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: P1367707

Luminaire Tested: **GSS-SB4A-750-U-T4W-HSS**

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: | P1367707 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4A-750-U-T4W-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 114W 70CRI 5000K FIXTURE w/ TYPE IV WIDE DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (104) 5000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 13317.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 116.8 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G3 |

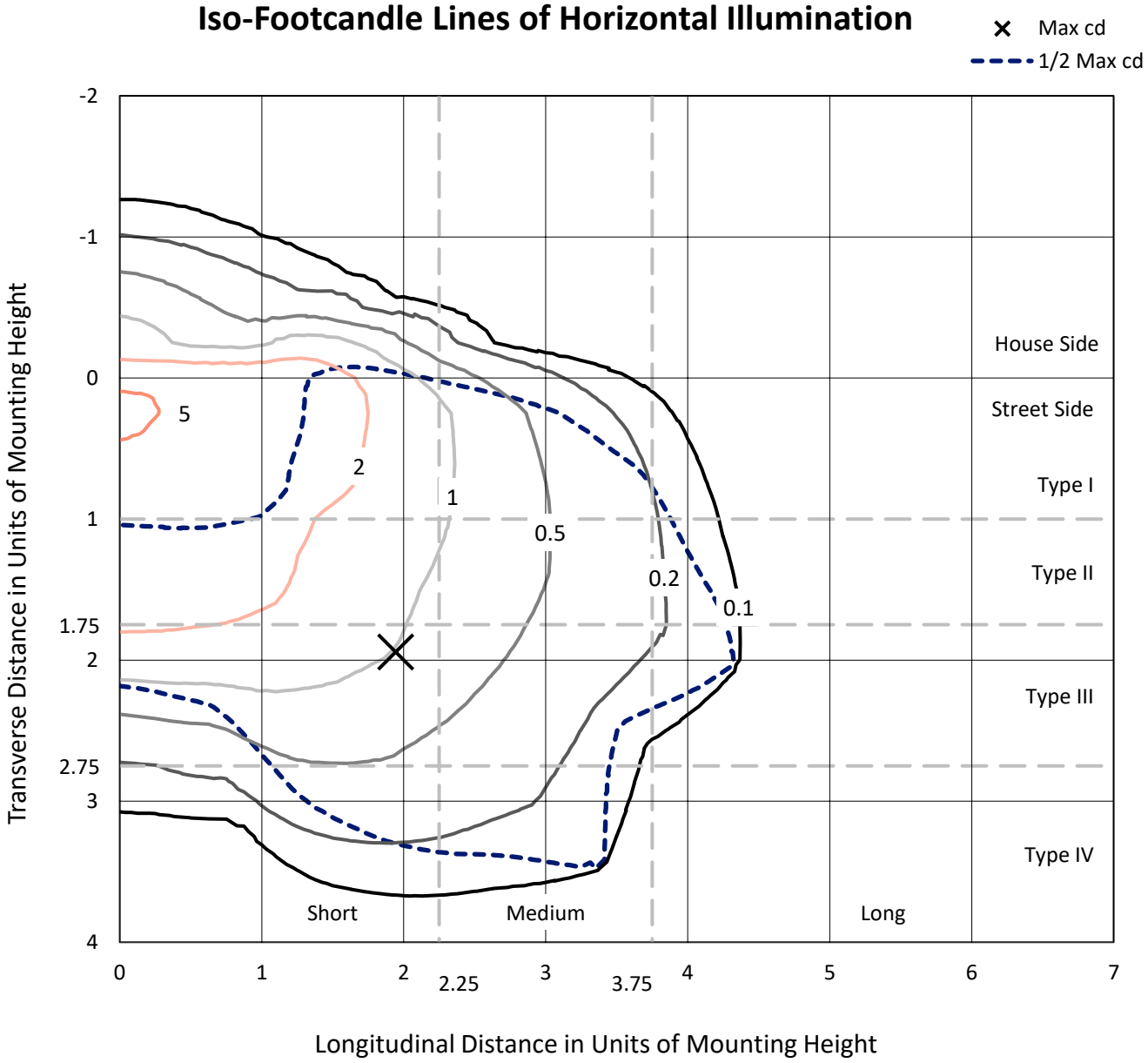
| | |
|---|---|
| Input Watts (W): | 114 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.2% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1367707
CATALOG NUMBER: GSS-SB4A-750-U-T4W-HSS

## Iso-Footcandle Lines of Horizontal Illumination



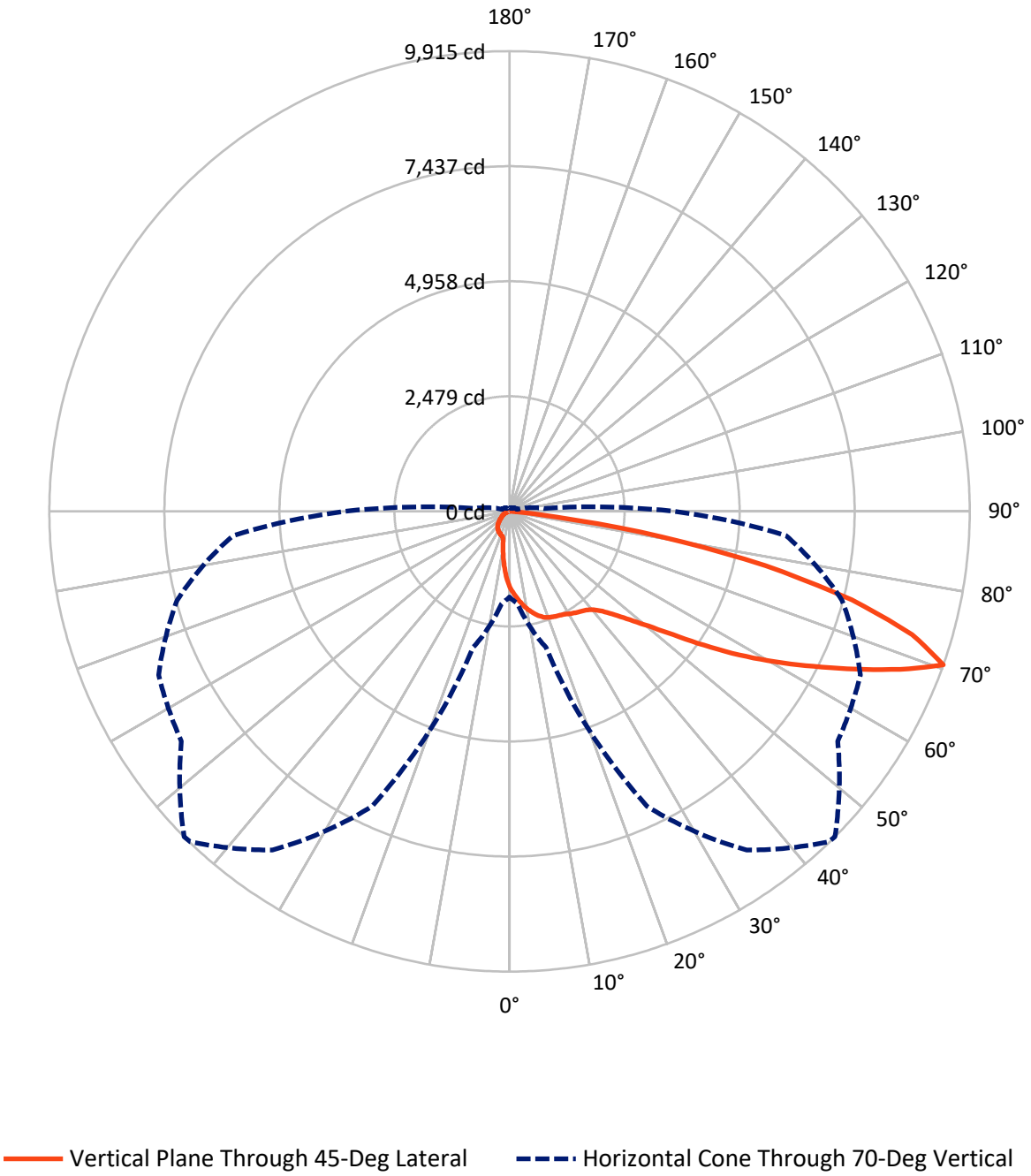

Based on 20 foot mounting height. Maximum calculated value = 5.8 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

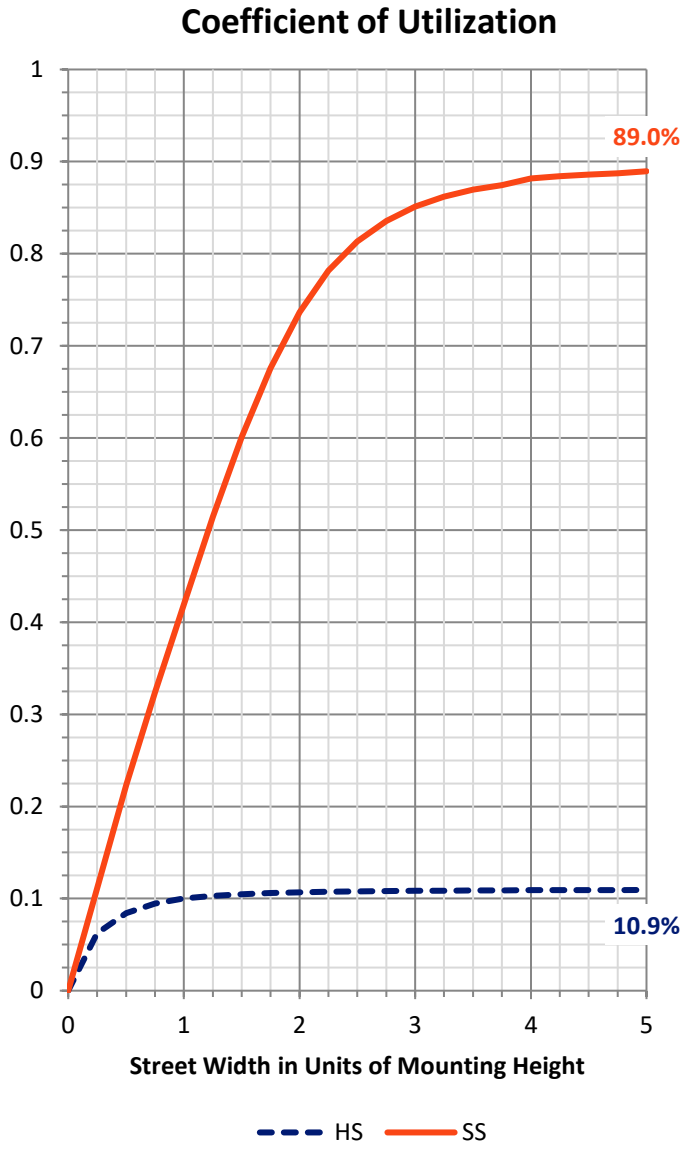
REPORT NUMBER: P1367707
CATALOG NUMBER: GSS-SB4A-750-U-T4W-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1470.6 | 0.0 | 1470.6 |
| | % Fixture | 11.0 | 0.0 | 11.0 |
| **Street Side** | Lumens | 11846.5 | 0.0 | 11846.5 |
| | % Fixture | 89.0 | 0.0 | 89.0 |
| **Total** | Lumens | 13317.1 | 0.0 | 13317.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 150.7 | 1.1 |
| 10°-20° | 444.6 | 3.3 |
| 20°-30° | 738.0 | 5.5 |
| 30°-40° | 1046.3 | 7.9 |
| 40°-50° | 1659.4 | 12.5 |
| 50°-60° | 2922.1 | 21.9 |
| 60°-70° | 3787.9 | 28.4 |
| 70°-80° | 2419.5 | 18.2 |
| 80°-90° | 148.6 | 1.1 |
| 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° | 13317.1 | 100.0 |
| 0°-180° | 13317.1 | 100.0 |



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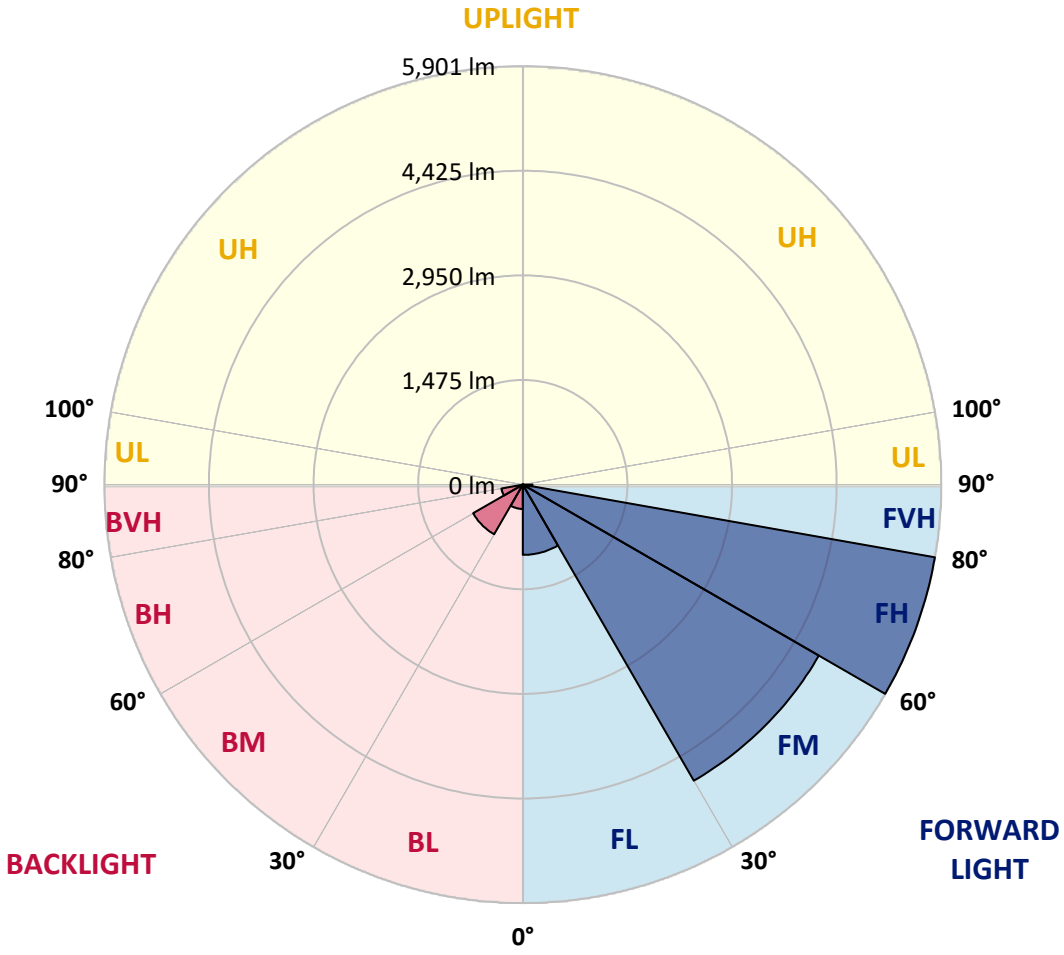
Scaled Data Report

REPORT NUMBER: P1367707
CATALOG NUMBER: GSS-SB4A-750-U-T4W-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 990.8 | 7.4 | | | |
| FM | (30°-60°) | 4819.6 | 36.2 | | | |
| FH | (60°-80°) | 5900.6 | 44.3 | | | G3/7500 |
| FVH | (80°-90°) | 135.5 | 1.0 | | | G2/225 |
| BL | (0°-30°) | 342.6 | 2.6 | B1/500 | | |
| BM | (30°-60°) | 808.2 | 6.1 | B1/1000 | | |
| BH | (60°-80°) | 306.8 | 2.3 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 13.0 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G3**
Type IV Short



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REPORT NUMBER: P1367707
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | *1646.1* | 1646.1 | 1646.1 | 1646.1 | 1646.1 |
| 2.5° | 1838.6 | 1838.6 | 1821.5 | 1812.9 | 1800.1 | 1774.4 | *1774.4* | 1757.3 | 1723.1 | 1697.5 | 1667.5 |
| 5° | 2026.7 | 2018.1 | 1992.5 | 1975.4 | 1941.2 | 1902.7 | *1902.7* | 1855.7 | 1804.3 | 1765.9 | 1701.7 |
| 7.5° | 2180.6 | 2176.3 | 2159.2 | 2129.3 | 2082.3 | 2035.2 | *2026.7* | 1971.1 | 1898.4 | 1830.0 | 1753.0 |
| 10° | 2330.3 | 2330.3 | 2291.8 | 2257.6 | 2206.3 | 2146.4 | *2146.4* | 2073.7 | 1988.2 | 1907.0 | 1808.6 |
| 12.5° | 2458.5 | 2441.4 | 2411.5 | 2355.9 | 2304.6 | 2244.7 | *2240.5* | 2167.8 | 2078.0 | 1992.5 | 1877.0 |
| 15° | 2556.9 | 2548.3 | 2509.8 | 2450.0 | 2390.1 | 2330.3 | *2330.3* | 2253.3 | 2167.8 | 2069.4 | 1945.4 |
| 17.5° | 2625.3 | 2621.0 | 2578.3 | 2509.8 | 2445.7 | 2394.4 | *2398.7* | 2330.3 | 2253.3 | 2150.7 | 2022.4 |
| 20° | 2642.4 | 2629.6 | 2595.4 | 2531.2 | 2479.9 | 2432.9 | *2437.2* | 2385.8 | 2317.4 | 2236.2 | 2095.1 |
| 22.5° | 2616.7 | 2612.5 | 2574.0 | 2522.7 | 2492.7 | 2458.5 | *2462.8* | 2432.9 | 2390.1 | 2304.6 | 2180.6 |
| 25° | 2586.8 | 2578.3 | 2552.6 | 2509.8 | 2492.7 | 2475.6 | *2484.2* | 2471.4 | 2454.3 | 2385.8 | 2266.1 |
| 27.5° | 2578.3 | 2569.7 | 2539.8 | 2501.3 | 2501.3 | 2501.3 | *2509.8* | 2526.9 | 2522.7 | 2467.1 | 2351.6 |
| 30° | 2591.1 | 2595.4 | 2565.4 | 2526.9 | 2518.4 | 2544.0 | *2561.1* | 2599.6 | 2599.6 | 2539.8 | 2445.7 |
| 32.5° | 2629.6 | 2625.3 | 2599.6 | 2548.3 | 2544.0 | 2586.8 | *2603.9* | 2659.5 | 2646.7 | 2599.6 | 2526.9 |
| 35° | 2706.5 | 2706.5 | 2668.0 | 2591.1 | 2574.0 | 2629.6 | *2646.7* | 2715.1 | 2715.1 | 2672.3 | 2608.2 |
| 37.5° | 2847.6 | 2864.7 | 2817.7 | 2693.7 | 2638.1 | 2668.0 | *2693.7* | 2774.9 | 2804.9 | 2753.6 | 2706.5 |
| 40° | 3099.9 | 3065.7 | 3018.6 | 2847.6 | 2745.0 | 2770.7 | *2783.5* | 2873.3 | 2916.0 | 2851.9 | 2822.0 |
| 42.5° | 3715.6 | 3677.1 | 3471.9 | 3082.8 | 2920.3 | 2924.6 | *2937.4* | 3022.9 | 3104.2 | 3031.5 | 3005.8 |
| 45° | 4626.3 | 4592.1 | 4245.8 | 3583.0 | 3181.1 | 3159.7 | *3176.9* | 3249.5 | 3360.7 | 3309.4 | 3283.7 |
| 47.5° | 5323.3 | 5280.5 | 5019.7 | 4318.5 | 3600.1 | 3471.9 | *3484.7* | 3540.3 | 3728.4 | 3685.7 | 3681.4 |
| 50° | 5661.0 | 5635.4 | 5481.5 | 5109.5 | 4305.6 | 3878.1 | *3873.8* | 3925.1 | 4181.6 | 4177.4 | 4190.2 |
| 52.5° | 5998.8 | 5998.8 | 5879.1 | 5703.8 | 5152.2 | 4438.2 | *4412.5* | 4365.5 | 4716.1 | 4741.8 | 4878.6 |
| 55° | 6366.5 | 6375.1 | 6370.8 | 6323.8 | 5990.3 | 5169.3 | *5088.1* | 4921.3 | 5336.1 | 5413.0 | 5579.8 |
| 57.5° | 6738.5 | 6755.6 | 6789.8 | 6973.7 | 6879.6 | 5939.0 | *5836.3* | 5528.5 | 6063.0 | 6045.9 | 6152.7 |
| 60° | 7029.3 | 7046.4 | 7187.5 | 7529.5 | 7606.5 | 6717.1 | *6576.0* | 6225.4 | 6785.5 | 6687.2 | 6618.8 |
| 62.5° | 6854.0 | 6896.7 | 7397.0 | 7991.3 | 8243.6 | 7444.0 | *7354.2* | 7012.2 | 7499.6 | 7187.5 | 6798.4 |
| 65° | 5216.4 | 5430.1 | 6537.6 | 8081.1 | 8820.8 | 8269.2 | *8192.3* | 7850.2 | 7987.0 | 7264.4 | 6657.3 |
| 67.5° | 3223.9 | 3518.9 | 4720.4 | 7529.5 | 9115.8 | 9167.1 | *9081.6* | 8470.2 | 8025.5 | 7328.6 | 6494.8 |
| 70° | *1847.1* | *1996.8* | *3031.5* | *7007.9* | *8906.3* | *9898.3* | *9915.4* | *8632.7* | *8341.9* | *7418.4* | *5977.4* |
| 72.5° | 1218.6 | 1261.3 | 1663.3 | 5862.0 | 8632.7 | 8974.7 | *9073.1* | 9231.3 | 8555.7 | 7007.9 | 4929.9 |
| 75° | 555.8 | 577.2 | 838.0 | 3749.8 | 6567.5 | 7713.4 | *7619.3* | 7687.7 | 8123.8 | 6122.8 | 3617.2 |
| 77.5° | 175.3 | 201.0 | 337.8 | 1428.1 | 3493.3 | 5703.8 | *5635.4* | 3963.6 | 6020.2 | 3352.2 | 1133.1 |
| 80° | 85.5 | 98.3 | 201.0 | 431.8 | 1291.3 | 3232.4 | *3313.7* | 1351.1 | 1907.0 | 756.8 | 230.9 |
| 82.5° | 38.5 | 42.8 | 115.4 | 205.2 | 504.5 | 949.2 | *1009.1* | 440.4 | 496.0 | 235.2 | 85.5 |
| 85° | 17.1 | 21.4 | 47.0 | 81.2 | 141.1 | 153.9 | *166.8* | 94.1 | 183.9 | 132.5 | 42.8 |
| 87.5° | 0.0 | 4.3 | 4.3 | 12.8 | 12.8 | 17.1 | *17.1* | 21.4 | 25.7 | 29.9 | 25.7 |
| 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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Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P1367707
CATALOG NUMBER: GSS-SB4A-750-U-T4W-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 | 1646.1 |
| 2.5° | 1650.4 | 1629.0 | 1599.1 | 1556.4 | 1526.4 | 1479.4 | 1445.2 | 1419.5 | 1389.6 | 1398.2 | 1402.4 |
| 5° | 1663.3 | 1629.0 | 1547.8 | 1445.2 | 1355.4 | 1265.6 | 1201.5 | 1141.6 | 1103.1 | 1098.9 | 1081.8 |
| 7.5° | 1697.5 | 1637.6 | 1500.8 | 1334.0 | 1175.8 | 1056.1 | 949.2 | 868.0 | 816.7 | 799.6 | 791.0 |
| 10° | 1744.5 | 1659.0 | 1445.2 | 1210.0 | 1000.5 | 838.0 | 714.0 | 649.9 | 624.3 | 620.0 | 620.0 |
| 12.5° | 1795.8 | 1688.9 | 1389.6 | 1086.0 | 829.5 | 654.2 | 598.6 | 590.0 | 590.0 | 594.3 | 594.3 |
| 15° | 1855.7 | 1710.3 | 1325.5 | 940.7 | 662.7 | 577.2 | 572.9 | 572.9 | 572.9 | 581.5 | 577.2 |
| 17.5° | 1915.5 | 1740.2 | 1248.5 | 795.3 | 572.9 | 555.8 | 555.8 | 555.8 | 555.8 | 564.4 | 560.1 |
| 20° | 1979.7 | 1761.6 | 1167.3 | 662.7 | 547.3 | 543.0 | 543.0 | 538.7 | 538.7 | 547.3 | 547.3 |
| 22.5° | 2052.3 | 1778.7 | 1077.5 | 572.9 | 534.5 | 525.9 | 525.9 | 525.9 | 521.6 | 530.2 | 530.2 |
| 25° | 2125.0 | 1804.3 | 974.9 | 525.9 | 517.4 | 513.1 | 508.8 | 508.8 | 504.5 | 513.1 | 508.8 |
| 27.5° | 2206.3 | 1834.3 | 876.5 | 508.8 | 504.5 | 500.3 | 496.0 | 491.7 | 487.4 | 496.0 | 491.7 |
| 30° | 2300.3 | 1864.2 | 782.5 | 500.3 | 491.7 | 487.4 | 478.9 | 474.6 | 466.1 | 474.6 | 474.6 |
| 32.5° | 2385.8 | 1894.1 | 709.8 | 496.0 | 483.2 | 466.1 | 453.2 | 444.7 | 440.4 | 448.9 | 453.2 |
| 35° | 2475.6 | 1941.2 | 671.3 | 504.5 | 474.6 | 448.9 | 427.6 | 414.7 | 410.5 | 419.0 | 423.3 |
| 37.5° | 2582.5 | 1996.8 | 662.7 | 521.6 | 466.1 | 427.6 | 397.6 | 376.3 | 372.0 | 380.5 | 384.8 |
| 40° | 2732.2 | 2073.7 | 679.8 | 530.2 | 453.2 | 401.9 | 359.2 | 337.8 | 325.0 | 325.0 | 329.2 |
| 42.5° | 2924.6 | 2236.2 | 692.7 | 538.7 | 431.8 | 372.0 | 325.0 | 295.0 | 273.6 | 273.6 | 277.9 |
| 45° | 3219.6 | 2505.6 | 756.8 | 530.2 | 410.5 | 333.5 | 286.5 | 248.0 | 230.9 | 230.9 | 235.2 |
| 47.5° | 3617.2 | 2881.8 | 936.4 | 513.1 | 380.5 | 299.3 | 248.0 | 213.8 | 201.0 | 201.0 | 201.0 |
| 50° | 4143.2 | 3352.2 | 1128.8 | 483.2 | 346.3 | 265.1 | 213.8 | 192.4 | 183.9 | 179.6 | 175.3 |
| 52.5° | 4771.7 | 3848.1 | 1265.6 | 453.2 | 316.4 | 235.2 | 192.4 | 175.3 | 166.8 | 162.5 | 162.5 |
| 55° | 5378.8 | 4198.7 | 1312.6 | 423.3 | 286.5 | 209.5 | 179.6 | 166.8 | 158.2 | 153.9 | 153.9 |
| 57.5° | 5746.6 | 4267.2 | 1120.2 | 389.1 | 256.5 | 192.4 | 162.5 | 153.9 | 145.4 | 141.1 | 141.1 |
| 60° | 5832.1 | 3972.1 | 791.0 | 342.1 | 222.3 | 171.0 | 149.6 | 141.1 | 132.5 | 124.0 | 124.0 |
| 62.5° | 5528.5 | 3283.7 | 551.6 | 277.9 | 196.7 | 153.9 | 136.8 | 128.3 | 115.4 | 106.9 | 102.6 |
| 65° | 4917.1 | 2398.7 | 389.1 | 218.1 | 171.0 | 136.8 | 119.7 | 111.2 | 98.3 | 85.5 | 81.2 |
| 67.5° | 4292.8 | 1453.7 | 252.3 | 179.6 | 149.6 | 111.2 | 102.6 | 98.3 | 85.5 | 72.7 | 72.7 |
| 70° | *3553.1* | *744.0* | *175.3* | *145.4* | *124.0* | *89.8* | *85.5* | *85.5* | *77.0* | *64.1* | *64.1* |
| 72.5° | 2740.7 | 273.6 | 119.7 | 115.4 | 94.1 | 68.4 | 77.0 | 72.7 | 64.1 | 55.6 | 55.6 |
| 75° | 1859.9 | 132.5 | 89.8 | 81.2 | 64.1 | 55.6 | 59.9 | 59.9 | 55.6 | 47.0 | 42.8 |
| 77.5° | 590.0 | 85.5 | 68.4 | 64.1 | 51.3 | 47.0 | 51.3 | 51.3 | 42.8 | 38.5 | 34.2 |
| 80° | 149.6 | 59.9 | 55.6 | 47.0 | 38.5 | 38.5 | 42.8 | 34.2 | 34.2 | 29.9 | 29.9 |
| 82.5° | 64.1 | 42.8 | 38.5 | 34.2 | 29.9 | 29.9 | 29.9 | 29.9 | 25.7 | 25.7 | 25.7 |
| 85° | 34.2 | 29.9 | 25.7 | 25.7 | 25.7 | 21.4 | 21.4 | 25.7 | 21.4 | 21.4 | 21.4 |
| 87.5° | 21.4 | 21.4 | 17.1 | 12.8 | 12.8 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 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
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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

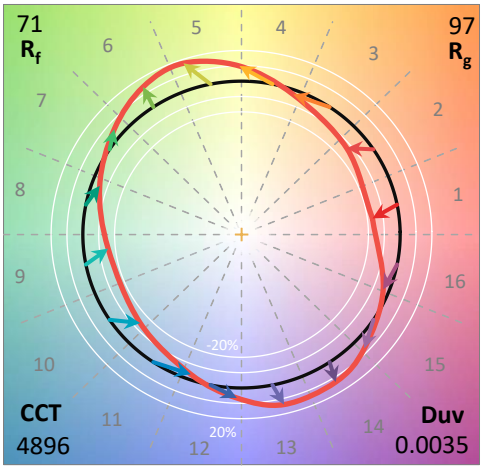
## Test Information

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

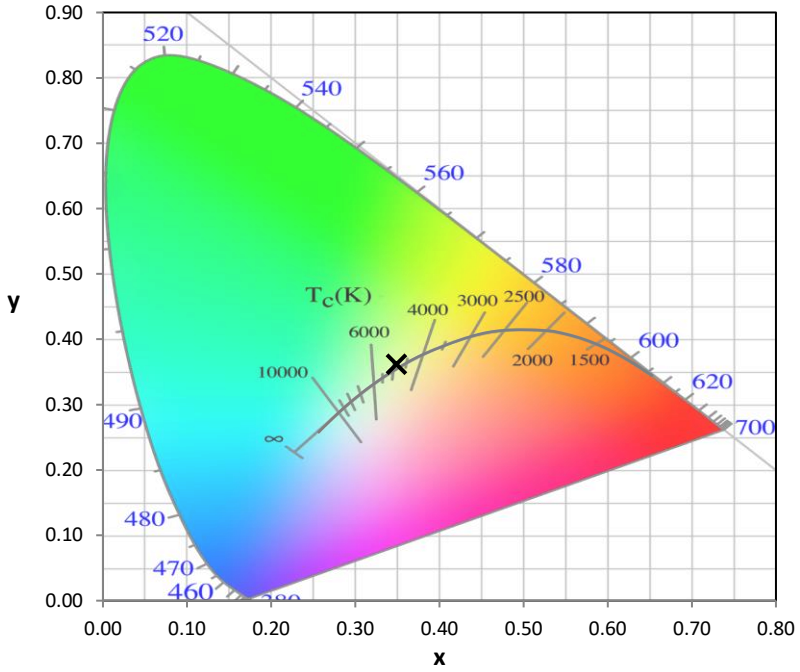
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-6

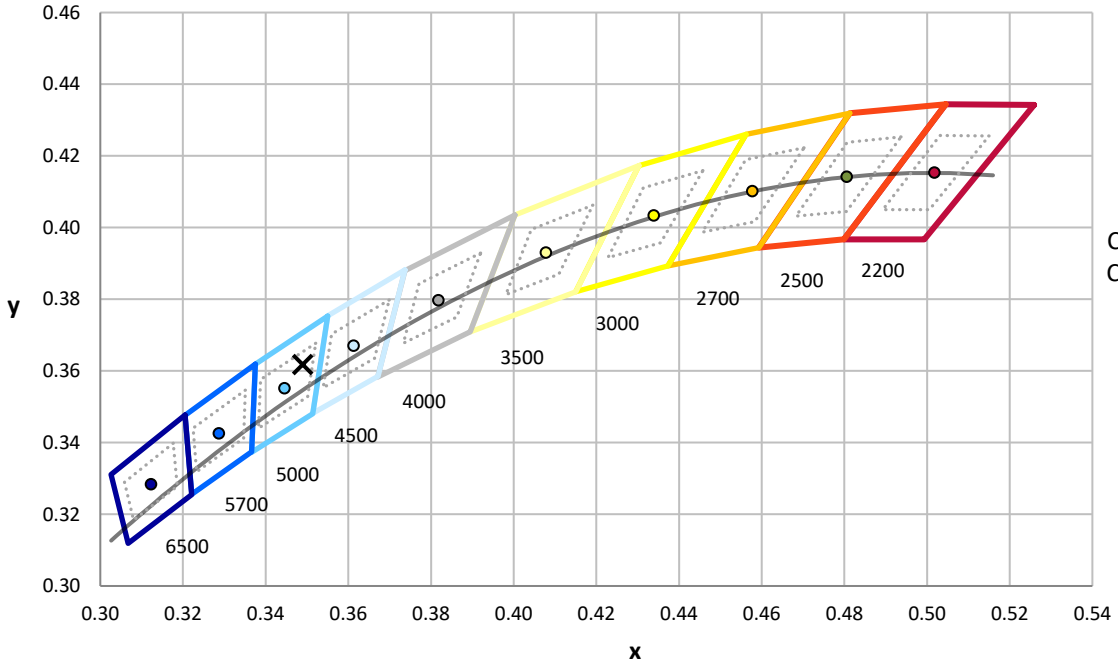
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

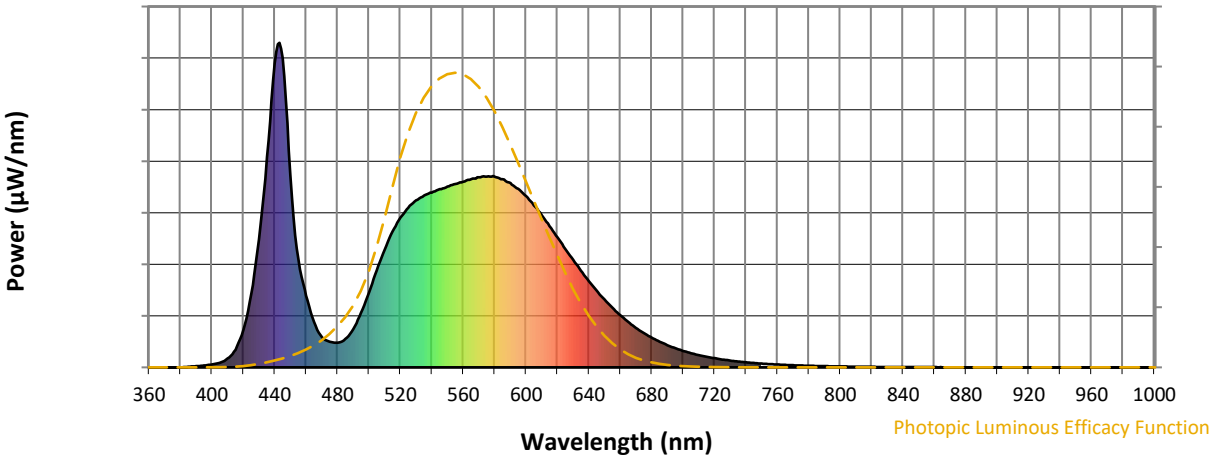



CCT = 4896K
CIE x = 0.3489
CIE y = 0.3618
Duv = 0.0035

Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-6

## Photopic Flux vs. Wavelength

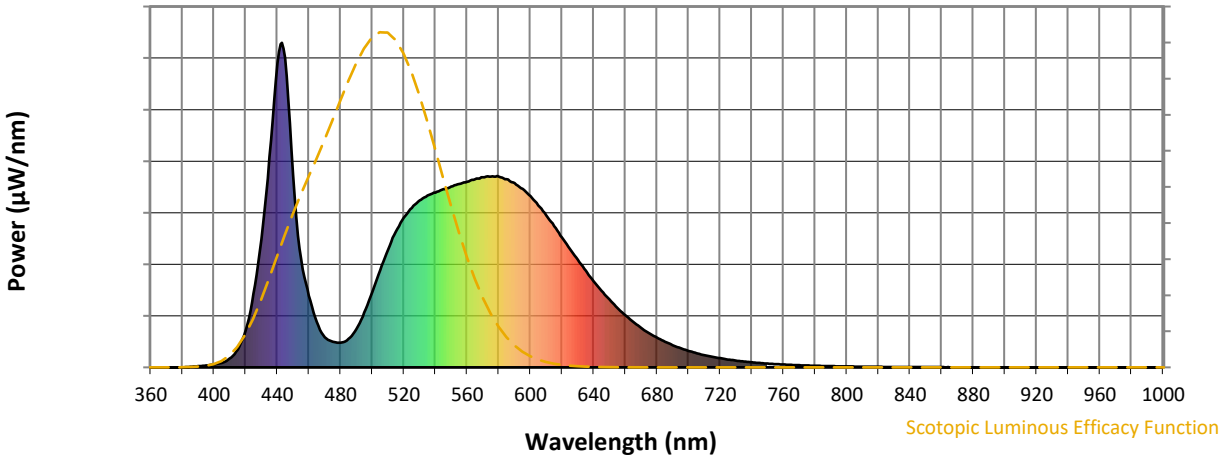



## Photopic Lumens: NR

| 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

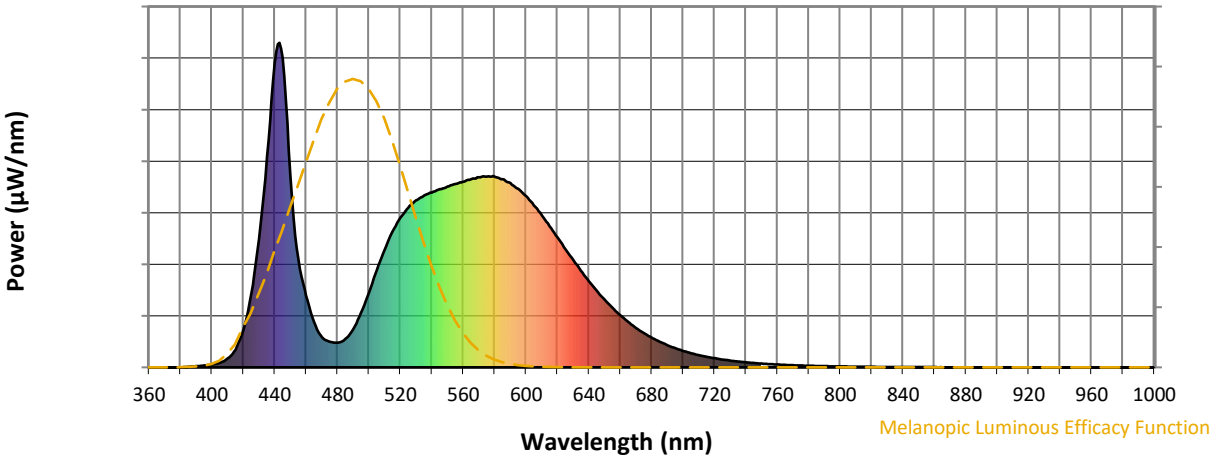



**Scotopic Lumens: NR** **S/P: 1.7**

| 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 | | | |

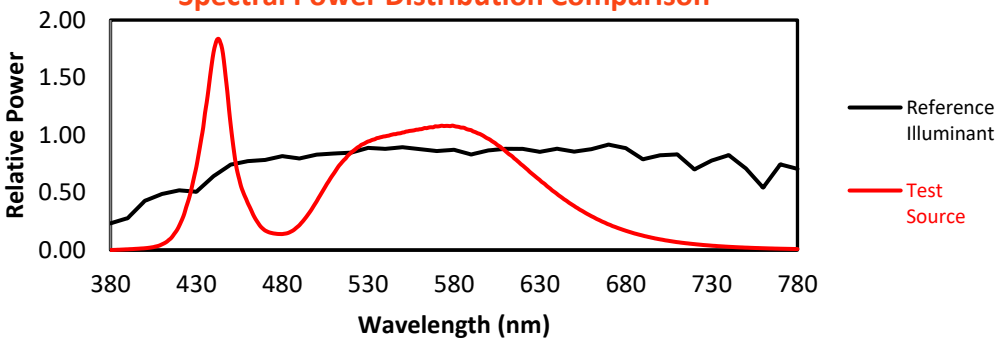
REPORT NUMBER: SP1-2407-184-6

# TM-30-18

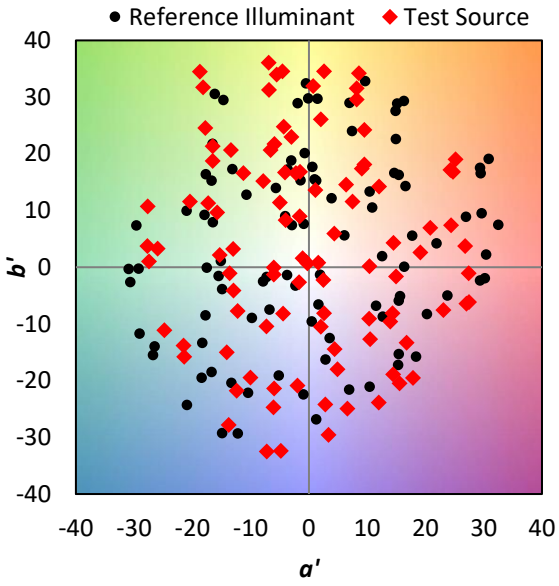
## Summary

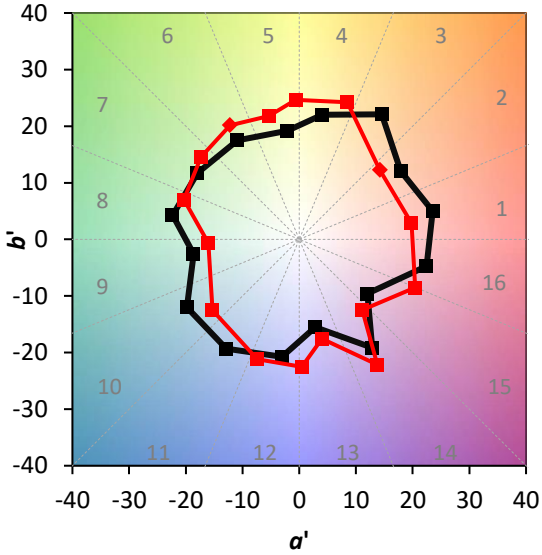
$R_f$ = 70.7
$R_g$ = 96.8
CIE $R_a$ = 70.2
$R_9$ = -35.1

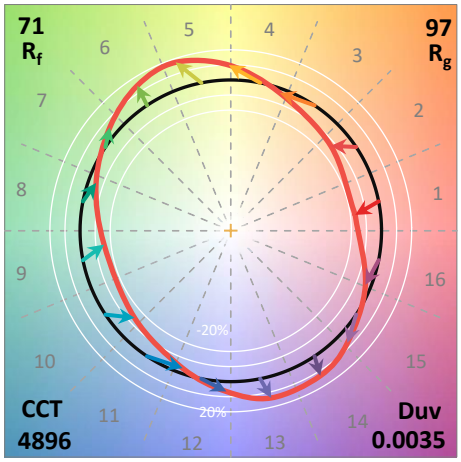
## Spectral Power Distribution Comparison

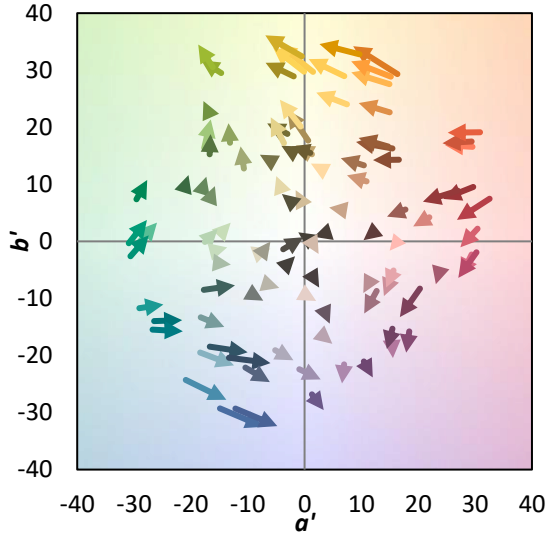



## Color Vector Graphics



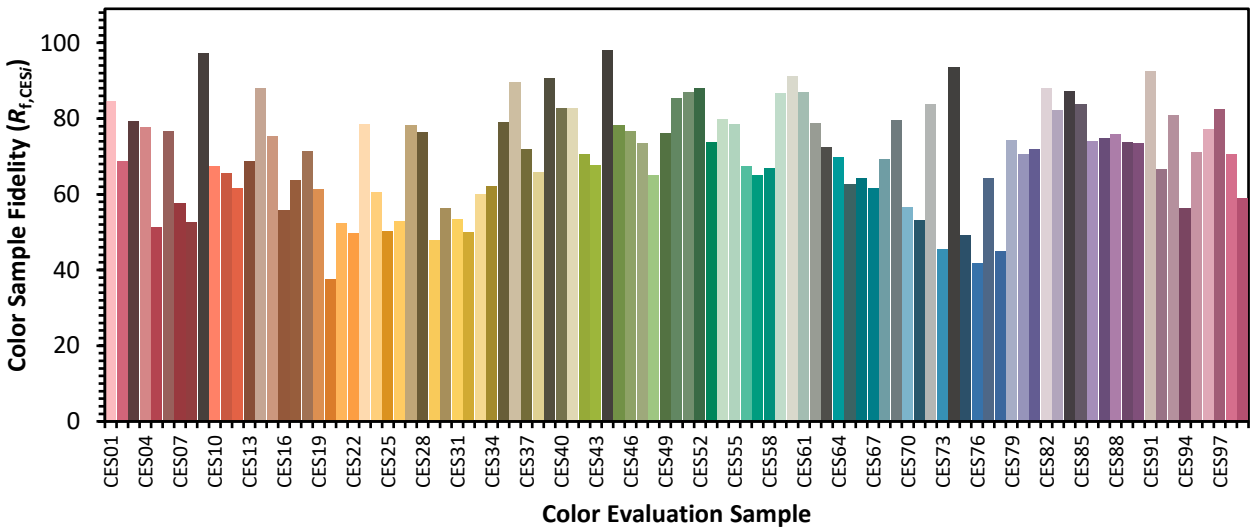



REPORT NUMBER: SP1-2407-184-6

# TM-30-18

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

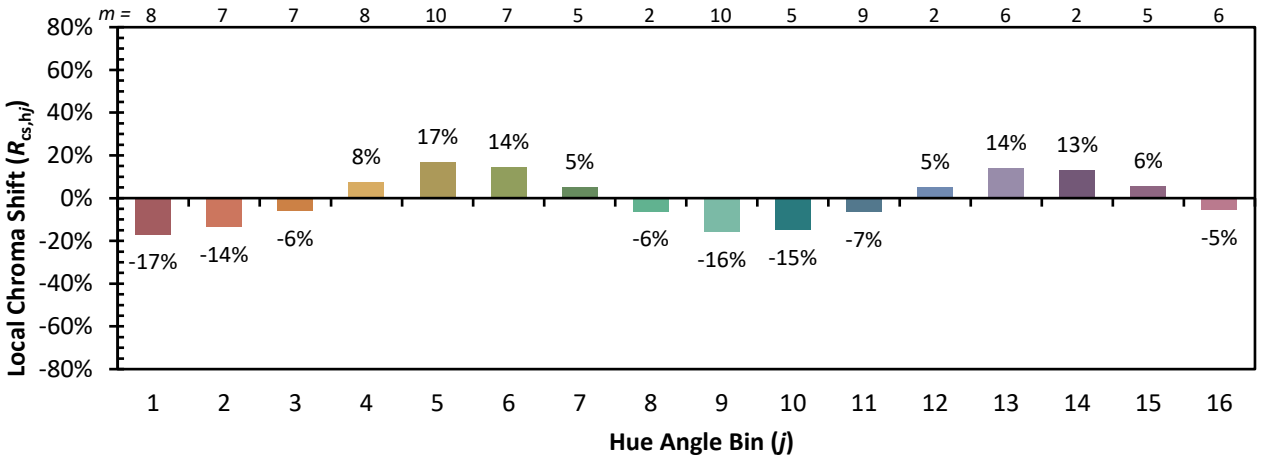
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 53 | CES51 = 87 | CES76 = 42 |
| CES02 = 59 | CES27 = 78 | CES52 = 88 | CES77 = 64 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 45 |
| CES04 = 69 | CES29 = 48 | CES54 = 80 | CES79 = 74 |
| CES05 = 46 | CES30 = 56 | CES55 = 79 | CES80 = 71 |
| CES06 = 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 | |

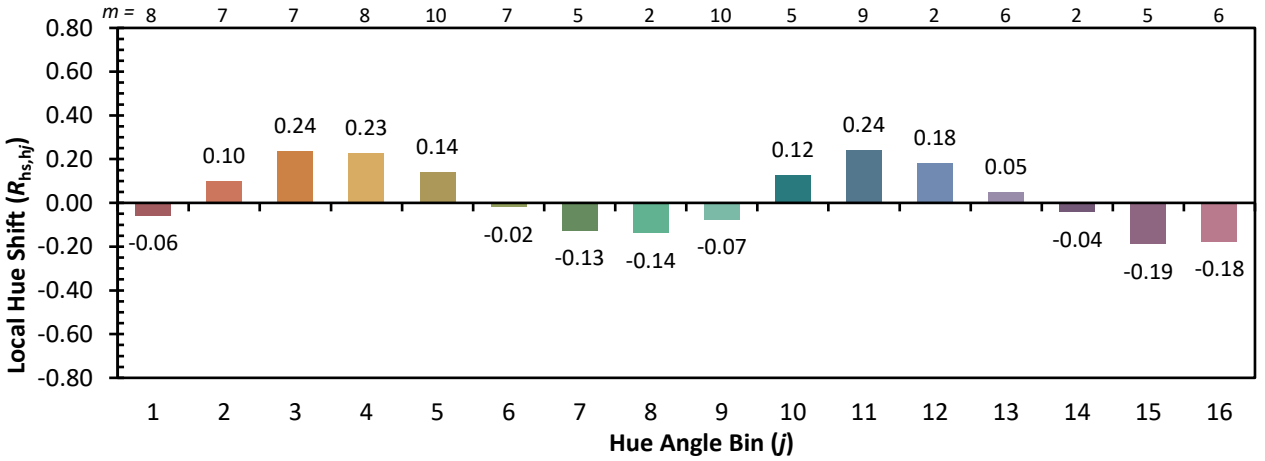


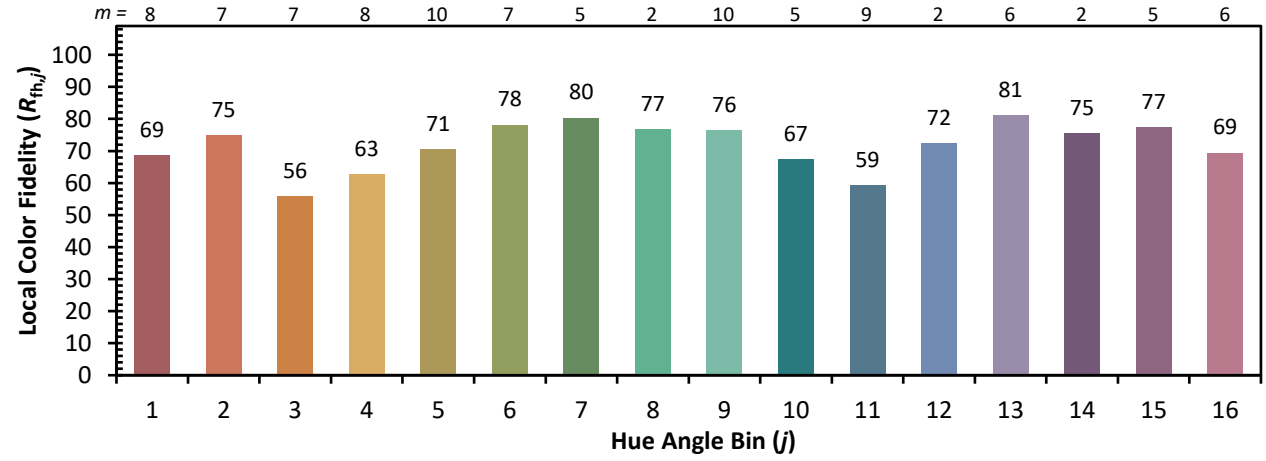
REPORT NUMBER: SP1-2407-184-6

**TM-30-18**

## Color Rendition by Hue-Angle Bin



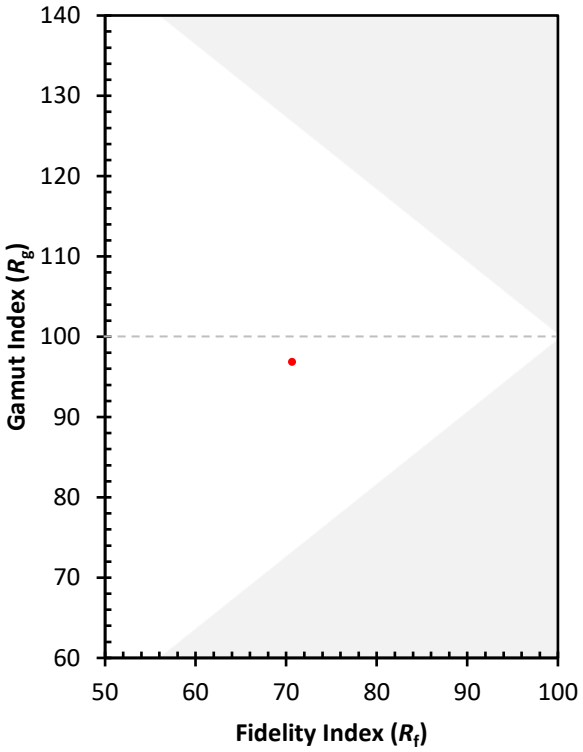



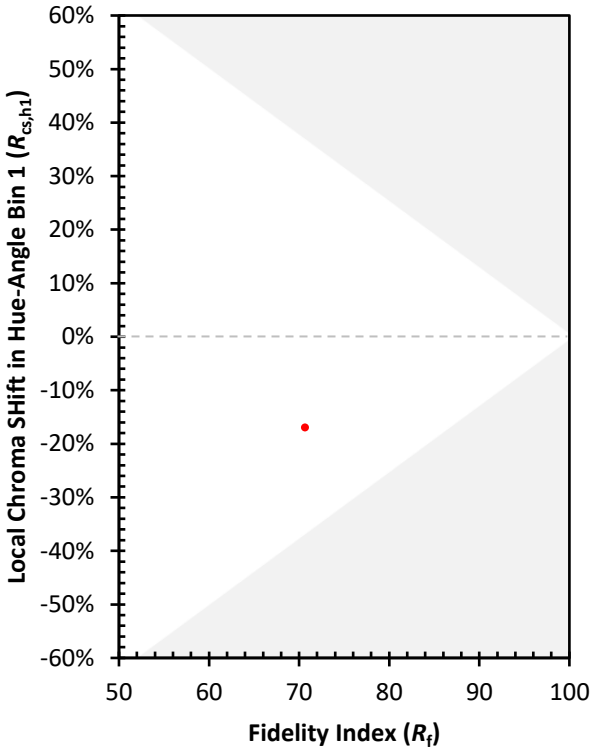



REPORT NUMBER: SP1-2407-184-6

# TM-30-18

## Measure Comparisons




(END OF REPORT)