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

Scaled data based on original data using

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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P640842

Luminaire Tested: GWS-SA5E-760-U-SL4-W-HSS

Issue Date: 1/10/2023

Report Generated By 670246102 / DESKTOP-G35701P

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | P640842 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-36) |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Issue Date: | 1/10/2023 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GWS-SA5E-760-U-SL4-W-HSS |
| Description: | GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD |
| Light Source: | (80) 5700K CCT, 70 CRI LEDS |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 29841.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 110.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B2 - U0 - G4 |

| | |
|---|---|
| Input Watts (W): | 269.6 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | NR |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 0 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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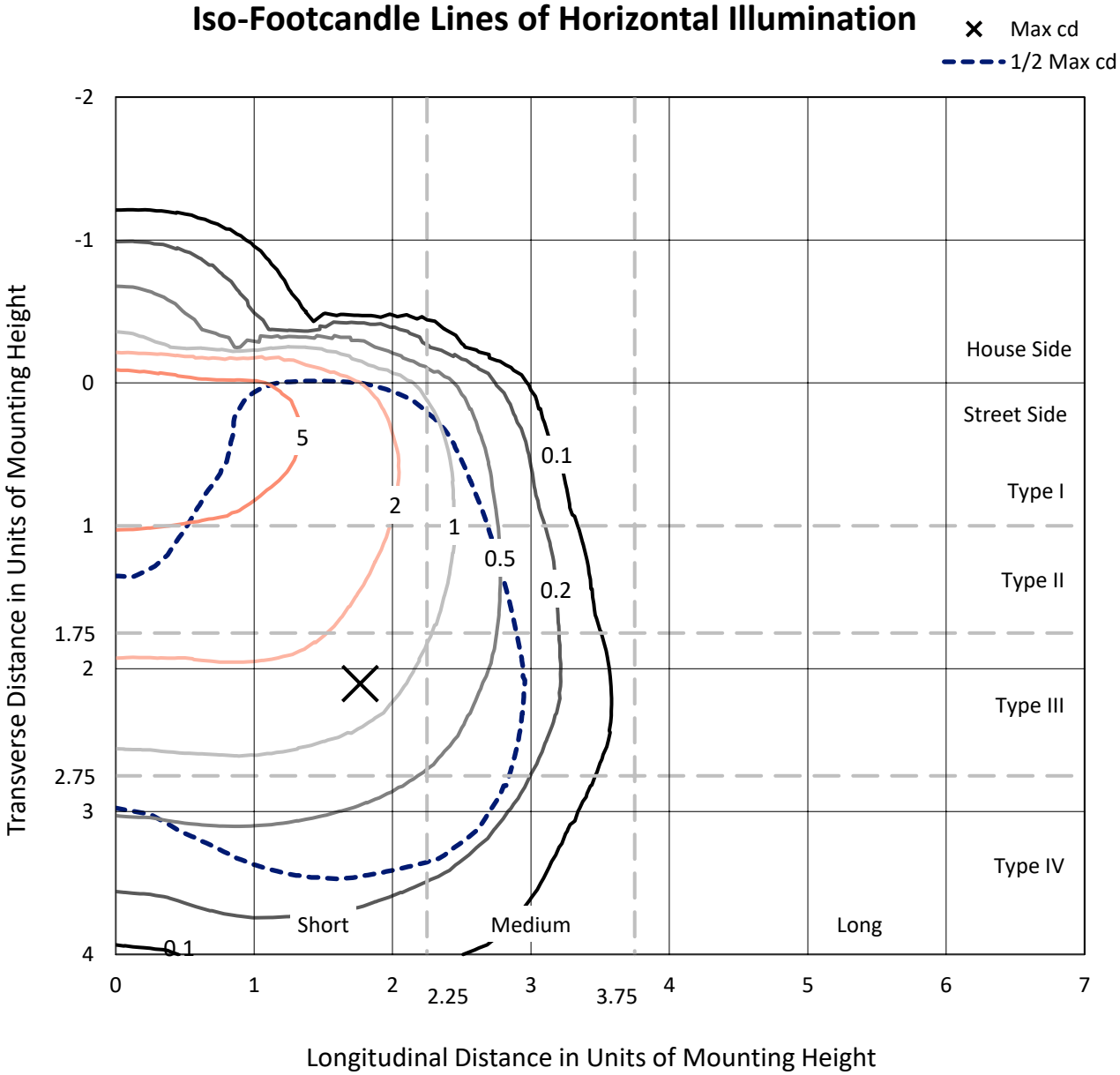
Scaled Data Report

REPORT NUMBER: P640842
CATALOG NUMBER: GWS-SA5E-760-U-SL4-W-HSS

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 8.8 fc
Type IV - Short - N/A

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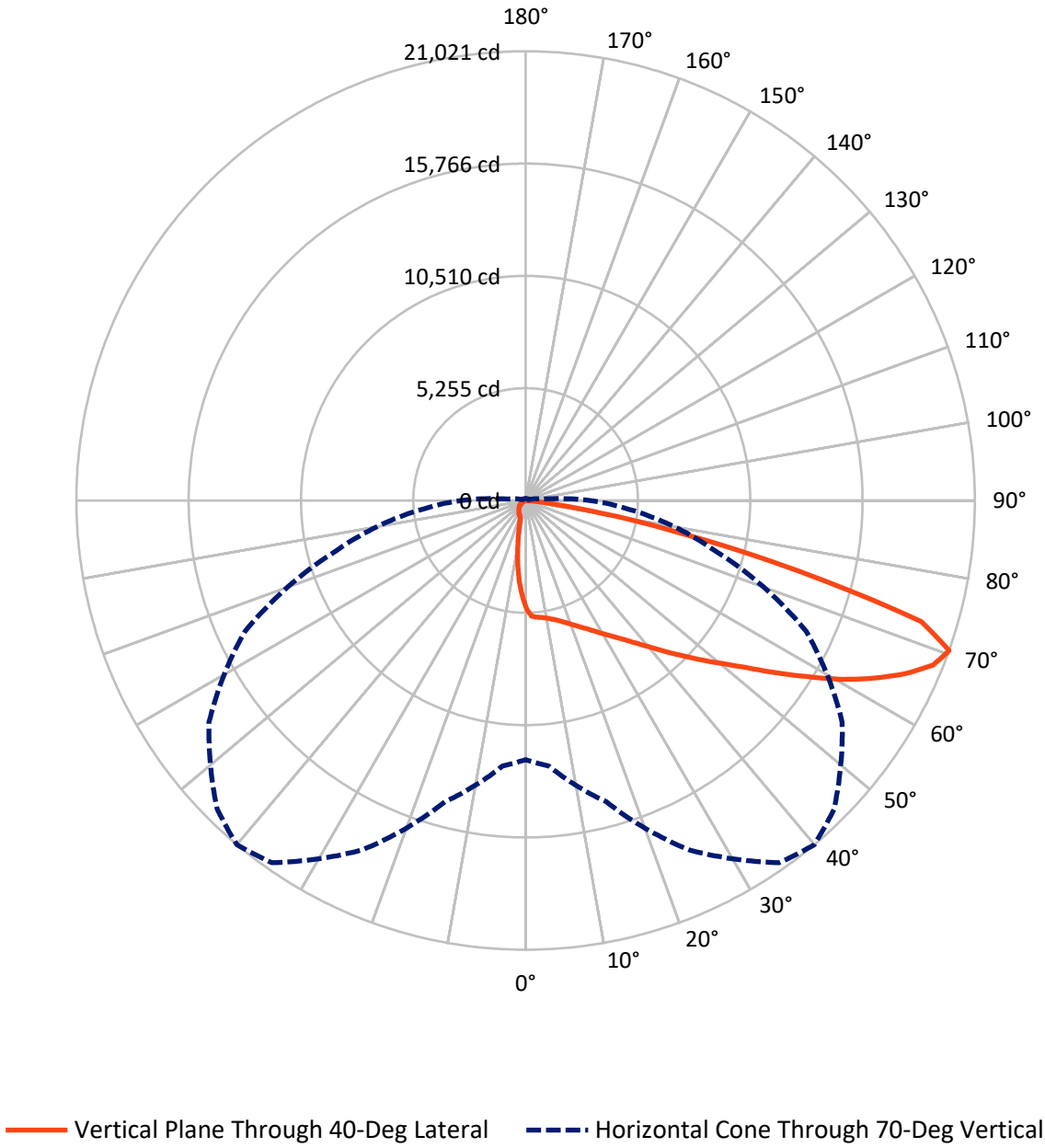
REPORT NUMBER: P640842
CATALOG NUMBER: GWS-SA5E-760-U-SL4-W-HSS

## Luminous Intensity Polar Plot



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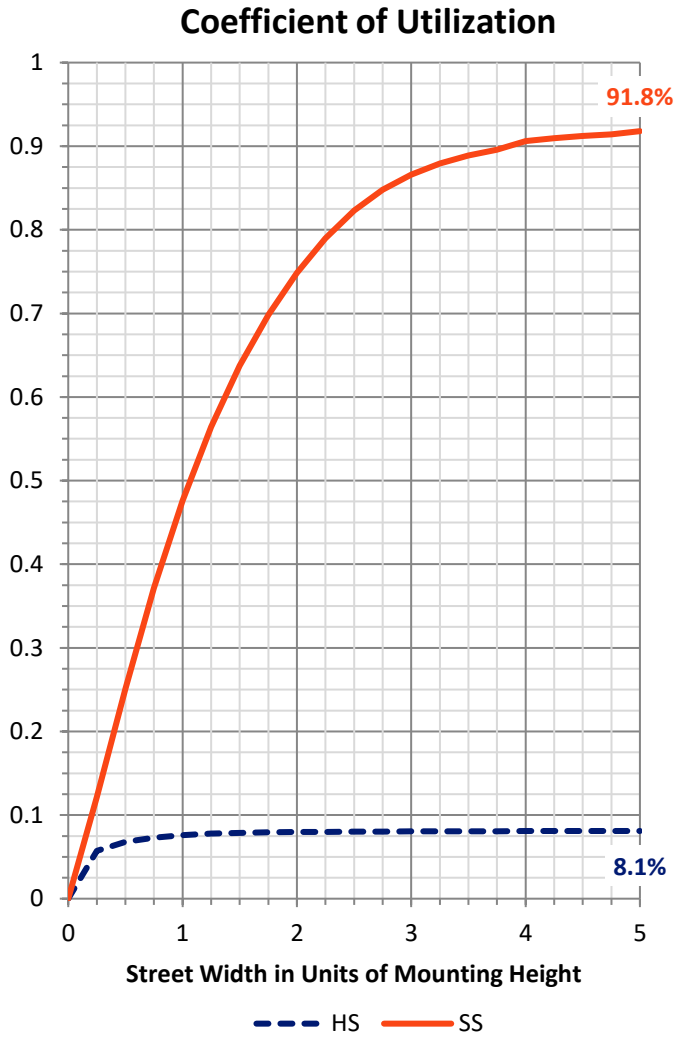
REPORT NUMBER: P640842
CATALOG NUMBER: GWS-SA5E-760-U-SL4-W-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2440.3 | 0.0 | 2440.3 |
| | % Fixture | 8.2 | 0.0 | 8.2 |
| **Street Side** | Lumens | 27401.6 | 0.0 | 27401.6 |
| | % Fixture | 91.8 | 0.0 | 91.8 |
| **Total** | Lumens | 29841.9 | 0.0 | 29841.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 428.0 | 1.4 |
| 10°-20° | 1085.5 | 3.6 |
| 20°-30° | 1816.8 | 6.1 |
| 30°-40° | 2853.4 | 9.6 |
| 40°-50° | 4513.5 | 15.1 |
| 50°-60° | 6584.0 | 22.1 |
| 60°-70° | 8161.8 | 27.4 |
| 70°-80° | 4129.4 | 13.8 |
| 80°-90° | 269.6 | 0.9 |
| 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° | 29841.9 | 100.0 |
| 0°-180° | 29841.9 | 100.0 |



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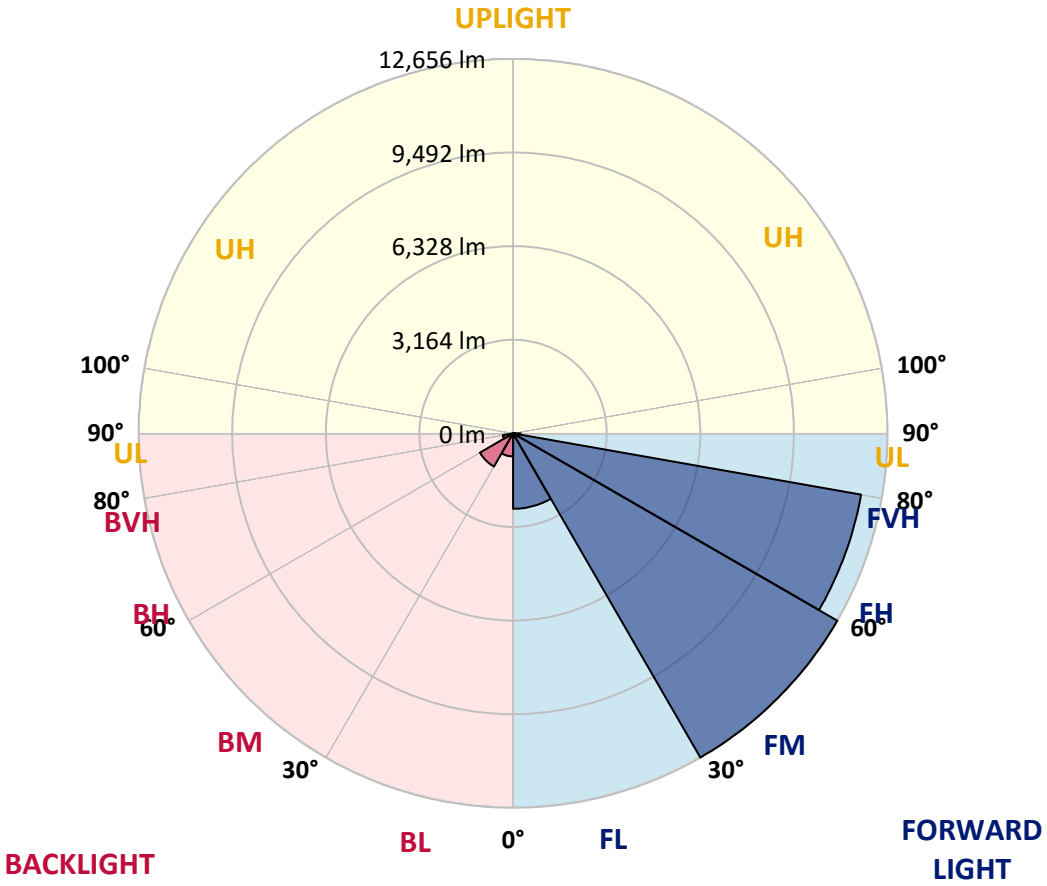
REPORT NUMBER: P640842
CATALOG NUMBER: GWS-SA5E-760-U-SL4-W-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2550.9 | 8.5 | | | |
| FM | (30°-60°) | 12655.6 | 42.4 | | | |
| FH | (60°-80°) | 11943.3 | 40.0 | | | G4/12000 |
| FVH | (80°-90°) | 251.8 | 0.8 | | | G3/500 |
| BL | (0°-30°) | 779.3 | 2.6 | B2/1000 | | |
| BM | (30°-60°) | 1295.3 | 4.3 | B2/2500 | | |
| BH | (60°-80°) | 347.9 | 1.2 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 17.8 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G4**
Type IV Short



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Scaled Data Report

REPORT NUMBER: P640842
CATALOG NUMBER: GWS-SA5E-760-U-SL4-W-HSS

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 40° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 |
| 2.5° | 5443.9 | 5462.9 | 5460.2 | 5468.4 | 5449.4 | 5419.5 | 5414.1 | 5373.3 | 5300.0 | 5207.7 | 5104.5 |
| 5° | 5555.3 | 5577.0 | 5560.7 | 5552.5 | 5517.2 | 5484.7 | 5476.5 | 5433.1 | 5348.9 | 5224.0 | 5044.8 |
| 7.5° | 5650.3 | 5655.7 | 5644.9 | 5625.9 | 5574.3 | 5530.8 | 5501.0 | 5441.2 | 5340.8 | 5215.9 | 5009.5 |
| 10° | 5666.6 | 5663.9 | 5669.3 | 5672.0 | 5639.4 | 5601.4 | 5577.0 | 5495.5 | 5367.9 | 5234.9 | 5012.2 |
| 12.5° | 5647.6 | 5647.6 | 5682.9 | 5723.6 | 5723.6 | 5704.6 | 5680.2 | 5606.8 | 5457.5 | 5300.0 | 5066.5 |
| 15° | 5672.0 | 5680.2 | 5748.0 | 5824.1 | 5848.5 | 5829.5 | 5818.6 | 5742.6 | 5587.8 | 5414.1 | 5164.3 |
| 17.5° | 5758.9 | 5767.0 | 5875.7 | 5989.7 | 6019.6 | 5997.8 | 5976.1 | 5900.1 | 5734.5 | 5544.4 | 5275.6 |
| 20° | 5886.5 | 5908.2 | 6046.7 | 6193.3 | 6220.5 | 6193.3 | 6149.9 | 6044.0 | 5878.4 | 5685.6 | 5381.5 |
| 22.5° | 6120.0 | 6133.6 | 6282.9 | 6437.7 | 6451.3 | 6407.8 | 6342.7 | 6196.0 | 6022.3 | 5834.9 | 5501.0 |
| 25° | 6429.5 | 6448.6 | 6597.9 | 6747.2 | 6711.9 | 6646.8 | 6557.2 | 6391.5 | 6193.3 | 6011.4 | 5653.0 |
| 27.5° | 6798.8 | 6820.5 | 6967.2 | 7097.5 | 7005.2 | 6929.1 | 6828.7 | 6622.3 | 6421.4 | 6255.8 | 5848.5 |
| 30° | 7197.9 | 7217.0 | 7347.3 | 7464.0 | 7341.8 | 7252.2 | 7132.8 | 6921.0 | 6717.4 | 6592.5 | 6125.4 |
| 32.5° | 7583.5 | 7580.8 | 7705.7 | 7800.7 | 7675.8 | 7605.2 | 7496.6 | 7282.1 | 7119.2 | 7064.9 | 6538.2 |
| 35° | 7941.9 | 7941.9 | 8045.1 | 8140.1 | 8050.5 | 8012.5 | 7912.0 | 7741.0 | 7648.7 | 7713.8 | 7089.3 |
| 37.5° | 8303.0 | 8284.0 | 8381.8 | 8487.7 | 8479.5 | 8482.2 | 8425.2 | 8343.8 | 8349.2 | 8580.0 | 7846.9 |
| 40° | 8601.7 | 8593.5 | 8707.6 | 8846.1 | 8954.7 | 9041.6 | 9006.3 | 9036.1 | 9207.2 | 9638.9 | 8816.2 |
| 42.5° | 8840.6 | 8859.6 | 9006.3 | 9226.2 | 9500.4 | 9676.9 | 9701.3 | 9823.5 | 10263.4 | 10931.3 | 9910.4 |
| 45° | 9114.9 | 9117.6 | 9321.2 | 9657.9 | 10095.0 | 10374.7 | 10472.5 | 10787.4 | 11411.9 | 12272.6 | 11110.5 |
| 47.5° | 9451.5 | 9419.0 | 9647.0 | 10119.5 | 10752.1 | 11164.8 | 11338.6 | 11732.3 | 12698.9 | 13581.3 | 12088.0 |
| 50° | 9823.5 | 9763.8 | 10021.7 | 10665.2 | 11487.9 | 12003.8 | 12356.8 | 12932.4 | 13975.0 | 14656.5 | 12815.7 |
| 52.5° | 10255.2 | 10198.2 | 10491.5 | 11292.4 | 12370.4 | 12997.6 | 13451.0 | 14032.1 | 15069.3 | 15476.5 | 13250.1 |
| 55° | 10803.7 | 10746.7 | 11056.2 | 12044.5 | 13413.0 | 14227.5 | 14702.7 | 15191.4 | 16087.4 | 16082.0 | 13565.0 |
| 57.5° | 11411.9 | 11333.2 | 11762.2 | 12994.9 | 14713.6 | 15560.7 | 16044.0 | 16282.9 | 16861.3 | 16551.7 | 13776.8 |
| 60° | 12109.7 | 12039.1 | 12633.7 | 14127.1 | 16215.1 | 16999.7 | 17303.8 | 17206.1 | 17496.6 | 16828.7 | 13703.5 |
| 62.5° | 12739.6 | 12707.0 | 13445.6 | 15327.2 | 17646.0 | 18308.5 | 18392.6 | 17966.4 | 17963.6 | 16834.1 | 13209.4 |
| 65° | 13394.0 | 13456.4 | 14553.4 | 16709.2 | 19085.0 | 19530.3 | 19386.4 | 18721.2 | 18151.0 | 16168.9 | 11748.6 |
| 67.5° | 13638.4 | 13820.3 | 15283.8 | 17958.2 | 20220.0 | 20567.5 | 20315.0 | 19098.6 | 17371.7 | 13931.6 | 8946.5 |
| 70° | 12128.7 | 12470.8 | 14594.1 | 18028.8 | 20689.7 | 21020.9 | 20415.4 | 18083.1 | 14482.8 | 9228.9 | 4900.9 |
| 72.5° | 9223.5 | 9622.6 | 12161.3 | 14762.4 | 18607.1 | 19362.0 | 18327.5 | 14732.6 | 9334.8 | 4042.9 | 1645.4 |
| 75° | 5161.6 | 5593.3 | 9057.8 | 11116.0 | 12492.5 | 13182.2 | 12802.1 | 9451.5 | 4135.2 | 1056.2 | 491.4 |
| 77.5° | 1745.9 | 1889.8 | 4214.0 | 6877.6 | 8246.0 | 7626.9 | 6456.7 | 4694.5 | 1520.5 | 401.8 | 260.7 |
| 80° | 1034.5 | 1088.8 | 1569.4 | 3423.8 | 4338.9 | 3597.6 | 2840.1 | 1735.0 | 773.8 | 214.5 | 181.9 |
| 82.5° | 309.5 | 366.5 | 866.1 | 1270.7 | 1699.7 | 1058.9 | 896.0 | 991.0 | 401.8 | 116.8 | 152.1 |
| 85° | 0.0 | 0.0 | 184.6 | 393.7 | 445.3 | 173.8 | 173.8 | 562.0 | 73.3 | 48.9 | 111.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.7 | 13.6 | 8.1 | 10.9 | 24.4 |
| 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: P640842
CATALOG NUMBER: GWS-SA5E-760-U-SL4-W-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 | 5063.8 |
| 2.5° | 5031.2 | 4936.2 | 4824.9 | 4719.0 | 4618.5 | 4488.2 | 4425.7 | 4349.7 | 4284.6 | 4249.3 | 4268.3 |
| 5° | 4930.8 | 4781.4 | 4553.4 | 4322.6 | 4089.1 | 3869.1 | 3670.9 | 3537.9 | 3418.4 | 3356.0 | 3369.5 |
| 7.5° | 4843.9 | 4643.0 | 4287.3 | 3909.9 | 3535.2 | 3157.8 | 2850.9 | 2612.0 | 2427.4 | 2351.3 | 2337.8 |
| 10° | 4805.9 | 4553.4 | 4051.1 | 3508.0 | 2932.4 | 2424.7 | 1990.2 | 1726.9 | 1539.5 | 1447.2 | 1463.5 |
| 12.5° | 4824.9 | 4507.2 | 3850.1 | 3114.3 | 2367.6 | 1775.7 | 1360.3 | 1113.2 | 980.2 | 925.9 | 912.3 |
| 15° | 4879.2 | 4496.3 | 3670.9 | 2712.5 | 1827.3 | 1240.8 | 939.5 | 839.0 | 811.8 | 806.4 | 806.4 |
| 17.5° | 4941.6 | 4499.1 | 3486.3 | 2305.2 | 1387.5 | 920.4 | 803.7 | 784.7 | 776.5 | 771.1 | 773.8 |
| 20° | 5004.1 | 4499.1 | 3274.5 | 1892.5 | 1042.6 | 795.5 | 765.7 | 752.1 | 744.0 | 741.2 | 741.2 |
| 22.5° | 5080.1 | 4499.1 | 3038.3 | 1509.6 | 836.3 | 754.8 | 730.4 | 722.2 | 714.1 | 711.4 | 708.7 |
| 25° | 5172.4 | 4501.8 | 2777.6 | 1181.1 | 760.3 | 719.5 | 700.5 | 692.4 | 684.2 | 678.8 | 678.8 |
| 27.5° | 5305.5 | 4523.5 | 2489.8 | 920.4 | 716.8 | 686.9 | 670.6 | 662.5 | 654.4 | 646.2 | 646.2 |
| 30° | 5498.2 | 4577.8 | 2166.7 | 760.3 | 676.1 | 651.6 | 635.4 | 629.9 | 621.8 | 613.6 | 610.9 |
| 32.5° | 5786.1 | 4672.8 | 1832.7 | 681.5 | 638.1 | 613.6 | 594.6 | 589.2 | 581.0 | 572.9 | 570.2 |
| 35° | 6187.9 | 4846.6 | 1506.9 | 632.6 | 589.2 | 564.8 | 553.9 | 551.2 | 540.3 | 532.2 | 532.2 |
| 37.5° | 6777.1 | 5129.0 | 1194.7 | 583.8 | 548.5 | 529.5 | 515.9 | 510.5 | 499.6 | 491.4 | 488.7 |
| 40° | 7496.6 | 5495.5 | 928.6 | 545.8 | 510.5 | 491.4 | 477.9 | 469.7 | 456.2 | 445.3 | 439.9 |
| 42.5° | 8414.3 | 5943.5 | 733.1 | 505.0 | 475.2 | 456.2 | 445.3 | 429.0 | 410.0 | 393.7 | 391.0 |
| 45° | 9370.1 | 6405.1 | 605.5 | 467.0 | 442.6 | 426.3 | 412.7 | 391.0 | 363.8 | 344.8 | 339.4 |
| 47.5° | 10103.2 | 6692.9 | 529.5 | 426.3 | 407.3 | 393.7 | 377.4 | 350.3 | 317.7 | 296.0 | 290.5 |
| 50° | 10627.2 | 6736.4 | 472.4 | 388.3 | 377.4 | 363.8 | 339.4 | 306.8 | 271.5 | 249.8 | 244.4 |
| 52.5° | 10885.2 | 6540.9 | 426.3 | 353.0 | 344.8 | 331.3 | 301.4 | 266.1 | 228.1 | 206.4 | 200.9 |
| 55° | 11001.9 | 6171.6 | 382.8 | 323.1 | 312.2 | 296.0 | 263.4 | 225.4 | 187.3 | 168.3 | 162.9 |
| 57.5° | 10955.8 | 5625.9 | 344.8 | 293.2 | 279.7 | 260.7 | 225.4 | 184.6 | 154.8 | 135.8 | 133.0 |
| 60° | 10613.6 | 4860.2 | 306.8 | 263.4 | 247.1 | 225.4 | 190.1 | 152.1 | 124.9 | 111.3 | 108.6 |
| 62.5° | 9875.1 | 3909.9 | 268.8 | 228.1 | 217.2 | 195.5 | 162.9 | 124.9 | 103.2 | 95.0 | 92.3 |
| 65° | 8362.8 | 2764.1 | 230.8 | 192.8 | 187.3 | 165.6 | 135.8 | 103.2 | 89.6 | 84.2 | 81.5 |
| 67.5° | 6011.4 | 1680.7 | 195.5 | 165.6 | 160.2 | 141.2 | 114.0 | 89.6 | 81.5 | 78.7 | 78.7 |
| 70° | *3022.0* | *795.5* | *154.8* | *135.8* | *135.8* | *116.8* | *97.7* | *81.5* | *78.7* | *76.0* | *76.0* |
| 72.5° | 1026.3 | 339.4 | 116.8 | 105.9 | 111.3 | 100.5 | 84.2 | 76.0 | 76.0 | 76.0 | 76.0 |
| 75° | 350.3 | 179.2 | 81.5 | 76.0 | 81.5 | 81.5 | 73.3 | 73.3 | 76.0 | 76.0 | 76.0 |
| 77.5° | 228.1 | 119.5 | 57.0 | 51.6 | 62.4 | 62.4 | 62.4 | 67.9 | 73.3 | 73.3 | 73.3 |
| 80° | 187.3 | 65.2 | 38.0 | 35.3 | 46.2 | 46.2 | 51.6 | 62.4 | 67.9 | 67.9 | 67.9 |
| 82.5° | 160.2 | 40.7 | 21.7 | 24.4 | 32.6 | 35.3 | 43.4 | 51.6 | 59.7 | 62.4 | 62.4 |
| 85° | 108.6 | 21.7 | 16.3 | 19.0 | 21.7 | 27.2 | 35.3 | 43.4 | 48.9 | 54.3 | 54.3 |
| 87.5° | 29.9 | 8.1 | 10.9 | 13.6 | 13.6 | 19.0 | 27.2 | 32.6 | 38.0 | 40.7 | 40.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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# LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-9-R4

Test Date: 10/23/2019

Luminaire Tested: SA1C-760-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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

## Test Information

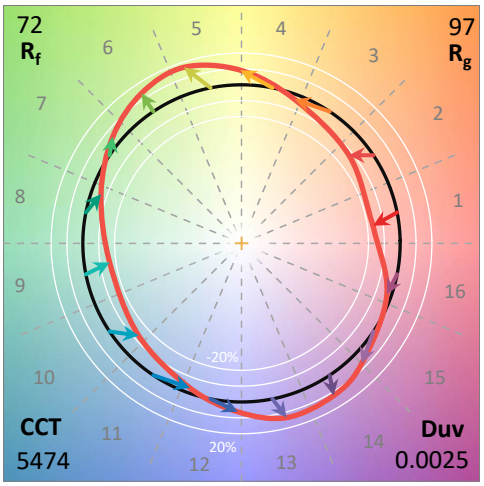
| | |
|---|---|
| Test Method: | LM-79-2008 |
| Report Number: | SP1-1908-441-9-R4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/28/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **SA1C-760-U-5WQ** |
| Description: | McGRAW EDISON ROADWAY AND AREA LUMINAIRE |

***THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.***TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 5474 | CRI (Ra): | 71.7 | | |
| CIE u': | 0.2052 | R1: | 70.6 | R9: | -27.1 |
| CIE v': | 0.4804 | R2: | 74.6 | R10: | 40.8 |
| Duv: | 0.0025 | R3: | 78.3 | R11: | 74.6 |
| CIE x: | 0.3330 | R4: | 73.8 | R12: | 50.4 |
| CIE y: | 0.3466 | R5: | 72.4 | R13: | 70.0 |
| CIE z: | 0.3204 | R6: | 67.5 | R14: | 87.8 |
| Peak Wavelength (nm): | 442 | R7: | 77.5 | | |
| Dominant Wavelength (nm): | 554 | R8: | 58.9 | | |
| Purity: | 4.1 | | | | |

| | |
|---|---|
| Rf: | 72.1 |
| Rg: | 97.2 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 240M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 24.6/31% |
| Sphere Temperature (°C): | 25.9 |

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

REPORT NUMBER: SP1-1908-441-9-R4

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

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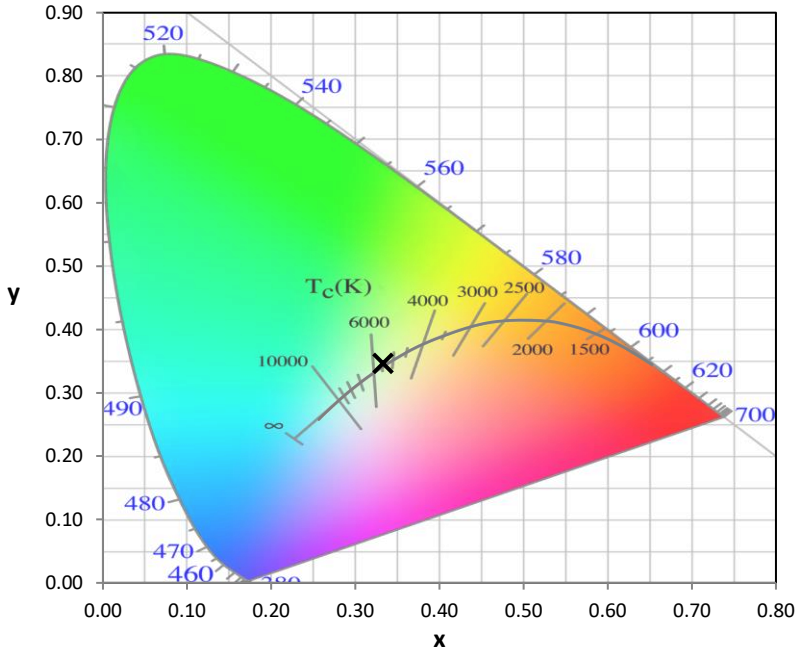
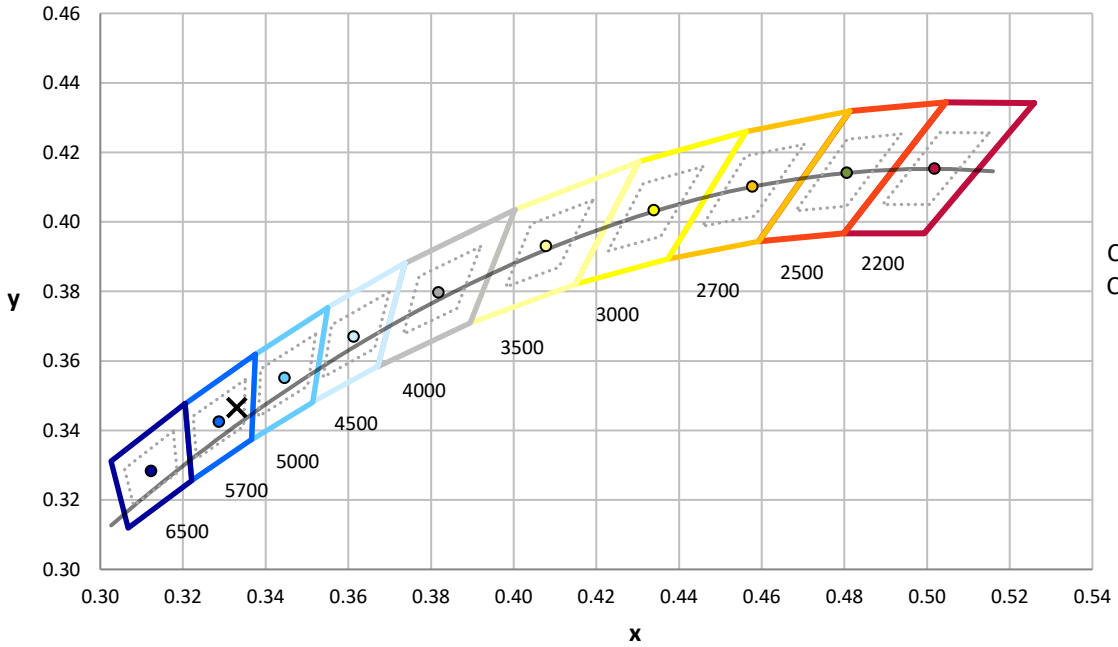
## CIE 1931 Chromaticity Diagram




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




CCT = 5474K
CIE x = 0.3330
CIE y = 0.3466
Duv = 0.0025

Point lies inside the ANSI 5700K 4-step quadrangle

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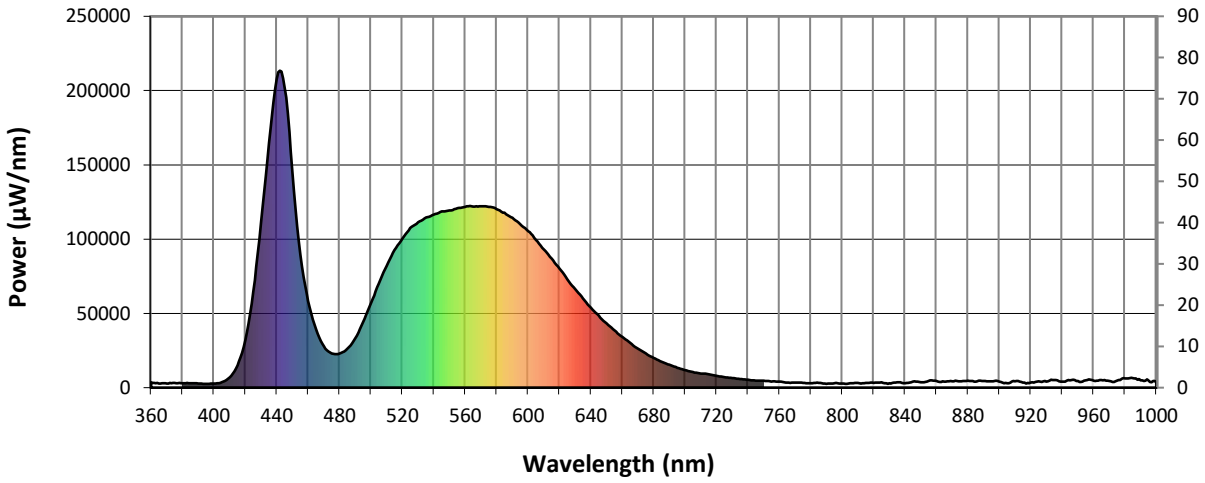
## Photopic Flux vs. Wavelength




######

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

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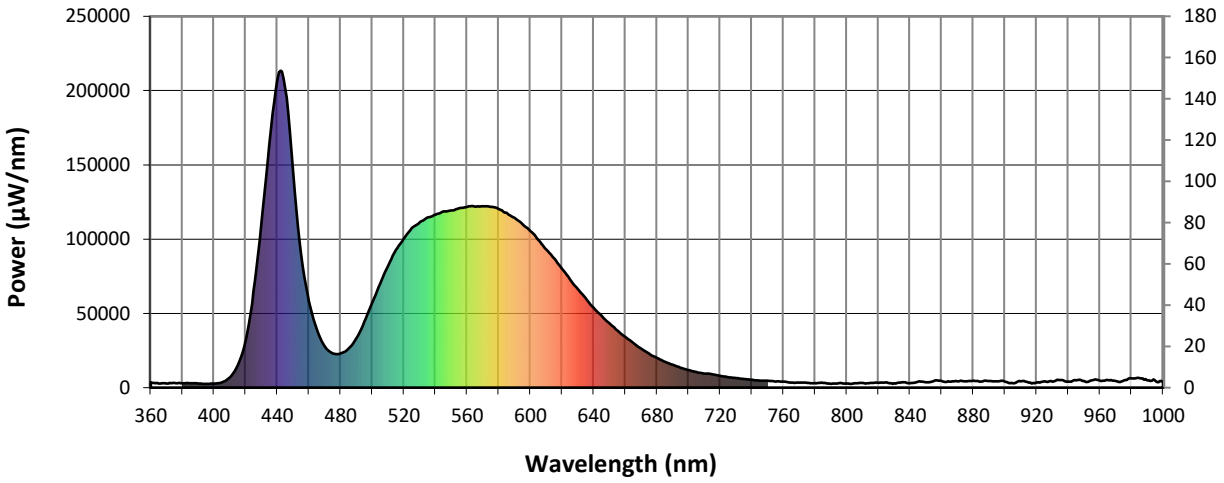
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: 13759.3** **S/P: 1.85**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

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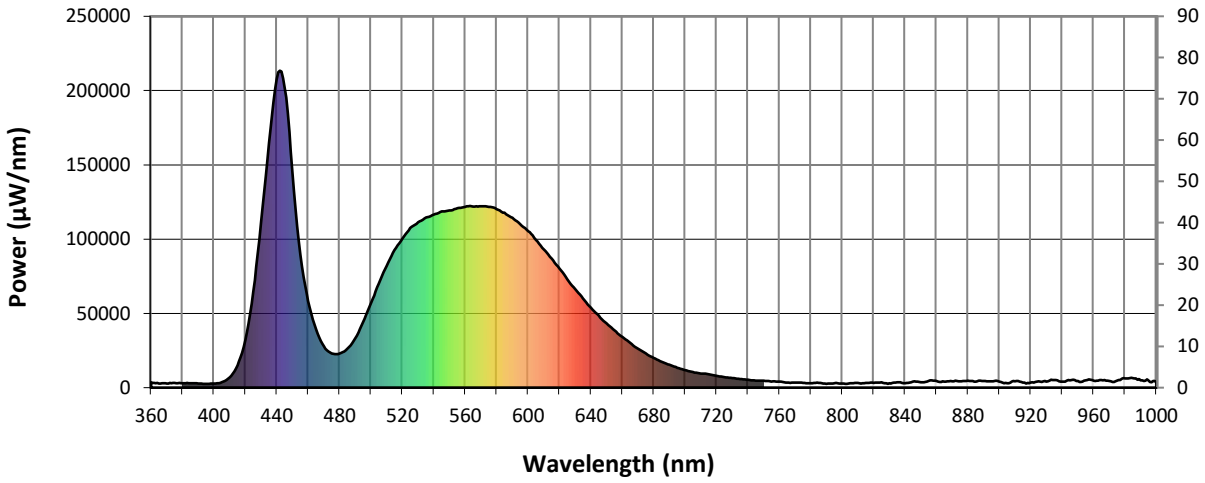
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 5527.6** **M/P: 0.74**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

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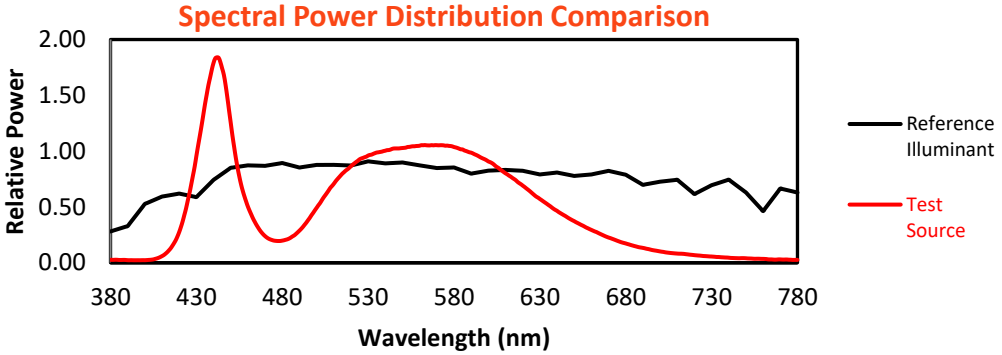
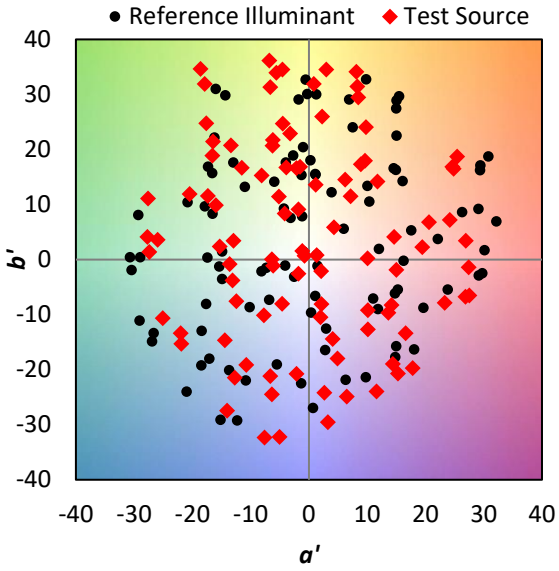
## Summary

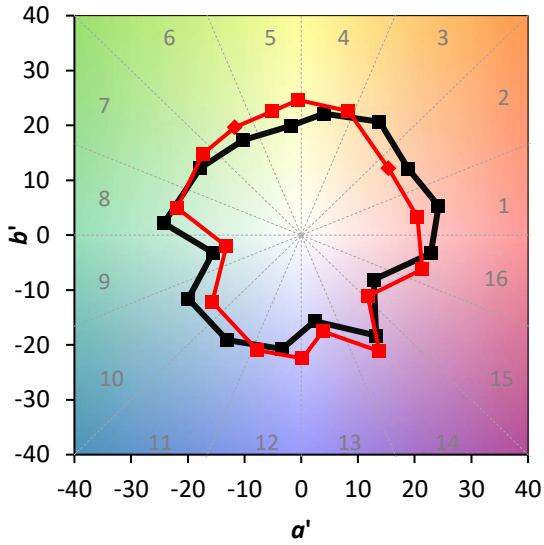
$R_f$ = 72.1
$R_g$ = 97.2
CIE $R_a$ = 71.7
$R_9$ = -27.1

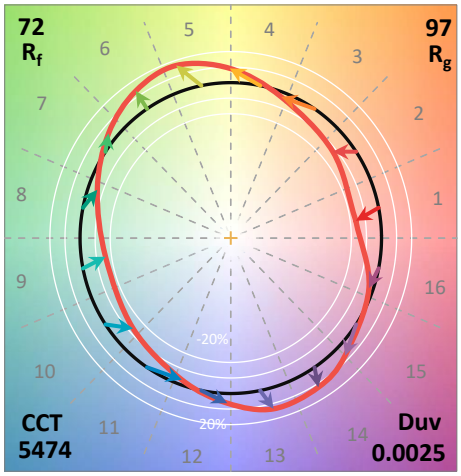
## Spectral Power Distribution Comparison

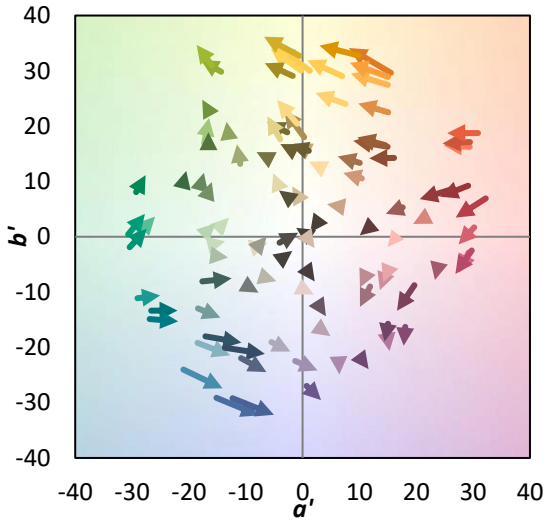



## Color Vector Graphics



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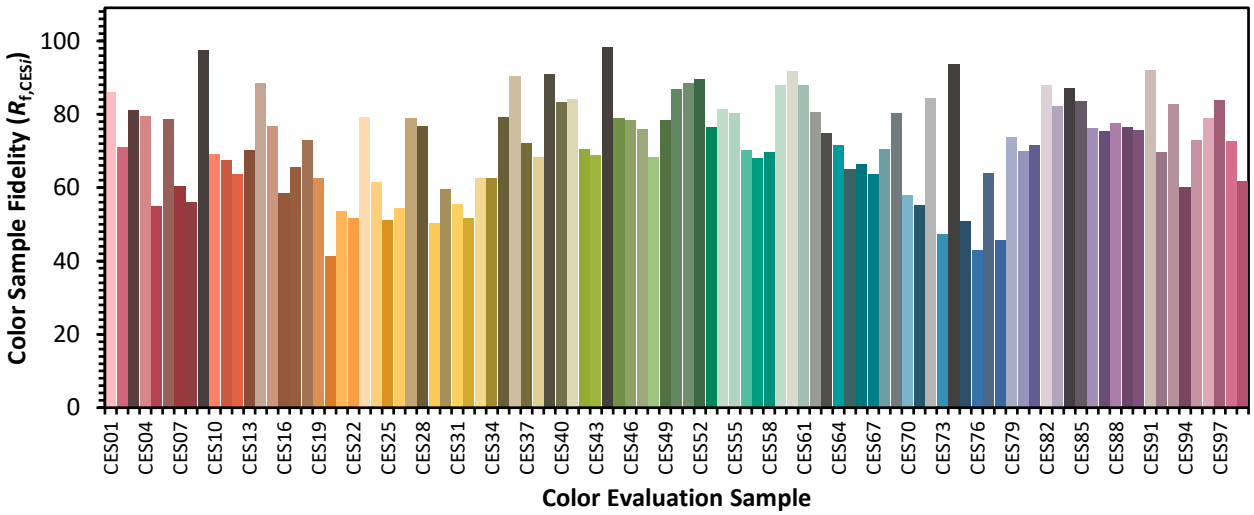
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 | |



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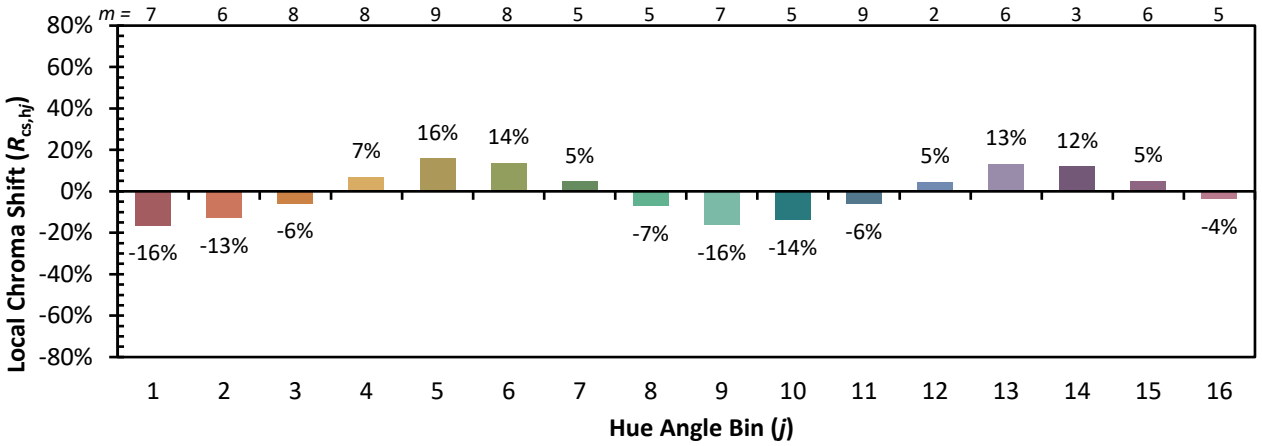
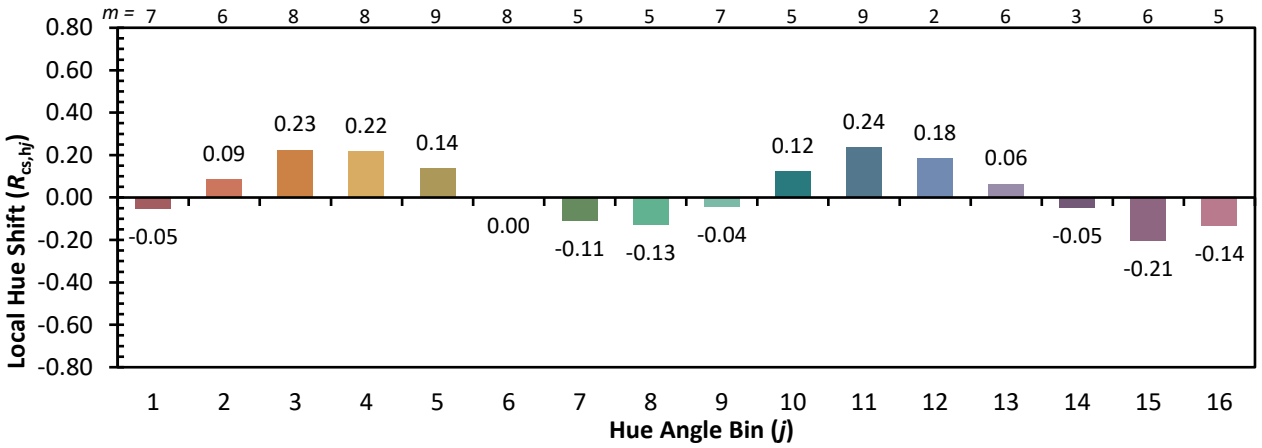
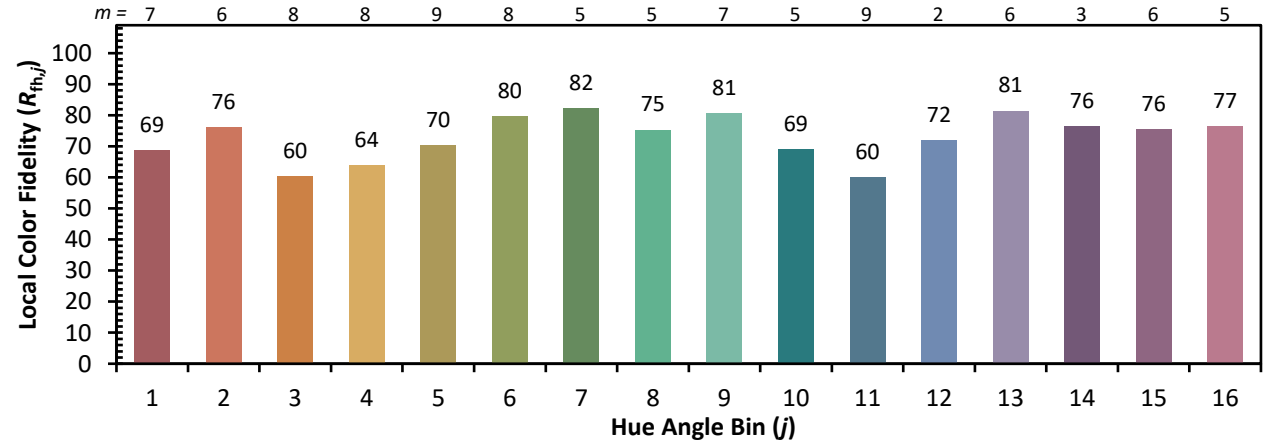
## Color Rendition by Hue-Angle Bin



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Peachtree City, GA 30269

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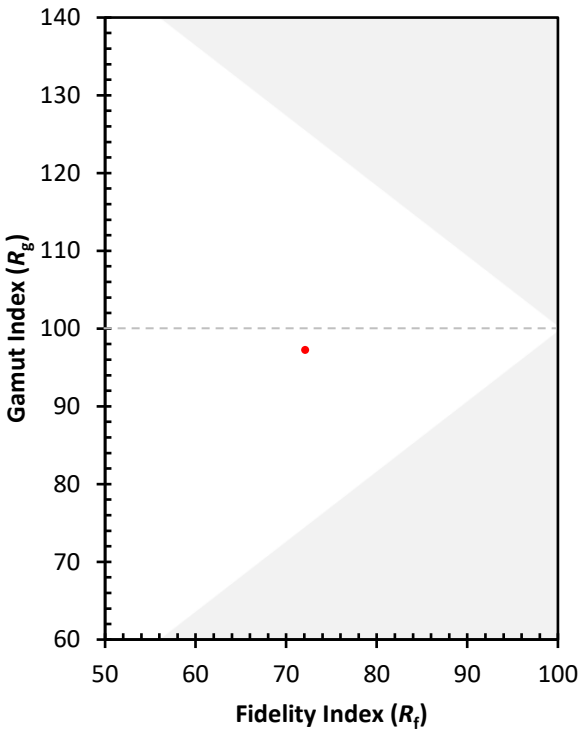
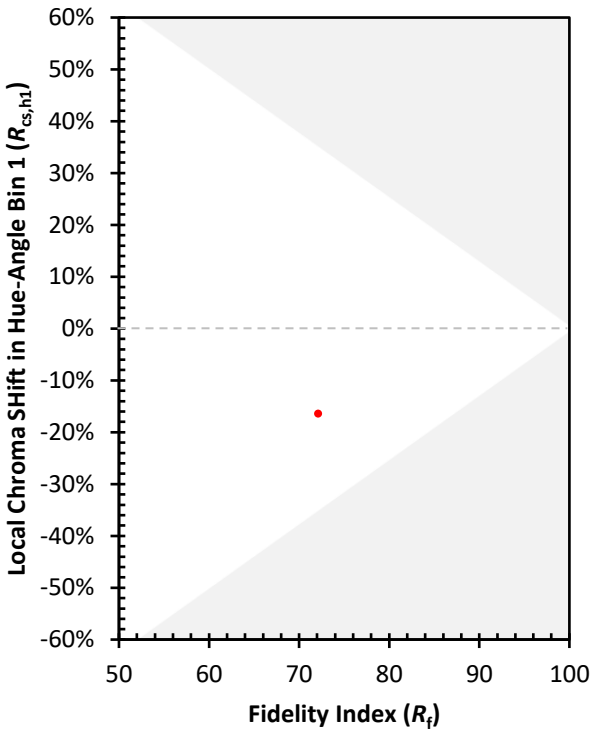
## Measure Comparisons




(END OF REPORT)