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: P1363363

Luminaire Tested: **GSS-SB4A-740-U-SL3**

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: | P1363363 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4A-740-U-SL3 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 114W 70CRI 4000K FIXTURE w/ TYPE III SPILL CONTROL DISTRIBUTION OPTIC |
| Light Source: | (104) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 17176.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 150.7 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Medium |
| BUG Rating: | B2 - U0 - G3 |

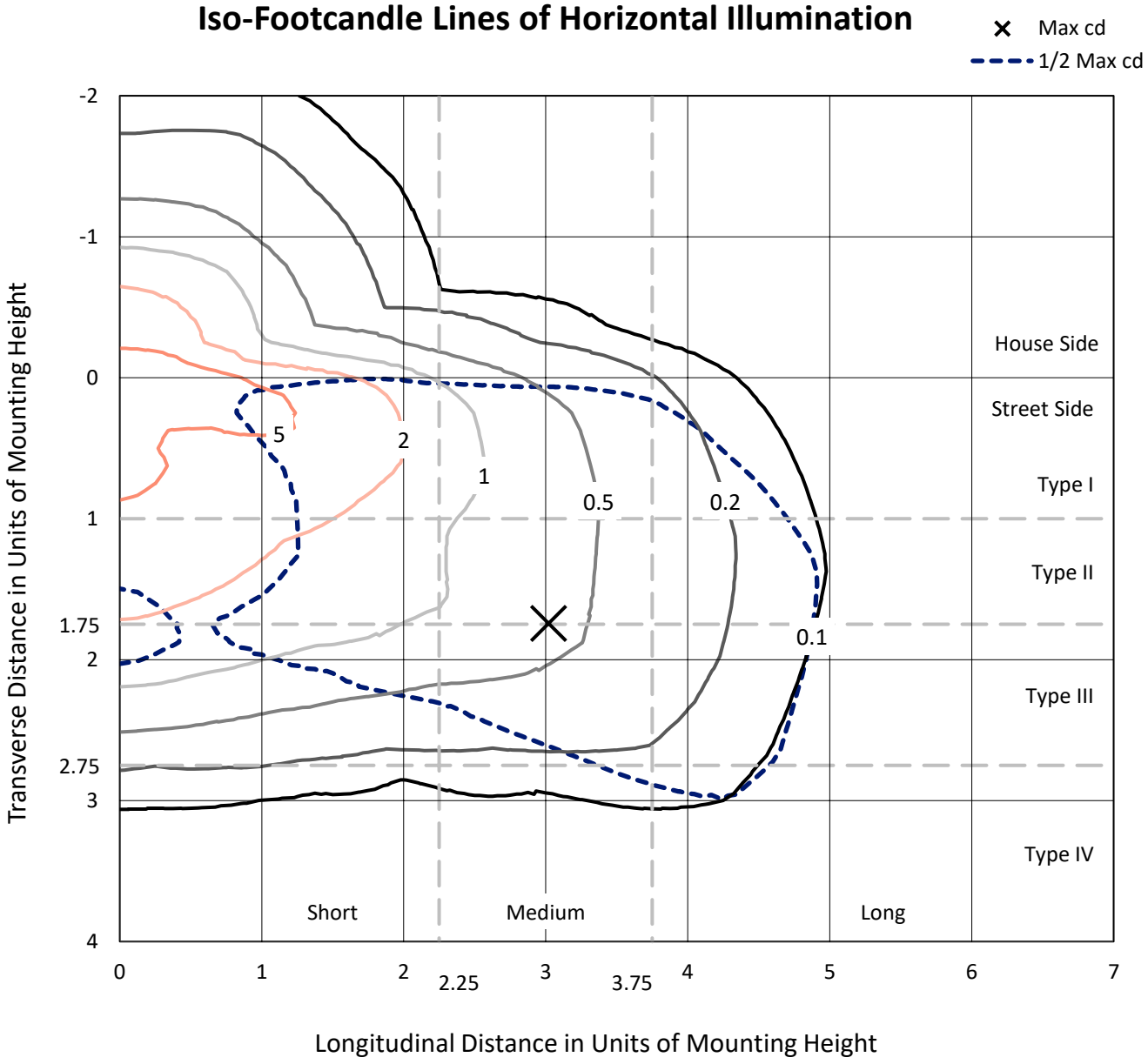
| | |
|---|---|
| Input Watts (W): | 114 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.2% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1363363
CATALOG NUMBER: GSS-SB4A-740-U-SL3

## Iso-Footcandle Lines of Horizontal Illumination



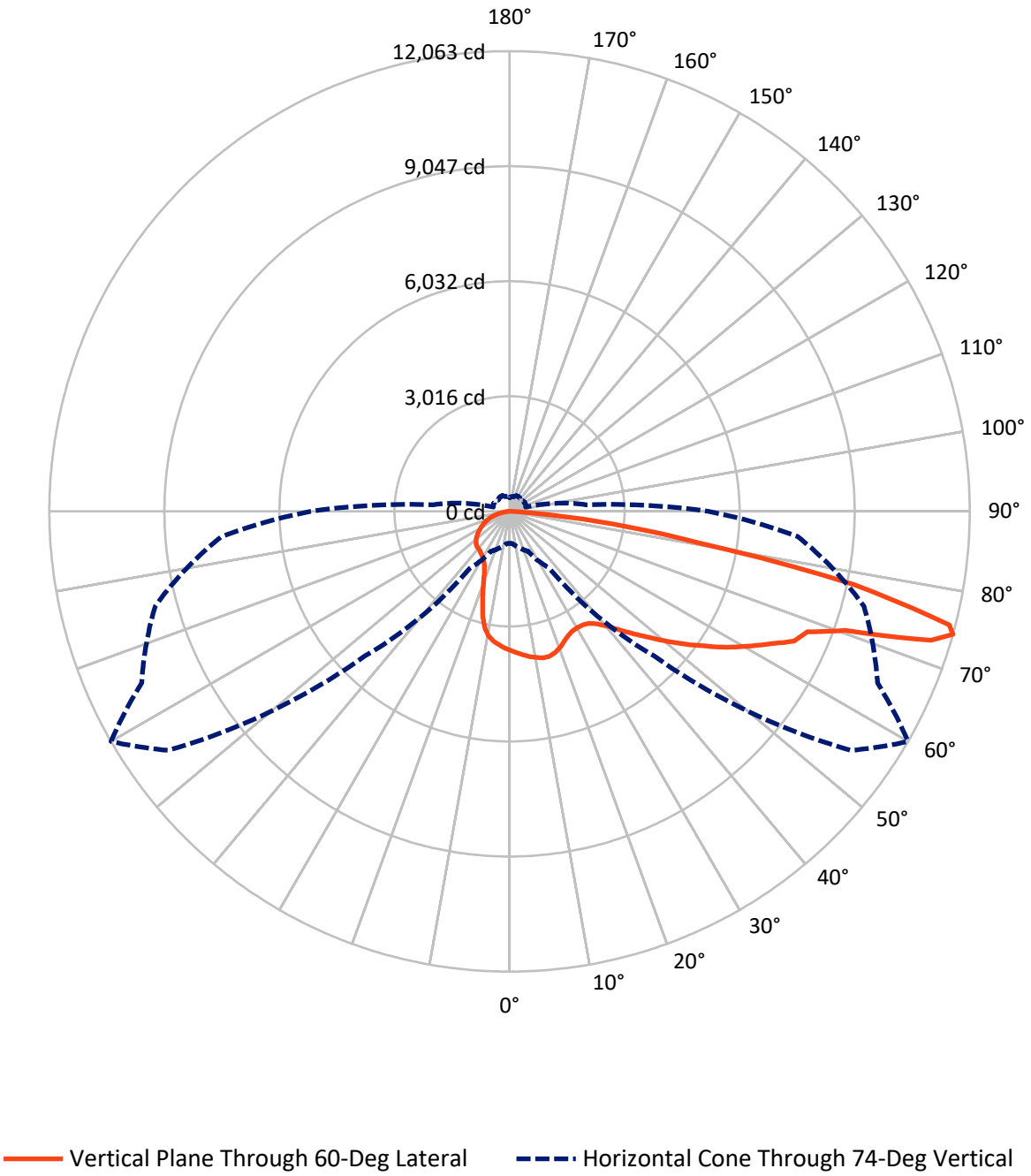

Based on 20 foot mounting height. Maximum calculated value = 9.1 fc
Type III - Medium - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

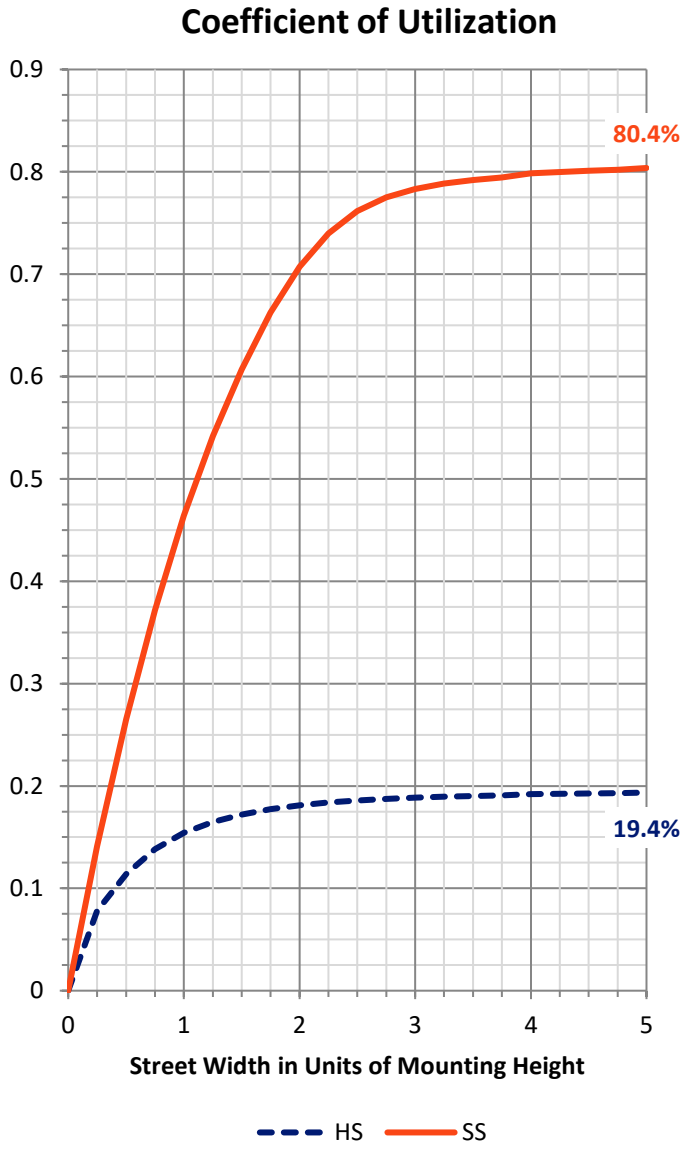
REPORT NUMBER: P1363363
CATALOG NUMBER: GSS-SB4A-740-U-SL3

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3352.9 | 0.0 | 3352.9 |
| | % Fixture | 19.5 | 0.0 | 19.5 |
| **Street Side** | Lumens | 13824.0 | 0.0 | 13824.0 |
| | % Fixture | 80.5 | 0.0 | 80.5 |
| **Total** | Lumens | 17176.8 | 0.0 | 17176.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 335.2 | 2.0 |
| 10°-20° | 822.6 | 4.8 |
| 20°-30° | 1229.9 | 7.2 |
| 30°-40° | 1753.2 | 10.2 |
| 40°-50° | 2520.9 | 14.7 |
| 50°-60° | 3375.4 | 19.7 |
| 60°-70° | 3963.6 | 23.1 |
| 70°-80° | 2827.1 | 16.5 |
| 80°-90° | 348.9 | 2.0 |
| 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° | 17176.8 | 100.0 |
| 0°-180° | 17176.8 | 100.0 |



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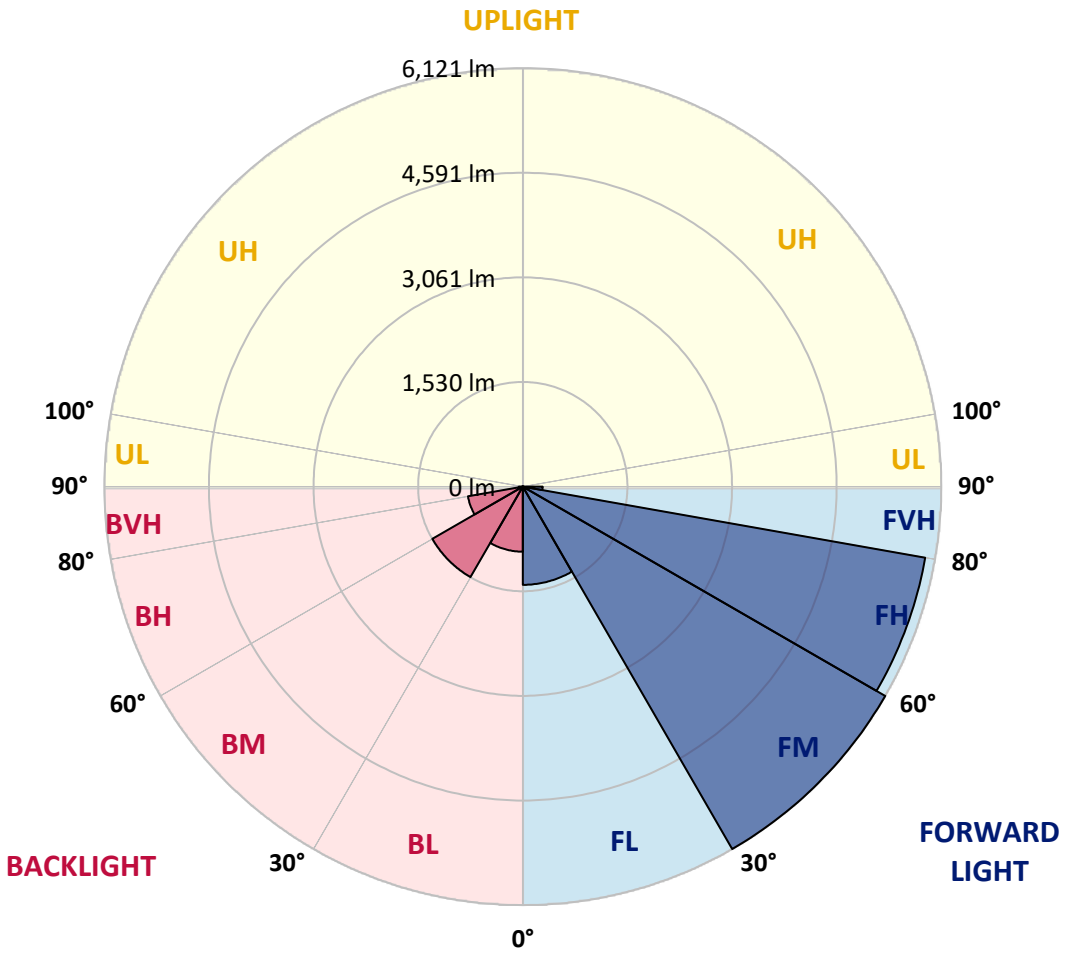
Scaled Data Report

REPORT NUMBER: P1363363
CATALOG NUMBER: GSS-SB4A-740-U-SL3

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1436.2 | 8.4 | | | |
| FM | (30°-60°) | 6121.4 | 35.6 | | | |
| FH | (60°-80°) | 5976.4 | 34.8 | | | G3/7500 |
| FVH | (80°-90°) | 290.0 | 1.7 | | | G3/500 |
| BL | (0°-30°) | 951.5 | 5.5 | B2/1000 | | |
| BM | (30°-60°) | 1528.1 | 8.9 | B2/2500 | | |
| BH | (60°-80°) | 814.3 | 4.7 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 58.9 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type III Medium



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 60° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 |
| 2.5° | 3758.8 | 3763.0 | 3745.9 | 3733.1 | 3733.1 | 3711.7 | 3711.7 | 3711.7 | 3690.4 | 3686.1 | 3656.1 |
| 5° | 3801.5 | 3797.3 | 3788.7 | 3793.0 | 3797.3 | 3788.7 | 3793.0 | 3780.2 | 3750.2 | 3741.7 | 3694.6 |
| 7.5° | 3681.8 | 3681.8 | 3703.2 | 3745.9 | 3805.8 | 3835.7 | 3852.8 | 3844.3 | 3831.5 | 3805.8 | 3737.4 |
| 10° | 3249.9 | 3279.8 | 3344.0 | 3485.1 | 3660.4 | 3805.8 | 3899.9 | 3895.6 | 3899.9 | 3865.7 | 3788.7 |
| 12.5° | 2869.3 | 2882.2 | 2942.0 | 3066.0 | 3318.3 | 3630.5 | 3891.3 | 3942.6 | 3955.5 | 3934.1 | 3840.0 |
| 15° | 2664.1 | 2659.8 | 2706.8 | 2805.2 | 2997.6 | 3339.7 | 3797.3 | 3938.4 | 4015.3 | 4011.1 | 3912.7 |
| 17.5° | 2574.3 | 2578.5 | 2604.2 | 2668.3 | 2809.5 | 3091.7 | 3630.5 | 3887.1 | 4045.3 | 4096.6 | 3981.1 |
| 20° | 2617.0 | 2604.2 | 2617.0 | 2629.9 | 2706.8 | 2929.2 | 3450.9 | 3797.3 | 4070.9 | 4177.8 | 4058.1 |
| 22.5° | 2706.8 | 2694.0 | 2689.7 | 2681.2 | 2698.3 | 2835.1 | 3288.4 | 3686.1 | 4092.3 | 4284.7 | 4147.9 |
| 25° | 2865.0 | 2852.2 | 2813.7 | 2766.7 | 2745.3 | 2805.2 | 3181.5 | 3592.0 | 4113.7 | 4434.4 | 4263.4 |
| 27.5° | 3091.7 | 3074.6 | 3019.0 | 2907.8 | 2839.4 | 2847.9 | 3147.3 | 3540.7 | 4152.2 | 4579.8 | 4374.5 |
| 30° | 3429.5 | 3421.0 | 3296.9 | 3117.3 | 2976.2 | 2924.9 | 3164.4 | 3527.9 | 4194.9 | 4746.6 | 4485.7 |
| 32.5° | 3733.1 | 3724.6 | 3630.5 | 3429.5 | 3194.3 | 3048.9 | 3207.1 | 3545.0 | 4250.5 | 4960.4 | 4648.2 |
| 35° | 3981.1 | 3964.0 | 3887.1 | 3733.1 | 3493.6 | 3237.1 | 3301.2 | 3604.8 | 4370.3 | 5242.6 | 4844.9 |
| 37.5° | 4233.4 | 4220.6 | 4113.7 | 3951.2 | 3801.5 | 3497.9 | 3459.4 | 3741.7 | 4532.8 | 5627.5 | 5131.4 |
| 40° | 4537.0 | 4519.9 | 4391.6 | 4199.2 | 4066.7 | 3852.8 | 3686.1 | 3959.8 | 4780.8 | 6067.9 | 5456.4 |
| 42.5° | 4827.8 | 4810.7 | 4661.0 | 4494.3 | 4327.5 | 4194.9 | 4006.8 | 4250.5 | 5088.7 | 6628.1 | 5841.3 |
| 45° | 5165.6 | 5165.6 | 4956.1 | 4772.2 | 4596.9 | 4434.4 | 4310.4 | 4584.1 | 5447.9 | 7261.0 | 6268.9 |
| 47.5° | 5482.1 | 5452.1 | 5246.9 | 5045.9 | 4874.9 | 4567.0 | 4601.2 | 4934.7 | 5849.8 | 7902.4 | 6730.7 |
| 50° | 5584.7 | 5576.2 | 5439.3 | 5259.7 | 5114.3 | 4729.5 | 4900.5 | 5353.8 | 6303.1 | 8513.9 | 7166.9 |
| 52.5° | 5704.4 | 5666.0 | 5469.2 | 5443.6 | 5276.8 | 4934.7 | 5268.3 | 5785.7 | 6717.9 | 9069.8 | 7517.5 |
| 55° | 5854.1 | 5811.3 | 5541.9 | 5490.6 | 5400.8 | 5165.6 | 5687.3 | 6230.4 | 7111.3 | 9501.7 | 7846.8 |
| 57.5° | 6127.8 | 6076.5 | 5695.9 | 5584.7 | 5512.0 | 5456.4 | 6162.0 | 6722.2 | 7509.0 | 9839.5 | 8129.0 |
| 60° | 6286.0 | 6243.2 | 5918.2 | 5837.0 | 5730.1 | 5858.4 | 6670.9 | 7175.4 | 7885.3 | 10100.4 | 8347.1 |
| 62.5° | 6204.8 | 6174.8 | 5948.2 | 6102.1 | 6187.6 | 6388.6 | 7252.4 | 7645.8 | 8184.6 | 10297.1 | 8355.7 |
| 65° | 5785.7 | 5725.8 | 5571.9 | 6038.0 | 6713.6 | 7282.4 | 7992.2 | 8197.5 | 8381.3 | 9766.8 | 7851.1 |
| 67.5° | 4780.8 | 4720.9 | 4810.7 | 5289.6 | 6414.3 | 8659.3 | 9009.9 | 8419.8 | 8026.4 | 9283.6 | 7778.4 |
| 70° | 2172.3 | 2074.0 | 2617.0 | 3741.7 | 5306.8 | 8360.0 | 10425.4 | 9343.5 | 8385.6 | 9240.8 | 7633.0 |
| 72.5° | 1064.8 | 1107.5 | 1278.6 | 1680.5 | 3245.6 | 6418.6 | 11494.4 | 11554.3 | 9604.3 | 9352.0 | 7735.6 |
| 74° | 833.9 | 846.7 | 987.8 | 1154.6 | 1813.1 | 5358.1 | 10921.4 | 12063.1 | 10643.4 | 9617.2 | 7577.4 |
| 75° | 718.4 | 735.5 | 876.6 | 962.1 | 1167.4 | 4511.4 | 10194.4 | 11909.2 | 11118.1 | 9565.8 | 7226.8 |
| 77.5° | 526.0 | 521.7 | 624.3 | 765.4 | 547.4 | 2009.8 | 8257.3 | 9228.0 | 9480.3 | 7791.2 | 4819.3 |
| 80° | 325.0 | 337.8 | 431.9 | 534.5 | 363.5 | 765.4 | 4853.5 | 5041.6 | 4485.7 | 4511.4 | 2339.1 |
| 82.5° | 196.7 | 205.3 | 230.9 | 278.0 | 201.0 | 269.4 | 2198.0 | 2741.0 | 2270.7 | 1475.3 | 393.4 |
| 85° | 59.9 | 64.1 | 77.0 | 98.4 | 72.7 | 98.4 | 739.8 | 667.1 | 474.7 | 196.7 | 115.5 |
| 87.5° | 4.3 | 4.3 | 8.6 | 8.6 | 12.8 | 21.4 | 29.9 | 34.2 | 38.5 | 42.8 | 42.8 |
| 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: P1363363
CATALOG NUMBER: GSS-SB4A-740-U-SL3

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 | 3643.3 |
| 2.5° | 3656.1 | 3643.3 | 3626.2 | 3596.3 | 3574.9 | 3553.5 | 3527.9 | 3489.4 | 3476.5 | 3480.8 | 3489.4 |
| 5° | 3686.1 | 3651.9 | 3600.6 | 3532.1 | 3480.8 | 3438.1 | 3369.6 | 3314.0 | 3279.8 | 3279.8 | 3262.7 |
| 7.5° | 3716.0 | 3669.0 | 3587.7 | 3472.3 | 3382.5 | 3262.7 | 3134.4 | 3006.2 | 2916.4 | 2877.9 | 2843.7 |
| 10° | 3767.3 | 3694.6 | 3562.1 | 3408.1 | 3215.7 | 2976.2 | 2715.4 | 2450.3 | 2283.5 | 2198.0 | 2193.7 |
| 12.5° | 3801.5 | 3728.8 | 3549.2 | 3301.2 | 2937.7 | 2484.5 | 2086.8 | 1868.7 | 1800.3 | 1770.3 | 1761.8 |
| 15° | 3857.1 | 3758.8 | 3519.3 | 3104.5 | 2510.1 | 1967.0 | 1749.0 | 1684.8 | 1680.5 | 1684.8 | 1689.1 |
| 17.5° | 3904.2 | 3784.4 | 3442.3 | 2792.4 | 2014.1 | 1710.5 | 1654.9 | 1650.6 | 1680.5 | 1693.4 | 1706.2 |
| 20° | 3955.5 | 3805.8 | 3305.5 | 2356.2 | 1736.1 | 1633.5 | 1625.0 | 1650.6 | 1693.4 | 1727.6 | 1731.9 |
| 22.5° | 4028.2 | 3822.9 | 3066.0 | 1924.3 | 1603.6 | 1590.7 | 1612.1 | 1637.8 | 1663.4 | 1693.4 | 1701.9 |
| 25° | 4105.1 | 3822.9 | 2736.8 | 1629.2 | 1535.2 | 1569.4 | 1590.7 | 1569.4 | 1560.8 | 1586.5 | 1586.5 |
| 27.5° | 4165.0 | 3793.0 | 2270.7 | 1471.0 | 1488.1 | 1543.7 | 1530.9 | 1483.8 | 1475.3 | 1492.4 | 1488.1 |
| 30° | 4207.8 | 3681.8 | 1800.3 | 1385.5 | 1441.1 | 1488.1 | 1453.9 | 1428.2 | 1411.1 | 1415.4 | 1419.7 |
| 32.5° | 4271.9 | 3510.8 | 1475.3 | 1325.6 | 1402.6 | 1398.3 | 1394.0 | 1368.4 | 1347.0 | 1351.3 | 1355.6 |
| 35° | 4348.9 | 3228.5 | 1291.4 | 1282.9 | 1368.4 | 1334.2 | 1338.4 | 1308.5 | 1282.9 | 1282.9 | 1287.1 |
| 37.5° | 4447.2 | 2890.7 | 1214.4 | 1265.8 | 1312.8 | 1308.5 | 1295.7 | 1257.2 | 1218.7 | 1210.2 | 1210.2 |
| 40° | 4554.1 | 2475.9 | 1176.0 | 1257.2 | 1287.1 | 1300.0 | 1274.3 | 1227.3 | 1124.6 | 1060.5 | 1056.2 |
| 42.5° | 4622.6 | 2133.8 | 1163.1 | 1244.4 | 1282.9 | 1295.7 | 1261.5 | 1116.1 | 1017.7 | 975.0 | 970.7 |
| 45° | 4720.9 | 1945.7 | 1163.1 | 1210.2 | 1265.8 | 1278.6 | 1158.8 | 1060.5 | 1004.9 | 983.5 | 987.8 |
| 47.5° | 4819.3 | 1945.7 | 1163.1 | 1184.5 | 1218.7 | 1235.8 | 1077.6 | 1034.8 | 983.5 | 983.5 | 1000.6 |
| 50° | 4956.1 | 2052.6 | 1154.6 | 1146.0 | 1158.8 | 1094.7 | 1026.3 | 992.1 | 923.7 | 898.0 | 902.3 |
| 52.5° | 5161.4 | 2215.1 | 1120.4 | 1090.4 | 1094.7 | 1013.5 | 992.1 | 940.8 | 872.3 | 821.0 | 808.2 |
| 55° | 5383.7 | 2390.4 | 1051.9 | 1026.3 | 1022.0 | 962.1 | 953.6 | 898.0 | 833.9 | 765.4 | 752.6 |
| 57.5° | 5627.5 | 2531.5 | 966.4 | 962.1 | 949.3 | 910.8 | 923.7 | 885.2 | 795.4 | 705.6 | 692.7 |
| 60° | 5858.4 | 2689.7 | 885.2 | 893.7 | 872.3 | 863.8 | 880.9 | 855.2 | 744.1 | 645.7 | 637.2 |
| 62.5° | 5858.4 | 2685.4 | 812.5 | 821.0 | 816.8 | 795.4 | 825.3 | 808.2 | 675.6 | 594.4 | 585.8 |
| 65° | 5537.7 | 2565.7 | 727.0 | 748.3 | 765.4 | 722.7 | 761.2 | 731.2 | 615.8 | 551.6 | 538.8 |
| 67.5° | 5494.9 | 2518.7 | 641.4 | 662.8 | 692.7 | 645.7 | 671.4 | 641.4 | 560.2 | 504.6 | 496.0 |
| 70° | 5409.4 | 2411.8 | 564.5 | 590.1 | 602.9 | 551.6 | 585.8 | 564.5 | 504.6 | 461.8 | 453.3 |
| 72.5° | 5452.1 | 2317.7 | 483.2 | 513.1 | 517.4 | 470.4 | 504.6 | 496.0 | 444.7 | 414.8 | 397.7 |
| 74° | *5212.7* | *2005.5* | *436.2* | *461.8* | *453.3* | *419.1* | *449.0* | *449.0* | *402.0* | *380.6* | *359.2* |
| 75° | 4896.2 | 1778.9 | 402.0 | 427.6 | 406.2 | 384.9 | 414.8 | 419.1 | 372.0 | 372.0 | 337.8 |
| 77.5° | 3215.7 | 1193.1 | 316.4 | 333.5 | 325.0 | 312.2 | 329.3 | 325.0 | 290.8 | 282.2 | 260.8 |
| 80° | 1573.6 | 654.3 | 239.5 | 230.9 | 235.2 | 230.9 | 243.7 | 239.5 | 222.4 | 213.8 | 209.5 |
| 82.5° | 295.1 | 218.1 | 158.2 | 153.9 | 145.4 | 136.8 | 153.9 | 153.9 | 205.3 | 230.9 | 230.9 |
| 85° | 89.8 | 85.5 | 77.0 | 77.0 | 72.7 | 64.1 | 68.4 | 98.4 | 119.7 | 81.2 | 77.0 |
| 87.5° | 38.5 | 38.5 | 34.2 | 29.9 | 21.4 | 21.4 | 17.1 | 17.1 | 17.1 | 17.1 | 17.1 |
| 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: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

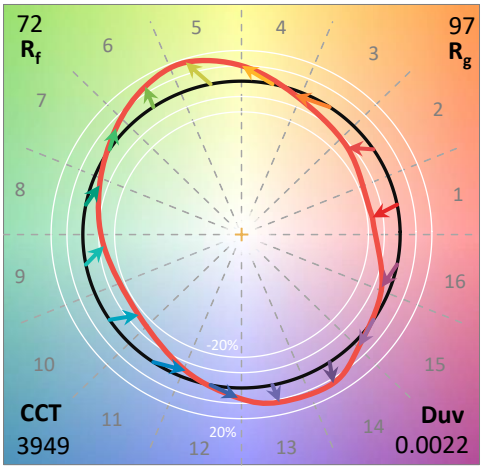
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-1 |
| 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-740-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 4000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3949 |
| CIE u': | 0.2248 |
| CIE v': | 0.5053 |
| Duv: | 0.0022 |
| CIE x: | 0.3844 |
| CIE y: | 0.3840 |
| CIE z: | 0.2316 |
| Peak Wavelength (nm): | 440 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 30.60026 |
| Rf: | 71.8 |
| Rg: | 96.5 |

| | |
|---|---|
| CRI (Ra): | 70.7 |
| R1: | 68.0 |
| R2: | 76.0 |
| R3: | 84.3 |
| R4: | 72.0 |
| R5: | 68.6 |
| R6: | 68.3 |
| R7: | 77.9 |
| R8: | 50.3 |
| R9: | -36.7 |
| R10: | 45.1 |
| R11: | 70.7 |
| R12: | 47.1 |
| R13: | 68.5 |
| R14: | 91.1 |
| R15: | 58.7 |




## Test Conditions

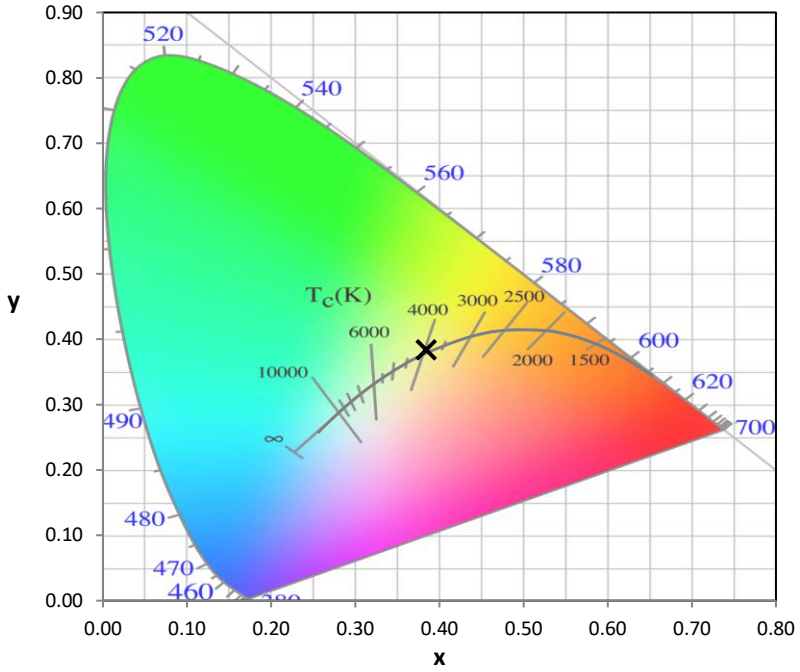
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

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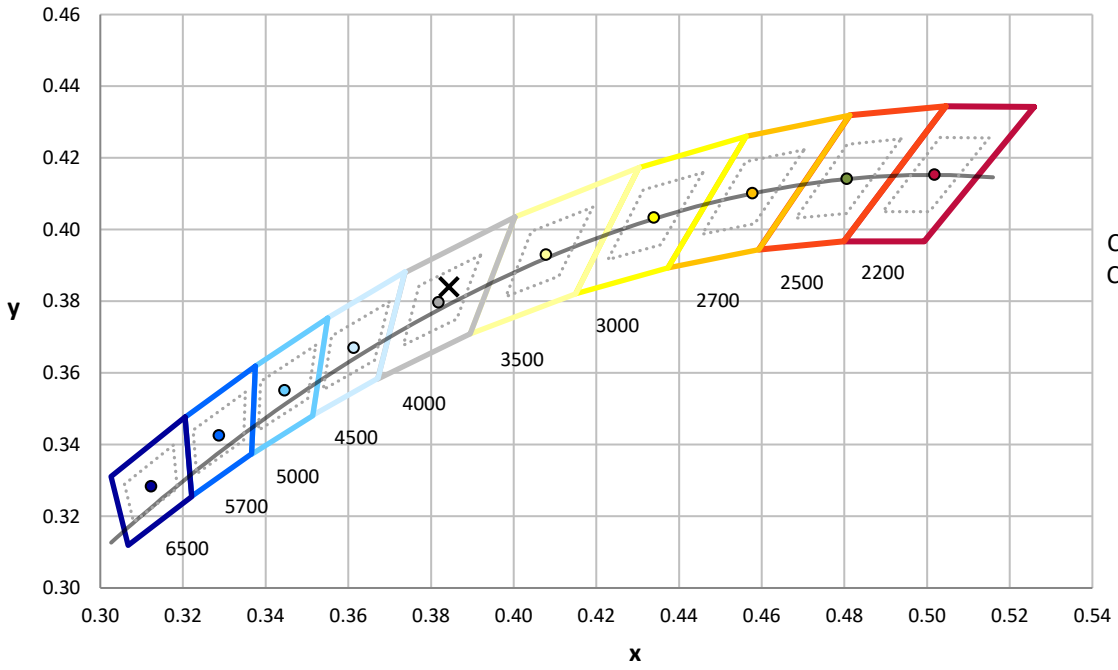
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

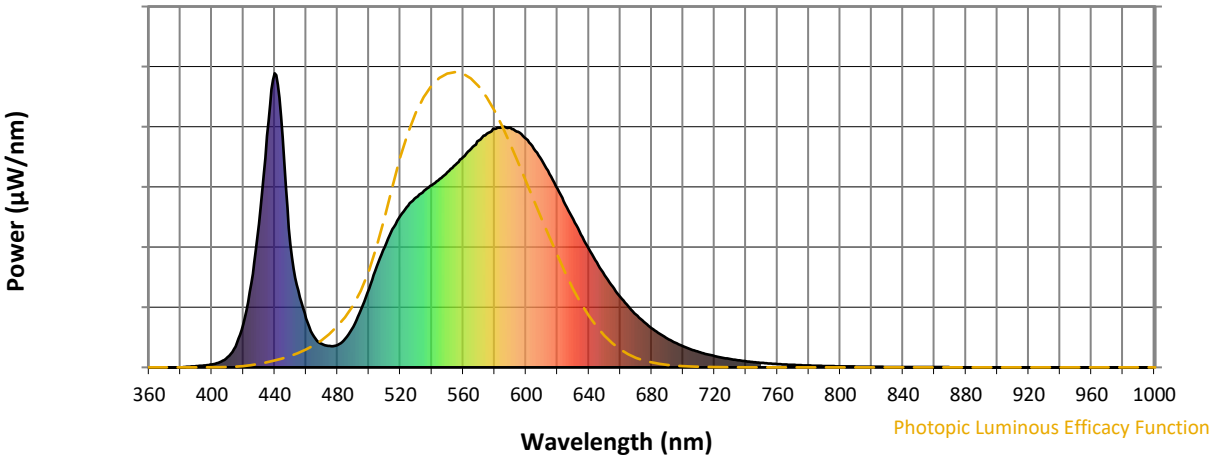



CCT = 3949K
CIE x = 0.3844
CIE y = 0.3840
Duv = 0.0022

Point lies inside the ANSI 4000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

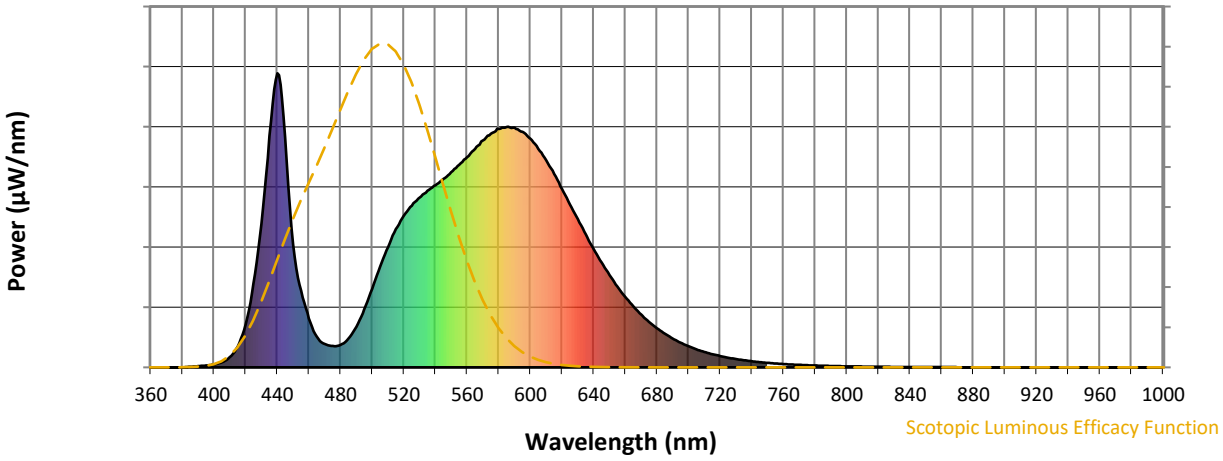



## Photopic Lumens: NR

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

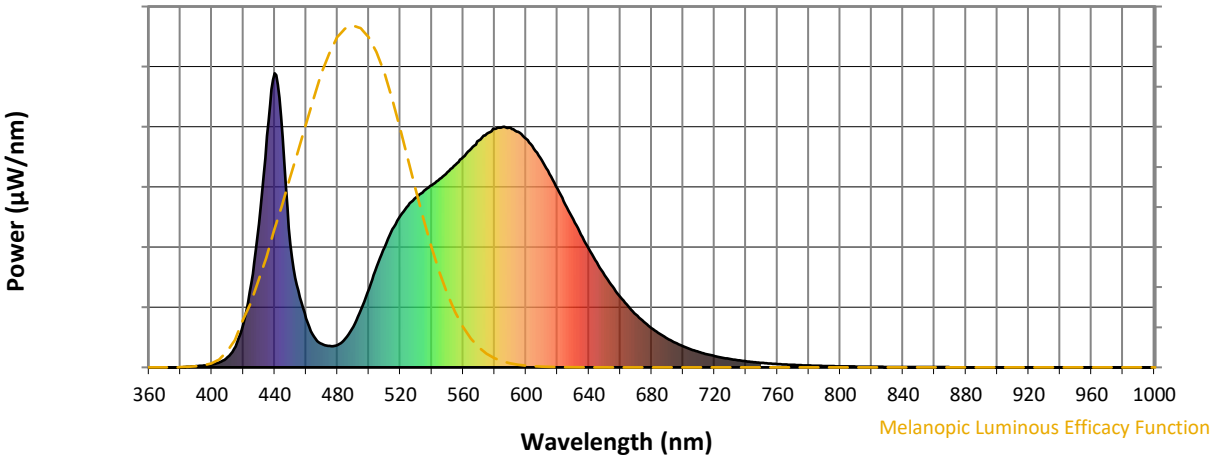



**Scotopic Lumens: NR** **S/P: 1.47**

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.78**

| 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 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

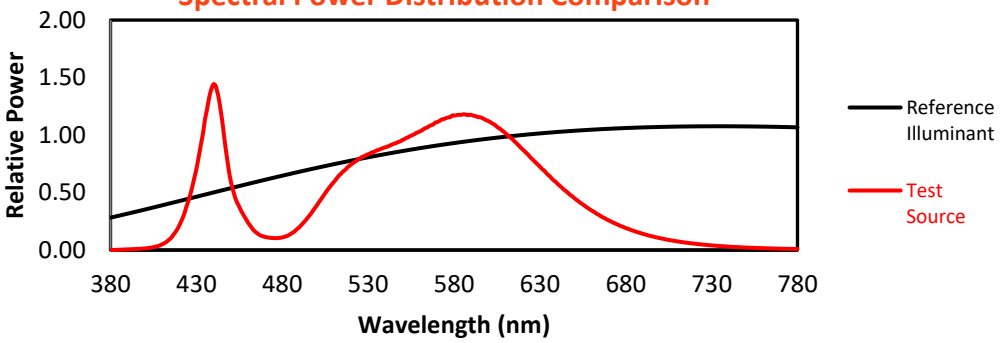
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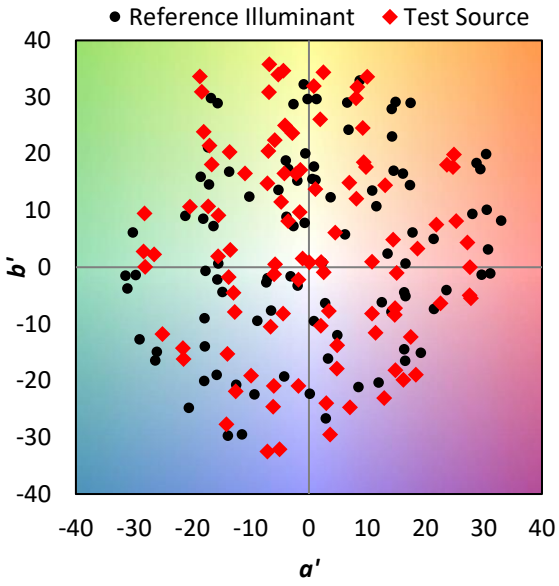
## Summary

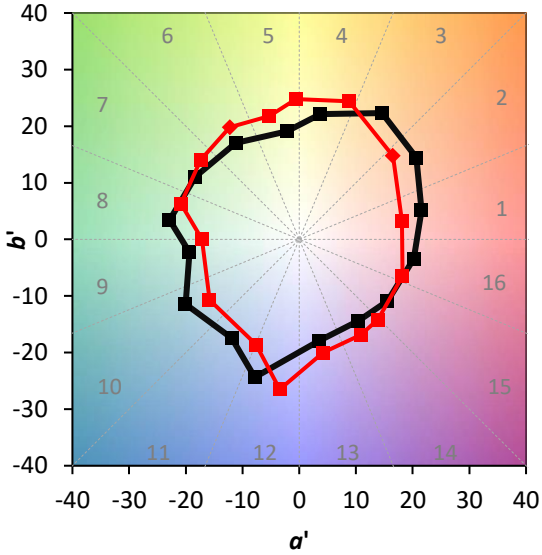
$R_f$ = 71.8
$R_g$ = 96.5
CIE $R_a$ = 70.7
$R_9$ = -36.7

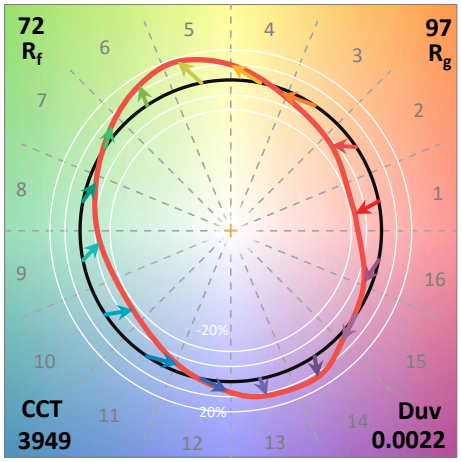
## Spectral Power Distribution Comparison

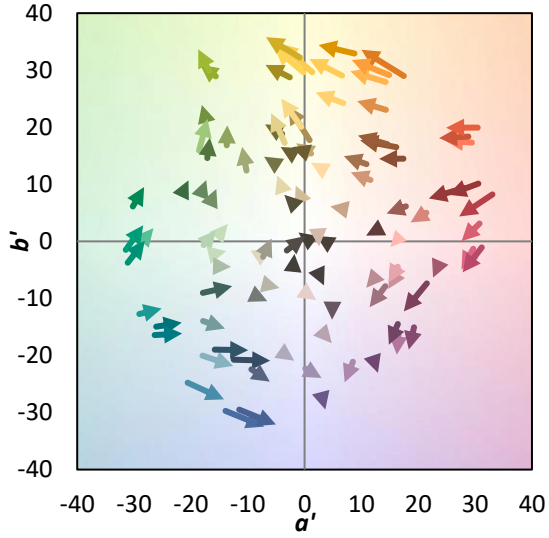



## Color Vector Graphics



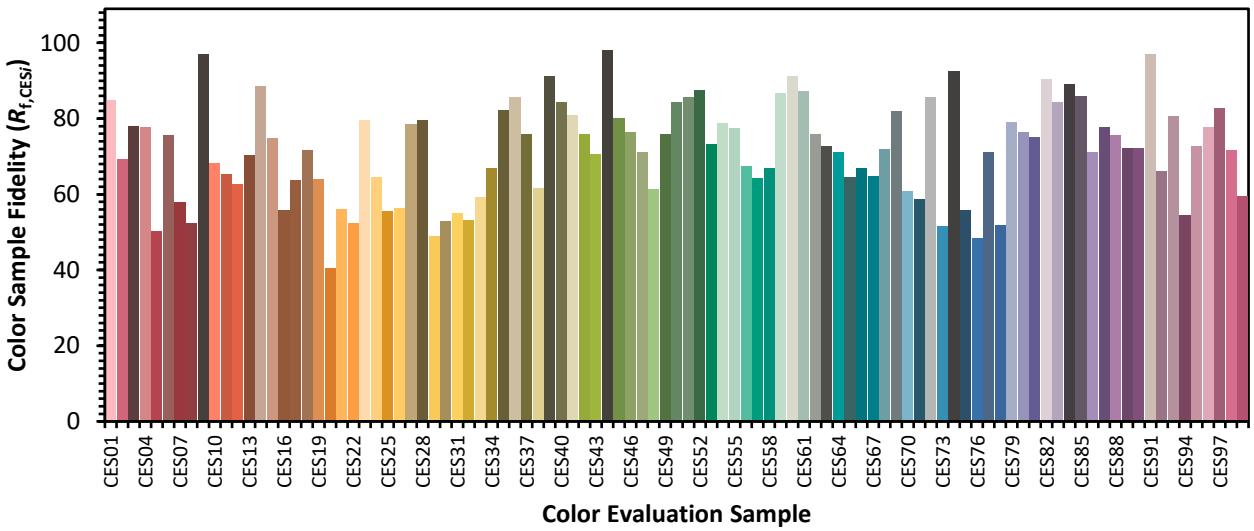



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**Individual Sample Fidelity Index ($R_{f,i}$)**

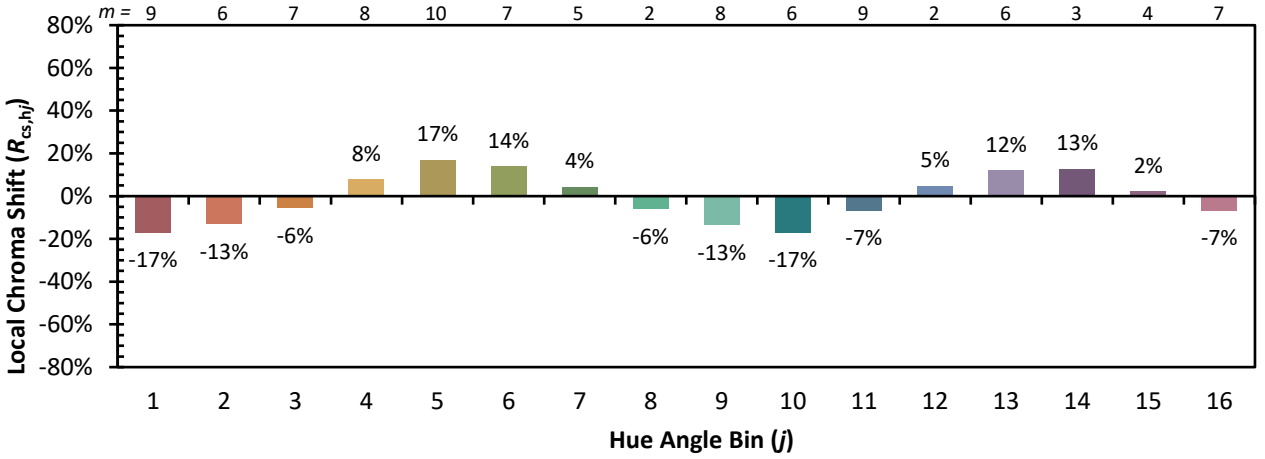
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 | |

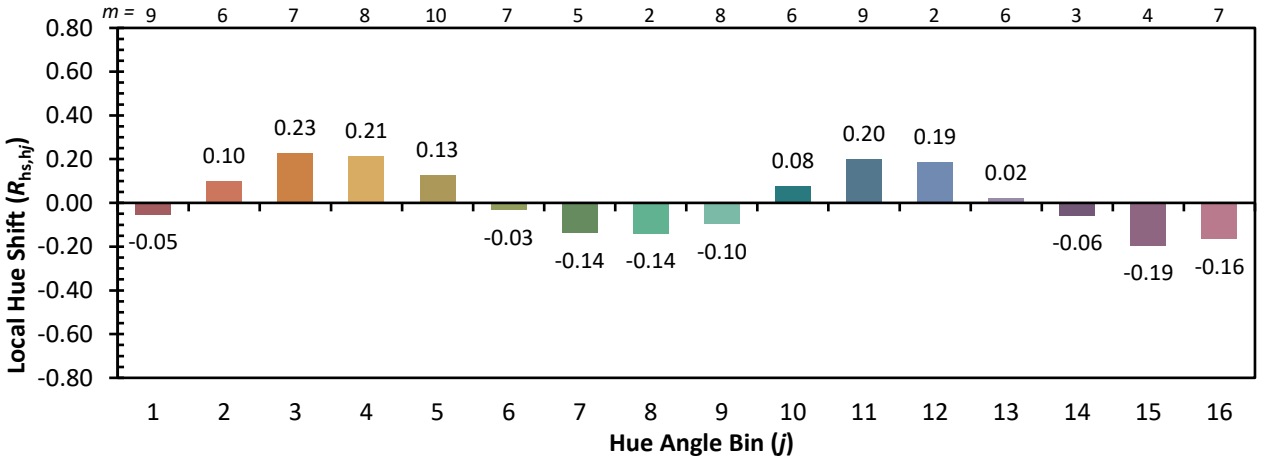


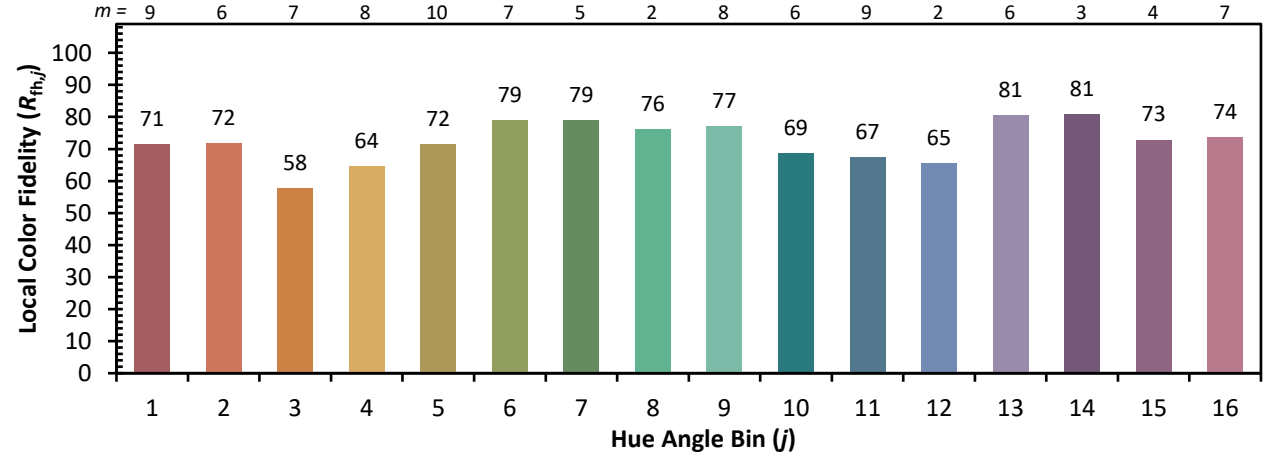
REPORT NUMBER: SP1-2407-184-1

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## Color Rendition by Hue-Angle Bin



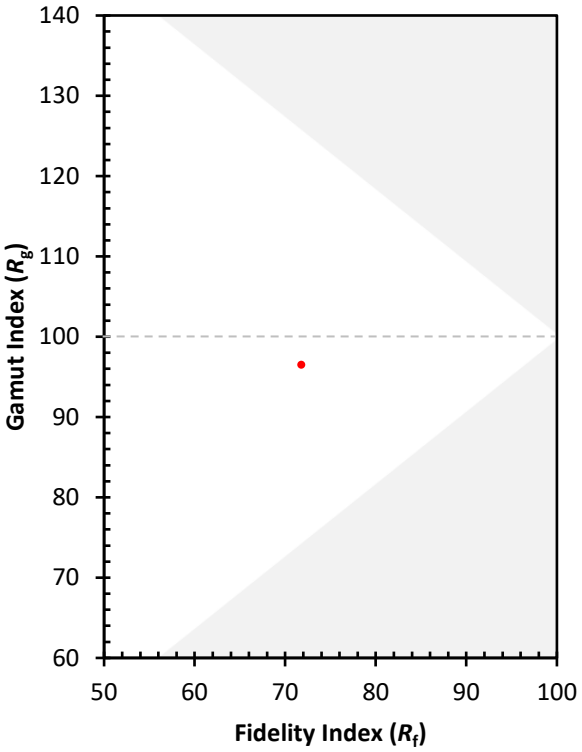



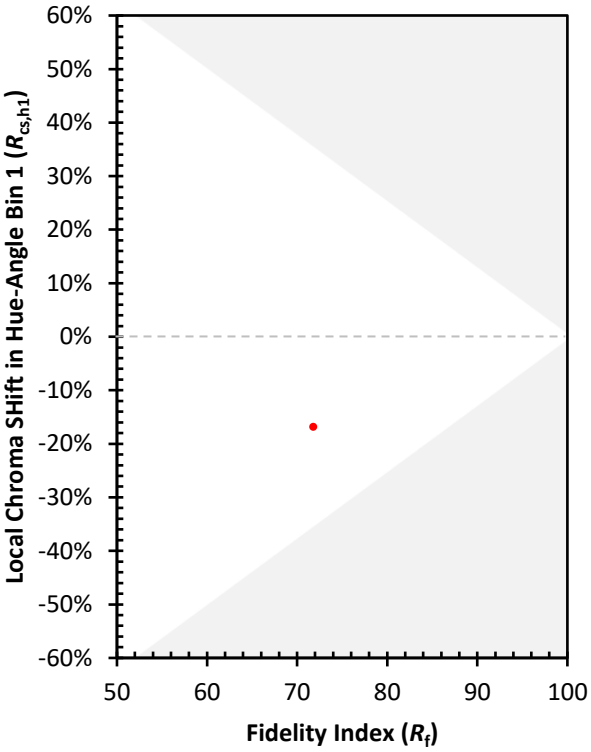



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## Measure Comparisons




(END OF REPORT)