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

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled data based on original data using

LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P1457352

Luminaire Tested: GLAN-SB4B-927-U-T4LG

Issue Date: 05/20/2026

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1457352 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB4B-927-U-T4LG |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 4xLight Square PACKAGE 90CRI 2700K FIXTURE w/ TYPE IV LOW GLARE |
| Light Source: | (104) 2700K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 13435.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 91.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 147 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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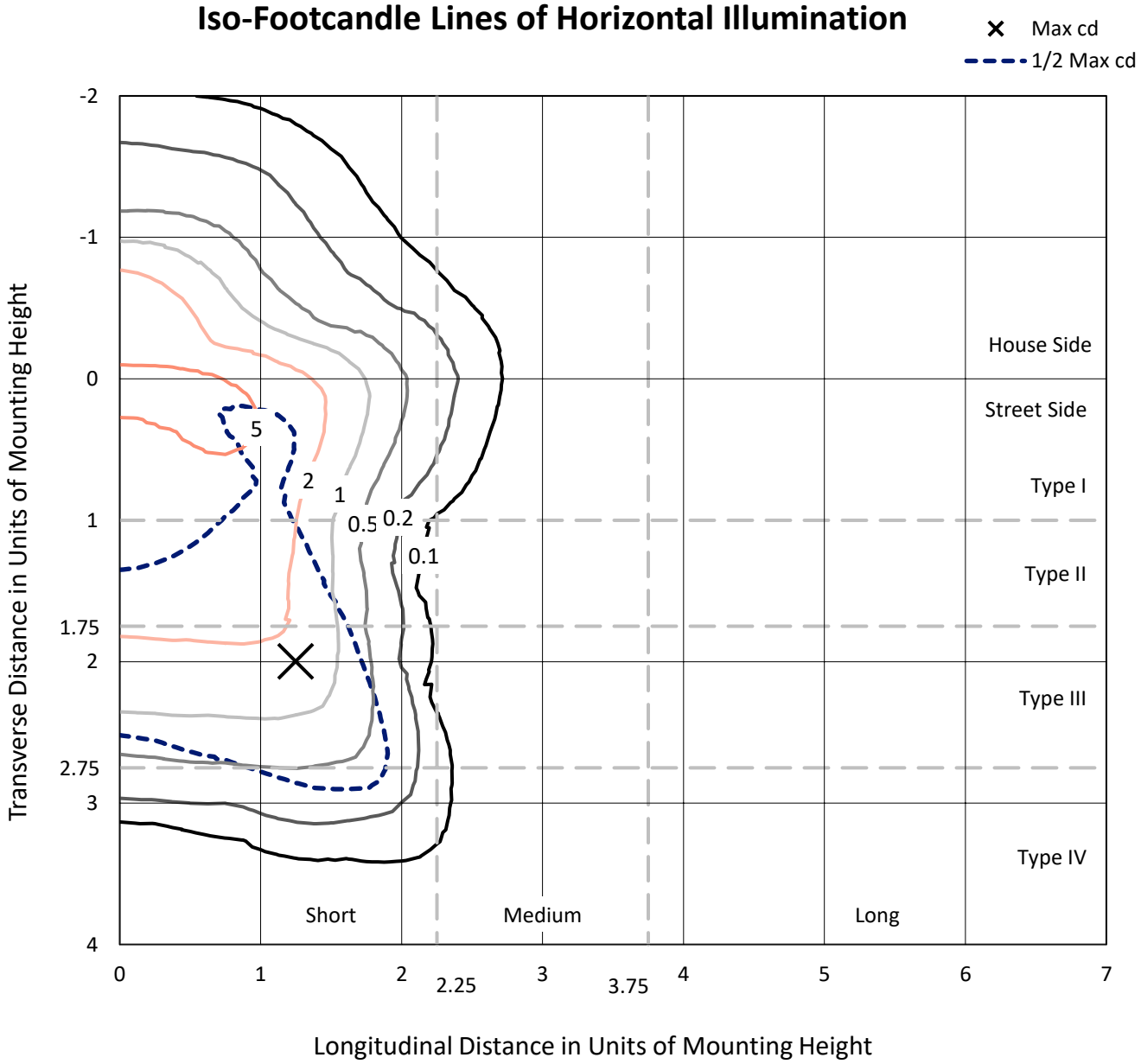
Scaled Data Report

REPORT NUMBER: P1457352
CATALOG NUMBER: GLAN-SB4B-927-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 8.3 fc
Type IV - Short - N/A

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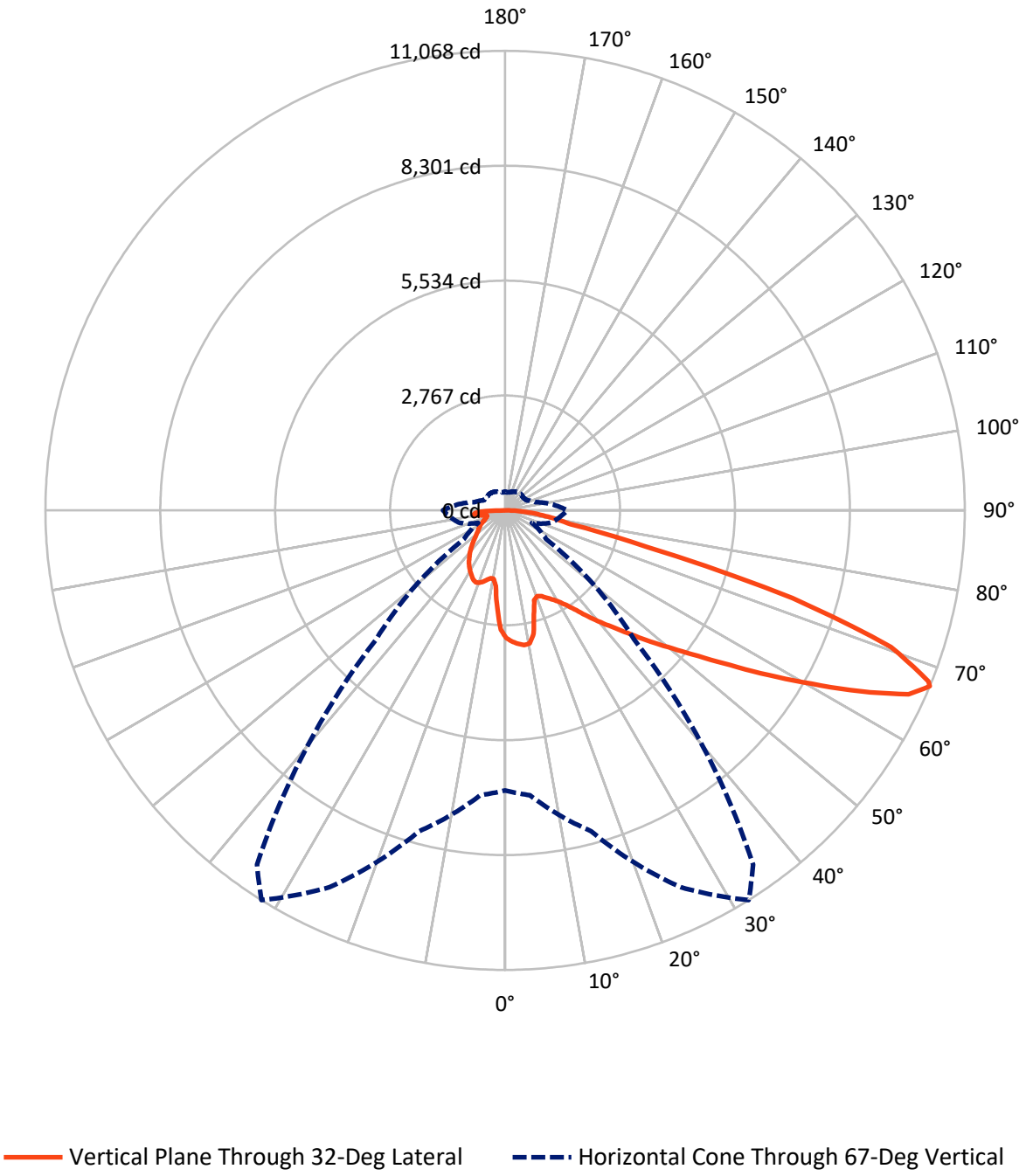
## Luminous Intensity Polar Plot



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REPORT NUMBER: P1457352
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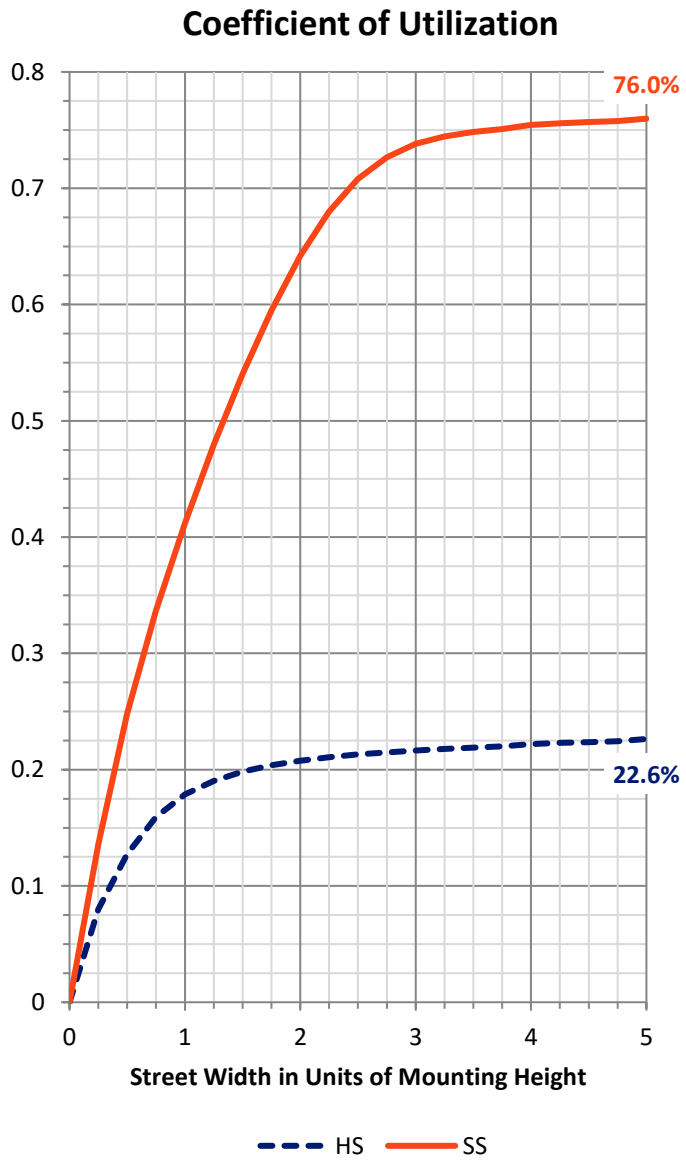
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3180.9 | 0.0 | 3180.9 |
| | % Fixture | 23.7 | 0.0 | 23.7 |
| **Street Side** | Lumens | 10255.0 | 0.0 | 10255.0 |
| | % Fixture | 76.3 | 0.0 | 76.3 |
| **Total** | Lumens | 13435.9 | 0.0 | 13435.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 268.2 | 2.0 |
| 10°-20° | 712.2 | 5.3 |
| 20°-30° | 1163.0 | 8.7 |
| 30°-40° | 1714.2 | 12.8 |
| 40°-50° | 2363.9 | 17.6 |
| 50°-60° | 2986.3 | 22.2 |
| 60°-70° | 2890.2 | 21.5 |
| 70°-80° | 1031.5 | 7.7 |
| 80°-90° | 306.3 | 2.3 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 13435.9 | 100.0 |
| 0°-180° | 13435.9 | 100.0 |



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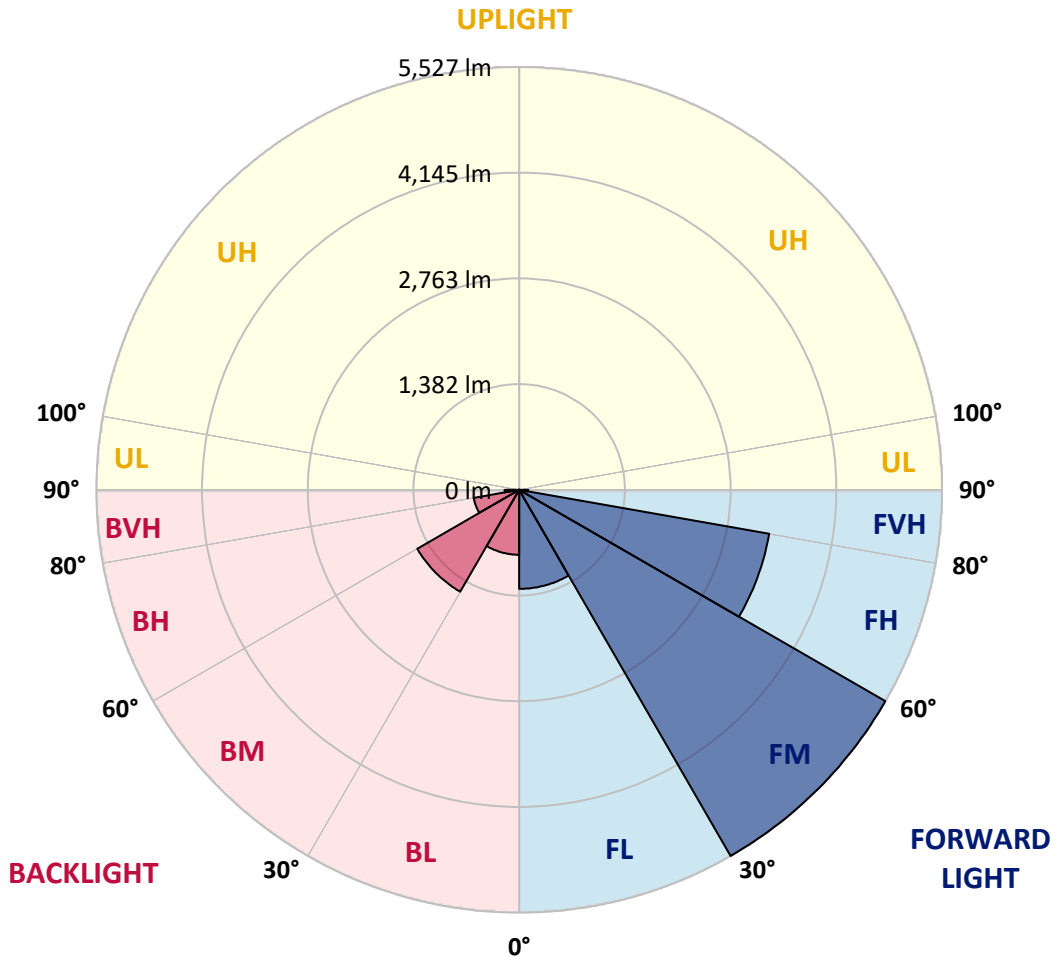
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1294.6 | 9.6 | | | |
| FM | (30°-60°) | 5526.6 | 41.1 | | | |
| FH | (60°-80°) | 3318.4 | 24.7 | | | G2/5000 |
| FVH | (80°-90°) | 115.4 | 0.9 | | | G2/225 |
| BL | (0°-30°) | 848.8 | 6.3 | B2/1000 | | |
| BM | (30°-60°) | 1537.8 | 11.4 | B2/2500 | | |
| BH | (60°-80°) | 603.4 | 4.5 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 190.9 | 1.4 | | | G2/225 |
| 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: P1457352
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 |
| 2.5° | 3186.2 | 3177.2 | 3168.3 | 3174.3 | 3162.3 | 3159.3 | 3144.4 | 3138.5 | 3120.6 | 3117.6 | 3084.8 |
| 5° | 3251.8 | 3233.9 | 3230.9 | 3236.9 | 3225.0 | 3225.0 | 3213.0 | 3204.1 | 3177.2 | 3162.3 | 3114.6 |
| 7.5° | 3251.8 | 3248.8 | 3254.8 | 3275.7 | 3278.7 | 3278.7 | 3278.7 | 3281.7 | 3254.8 | 3233.9 | 3159.3 |
| 10° | 3066.9 | 3037.0 | 3102.7 | 3207.1 | 3257.8 | 3287.6 | 3341.3 | 3374.1 | 3353.3 | 3338.3 | 3236.9 |
| 12.5° | 2514.9 | 2517.9 | 2622.3 | 2846.1 | 3049.0 | 3135.5 | 3359.2 | 3478.6 | 3487.5 | 3463.6 | 3335.4 |
| 15° | 2133.1 | 2148.0 | 2201.7 | 2362.8 | 2595.5 | 2723.8 | 3254.8 | 3571.0 | 3642.6 | 3618.8 | 3454.7 |
| 17.5° | 2016.7 | 2025.7 | 2049.5 | 2142.0 | 2273.3 | 2377.7 | 2971.4 | 3630.7 | 3830.6 | 3800.8 | 3588.9 |
| 20° | 1998.8 | 2004.8 | 2034.6 | 2112.2 | 2201.7 | 2261.4 | 2682.0 | 3583.0 | 4006.6 | 3994.7 | 3711.3 |
| 22.5° | 2001.8 | 2007.8 | 2046.6 | 2154.0 | 2246.4 | 2297.2 | 2589.5 | 3472.6 | 4191.6 | 4203.5 | 3836.6 |
| 25° | 2007.8 | 2010.8 | 2070.4 | 2213.6 | 2330.0 | 2392.6 | 2649.2 | 3374.1 | 4346.7 | 4448.1 | 3973.8 |
| 27.5° | 2040.6 | 2049.5 | 2130.1 | 2291.2 | 2428.4 | 2500.0 | 2789.4 | 3407.0 | 4516.8 | 4725.6 | 4137.9 |
| 30° | 2130.1 | 2136.1 | 2234.5 | 2401.6 | 2550.7 | 2625.3 | 2956.5 | 3538.2 | 4725.6 | 5012.0 | 4299.0 |
| 32.5° | 2270.3 | 2276.3 | 2389.6 | 2562.7 | 2723.8 | 2813.3 | 3174.3 | 3788.8 | 4958.3 | 5313.3 | 4460.1 |
| 35° | 2464.2 | 2467.2 | 2595.5 | 2780.5 | 2950.5 | 3051.9 | 3427.8 | 4072.2 | 5199.9 | 5569.9 | 4579.4 |
| 37.5° | 2693.9 | 2714.8 | 2846.1 | 3040.0 | 3239.9 | 3332.4 | 3726.2 | 4403.4 | 5414.7 | 5787.6 | 4648.0 |
| 40° | 3010.2 | 3016.1 | 3144.4 | 3332.4 | 3544.2 | 3633.7 | 4024.5 | 4716.6 | 5650.4 | 5915.9 | 4710.7 |
| 42.5° | 3335.4 | 3386.1 | 3493.5 | 3702.3 | 3860.4 | 3932.0 | 4364.6 | 5003.0 | 5838.4 | 5921.9 | 4683.8 |
| 45° | 3770.9 | 3809.7 | 3917.1 | 4102.1 | 4260.2 | 4343.7 | 4731.6 | 5265.6 | 5933.8 | 5871.2 | 4624.2 |
| 47.5° | 4269.1 | 4293.0 | 4379.5 | 4546.6 | 4722.6 | 4782.3 | 5113.4 | 5414.7 | 5969.6 | 5835.4 | 4597.3 |
| 50° | 4856.9 | 4856.9 | 4919.5 | 5062.7 | 5223.8 | 5307.3 | 5465.4 | 5504.2 | 6074.0 | 5772.7 | 4665.9 |
| 52.5° | 5352.1 | 5376.0 | 5459.5 | 5662.3 | 5823.4 | 5918.9 | 5739.9 | 5641.5 | 5862.2 | 5423.7 | 4686.8 |
| 55° | 5826.4 | 5853.3 | 6041.2 | 6294.8 | 6569.3 | 6673.7 | 6083.0 | 5572.8 | 5149.2 | 4913.5 | 4543.6 |
| 57.5° | 6279.9 | 6336.6 | 6572.3 | 7067.5 | 7482.2 | 7473.2 | 6518.6 | 4958.3 | 4203.5 | 4349.7 | 4230.4 |
| 60° | 6912.4 | 6972.0 | 7347.9 | 7971.4 | 8478.6 | 8266.8 | 6524.5 | 4125.9 | 3275.7 | 3472.6 | 3642.6 |
| 62.5° | 7440.4 | 7541.8 | 8093.8 | 9132.0 | 9597.4 | 9266.2 | 5984.5 | 3159.3 | 2174.8 | 2422.5 | 2816.3 |
| 65° | 7392.7 | 7526.9 | 8383.1 | 9985.2 | 10680.3 | 10373.0 | 5194.0 | 1998.8 | 1121.7 | 1655.7 | 1972.0 |
| 67° | 6742.3 | 6888.5 | 7998.3 | 10015.0 | 11068.1 | 10411.8 | 4385.5 | 1208.2 | 713.0 | 1148.6 | 1369.3 |
| 67.5° | 6369.4 | 6584.2 | 7807.4 | 9958.3 | 10996.5 | 10247.7 | 4021.5 | 1011.3 | 671.2 | 1068.0 | 1247.0 |
| 70° | 3917.1 | 4263.2 | 5859.2 | 8803.8 | 9856.9 | 8577.1 | 2234.5 | 572.8 | 545.9 | 716.0 | 862.2 |
| 72.5° | 1178.4 | 1282.8 | 2261.4 | 5647.4 | 7234.6 | 6357.5 | 1005.4 | 441.5 | 489.3 | 575.8 | 665.3 |
| 75° | 572.8 | 611.6 | 933.8 | 2309.1 | 3523.3 | 3505.4 | 560.9 | 378.9 | 453.5 | 483.3 | 525.1 |
| 77.5° | 366.9 | 390.8 | 581.7 | 1291.8 | 1614.0 | 1438.0 | 405.7 | 331.1 | 402.7 | 396.8 | 390.8 |
| 80° | 229.7 | 241.6 | 372.9 | 748.8 | 1190.3 | 993.4 | 298.3 | 271.5 | 346.1 | 307.3 | 277.4 |
| 82.5° | 149.2 | 164.1 | 238.7 | 456.4 | 850.2 | 739.9 | 196.9 | 193.9 | 286.4 | 244.6 | 214.8 |
| 85° | 98.4 | 110.4 | 152.1 | 268.5 | 504.2 | 528.0 | 128.3 | 134.2 | 220.8 | 185.0 | 164.1 |
| 87.5° | 35.8 | 44.7 | 77.6 | 119.3 | 235.7 | 292.4 | 53.7 | 50.7 | 107.4 | 86.5 | 68.6 |
| 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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Scaled Data Report

REPORT NUMBER: P1457352
CATALOG NUMBER: GLAN-SB4B-927-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 | 3069.8 |
| 2.5° | 3078.8 | 3069.8 | 3028.1 | 2992.3 | 2965.4 | 2929.6 | 2890.8 | 2846.1 | 2816.3 | 2822.2 | 2813.3 |
| 5° | 3093.7 | 3069.8 | 2989.3 | 2867.0 | 2747.6 | 2598.5 | 2407.5 | 2294.2 | 2207.7 | 2162.9 | 2174.8 |
| 7.5° | 3126.5 | 3084.8 | 2914.7 | 2667.1 | 2356.8 | 2052.5 | 1864.6 | 1757.2 | 1706.5 | 1685.6 | 1682.6 |
| 10° | 3183.2 | 3111.6 | 2819.2 | 2356.8 | 1951.1 | 1745.2 | 1676.6 | 1646.8 | 1640.8 | 1640.8 | 1637.8 |
| 12.5° | 3251.8 | 3138.5 | 2658.1 | 2055.5 | 1757.2 | 1682.6 | 1670.7 | 1673.6 | 1682.6 | 1691.5 | 1676.6 |
| 15° | 3335.4 | 3150.4 | 2458.3 | 1873.5 | 1718.4 | 1700.5 | 1718.4 | 1739.3 | 1754.2 | 1766.1 | 1751.2 |
| 17.5° | 3418.9 | 3138.5 | 2270.3 | 1787.0 | 1724.4 | 1748.2 | 1784.0 | 1816.8 | 1825.8 | 1843.7 | 1831.8 |
| 20° | 3478.6 | 3096.7 | 2109.2 | 1754.2 | 1739.3 | 1793.0 | 1837.7 | 1873.5 | 1891.4 | 1903.4 | 1891.4 |
| 22.5° | 3523.3 | 3043.0 | 1992.9 | 1721.4 | 1739.3 | 1804.9 | 1858.6 | 1900.4 | 1921.3 | 1933.2 | 1918.3 |
| 25° | 3562.1 | 2968.4 | 1903.4 | 1673.6 | 1703.5 | 1766.1 | 1825.8 | 1867.6 | 1897.4 | 1915.3 | 1906.3 |
| 27.5° | 3609.8 | 2908.7 | 1819.8 | 1602.0 | 1628.9 | 1688.6 | 1751.2 | 1801.9 | 1858.6 | 1888.4 | 1882.5 |
| 30° | 3663.5 | 2878.9 | 1739.3 | 1524.5 | 1542.4 | 1602.0 | 1676.6 | 1745.2 | 1822.8 | 1861.6 | 1861.6 |
| 32.5° | 3726.2 | 2858.0 | 1664.7 | 1449.9 | 1464.8 | 1530.4 | 1602.0 | 1664.7 | 1748.2 | 1810.9 | 1807.9 |
| 35° | 3753.0 | 2834.2 | 1605.0 | 1381.3 | 1411.1 | 1464.8 | 1521.5 | 1563.3 | 1649.8 | 1724.4 | 1730.3 |
| 37.5° | 3779.9 | 2825.2 | 1575.2 | 1327.6 | 1351.4 | 1393.2 | 1423.0 | 1443.9 | 1524.5 | 1602.0 | 1605.0 |
| 40° | 3812.7 | 2867.0 | 1596.1 | 1291.8 | 1270.9 | 1312.7 | 1327.6 | 1339.5 | 1381.3 | 1432.0 | 1432.0 |
| 42.5° | 3791.8 | 2896.8 | 1643.8 | 1259.0 | 1172.4 | 1220.2 | 1226.1 | 1223.2 | 1226.1 | 1229.1 | 1226.1 |
| 45° | 3738.1 | 2867.0 | 1643.8 | 1208.2 | 1068.0 | 1118.7 | 1115.8 | 1100.8 | 1077.0 | 1014.3 | 1005.4 |
| 47.5° | 3726.2 | 2849.1 | 1581.2 | 1124.7 | 963.6 | 1005.4 | 1011.3 | 981.5 | 912.9 | 847.3 | 826.4 |
| 50° | 3776.9 | 2881.9 | 1482.7 | 1023.3 | 874.1 | 909.9 | 924.8 | 874.1 | 796.5 | 727.9 | 716.0 |
| 52.5° | 3851.5 | 2923.7 | 1339.5 | 912.9 | 799.5 | 835.3 | 853.2 | 796.5 | 716.0 | 662.3 | 656.3 |
| 55° | 3842.5 | 2923.7 | 1178.4 | 811.5 | 742.8 | 769.7 | 799.5 | 739.9 | 677.2 | 647.4 | 644.4 |
| 57.5° | 3648.6 | 2813.3 | 1059.1 | 739.9 | 689.1 | 713.0 | 751.8 | 695.1 | 635.4 | 641.4 | 650.4 |
| 60° | 3269.7 | 2526.9 | 969.6 | 692.1 | 641.4 | 665.3 | 707.0 | 641.4 | 563.8 | 543.0 | 543.0 |
| 62.5° | 2693.9 | 2082.4 | 898.0 | 644.4 | 596.7 | 626.5 | 647.4 | 560.9 | 510.1 | 486.3 | 486.3 |
| 65° | 2019.7 | 1611.0 | 823.4 | 605.6 | 557.9 | 590.7 | 566.8 | 525.1 | 474.3 | 456.4 | 459.4 |
| 67° | *1497.6* | *1250.0* | *760.7* | *572.8* | *534.0* | *548.9* | *531.0* | *501.2* | *450.5* | *435.6* | *450.5* |
| 67.5° | 1345.5 | 1187.4 | 745.8 | 563.8 | 528.0 | 540.0 | 522.1 | 498.2 | 444.5 | 429.6 | 444.5 |
| 70° | 924.8 | 912.9 | 665.3 | 522.1 | 495.2 | 483.3 | 492.2 | 462.4 | 417.7 | 411.7 | 426.6 |
| 72.5° | 704.1 | 727.9 | 596.7 | 486.3 | 459.4 | 444.5 | 465.4 | 435.6 | 390.8 | 399.8 | 414.7 |
| 75° | 551.9 | 587.7 | 534.0 | 435.6 | 417.7 | 420.6 | 462.4 | 450.5 | 414.7 | 423.6 | 426.6 |
| 77.5° | 408.7 | 474.3 | 456.4 | 378.9 | 364.0 | 405.7 | 522.1 | 557.9 | 495.2 | 480.3 | 459.4 |
| 80° | 298.3 | 340.1 | 384.8 | 313.2 | 304.3 | 390.8 | 644.4 | 713.0 | 611.6 | 551.9 | 537.0 |
| 82.5° | 220.8 | 238.7 | 316.2 | 250.6 | 220.8 | 349.0 | 716.0 | 838.3 | 727.9 | 614.6 | 596.7 |
| 85° | 158.1 | 185.0 | 250.6 | 185.0 | 146.2 | 286.4 | 701.1 | 820.4 | 722.0 | 581.7 | 566.8 |
| 87.5° | 56.7 | 80.5 | 107.4 | 83.5 | 74.6 | 196.9 | 578.8 | 590.7 | 450.5 | 205.8 | 208.8 |
| 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

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-13

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-927-U-5WQ

Data in this report applies to families of products including GSS-SB1A-927-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

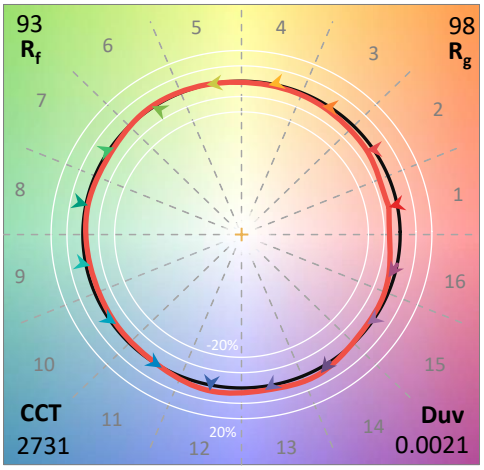
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-13 |
| 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-927-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 2700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2731 |
| CIE u': | 0.2605 |
| CIE v': | 0.5298 |
| Duv: | 0.0021 |
| CIE x: | 0.4610 |
| CIE y: | 0.4166 |
| CIE z: | 0.1224 |
| Peak Wavelength (nm): | 622 |
| Dominant Wavelength (nm): | 583 |
| Purity: | 63.43685 |
| Rf: | 92.6 |
| Rg: | 98 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 91.8 | | | | |
| R1: | 91.4 | R9: | 54.7 | | |
| R2: | 95.1 | R10: | 87.7 | | |
| R3: | 97.6 | R11: | 92.9 | | |
| R4: | 92.3 | R12: | 84.0 | | |
| R5: | 91.1 | R13: | 92.2 | | |
| R6: | 94.7 | R14: | 97.8 | | |
| R7: | 92.3 | R15: | 86.8 | | |
| R8: | 80.0 | | | | |




## Test Conditions

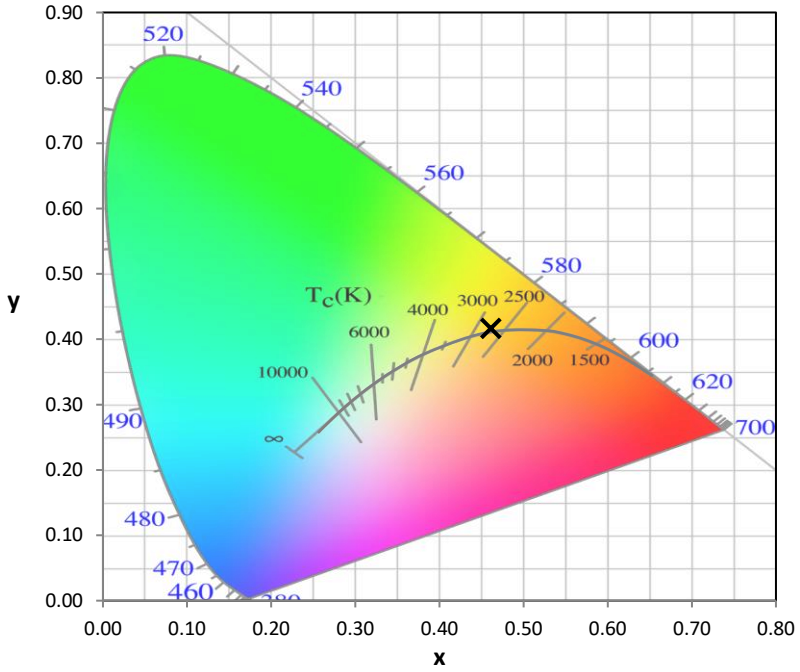
| | |
|---|---|
| Stabilization Time: | M |
| Operation Time: | 1H 0M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-13

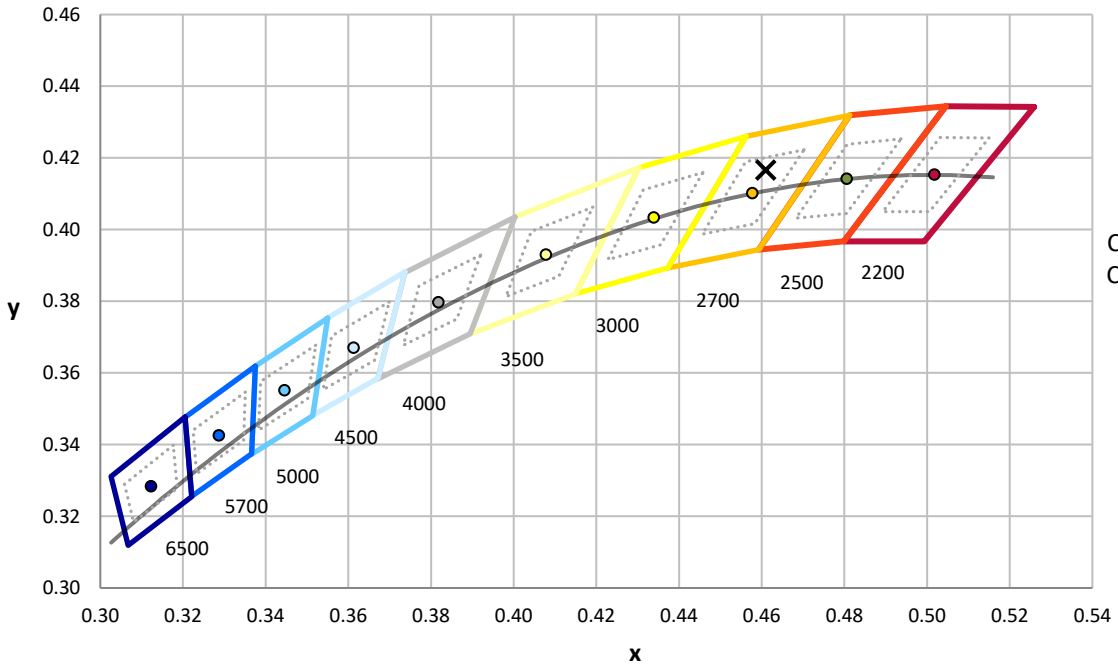
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-13

**CIE 1931 Chromaticity Diagram**




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

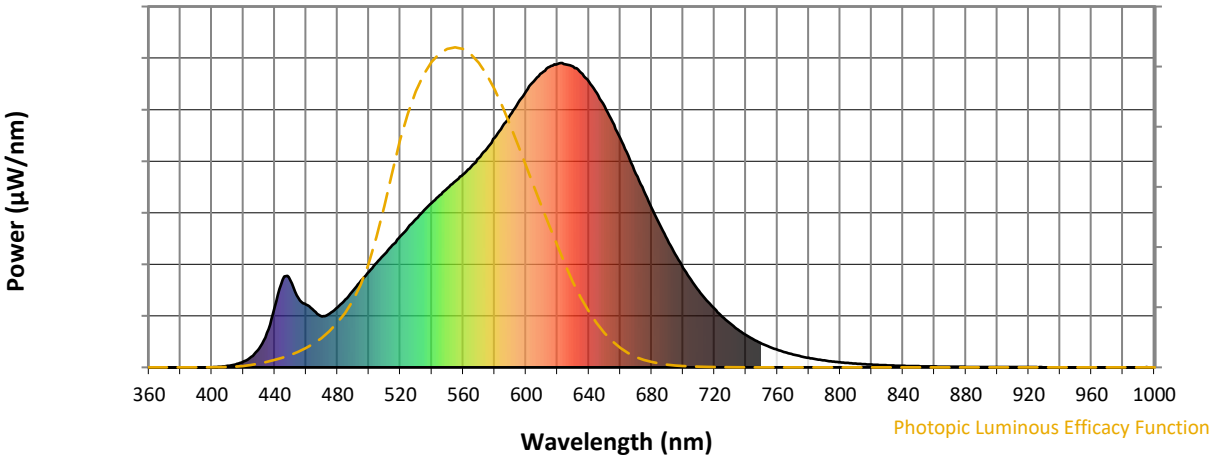



CCT = 2731K
CIE x = 0.4610
CIE y = 0.4166
Duv = 0.0021

Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-13

## Photopic Flux vs. Wavelength

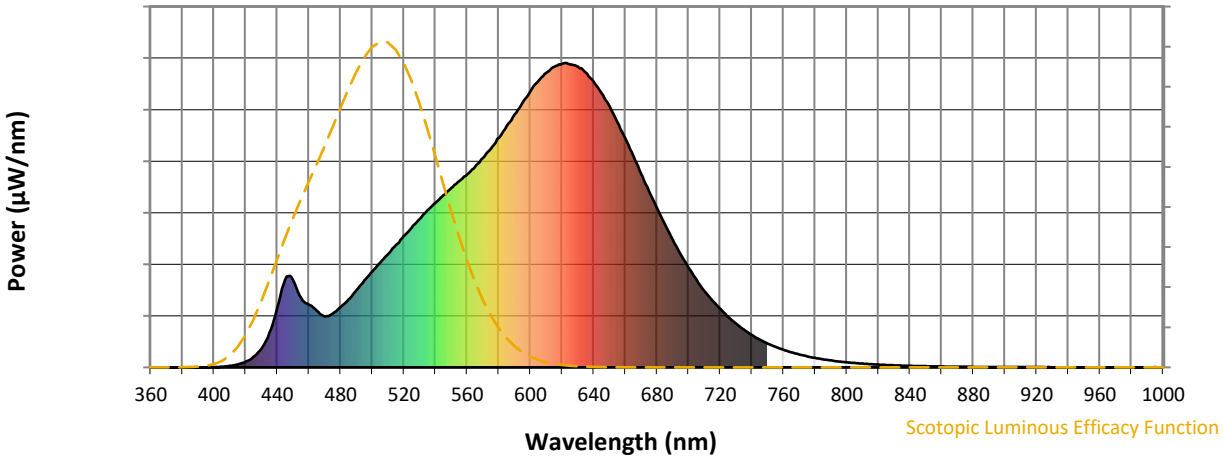



## Photopic Lumens: NR

| 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 | 253 | NR | 620 | 997 | NR | 750 | 78 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 285 | NR | 625 | 996 | NR | 755 | 67 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 314 | NR | 630 | 989 | NR | 760 | 58 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 969 | NR | 765 | 50 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 372 | NR | 640 | 939 | NR | 770 | 42 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 401 | NR | 645 | 901 | NR | 775 | 36 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 431 | NR | 650 | 858 | NR | 780 | 31 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 459 | NR | 655 | 806 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 0 | NR | 530 | 488 | NR | 660 | 752 | NR | 790 | 23 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 516 | NR | 665 | 696 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 5 | NR | 540 | 540 | NR | 670 | 636 | NR | 800 | 17 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 566 | NR | 675 | 579 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 19 | NR | 550 | 589 | NR | 680 | 524 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 34 | NR | 555 | 612 | NR | 685 | 470 | NR | 815 | 11 | NR | 945 | 0 | NR |
| 430 | 61 | NR | 560 | 634 | NR | 690 | 421 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 660 | NR | 695 | 371 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 198 | NR | 570 | 688 | NR | 700 | 327 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 288 | NR | 575 | 719 | NR | 705 | 288 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 286 | NR | 580 | 754 | NR | 710 | 251 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 228 | NR | 585 | 791 | NR | 715 | 220 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 207 | NR | 590 | 831 | NR | 720 | 192 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 186 | NR | 595 | 870 | NR | 725 | 166 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 168 | NR | 600 | 907 | NR | 730 | 144 | NR | 860 | 3 | NR | 990 | 1 | NR |
| 475 | 177 | NR | 605 | 940 | NR | 735 | 124 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 198 | NR | 610 | 967 | NR | 740 | 106 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 223 | NR | 615 | 988 | NR | 745 | 91 | NR | 875 | 2 | NR | | | |

REPORT NUMBER: SP1-2407-184-13

## Scotopic Flux vs. Wavelength

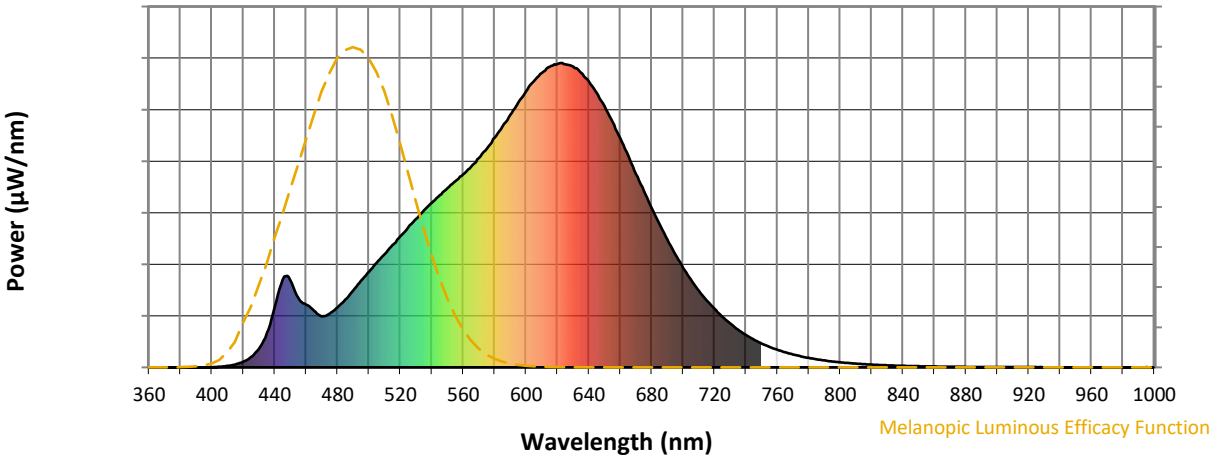



**Scotopic Lumens: NR** **S/P: 1.27**

| 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 | 253 | NR | 620 | 997 | NR | 750 | 78 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 285 | NR | 625 | 996 | NR | 755 | 67 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 314 | NR | 630 | 989 | NR | 760 | 58 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 969 | NR | 765 | 50 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 372 | NR | 640 | 939 | NR | 770 | 42 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 401 | NR | 645 | 901 | NR | 775 | 36 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 431 | NR | 650 | 858 | NR | 780 | 31 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 459 | NR | 655 | 806 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 0 | NR | 530 | 488 | NR | 660 | 752 | NR | 790 | 23 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 516 | NR | 665 | 696 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 5 | NR | 540 | 540 | NR | 670 | 636 | NR | 800 | 17 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 566 | NR | 675 | 579 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 19 | NR | 550 | 589 | NR | 680 | 524 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 34 | NR | 555 | 612 | NR | 685 | 470 | NR | 815 | 11 | NR | 945 | 0 | NR |
| 430 | 61 | NR | 560 | 634 | NR | 690 | 421 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 660 | NR | 695 | 371 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 198 | NR | 570 | 688 | NR | 700 | 327 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 288 | NR | 575 | 719 | NR | 705 | 288 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 286 | NR | 580 | 754 | NR | 710 | 251 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 228 | NR | 585 | 791 | NR | 715 | 220 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 207 | NR | 590 | 831 | NR | 720 | 192 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 186 | NR | 595 | 870 | NR | 725 | 166 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 168 | NR | 600 | 907 | NR | 730 | 144 | NR | 860 | 3 | NR | 990 | 1 | NR |
| 475 | 177 | NR | 605 | 940 | NR | 735 | 124 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 198 | NR | 610 | 967 | NR | 740 | 106 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 223 | NR | 615 | 988 | NR | 745 | 91 | NR | 875 | 2 | NR | | | |

REPORT NUMBER: SP1-2407-184-13

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.38**

| 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 | 253 | NR | 620 | 997 | NR | 750 | 78 | NR | 880 | 2 | NR |
| 365 | 0 | NR | 495 | 285 | NR | 625 | 996 | NR | 755 | 67 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 314 | NR | 630 | 989 | NR | 760 | 58 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 969 | NR | 765 | 50 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 372 | NR | 640 | 939 | NR | 770 | 42 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 401 | NR | 645 | 901 | NR | 775 | 36 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 431 | NR | 650 | 858 | NR | 780 | 31 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 459 | NR | 655 | 806 | NR | 785 | 26 | NR | 915 | 1 | NR |
| 400 | 0 | NR | 530 | 488 | NR | 660 | 752 | NR | 790 | 23 | NR | 920 | 1 | NR |
| 405 | 2 | NR | 535 | 516 | NR | 665 | 696 | NR | 795 | 19 | NR | 925 | 1 | NR |
| 410 | 5 | NR | 540 | 540 | NR | 670 | 636 | NR | 800 | 17 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 566 | NR | 675 | 579 | NR | 805 | 14 | NR | 935 | 0 | NR |
| 420 | 19 | NR | 550 | 589 | NR | 680 | 524 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 34 | NR | 555 | 612 | NR | 685 | 470 | NR | 815 | 11 | NR | 945 | 0 | NR |
| 430 | 61 | NR | 560 | 634 | NR | 690 | 421 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 113 | NR | 565 | 660 | NR | 695 | 371 | NR | 825 | 8 | NR | 955 | 0 | NR |
| 440 | 198 | NR | 570 | 688 | NR | 700 | 327 | NR | 830 | 7 | NR | 960 | 0 | NR |
| 445 | 288 | NR | 575 | 719 | NR | 705 | 288 | NR | 835 | 6 | NR | 965 | 0 | NR |
| 450 | 286 | NR | 580 | 754 | NR | 710 | 251 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 228 | NR | 585 | 791 | NR | 715 | 220 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 207 | NR | 590 | 831 | NR | 720 | 192 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 186 | NR | 595 | 870 | NR | 725 | 166 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 168 | NR | 600 | 907 | NR | 730 | 144 | NR | 860 | 3 | NR | 990 | 1 | NR |
| 475 | 177 | NR | 605 | 940 | NR | 735 | 124 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 198 | NR | 610 | 967 | NR | 740 | 106 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 223 | NR | 615 | 988 | NR | 745 | 91 | NR | 875 | 2 | NR | | | |

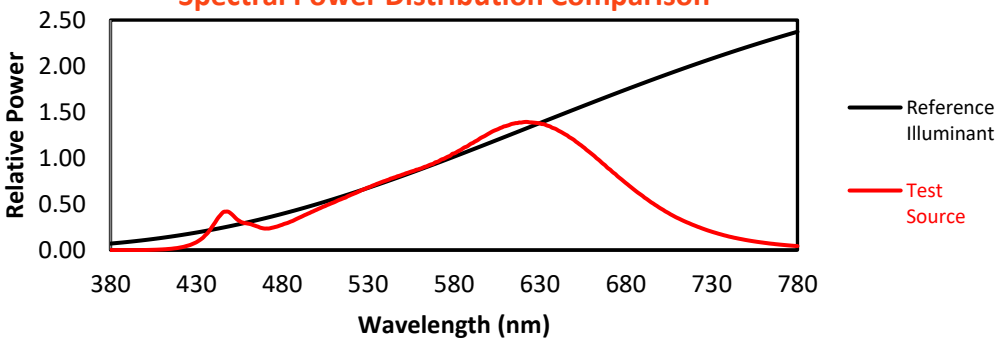
REPORT NUMBER: SP1-2407-184-13

# TM-30-18

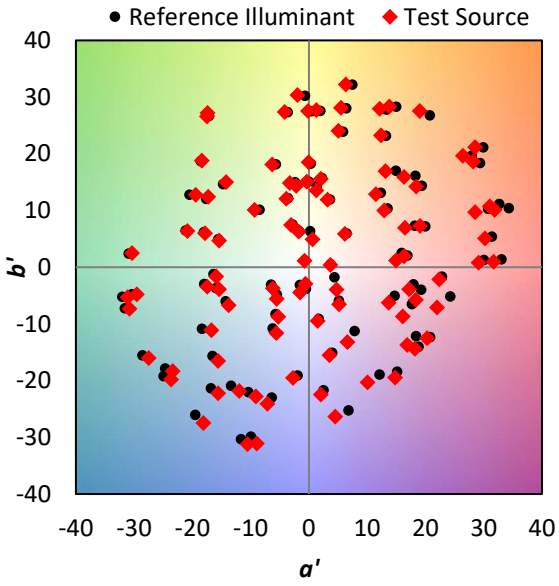
## Summary

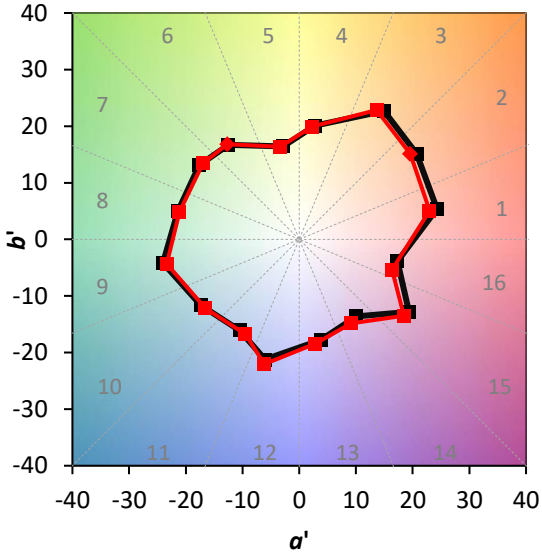
$R_f$ = 92.6
$R_g$ = 98
CIE $R_a$ = 91.8
$R_9$ = 54.7

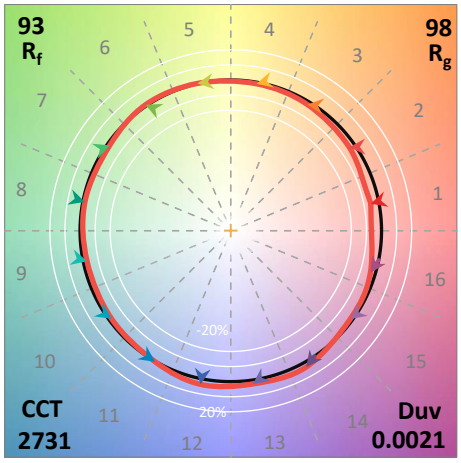
## Spectral Power Distribution Comparison

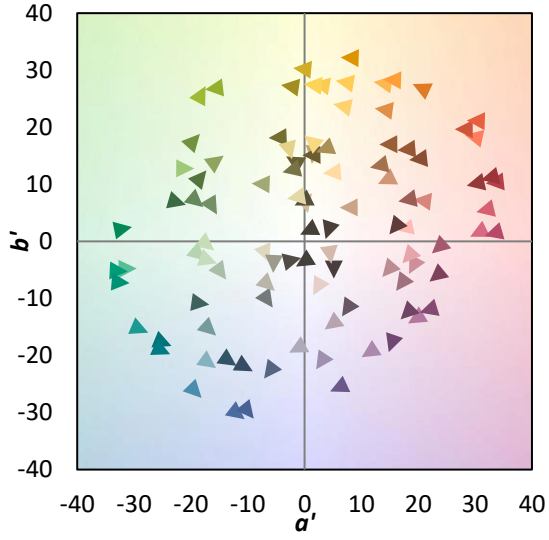



## Color Vector Graphics



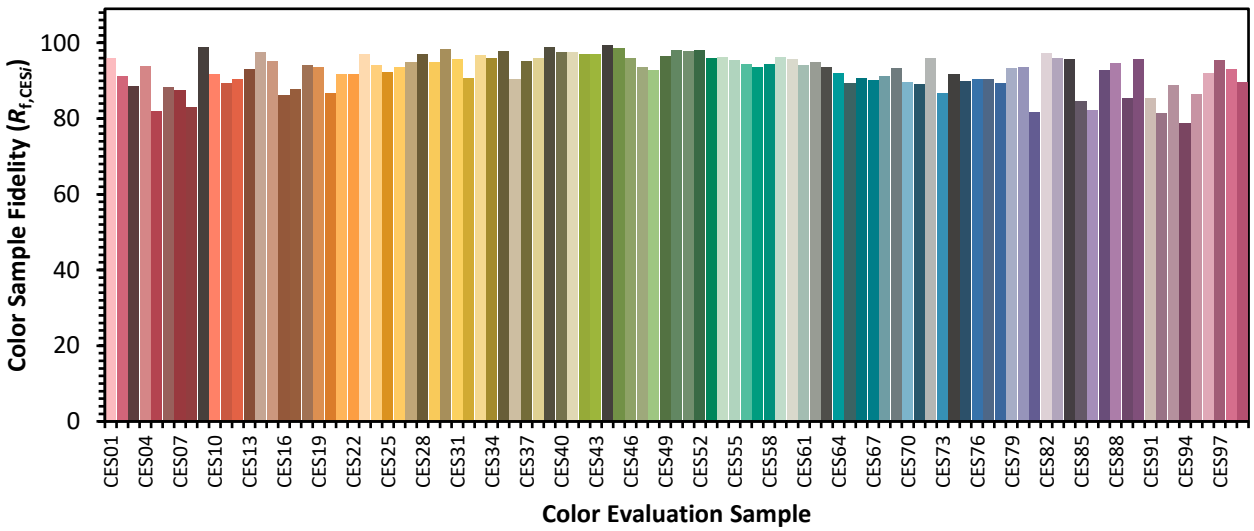



REPORT NUMBER: SP1-2407-184-13

# TM-30-18

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

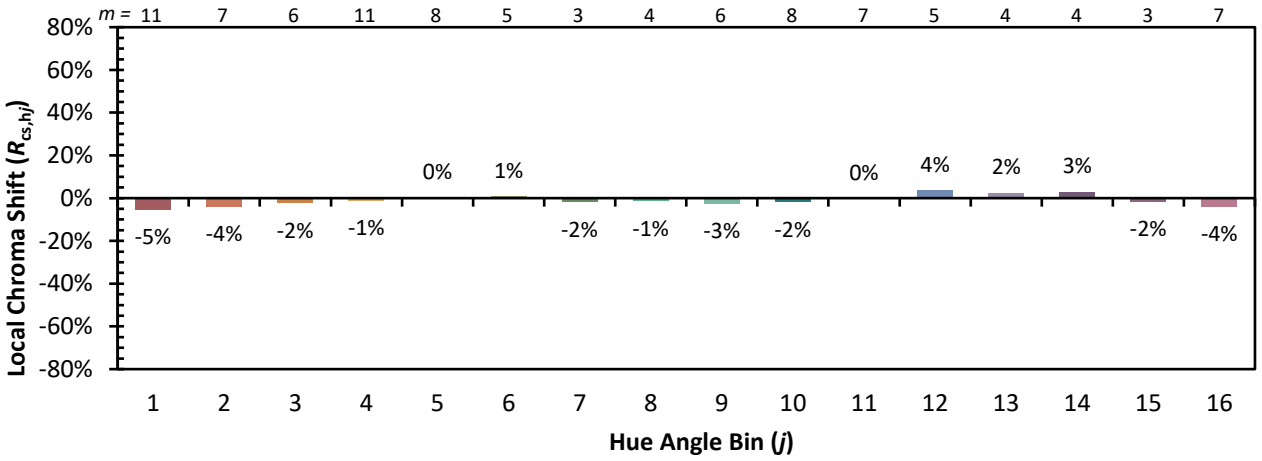
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 64 | CES27 = 95 | CES52 = 98 | CES77 = 90 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 89 |
| CES04 = 71 | CES29 = 95 | CES54 = 96 | CES79 = 93 |
| CES05 = 51 | CES30 = 98 | CES55 = 95 | CES80 = 94 |
| CES06 = 52 | CES31 = 96 | CES56 = 94 | CES81 = 82 |
| CES07 = 44 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 43 | CES33 = 97 | CES58 = 94 | CES83 = 96 |
| CES09 = 29 | CES34 = 96 | CES59 = 96 | CES84 = 96 |
| CES10 = 77 | CES35 = 98 | CES60 = 96 | CES85 = 85 |
| CES11 = 59 | CES36 = 90 | CES61 = 94 | CES86 = 82 |
| CES12 = 66 | CES37 = 95 | CES62 = 95 | CES87 = 93 |
| CES13 = 44 | CES38 = 96 | CES63 = 94 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 85 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 91 | CES91 = 85 |
| CES17 = 50 | CES42 = 97 | CES67 = 90 | CES92 = 82 |
| CES18 = 57 | CES43 = 97 | CES68 = 91 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 93 | CES94 = 79 |
| CES20 = 68 | CES45 = 99 | CES70 = 90 | CES95 = 87 |
| CES21 = 87 | CES46 = 96 | CES71 = 89 | CES96 = 92 |
| CES22 = 79 | CES47 = 94 | CES72 = 96 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 87 | CES98 = 93 |
| CES24 = 91 | CES49 = 96 | CES74 = 92 | CES99 = 90 |
| CES25 = 72 | CES50 = 98 | CES75 = 90 | |

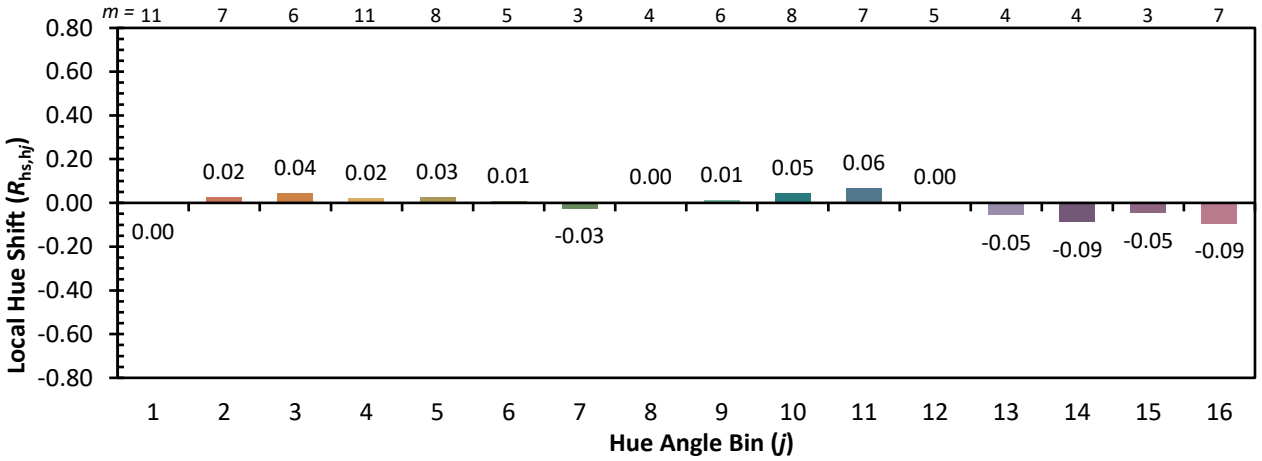


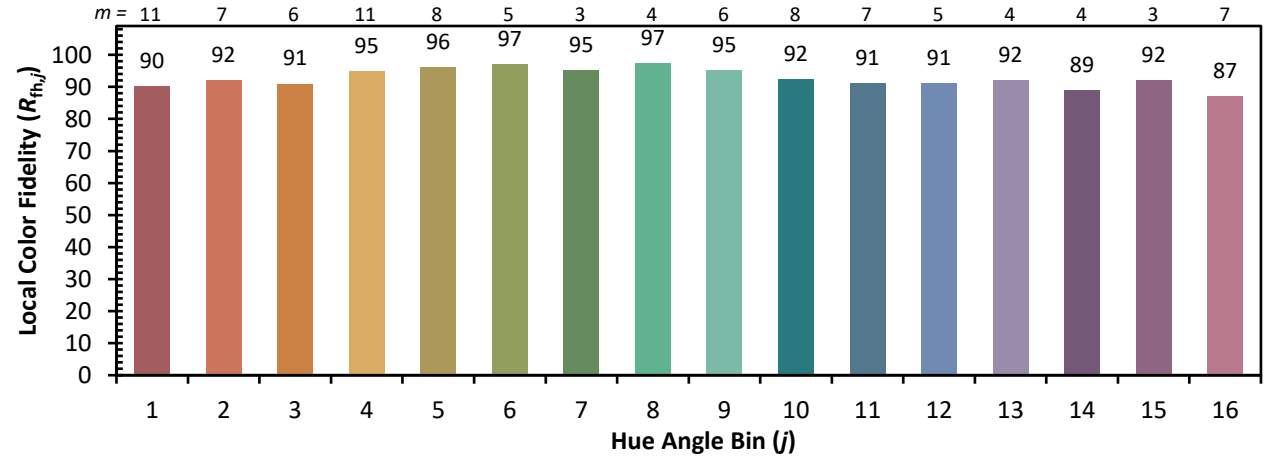
REPORT NUMBER: SP1-2407-184-13

# TM-30-18

## Color Rendition by Hue-Angle Bin



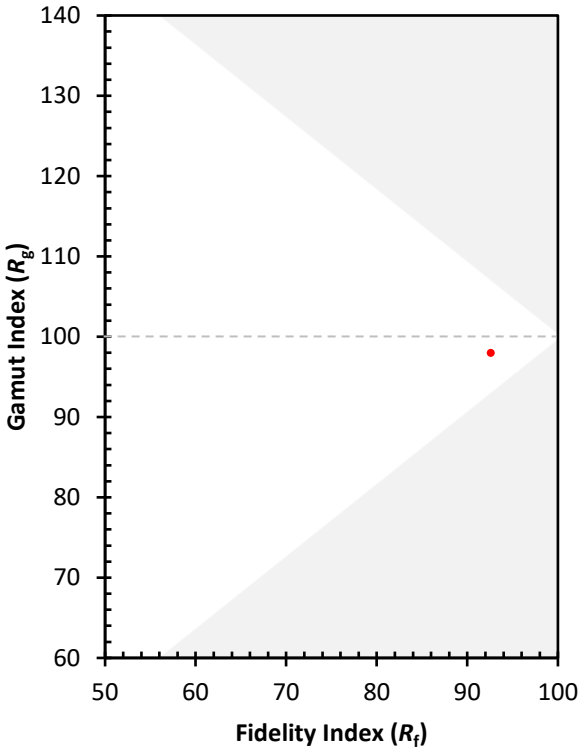



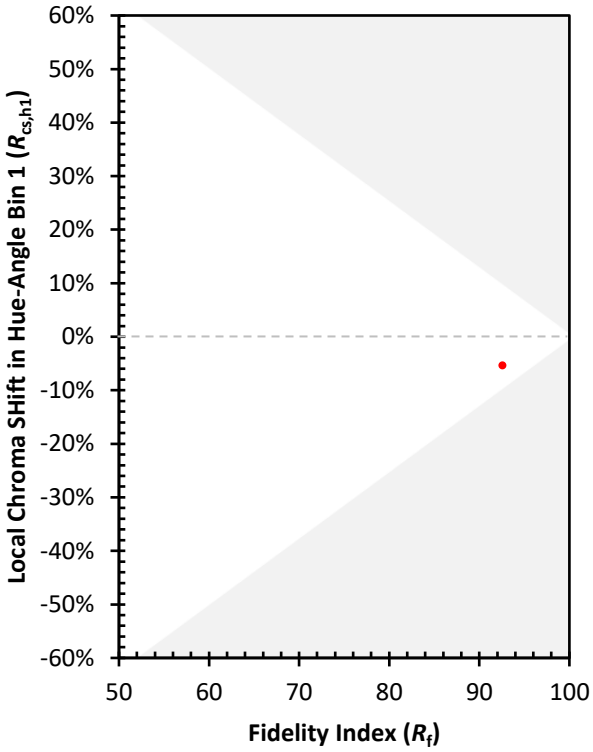



REPORT NUMBER: SP1-2407-184-13

# TM-30-18

## Measure Comparisons

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