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: McGRAW-EDISON

Report Number: P1501056

Luminaire Tested: GSS-SB5D-735-U-T3LG

Issue Date: 07/20/2026

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: | P1501056 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB5D-735-U-T3LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 5SQUARE 302W 70CRI 3500K FIXTURE w/ TYPE III LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (130) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 43665.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 144.6 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B4 - U0 - G4 |

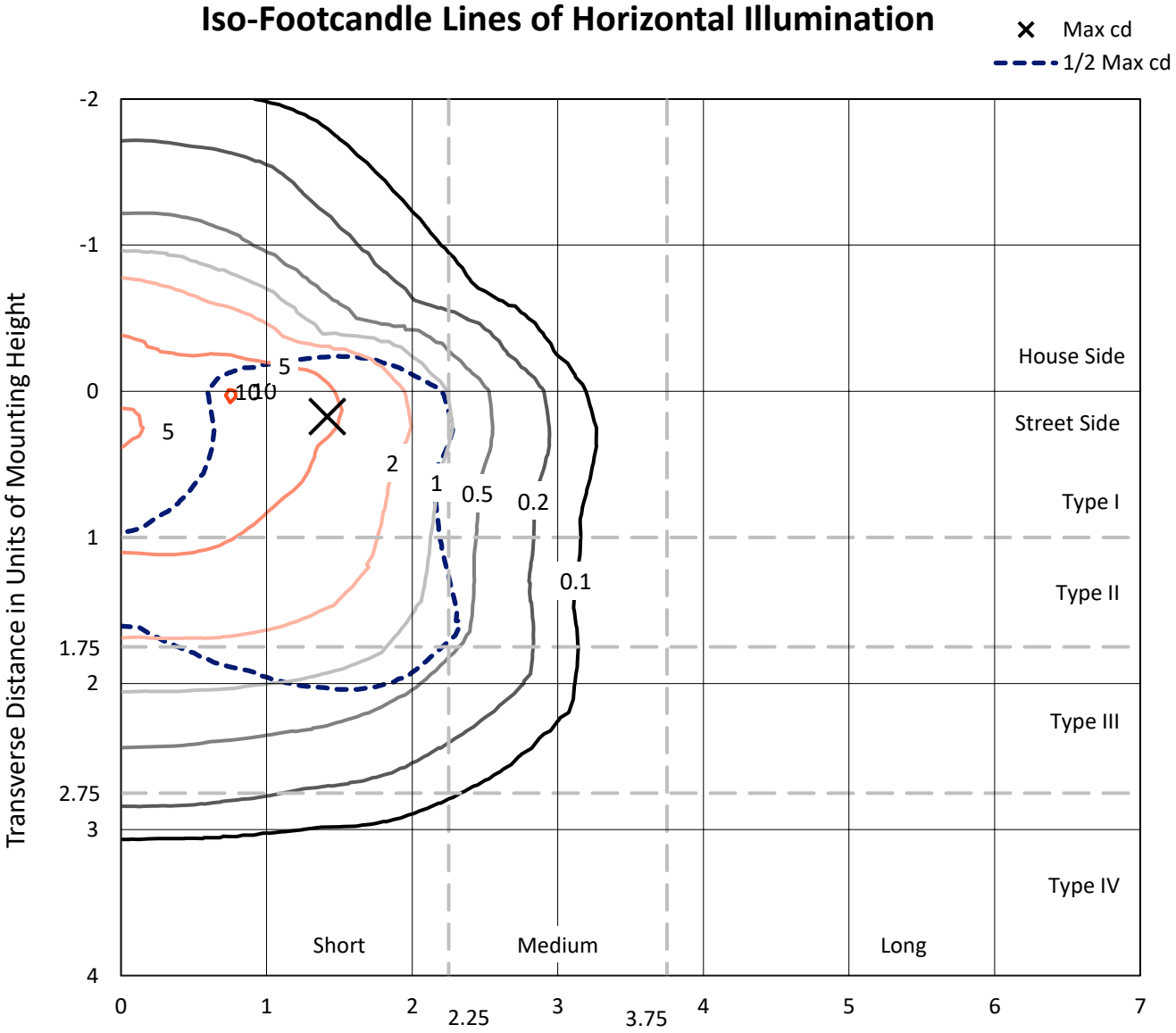
| | |
|---|---|
| Input Watts (W): | 302 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | -- |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1501056
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## Iso-Footcandle Lines of Horizontal Illumination



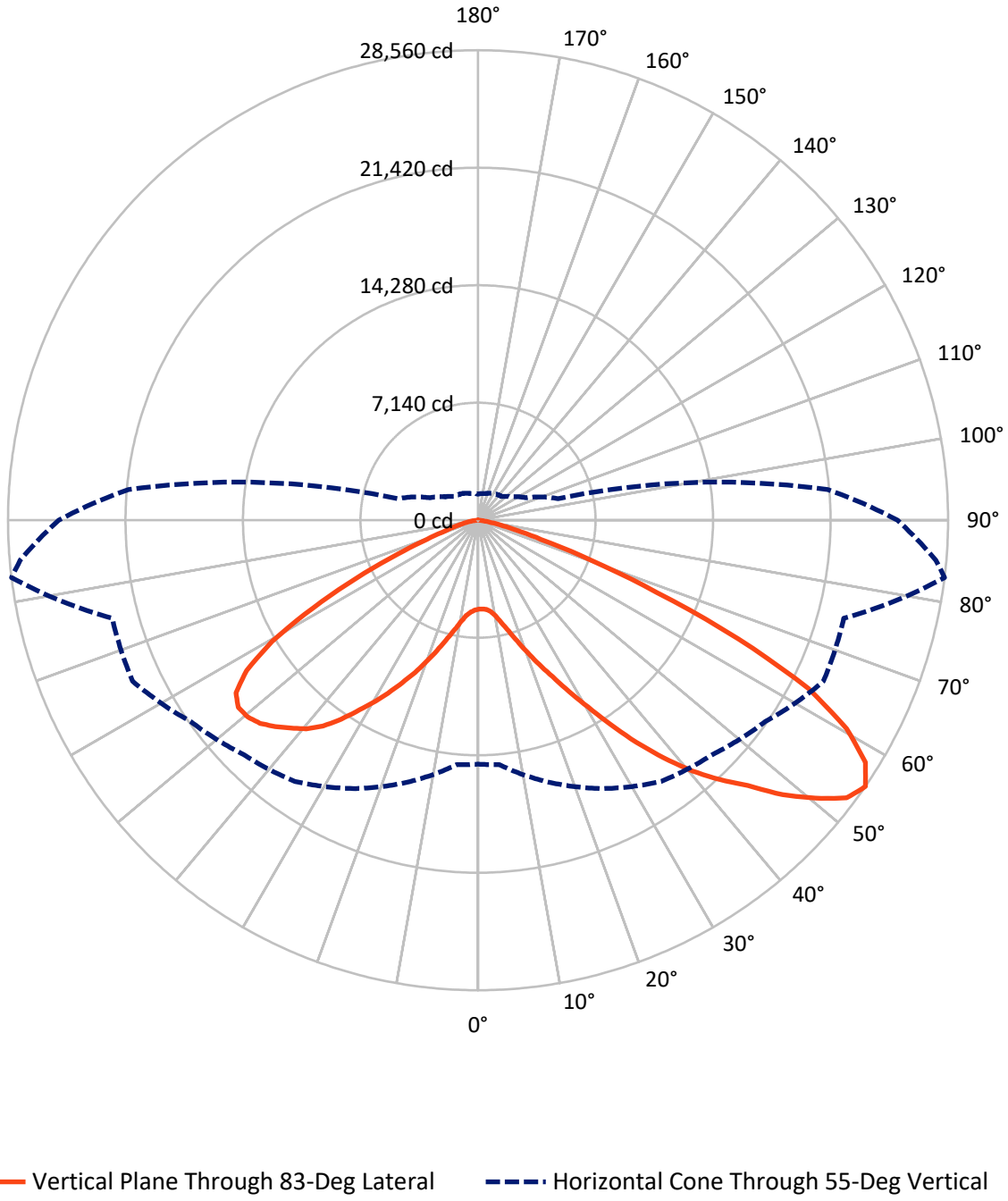

Based on 30 foot mounting height. Maximum calculated value = 10.2 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

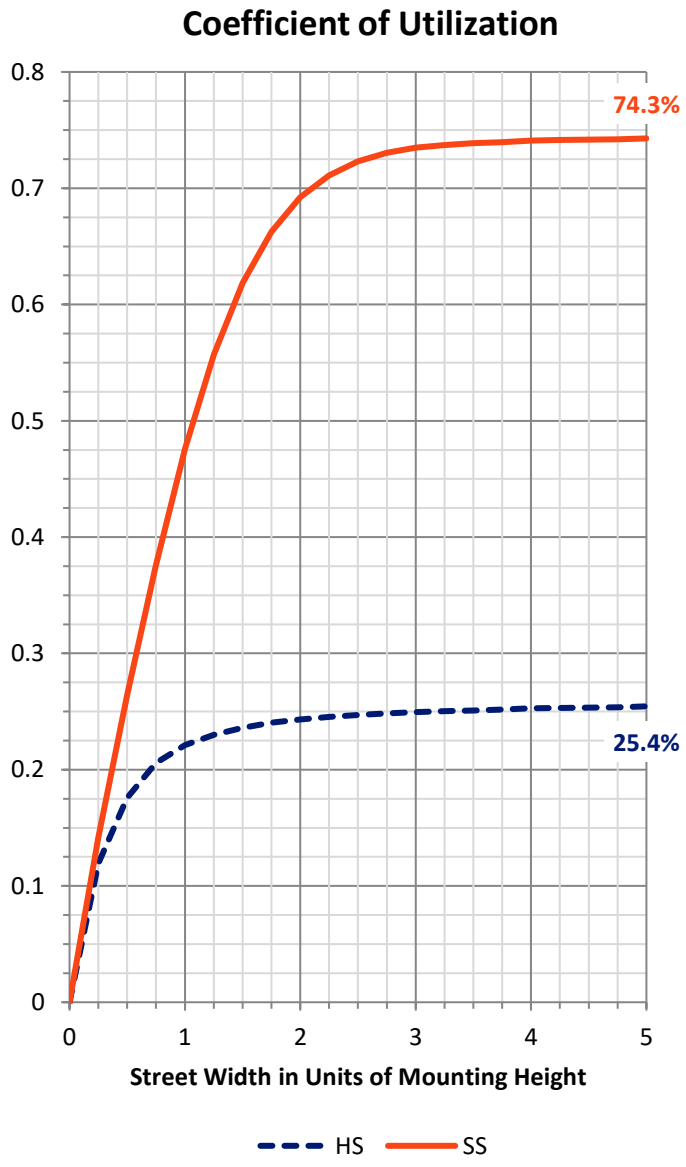
REPORT NUMBER: P1501056
CATALOG NUMBER: GSS-SB5D-735-U-T3LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 11205.4 | 0.0 | 11205.4 |
| | % Fixture | 25.7 | 0.0 | 25.7 |
| **Street Side** | Lumens | 32459.8 | 0.0 | 32459.8 |
| | % Fixture | 74.3 | 0.0 | 74.3 |
| **Total** | Lumens | 43665.2 | 0.0 | 43665.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 522.3 | 1.2 |
| 10°-20° | 1701.4 | 3.9 |
| 20°-30° | 3406.2 | 7.8 |
| 30°-40° | 6060.1 | 13.9 |
| 40°-50° | 9132.3 | 20.9 |
| 50°-60° | 11128.4 | 25.5 |
| 60°-70° | 8998.8 | 20.6 |
| 70°-80° | 2464.7 | 5.6 |
| 80°-90° | 251.0 | 0.6 |
| 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° | 43665.2 | 100.0 |
| 0°-180° | 43665.2 | 100.0 |



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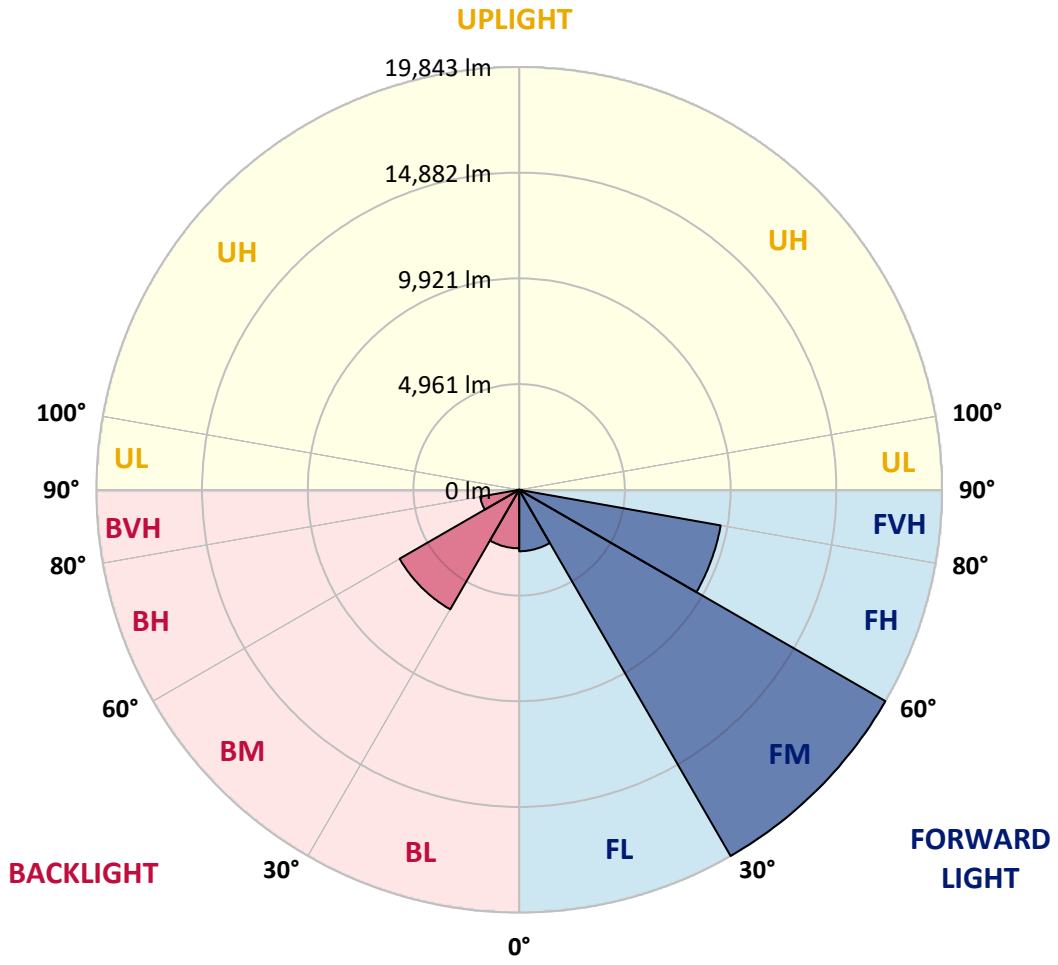
Scaled Data Report

REPORT NUMBER: P1501056
CATALOG NUMBER: GSS-SB5D-735-U-T3LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2883.1 | 6.6 | | | |
| FM | (30°-60°) | 19842.8 | 45.4 | | | |
| FH | (60°-80°) | 9603.1 | 22.0 | | | G4/12000 |
| FVH | (80°-90°) | 130.7 | 0.3 | | | G2/225 |
| BL | (0°-30°) | 2746.7 | 6.3 | B4/5000 | | |
| BM | (30°-60°) | 6478.0 | 14.8 | B4/8500 | | |
| BH | (60°-80°) | 1860.4 | 4.3 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 120.3 | 0.3 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B4-U0-G4**
Type III Short



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REPORT NUMBER: P1501056
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 83° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | *5405.3* | 5405.3 |
| 2.5° | 5250.0 | 5240.3 | 5230.6 | 5220.9 | 5240.3 | 5269.4 | 5298.5 | 5318.0 | 5366.5 | *5405.3* | 5385.9 |
| 5° | 4832.7 | 4813.3 | 4832.7 | 4910.4 | 4978.3 | 5094.8 | 5211.2 | 5288.8 | 5395.6 | *5444.1* | 5463.5 |
| 7.5° | 4464.0 | 4444.6 | 4464.0 | 4561.0 | 4677.5 | 4861.9 | 5104.5 | 5298.5 | 5492.6 | *5609.1* | 5628.5 |
| 10° | 4464.0 | 4473.7 | 4473.7 | 4512.5 | 4570.7 | 4755.1 | 5046.2 | 5415.0 | 5754.6 | *5919.6* | 5958.4 |
| 12.5° | 4609.5 | 4609.5 | 4609.5 | 4658.1 | 4696.9 | 4842.4 | 5172.4 | 5628.5 | 6171.9 | *6414.5* | 6443.7 |
| 15° | 4803.6 | 4793.9 | 4823.0 | 4852.1 | 4920.1 | 5065.6 | 5395.6 | 5939.0 | 6628.0 | *6996.8* | 7035.6 |
| 17.5° | 5075.3 | 5055.9 | 5085.1 | 5153.0 | 5250.0 | 5415.0 | 5744.9 | 6366.0 | 7258.8 | *7724.6* | 7782.8 |
| 20° | 5376.2 | 5366.5 | 5424.7 | 5531.5 | 5667.3 | 5871.1 | 6249.6 | 6880.3 | 7976.9 | *8568.9* | 8675.6 |
| 22.5° | 5735.2 | 5715.8 | 5822.6 | 6016.7 | 6201.0 | 6434.0 | 6890.1 | 7549.9 | 8801.8 | *9510.2* | 9617.0 |
| 25° | 6142.8 | 6142.8 | 6288.4 | 6521.3 | 6802.7 | 7220.0 | 7676.1 | 8403.9 | 9772.2 | *10529.2* | 10694.1 |
| 27.5° | 6812.4 | 6860.9 | 6919.2 | 7161.8 | 7559.6 | 8122.5 | 8607.7 | 9432.6 | 10830.0 | *11781.0* | 11839.2 |
| 30° | 7899.3 | 7879.9 | 7976.9 | 8141.9 | 8471.9 | 9063.8 | 9791.6 | 10674.7 | 12169.2 | *13168.7* | 13314.3 |
| 32.5° | 8879.4 | 8908.5 | 9044.4 | 9354.9 | 9752.8 | 10257.4 | 11130.8 | 12217.7 | 13624.8 | *14779.6* | 14847.6 |
| 35° | 9869.3 | 9888.7 | 10150.7 | 10616.5 | 11208.5 | 11771.3 | 12722.3 | 13789.8 | 15206.6 | *16574.9* | 16759.3 |
| 37.5° | 11257.0 | 11237.6 | 11499.6 | 11897.5 | 12693.2 | 13566.6 | 14333.3 | 15352.2 | 16720.5 | *18321.7* | 18535.2 |
| 40° | 12295.3 | 12402.1 | 12897.0 | 13401.6 | 14148.9 | 15051.4 | 15701.6 | 16662.3 | 17962.7 | *20029.7* | 20223.8 |
| 42.5° | 13362.8 | 13450.2 | 14110.1 | 14867.0 | 15653.0 | 16264.4 | 16769.0 | 17661.8 | 18952.5 | *21543.5* | 21650.3 |
| 45° | 14245.9 | 14362.4 | 15119.3 | 16080.0 | 16895.2 | 17516.3 | 17690.9 | 18525.5 | 19961.7 | *22999.2* | 23164.2 |
| 47.5° | 14808.8 | 14934.9 | 15827.7 | 16953.4 | 17788.0 | 18447.9 | 18389.6 | 19563.9 | 21038.9 | *24930.3* | 24872.1 |
| 50° | 15196.9 | 15274.6 | 16245.0 | 17448.3 | 18535.2 | 18971.9 | 19224.2 | 20738.1 | 22145.2 | *26551.0* | 26337.5 |
| 52.5° | 15478.4 | 15604.5 | 16487.6 | 17807.4 | 18952.5 | 19525.1 | 20204.4 | 22096.7 | 22911.9 | *28035.7* | 27560.2 |
| 55° | *14818.5* | *14915.5* | *16468.2* | *17991.8* | *19379.5* | *20136.4* | *21320.3* | *23154.5* | *23008.9* | *28559.8* | *27919.3* |
| 57.5° | 14139.2 | 14216.8 | 15653.0 | 17943.2 | 19845.3 | 20893.4 | 22591.6 | 23290.3 | 22145.2 | *27754.3* | 26948.8 |
| 60° | 13285.2 | 13343.4 | 14779.6 | 17428.9 | 19855.0 | 21485.3 | 23241.8 | 22300.5 | 20544.0 | *25726.1* | 24959.5 |
| 62.5° | 11713.1 | 11713.1 | 13294.9 | 16041.2 | 19369.8 | 21786.2 | 23067.1 | 20427.6 | 18399.4 | *22533.4* | 21475.6 |
| 65° | 10160.4 | 10092.5 | 11159.9 | 13566.6 | 18079.1 | 21708.5 | 21757.0 | 18059.7 | 15070.8 | *17380.4* | 16555.5 |
| 67.5° | 8471.9 | 8481.6 | 9112.3 | 11014.4 | 14643.8 | 20087.9 | 18991.3 | 13954.8 | 10500.1 | *11703.4* | 11276.4 |
| 70° | 5735.2 | 5880.8 | 6521.3 | 7996.3 | 11043.5 | 14236.2 | 15119.3 | 9452.0 | 6550.4 | *7268.5* | 6919.2 |
| 72.5° | 2183.5 | 2212.6 | 2959.8 | 4192.3 | 6977.4 | 8559.2 | 10548.6 | 5288.8 | 3833.2 | *4007.9* | 4027.3 |
| 75° | 921.9 | 960.7 | 1261.6 | 1766.2 | 3095.7 | 4667.8 | 5550.9 | 2678.4 | 2329.0 | *2397.0* | 2377.6 |
| 77.5° | 621.1 | 640.5 | 766.6 | 951.0 | 1397.4 | 1872.9 | 2319.3 | 1513.9 | 1426.5 | *1339.2* | 1300.4 |
| 80° | 465.8 | 465.8 | 553.1 | 640.5 | 786.0 | 960.7 | 1009.2 | 766.6 | 854.0 | *708.4* | 689.0 |
| 82.5° | 300.8 | 320.2 | 349.4 | 378.5 | 446.4 | 475.5 | 407.6 | 417.3 | 494.9 | *368.8* | 349.4 |
| 85° | 145.6 | 155.3 | 165.0 | 174.7 | 174.7 | 165.0 | 145.6 | 184.4 | 252.3 | *155.3* | 145.6 |
| 87.5° | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 9.7 | 9.7 | 9.7 | *9.7* | 9.7 |
| 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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Scaled Data Report

REPORT NUMBER: P1501056
CATALOG NUMBER: GSS-SB5D-735-U-T3LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 | 5405.3 |
| 2.5° | 5415.0 | 5453.8 | 5482.9 | 5502.3 | 5550.9 | 5541.2 | 5570.3 | 5589.7 | 5609.1 | 5638.2 | 5599.4 |
| 5° | 5512.0 | 5580.0 | 5657.6 | 5715.8 | 5774.1 | 5803.2 | 5812.9 | 5832.3 | 5842.0 | 5861.4 | 5851.7 |
| 7.5° | 5725.5 | 5803.2 | 5919.6 | 5977.8 | 6026.4 | 6026.4 | 5997.3 | 5987.6 | 5958.4 | 5977.8 | 5977.8 |
| 10° | 6084.6 | 6201.0 | 6327.2 | 6336.9 | 6278.7 | 6210.8 | 6104.0 | 6045.8 | 5968.1 | 5948.7 | 5929.3 |
| 12.5° | 6608.6 | 6763.9 | 6860.9 | 6793.0 | 6589.2 | 6336.9 | 6055.5 | 5793.5 | 5589.7 | 5502.3 | 5482.9 |
| 15° | 7200.6 | 7394.7 | 7414.1 | 7220.0 | 6851.2 | 6239.9 | 5647.9 | 5356.8 | 5250.0 | 5250.0 | 5240.3 |
| 17.5° | 8015.8 | 8151.6 | 8074.0 | 7608.2 | 6783.3 | 5783.8 | 5356.8 | 5308.3 | 5337.4 | 5376.2 | 5376.2 |
| 20° | 8869.7 | 9025.0 | 8704.8 | 7879.9 | 6366.0 | 5512.0 | 5385.9 | 5424.7 | 5492.6 | 5531.5 | 5521.7 |
| 22.5° | 9888.7 | 9966.3 | 9345.2 | 7889.6 | 5919.6 | 5444.1 | 5444.1 | 5492.6 | 5541.2 | 5599.4 | 5599.4 |
| 25° | 10936.7 | 10907.6 | 9937.2 | 7530.5 | 5667.3 | 5424.7 | 5405.3 | 5444.1 | 5463.5 | 5492.6 | 5482.9 |
| 27.5° | 12111.0 | 11955.7 | 10393.3 | 6958.0 | 5589.7 | 5366.5 | 5269.4 | 5230.6 | 5250.0 | 5279.1 | 5288.8 |
| 30° | 13459.9 | 13091.1 | 10762.1 | 6598.9 | 5560.6 | 5230.6 | 4997.7 | 4891.0 | 4871.6 | 4910.4 | 4910.4 |
| 32.5° | 15022.3 | 14226.5 | 10985.3 | 6550.4 | 5531.5 | 4988.0 | 4677.5 | 4473.7 | 4434.9 | 4454.3 | 4502.8 |
| 35° | 16623.5 | 15594.8 | 10927.0 | 6676.6 | 5541.2 | 4793.9 | 4337.8 | 4066.1 | 4027.3 | 4046.7 | 4095.2 |
| 37.5° | 18302.3 | 16895.2 | 10703.8 | 6870.6 | 5463.5 | 4531.9 | 4027.3 | 3697.3 | 3639.1 | 3677.9 | 3697.3 |
| 40° | 19602.7 | 17991.8 | 10150.7 | 6948.3 | 5327.7 | 4202.0 | 3668.2 | 3386.8 | 3231.5 | 3221.8 | 3270.3 |
| 42.5° | 20806.0 | 18855.5 | 9549.0 | 6822.1 | 5046.2 | 3852.6 | 3299.5 | 3018.0 | 2775.4 | 2591.0 | 2591.0 |
| 45° | 22009.4 | 19728.8 | 8937.7 | 6463.1 | 4580.4 | 3483.8 | 2911.3 | 2532.8 | 2251.4 | 2115.5 | 2125.2 |
| 47.5° | 23212.7 | 20573.1 | 8209.8 | 5919.6 | 4114.6 | 3095.7 | 2494.0 | 2193.2 | 1999.1 | 1892.3 | 1892.3 |
| 50° | 24328.7 | 21184.5 | 7278.2 | 5055.9 | 3580.9 | 2707.5 | 2202.9 | 2028.2 | 1882.6 | 1785.6 | 1766.2 |
| 52.5° | 25308.8 | 21592.1 | 6016.7 | 4007.9 | 2998.6 | 2270.8 | 2047.6 | 1911.7 | 1805.0 | 1698.3 | 1669.1 |
| 55° | *25483.5* | *21320.3* | *5036.5* | *3221.8* | *2474.6* | *2037.9* | *1931.2* | *1814.7* | *1669.1* | *1620.6* | *1591.5* |
| 57.5° | 24406.3 | 19884.1 | 4250.5 | 2717.2 | 2115.5 | 1872.9 | 1834.1 | 1698.3 | 1581.8 | 1533.3 | 1504.2 |
| 60° | 22572.2 | 17273.7 | 3513.0 | 2329.0 | 1882.6 | 1717.7 | 1766.2 | 1630.3 | 1445.9 | 1416.8 | 1387.7 |
| 62.5° | 19272.7 | 13479.3 | 2804.5 | 1960.3 | 1708.0 | 1601.2 | 1649.7 | 1455.6 | 1300.4 | 1261.6 | 1251.9 |
| 65° | 14983.4 | 9646.1 | 2358.1 | 1727.4 | 1572.1 | 1484.8 | 1465.3 | 1290.7 | 1174.2 | 1145.1 | 1145.1 |
| 67.5° | 10461.2 | 6133.1 | 1970.0 | 1581.8 | 1397.4 | 1339.2 | 1329.5 | 1213.0 | 1135.4 | 1106.3 | 1106.3 |
| 70° | 6404.8 | 3716.7 | 1659.4 | 1445.9 | 1232.4 | 1125.7 | 1193.6 | 1174.2 | 1057.8 | 1028.7 | 1019.0 |
| 72.5° | 3328.6 | 2222.3 | 1455.6 | 1329.5 | 1038.4 | 960.7 | 1067.5 | 1077.2 | 980.1 | 1019.0 | 1009.2 |
| 75° | 1931.2 | 1543.0 | 1271.3 | 1174.2 | 824.9 | 805.5 | 931.6 | 1028.7 | 951.0 | 980.1 | 960.7 |
| 77.5° | 1106.3 | 989.8 | 980.1 | 960.7 | 650.2 | 659.9 | 834.6 | 921.9 | 815.2 | 844.3 | 776.3 |
| 80° | 611.4 | 640.5 | 679.3 | 601.7 | 456.1 | 514.3 | 669.6 | 737.5 | 621.1 | 611.4 | 562.8 |
| 82.5° | 320.2 | 397.9 | 456.1 | 388.2 | 262.0 | 310.5 | 456.1 | 456.1 | 397.9 | 378.5 | 368.8 |
| 85° | 145.6 | 165.0 | 213.5 | 194.1 | 97.0 | 116.5 | 213.5 | 232.9 | 203.8 | 184.4 | 174.7 |
| 87.5° | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 | 19.4 | 29.1 | 9.7 | 9.7 | 9.7 |
| 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

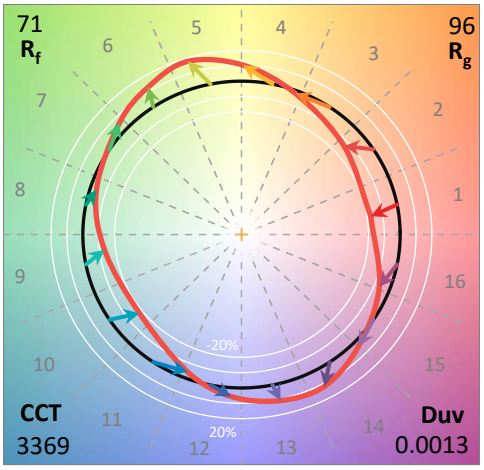
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| 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-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

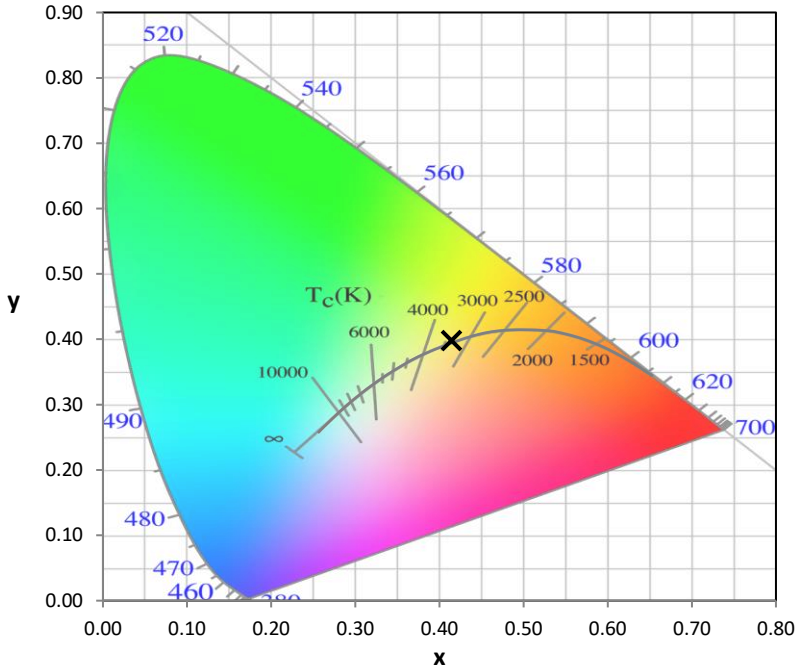
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-5

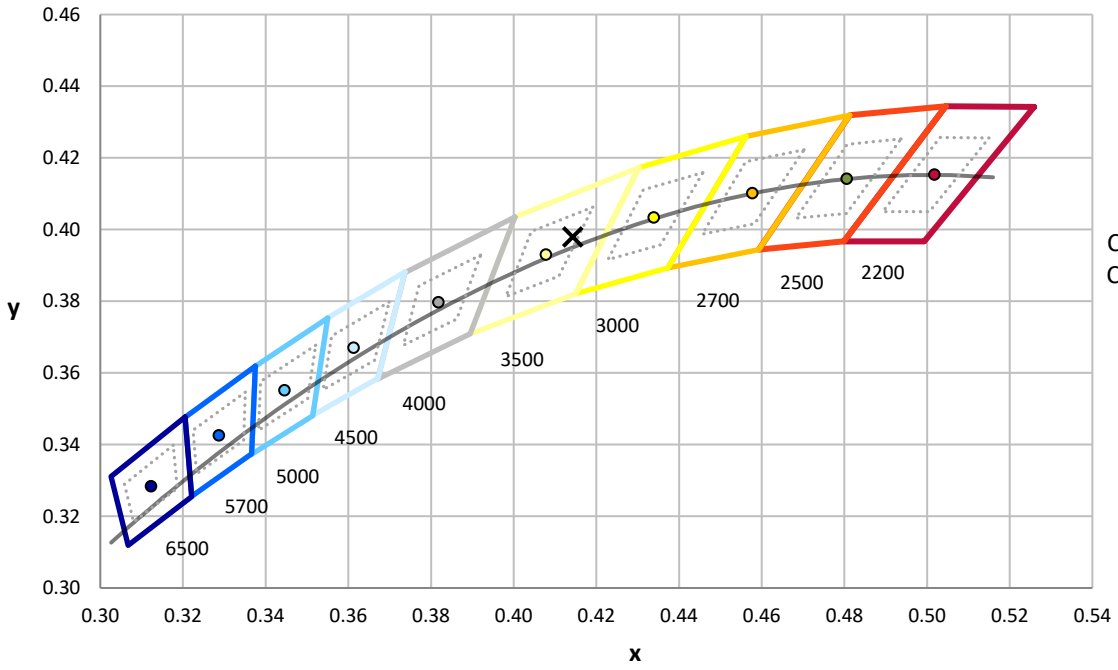
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-5

**CIE 1931 Chromaticity Diagram**




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

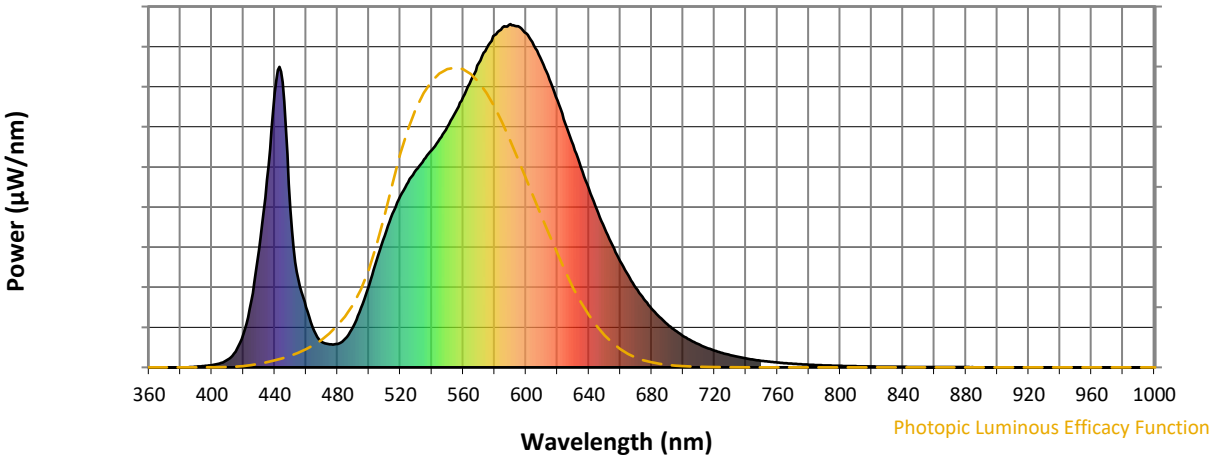



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-5

## Photopic Flux vs. Wavelength

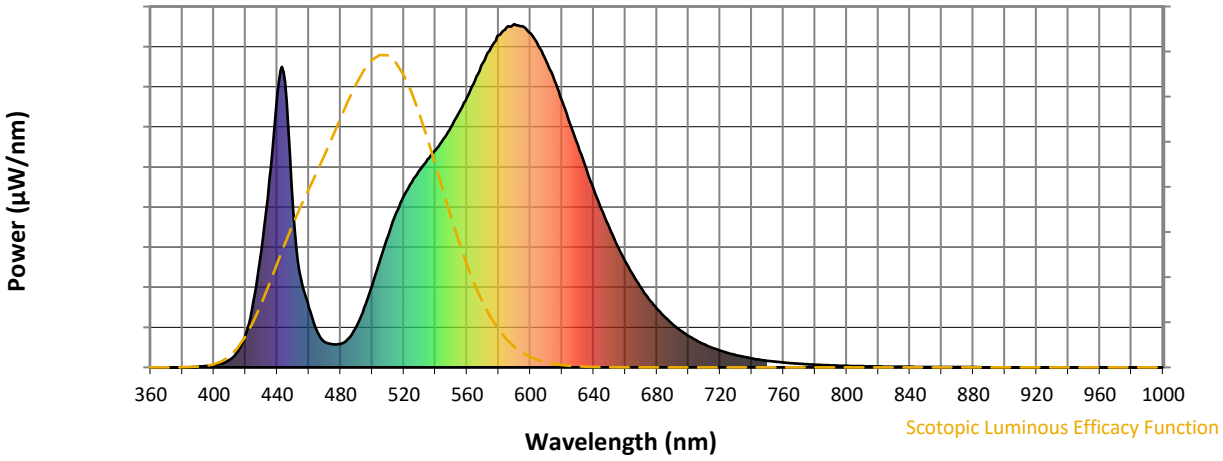



## Photopic Lumens: NR

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-5

## Scotopic Flux vs. Wavelength

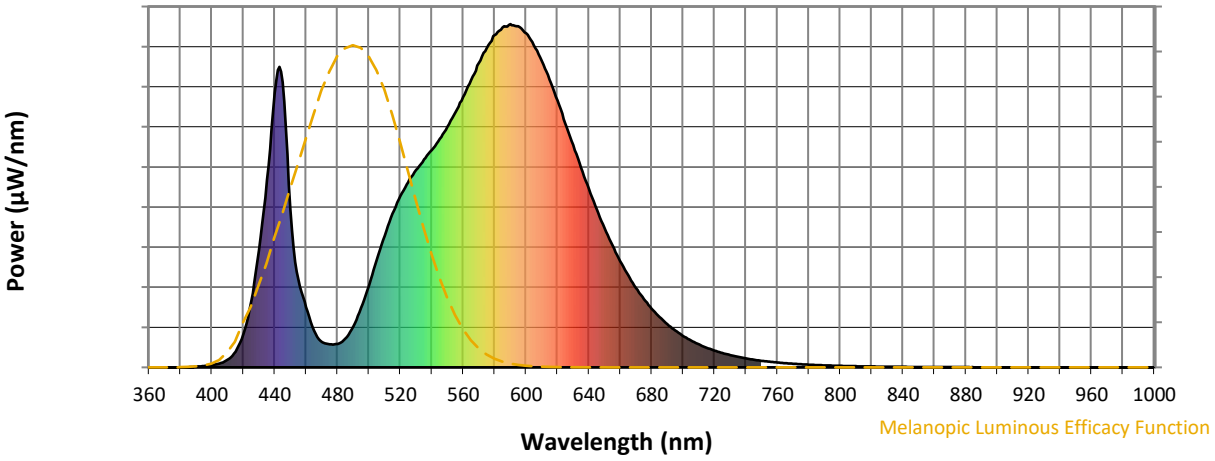



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-5

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.36**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

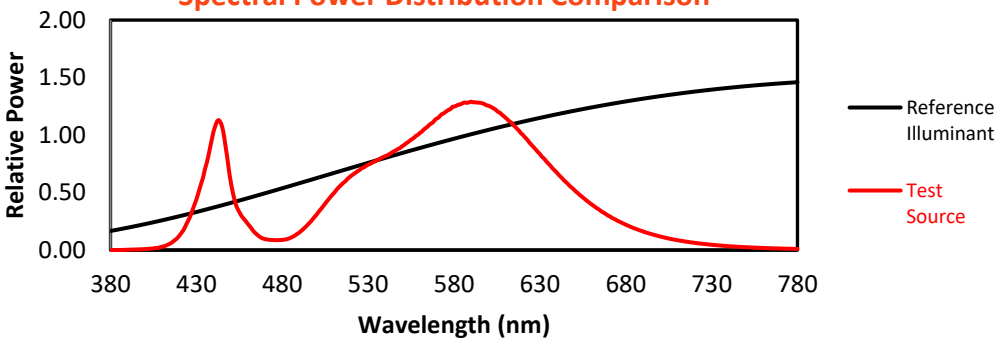
REPORT NUMBER: SP1-2407-184-5

# TM-30-18

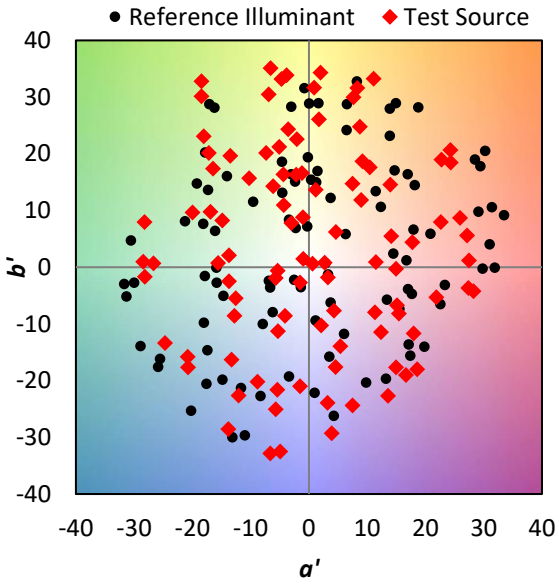
## Summary

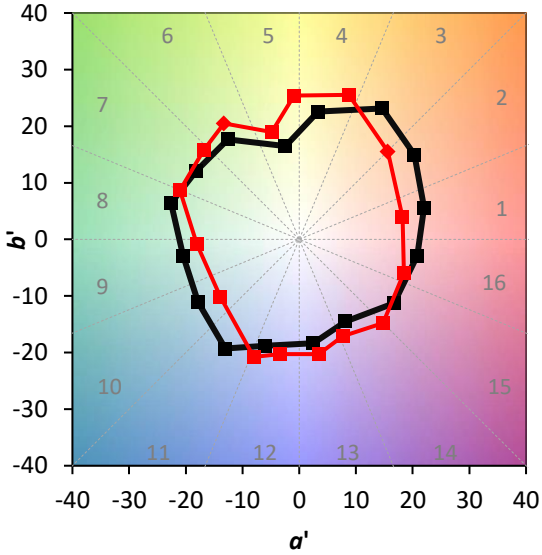
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

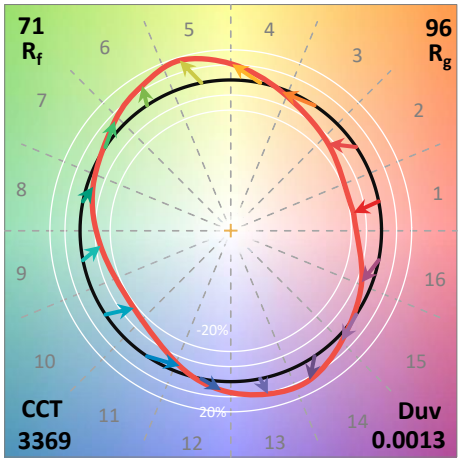
## Spectral Power Distribution Comparison

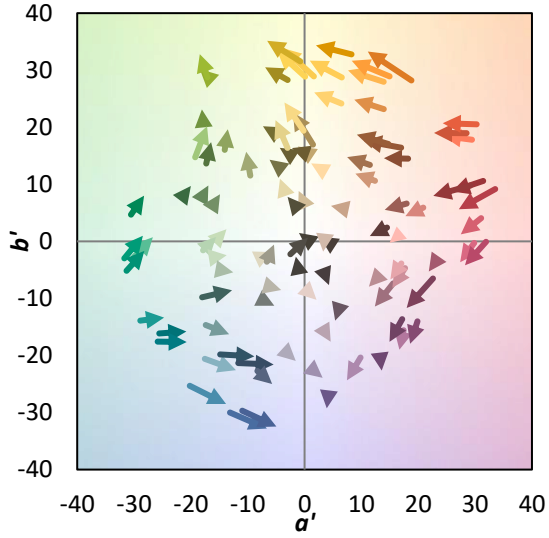



## Color Vector Graphics



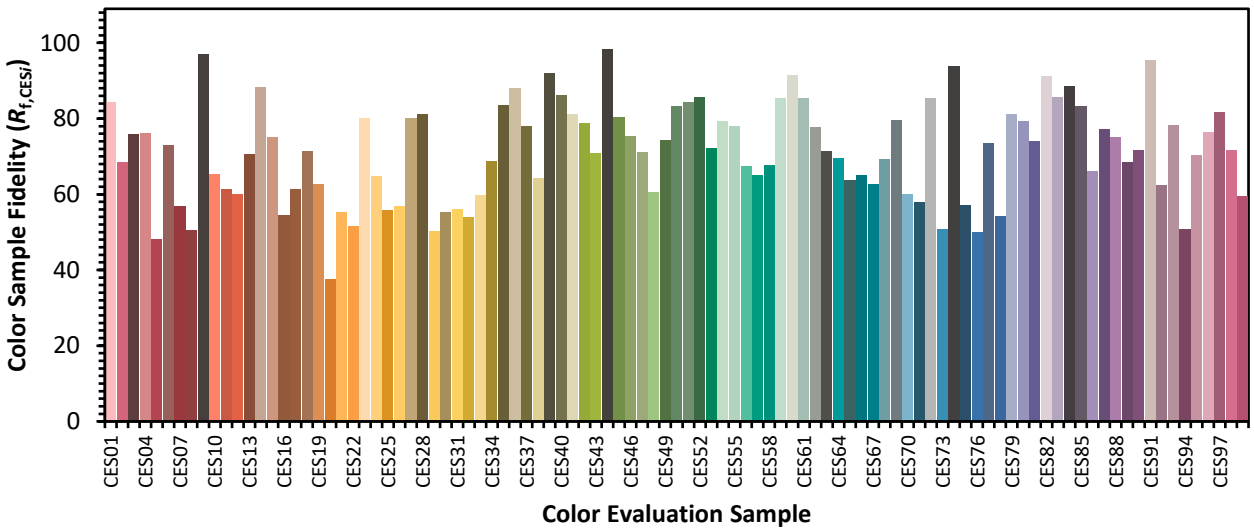



REPORT NUMBER: SP1-2407-184-5

# TM-30-18

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

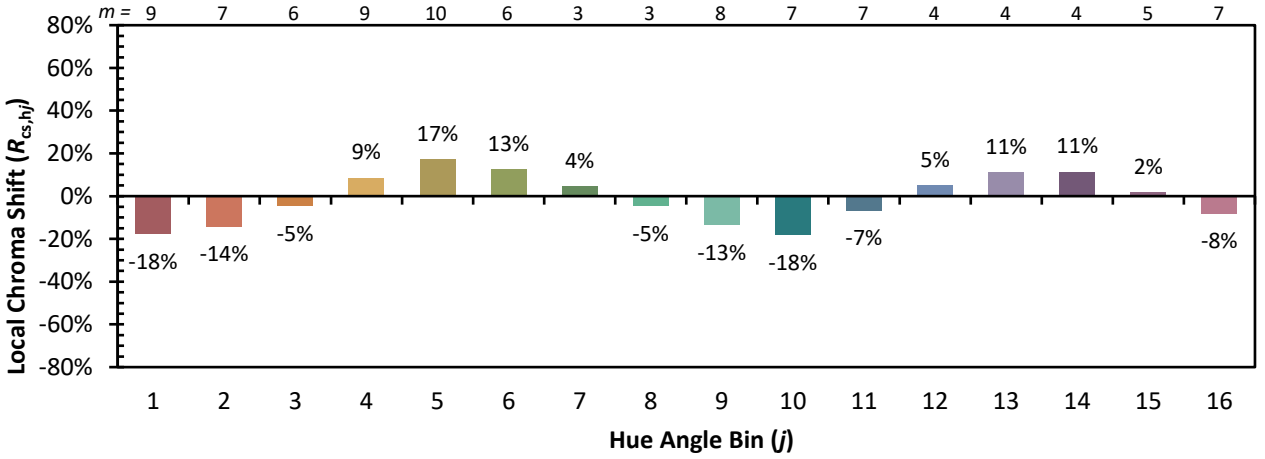
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 | |

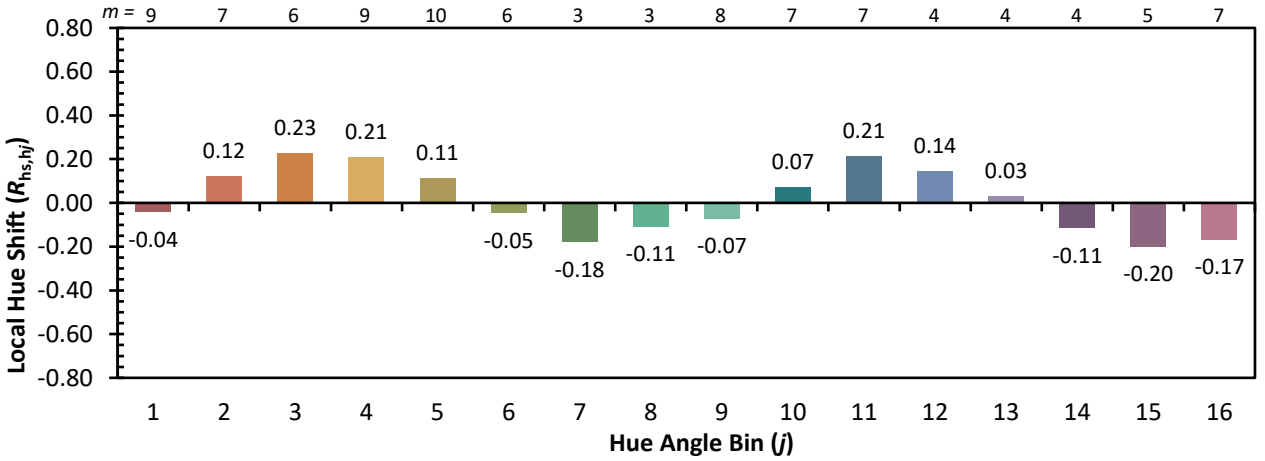


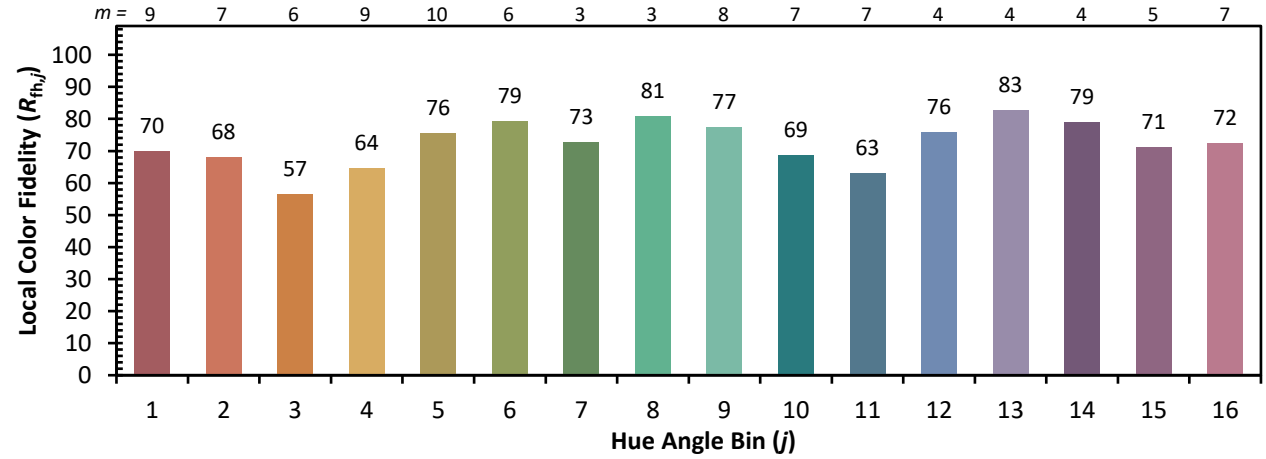
REPORT NUMBER: SP1-2407-184-5

**TM-30-18**

## Color Rendition by Hue-Angle Bin



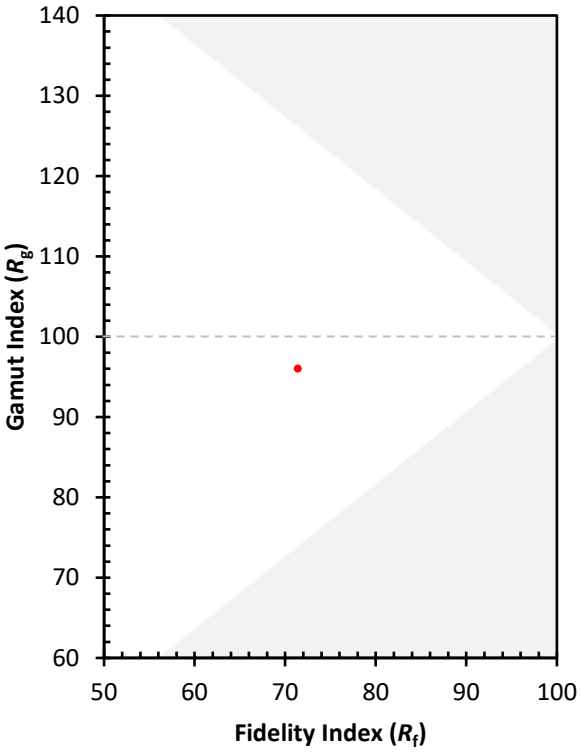



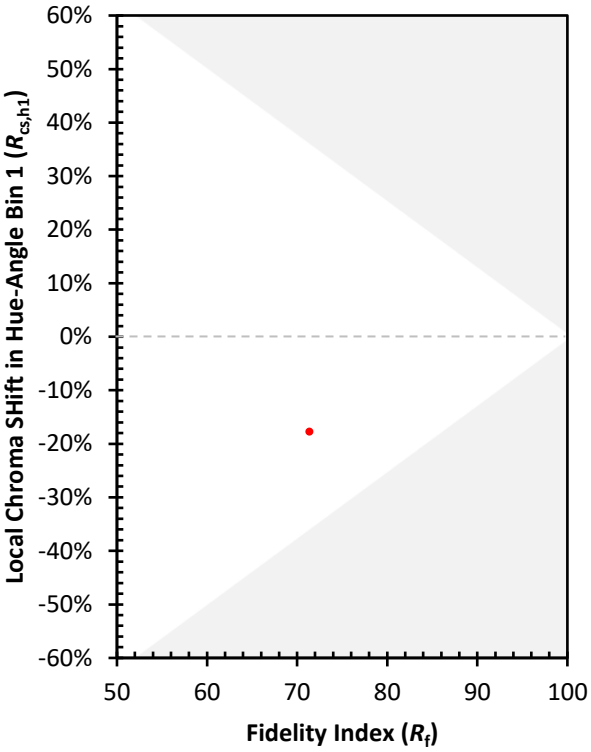



REPORT NUMBER: SP1-2407-184-5

# TM-30-18

## Measure Comparisons




(END OF REPORT)