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

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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: P1458526

Luminaire Tested: GLAN-SB9D-927-U-T3LG-HSS

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: | P1458526 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/22/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB9D-927-U-T3LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 9xLight Square PACKAGE 90CRI 2700K FIXTURE w/ TYPE III LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (234) 2700K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 43095.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 65.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G5 |

| | |
|---|---|
| Input Watts (W): | 658 |
| 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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REPORT NUMBER: P1458526
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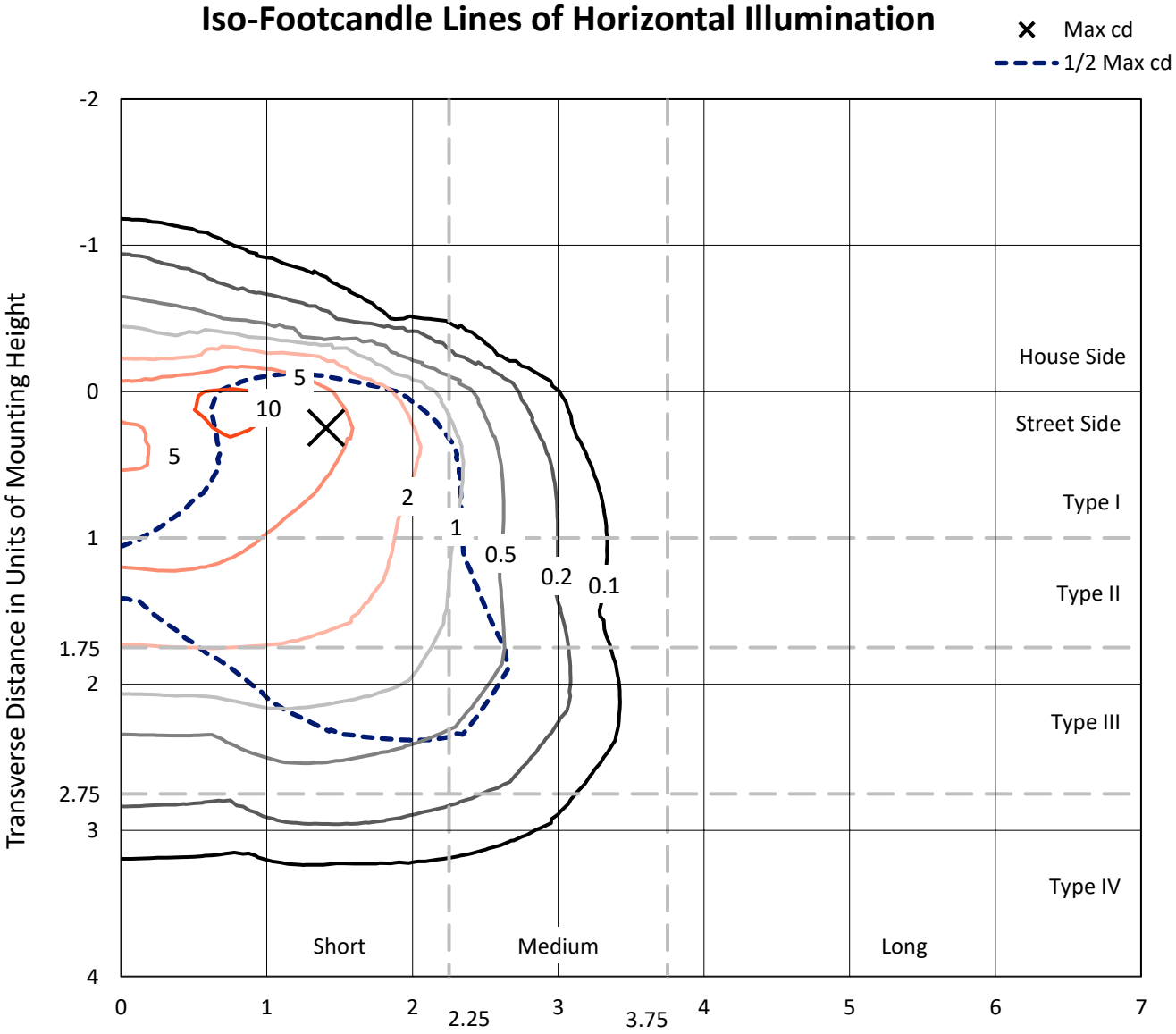
## Iso-Footcandle Lines of Horizontal Illumination




Based on 30 foot mounting height. Maximum calculated value = 11.8 fc
Type III - Short - N/A

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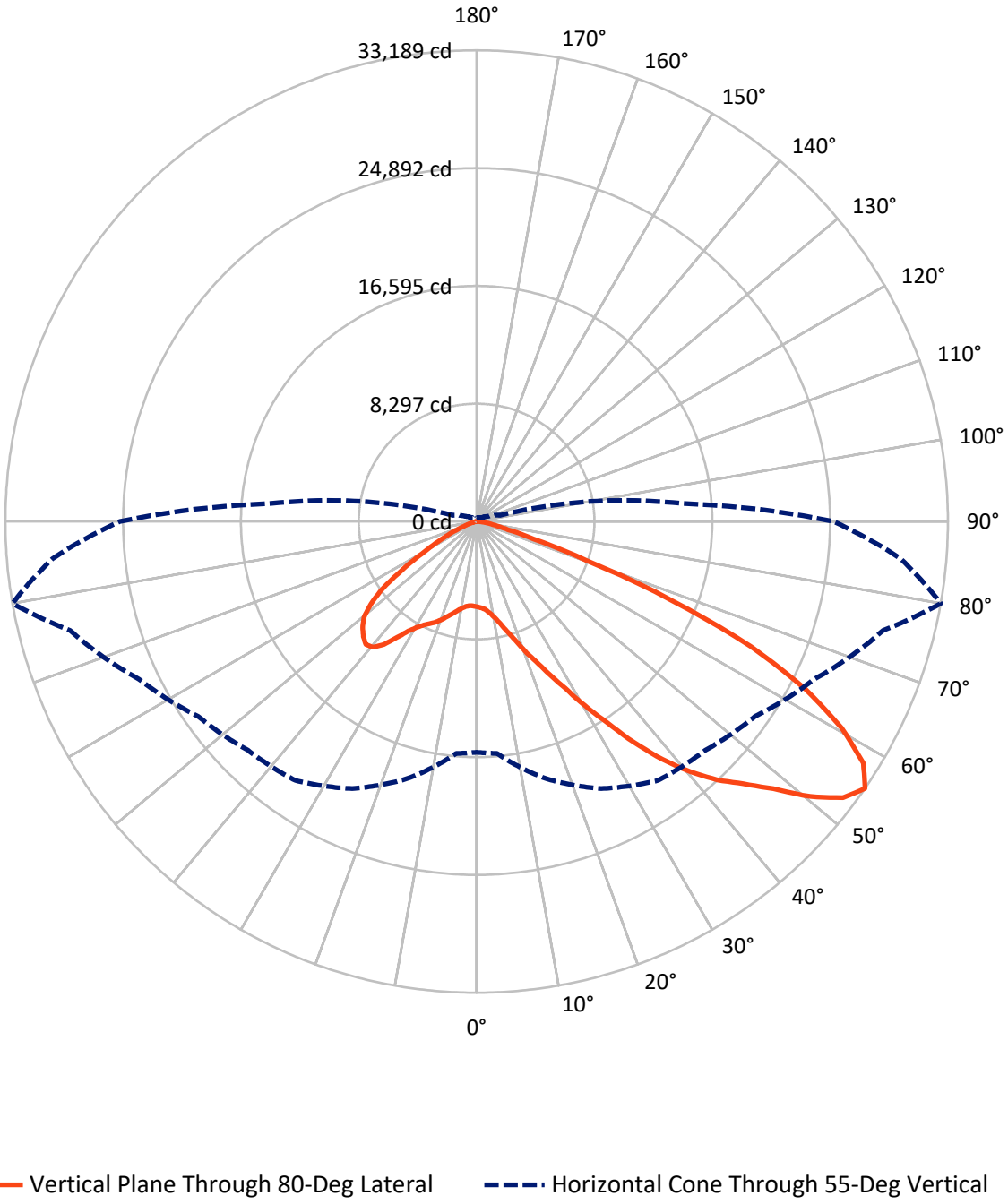
## Luminous Intensity Polar Plot



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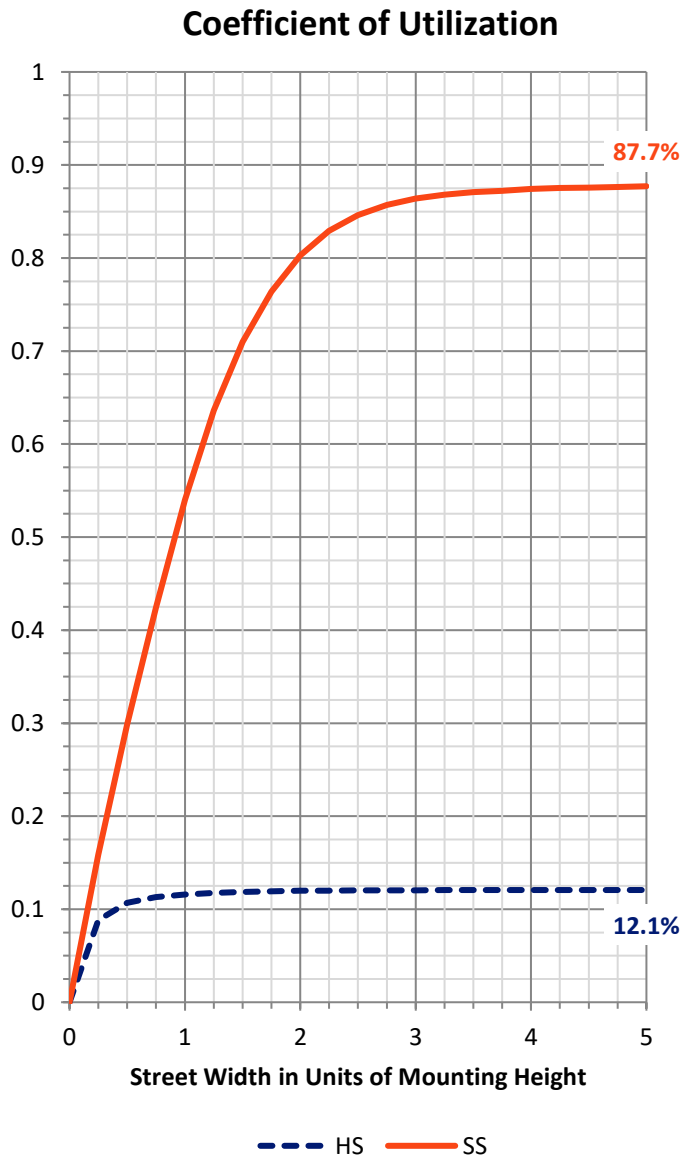
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 5238.8 | 0.0 | 5238.8 |
| | % Fixture | 12.2 | 0.0 | 12.2 |
| **Street Side** | Lumens | 37857.0 | 0.0 | 37857.0 |
| | % Fixture | 87.8 | 0.0 | 87.8 |
| **Total** | Lumens | 43095.8 | 0.0 | 43095.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 503.8 | 1.2 |
| 10°-20° | 1328.2 | 3.1 |
| 20°-30° | 2600.2 | 6.0 |
| 30°-40° | 5289.9 | 12.3 |
| 40°-50° | 8917.9 | 20.7 |
| 50°-60° | 11394.4 | 26.4 |
| 60°-70° | 9728.2 | 22.6 |
| 70°-80° | 3108.7 | 7.2 |
| 80°-90° | 224.5 | 0.5 |
| 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° | 43095.8 | 100.0 |
| 0°-180° | 43095.8 | 100.0 |



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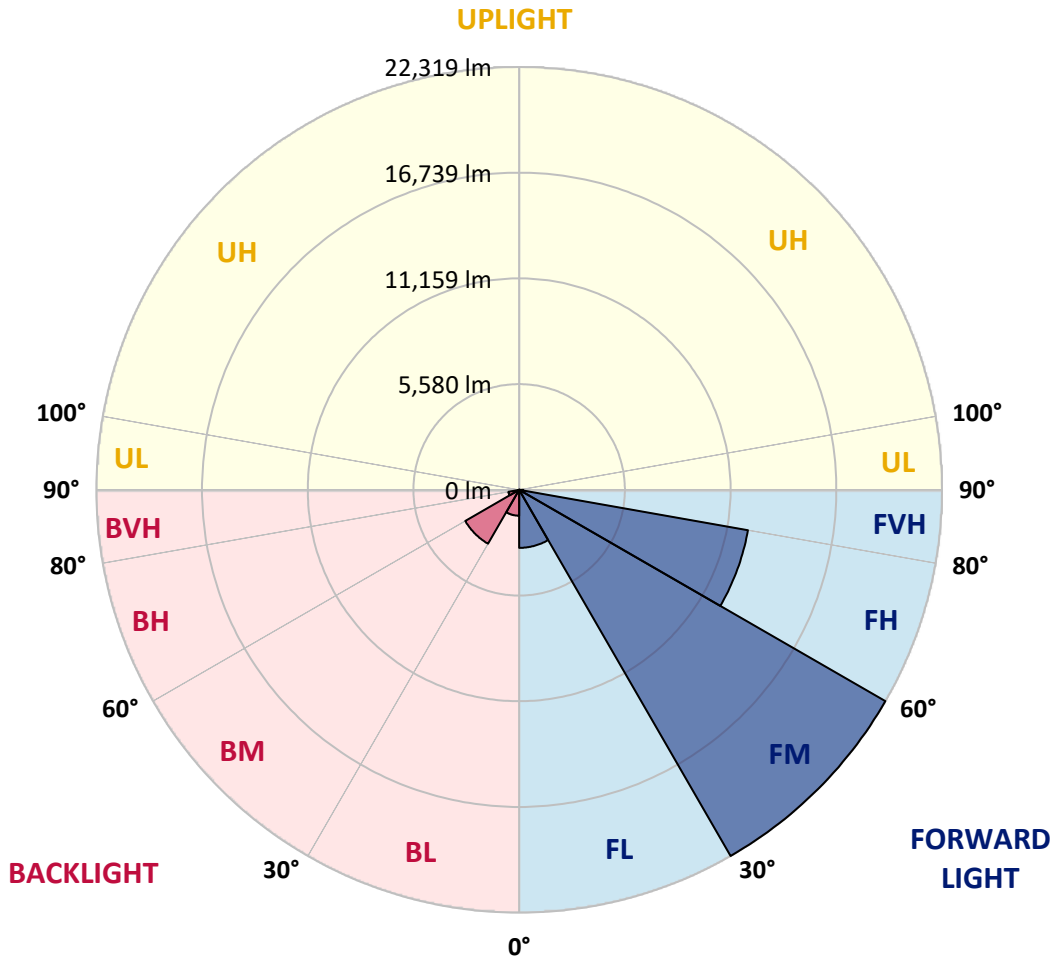
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 3064.2 | 7.1 | | | |
| FM | (30°-60°) | 22319.0 | 51.8 | | | |
| FH | (60°-80°) | 12261.1 | 28.5 | | | G5 |
| FVH | (80°-90°) | 212.8 | 0.5 | | | G2/225 |
| BL | (0°-30°) | 1368.0 | 3.2 | B3/2500 | | |
| BM | (30°-60°) | 3283.3 | 7.6 | B3/5000 | | |
| BH | (60°-80°) | 575.8 | 1.3 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 11.7 | 0.0 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G5**
Type III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 80° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | *6003.2* | 6003.2 |
| 2.5° | 6039.9 | 6052.2 | 6039.9 | 6052.2 | 6076.7 | 6064.4 | 6113.4 | 6101.2 | 6101.2 | *6088.9* | 6039.9 |
| 5° | 5696.9 | 5709.1 | 5733.6 | 5794.9 | 5880.7 | 5966.4 | 6076.7 | 6150.2 | 6223.7 | *6211.4* | 6162.4 |
| 7.5° | 5023.1 | 5047.6 | 5145.6 | 5268.1 | 5549.9 | 5807.2 | 6088.9 | 6272.7 | 6432.0 | *6481.0* | 6444.2 |
| 10° | 4643.3 | 4667.8 | 4729.0 | 4851.5 | 5108.8 | 5537.6 | 6088.9 | 6468.7 | 6750.5 | *6848.5* | 6860.8 |
| 12.5° | 4606.5 | 4618.8 | 4667.8 | 4802.5 | 5023.1 | 5390.6 | 6076.7 | 6726.0 | 7203.8 | *7350.8* | 7399.8 |
| 15° | 4631.0 | 4655.5 | 4704.5 | 4814.8 | 5072.1 | 5488.6 | 6174.7 | 7130.3 | 7804.1 | *8012.4* | 8024.7 |
| 17.5° | 4729.0 | 4753.5 | 4814.8 | 4937.3 | 5219.1 | 5745.9 | 6481.0 | 7546.8 | 8527.0 | *8759.7* | 8894.5 |
| 20° | 4925.1 | 4937.3 | 5010.8 | 5170.1 | 5488.6 | 6064.4 | 6934.3 | 8110.4 | 9396.8 | *9739.8* | 9837.9 |
| 22.5° | 5182.3 | 5219.1 | 5317.1 | 5513.1 | 5917.4 | 6505.5 | 7559.1 | 8796.5 | 10352.4 | *10707.7* | 10879.2 |
| 25° | 5464.1 | 5513.1 | 5660.1 | 5978.7 | 6493.2 | 7179.3 | 8330.9 | 9703.1 | 11479.5 | *11908.3* | 12141.1 |
| 27.5° | 6039.9 | 6052.2 | 6150.2 | 6554.5 | 7216.1 | 8061.4 | 9311.0 | 10867.0 | 12802.7 | *13305.0* | 13562.3 |
| 30° | 7301.8 | 7314.1 | 7228.3 | 7338.6 | 8012.4 | 9102.8 | 10462.7 | 12226.9 | 14346.4 | *15044.7* | 15253.0 |
| 32.5° | 8845.5 | 8906.8 | 8894.5 | 8821.0 | 9127.3 | 10144.1 | 11834.8 | 13856.3 | 16159.6 | *16894.7* | 17090.7 |
| 35° | 10597.4 | 10744.5 | 10707.7 | 10683.2 | 10720.0 | 11479.5 | 13403.0 | 15657.3 | 18217.8 | *19112.1* | 19271.4 |
| 37.5° | 12312.6 | 12349.4 | 12520.9 | 12729.2 | 12753.7 | 13280.5 | 15216.2 | 17568.5 | 20129.0 | *21268.4* | 21513.4 |
| 40° | 13635.8 | 13758.3 | 14187.1 | 14603.6 | 15032.4 | 15449.0 | 16710.9 | 19112.1 | 21648.2 | *23179.6* | 23289.9 |
| 42.5° | 14664.9 | 14958.9 | 15583.8 | 16233.1 | 17102.9 | 17568.5 | 18132.0 | 20202.5 | 22885.6 | *24882.5* | 24833.5 |
| 45° | 15914.5 | 16037.1 | 16919.2 | 17776.7 | 18658.8 | 19369.4 | 19357.2 | 21121.4 | 23853.4 | *26340.5* | 26034.2 |
| 47.5° | 16759.9 | 16906.9 | 18107.5 | 19112.1 | 20018.8 | 20374.0 | 20447.6 | 22113.7 | 25188.8 | *28104.7* | 27381.8 |
| 50° | 17213.2 | 17470.5 | 18781.4 | 20055.5 | 21035.6 | 21145.9 | 21476.7 | 23412.4 | 26940.8 | *30444.7* | 29084.8 |
| 52.5° | 17262.2 | 17507.2 | 19014.1 | 20655.8 | 21721.7 | 21942.2 | 22505.8 | 24882.5 | 28643.7 | *32319.1* | 30064.9 |
| 55° | *16245.3* | *16392.3* | *18732.4* | *20753.8* | *22260.8* | *22775.3* | *23926.9* | *26242.5* | *29636.1* | *33189.0* | *29979.1* |
| 57.5° | 15289.7 | 15436.7 | 17470.5 | 20582.3 | 22812.1 | 23865.7 | 25446.1 | 27173.6 | 28864.2 | *32110.9* | 28067.9 |
| 60° | 14468.9 | 14542.4 | 16392.3 | 19786.0 | 23020.3 | 24931.6 | 26757.0 | 26254.7 | 26867.3 | *29525.8* | 24796.8 |
| 62.5° | 12925.2 | 12974.2 | 15167.2 | 18352.6 | 22603.8 | 25752.4 | 27210.3 | 24306.7 | 24674.3 | *25960.7* | 20949.9 |
| 65° | 9764.3 | 9948.1 | 11957.3 | 17274.4 | 21917.7 | 26132.2 | 26156.7 | 21930.0 | 21550.2 | *21243.9* | 16478.1 |
| 67.5° | 6628.0 | 6836.3 | 8049.2 | 15534.7 | 20802.8 | 26291.5 | 24110.7 | 18854.9 | 16416.8 | *14836.4* | 10793.5 |
| 70° | 5292.6 | 5292.6 | 5709.1 | 12484.2 | 18156.5 | 24257.7 | 21574.7 | 14236.1 | 10425.9 | *8196.2* | 5782.7 |
| 72.5° | 3479.4 | 3491.6 | 3883.7 | 7926.6 | 12876.2 | 18499.6 | 17593.0 | 8232.9 | 5415.1 | *4177.7* | 2854.6 |
| 75° | 1261.9 | 1261.9 | 1702.9 | 3173.1 | 6811.8 | 11014.0 | 10720.0 | 3932.7 | 2940.3 | *2278.8* | 1727.4 |
| 77.5° | 673.8 | 698.3 | 820.8 | 1310.9 | 2609.5 | 4484.0 | 4190.0 | 2009.2 | 1666.2 | *1421.2* | 1078.1 |
| 80° | 453.3 | 465.6 | 551.3 | 808.6 | 1261.9 | 1727.4 | 1347.7 | 1127.1 | 1127.1 | *955.6* | 722.8 |
| 82.5° | 245.0 | 257.3 | 367.5 | 526.8 | 673.8 | 808.6 | 649.3 | 661.6 | 796.3 | *649.3* | 416.5 |
| 85° | 171.5 | 171.5 | 281.8 | 379.8 | 379.8 | 392.0 | 281.8 | 416.5 | 465.6 | *404.3* | 281.8 |
| 87.5° | 98.0 | 98.0 | 159.3 | 183.8 | 183.8 | 171.5 | 85.8 | 147.0 | 183.8 | *208.3* | 122.5 |
| 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: P1458526
CATALOG NUMBER: GLAN-SB9D-927-U-T3LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 | 6003.2 |
| 2.5° | 6027.7 | 5990.9 | 5917.4 | 5770.4 | 5696.9 | 5598.9 | 5513.1 | 5402.9 | 5378.4 | 5366.1 | 5317.1 |
| 5° | 6125.7 | 6052.2 | 5831.7 | 5513.1 | 5243.6 | 4986.3 | 4729.0 | 4582.0 | 4459.5 | 4398.2 | 4386.0 |
| 7.5° | 6370.7 | 6223.7 | 5819.4 | 5255.8 | 4753.5 | 4312.5 | 3932.7 | 3601.9 | 3430.4 | 3283.4 | 3295.6 |
| 10° | 6738.3 | 6505.5 | 5843.9 | 5010.8 | 4263.5 | 3552.9 | 3001.6 | 2523.8 | 2180.7 | 2021.5 | 2009.2 |
| 12.5° | 7228.3 | 6897.5 | 5929.7 | 4765.8 | 3663.2 | 2670.8 | 1972.5 | 1690.7 | 1617.2 | 1604.9 | 1592.7 |
| 15° | 7828.6 | 7363.1 | 6015.4 | 4447.3 | 2854.6 | 1850.0 | 1604.9 | 1543.7 | 1531.4 | 1519.2 | 1519.2 |
| 17.5° | 8551.5 | 7902.1 | 6064.4 | 3908.2 | 2082.7 | 1592.7 | 1506.9 | 1470.2 | 1457.9 | 1445.7 | 1445.7 |
| 20° | 9458.1 | 8502.5 | 6125.7 | 3222.1 | 1764.2 | 1531.4 | 1433.4 | 1384.4 | 1372.2 | 1372.2 | 1359.9 |
| 22.5° | 10352.4 | 9176.3 | 6076.7 | 2621.8 | 1702.9 | 1457.9 | 1347.7 | 1298.6 | 1274.1 | 1274.1 | 1261.9 |
| 25° | 11381.5 | 9862.4 | 5929.7 | 2364.5 | 1690.7 | 1396.7 | 1261.9 | 1188.4 | 1151.6 | 1139.4 | 1139.4 |
| 27.5° | 12557.7 | 10646.4 | 5696.9 | 2376.8 | 1690.7 | 1347.7 | 1151.6 | 1053.6 | 1029.1 | 1004.6 | 1004.6 |
| 30° | 13905.3 | 11602.1 | 5525.4 | 2536.0 | 1715.2 | 1298.6 | 1053.6 | 931.1 | 894.4 | 869.8 | 882.1 |
| 32.5° | 15449.0 | 12667.9 | 5513.1 | 2793.3 | 1751.9 | 1225.1 | 943.4 | 808.6 | 771.8 | 759.6 | 771.8 |
| 35° | 17200.9 | 13991.1 | 5794.9 | 2989.3 | 1653.9 | 1065.9 | 808.6 | 698.3 | 661.6 | 661.6 | 673.8 |
| 37.5° | 19148.9 | 15510.2 | 6174.7 | 2940.3 | 1335.4 | 845.3 | 698.3 | 612.6 | 575.8 | 588.1 | 600.3 |
| 40° | 20925.4 | 16698.6 | 6236.0 | 2511.5 | 1004.6 | 722.8 | 600.3 | 539.1 | 514.6 | 526.8 | 539.1 |
| 42.5° | 22273.0 | 17654.2 | 5647.9 | 1948.0 | 845.3 | 612.6 | 514.6 | 465.6 | 453.3 | 477.8 | 477.8 |
| 45° | 23363.4 | 18034.0 | 4716.8 | 1445.7 | 747.3 | 526.8 | 453.3 | 428.8 | 404.3 | 416.5 | 416.5 |
| 47.5° | 24502.8 | 18095.3 | 3846.9 | 1163.9 | 661.6 | 477.8 | 416.5 | 392.0 | 367.5 | 367.5 | 367.5 |
| 50° | 25605.4 | 17948.3 | 2940.3 | 1029.1 | 612.6 | 428.8 | 379.8 | 355.3 | 330.8 | 318.5 | 318.5 |
| 52.5° | 25874.9 | 16772.1 | 2156.2 | 955.6 | 563.6 | 404.3 | 355.3 | 330.8 | 306.3 | 294.0 | 294.0 |
| 55° | *25127.6* | *14542.4* | *1690.7* | *857.6* | *514.6* | *367.5* | *330.8* | *306.3* | *269.5* | *257.3* | *257.3* |
| 57.5° | 22665.0 | 11087.5 | 1347.7 | 735.1 | 465.6 | 355.3 | 306.3 | 281.8 | 245.0 | 232.8 | 232.8 |
| 60° | 19467.4 | 7865.4 | 1090.4 | 600.3 | 428.8 | 318.5 | 281.8 | 245.0 | 220.5 | 196.0 | 196.0 |
| 62.5° | 15926.8 | 5647.9 | 882.1 | 502.3 | 404.3 | 281.8 | 257.3 | 220.5 | 171.5 | 134.8 | 134.8 |
| 65° | 12214.6 | 4055.2 | 686.1 | 404.3 | 367.5 | 245.0 | 220.5 | 183.8 | 134.8 | 98.0 | 98.0 |
| 67.5° | 7902.1 | 2621.8 | 514.6 | 355.3 | 281.8 | 208.3 | 171.5 | 147.0 | 122.5 | 85.8 | 73.5 |
| 70° | 4165.5 | 1531.4 | 379.8 | 306.3 | 208.3 | 159.3 | 147.0 | 122.5 | 98.0 | 61.3 | 61.3 |
| 72.5° | 2156.2 | 1004.6 | 281.8 | 269.5 | 159.3 | 110.3 | 122.5 | 98.0 | 73.5 | 36.8 | 36.8 |
| 75° | 1384.4 | 673.8 | 208.3 | 220.5 | 98.0 | 85.8 | 85.8 | 61.3 | 36.8 | 24.5 | 12.3 |
| 77.5° | 894.4 | 453.3 | 147.0 | 183.8 | 61.3 | 49.0 | 49.0 | 24.5 | 12.3 | 0.0 | 0.0 |
| 80° | 526.8 | 281.8 | 98.0 | 122.5 | 24.5 | 24.5 | 12.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 269.5 | 147.0 | 49.0 | 49.0 | 12.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 171.5 | 73.5 | 12.3 | 12.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 85.8 | 24.5 | 12.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-13

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

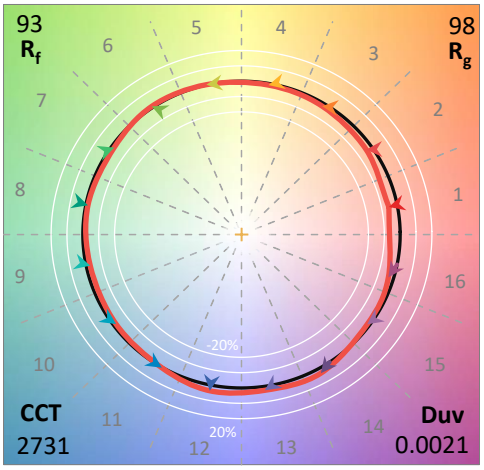
## Test Information

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

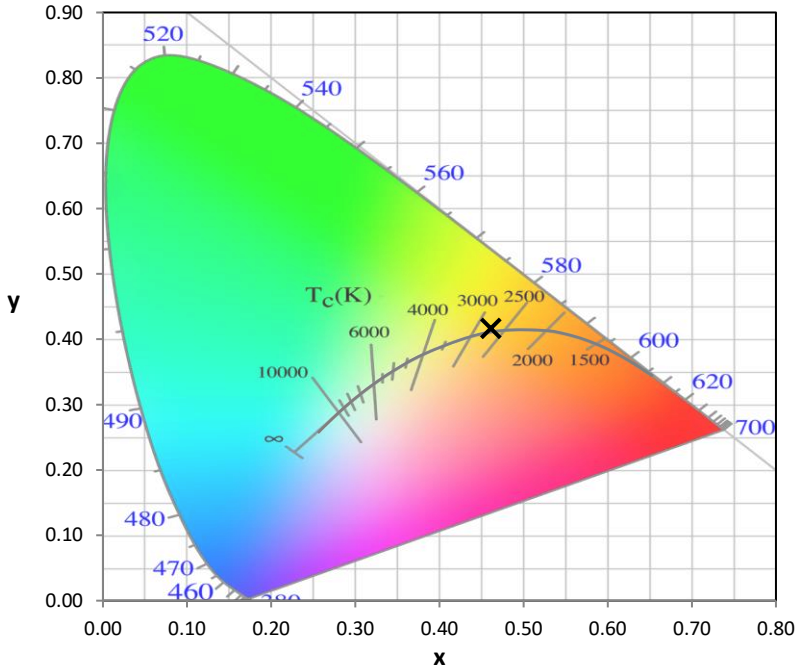
| | |
|---|---|
| Stabilization Time: | M |
| Operation Time: | 1H 0M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-13

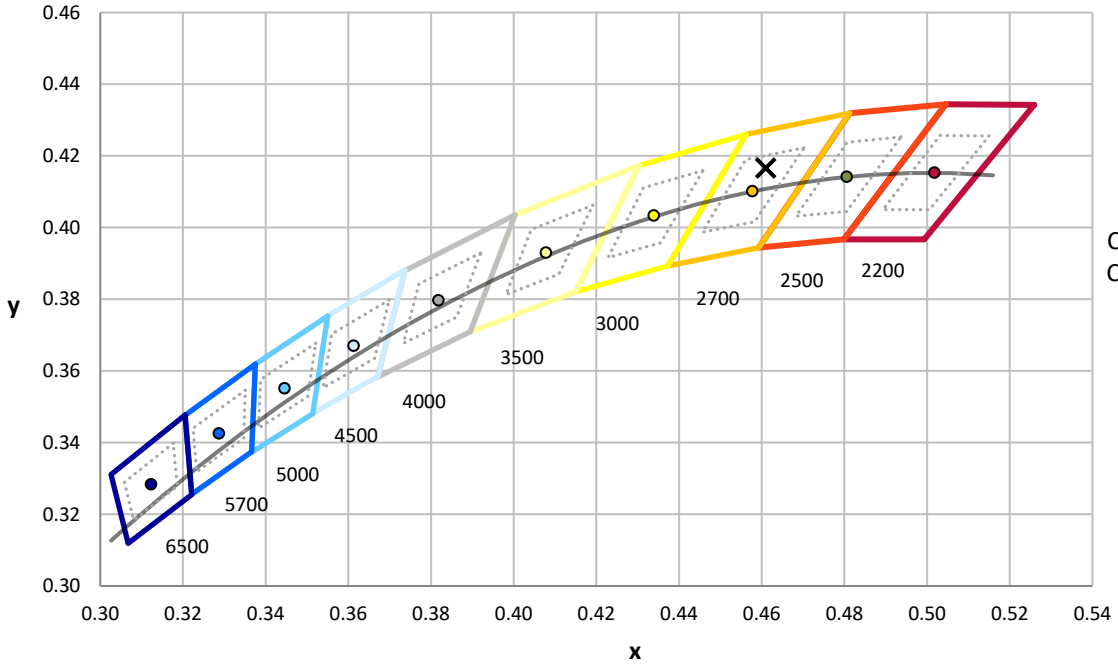
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

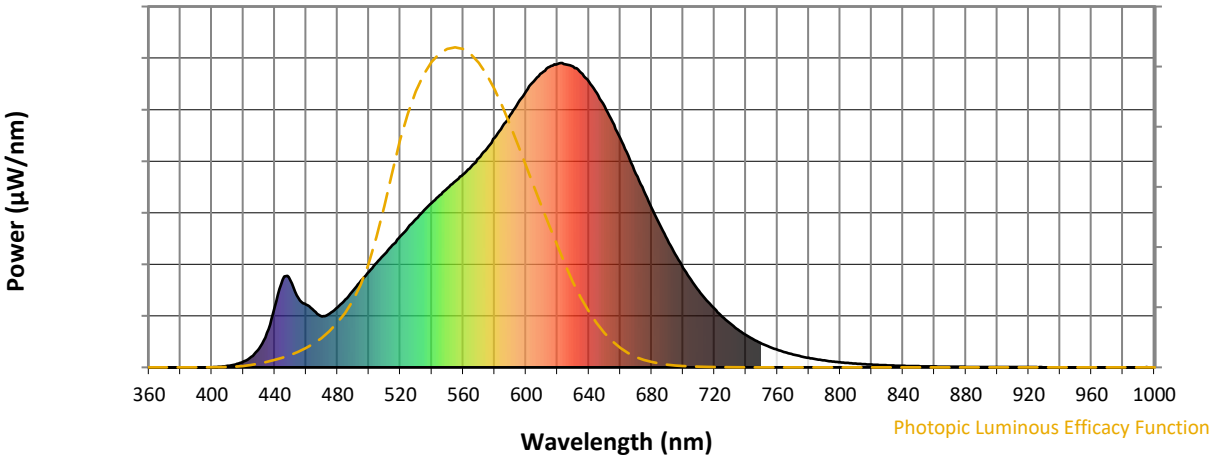



CCT = 2731K
CIE x = 0.4610
CIE y = 0.4166
Duv = 0.0021

Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-13

## Photopic Flux vs. Wavelength

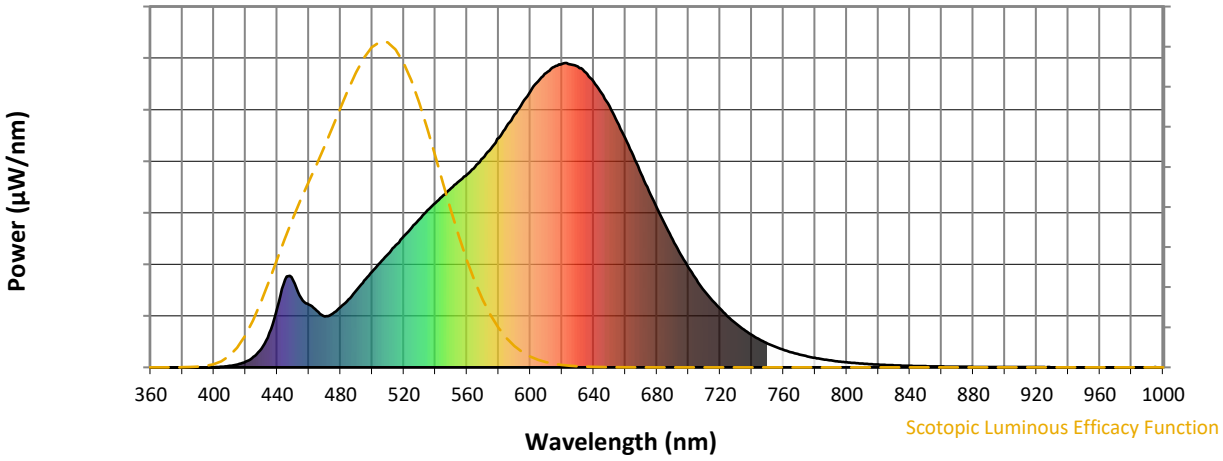



## Photopic Lumens: NR

| 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

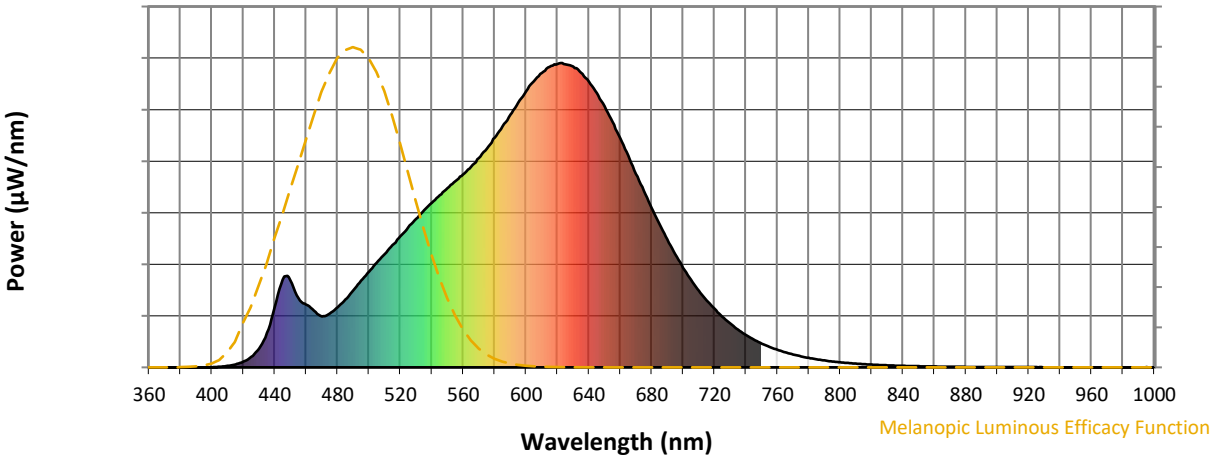



**Scotopic Lumens: NR** **S/P: 1.27**

| 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 | | | |

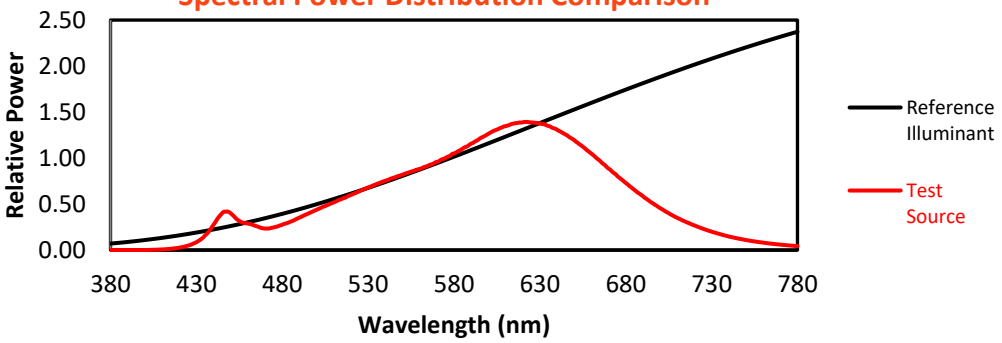
REPORT NUMBER: SP1-2407-184-13

# TM-30-18

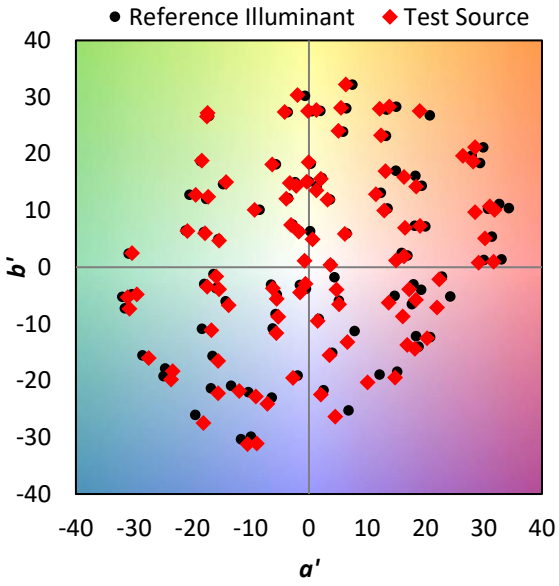
## Summary

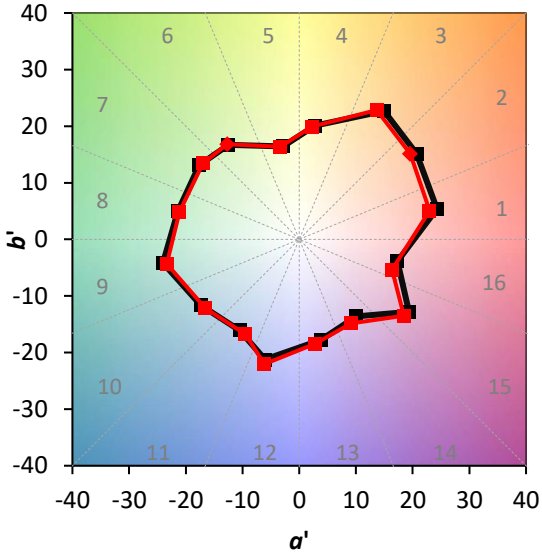
$R_f$ = 92.6
$R_g$ = 98
CIE $R_a$ = 91.8
$R_9$ = 54.7

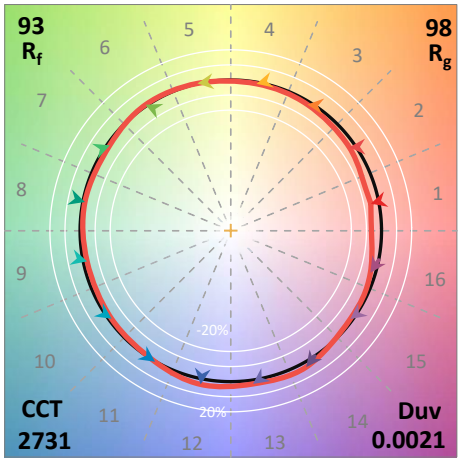
## Spectral Power Distribution Comparison

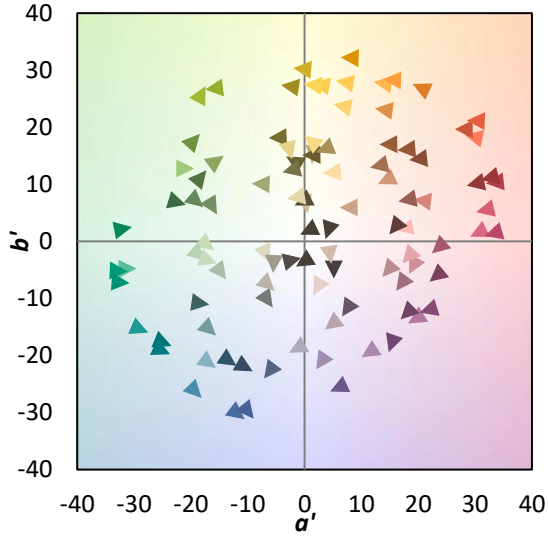



## Color Vector Graphics



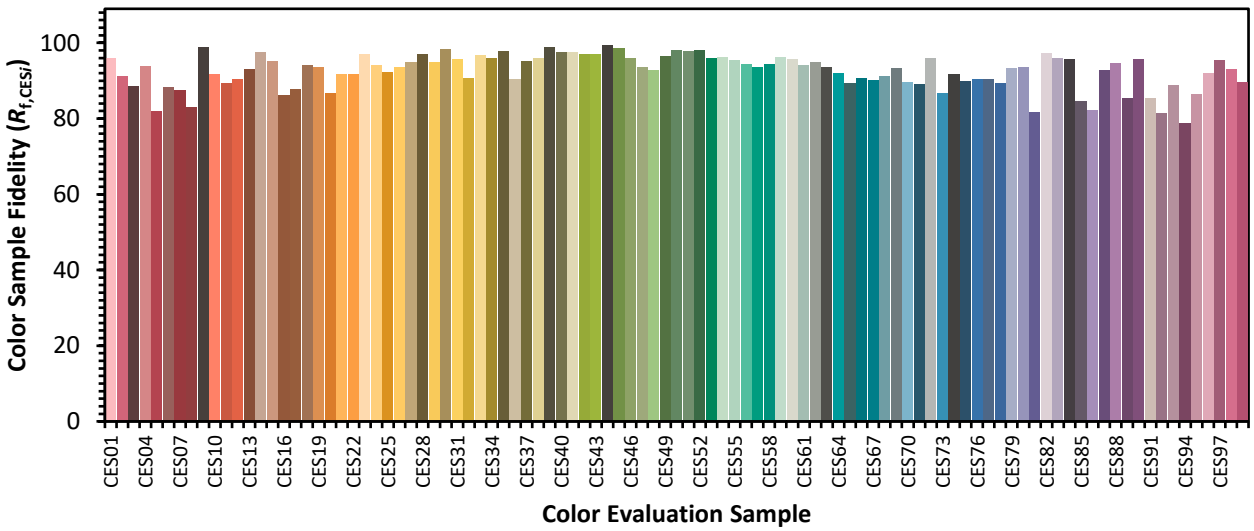



REPORT NUMBER: SP1-2407-184-13

# TM-30-18

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

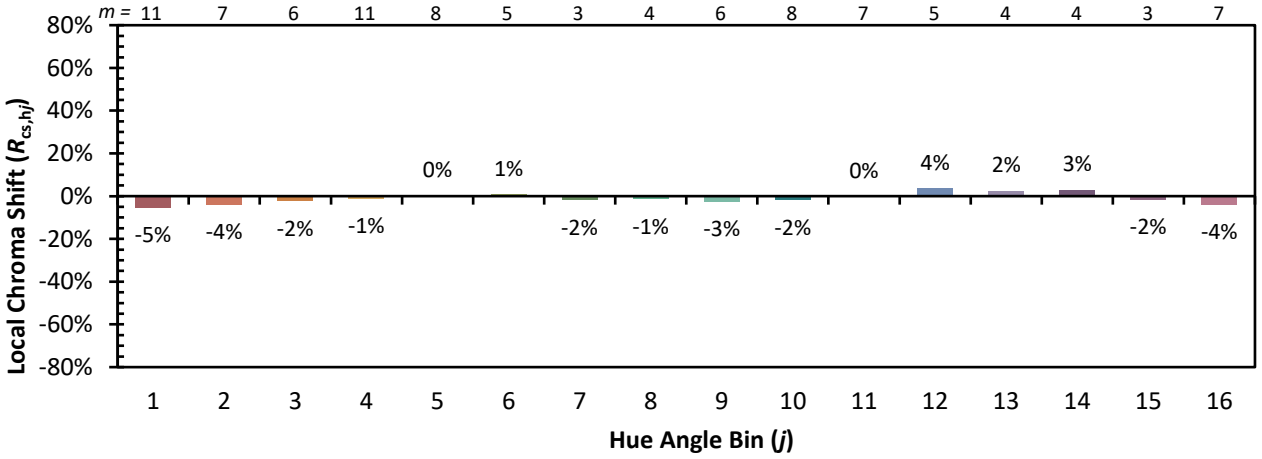
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 64 | CES27 = 95 | CES52 = 98 | CES77 = 90 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 89 |
| CES04 = 71 | CES29 = 95 | CES54 = 96 | CES79 = 93 |
| CES05 = 51 | CES30 = 98 | CES55 = 95 | CES80 = 94 |
| CES06 = 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 | |

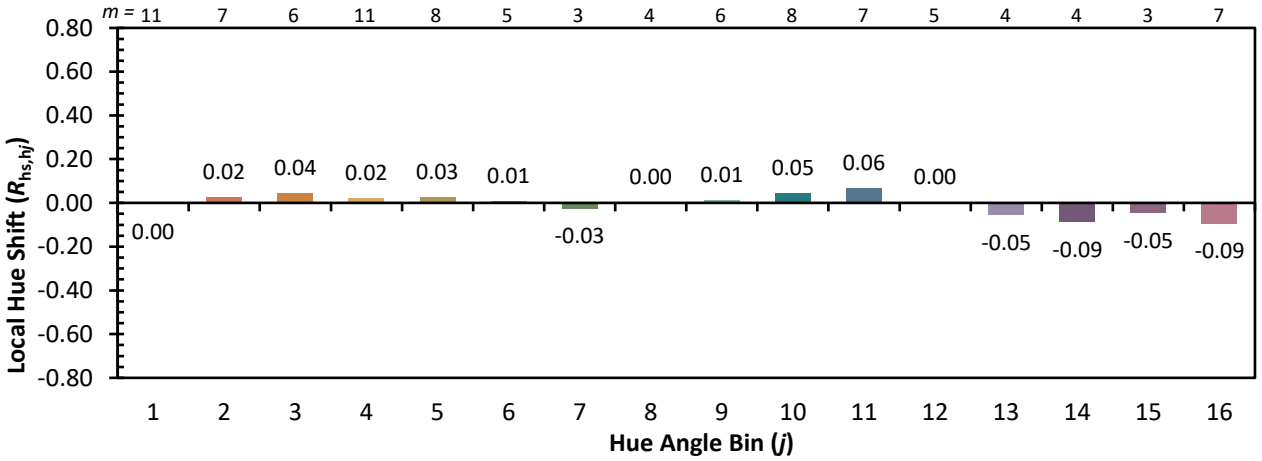


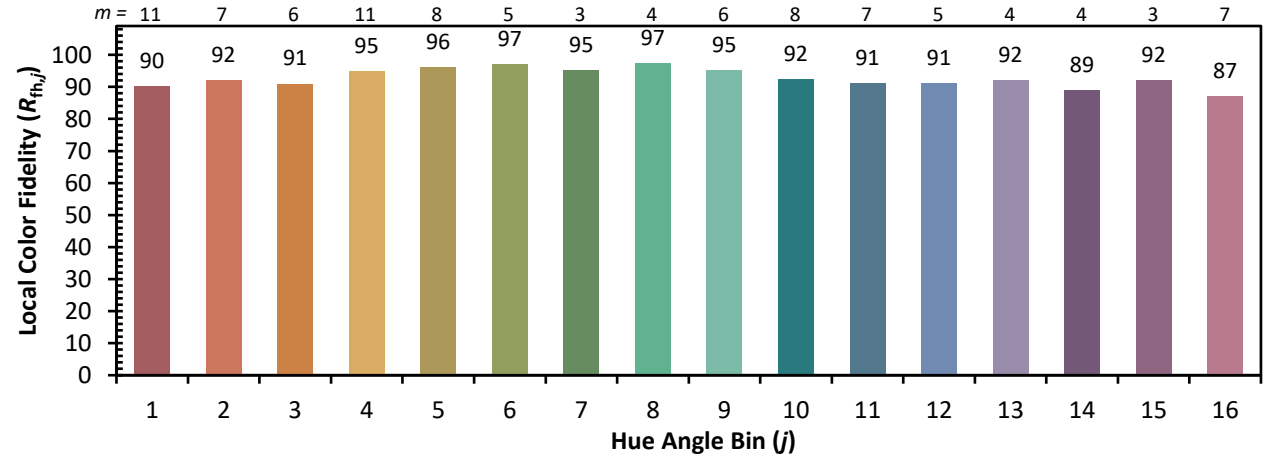
REPORT NUMBER: SP1-2407-184-13

**TM-30-18**

## Color Rendition by Hue-Angle Bin



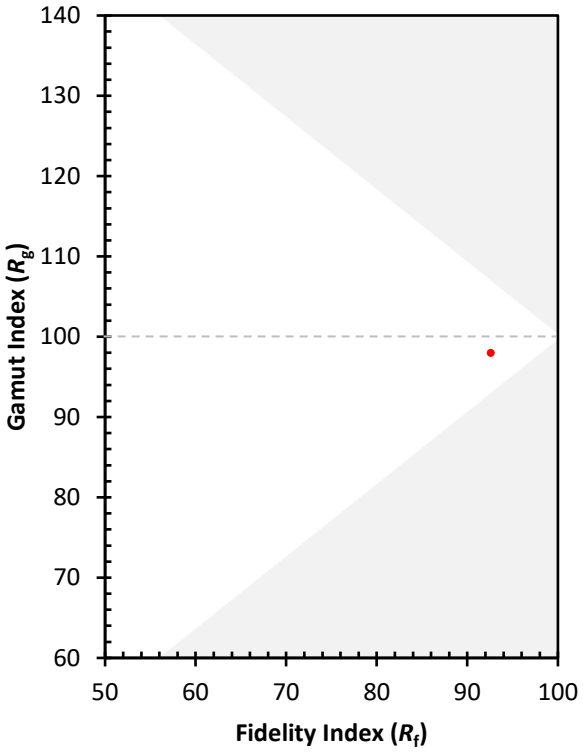



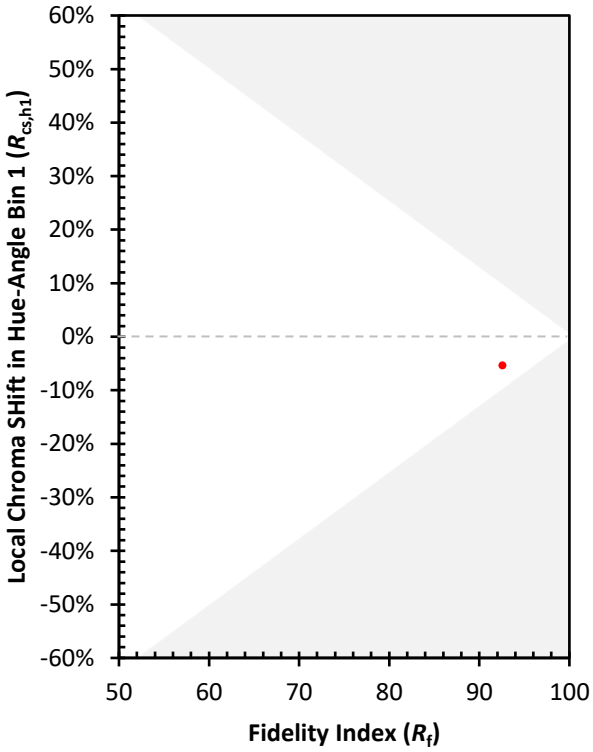



REPORT NUMBER: SP1-2407-184-13

# TM-30-18

## Measure Comparisons




(END OF REPORT)