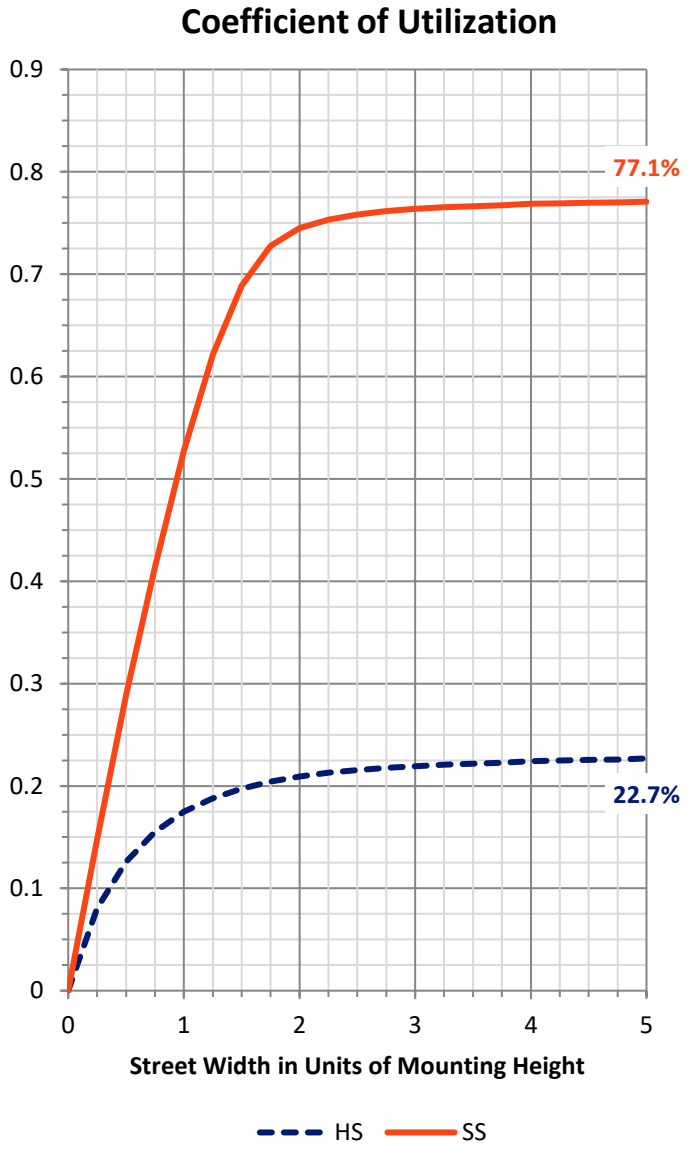
REPORT NUMBER: P1359256
CATALOG NUMBER: GSS-SB3B-750-U-T2

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3725.8 | 0.0 | 3725.8 |
| | % Fixture | 22.9 | 0.0 | 22.9 |
| **Street Side** | Lumens | 12535.2 | 0.0 | 12535.2 |
| | % Fixture | 77.1 | 0.0 | 77.1 |
| **Total** | Lumens | 16261.0 | 0.0 | 16261.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 231.8 | 1.4 |
| 10°-20° | 697.7 | 4.3 |
| 20°-30° | 1178.8 | 7.2 |
| 30°-40° | 1818.6 | 11.2 |
| 40°-50° | 2777.3 | 17.1 |
| 50°-60° | 3840.1 | 23.6 |
| 60°-70° | 3880.7 | 23.9 |
| 70°-80° | 1707.3 | 10.5 |
| 80°-90° | 128.6 | 0.8 |
| 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° | 16261.0 | 100.0 |
| 0°-180° | 16261.0 | 100.0 |



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

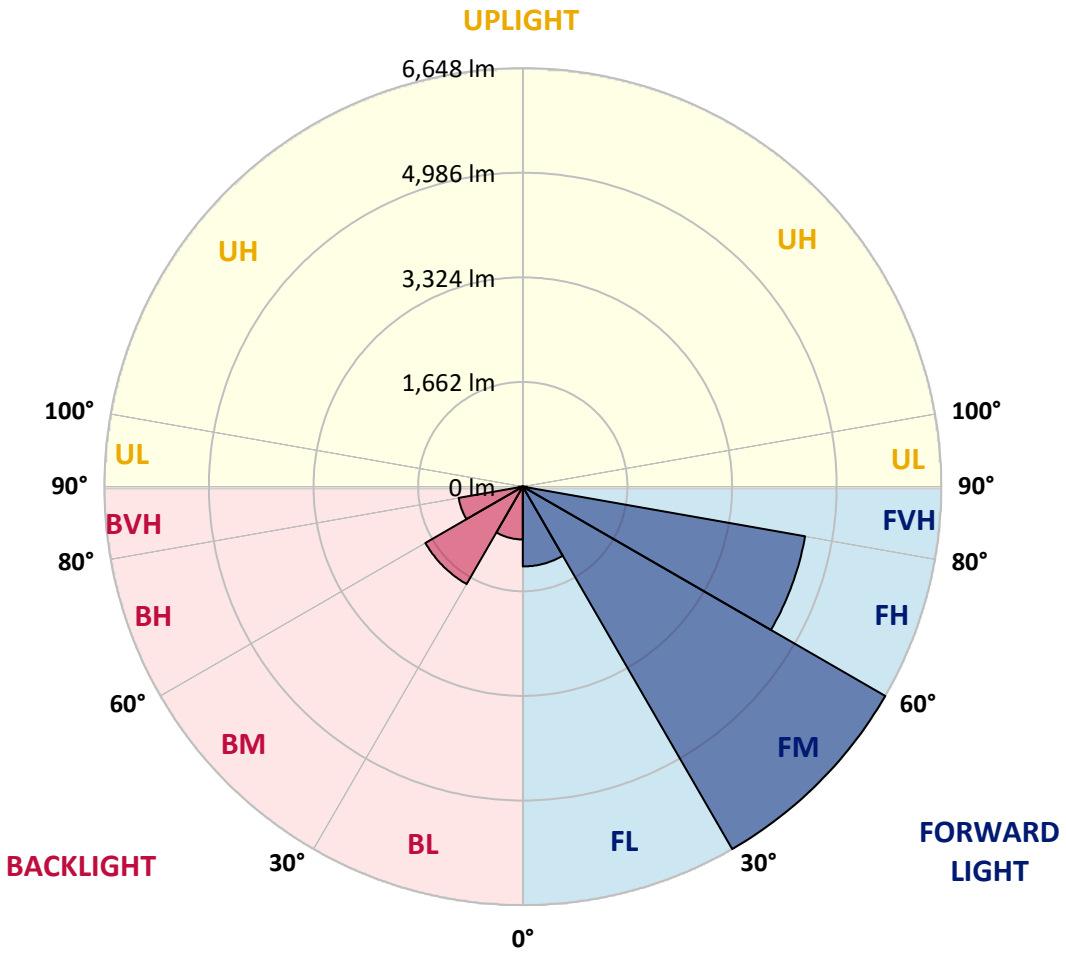
Scaled Data Report

REPORT NUMBER: P1359256
CATALOG NUMBER: GSS-SB3B-750-U-T2

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1268.7 | 7.8 | | | |
| FM | (30°-60°) | 6648.3 | 40.9 | | | |
| FH | (60°-80°) | 4553.1 | 28.0 | | | G2/5000 |
| FVH | (80°-90°) | 65.2 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 839.7 | 5.2 | B2/1000 | | |
| BM | (30°-60°) | 1787.7 | 11.0 | B2/2500 | | |
| BH | (60°-80°) | 1034.9 | 6.4 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 63.5 | 0.4 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G3**
Type II Medium



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

Scaled Data Report

REPORT NUMBER: P1359256
CATALOG NUMBER: GSS-SB3B-750-U-T2

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | *2425.4* | 2425.4 |
| 2.5° | 2537.9 | 2577.9 | 2577.9 | 2559.7 | 2552.4 | 2548.8 | 2523.4 | 2494.3 | 2483.5 | *2465.3* | 2454.4 |
| 5° | 2694.0 | 2694.0 | 2701.3 | 2683.2 | 2694.0 | 2679.5 | 2643.2 | 2606.9 | 2563.3 | *2530.7* | 2516.1 |
| 7.5° | 2708.6 | 2737.6 | 2755.8 | 2755.8 | 2777.6 | 2781.2 | 2763.0 | 2723.1 | 2668.6 | *2617.8* | 2592.4 |
| 10° | 2723.1 | 2748.5 | 2748.5 | 2777.6 | 2824.8 | 2861.1 | 2872.0 | 2857.4 | 2770.3 | *2734.0* | 2683.2 |
| 12.5° | 2690.4 | 2719.5 | 2730.4 | 2788.4 | 2853.8 | 2922.8 | 2973.6 | 2980.9 | 2926.4 | *2861.1* | 2784.8 |
| 15° | 2577.9 | 2603.3 | 2646.8 | 2734.0 | 2850.2 | 2955.5 | 3053.5 | 3108.0 | 3046.2 | *2999.0* | 2893.7 |
| 17.5° | 2425.4 | 2439.9 | 2512.5 | 2625.1 | 2784.8 | 2962.7 | 3133.4 | 3238.7 | 3224.1 | *3162.4* | 3039.0 |
| 20° | 2410.8 | 2425.4 | 2447.1 | 2530.7 | 2715.8 | 2937.3 | 3184.2 | 3387.5 | 3427.5 | *3333.1* | 3180.6 |
| 22.5° | 2534.3 | 2548.8 | 2548.8 | 2559.7 | 2675.9 | 2915.5 | 3235.0 | 3547.3 | 3638.0 | *3558.2* | 3362.1 |
| 25° | 2704.9 | 2734.0 | 2701.3 | 2675.9 | 2715.8 | 2930.0 | 3264.1 | 3728.8 | 3906.7 | *3808.7* | 3565.4 |
| 27.5° | 2948.2 | 2944.6 | 2915.5 | 2839.3 | 2828.4 | 2973.6 | 3344.0 | 3870.4 | 4164.5 | *4062.8* | 3776.0 |
| 30° | 3285.9 | 3304.0 | 3238.7 | 3078.9 | 3006.3 | 3071.6 | 3452.9 | 3986.6 | 4436.8 | *4353.3* | 3975.7 |
| 32.5° | 3667.1 | 3659.8 | 3580.0 | 3427.5 | 3249.6 | 3231.4 | 3554.5 | 4110.0 | 4749.1 | *4643.8* | 4226.2 |
| 35° | 4077.4 | 4070.1 | 4044.7 | 3783.3 | 3550.9 | 3452.9 | 3717.9 | 4251.6 | 5112.1 | *5025.0* | 4520.3 |
| 37.5° | 4447.7 | 4480.4 | 4556.6 | 4135.5 | 3888.6 | 3743.3 | 3928.5 | 4487.7 | 5576.9 | *5449.8* | 4876.1 |
| 40° | 4763.6 | 4821.7 | 4894.3 | 4513.1 | 4204.4 | 4081.0 | 4208.1 | 4872.5 | 6074.3 | *5998.1* | 5304.6 |
| 42.5° | 5054.1 | 5094.0 | 5086.7 | 4854.4 | 4589.3 | 4451.3 | 4560.3 | 5271.9 | 6717.0 | *6662.5* | 5831.0 |
| 45° | 5409.9 | 5453.4 | 5435.3 | 5213.8 | 4948.8 | 4825.3 | 5021.4 | 5740.3 | 7326.9 | *7334.2* | 6328.5 |
| 47.5° | 5758.4 | 5802.0 | 5791.1 | 5587.8 | 5333.6 | 5232.0 | 5500.6 | 6292.2 | 7915.1 | *8013.1* | 6869.4 |
| 50° | 6085.2 | 6125.1 | 6146.9 | 6019.8 | 5798.4 | 5689.4 | 5969.0 | 6811.4 | 8485.1 | *8706.6* | 7385.0 |
| 52.5° | 6176.0 | 6226.8 | 6375.7 | 6422.9 | 6324.8 | 6194.1 | 6397.4 | 7308.8 | 8975.3 | *9305.7* | 7882.4 |
| 55° | 5878.2 | 5965.4 | 6284.9 | 6524.5 | 6815.0 | 6829.5 | 6844.0 | 7791.7 | 9403.7 | *9846.7* | 8336.3 |
| 57.5° | 5359.0 | 5373.6 | 5747.5 | 6234.1 | 6923.9 | 7541.1 | 7613.8 | 8354.4 | 9821.3 | *10373.2* | 8786.5 |
| 60° | 4208.1 | 4131.8 | 4738.2 | 5562.4 | 6531.8 | 7824.3 | 8841.0 | 9225.8 | 10340.5 | *11008.5* | 9327.5 |
| 62.5° | 2254.7 | 2262.0 | 2763.0 | 3786.9 | 5409.9 | 7548.4 | 9893.9 | 10525.6 | 11099.3 | *11832.7* | 10129.9 |
| 65° | 1416.0 | 1470.5 | 1753.7 | 2207.5 | 3275.0 | 5998.1 | 9959.2 | 12253.9 | 12301.1 | *13030.9* | 11135.6 |
| 67.5° | *1034.8* | *1049.3* | *1288.9* | *1619.3* | *1877.1* | *3518.2* | *8016.8* | *12275.7* | *13168.9* | *13873.2* | *11564.0* |
| 70° | 769.7 | 777.0 | 947.6 | 1219.9 | 1368.8 | 1648.4 | 5108.5 | 10623.7 | 12718.6 | *13067.2* | 10493.0 |
| 72.5° | 562.8 | 566.4 | 657.2 | 896.8 | 1078.3 | 980.3 | 2399.9 | 7653.7 | 11044.8 | *11665.7* | 9440.0 |
| 75° | 395.8 | 403.0 | 468.4 | 620.9 | 726.2 | 682.6 | 915.0 | 4785.4 | 7929.6 | *7860.6* | 6593.5 |
| 77.5° | 297.7 | 301.4 | 344.9 | 439.3 | 493.8 | 446.6 | 515.6 | 2236.6 | 2832.0 | *2556.1* | 2080.4 |
| 80° | 217.8 | 228.7 | 250.5 | 275.9 | 330.4 | 286.8 | 290.5 | 628.1 | 682.6 | *599.1* | 537.4 |
| 82.5° | 116.2 | 130.7 | 167.0 | 167.0 | 192.4 | 170.6 | 152.5 | 279.6 | 294.1 | *275.9* | 239.6 |
| 85° | 36.3 | 36.3 | 39.9 | 50.8 | 76.2 | 76.2 | 76.2 | 94.4 | 98.0 | *98.0* | 83.5 |
| 87.5° | 7.3 | 7.3 | 7.3 | 7.3 | 10.9 | 14.5 | 21.8 | 29.0 | 32.7 | *36.3* | 36.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

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

Scaled Data Report

REPORT NUMBER: P1359256
CATALOG NUMBER: GSS-SB3B-750-U-T2

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 | 2425.4 |
| 2.5° | 2447.1 | 2421.7 | 2396.3 | 2352.7 | 2331.0 | 2298.3 | 2269.2 | 2254.7 | 2243.8 | 2240.2 | 2240.2 |
| 5° | 2494.3 | 2454.4 | 2374.5 | 2298.3 | 2229.3 | 2167.6 | 2120.4 | 2084.1 | 2062.3 | 2044.1 | 2044.1 |
| 7.5° | 2541.5 | 2487.1 | 2367.3 | 2232.9 | 2134.9 | 2058.7 | 1993.3 | 1971.5 | 1964.3 | 1946.1 | 1935.2 |
| 10° | 2621.4 | 2534.3 | 2356.4 | 2163.9 | 2026.0 | 1960.6 | 1931.6 | 1924.3 | 1927.9 | 1931.6 | 1931.6 |
| 12.5° | 2683.2 | 2588.7 | 2327.3 | 2076.8 | 1942.5 | 1906.2 | 1909.8 | 1927.9 | 1957.0 | 1953.4 | 1946.1 |
| 15° | 2770.3 | 2628.7 | 2269.2 | 1975.1 | 1877.1 | 1877.1 | 1913.4 | 1953.4 | 1982.4 | 2000.6 | 1989.7 |
| 17.5° | 2872.0 | 2675.9 | 2182.1 | 1880.7 | 1822.7 | 1855.3 | 1931.6 | 1971.5 | 2022.3 | 2033.2 | 2026.0 |
| 20° | 2999.0 | 2715.8 | 2084.1 | 1790.0 | 1786.3 | 1855.3 | 1920.7 | 1978.8 | 2018.7 | 2029.6 | 2036.9 |
| 22.5° | 3122.5 | 2752.1 | 1957.0 | 1724.6 | 1746.4 | 1833.5 | 1895.3 | 1957.0 | 1975.1 | 1986.0 | 1989.7 |
| 25° | 3249.6 | 2788.4 | 1840.8 | 1673.8 | 1717.4 | 1804.5 | 1855.3 | 1880.7 | 1884.4 | 1877.1 | 1877.1 |
| 27.5° | 3387.5 | 2792.1 | 1724.6 | 1633.9 | 1684.7 | 1760.9 | 1790.0 | 1797.2 | 1782.7 | 1731.9 | 1717.4 |
| 30° | 3532.8 | 2755.8 | 1630.2 | 1597.5 | 1648.4 | 1710.1 | 1731.9 | 1710.1 | 1659.3 | 1586.7 | 1579.4 |
| 32.5° | 3652.6 | 2701.3 | 1561.2 | 1554.0 | 1608.4 | 1662.9 | 1662.9 | 1623.0 | 1546.7 | 1474.1 | 1470.5 |
| 35° | 3834.1 | 2625.1 | 1492.3 | 1524.9 | 1572.1 | 1597.5 | 1604.8 | 1546.7 | 1463.2 | 1394.2 | 1387.0 |
| 37.5° | 4012.0 | 2559.7 | 1463.2 | 1488.6 | 1532.2 | 1554.0 | 1532.2 | 1474.1 | 1419.6 | 1361.5 | 1361.5 |
| 40° | 4288.0 | 2519.8 | 1426.9 | 1463.2 | 1499.5 | 1503.1 | 1463.2 | 1419.6 | 1426.9 | 1394.2 | 1390.6 |
| 42.5° | 4589.3 | 2516.1 | 1412.4 | 1437.8 | 1463.2 | 1455.9 | 1397.9 | 1397.9 | 1408.7 | 1347.0 | 1332.5 |
| 45° | 4934.2 | 2567.0 | 1412.4 | 1401.5 | 1416.0 | 1394.2 | 1361.5 | 1354.3 | 1328.9 | 1238.1 | 1234.5 |
| 47.5° | 5293.7 | 2690.4 | 1419.6 | 1350.7 | 1347.0 | 1339.8 | 1325.2 | 1299.8 | 1223.6 | 1147.3 | 1136.4 |
| 50° | 5576.9 | 2861.1 | 1441.4 | 1285.3 | 1270.8 | 1296.2 | 1270.8 | 1227.2 | 1140.1 | 1067.5 | 1056.6 |
| 52.5° | 5914.5 | 3031.7 | 1426.9 | 1205.4 | 1187.3 | 1252.6 | 1227.2 | 1165.5 | 1100.1 | 1056.6 | 1045.7 |
| 55° | 6270.4 | 3209.6 | 1368.8 | 1096.5 | 1111.0 | 1198.2 | 1190.9 | 1121.9 | 1042.0 | 983.9 | 976.7 |
| 57.5° | 6626.2 | 3434.7 | 1270.8 | 1002.1 | 1056.6 | 1165.5 | 1136.4 | 1052.9 | 998.5 | 958.5 | 951.3 |
| 60° | 7170.8 | 3757.9 | 1129.2 | 904.1 | 1002.1 | 1096.5 | 1049.3 | 1023.9 | 965.8 | 933.1 | 915.0 |
| 62.5° | 7875.2 | 4295.2 | 944.0 | 813.3 | 925.9 | 1013.0 | 1009.4 | 980.3 | 929.5 | 893.2 | 882.3 |
| 65° | 8877.3 | 4807.2 | 773.4 | 726.2 | 827.8 | 911.3 | 954.9 | 929.5 | 878.6 | 838.7 | 835.1 |
| 67.5° | *9069.7* | *4295.2* | *642.6* | *635.4* | *718.9* | *813.3* | *896.8* | *878.6* | *798.8* | *747.9* | *740.7* |
| 70° | 7893.3 | 3068.0 | 541.0 | 548.2 | 628.1 | 711.6 | 802.4 | 758.8 | 693.5 | 664.4 | 660.8 |
| 72.5° | 7007.4 | 2635.9 | 453.8 | 468.4 | 526.5 | 602.7 | 657.2 | 671.7 | 624.5 | 599.1 | 588.2 |
| 75° | 5050.4 | 1975.1 | 366.7 | 384.9 | 424.8 | 468.4 | 570.0 | 595.4 | 551.9 | 526.5 | 508.3 |
| 77.5° | 1873.5 | 824.2 | 272.3 | 290.5 | 319.5 | 381.2 | 461.1 | 515.6 | 482.9 | 501.0 | 450.2 |
| 80° | 450.2 | 290.5 | 199.7 | 196.1 | 225.1 | 286.8 | 366.7 | 406.6 | 374.0 | 355.8 | 308.6 |
| 82.5° | 196.1 | 141.6 | 130.7 | 130.7 | 138.0 | 188.8 | 243.3 | 286.8 | 279.6 | 232.4 | 221.5 |
| 85° | 72.6 | 61.7 | 61.7 | 65.4 | 65.4 | 87.1 | 130.7 | 152.5 | 138.0 | 119.8 | 116.2 |
| 87.5° | 32.7 | 32.7 | 25.4 | 21.8 | 18.2 | 18.2 | 21.8 | 14.5 | 10.9 | 7.3 | 7.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-6

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-750-U-5WQ

Data in this report applies to families of products including GSS-SB1A-750-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

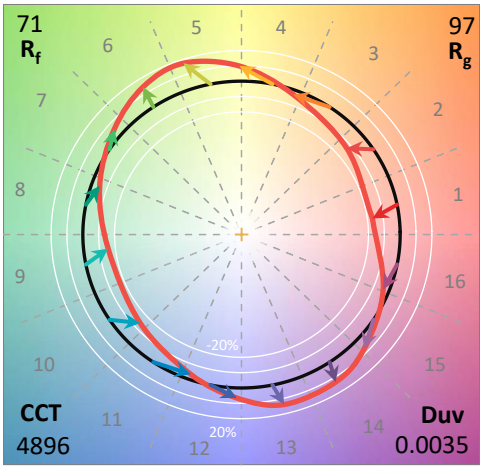
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-6 |
| 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-750-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 5000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4896 |
| CIE u': | 0.2101 |
| CIE v': | 0.4901 |
| Duv: | 0.0035 |
| CIE x: | 0.3489 |
| CIE y: | 0.3618 |
| CIE z: | 0.2893 |
| Peak Wavelength (nm): | 443 |
| Dominant Wavelength (nm): | 570 |
| Purity: | 13.25435 |
| Rf: | 70.7 |
| Rg: | 96.8 |

| | |
|---|---|
| CRI (Ra): | 70.2 |
| R1: | 68.1 |
| R2: | 73.9 |
| R3: | 79.4 |
| R4: | 72.1 |
| R5: | 69.2 |
| R6: | 65.7 |
| R7: | 78.1 |
| R8: | 55.3 |
| R9: | -35.1 |
| R10: | 39.3 |
| R11: | 71.1 |
| R12: | 43.8 |
| R13: | 68.1 |
| R14: | 88.4 |
| R15: | 59.7 |




## Test Conditions

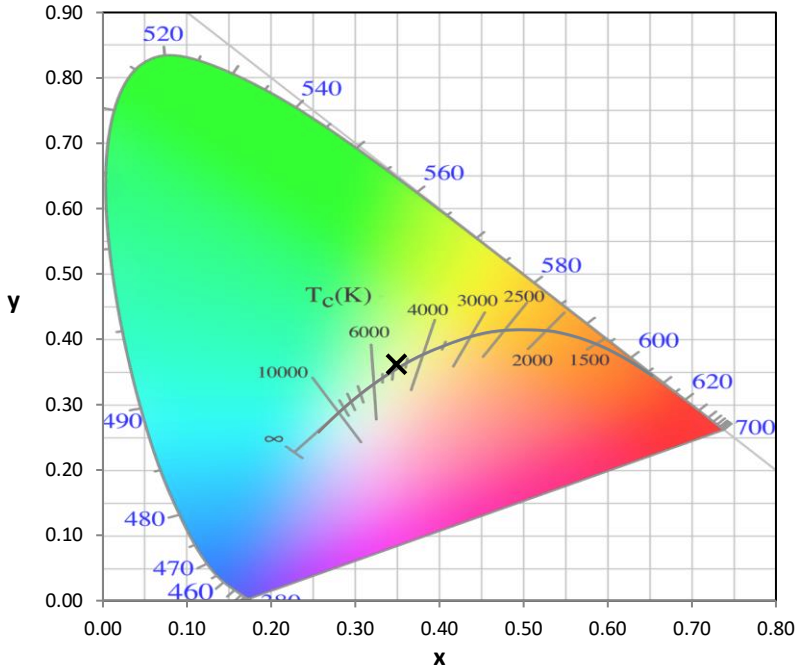
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-6

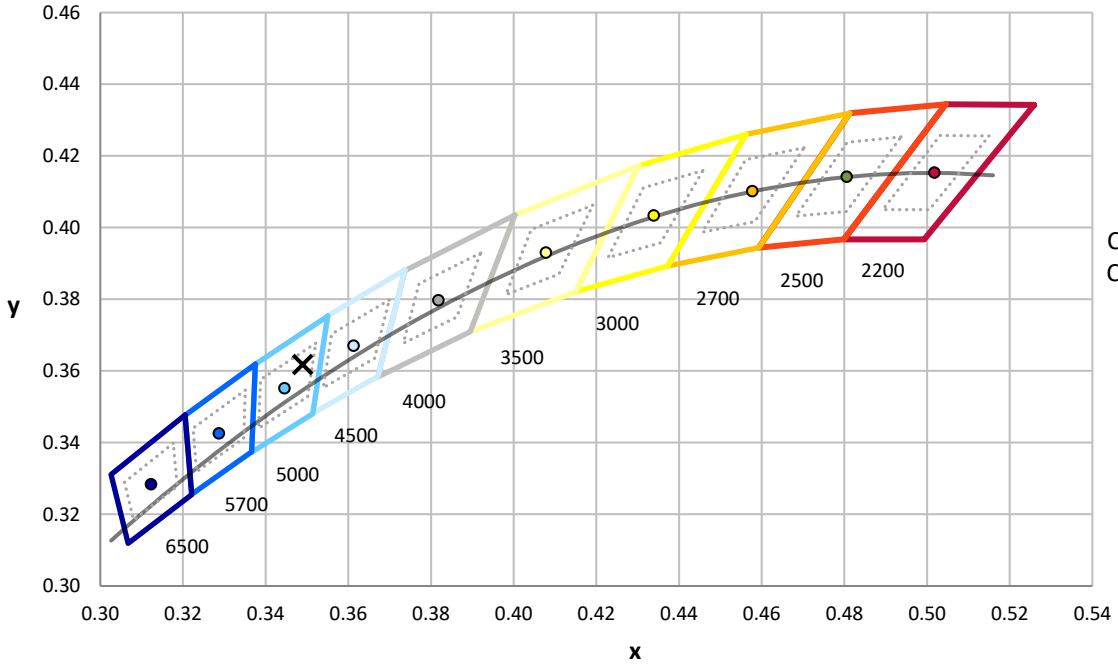
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-6

## CIE 1931 Chromaticity Diagram




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

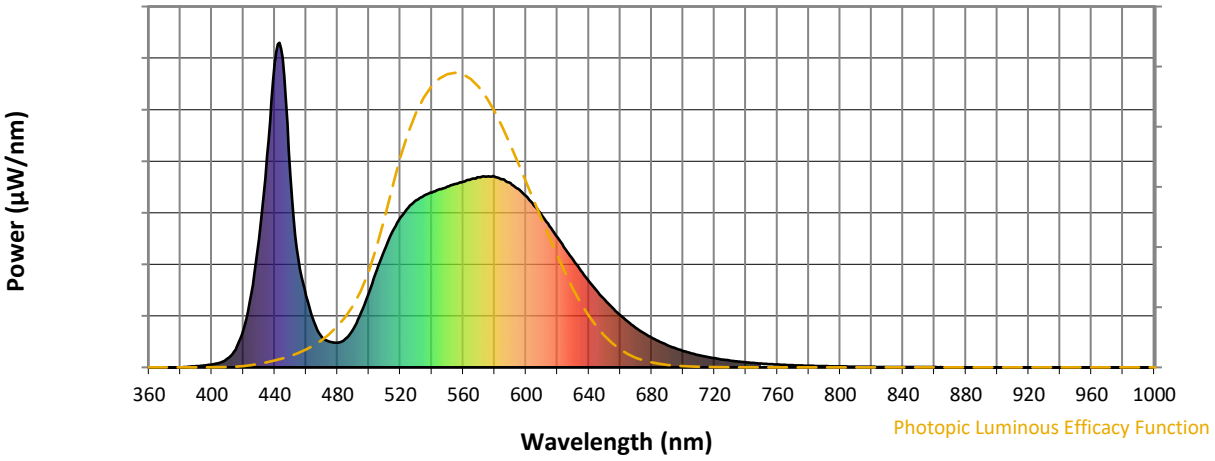



CCT = 4896K
CIE x = 0.3489
CIE y = 0.3618
Duv = 0.0035

Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-6

## Photopic Flux vs. Wavelength

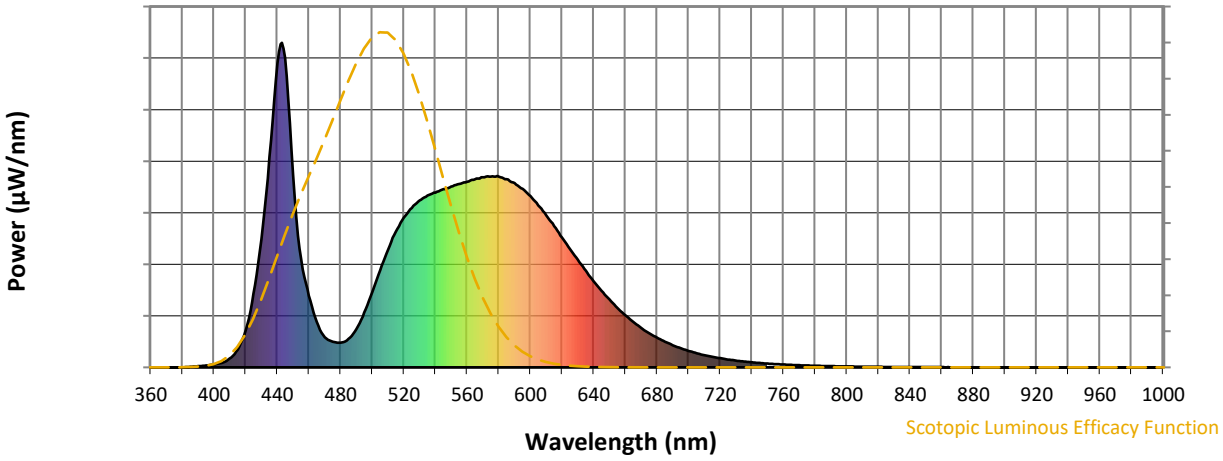



## Photopic Lumens: NR

| 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 | 118 | NR | 620 | 401 | NR | 750 | 12 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 168 | NR | 625 | 365 | NR | 755 | 10 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 230 | NR | 630 | 331 | NR | 760 | 9 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 299 | NR | 635 | 298 | NR | 765 | 8 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 362 | NR | 640 | 266 | NR | 770 | 6 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 418 | NR | 645 | 236 | NR | 775 | 6 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 461 | NR | 650 | 209 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 6 | NR | 525 | 491 | NR | 655 | 184 | NR | 785 | 4 | NR | 915 | 0 | NR |
| 400 | 9 | NR | 530 | 514 | NR | 660 | 160 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 14 | NR | 535 | 530 | NR | 665 | 140 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 27 | NR | 540 | 539 | NR | 670 | 122 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 55 | NR | 545 | 549 | NR | 675 | 106 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 115 | NR | 550 | 557 | NR | 680 | 92 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 226 | NR | 555 | 565 | NR | 685 | 79 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 395 | NR | 560 | 572 | NR | 690 | 68 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 648 | NR | 565 | 580 | NR | 695 | 59 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 937 | NR | 570 | 586 | NR | 700 | 51 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 953 | NR | 575 | 588 | NR | 705 | 44 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 591 | NR | 580 | 588 | NR | 710 | 38 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 334 | NR | 585 | 580 | NR | 715 | 32 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 221 | NR | 590 | 568 | NR | 720 | 28 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 140 | NR | 595 | 550 | NR | 725 | 24 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 93 | NR | 600 | 527 | NR | 730 | 21 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 79 | NR | 605 | 499 | NR | 735 | 18 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 469 | NR | 740 | 15 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 87 | NR | 615 | 435 | NR | 745 | 13 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-184-6

## Scotopic Flux vs. Wavelength

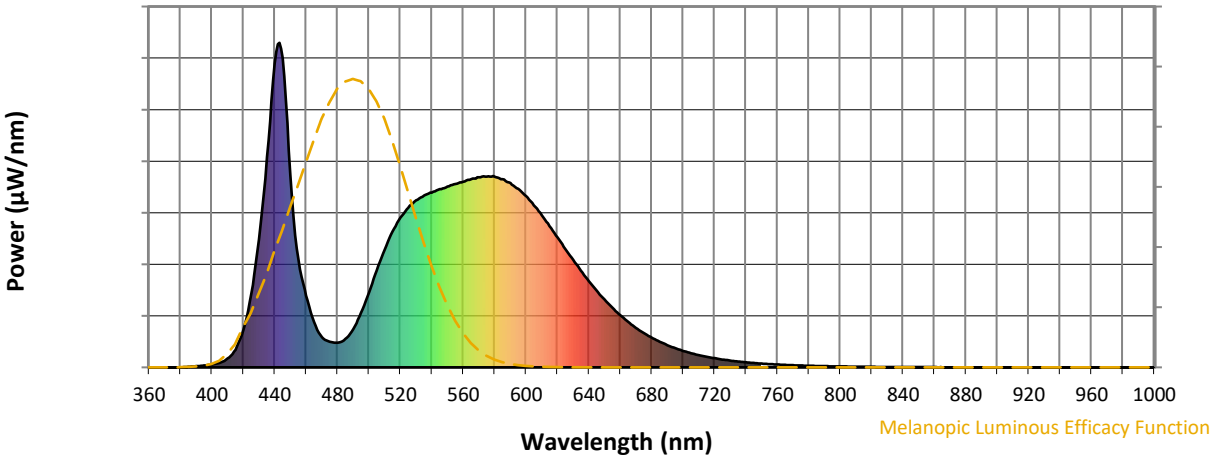



**Scotopic Lumens: NR** **S/P: 1.7**

| 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 | 118 | NR | 620 | 401 | NR | 750 | 12 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 168 | NR | 625 | 365 | NR | 755 | 10 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 230 | NR | 630 | 331 | NR | 760 | 9 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 299 | NR | 635 | 298 | NR | 765 | 8 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 362 | NR | 640 | 266 | NR | 770 | 6 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 418 | NR | 645 | 236 | NR | 775 | 6 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 461 | NR | 650 | 209 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 6 | NR | 525 | 491 | NR | 655 | 184 | NR | 785 | 4 | NR | 915 | 0 | NR |
| 400 | 9 | NR | 530 | 514 | NR | 660 | 160 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 14 | NR | 535 | 530 | NR | 665 | 140 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 27 | NR | 540 | 539 | NR | 670 | 122 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 55 | NR | 545 | 549 | NR | 675 | 106 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 115 | NR | 550 | 557 | NR | 680 | 92 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 226 | NR | 555 | 565 | NR | 685 | 79 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 395 | NR | 560 | 572 | NR | 690 | 68 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 648 | NR | 565 | 580 | NR | 695 | 59 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 937 | NR | 570 | 586 | NR | 700 | 51 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 953 | NR | 575 | 588 | NR | 705 | 44 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 591 | NR | 580 | 588 | NR | 710 | 38 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 334 | NR | 585 | 580 | NR | 715 | 32 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 221 | NR | 590 | 568 | NR | 720 | 28 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 140 | NR | 595 | 550 | NR | 725 | 24 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 93 | NR | 600 | 527 | NR | 730 | 21 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 79 | NR | 605 | 499 | NR | 735 | 18 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 469 | NR | 740 | 15 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 87 | NR | 615 | 435 | NR | 745 | 13 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-184-6

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.37**

| 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 | 118 | NR | 620 | 401 | NR | 750 | 12 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 168 | NR | 625 | 365 | NR | 755 | 10 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 230 | NR | 630 | 331 | NR | 760 | 9 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 299 | NR | 635 | 298 | NR | 765 | 8 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 362 | NR | 640 | 266 | NR | 770 | 6 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 418 | NR | 645 | 236 | NR | 775 | 6 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 461 | NR | 650 | 209 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 6 | NR | 525 | 491 | NR | 655 | 184 | NR | 785 | 4 | NR | 915 | 0 | NR |
| 400 | 9 | NR | 530 | 514 | NR | 660 | 160 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 14 | NR | 535 | 530 | NR | 665 | 140 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 27 | NR | 540 | 539 | NR | 670 | 122 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 55 | NR | 545 | 549 | NR | 675 | 106 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 115 | NR | 550 | 557 | NR | 680 | 92 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 226 | NR | 555 | 565 | NR | 685 | 79 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 395 | NR | 560 | 572 | NR | 690 | 68 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 648 | NR | 565 | 580 | NR | 695 | 59 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 937 | NR | 570 | 586 | NR | 700 | 51 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 953 | NR | 575 | 588 | NR | 705 | 44 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 591 | NR | 580 | 588 | NR | 710 | 38 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 334 | NR | 585 | 580 | NR | 715 | 32 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 221 | NR | 590 | 568 | NR | 720 | 28 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 140 | NR | 595 | 550 | NR | 725 | 24 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 93 | NR | 600 | 527 | NR | 730 | 21 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 79 | NR | 605 | 499 | NR | 735 | 18 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 469 | NR | 740 | 15 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 87 | NR | 615 | 435 | NR | 745 | 13 | NR | 875 | 0 | NR | | | |

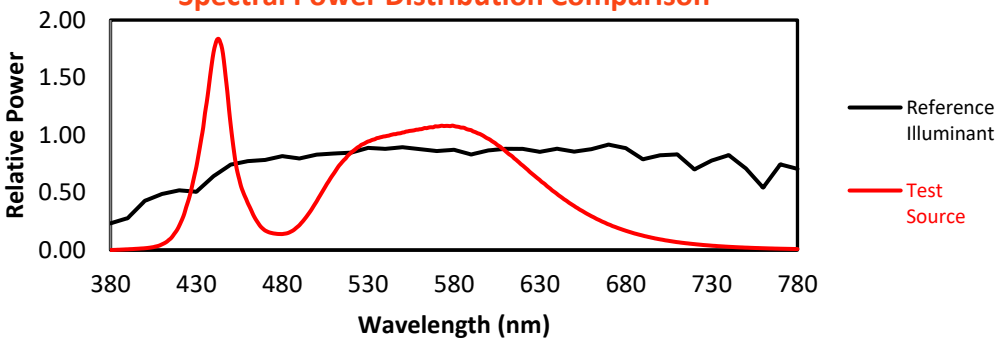
REPORT NUMBER: SP1-2407-184-6

# TM-30-18

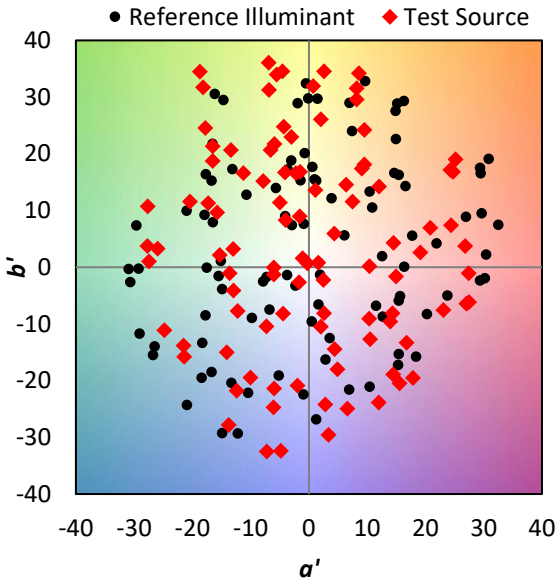
## Summary

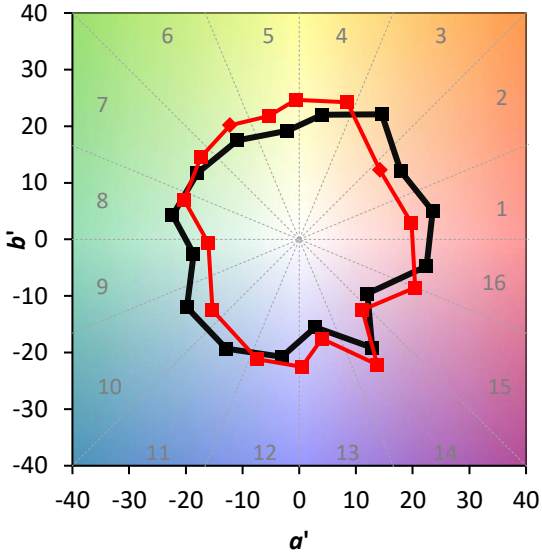
$R_f$ = 70.7
$R_g$ = 96.8
CIE $R_a$ = 70.2
$R_9$ = -35.1

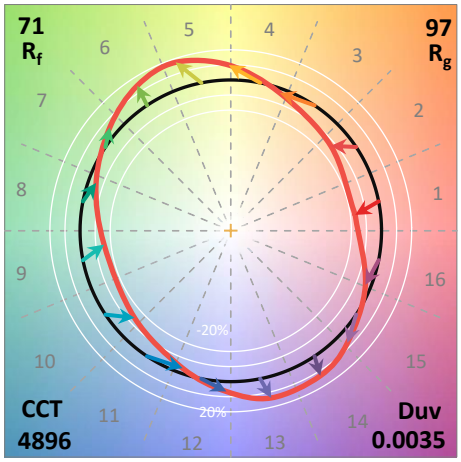
## Spectral Power Distribution Comparison

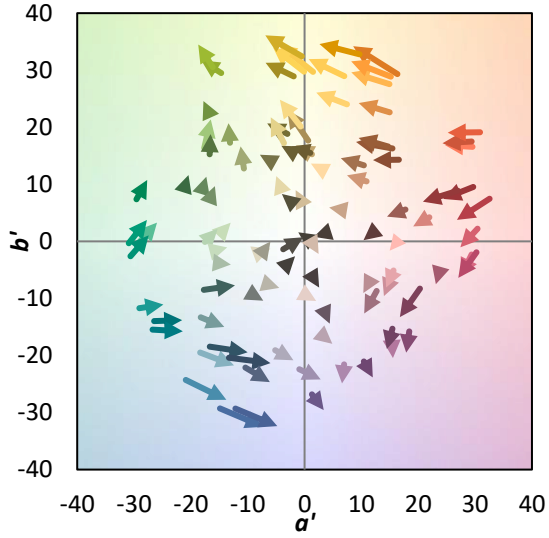



## Color Vector Graphics



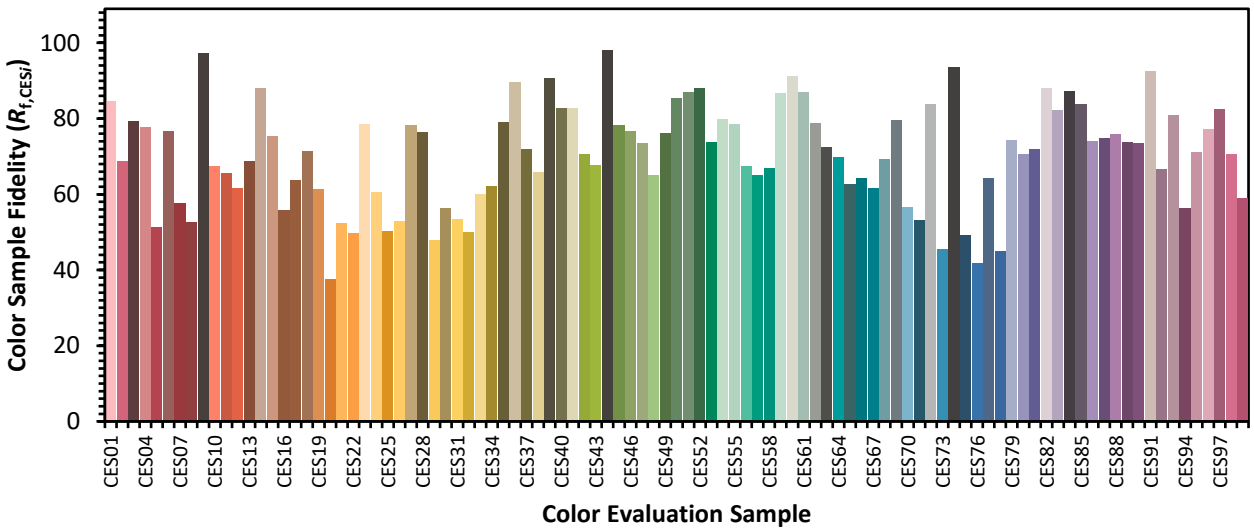



REPORT NUMBER: SP1-2407-184-6

# TM-30-18

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

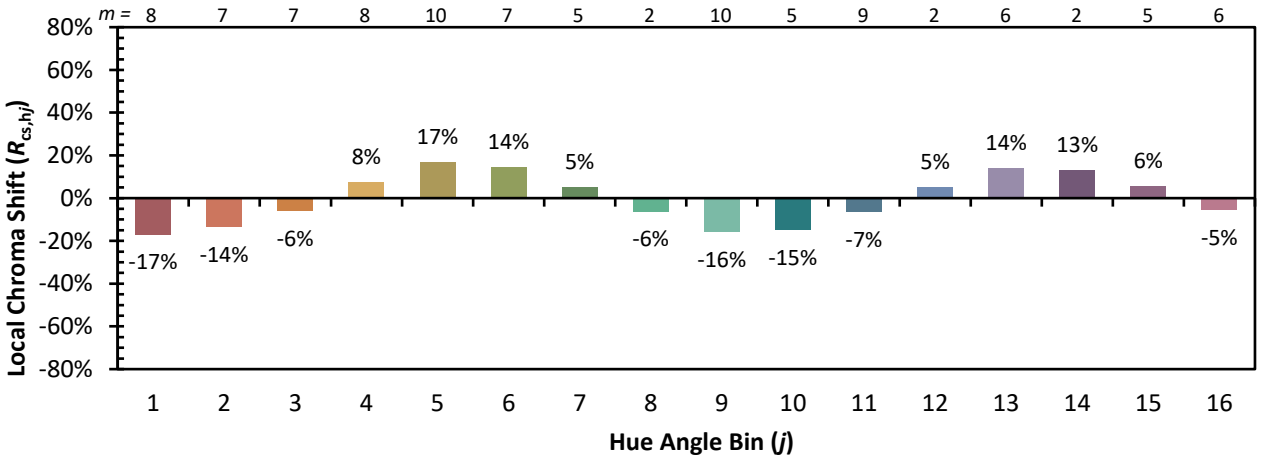
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 53 | CES51 = 87 | CES76 = 42 |
| CES02 = 59 | CES27 = 78 | CES52 = 88 | CES77 = 64 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 45 |
| CES04 = 69 | CES29 = 48 | CES54 = 80 | CES79 = 74 |
| CES05 = 46 | CES30 = 56 | CES55 = 79 | CES80 = 71 |
| CES06 = 50 | CES31 = 54 | CES56 = 68 | CES81 = 72 |
| CES07 = 39 | CES32 = 50 | CES57 = 65 | CES82 = 88 |
| CES08 = 38 | CES33 = 60 | CES58 = 67 | CES83 = 82 |
| CES09 = 29 | CES34 = 62 | CES59 = 87 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 91 | CES85 = 84 |
| CES11 = 56 | CES36 = 90 | CES61 = 87 | CES86 = 74 |
| CES12 = 61 | CES37 = 72 | CES62 = 79 | CES87 = 75 |
| CES13 = 41 | CES38 = 66 | CES63 = 72 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 70 | CES89 = 74 |
| CES15 = 70 | CES40 = 83 | CES65 = 63 | CES90 = 73 |
| CES16 = 46 | CES41 = 83 | CES66 = 64 | CES91 = 92 |
| CES17 = 49 | CES42 = 70 | CES67 = 62 | CES92 = 67 |
| CES18 = 55 | CES43 = 68 | CES68 = 69 | CES93 = 81 |
| CES19 = 71 | CES44 = 98 | CES69 = 80 | CES94 = 56 |
| CES20 = 64 | CES45 = 78 | CES70 = 56 | CES95 = 71 |
| CES21 = 85 | CES46 = 77 | CES71 = 53 | CES96 = 77 |
| CES22 = 77 | CES47 = 73 | CES72 = 84 | CES97 = 82 |
| CES23 = 91 | CES48 = 65 | CES73 = 46 | CES98 = 71 |
| CES24 = 90 | CES49 = 76 | CES74 = 94 | CES99 = 59 |
| CES25 = 71 | CES50 = 85 | CES75 = 49 | |

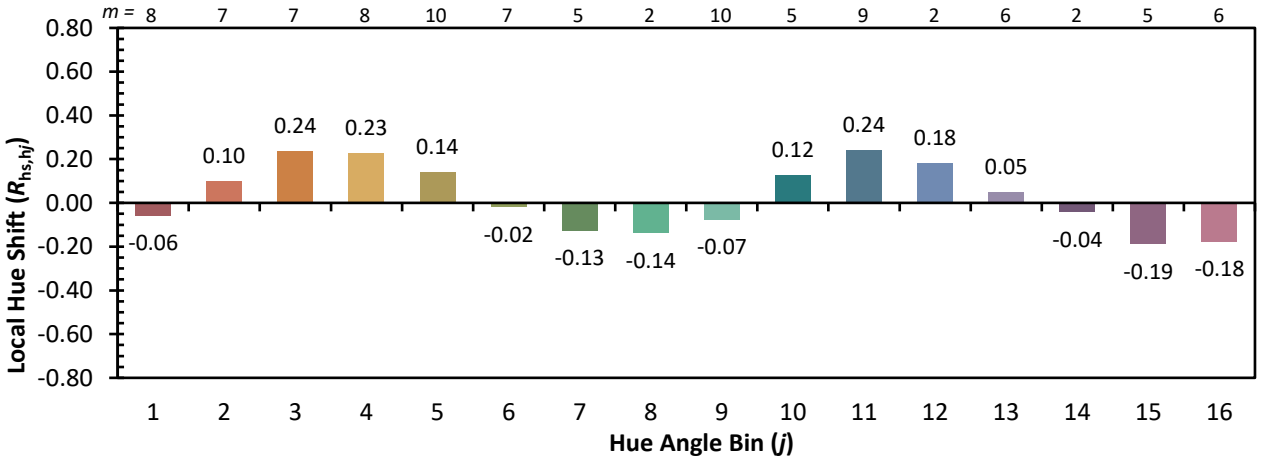


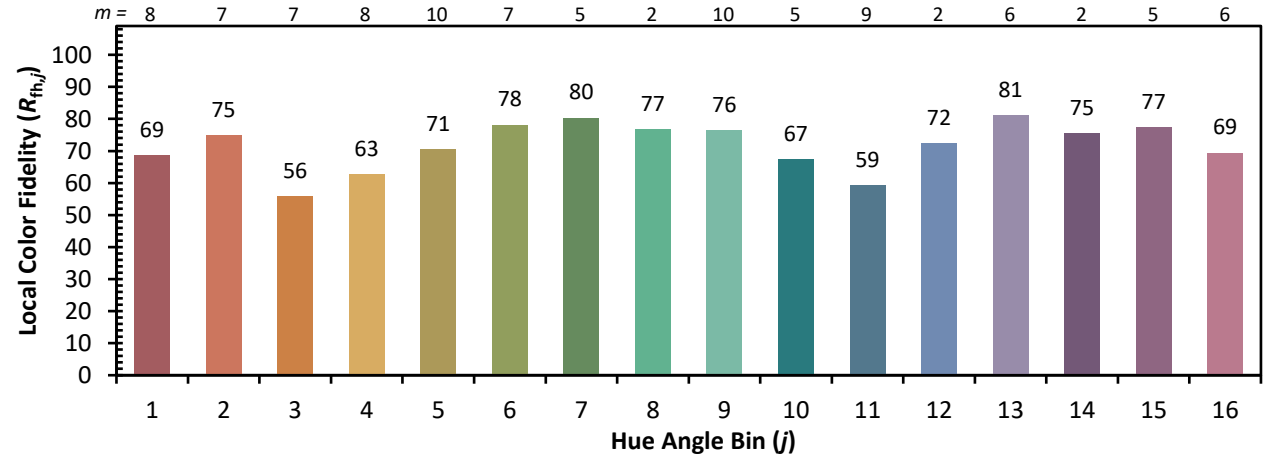
REPORT NUMBER: SP1-2407-184-6

**TM-30-18**

## Color Rendition by Hue-Angle Bin



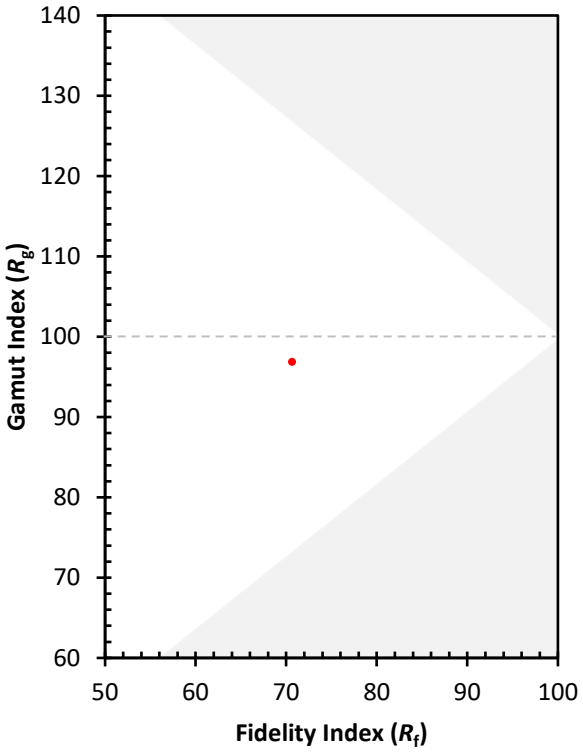



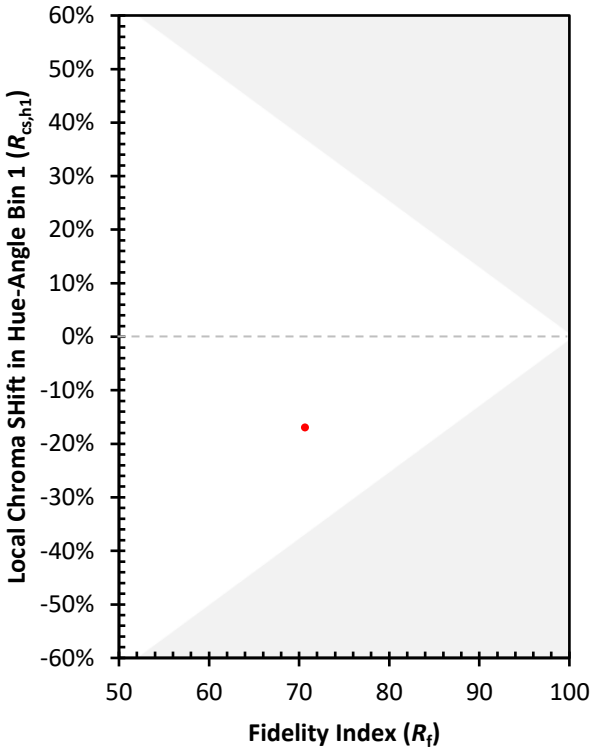



REPORT NUMBER: SP1-2407-184-6

# TM-30-18

## Measure Comparisons




(END OF REPORT)