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

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1366458

Luminaire Tested: **GSS-SB3D-722-U-T3R**

Issue Date: 02/18/2026

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1366458 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3D-722-U-T3R |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 219W 70CRI 2200K FIXTURE w/ TYPE III ROADWAY DISTRIBUTION OPTIC |
| Light Source: | (78) 2200K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 23519.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 107.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type III - Medium |
| BUG Rating: | B3 - U0 - G3 |

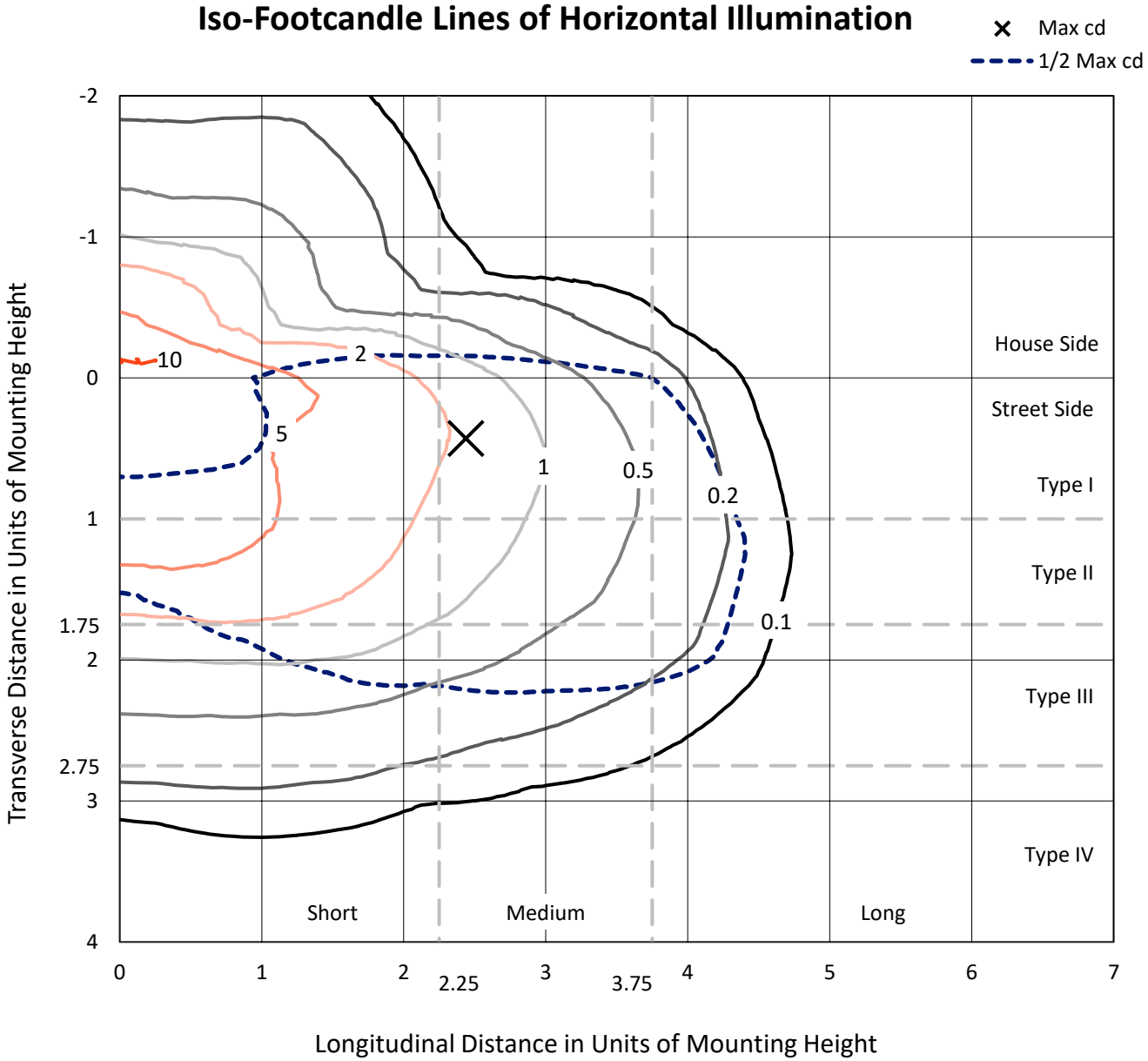
| | |
|---|---|
| Input Watts (W): | 219 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 2.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1366458
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## Iso-Footcandle Lines of Horizontal Illumination



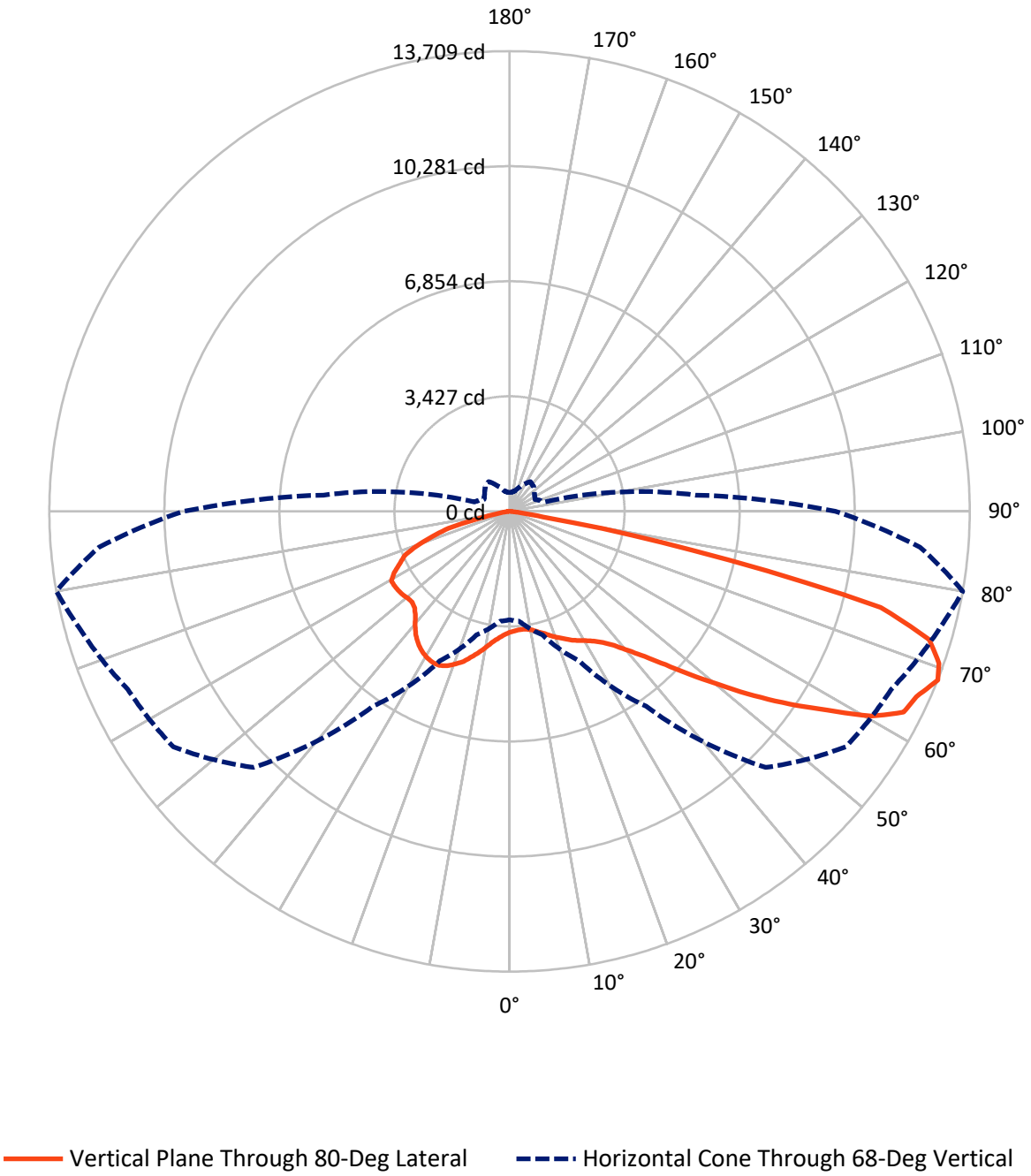

Based on 20 foot mounting height. Maximum calculated value = 10.2 fc
Type III - Medium - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

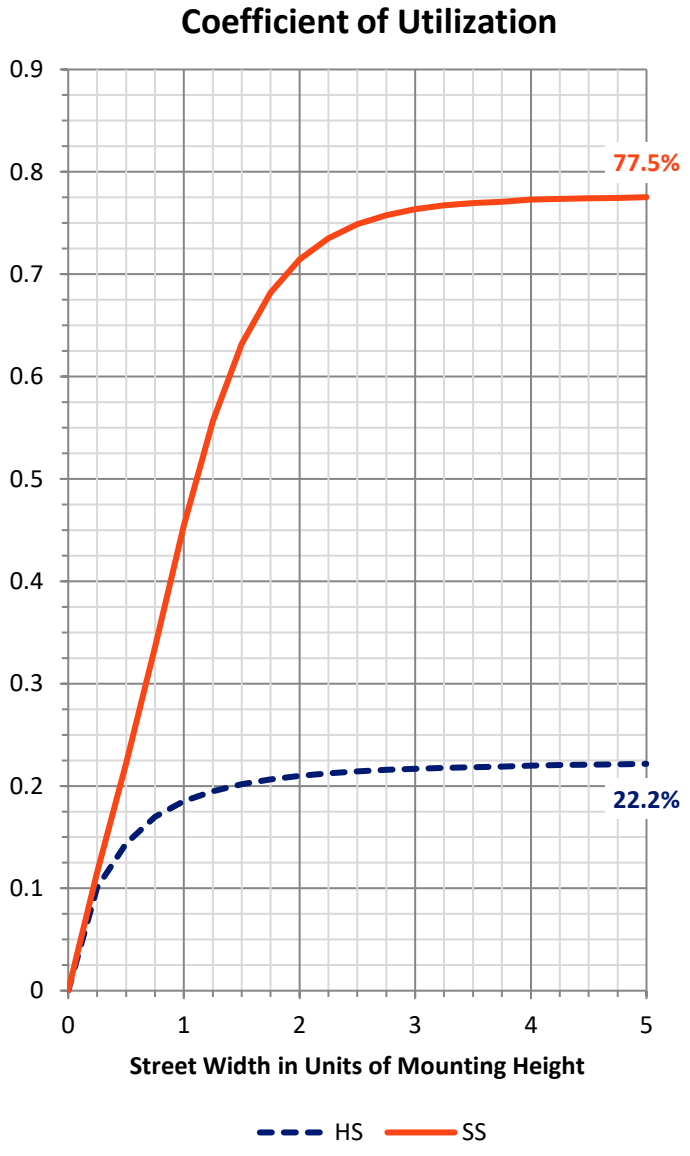
REPORT NUMBER: P1366458
CATALOG NUMBER: GSS-SB3D-722-U-T3R

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 5255.7 | 0.0 | 5255.7 |
| | % Fixture | 22.3 | 0.0 | 22.3 |
| **Street Side** | Lumens | 18264.0 | 0.0 | 18264.0 |
| | % Fixture | 77.7 | 0.0 | 77.7 |
| **Total** | Lumens | 23519.8 | 0.0 | 23519.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 347.8 | 1.5 |
| 10°-20° | 993.0 | 4.2 |
| 20°-30° | 1637.3 | 7.0 |
| 30°-40° | 2513.6 | 10.7 |
| 40°-50° | 3881.1 | 16.5 |
| 50°-60° | 5360.7 | 22.8 |
| 60°-70° | 5494.2 | 23.4 |
| 70°-80° | 3111.7 | 13.2 |
| 80°-90° | 180.4 | 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° | 23519.8 | 100.0 |
| 0°-180° | 23519.8 | 100.0 |



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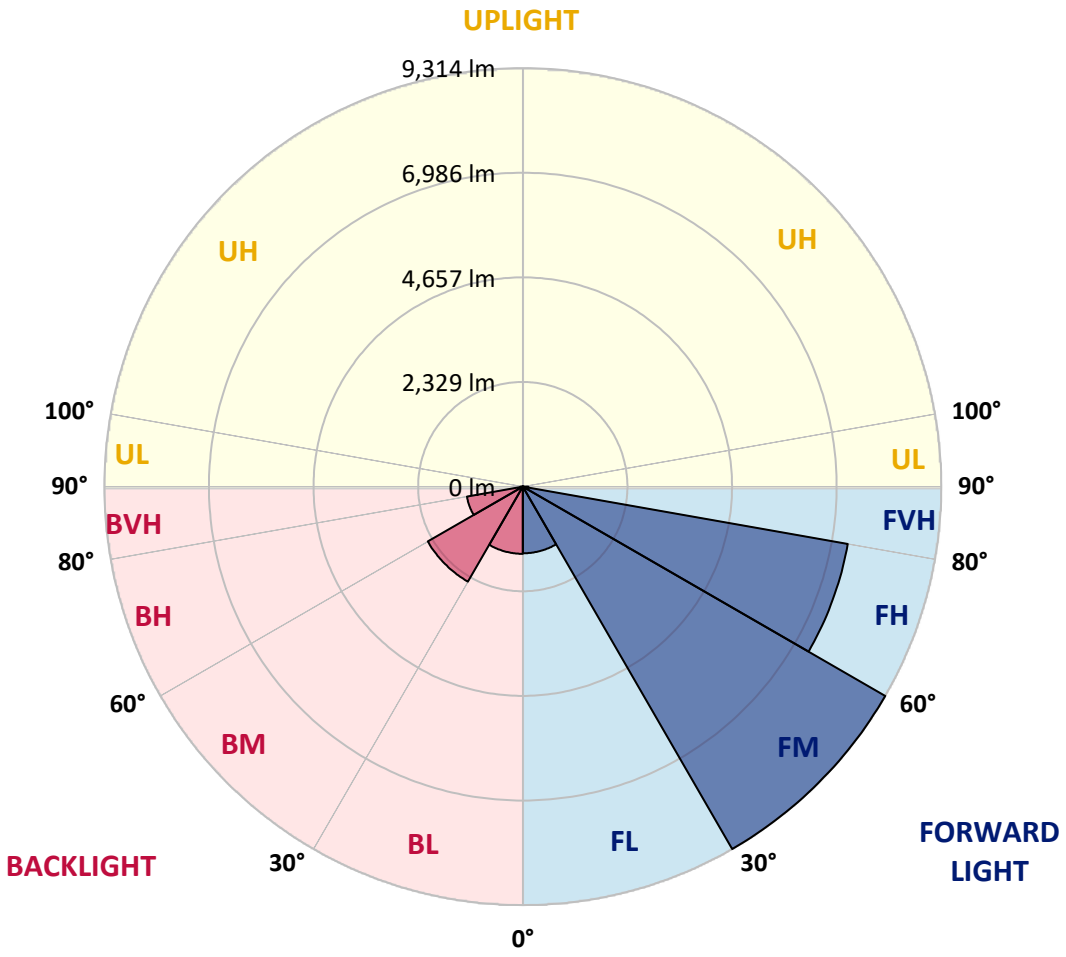
Scaled Data Report

REPORT NUMBER: P1366458
CATALOG NUMBER: GSS-SB3D-722-U-T3R

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1482.8 | 6.3 | | | |
| FM | (30°-60°) | 9314.0 | 39.6 | | | |
| FH | (60°-80°) | 7342.8 | 31.2 | | | G3/7500 |
| FVH | (80°-90°) | 124.4 | 0.5 | | | G2/225 |
| BL | (0°-30°) | 1495.2 | 6.4 | B3/2500 | | |
| BM | (30°-60°) | 2441.5 | 10.4 | B2/2500 | | |
| BH | (60°-80°) | 1263.1 | 5.4 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 56.0 | 0.2 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G3**
Type III Medium



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 80° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | *3593.1* | 3593.1 |
| 2.5° | 3340.7 | 3329.7 | 3324.3 | 3335.2 | 3351.7 | 3384.6 | 3423.0 | 3450.4 | 3516.3 | *3554.7* | 3587.6 |
| 5° | 3165.2 | 3159.7 | 3159.7 | 3187.1 | 3214.6 | 3253.0 | 3307.8 | 3357.2 | 3455.9 | *3532.7* | 3587.6 |
| 7.5° | 2956.7 | 2951.2 | 2951.2 | 3011.6 | 3066.4 | 3154.2 | 3242.0 | 3324.3 | 3444.9 | *3543.7* | 3631.5 |
| 10° | 2737.3 | 2737.3 | 2748.3 | 2825.1 | 2918.3 | 3044.5 | 3192.6 | 3318.8 | 3472.4 | *3587.6* | 3708.3 |
| 12.5° | 2644.1 | 2638.6 | 2644.1 | 2715.4 | 2808.6 | 2978.7 | 3148.7 | 3340.7 | 3527.2 | *3675.3* | 3818.0 |
| 15° | 2666.0 | 2655.0 | 2644.1 | 2704.4 | 2775.7 | 2945.8 | 3148.7 | 3384.6 | 3620.5 | *3763.1* | 3960.6 |
| 17.5° | 2781.2 | 2775.7 | 2742.8 | 2759.2 | 2808.6 | 2962.2 | 3176.2 | 3450.4 | 3713.7 | *3883.8* | 4097.7 |
| 20° | 3006.1 | 2989.6 | 2940.3 | 2912.8 | 2918.3 | 3017.1 | 3225.5 | 3538.2 | 3801.5 | *4004.5* | 4245.8 |
| 22.5° | 3379.1 | 3368.1 | 3285.9 | 3176.2 | 3104.8 | 3132.3 | 3313.3 | 3636.9 | 3922.2 | *4114.2* | 4415.9 |
| 25° | 3872.8 | 3845.4 | 3719.2 | 3543.7 | 3379.1 | 3318.8 | 3423.0 | 3768.6 | 4037.4 | *4245.8* | 4575.0 |
| 27.5° | 4399.4 | 4404.9 | 4289.7 | 4026.4 | 3741.2 | 3538.2 | 3565.6 | 3900.3 | 4169.0 | *4355.6* | 4712.1 |
| 30° | 5013.8 | 4986.4 | 4860.2 | 4585.9 | 4169.0 | 3828.9 | 3713.7 | 4026.4 | 4289.7 | *4465.3* | 4876.7 |
| 32.5° | 5825.7 | 5831.2 | 5606.3 | 5183.9 | 4662.7 | 4185.5 | 3905.7 | 4158.1 | 4426.9 | *4607.9* | 5079.7 |
| 35° | 6807.6 | 6785.7 | 6516.9 | 6006.7 | 5299.1 | 4596.9 | 4152.6 | 4328.1 | 4591.4 | *4794.4* | 5315.5 |
| 37.5° | 7685.3 | 7625.0 | 7465.9 | 6977.7 | 6100.0 | 5156.4 | 4487.2 | 4553.0 | 4849.3 | *5063.2* | 5666.6 |
| 40° | 8469.7 | 8442.3 | 8414.9 | 8041.9 | 7016.1 | 5853.1 | 4926.1 | 4898.6 | 5167.4 | *5447.2* | 6100.0 |
| 42.5° | 9117.0 | 9111.6 | 9122.5 | 9040.2 | 8135.1 | 6725.3 | 5540.4 | 5348.4 | 5617.2 | *5902.5* | 6610.1 |
| 45° | 9588.8 | 9577.8 | 9693.0 | 9863.1 | 9226.8 | 7767.6 | 6264.5 | 5908.0 | 6187.7 | *6511.4* | 7257.4 |
| 47.5° | 10093.5 | 10099.0 | 10258.0 | 10543.3 | 10291.0 | 8804.4 | 7087.4 | 6604.6 | 6857.0 | *7268.4* | 8030.9 |
| 50° | 10291.0 | 10291.0 | 10669.5 | 11075.4 | 11146.7 | 9907.0 | 8069.3 | 7433.0 | 7690.8 | *8129.6* | 8809.8 |
| 52.5° | 9863.1 | 9945.4 | 10609.1 | 11371.6 | 11706.2 | 10927.3 | 9106.1 | 8332.6 | 8552.0 | *9117.0* | 9583.3 |
| 55° | 7471.4 | 7762.1 | 10148.3 | 11229.0 | 11914.7 | 11728.2 | 10137.4 | 9331.0 | 9572.3 | *10131.9* | 10378.7 |
| 57.5° | 6451.0 | 6527.8 | 7959.6 | 10729.8 | 11651.4 | 12161.5 | 11091.9 | 10395.2 | 10614.6 | *11163.2* | 11207.0 |
| 60° | 5672.1 | 5776.3 | 6654.0 | 9885.0 | 11130.3 | 12117.7 | 11887.3 | 11377.1 | 11684.3 | *12381.0* | 12046.3 |
| 62.5° | 4596.9 | 4706.6 | 5447.2 | 7899.2 | 10444.6 | 11810.5 | 12507.1 | 12304.2 | 12594.9 | *13176.4* | 12391.9 |
| 65° | 4048.4 | 4086.8 | 4618.9 | 6056.1 | 9182.9 | 11547.2 | 12825.3 | 12699.1 | 12825.3 | *13313.5* | 12216.4 |
| 67.5° | 3373.6 | 3450.4 | 3966.1 | 5140.0 | 7416.5 | 10987.6 | 12353.5 | 12534.6 | 13159.9 | *13642.6* | 12348.1 |
| 68° | *3231.0* | *3285.9* | *3812.5* | *4915.1* | *7087.4* | *10784.7* | *12227.4* | *12545.5* | *13291.6* | *13708.5* | *12276.7* |
| 70° | 2638.6 | 2715.4 | 3181.6 | 4119.7 | 5940.9 | 8634.3 | 11733.7 | 12759.5 | 13384.8 | *13571.3* | 11887.3 |
| 72.5° | 1305.6 | 1442.7 | 2194.2 | 2907.4 | 4289.7 | 6242.6 | 10285.5 | 12485.2 | 13192.8 | *13077.6* | 11064.4 |
| 75° | 460.8 | 493.7 | 1025.8 | 1574.4 | 2079.0 | 4042.9 | 7273.9 | 11382.6 | 12095.7 | *11421.0* | 9276.1 |
| 77.5° | 329.1 | 356.6 | 581.5 | 795.4 | 855.8 | 2029.7 | 4662.7 | 7526.2 | 7153.2 | *5540.4* | 4223.9 |
| 80° | 257.8 | 279.8 | 433.4 | 444.3 | 427.9 | 713.1 | 1590.8 | 2282.0 | 1607.3 | *1009.3* | 729.6 |
| 82.5° | 159.1 | 192.0 | 323.6 | 268.8 | 197.5 | 224.9 | 373.0 | 614.4 | 438.8 | *279.8* | 224.9 |
| 85° | 60.3 | 76.8 | 148.1 | 104.2 | 65.8 | 87.8 | 126.2 | 164.6 | 126.2 | *93.3* | 82.3 |
| 87.5° | 5.5 | 5.5 | 11.0 | 11.0 | 16.5 | 21.9 | 32.9 | 43.9 | 49.4 | *49.4* | 49.4 |
| 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: P1366458
CATALOG NUMBER: GSS-SB3D-722-U-T3R

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 | 3593.1 |
| 2.5° | 3609.5 | 3626.0 | 3697.3 | 3735.7 | 3807.0 | 3861.9 | 3894.8 | 3911.2 | 3927.7 | 3938.6 | 3933.2 |
| 5° | 3647.9 | 3697.3 | 3834.4 | 3938.6 | 4020.9 | 4075.8 | 4103.2 | 4125.2 | 4130.6 | 4141.6 | 4136.1 |
| 7.5° | 3719.2 | 3796.0 | 4004.5 | 4125.2 | 4196.5 | 4218.4 | 4196.5 | 4185.5 | 4169.0 | 4152.6 | 4152.6 |
| 10° | 3834.4 | 3955.1 | 4202.0 | 4289.7 | 4295.2 | 4262.3 | 4191.0 | 4108.7 | 4048.4 | 4026.4 | 4015.4 |
| 12.5° | 3982.5 | 4152.6 | 4404.9 | 4426.9 | 4355.6 | 4202.0 | 3999.0 | 3828.9 | 3719.2 | 3636.9 | 3631.5 |
| 15° | 4163.6 | 4361.0 | 4580.5 | 4514.6 | 4311.7 | 3988.0 | 3653.4 | 3412.0 | 3285.9 | 3214.6 | 3181.6 |
| 17.5° | 4350.1 | 4602.4 | 4739.5 | 4558.5 | 4130.6 | 3604.0 | 3203.6 | 3011.6 | 2896.4 | 2858.0 | 2830.6 |
| 20° | 4558.5 | 4799.9 | 4849.3 | 4492.7 | 3801.5 | 3176.2 | 2814.1 | 2693.4 | 2693.4 | 2682.5 | 2671.5 |
| 22.5° | 4772.5 | 5002.9 | 4909.6 | 4311.7 | 3368.1 | 2753.8 | 2534.3 | 2578.2 | 2655.0 | 2677.0 | 2677.0 |
| 25° | 4969.9 | 5178.4 | 4909.6 | 3988.0 | 2852.5 | 2408.2 | 2424.6 | 2528.9 | 2627.6 | 2682.5 | 2682.5 |
| 27.5° | 5161.9 | 5288.1 | 4810.9 | 3532.7 | 2386.2 | 2232.6 | 2331.4 | 2457.5 | 2616.6 | 2698.9 | 2704.4 |
| 30° | 5353.9 | 5370.4 | 4635.3 | 2951.2 | 2051.6 | 2106.5 | 2221.7 | 2386.2 | 2561.8 | 2666.0 | 2677.0 |
| 32.5° | 5556.9 | 5447.2 | 4388.5 | 2375.3 | 1898.0 | 1985.8 | 2122.9 | 2254.6 | 2391.7 | 2468.5 | 2474.0 |
| 35° | 5787.3 | 5518.5 | 4070.3 | 1930.9 | 1799.3 | 1903.5 | 2007.7 | 2051.6 | 2090.0 | 2133.9 | 2161.3 |
| 37.5° | 6039.6 | 5611.8 | 3653.4 | 1706.0 | 1706.0 | 1826.7 | 1887.0 | 1799.3 | 1788.3 | 1782.8 | 1766.4 |
| 40° | 6319.4 | 5710.5 | 3132.3 | 1590.8 | 1634.7 | 1744.4 | 1695.0 | 1590.8 | 1514.0 | 1431.7 | 1437.2 |
| 42.5° | 6670.5 | 5836.7 | 2539.8 | 1536.0 | 1585.3 | 1678.6 | 1541.4 | 1415.3 | 1206.8 | 1152.0 | 1162.9 |
| 45° | 7070.9 | 5995.7 | 2068.1 | 1486.6 | 1546.9 | 1618.2 | 1437.2 | 1195.9 | 1064.2 | 1119.1 | 1157.5 |
| 47.5° | 7493.3 | 6204.2 | 1728.0 | 1448.2 | 1530.5 | 1546.9 | 1371.4 | 1097.1 | 1009.3 | 1130.0 | 1179.4 |
| 50° | 7992.5 | 6396.2 | 1568.9 | 1409.8 | 1525.0 | 1525.0 | 1256.2 | 1080.7 | 965.5 | 1069.7 | 1119.1 |
| 52.5° | 8497.2 | 6582.7 | 1486.6 | 1365.9 | 1508.5 | 1519.5 | 1228.8 | 1058.7 | 905.1 | 938.0 | 960.0 |
| 55° | 8990.9 | 6686.9 | 1442.7 | 1305.6 | 1492.1 | 1492.1 | 1239.7 | 1020.3 | 844.8 | 844.8 | 855.8 |
| 57.5° | 9490.1 | 6758.2 | 1404.3 | 1234.3 | 1437.2 | 1409.8 | 1239.7 | 992.9 | 822.8 | 800.9 | 811.9 |
| 60° | 10044.1 | 6802.1 | 1365.9 | 1152.0 | 1360.4 | 1311.1 | 1234.3 | 970.9 | 795.4 | 762.5 | 768.0 |
| 62.5° | 10131.9 | 6494.9 | 1294.6 | 1064.2 | 1256.2 | 1228.8 | 1212.3 | 943.5 | 751.5 | 685.7 | 685.7 |
| 65° | 9819.2 | 6034.1 | 1206.8 | 954.5 | 1119.1 | 1146.5 | 1168.4 | 910.6 | 707.6 | 630.8 | 636.3 |
| 67.5° | 9786.3 | 5688.6 | 1113.6 | 855.8 | 938.0 | 1042.3 | 1113.6 | 855.8 | 641.8 | 576.0 | 570.5 |
| 68° | *9709.5* | *5562.4* | *1086.1* | *833.8* | *905.1* | *1020.3* | *1080.7* | *833.8* | *630.8* | *565.0* | *565.0* |
| 70° | 9215.8 | 5013.8 | 921.6 | 735.1 | 800.9 | 833.8 | 949.0 | 740.6 | 565.0 | 510.2 | 515.6 |
| 72.5° | 8255.8 | 4086.8 | 707.6 | 597.9 | 641.8 | 641.8 | 822.8 | 685.7 | 515.6 | 466.3 | 466.3 |
| 75° | 6884.4 | 3231.0 | 537.6 | 471.8 | 449.8 | 521.1 | 669.2 | 619.9 | 455.3 | 416.9 | 400.4 |
| 77.5° | 3126.8 | 1393.3 | 351.1 | 329.1 | 334.6 | 405.9 | 532.1 | 532.1 | 433.4 | 340.1 | 301.7 |
| 80° | 691.2 | 433.4 | 213.9 | 197.5 | 197.5 | 257.8 | 373.0 | 384.0 | 312.7 | 235.9 | 203.0 |
| 82.5° | 230.4 | 175.5 | 131.7 | 120.7 | 115.2 | 137.1 | 230.4 | 252.3 | 186.5 | 137.1 | 137.1 |
| 85° | 87.8 | 82.3 | 71.3 | 65.8 | 54.9 | 54.9 | 71.3 | 115.2 | 98.7 | 65.8 | 65.8 |
| 87.5° | 43.9 | 43.9 | 38.4 | 27.4 | 21.9 | 16.5 | 11.0 | 11.0 | 11.0 | 16.5 | 11.0 |
| 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: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

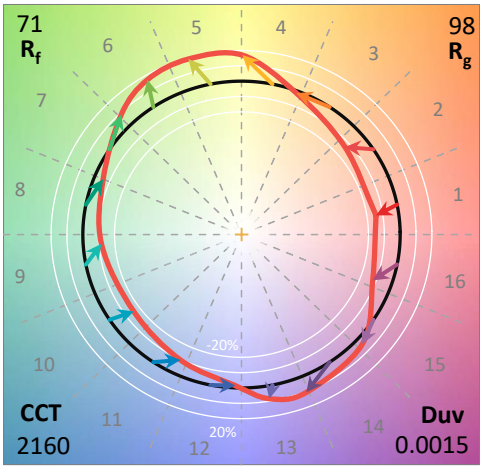
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-2 |
| 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-722-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2200K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2160 |
| CIE u': | 0.2927 |
| CIE v': | 0.5388 |
| Duv: | 0.0015 |
| CIE x: | 0.5130 |
| CIE y: | 0.4197 |
| CIE z: | 0.0674 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 587 |
| Purity: | 79.96089 |
| Rf: | 70.6 |
| Rg: | 97.6 |

| | |
|---|---|
| CRI (Ra): | 71.9 |
| R1: | 68.7 |
| R2: | 82.6 |
| R3: | 95.5 |
| R4: | 66.4 |
| R5: | 65.4 |
| R6: | 75.9 |
| R7: | 77.2 |
| R8: | 43.5 |
| R9: | -17.8 |
| R10: | 60.5 |
| R11: | 60.2 |
| R12: | 48.2 |
| R13: | 70.7 |
| R14: | 96.8 |
| R15: | 61.8 |




## Test Conditions

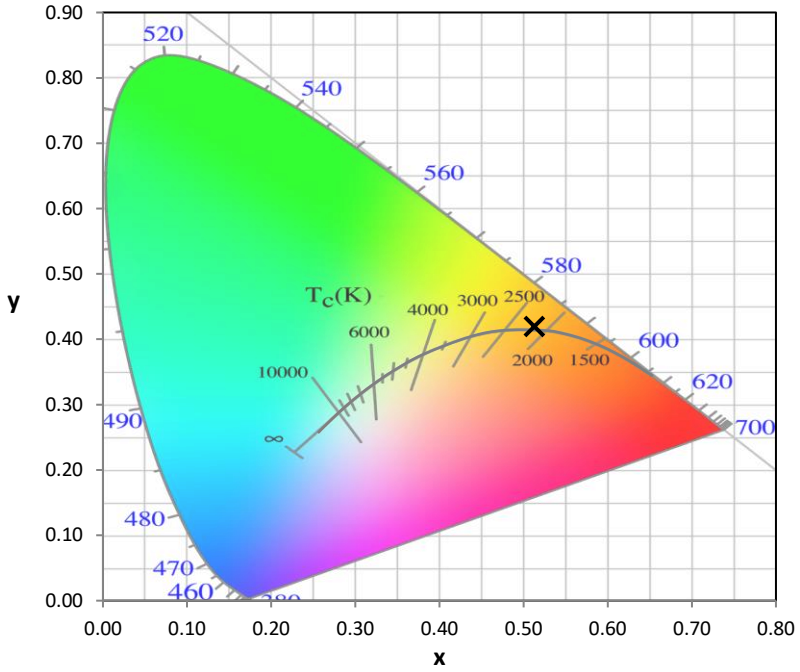
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

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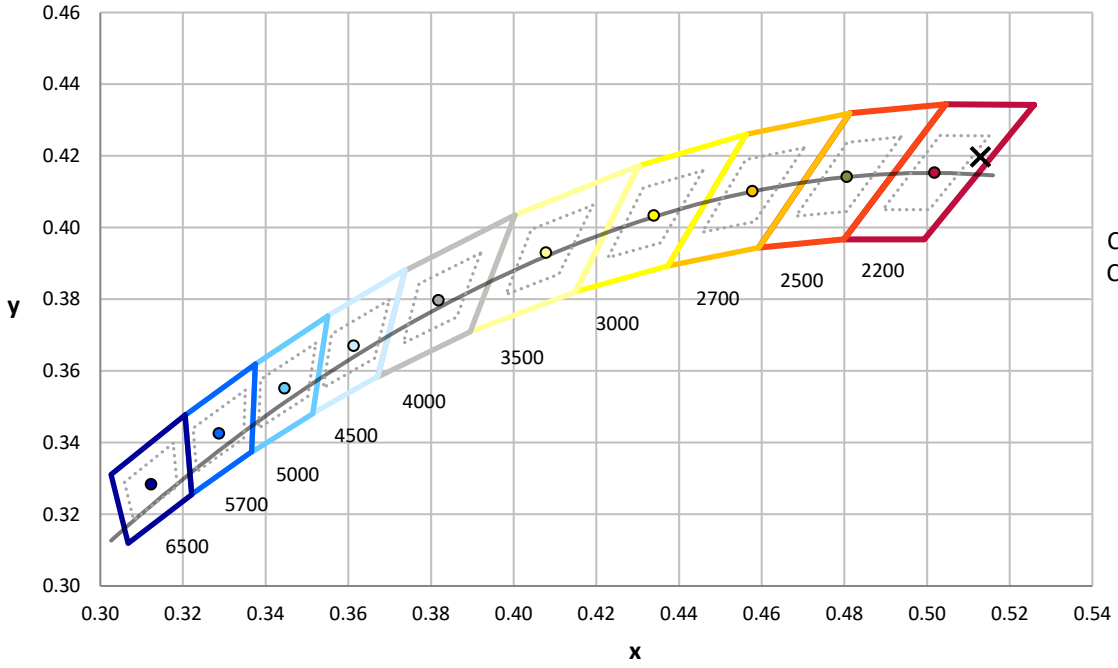
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

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## CIE 1931 Chromaticity Diagram




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

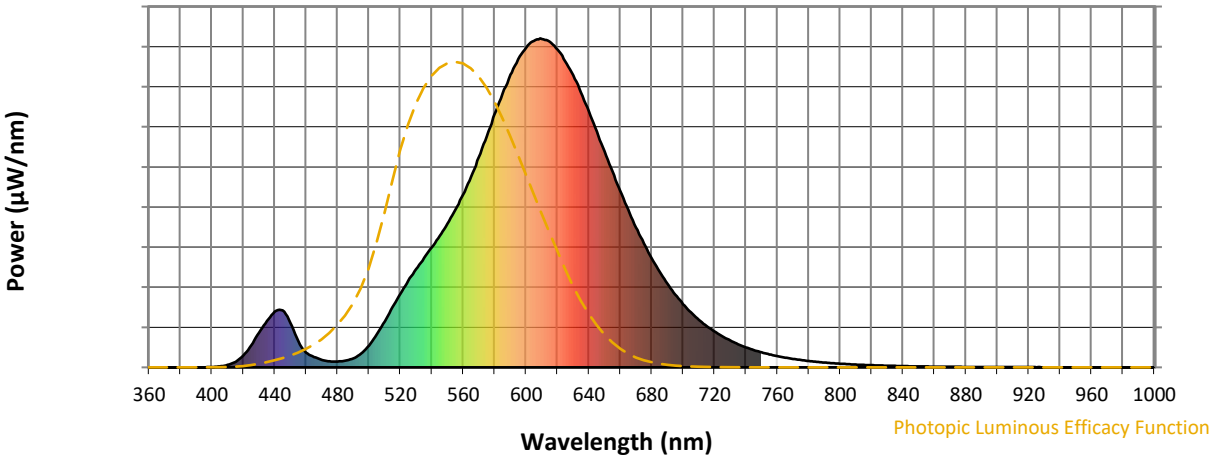



CCT = 2160K
CIE x = 0.5130
CIE y = 0.4197
Duv = 0.0015

Point lies inside the ANSI 2200K 7-step quadrangle

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## Photopic Flux vs. Wavelength

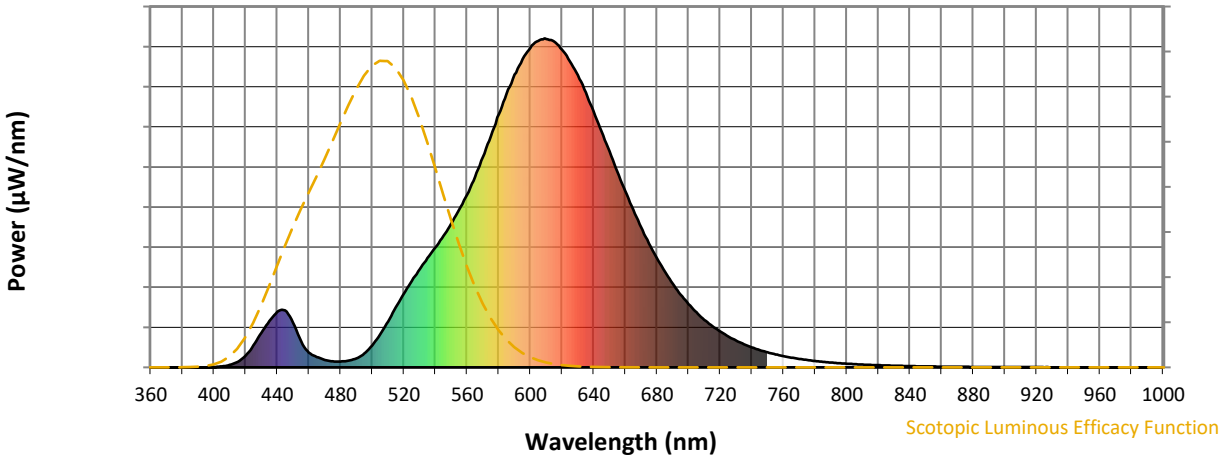



## Photopic Lumens: NR

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Scotopic Flux vs. Wavelength

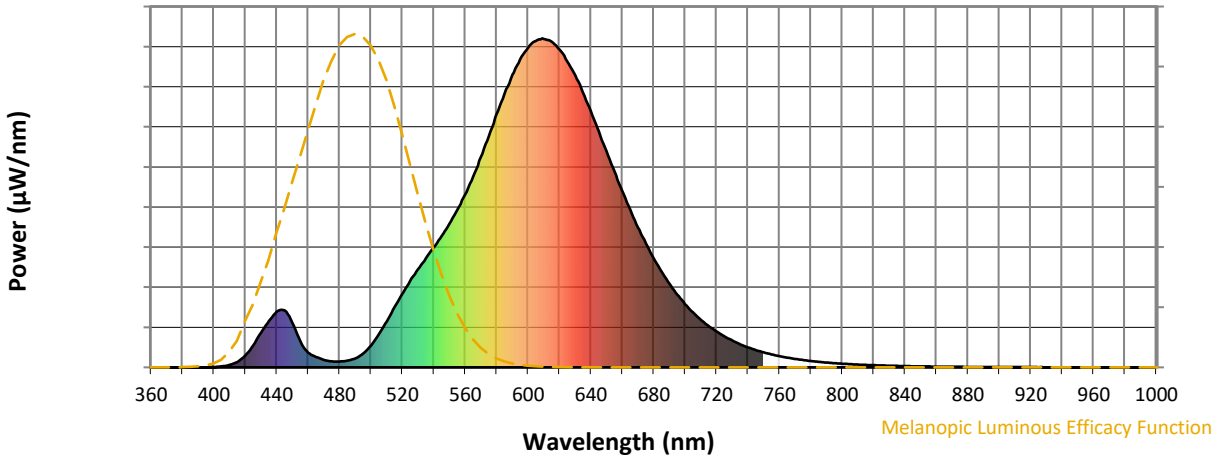



**Scotopic Lumens: NR** **S/P: 0.8**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.21**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

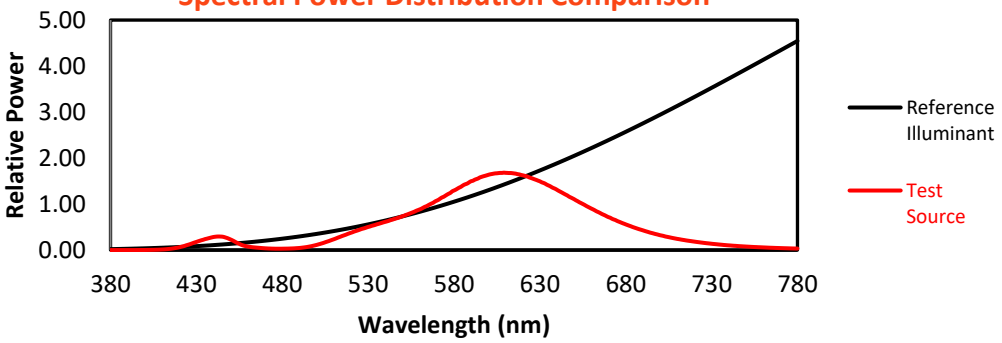
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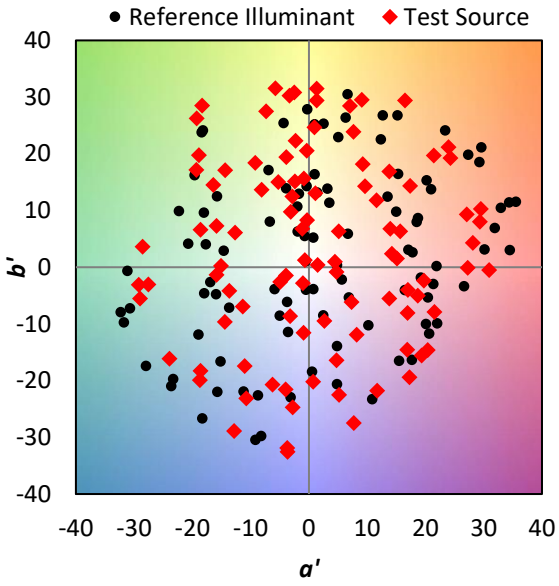
## Summary

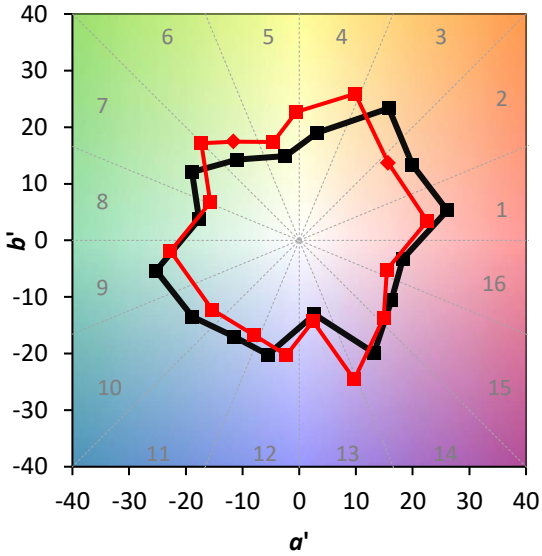
$R_f$ = 70.6
$R_g$ = 97.6
CIE $R_a$ = 71.9
$R_9$ = -17.8

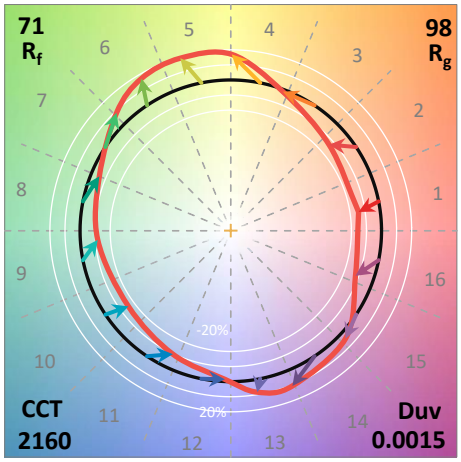
## Spectral Power Distribution Comparison

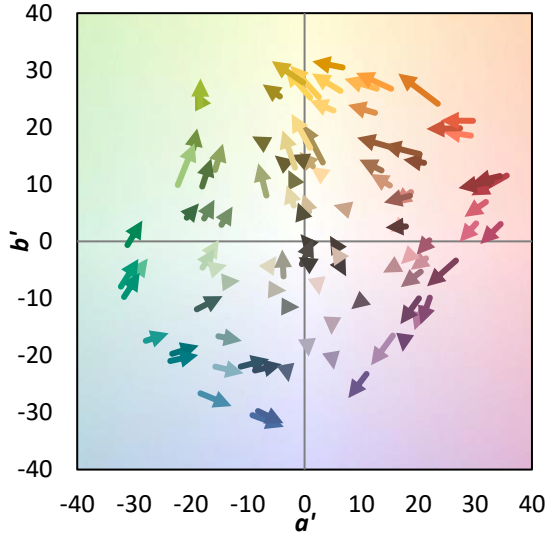



## Color Vector Graphics



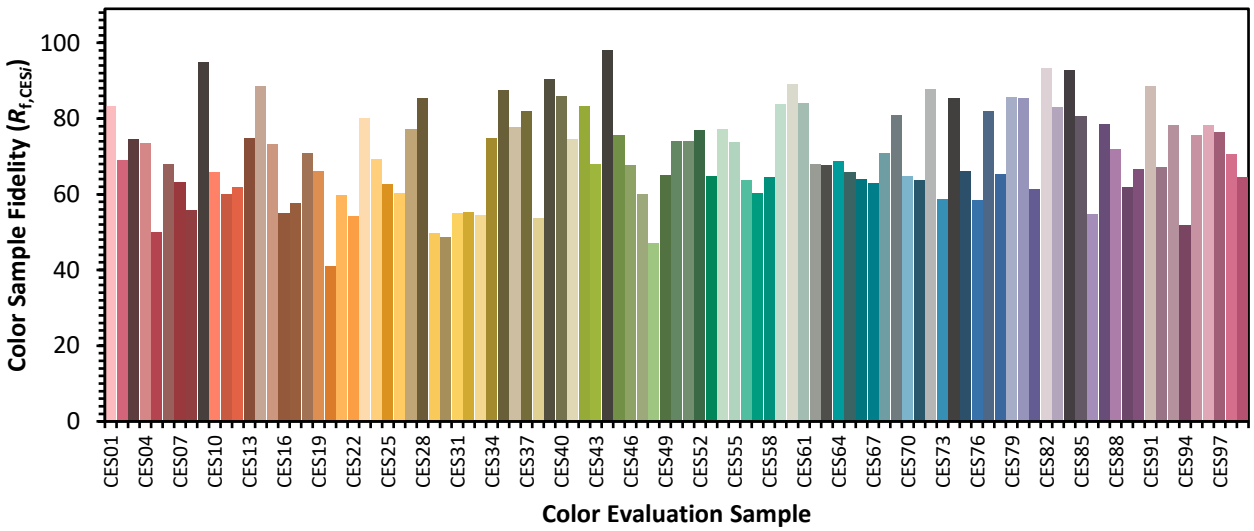



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**Individual Sample Fidelity Index ($R_{f,i}$)**

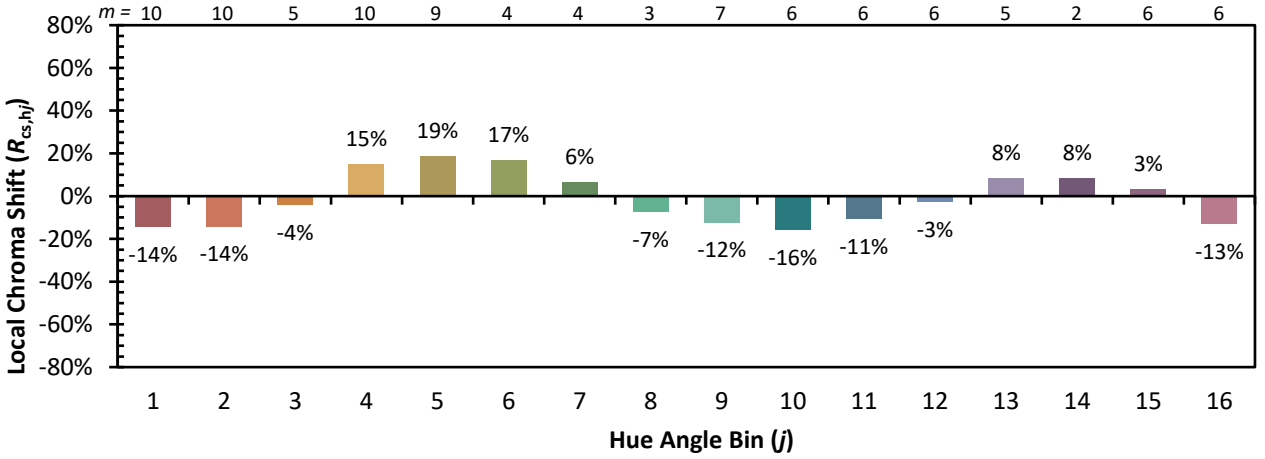
| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |

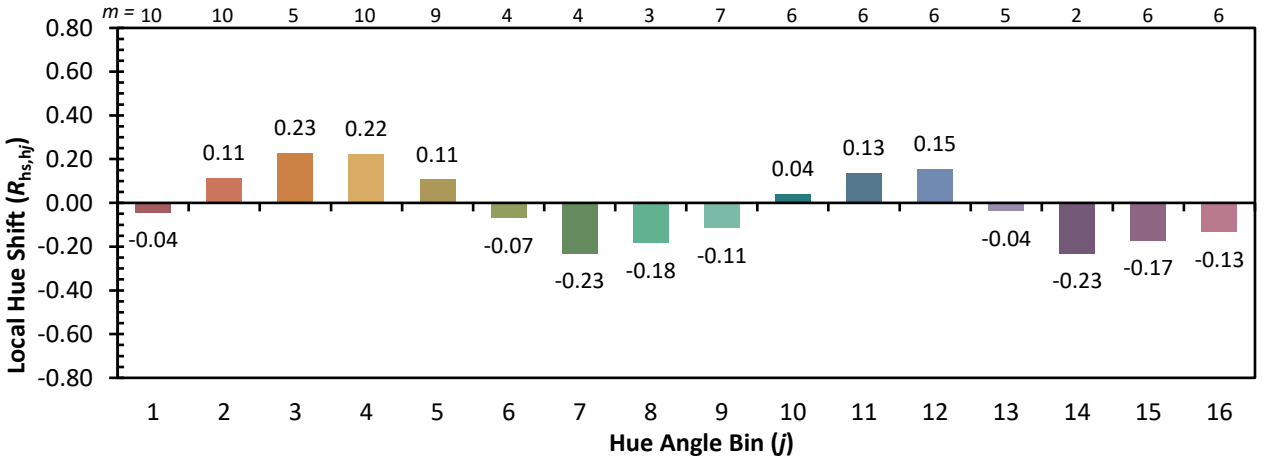


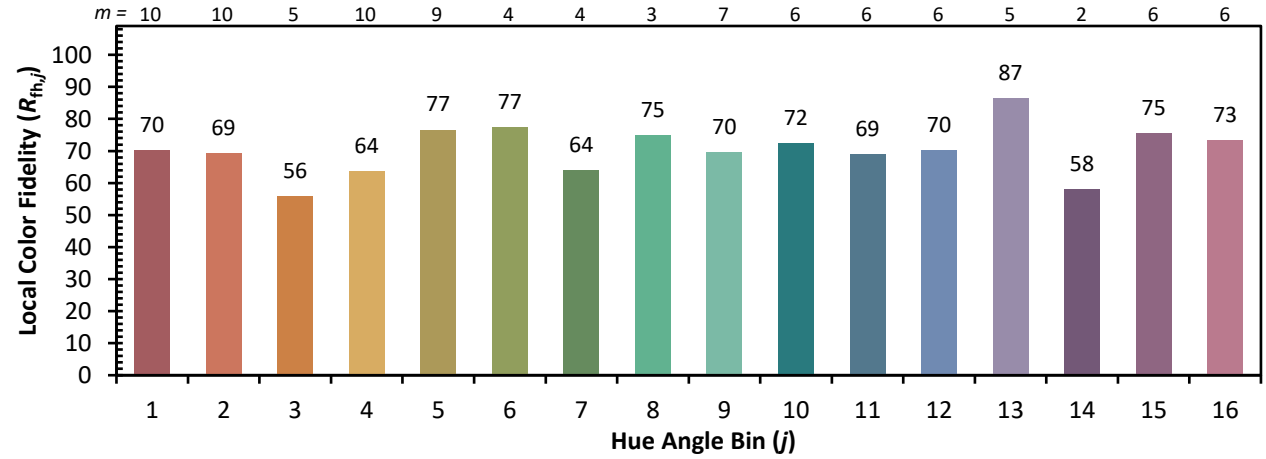
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## Color Rendition by Hue-Angle Bin



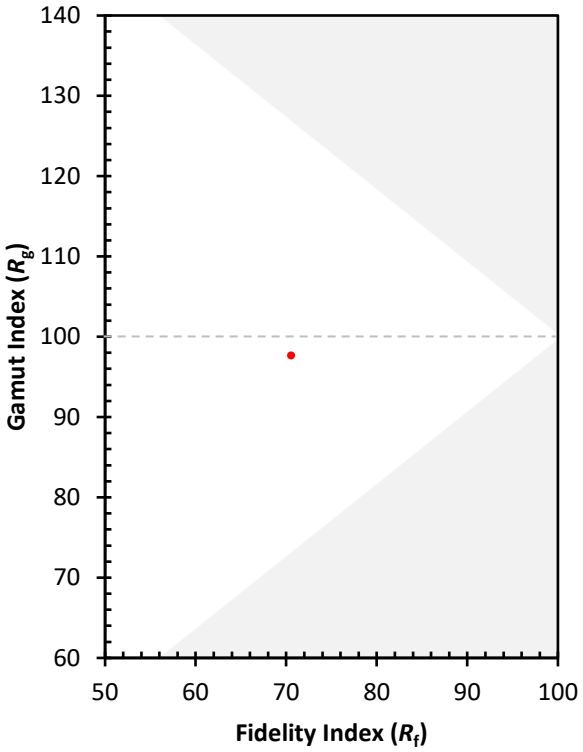



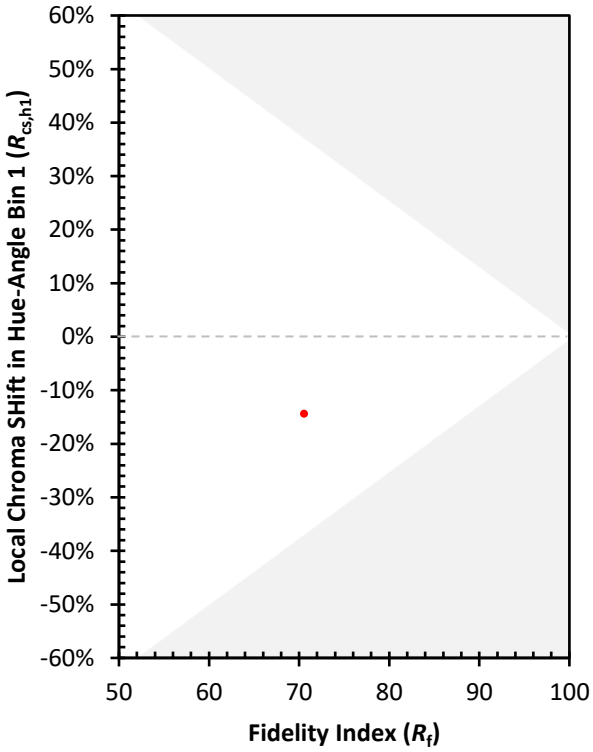



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## Measure Comparisons




(END OF REPORT)