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: P1458795

Luminaire Tested: GLAN-SB5A-735-U-T4LG-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: | P1458795 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 5/21/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SB5A-735-U-T4LG-HSS |
| Description: | GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 350mA 5xLight Square PACKAGE 70CRI 3500K FIXTURE w/ TYPE IV LOW GLARE WITH HOUSE SIDE SHIELD |
| Light Source: | (130) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 16427.6 lumens |
| Efficiency: | N/A |
| Efficacy: | 115.9 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): | 141.7 |
| 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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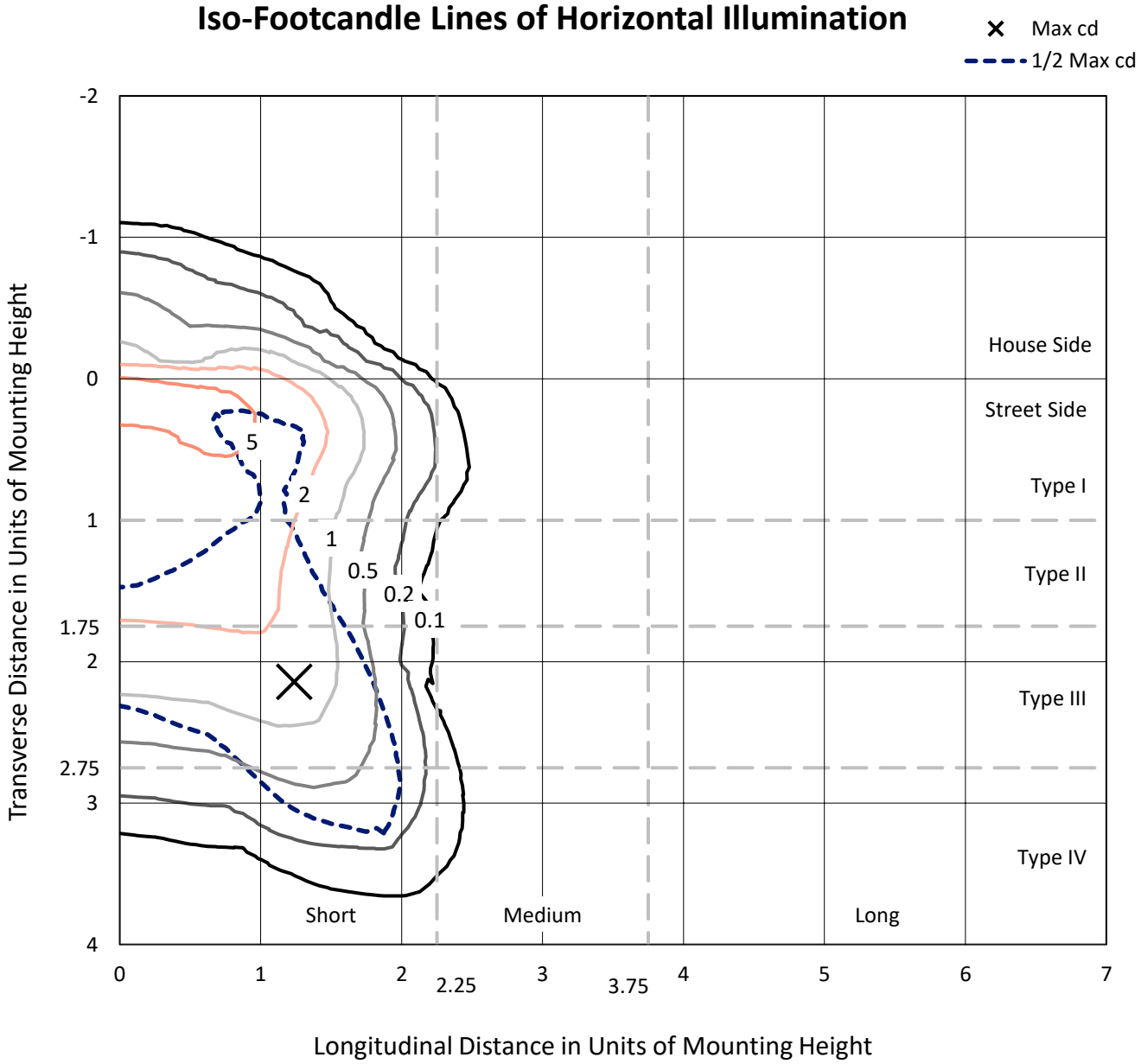
Scaled Data Report

REPORT NUMBER: P1458795
CATALOG NUMBER: GLAN-SB5A-735-U-T4LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 7.9 fc
Type IV - Short - N/A

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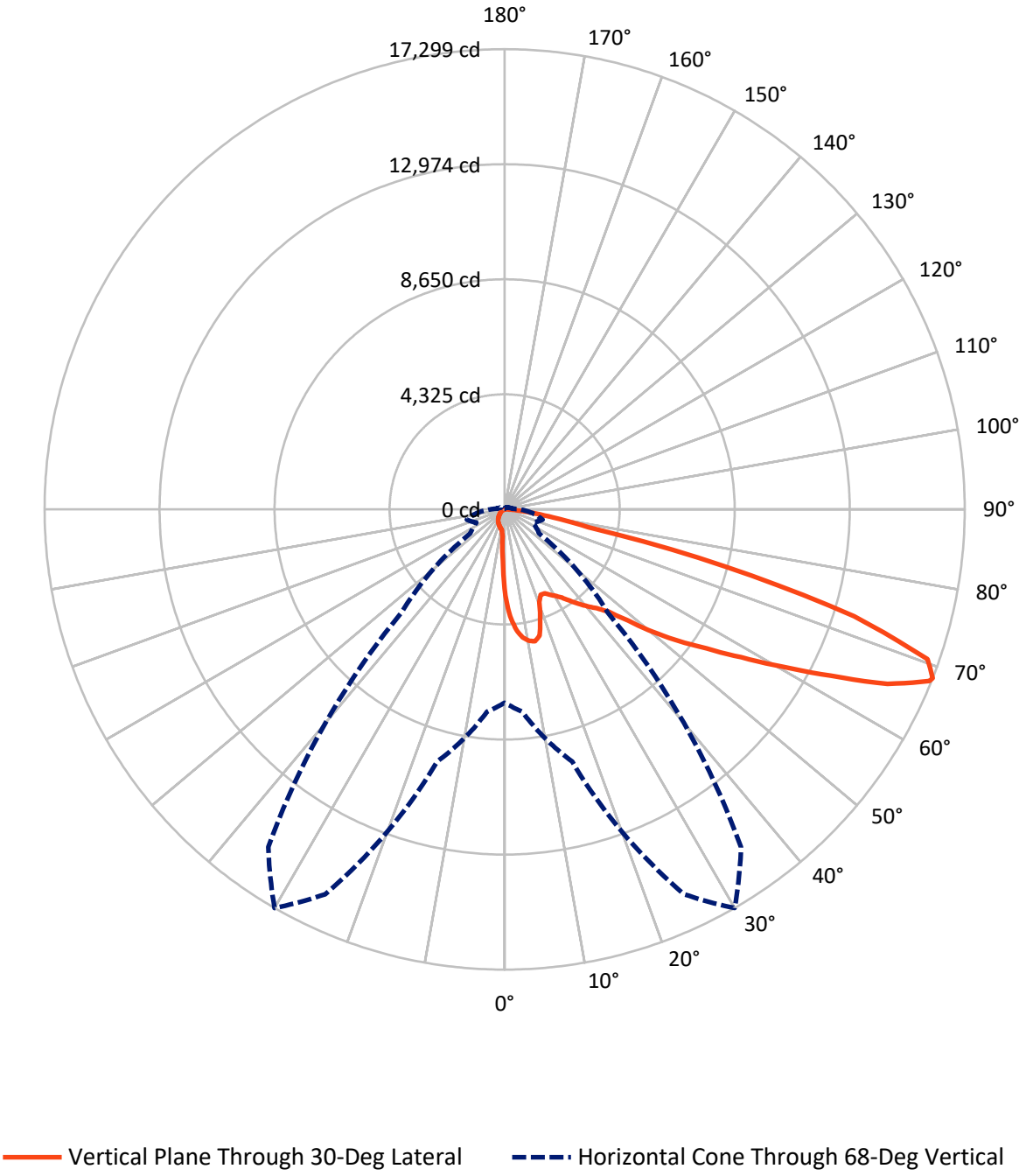
## Luminous Intensity Polar Plot



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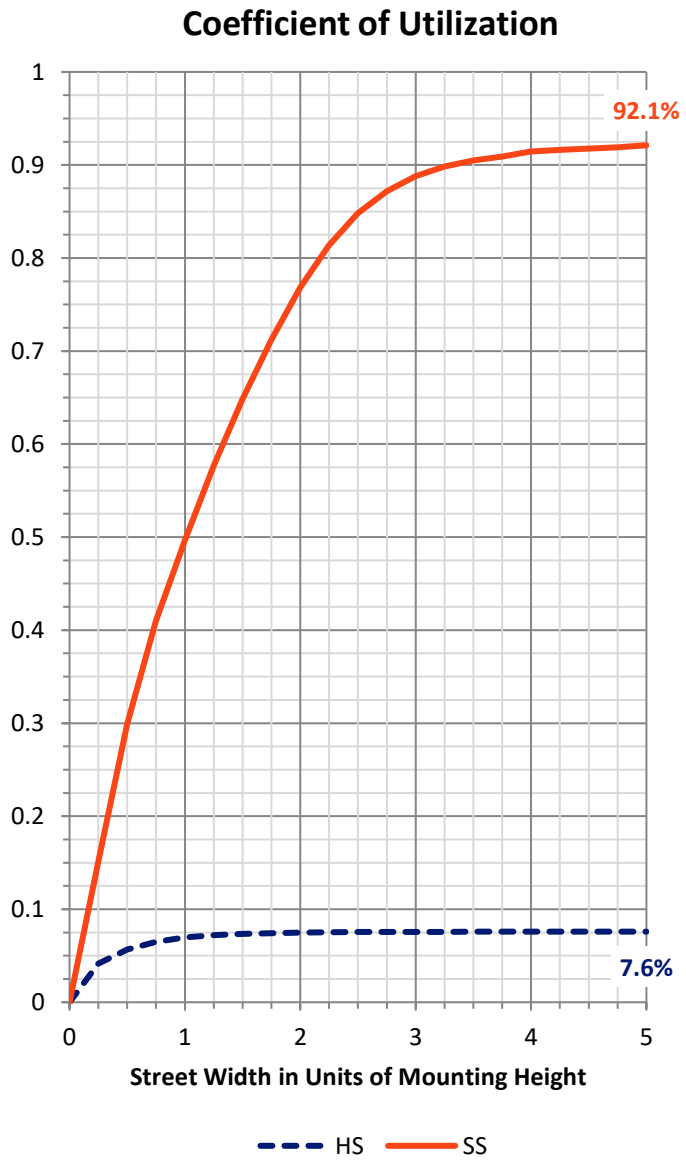
REPORT NUMBER: P1458795
CATALOG NUMBER: GLAN-SB5A-735-U-T4LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1253.9 | 0.0 | 1253.9 |
| | % Fixture | 7.6 | 0.0 | 7.6 |
| **Street Side** | Lumens | 15173.7 | 0.0 | 15173.7 |
| | % Fixture | 92.4 | 0.0 | 92.4 |
| **Total** | Lumens | 16427.6 | 0.0 | 16427.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 279.5 | 1.7 |
| 10°-20° | 798.0 | 4.9 |
| 20°-30° | 1254.0 | 7.6 |
| 30°-40° | 1966.8 | 12.0 |
| 40°-50° | 2939.9 | 17.9 |
| 50°-60° | 3911.0 | 23.8 |
| 60°-70° | 3780.7 | 23.0 |
| 70°-80° | 1359.0 | 8.3 |
| 80°-90° | 138.7 | 0.8 |
| 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° | 16427.6 | 100.0 |
| 0°-180° | 16427.6 | 100.0 |



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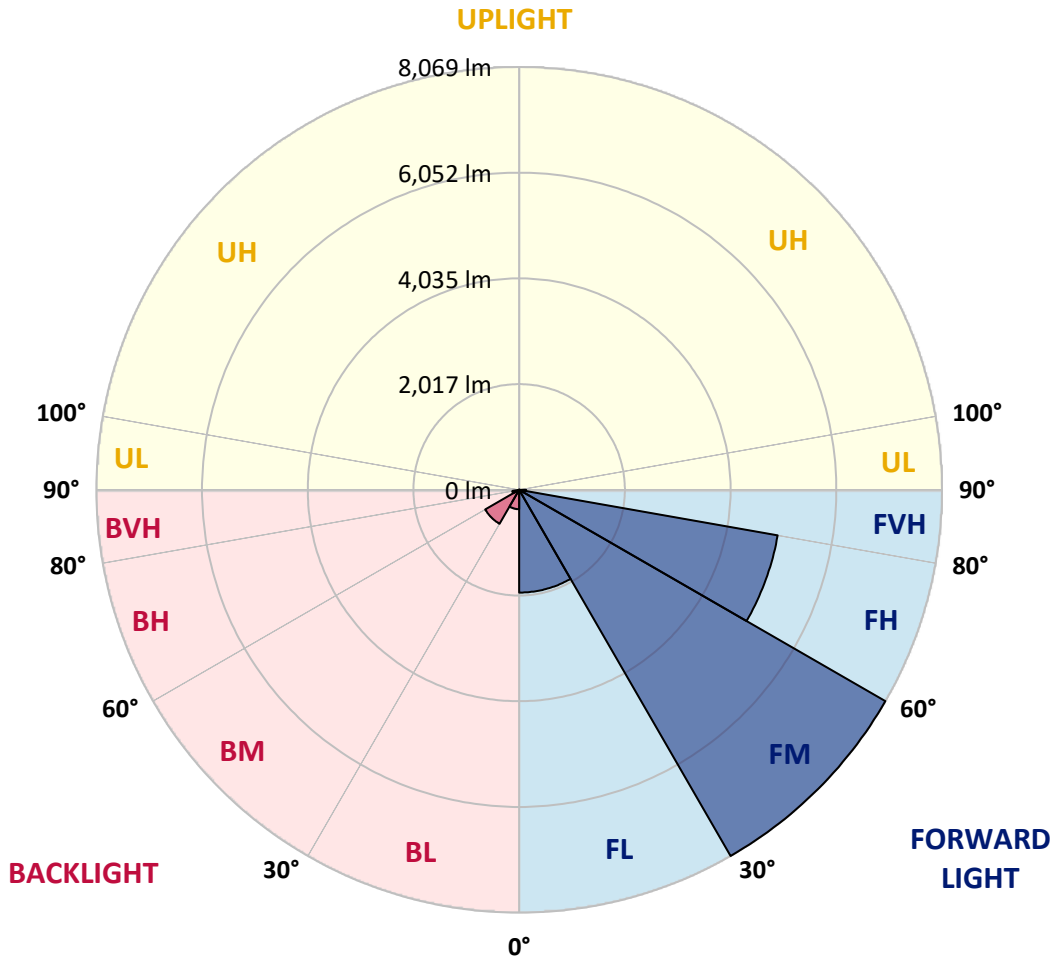
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1961.4 | 11.9 | | | |
| FM | (30°-60°) | 8069.2 | 49.1 | | | |
| FH | (60°-80°) | 5009.3 | 30.5 | | | G3/7500 |
| FVH | (80°-90°) | 133.8 | 0.8 | | | G2/225 |
| BL | (0°-30°) | 370.1 | 2.3 | B1/500 | | |
| BM | (30°-60°) | 748.4 | 4.6 | B1/1000 | | |
| BH | (60°-80°) | 130.4 | 0.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 4.9 | 0.0 | | | G0/10 |
| 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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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 30° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 |
| 2.5° | 4140.2 | 4140.2 | 4110.7 | 4071.3 | 4027.0 | 4012.2 | 3928.5 | 3810.4 | 3687.3 | 3544.5 | 3337.8 |
| 5° | 4671.9 | 4667.0 | 4607.9 | 4607.9 | 4548.8 | 4494.7 | 4411.0 | 4238.7 | 4041.8 | 3785.8 | 3426.4 |
| 7.5° | 4908.2 | 4918.1 | 4893.4 | 4893.4 | 4859.0 | 4819.6 | 4770.4 | 4603.0 | 4371.6 | 4027.0 | 3515.0 |
| 10° | 4991.9 | 4996.8 | 4996.8 | 5031.3 | 5021.4 | 5016.5 | 5011.6 | 4918.1 | 4676.8 | 4273.1 | 3608.5 |
| 12.5° | 4790.1 | 4814.7 | 4883.6 | 5036.2 | 5085.4 | 5139.6 | 5213.4 | 5183.9 | 5016.5 | 4583.3 | 3751.3 |
| 15° | 4140.2 | 4145.1 | 4337.1 | 4716.2 | 4918.1 | 5124.8 | 5410.4 | 5469.4 | 5361.1 | 4918.1 | 3899.0 |
| 17.5° | 3416.5 | 3431.3 | 3583.9 | 4007.3 | 4332.2 | 4809.8 | 5523.6 | 5764.8 | 5725.4 | 5247.9 | 4036.8 |
| 20° | 3116.2 | 3135.9 | 3209.8 | 3475.6 | 3721.8 | 4164.8 | 5410.4 | 6045.4 | 6060.2 | 5577.7 | 4164.8 |
| 22.5° | 3047.3 | 3062.1 | 3121.2 | 3327.9 | 3480.5 | 3775.9 | 5026.4 | 6267.0 | 6439.3 | 5956.8 | 4317.5 |
| 25° | 3027.6 | 3042.4 | 3131.0 | 3357.5 | 3500.2 | 3746.4 | 4676.8 | 6385.1 | 6887.2 | 6350.6 | 4465.1 |
| 27.5° | 3012.9 | 3032.6 | 3175.3 | 3465.8 | 3633.2 | 3869.5 | 4612.8 | 6409.7 | 7315.5 | 6769.1 | 4706.4 |
| 30° | 3032.6 | 3062.1 | 3249.2 | 3579.0 | 3771.0 | 4036.8 | 4765.4 | 6434.3 | 7788.2 | 7246.6 | 5011.6 |
| 32.5° | 3111.3 | 3135.9 | 3362.4 | 3731.6 | 3953.2 | 4253.5 | 5026.4 | 6582.0 | 8236.1 | 7734.0 | 5302.0 |
| 35° | 3199.9 | 3234.4 | 3505.2 | 3948.2 | 4214.1 | 4553.8 | 5380.8 | 6872.5 | 8664.4 | 8196.8 | 5602.4 |
| 37.5° | 3308.2 | 3347.6 | 3672.5 | 4194.4 | 4499.6 | 4883.6 | 5764.8 | 7276.2 | 9043.5 | 8575.8 | 5902.7 |
| 40° | 3455.9 | 3500.2 | 3864.5 | 4455.3 | 4785.1 | 5169.1 | 6143.9 | 7674.9 | 9334.0 | 8802.3 | 6099.6 |
| 42.5° | 4036.8 | 4095.9 | 4248.5 | 4711.3 | 5080.5 | 5474.4 | 6518.0 | 8054.0 | 9442.3 | 8876.1 | 6139.0 |
| 45° | 5119.9 | 5179.0 | 5139.6 | 5228.2 | 5474.4 | 5843.6 | 6926.6 | 8418.3 | 9457.0 | 8856.4 | 6119.3 |
| 47.5° | 6207.9 | 6276.8 | 6242.3 | 6193.1 | 6247.3 | 6424.5 | 7384.5 | 8649.7 | 9378.3 | 8846.6 | 6119.3 |
| 50° | 7246.6 | 7207.2 | 7212.2 | 7197.4 | 7246.6 | 7340.2 | 7827.5 | 8694.0 | 9358.6 | 8940.1 | 6173.4 |
| 52.5° | 7802.9 | 7822.6 | 7945.7 | 8127.8 | 8236.1 | 8329.7 | 8334.6 | 8762.9 | 9215.8 | 8782.6 | 6109.4 |
| 55° | 8349.4 | 8388.8 | 8674.3 | 8984.4 | 9225.7 | 9402.9 | 8841.7 | 8718.6 | 8364.1 | 8255.8 | 5774.7 |
| 57.5° | 8964.7 | 9018.9 | 9422.6 | 10062.6 | 10485.9 | 10579.5 | 9343.8 | 7891.5 | 7079.2 | 7502.6 | 5124.8 |
| 60° | 9811.5 | 9875.5 | 10412.1 | 11372.1 | 12002.2 | 11810.2 | 9383.2 | 6577.1 | 5622.0 | 6227.6 | 4228.8 |
| 62.5° | 10476.1 | 10604.1 | 11573.9 | 13070.5 | 13764.7 | 13154.2 | 8649.7 | 5041.1 | 3928.5 | 4376.5 | 3086.7 |
| 65° | 9767.2 | 10013.3 | 11593.6 | 15015.1 | 15817.5 | 14734.5 | 7497.7 | 3441.2 | 2215.3 | 2830.7 | 1974.1 |
| 67.5° | 7896.5 | 8241.1 | 10293.9 | 15960.3 | 17225.5 | 15566.5 | 5902.7 | 1826.4 | 1270.1 | 1644.3 | 1038.7 |
| 68° | 7266.3 | 7640.5 | 9816.4 | 15960.3 | 17299.3 | 15492.6 | 5479.3 | 1580.3 | 1171.7 | 1476.9 | 900.9 |
| 70° | 5021.4 | 5287.3 | 7546.9 | 15064.3 | 16866.1 | 14124.0 | 3608.5 | 905.8 | 881.2 | 1014.1 | 595.7 |
| 72.5° | 2461.5 | 2747.0 | 4036.8 | 11938.2 | 13740.0 | 10855.2 | 1644.3 | 600.6 | 669.5 | 743.4 | 467.7 |
| 75° | 979.7 | 1038.7 | 1590.1 | 5887.9 | 8585.7 | 6926.6 | 861.5 | 452.9 | 576.0 | 580.9 | 369.2 |
| 77.5° | 561.2 | 595.7 | 881.2 | 2166.1 | 3219.6 | 3096.6 | 556.3 | 324.9 | 457.8 | 418.5 | 241.2 |
| 80° | 315.1 | 320.0 | 497.2 | 1142.1 | 1841.2 | 1649.2 | 379.1 | 236.3 | 349.5 | 295.4 | 162.5 |
| 82.5° | 157.5 | 177.2 | 315.1 | 630.1 | 1024.0 | 1048.6 | 201.8 | 167.4 | 280.6 | 211.7 | 132.9 |
| 85° | 113.2 | 123.1 | 226.5 | 349.5 | 472.6 | 708.9 | 123.1 | 83.7 | 211.7 | 142.8 | 93.5 |
| 87.5° | 59.1 | 73.8 | 142.8 | 172.3 | 192.0 | 241.2 | 59.1 | 39.4 | 118.2 | 83.7 | 49.2 |
| 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: P1458795
CATALOG NUMBER: GLAN-SB5A-735-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 | 3239.3 |
| 2.5° | 3239.3 | 3126.1 | 2894.7 | 2623.9 | 2412.3 | 2195.6 | 2018.4 | 1851.0 | 1772.3 | 1762.4 | 1782.1 |
| 5° | 3224.6 | 2978.4 | 2451.6 | 1934.7 | 1511.4 | 1216.0 | 1053.5 | 969.8 | 925.5 | 905.8 | 910.8 |
| 7.5° | 3195.0 | 2820.9 | 1979.0 | 1309.5 | 979.7 | 851.7 | 812.3 | 797.5 | 792.6 | 792.6 | 792.6 |
| 10° | 3165.5 | 2609.2 | 1516.3 | 960.0 | 802.4 | 768.0 | 758.1 | 758.1 | 753.2 | 753.2 | 758.1 |
| 12.5° | 3150.7 | 2412.3 | 1176.6 | 802.4 | 748.3 | 733.5 | 723.7 | 718.8 | 718.8 | 718.8 | 723.7 |
| 15° | 3116.2 | 2195.6 | 950.1 | 743.4 | 713.8 | 694.1 | 689.2 | 684.3 | 684.3 | 684.3 | 684.3 |
| 17.5° | 3086.7 | 1984.0 | 827.1 | 704.0 | 679.4 | 659.7 | 654.8 | 649.8 | 649.8 | 654.8 | 654.8 |
| 20° | 3042.4 | 1782.1 | 743.4 | 664.6 | 644.9 | 625.2 | 620.3 | 615.4 | 620.3 | 620.3 | 620.3 |
| 22.5° | 2988.2 | 1614.7 | 694.1 | 635.1 | 610.4 | 590.8 | 590.8 | 590.8 | 590.8 | 590.8 | 595.7 |
| 25° | 2953.8 | 1496.6 | 659.7 | 600.6 | 576.0 | 561.2 | 556.3 | 556.3 | 566.1 | 566.1 | 571.1 |
| 27.5° | 3007.9 | 1467.0 | 664.6 | 590.8 | 546.5 | 531.7 | 526.8 | 526.8 | 536.6 | 541.5 | 546.5 |
| 30° | 3170.4 | 1521.2 | 723.7 | 620.3 | 526.8 | 502.1 | 497.2 | 497.2 | 512.0 | 516.9 | 521.8 |
| 32.5° | 3357.5 | 1634.4 | 812.3 | 659.7 | 512.0 | 472.6 | 462.8 | 462.8 | 477.5 | 482.5 | 487.4 |
| 35° | 3613.5 | 1811.7 | 930.4 | 694.1 | 521.8 | 443.1 | 423.4 | 423.4 | 433.2 | 443.1 | 448.0 |
| 37.5° | 3943.3 | 2102.1 | 1068.3 | 718.8 | 521.8 | 408.6 | 384.0 | 379.1 | 388.9 | 388.9 | 393.8 |
| 40° | 4287.9 | 2481.2 | 1211.1 | 718.8 | 497.2 | 374.1 | 349.5 | 334.8 | 339.7 | 334.8 | 339.7 |
| 42.5° | 4479.9 | 2786.4 | 1334.1 | 674.4 | 467.7 | 339.7 | 315.1 | 295.4 | 290.5 | 280.6 | 285.5 |
| 45° | 4588.2 | 2924.2 | 1299.7 | 625.2 | 438.1 | 315.1 | 285.5 | 260.9 | 251.1 | 236.3 | 236.3 |
| 47.5° | 4588.2 | 2939.0 | 1112.6 | 585.8 | 408.6 | 295.4 | 256.0 | 231.4 | 216.6 | 201.8 | 206.8 |
| 50° | 4534.1 | 2806.1 | 881.2 | 546.5 | 374.1 | 275.7 | 231.4 | 211.7 | 192.0 | 182.2 | 182.2 |
| 52.5° | 4307.6 | 2372.9 | 674.4 | 497.2 | 334.8 | 251.1 | 206.8 | 187.1 | 167.4 | 162.5 | 162.5 |
| 55° | 3918.7 | 1742.7 | 546.5 | 448.0 | 300.3 | 231.4 | 187.1 | 172.3 | 152.6 | 142.8 | 142.8 |
| 57.5° | 3185.2 | 1191.4 | 452.9 | 403.7 | 265.8 | 206.8 | 167.4 | 152.6 | 128.0 | 118.2 | 118.2 |
| 60° | 2363.0 | 777.8 | 384.0 | 354.5 | 226.5 | 187.1 | 147.7 | 128.0 | 108.3 | 98.5 | 93.5 |
| 62.5° | 1595.0 | 526.8 | 320.0 | 280.6 | 192.0 | 162.5 | 128.0 | 108.3 | 83.7 | 64.0 | 64.0 |
| 65° | 994.4 | 408.6 | 265.8 | 221.5 | 167.4 | 142.8 | 108.3 | 83.7 | 59.1 | 44.3 | 39.4 |
| 67.5° | 571.1 | 329.8 | 216.6 | 172.3 | 142.8 | 113.2 | 83.7 | 68.9 | 49.2 | 34.5 | 29.5 |
| 68° | *526.8* | *315.1* | *201.8* | *162.5* | *132.9* | *108.3* | *78.8* | *64.0* | *44.3* | *29.5* | *29.5* |
| 70° | 428.3 | 280.6 | 172.3 | 132.9 | 113.2 | 88.6 | 68.9 | 54.2 | 34.5 | 19.7 | 19.7 |
| 72.5° | 379.1 | 236.3 | 147.7 | 103.4 | 78.8 | 73.8 | 54.2 | 39.4 | 24.6 | 14.8 | 9.8 |
| 75° | 310.1 | 187.1 | 118.2 | 78.8 | 54.2 | 54.2 | 39.4 | 24.6 | 9.8 | 0.0 | 0.0 |
| 77.5° | 201.8 | 137.8 | 93.5 | 49.2 | 29.5 | 34.5 | 24.6 | 9.8 | 0.0 | 0.0 | 0.0 |
| 80° | 132.9 | 103.4 | 64.0 | 24.6 | 14.8 | 14.8 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 93.5 | 68.9 | 39.4 | 9.8 | 4.9 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 59.1 | 29.5 | 14.8 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 24.6 | 9.8 | 4.9 | 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: SP1-2407-184-5

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

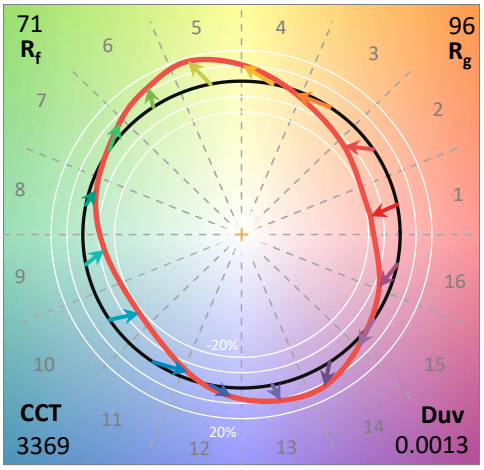
## Test Information

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



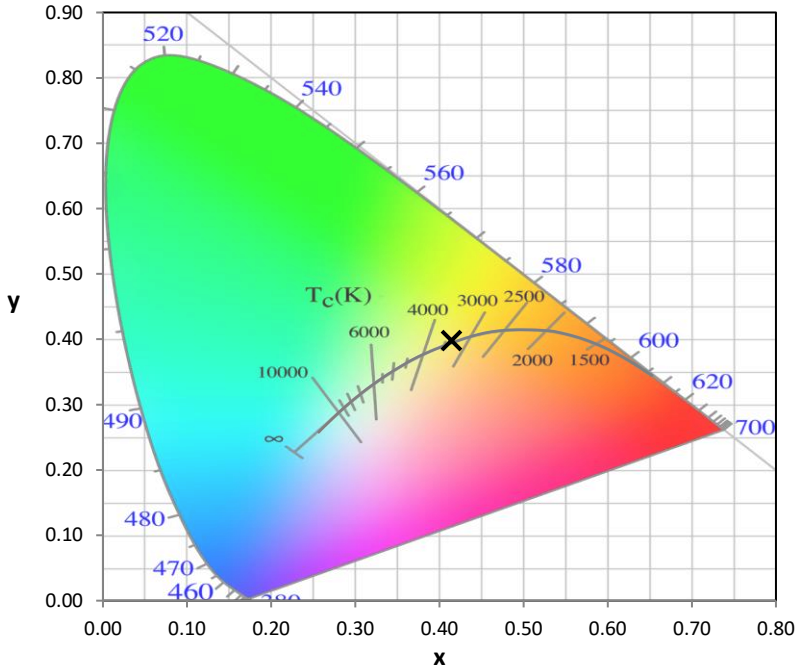

## Test Conditions

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

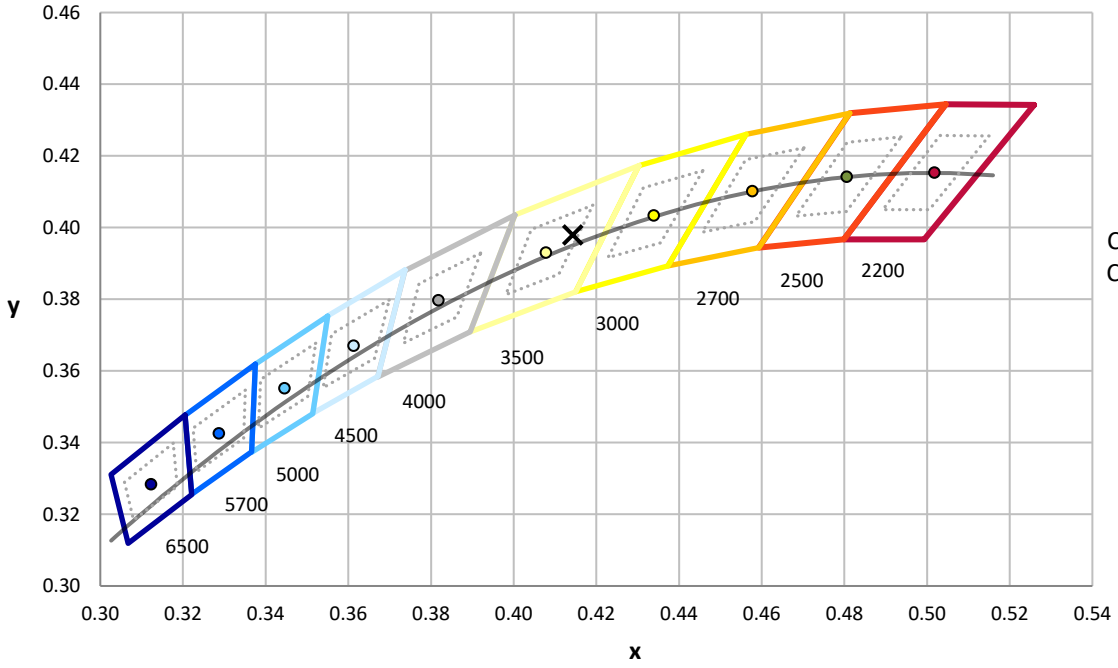
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

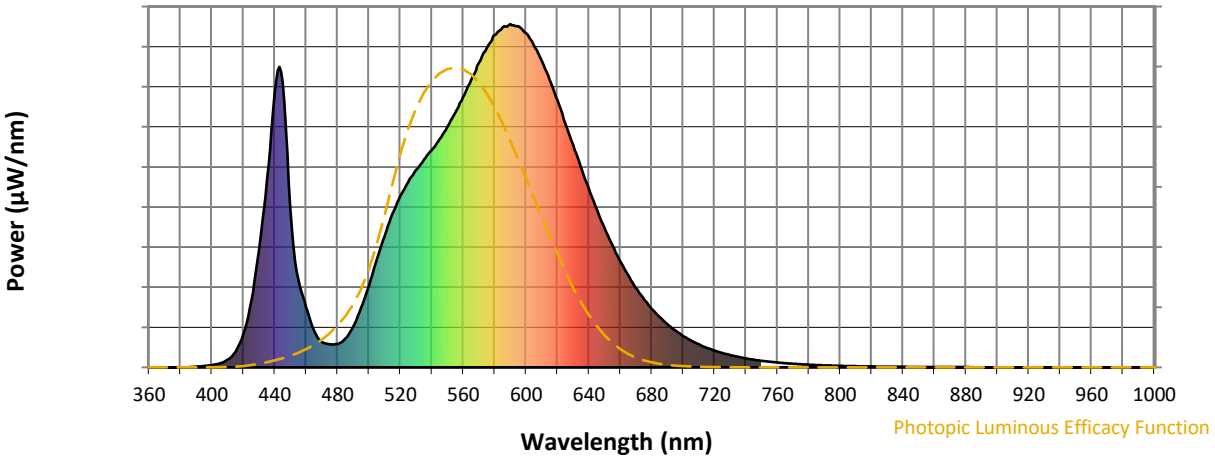



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-5

## Photopic Flux vs. Wavelength

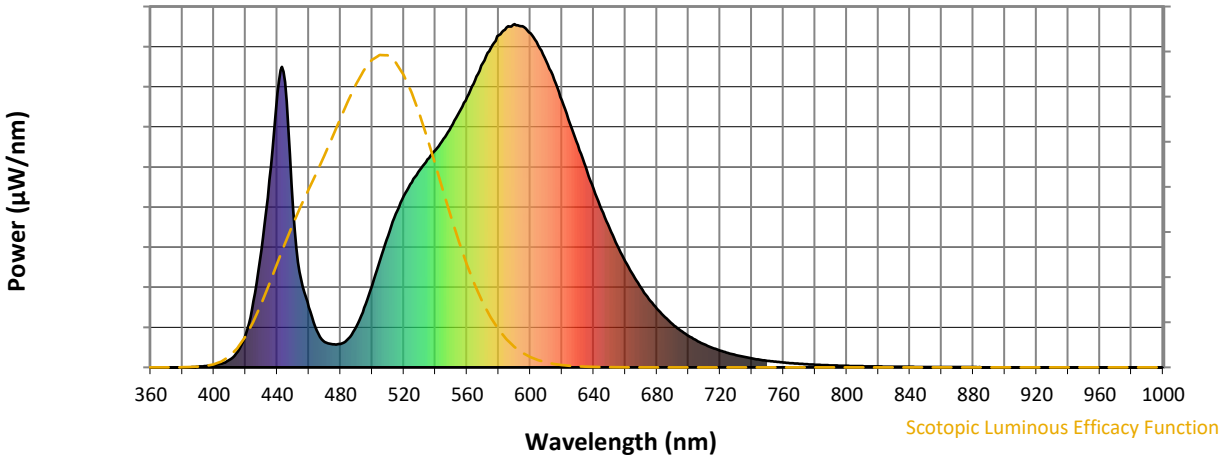



## Photopic Lumens: NR

| 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

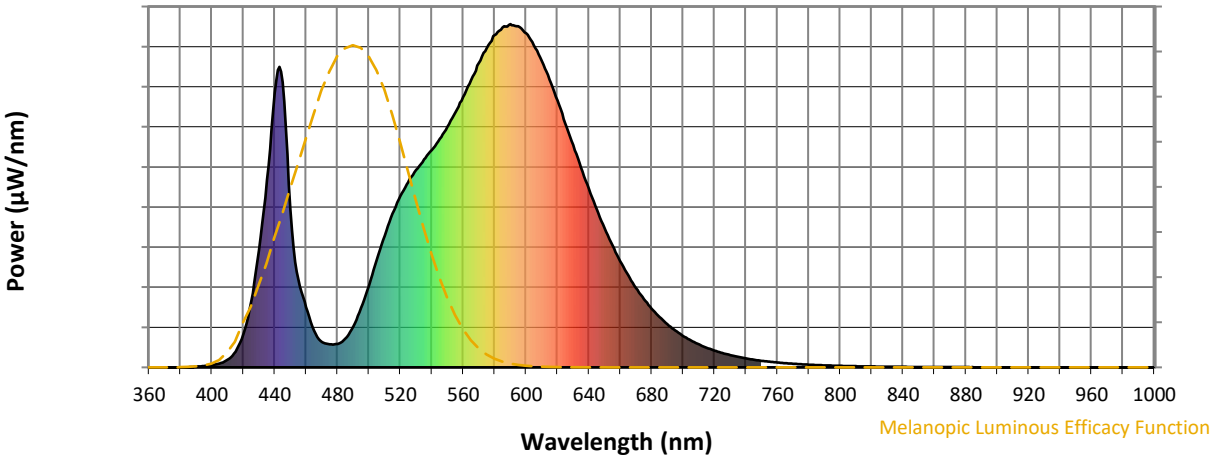



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | | | |

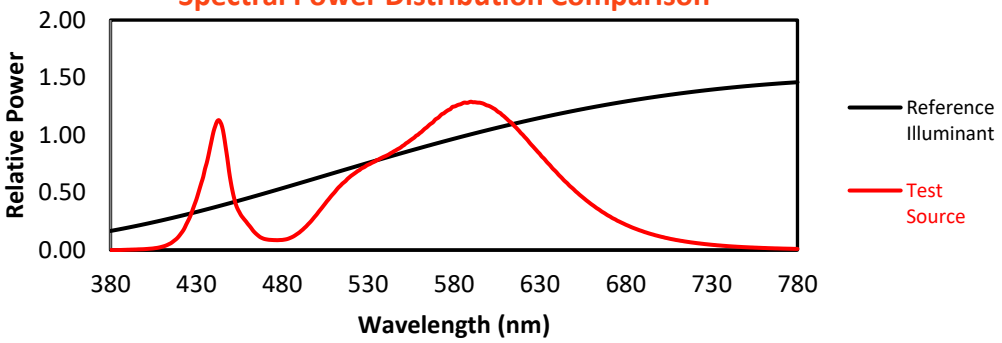
REPORT NUMBER: SP1-2407-184-5

# TM-30-18

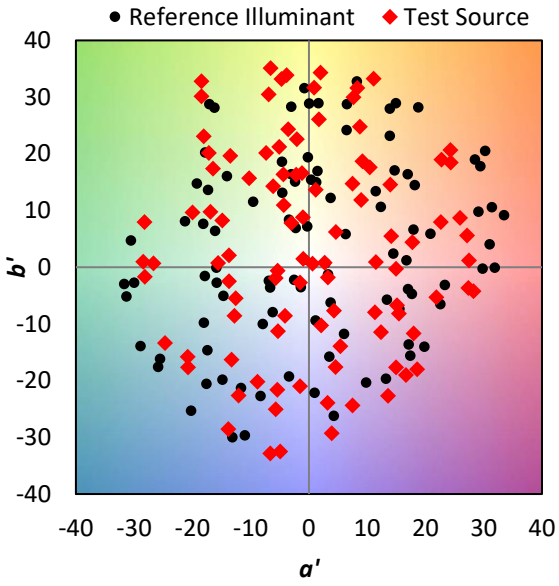
## Summary

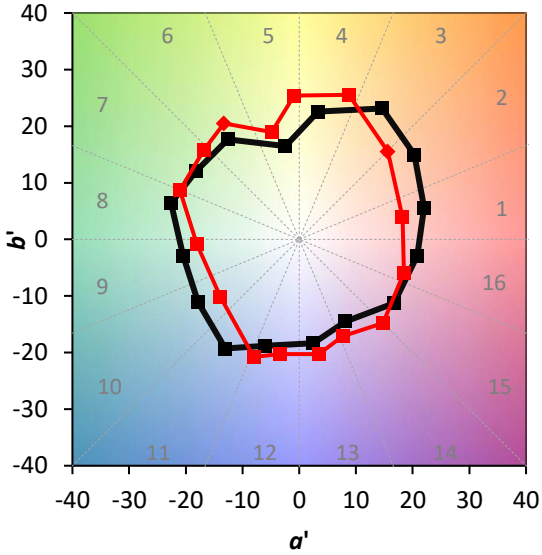
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

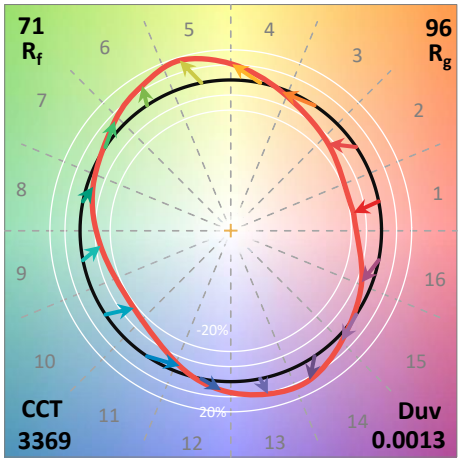
## Spectral Power Distribution Comparison

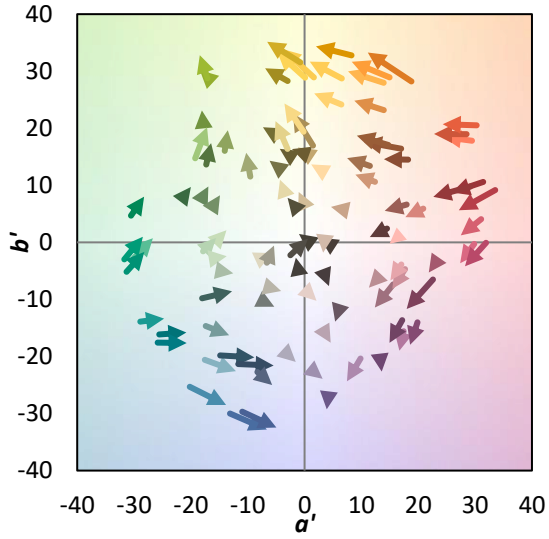



## Color Vector Graphics



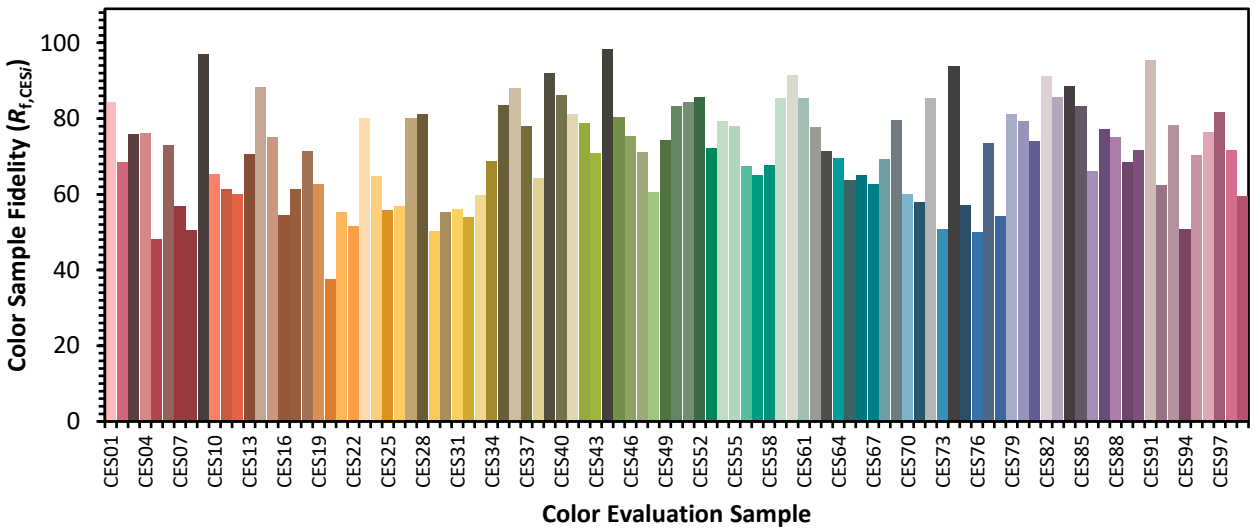



REPORT NUMBER: SP1-2407-184-5

# TM-30-18

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

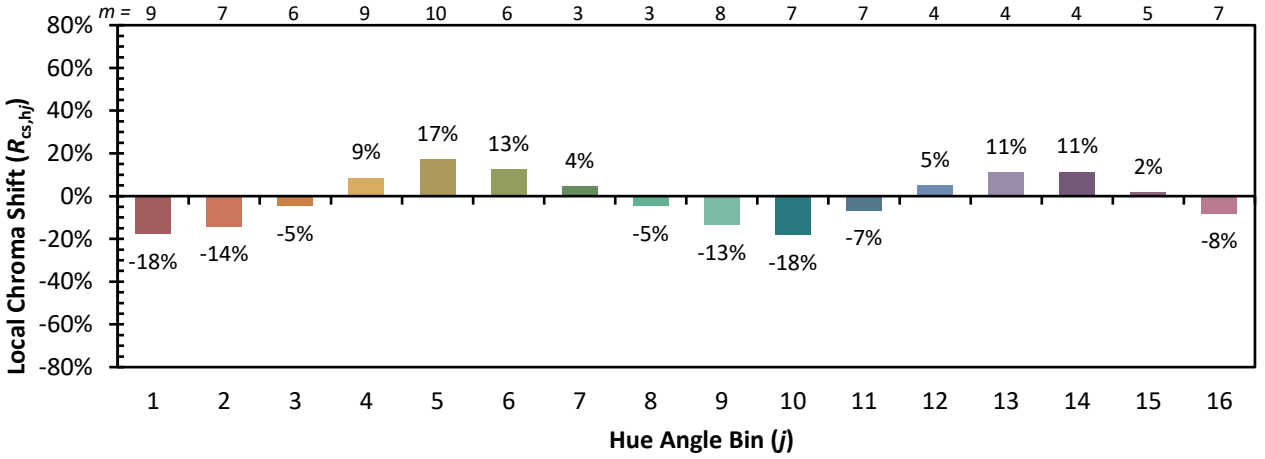
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 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 | |

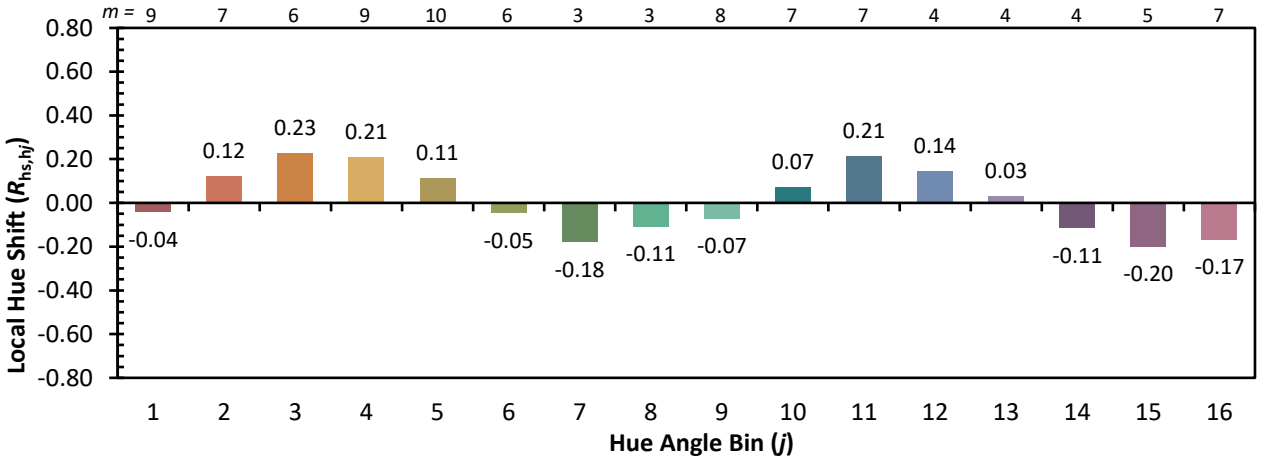


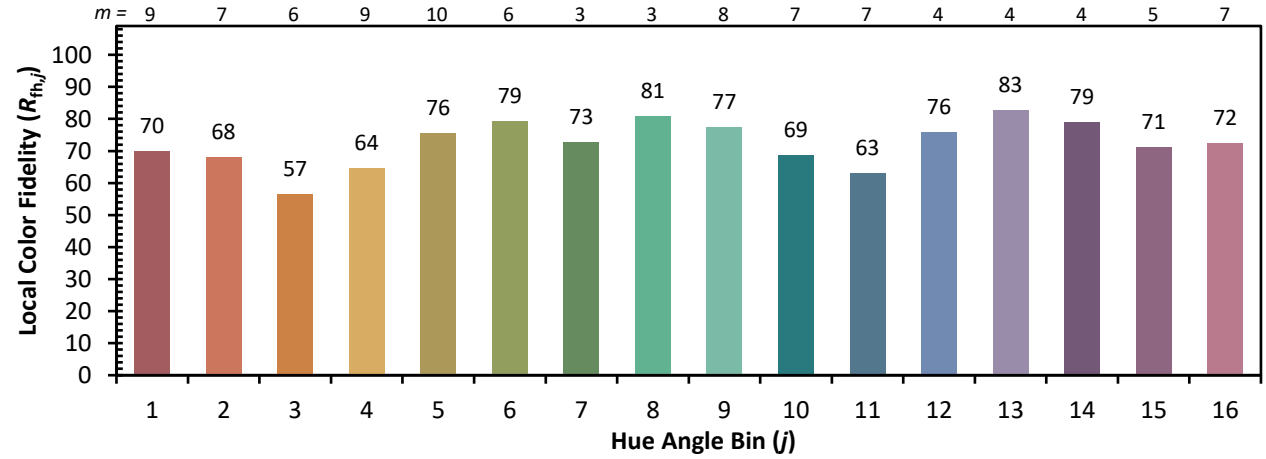
REPORT NUMBER: SP1-2407-184-5

**TM-30-18**

## Color Rendition by Hue-Angle Bin



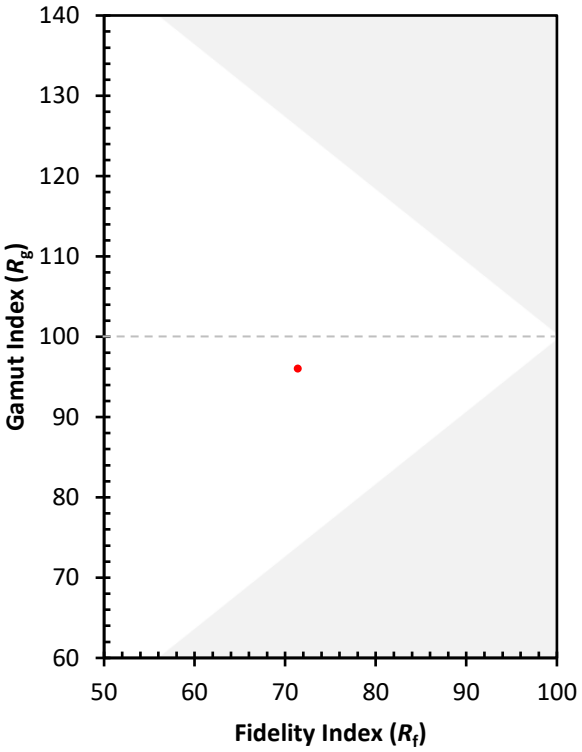



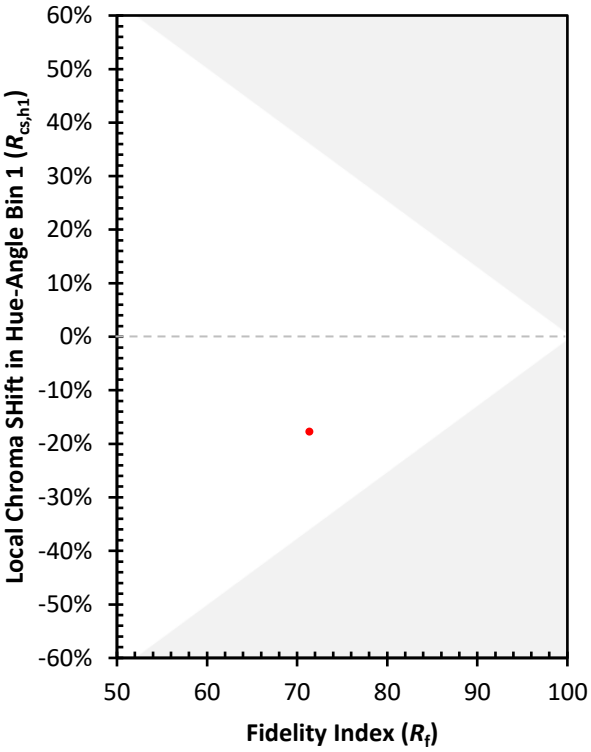



REPORT NUMBER: SP1-2407-184-5

# TM-30-18

## Measure Comparisons

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