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: P1367246

Luminaire Tested: **GSS-SB2D-727-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: | P1367246 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2D-727-U-T4W |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 147W 70CRI 2700K FIXTURE w/ TYPE IV WIDE DISTRIBUTION OPTIC |
| Light Source: | (52) 2700K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 16852.4 lumens |
| Efficiency: | N/A |
| Efficacy: | 114.6 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B3 - U0 - G3 |

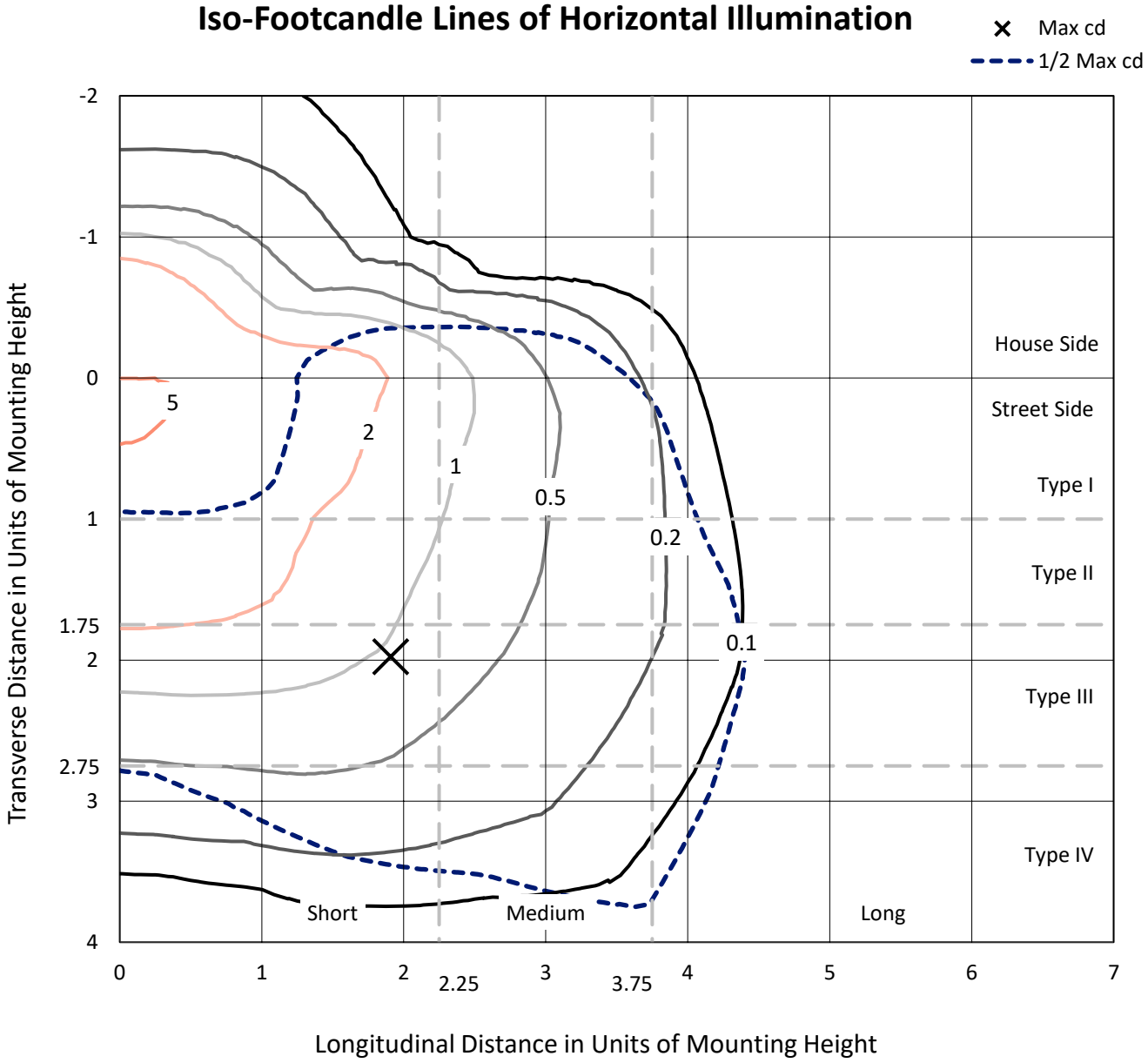
| | |
|---|---|
| Input Watts (W): | 147 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 3.1% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°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: P1367246
CATALOG NUMBER: GSS-SB2D-727-U-T4W

## Iso-Footcandle Lines of Horizontal Illumination



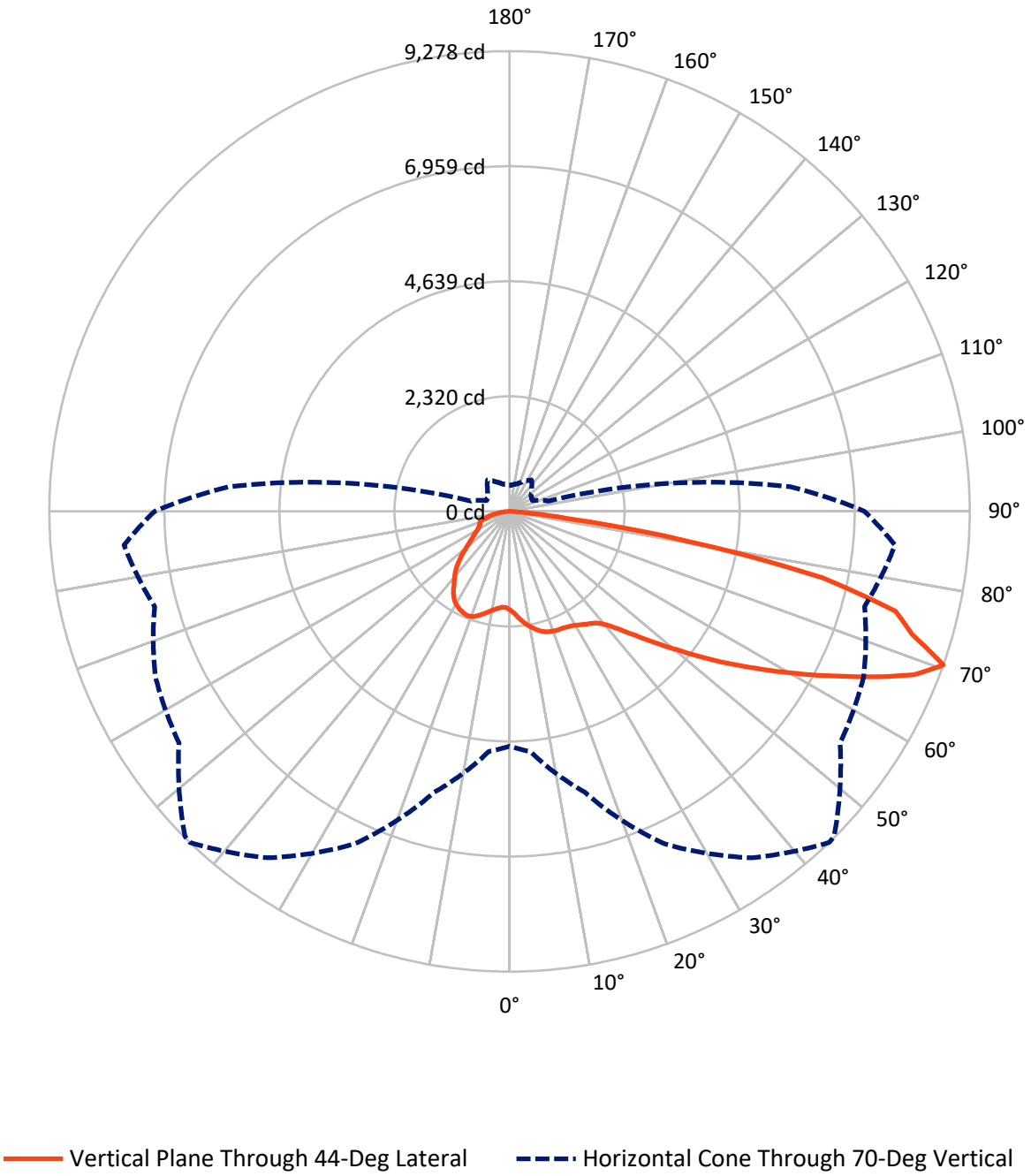

Based on 20 foot mounting height. Maximum calculated value = 6.1 fc
Type IV - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P1367246
CATALOG NUMBER: GSS-SB2D-727-U-T4W

## Luminous Intensity Polar Plot



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

Scaled Data Report

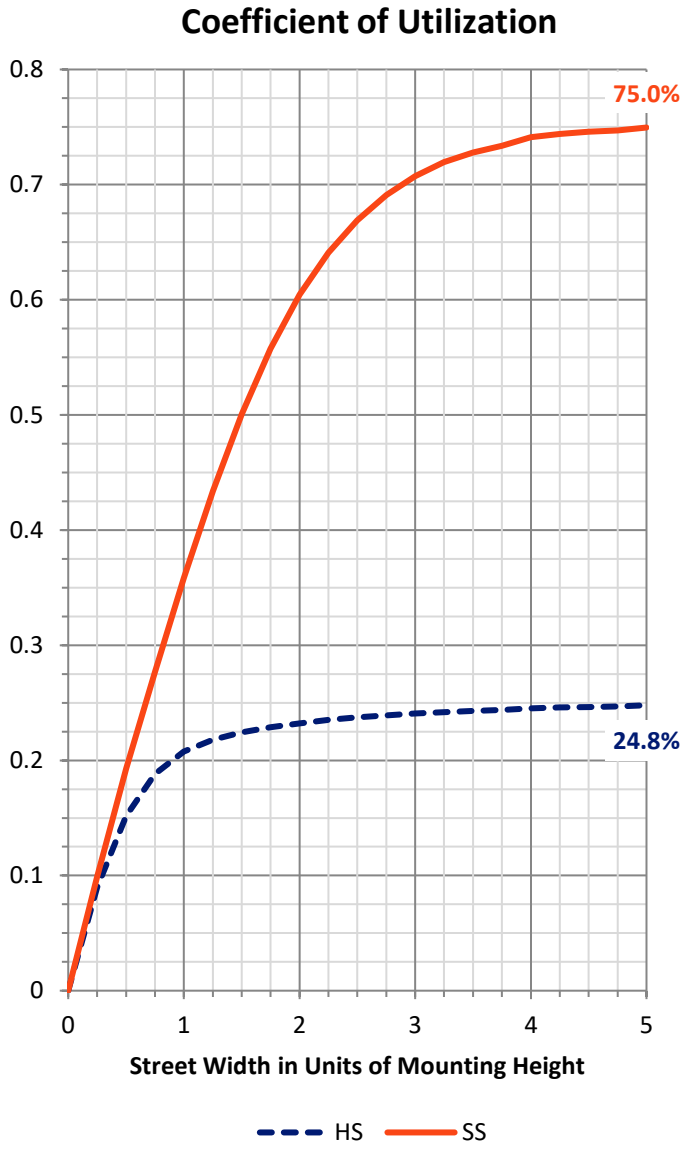
REPORT NUMBER: P1367246
CATALOG NUMBER: GSS-SB2D-727-U-T4W

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4222.7 | 0.0 | 4222.7 |
| | % Fixture | 25.1 | 0.0 | 25.1 |
| **Street Side** | Lumens | 12629.7 | 0.0 | 12629.7 |
| | % Fixture | 74.9 | 0.0 | 74.9 |
| **Total** | Lumens | 16852.4 | 0.0 | 16852.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 201.0 | 1.2 |
| 10°-20° | 659.7 | 3.9 |
| 20°-30° | 1135.2 | 6.7 |
| 30°-40° | 1600.4 | 9.5 |
| 40°-50° | 2214.5 | 13.1 |
| 50°-60° | 3288.8 | 19.5 |
| 60°-70° | 4395.4 | 26.1 |
| 70°-80° | 3100.6 | 18.4 |
| 80°-90° | 256.8 | 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° | 16852.4 | 100.0 |
| 0°-180° | 16852.4 | 100.0 |



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

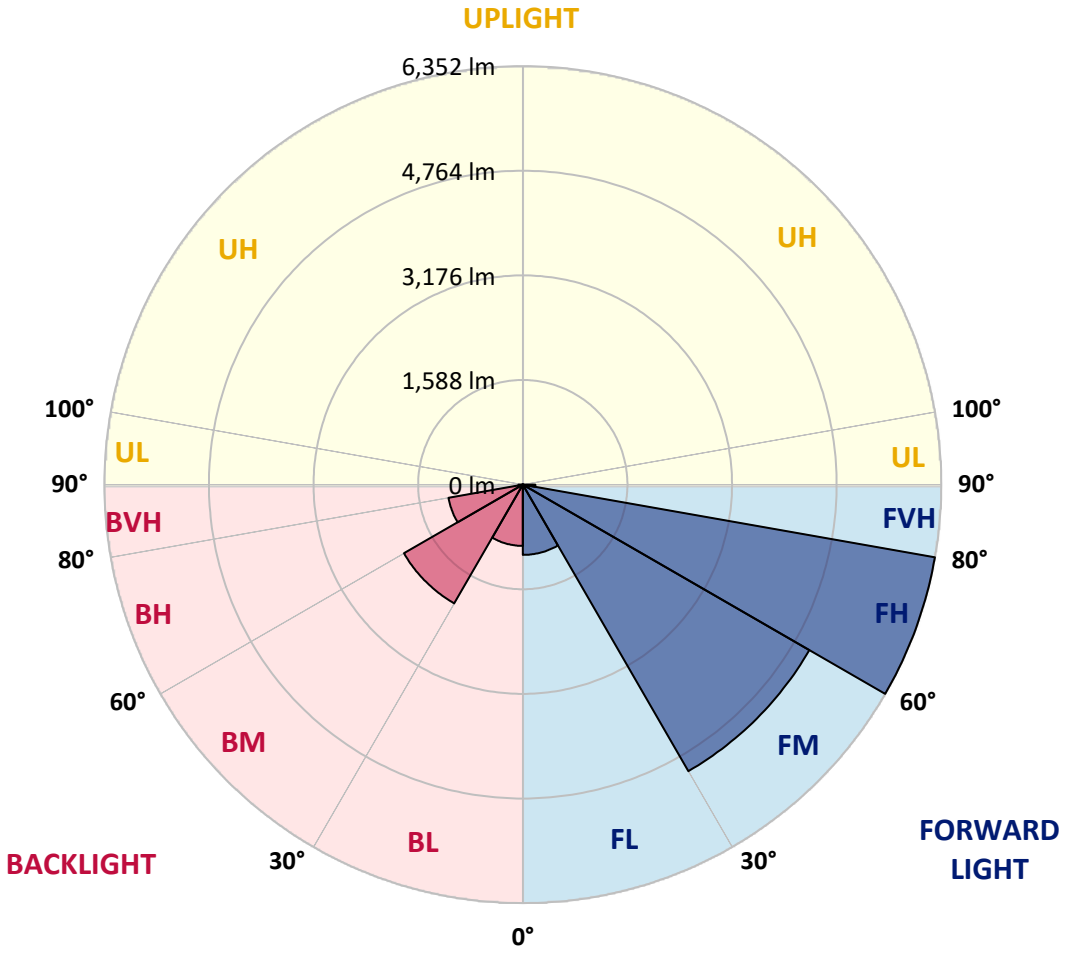
Scaled Data Report

REPORT NUMBER: P1367246
CATALOG NUMBER: GSS-SB2D-727-U-T4W

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1066.5 | 6.3 | | | |
| FM | (30°-60°) | 5021.6 | 29.8 | | | |
| FH | (60°-80°) | 6351.5 | 37.7 | | | G3/7500 |
| FVH | (80°-90°) | 190.0 | 1.1 | | | G2/225 |
| BL | (0°-30°) | 929.5 | 5.5 | B2/1000 | | |
| BM | (30°-60°) | 2082.1 | 12.4 | B2/2500 | | |
| BH | (60°-80°) | 1144.4 | 6.8 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 66.7 | 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 IV Short



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

Scaled Data Report

REPORT NUMBER: P1367246
CATALOG NUMBER: GSS-SB2D-727-U-T4W

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | *1991.4* | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 |
| 2.5° | 2138.6 | 2126.4 | 2114.1 | 2110.0 | 2093.6 | *2069.1* | 2069.1 | 2060.9 | 2040.5 | 2024.1 | 2011.9 |
| 5° | 2277.7 | 2281.7 | 2261.3 | 2244.9 | 2220.4 | *2179.5* | 2183.6 | 2146.8 | 2105.9 | 2060.9 | 2028.2 |
| 7.5° | 2412.6 | 2412.6 | 2388.1 | 2367.6 | 2334.9 | *2285.8* | 2285.8 | 2228.6 | 2179.5 | 2118.2 | 2073.2 |
| 10° | 2535.3 | 2527.1 | 2494.4 | 2469.8 | 2424.9 | *2371.7* | 2367.6 | 2310.4 | 2249.0 | 2179.5 | 2118.2 |
| 12.5° | 2629.3 | 2629.3 | 2596.6 | 2555.7 | 2506.6 | *2449.4* | 2445.3 | 2384.0 | 2322.6 | 2249.0 | 2175.4 |
| 15° | 2719.3 | 2698.8 | 2670.2 | 2617.1 | 2559.8 | *2514.8* | 2506.6 | 2453.5 | 2392.1 | 2326.7 | 2244.9 |
| 17.5° | 2752.0 | 2743.8 | 2707.0 | 2653.9 | 2600.7 | *2551.6* | 2551.6 | 2502.6 | 2457.6 | 2392.1 | 2310.4 |
| 20° | 2743.8 | 2731.5 | 2698.8 | 2653.9 | 2613.0 | *2572.1* | 2572.1 | 2535.3 | 2510.7 | 2449.4 | 2375.8 |
| 22.5° | 2702.9 | 2690.7 | 2670.2 | 2629.3 | 2608.9 | *2584.3* | 2584.3 | 2563.9 | 2555.7 | 2518.9 | 2449.4 |
| 25° | 2690.7 | 2682.5 | 2653.9 | 2617.1 | 2596.6 | *2592.5* | 2596.6 | 2600.7 | 2608.9 | 2580.2 | 2523.0 |
| 27.5° | 2698.8 | 2698.8 | 2674.3 | 2637.5 | 2613.0 | *2617.1* | 2621.1 | 2645.7 | 2670.2 | 2653.9 | 2604.8 |
| 30° | 2752.0 | 2739.7 | 2723.4 | 2686.6 | 2657.9 | *2662.0* | 2662.0 | 2711.1 | 2735.6 | 2715.2 | 2678.4 |
| 32.5° | 2842.0 | 2829.7 | 2805.2 | 2727.5 | 2698.8 | *2719.3* | 2727.5 | 2768.3 | 2784.7 | 2764.3 | 2747.9 |
| 35° | 3050.5 | 3062.8 | 2981.0 | 2842.0 | 2764.3 | *2780.6* | 2788.8 | 2817.4 | 2837.9 | 2829.7 | 2813.3 |
| 37.5° | 3430.8 | 3434.9 | 3332.7 | 3083.2 | 2903.3 | *2854.2* | 2858.3 | 2899.2 | 2923.7 | 2895.1 | 2882.8 |
| 40° | 3905.1 | 3909.2 | 3766.1 | 3426.7 | 3124.1 | *3001.4* | 2997.3 | 3005.5 | 3042.3 | 2993.3 | 2985.1 |
| 42.5° | 4420.4 | 4363.1 | 4240.4 | 3852.0 | 3451.2 | *3246.8* | 3210.0 | 3185.4 | 3230.4 | 3169.1 | 3128.2 |
| 45° | 4911.1 | 4870.2 | 4702.5 | 4301.8 | 3843.8 | *3569.8* | 3533.0 | 3410.3 | 3483.9 | 3434.9 | 3361.3 |
| 47.5° | 5320.0 | 5287.3 | 5160.5 | 4788.4 | 4289.5 | *3958.3* | 3901.0 | 3708.9 | 3839.7 | 3815.2 | 3725.2 |
| 50° | 5622.6 | 5589.9 | 5504.0 | 5275.0 | 4853.8 | *4391.7* | 4338.6 | 4105.5 | 4240.4 | 4285.4 | 4215.9 |
| 52.5° | 5843.4 | 5835.2 | 5802.5 | 5765.7 | 5426.3 | *4894.7* | 4833.4 | 4543.0 | 4763.8 | 4849.7 | 4829.3 |
| 55° | 6178.7 | 6162.3 | 6174.6 | 6235.9 | 6039.7 | *5430.4* | 5340.4 | 5001.0 | 5303.6 | 5463.1 | 5495.8 |
| 57.5° | 6497.6 | 6497.6 | 6604.0 | 6763.4 | 6738.9 | *6006.9* | 5900.6 | 5536.7 | 5957.9 | 6035.6 | 6191.0 |
| 60° | 6796.2 | 6824.8 | 6972.0 | 7323.7 | 7393.2 | *6632.6* | 6505.8 | 6154.2 | 6579.4 | 6665.3 | 6947.5 |
| 62.5° | 6669.4 | 6738.9 | 7209.2 | 7777.5 | 8006.5 | *7303.2* | 7176.4 | 6833.0 | 7278.7 | 7176.4 | 7430.0 |
| 65° | 6023.3 | 6129.6 | 6857.5 | 7806.2 | 8603.6 | *8039.3* | 7932.9 | 7597.6 | 7663.1 | 7254.1 | 7699.9 |
| 67.5° | 5344.5 | 5499.9 | 6346.3 | 7458.6 | 8758.9 | *8791.7* | 8697.6 | 8067.9 | 7659.0 | 7335.9 | 7973.8 |
| 70° | *4735.2* | *4862.0* | *5859.7* | *7397.3* | *8525.9* | *9278.3* | *9257.8* | *8137.4* | *7879.8* | *7409.5* | *7802.1* |
| 72.5° | 3320.4 | 3496.2 | 4518.5 | 6828.9 | 8595.4 | *8485.0* | 8440.0 | 8624.0 | 8043.3 | 7139.6 | 6914.7 |
| 75° | 1194.0 | 1263.5 | 2343.1 | 4620.7 | 6833.0 | *8035.2* | 8072.0 | 7990.2 | 7883.9 | 6395.4 | 5197.3 |
| 77.5° | 355.8 | 380.3 | 666.5 | 1831.9 | 3831.5 | *6448.6* | 6509.9 | 6293.2 | 5925.2 | 3856.1 | 1966.9 |
| 80° | 192.2 | 208.5 | 314.9 | 535.7 | 1435.3 | *3639.3* | 3807.0 | 3222.2 | 2134.5 | 1018.2 | 441.6 |
| 82.5° | 94.1 | 102.2 | 163.6 | 261.7 | 617.5 | *1157.2* | 1161.3 | 1030.5 | 695.2 | 306.7 | 163.6 |
| 85° | 32.7 | 36.8 | 53.2 | 98.1 | 212.6 | *237.2* | 237.2 | 220.8 | 204.5 | 151.3 | 73.6 |
| 87.5° | 8.2 | 8.2 | 12.3 | 16.4 | 20.4 | *24.5* | 24.5 | 28.6 | 32.7 | 36.8 | 36.8 |
| 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: P1367246
CATALOG NUMBER: GSS-SB2D-727-U-T4W

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 | 1991.4 |
| 2.5° | 2003.7 | 1987.3 | 1975.1 | 1962.8 | 1954.6 | 1938.3 | 1934.2 | 1934.2 | 1930.1 | 1934.2 | 1930.1 |
| 5° | 2015.9 | 1991.4 | 1971.0 | 1954.6 | 1946.4 | 1938.3 | 1938.3 | 1942.3 | 1938.3 | 1942.3 | 1938.3 |
| 7.5° | 2040.5 | 2024.1 | 2003.7 | 1979.1 | 1975.1 | 1971.0 | 1975.1 | 1983.2 | 1987.3 | 1991.4 | 1983.2 |
| 10° | 2089.6 | 2065.0 | 2036.4 | 2024.1 | 2015.9 | 2011.9 | 2024.1 | 2040.5 | 2044.6 | 2052.7 | 2044.6 |
| 12.5° | 2146.8 | 2118.2 | 2097.7 | 2069.1 | 2069.1 | 2073.2 | 2085.5 | 2105.9 | 2118.2 | 2130.4 | 2118.2 |
| 15° | 2212.2 | 2183.6 | 2155.0 | 2130.4 | 2126.4 | 2134.5 | 2155.0 | 2175.4 | 2179.5 | 2183.6 | 2175.4 |
| 17.5° | 2277.7 | 2249.0 | 2212.2 | 2183.6 | 2179.5 | 2200.0 | 2208.1 | 2208.1 | 2200.0 | 2200.0 | 2187.7 |
| 20° | 2343.1 | 2322.6 | 2285.8 | 2232.7 | 2249.0 | 2257.2 | 2232.7 | 2212.2 | 2200.0 | 2195.9 | 2183.6 |
| 22.5° | 2420.8 | 2388.1 | 2347.2 | 2289.9 | 2302.2 | 2269.5 | 2224.5 | 2216.3 | 2204.0 | 2208.1 | 2195.9 |
| 25° | 2494.4 | 2473.9 | 2408.5 | 2334.9 | 2302.2 | 2249.0 | 2220.4 | 2220.4 | 2208.1 | 2216.3 | 2212.2 |
| 27.5° | 2580.2 | 2555.7 | 2465.8 | 2359.4 | 2273.6 | 2216.3 | 2212.2 | 2212.2 | 2191.8 | 2195.9 | 2191.8 |
| 30° | 2666.1 | 2629.3 | 2510.7 | 2339.0 | 2204.0 | 2167.2 | 2179.5 | 2175.4 | 2167.2 | 2179.5 | 2187.7 |
| 32.5° | 2739.7 | 2711.1 | 2535.3 | 2289.9 | 2118.2 | 2101.8 | 2110.0 | 2130.4 | 2150.9 | 2163.2 | 2179.5 |
| 35° | 2817.4 | 2784.7 | 2555.7 | 2204.0 | 2024.1 | 1999.6 | 1995.5 | 2056.8 | 2093.6 | 2114.1 | 2126.4 |
| 37.5° | 2899.2 | 2858.3 | 2568.0 | 2110.0 | 1934.2 | 1860.6 | 1872.8 | 1921.9 | 1962.8 | 1999.6 | 2028.2 |
| 40° | 3009.6 | 2968.7 | 2584.3 | 2007.8 | 1840.1 | 1742.0 | 1725.6 | 1737.9 | 1766.5 | 1819.7 | 1848.3 |
| 42.5° | 3173.2 | 3107.7 | 2584.3 | 1876.9 | 1705.2 | 1635.7 | 1578.4 | 1533.4 | 1517.1 | 1549.8 | 1566.1 |
| 45° | 3398.1 | 3299.9 | 2568.0 | 1742.0 | 1549.8 | 1500.7 | 1406.7 | 1333.1 | 1267.6 | 1234.9 | 1226.7 |
| 47.5° | 3770.2 | 3598.4 | 2551.6 | 1611.1 | 1402.6 | 1341.2 | 1226.7 | 1140.9 | 1046.8 | 960.9 | 940.5 |
| 50° | 4269.1 | 3995.1 | 2555.7 | 1480.3 | 1255.4 | 1173.6 | 1071.4 | 981.4 | 871.0 | 789.2 | 776.9 |
| 52.5° | 4927.4 | 4551.2 | 2580.2 | 1337.1 | 1112.2 | 1038.6 | 952.8 | 862.8 | 752.4 | 691.1 | 687.0 |
| 55° | 5692.1 | 5221.8 | 2666.1 | 1177.7 | 981.4 | 924.1 | 862.8 | 776.9 | 682.9 | 629.7 | 621.5 |
| 57.5° | 6583.5 | 5998.8 | 2837.9 | 1010.0 | 862.8 | 842.4 | 793.3 | 711.5 | 633.8 | 580.7 | 572.5 |
| 60° | 7462.7 | 6751.2 | 2968.7 | 862.8 | 768.8 | 768.8 | 723.8 | 662.4 | 556.1 | 511.1 | 503.0 |
| 62.5° | 7871.6 | 6984.3 | 2719.3 | 744.2 | 695.2 | 707.4 | 678.8 | 592.9 | 560.2 | 539.8 | 527.5 |
| 65° | 7969.7 | 6853.4 | 2044.6 | 654.3 | 633.8 | 674.7 | 629.7 | 633.8 | 605.2 | 584.7 | 572.5 |
| 67.5° | 7851.2 | 6481.3 | 1308.5 | 576.6 | 588.8 | 633.8 | 695.2 | 699.2 | 605.2 | 560.2 | 552.0 |
| 70° | *7156.0* | *5683.9* | *805.6* | *511.1* | *527.5* | *625.6* | *772.8* | *658.4* | *572.5* | *535.7* | *519.3* |
| 72.5° | 5970.1 | 4690.2 | 564.3 | 449.8 | 449.8 | 592.9 | 695.2 | 617.5 | 527.5 | 507.1 | 486.6 |
| 75° | 4191.4 | 3173.2 | 413.0 | 376.2 | 376.2 | 462.1 | 642.0 | 564.3 | 494.8 | 503.0 | 494.8 |
| 77.5° | 1427.1 | 1030.5 | 298.5 | 290.3 | 278.1 | 396.6 | 572.5 | 539.8 | 458.0 | 433.4 | 400.7 |
| 80° | 421.2 | 331.2 | 220.8 | 204.5 | 200.4 | 319.0 | 482.5 | 396.6 | 327.1 | 298.5 | 278.1 |
| 82.5° | 163.6 | 147.2 | 143.1 | 130.9 | 126.8 | 212.6 | 319.0 | 274.0 | 245.3 | 204.5 | 200.4 |
| 85° | 65.4 | 65.4 | 73.6 | 73.6 | 65.4 | 114.5 | 192.2 | 151.3 | 143.1 | 126.8 | 122.7 |
| 87.5° | 32.7 | 32.7 | 28.6 | 20.4 | 20.4 | 24.5 | 20.4 | 20.4 | 20.4 | 20.4 | 20.4 |
| 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: SP1-2407-184-3

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-727-U-5WQ

Data in this report applies to families of products including GSS-SB1A-727-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

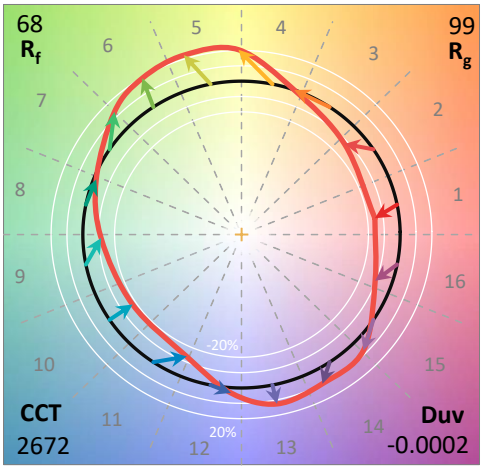
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-3 |
| 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-727-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2672 |
| CIE u': | 0.2638 |
| CIE v': | 0.5276 |
| Duv: | -0.0002 |
| CIE x: | 0.4619 |
| CIE y: | 0.4106 |
| CIE z: | 0.1275 |
| Peak Wavelength (nm): | 601 |
| Dominant Wavelength (nm): | 584 |
| Purity: | 61.88407 |
| Rf: | 67.9 |
| Rg: | 98.6 |

| | |
|---|---|
| CRI (Ra): | 71.1 |
| R1: | 68.3 |
| R2: | 79.8 |
| R3: | 91.2 |
| R4: | 69.4 |
| R5: | 66.5 |
| R6: | 72.6 |
| R7: | 77.0 |
| R8: | 44.1 |
| R9: | -27.8 |
| R10: | 54.4 |
| R11: | 65.8 |
| R12: | 45.6 |
| R13: | 69.8 |
| R14: | 94.5 |
| R15: | 60.1 |




## Test Conditions

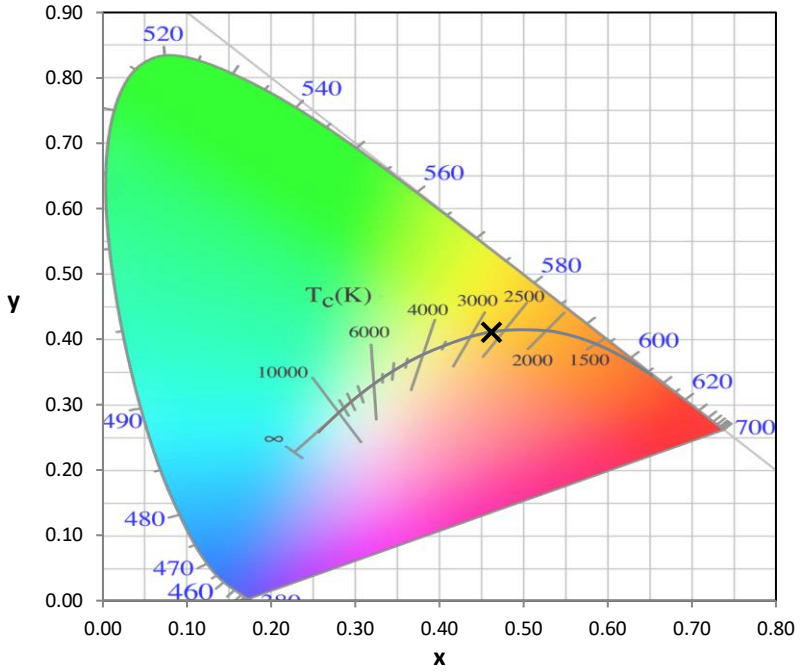
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-3

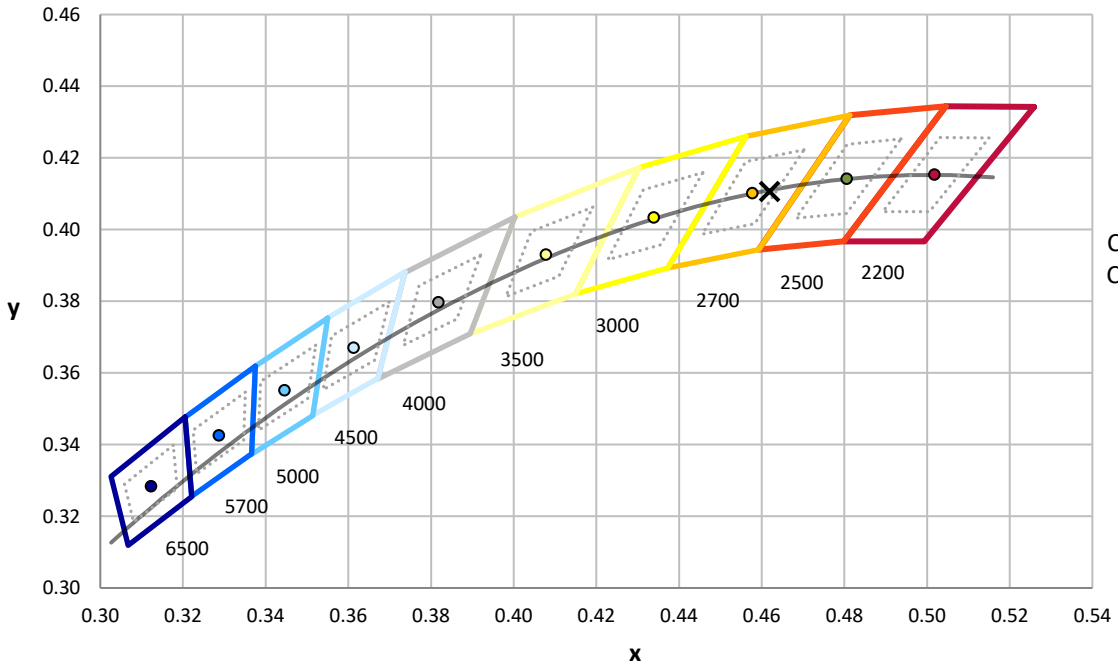
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-3

## CIE 1931 Chromaticity Diagram




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

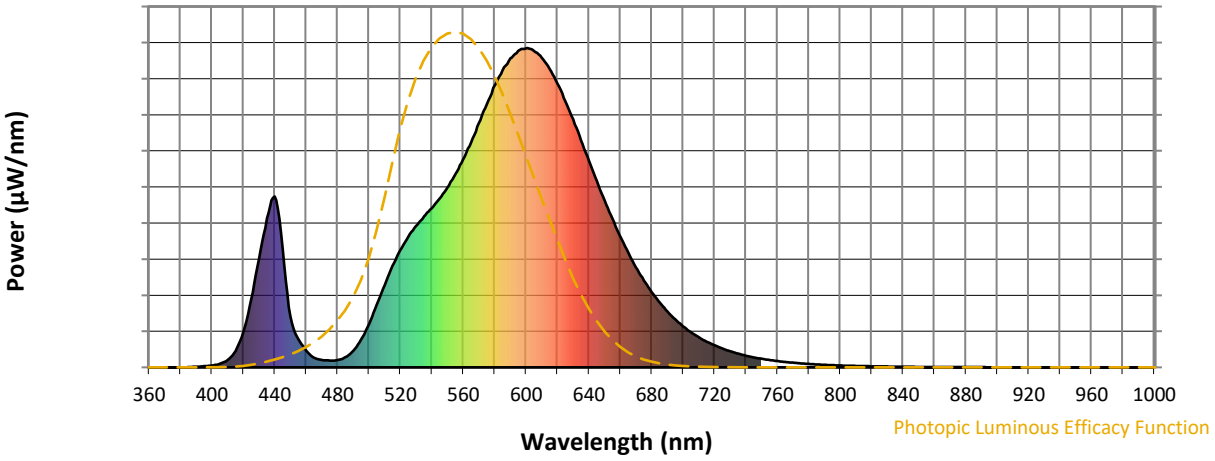



CCT = 2672K
CIE x = 0.4619
CIE y = 0.4106
Duv = -0.0002

Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-3

## Photopic Flux vs. Wavelength

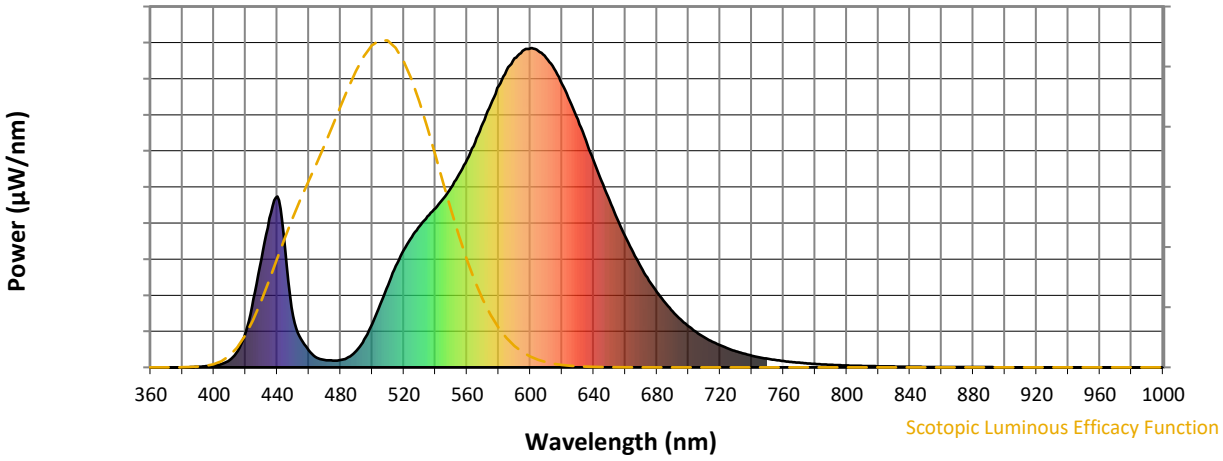



## Photopic Lumens: NR

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-3

## Scotopic Flux vs. Wavelength

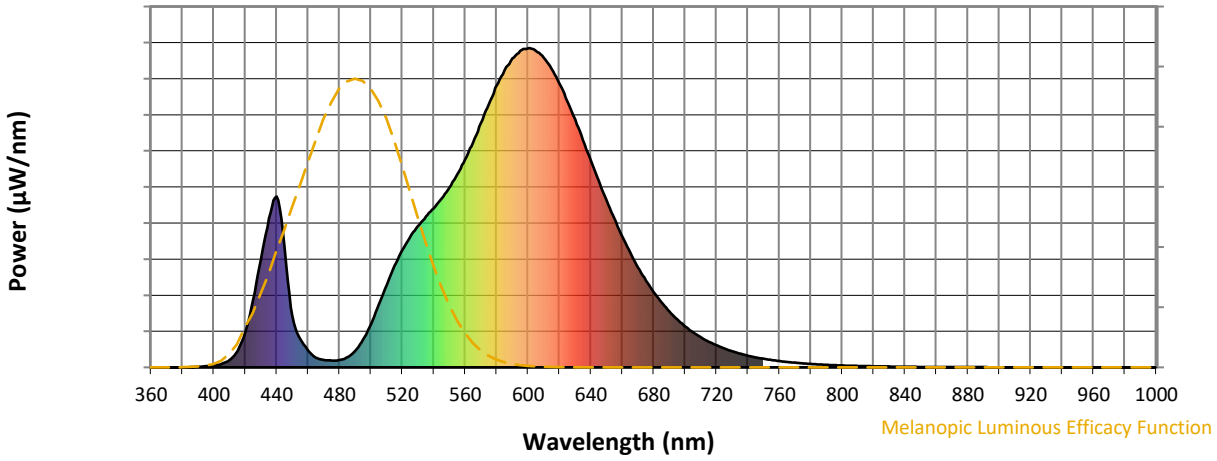



**Scotopic Lumens: NR** **S/P: 1.02**

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-3

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.71**

| 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 | 52 | NR | 620 | 888 | NR | 750 | 27 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 834 | NR | 755 | 23 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 135 | NR | 630 | 776 | NR | 760 | 20 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 196 | NR | 635 | 712 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 258 | NR | 640 | 648 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 317 | NR | 645 | 583 | NR | 775 | 12 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 368 | NR | 650 | 523 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 408 | NR | 655 | 465 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 443 | NR | 660 | 410 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 473 | NR | 665 | 360 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 23 | NR | 540 | 498 | NR | 670 | 313 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 51 | NR | 545 | 530 | NR | 675 | 272 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 111 | NR | 550 | 563 | NR | 680 | 236 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 214 | NR | 555 | 605 | NR | 685 | 203 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 339 | NR | 560 | 651 | NR | 690 | 175 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 467 | NR | 565 | 705 | NR | 695 | 150 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 535 | NR | 570 | 765 | NR | 700 | 128 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 372 | NR | 575 | 824 | NR | 705 | 110 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 160 | NR | 580 | 882 | NR | 710 | 94 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 89 | NR | 585 | 930 | NR | 715 | 80 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 53 | NR | 590 | 968 | NR | 720 | 69 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 31 | NR | 595 | 991 | NR | 725 | 59 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 999 | NR | 730 | 50 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 21 | NR | 605 | 992 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 23 | NR | 610 | 969 | NR | 740 | 36 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 32 | NR | 615 | 935 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

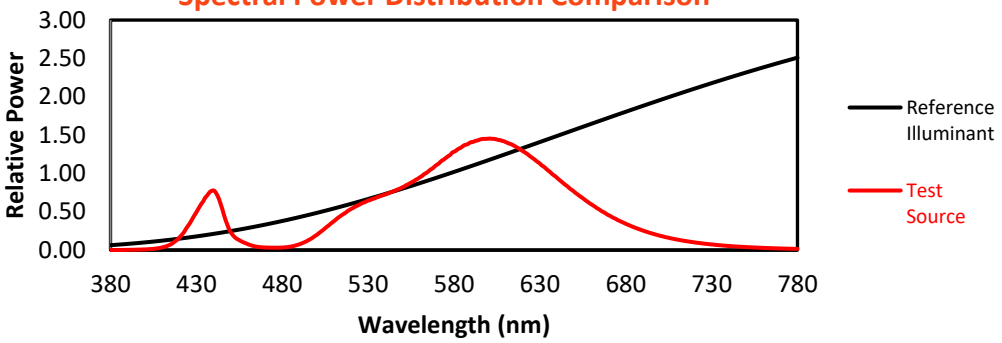
REPORT NUMBER: SP1-2407-184-3

# TM-30-18

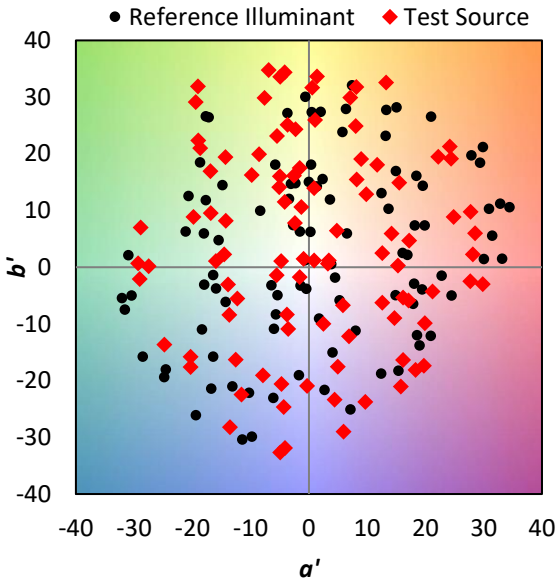
## Summary

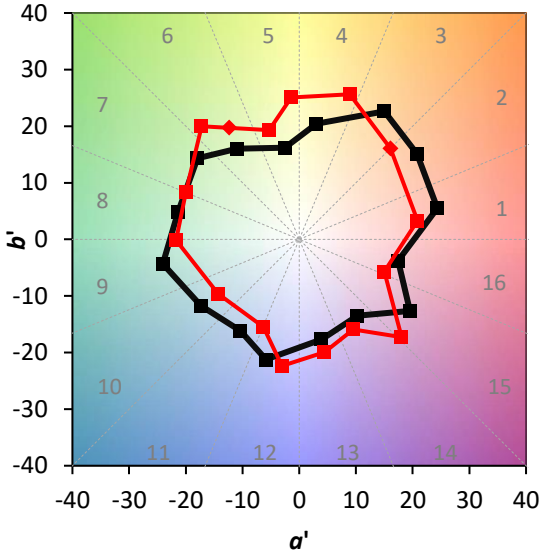
$R_f$ = 67.9
$R_g$ = 98.6
CIE $R_a$ = 71.1
$R_9$ = -27.8

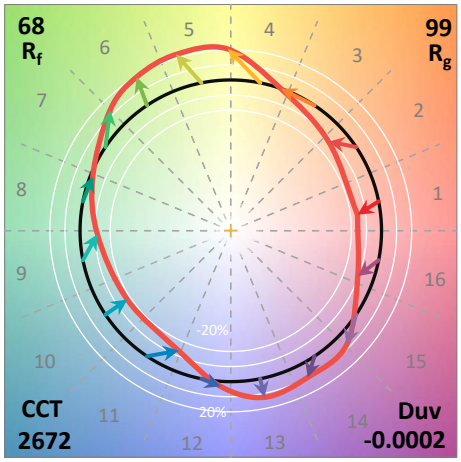
## Spectral Power Distribution Comparison

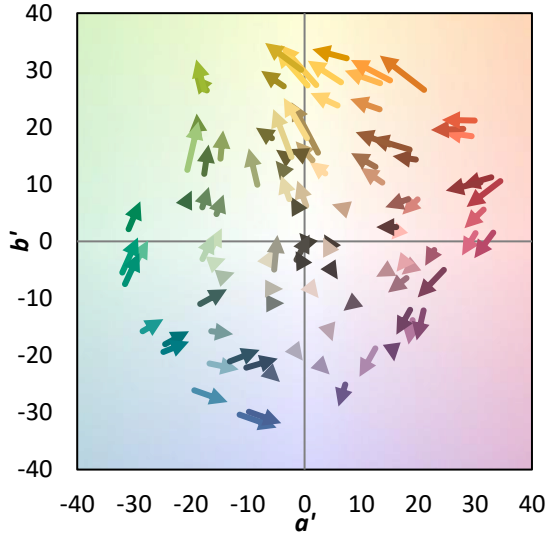



## Color Vector Graphics



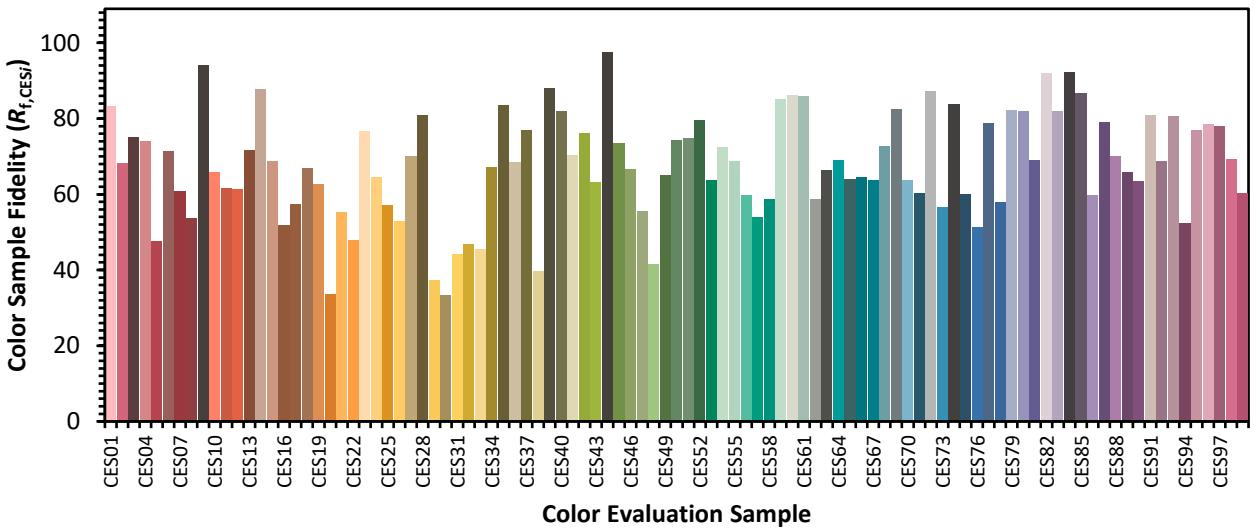



REPORT NUMBER: SP1-2407-184-3

# TM-30-18

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

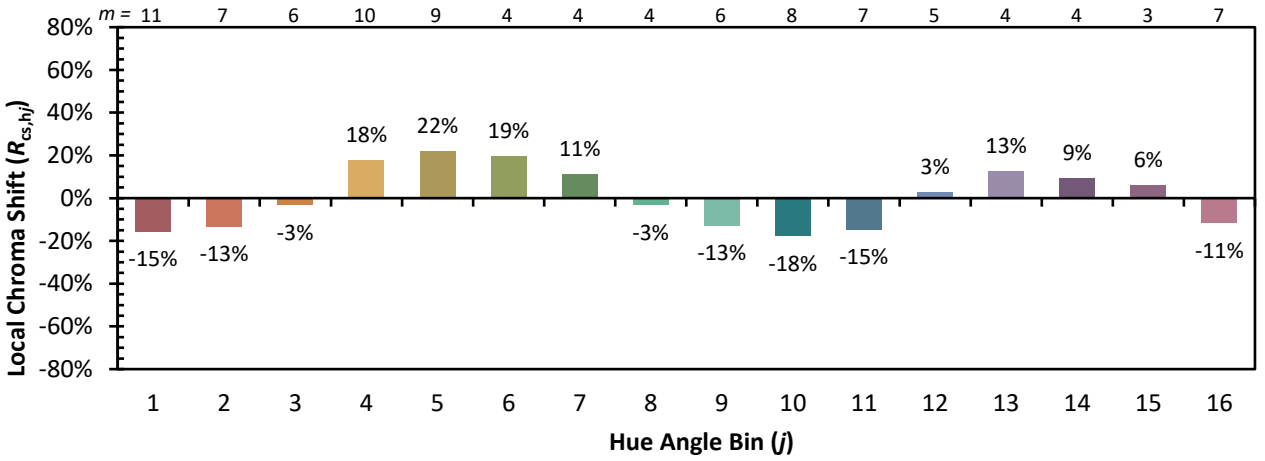
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 53 | CES51 = 75 | CES76 = 51 |
| CES02 = 63 | CES27 = 70 | CES52 = 80 | CES77 = 79 |
| CES03 = 31 | CES28 = 81 | CES53 = 64 | CES78 = 58 |
| CES04 = 71 | CES29 = 37 | CES54 = 73 | CES79 = 82 |
| CES05 = 50 | CES30 = 33 | CES55 = 69 | CES80 = 82 |
| CES06 = 52 | CES31 = 44 | CES56 = 60 | CES81 = 69 |
| CES07 = 42 | CES32 = 47 | CES57 = 54 | CES82 = 92 |
| CES08 = 41 | CES33 = 45 | CES58 = 59 | CES83 = 82 |
| CES09 = 29 | CES34 = 67 | CES59 = 85 | CES84 = 92 |
| CES10 = 77 | CES35 = 84 | CES60 = 86 | CES85 = 87 |
| CES11 = 60 | CES36 = 68 | CES61 = 86 | CES86 = 60 |
| CES12 = 66 | CES37 = 77 | CES62 = 59 | CES87 = 79 |
| CES13 = 44 | CES38 = 40 | CES63 = 66 | CES88 = 70 |
| CES14 = 74 | CES39 = 88 | CES64 = 69 | CES89 = 66 |
| CES15 = 72 | CES40 = 82 | CES65 = 64 | CES90 = 64 |
| CES16 = 48 | CES41 = 70 | CES66 = 65 | CES91 = 81 |
| CES17 = 51 | CES42 = 76 | CES67 = 64 | CES92 = 69 |
| CES18 = 57 | CES43 = 63 | CES68 = 73 | CES93 = 81 |
| CES19 = 73 | CES44 = 97 | CES69 = 83 | CES94 = 53 |
| CES20 = 67 | CES45 = 74 | CES70 = 64 | CES95 = 77 |
| CES21 = 88 | CES46 = 67 | CES71 = 60 | CES96 = 79 |
| CES22 = 80 | CES47 = 55 | CES72 = 87 | CES97 = 78 |
| CES23 = 92 | CES48 = 42 | CES73 = 57 | CES98 = 69 |
| CES24 = 92 | CES49 = 65 | CES74 = 84 | CES99 = 60 |
| CES25 = 73 | CES50 = 74 | CES75 = 60 | |

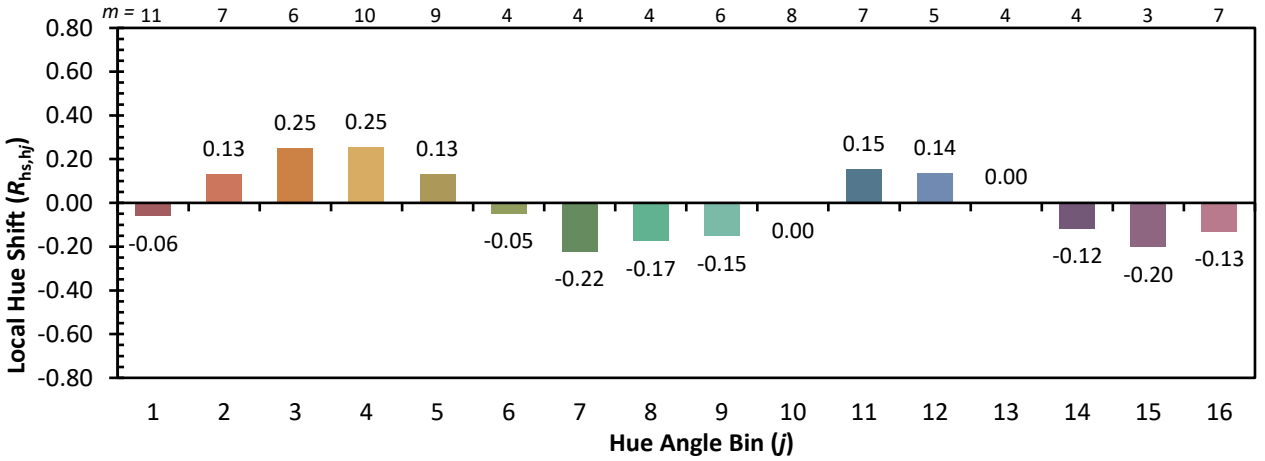


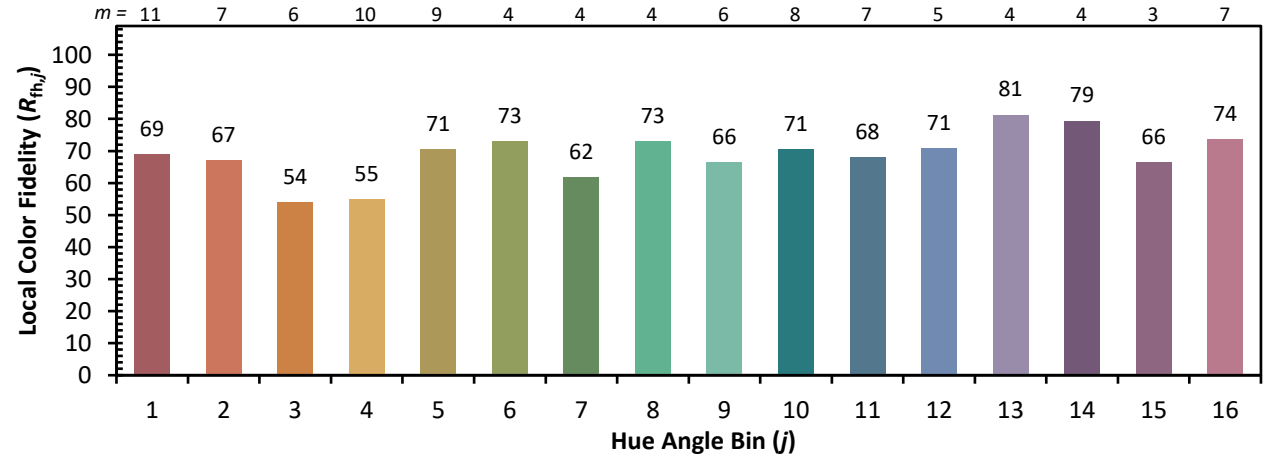
REPORT NUMBER: SP1-2407-184-3

# TM-30-18

## Color Rendition by Hue-Angle Bin



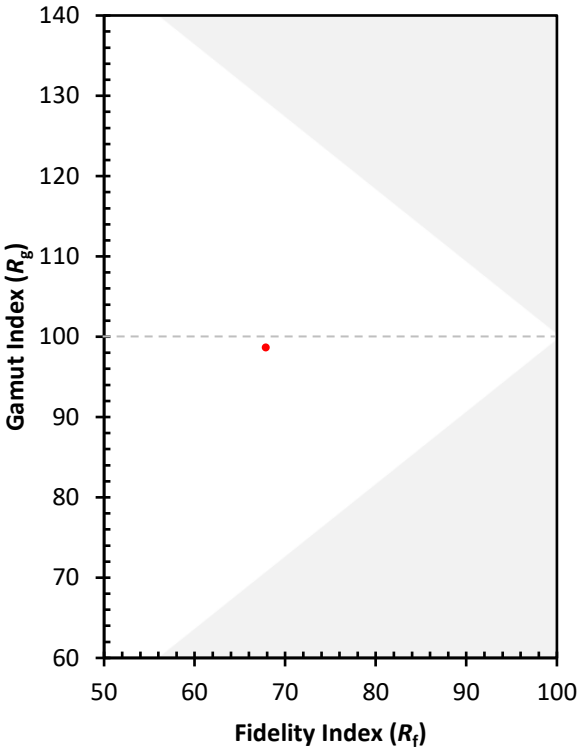



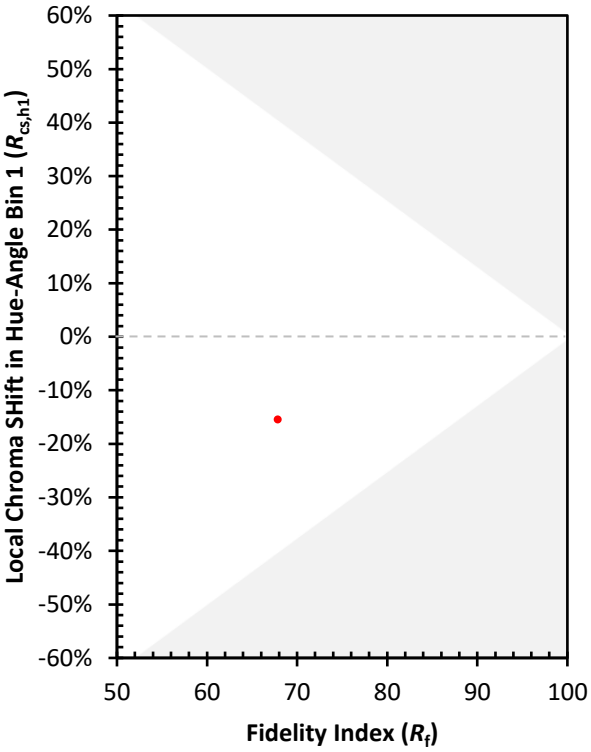



REPORT NUMBER: SP1-2407-184-3

# TM-30-18

## Measure Comparisons




(END OF REPORT)