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: P1366532

Luminaire Tested: **GSS-SB4B-735-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: | P1366532 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4B-735-U-T3R |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 148W 70CRI 3500K FIXTURE w/ TYPE III ROADWAY DISTRIBUTION OPTIC |
| Light Source: | (104) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 21828.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 147.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Medium |
| BUG Rating: | B3 - U0 - G3 |

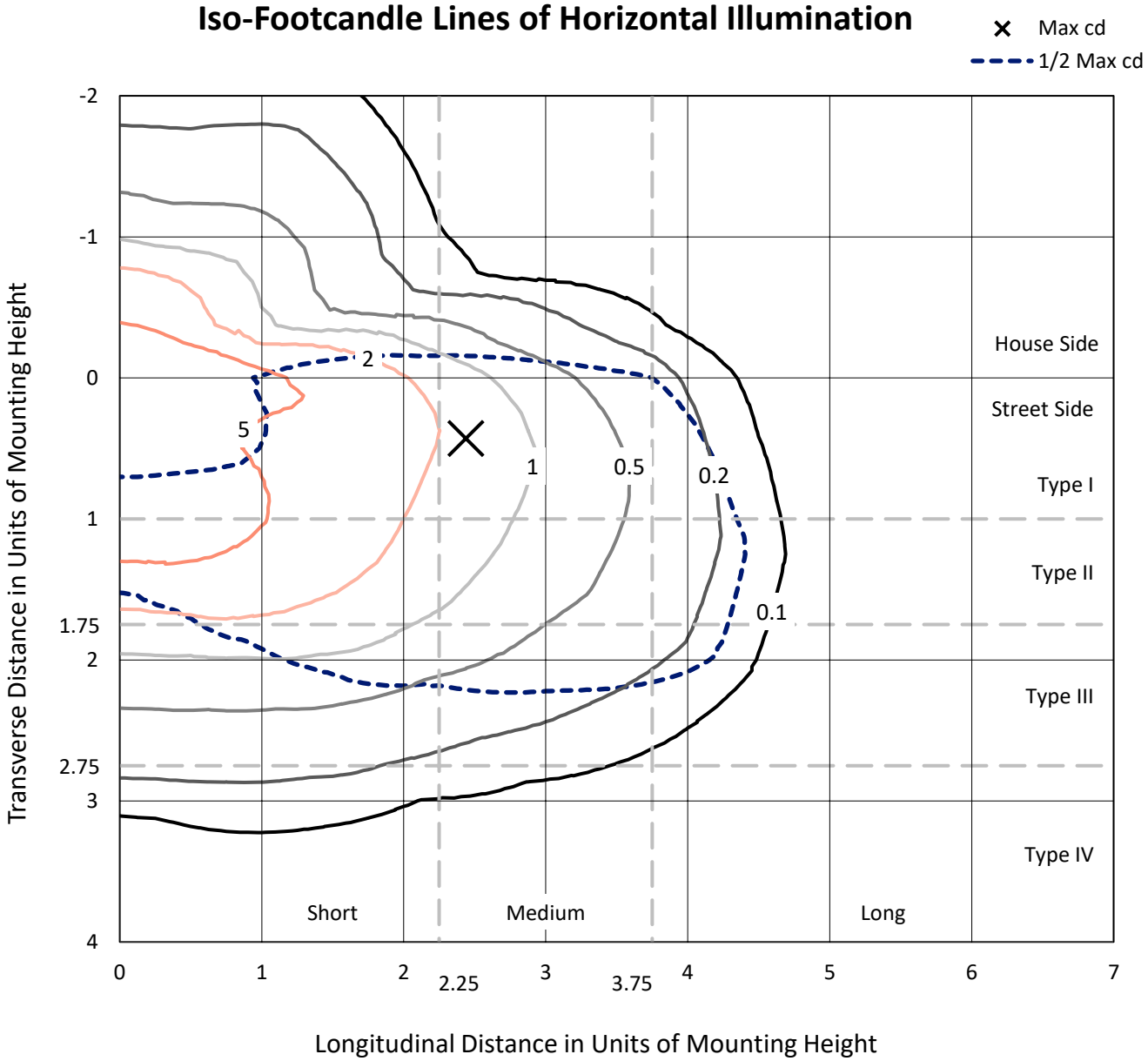
| | |
|---|---|
| Input Watts (W): | 148 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 13.6% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1366532
CATALOG NUMBER: GSS-SB4B-735-U-T3R

## Iso-Footcandle Lines of Horizontal Illumination



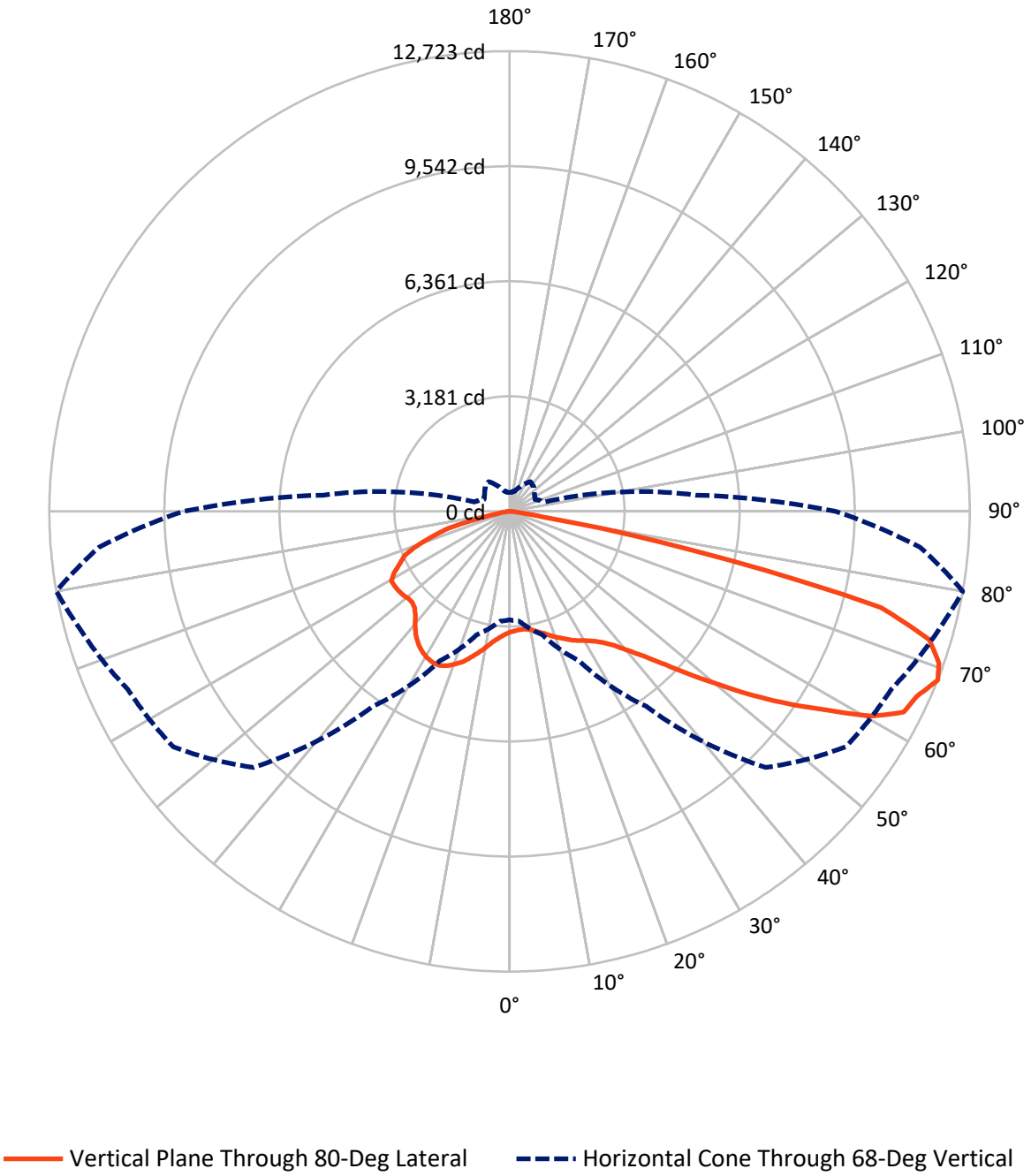

Based on 20 foot mounting height. Maximum calculated value = 9.4 fc
Type III - Medium - N/A

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## Luminous Intensity Polar Plot



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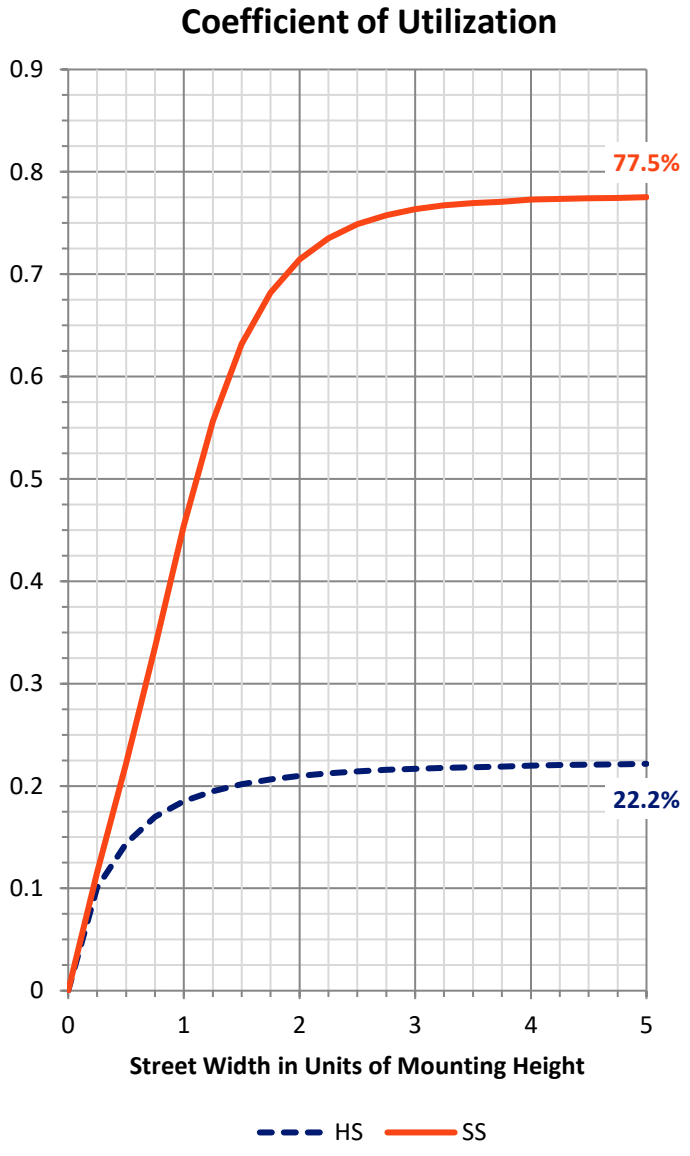
REPORT NUMBER: P1366532
CATALOG NUMBER: GSS-SB4B-735-U-T3R

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4877.7 | 0.0 | 4877.7 |
| | % Fixture | 22.3 | 0.0 | 22.3 |
| **Street Side** | Lumens | 16950.4 | 0.0 | 16950.4 |
| | % Fixture | 77.7 | 0.0 | 77.7 |
| **Total** | Lumens | 21828.1 | 0.0 | 21828.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 322.8 | 1.5 |
| 10°-20° | 921.5 | 4.2 |
| 20°-30° | 1519.5 | 7.0 |
| 30°-40° | 2332.8 | 10.7 |
| 40°-50° | 3602.0 | 16.5 |
| 50°-60° | 4975.2 | 22.8 |
| 60°-70° | 5099.0 | 23.4 |
| 70°-80° | 2887.9 | 13.2 |
| 80°-90° | 167.4 | 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° | 21828.1 | 100.0 |
| 0°-180° | 21828.1 | 100.0 |



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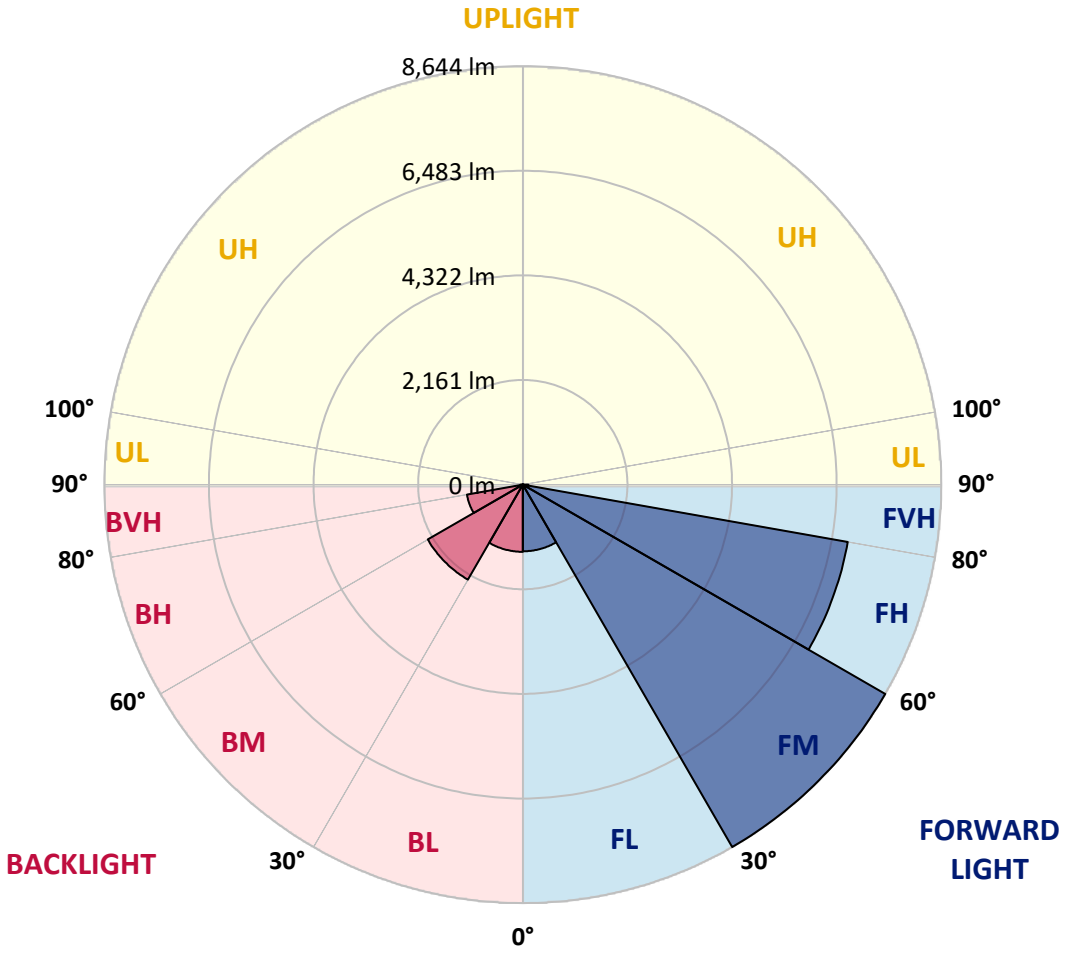
Scaled Data Report

REPORT NUMBER: P1366532
CATALOG NUMBER: GSS-SB4B-735-U-T3R

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1376.2 | 6.3 | | | |
| FM | (30°-60°) | 8644.1 | 39.6 | | | |
| FH | (60°-80°) | 6814.7 | 31.2 | | | G3/7500 |
| FVH | (80°-90°) | 115.4 | 0.5 | | | G2/225 |
| BL | (0°-30°) | 1387.6 | 6.4 | B3/2500 | | |
| BM | (30°-60°) | 2265.9 | 10.4 | B2/2500 | | |
| BH | (60°-80°) | 1172.3 | 5.4 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 52.0 | 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° | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | *3334.6* | 3334.6 |
| 2.5° | 3100.4 | 3090.3 | 3085.2 | 3095.3 | 3110.6 | 3141.2 | 3176.8 | 3202.3 | 3263.3 | *3299.0* | 3329.5 |
| 5° | 2937.5 | 2932.4 | 2932.4 | 2957.9 | 2983.3 | 3019.0 | 3069.9 | 3115.7 | 3207.3 | *3278.6* | 3329.5 |
| 7.5° | 2744.1 | 2739.0 | 2739.0 | 2795.0 | 2845.9 | 2927.3 | 3008.8 | 3085.2 | 3197.2 | *3288.8* | 3370.3 |
| 10° | 2540.4 | 2540.4 | 2550.6 | 2621.9 | 2708.4 | 2825.5 | 2963.0 | 3080.1 | 3222.6 | *3329.5* | 3441.5 |
| 12.5° | 2453.9 | 2448.8 | 2453.9 | 2520.1 | 2606.6 | 2764.4 | 2922.2 | 3100.4 | 3273.5 | *3411.0* | 3543.4 |
| 15° | 2474.2 | 2464.1 | 2453.9 | 2509.9 | 2576.1 | 2733.9 | 2922.2 | 3141.2 | 3360.1 | *3492.4* | 3675.7 |
| 17.5° | 2581.1 | 2576.1 | 2545.5 | 2560.8 | 2606.6 | 2749.2 | 2947.7 | 3202.3 | 3446.6 | *3604.4* | 3803.0 |
| 20° | 2789.9 | 2774.6 | 2728.8 | 2703.3 | 2708.4 | 2800.1 | 2993.5 | 3283.7 | 3528.1 | *3716.4* | 3940.5 |
| 22.5° | 3136.1 | 3125.9 | 3049.5 | 2947.7 | 2881.5 | 2907.0 | 3075.0 | 3375.3 | 3640.1 | *3818.3* | 4098.3 |
| 25° | 3594.3 | 3568.8 | 3451.7 | 3288.8 | 3136.1 | 3080.1 | 3176.8 | 3497.5 | 3747.0 | *3940.5* | 4245.9 |
| 27.5° | 4083.0 | 4088.1 | 3981.2 | 3736.8 | 3472.1 | 3283.7 | 3309.2 | 3619.7 | 3869.2 | *4042.3* | 4373.2 |
| 30° | 4653.2 | 4627.7 | 4510.6 | 4256.1 | 3869.2 | 3553.5 | 3446.6 | 3736.8 | 3981.2 | *4144.1* | 4525.9 |
| 32.5° | 5406.7 | 5411.8 | 5203.0 | 4811.0 | 4327.4 | 3884.5 | 3624.8 | 3859.0 | 4108.5 | *4276.5* | 4714.3 |
| 35° | 6318.0 | 6297.6 | 6048.1 | 5574.7 | 4917.9 | 4266.3 | 3853.9 | 4016.8 | 4261.2 | *4449.6* | 4933.2 |
| 37.5° | 7132.5 | 7076.5 | 6928.9 | 6475.8 | 5661.2 | 4785.6 | 4164.5 | 4225.6 | 4500.5 | *4699.0* | 5259.0 |
| 40° | 7860.5 | 7835.1 | 7809.6 | 7463.4 | 6511.4 | 5432.1 | 4571.7 | 4546.3 | 4795.7 | *5055.4* | 5661.2 |
| 42.5° | 8461.3 | 8456.2 | 8466.4 | 8390.0 | 7550.0 | 6241.6 | 5141.9 | 4963.7 | 5213.2 | *5477.9* | 6134.7 |
| 45° | 8899.1 | 8888.9 | 8995.8 | 9153.7 | 8563.1 | 7208.9 | 5814.0 | 5483.0 | 5742.7 | *6043.0* | 6735.4 |
| 47.5° | 9367.5 | 9372.6 | 9520.2 | 9785.0 | 9550.8 | 8171.1 | 6577.6 | 6129.6 | 6363.8 | *6745.6* | 7453.3 |
| 50° | 9550.8 | 9550.8 | 9902.0 | 10278.8 | 10345.0 | 9194.4 | 7488.9 | 6898.3 | 7137.6 | *7544.9* | 8176.2 |
| 52.5° | 9153.7 | 9230.0 | 9846.0 | 10553.7 | 10864.2 | 10141.3 | 8451.1 | 7733.3 | 7936.9 | *8461.3* | 8894.0 |
| 55° | 6934.0 | 7203.8 | 9418.4 | 10421.3 | 11057.7 | 10884.6 | 9408.2 | 8659.8 | 8883.8 | *9403.1* | 9632.2 |
| 57.5° | 5987.0 | 6058.3 | 7387.1 | 9958.0 | 10813.3 | 11286.8 | 10294.1 | 9647.5 | 9851.1 | *10360.2* | 10401.0 |
| 60° | 5264.1 | 5360.8 | 6175.4 | 9174.0 | 10329.7 | 11246.1 | 11032.3 | 10558.8 | 10843.9 | *11490.4* | 11179.9 |
| 62.5° | 4266.3 | 4368.1 | 5055.4 | 7331.1 | 9693.3 | 10961.0 | 11607.5 | 11419.2 | 11689.0 | *12228.6* | 11500.6 |
| 65° | 3757.2 | 3792.8 | 4286.6 | 5620.5 | 8522.4 | 10716.6 | 11902.8 | 11785.7 | 11902.8 | *12355.9* | 11337.7 |
| 67.5° | 3131.0 | 3202.3 | 3680.8 | 4770.3 | 6883.1 | 10197.3 | 11465.0 | 11633.0 | 12213.4 | *12661.4* | 11459.9 |
| 68° | *2998.6* | *3049.5* | *3538.3* | *4561.6* | *6577.6* | *10009.0* | *11347.9* | *11643.2* | *12335.6* | *12722.5* | *11393.7* |
| 70° | 2448.8 | 2520.1 | 2952.8 | 3823.4 | 5513.6 | 8013.3 | 10889.7 | 11841.7 | 12422.1 | *12595.2* | 11032.3 |
| 72.5° | 1211.7 | 1338.9 | 2036.4 | 2698.2 | 3981.2 | 5793.6 | 9545.7 | 11587.2 | 12243.9 | *12137.0* | 10268.6 |
| 75° | 427.6 | 458.2 | 952.0 | 1461.1 | 1929.5 | 3752.1 | 6750.7 | 10563.9 | 11225.7 | *10599.5* | 8608.9 |
| 77.5° | 305.5 | 330.9 | 539.6 | 738.2 | 794.2 | 1883.7 | 4327.4 | 6984.9 | 6638.7 | *5141.9* | 3920.1 |
| 80° | 239.3 | 259.6 | 402.2 | 412.4 | 397.1 | 661.8 | 1476.4 | 2117.9 | 1491.7 | *936.7* | 677.1 |
| 82.5° | 147.6 | 178.2 | 300.4 | 249.5 | 183.3 | 208.7 | 346.2 | 570.2 | 407.3 | *259.6* | 208.7 |
| 85° | 56.0 | 71.3 | 137.5 | 96.7 | 61.1 | 81.5 | 117.1 | 152.7 | 117.1 | *86.5* | 76.4 |
| 87.5° | 5.1 | 5.1 | 10.2 | 10.2 | 15.3 | 20.4 | 30.5 | 40.7 | 45.8 | *45.8* | 45.8 |
| 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: P1366532
CATALOG NUMBER: GSS-SB4B-735-U-T3R

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 | 3334.6 |
| 2.5° | 3349.9 | 3365.2 | 3431.4 | 3467.0 | 3533.2 | 3584.1 | 3614.6 | 3629.9 | 3645.2 | 3655.4 | 3650.3 |
| 5° | 3385.5 | 3431.4 | 3558.6 | 3655.4 | 3731.7 | 3782.6 | 3808.1 | 3828.5 | 3833.5 | 3843.7 | 3838.6 |
| 7.5° | 3451.7 | 3523.0 | 3716.4 | 3828.5 | 3894.6 | 3915.0 | 3894.6 | 3884.5 | 3869.2 | 3853.9 | 3853.9 |
| 10° | 3558.6 | 3670.6 | 3899.7 | 3981.2 | 3986.3 | 3955.7 | 3889.5 | 3813.2 | 3757.2 | 3736.8 | 3726.6 |
| 12.5° | 3696.1 | 3853.9 | 4088.1 | 4108.5 | 4042.3 | 3899.7 | 3711.4 | 3553.5 | 3451.7 | 3375.3 | 3370.3 |
| 15° | 3864.1 | 4047.4 | 4251.0 | 4189.9 | 4001.5 | 3701.2 | 3390.6 | 3166.6 | 3049.5 | 2983.3 | 2952.8 |
| 17.5° | 4037.2 | 4271.4 | 4398.6 | 4230.6 | 3833.5 | 3344.8 | 2973.2 | 2795.0 | 2688.1 | 2652.4 | 2627.0 |
| 20° | 4230.6 | 4454.6 | 4500.5 | 4169.5 | 3528.1 | 2947.7 | 2611.7 | 2499.7 | 2499.7 | 2489.5 | 2479.3 |
| 22.5° | 4429.2 | 4643.0 | 4556.5 | 4001.5 | 3125.9 | 2555.7 | 2352.1 | 2392.8 | 2464.1 | 2484.4 | 2484.4 |
| 25° | 4612.5 | 4805.9 | 4556.5 | 3701.2 | 2647.3 | 2235.0 | 2250.2 | 2347.0 | 2438.6 | 2489.5 | 2489.5 |
| 27.5° | 4790.7 | 4907.7 | 4464.8 | 3278.6 | 2214.6 | 2072.0 | 2163.7 | 2280.8 | 2428.4 | 2504.8 | 2509.9 |
| 30° | 4968.8 | 4984.1 | 4301.9 | 2739.0 | 1904.0 | 1955.0 | 2061.9 | 2214.6 | 2377.5 | 2474.2 | 2484.4 |
| 32.5° | 5157.2 | 5055.4 | 4072.8 | 2204.4 | 1761.5 | 1843.0 | 1970.2 | 2092.4 | 2219.7 | 2291.0 | 2296.1 |
| 35° | 5371.0 | 5121.6 | 3777.5 | 1792.0 | 1669.9 | 1766.6 | 1863.3 | 1904.0 | 1939.7 | 1980.4 | 2005.9 |
| 37.5° | 5605.2 | 5208.1 | 3390.6 | 1583.3 | 1583.3 | 1695.3 | 1751.3 | 1669.9 | 1659.7 | 1654.6 | 1639.3 |
| 40° | 5864.9 | 5299.8 | 2907.0 | 1476.4 | 1517.1 | 1618.9 | 1573.1 | 1476.4 | 1405.1 | 1328.8 | 1333.8 |
| 42.5° | 6190.7 | 5416.9 | 2357.1 | 1425.5 | 1471.3 | 1557.9 | 1430.6 | 1313.5 | 1120.0 | 1069.1 | 1079.3 |
| 45° | 6562.3 | 5564.5 | 1919.3 | 1379.7 | 1435.7 | 1501.9 | 1333.8 | 1109.8 | 987.7 | 1038.6 | 1074.2 |
| 47.5° | 6954.3 | 5757.9 | 1603.7 | 1344.0 | 1420.4 | 1435.7 | 1272.8 | 1018.2 | 936.7 | 1048.8 | 1094.6 |
| 50° | 7417.6 | 5936.1 | 1456.0 | 1308.4 | 1415.3 | 1415.3 | 1165.8 | 1002.9 | 896.0 | 992.7 | 1038.6 |
| 52.5° | 7886.0 | 6109.2 | 1379.7 | 1267.7 | 1400.0 | 1410.2 | 1140.4 | 982.6 | 840.0 | 870.6 | 890.9 |
| 55° | 8344.2 | 6206.0 | 1338.9 | 1211.7 | 1384.8 | 1384.8 | 1150.6 | 946.9 | 784.0 | 784.0 | 794.2 |
| 57.5° | 8807.5 | 6272.1 | 1303.3 | 1145.5 | 1333.8 | 1308.4 | 1150.6 | 921.5 | 763.7 | 743.3 | 753.5 |
| 60° | 9321.7 | 6312.9 | 1267.7 | 1069.1 | 1262.6 | 1216.8 | 1145.5 | 901.1 | 738.2 | 707.7 | 712.7 |
| 62.5° | 9403.1 | 6027.8 | 1201.5 | 987.7 | 1165.8 | 1140.4 | 1125.1 | 875.7 | 697.5 | 636.4 | 636.4 |
| 65° | 9112.9 | 5600.1 | 1120.0 | 885.8 | 1038.6 | 1064.0 | 1084.4 | 845.1 | 656.7 | 585.5 | 590.6 |
| 67.5° | 9082.4 | 5279.4 | 1033.5 | 794.2 | 870.6 | 967.3 | 1033.5 | 794.2 | 595.6 | 534.6 | 529.5 |
| 68° | *9011.1* | *5162.3* | *1008.0* | *773.8* | *840.0* | *946.9* | *1002.9* | *773.8* | *585.5* | *524.4* | *524.4* |
| 70° | 8552.9 | 4653.2 | 855.3 | 682.2 | 743.3 | 773.8 | 880.7 | 687.3 | 524.4 | 473.5 | 478.6 |
| 72.5° | 7662.0 | 3792.8 | 656.7 | 554.9 | 595.6 | 595.6 | 763.7 | 636.4 | 478.6 | 432.7 | 432.7 |
| 75° | 6389.2 | 2998.6 | 498.9 | 437.8 | 417.5 | 483.6 | 621.1 | 575.3 | 422.6 | 386.9 | 371.6 |
| 77.5° | 2901.9 | 1293.1 | 325.8 | 305.5 | 310.6 | 376.7 | 493.8 | 493.8 | 402.2 | 315.6 | 280.0 |
| 80° | 641.5 | 402.2 | 198.5 | 183.3 | 183.3 | 239.3 | 346.2 | 356.4 | 290.2 | 218.9 | 188.4 |
| 82.5° | 213.8 | 162.9 | 122.2 | 112.0 | 106.9 | 127.3 | 213.8 | 234.2 | 173.1 | 127.3 | 127.3 |
| 85° | 81.5 | 76.4 | 66.2 | 61.1 | 50.9 | 50.9 | 66.2 | 106.9 | 91.6 | 61.1 | 61.1 |
| 87.5° | 40.7 | 40.7 | 35.6 | 25.5 | 20.4 | 15.3 | 10.2 | 10.2 | 10.2 | 15.3 | 10.2 |
| 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-79-2019: 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

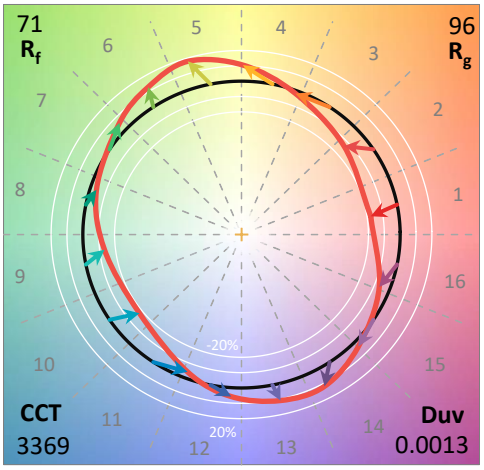
## Test Information

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

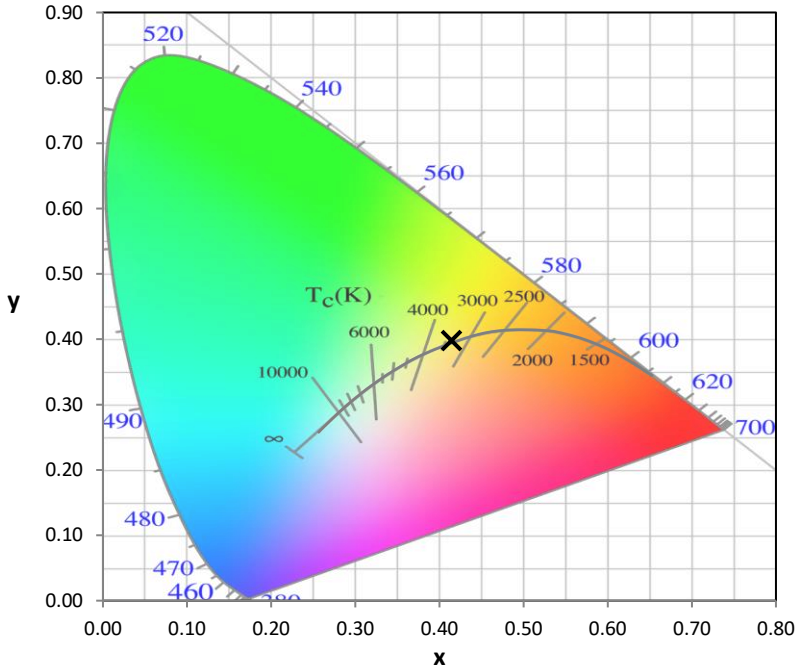
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

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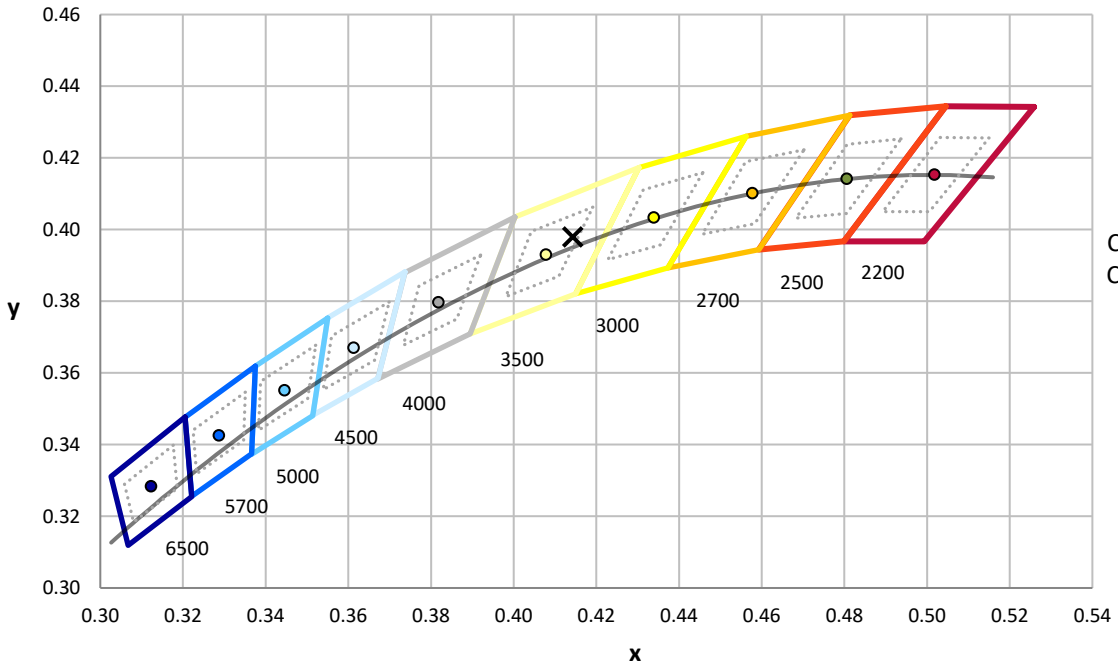
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

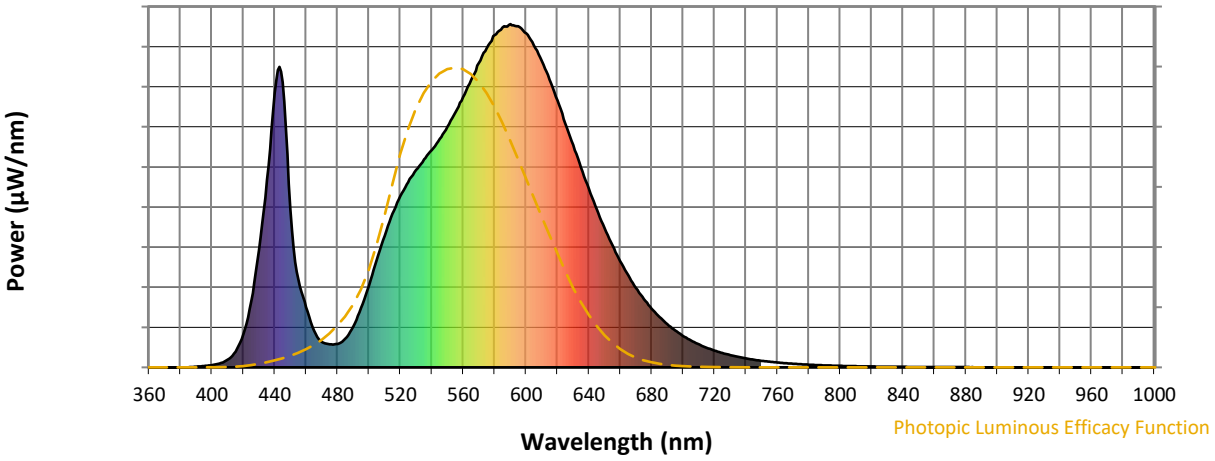



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

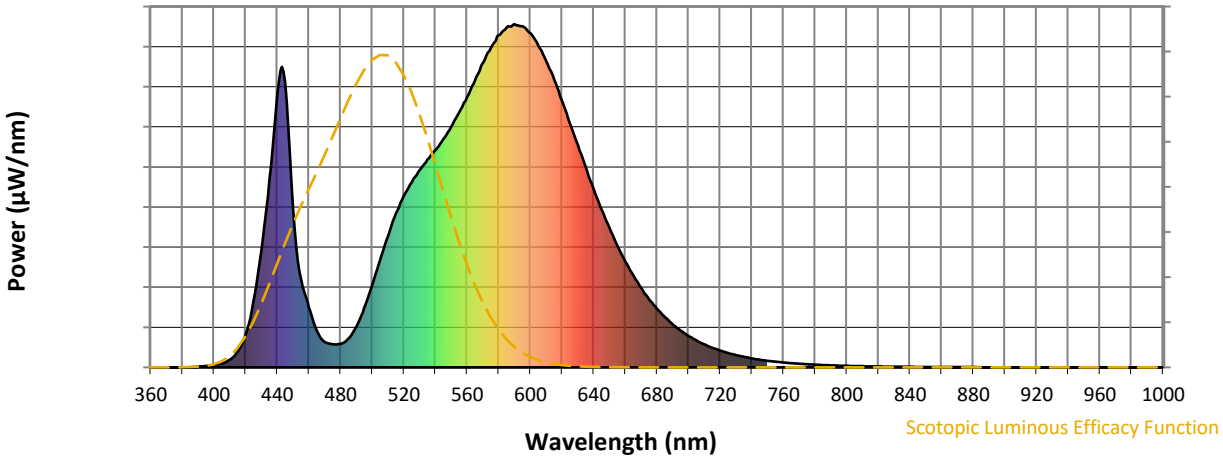



## Photopic Lumens: NR

| 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 | 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 | | | |

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## Scotopic Flux vs. Wavelength

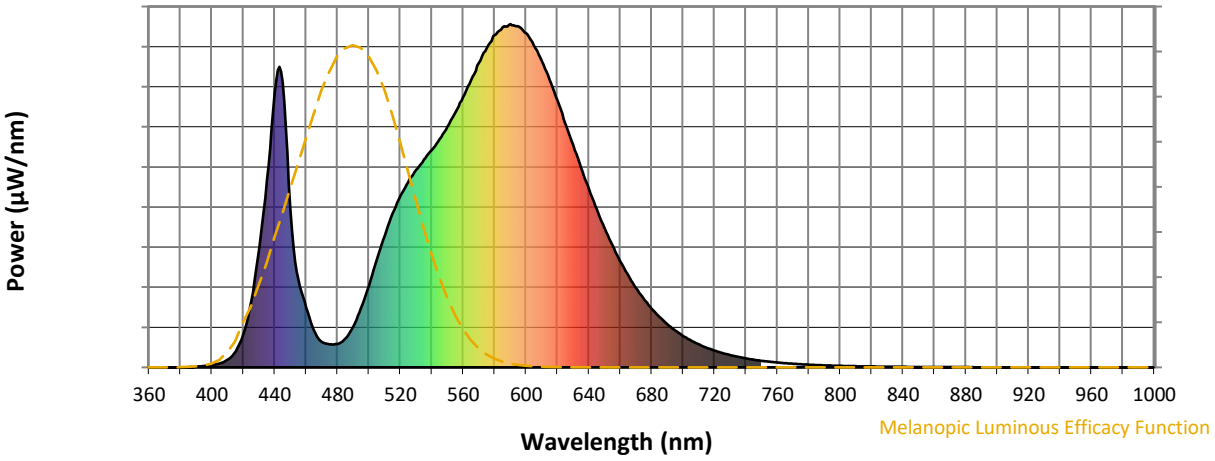



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | | | |

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## 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 | | | |

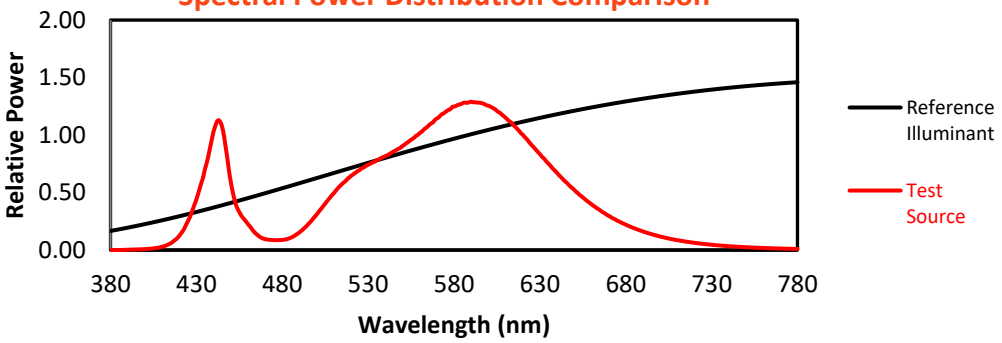
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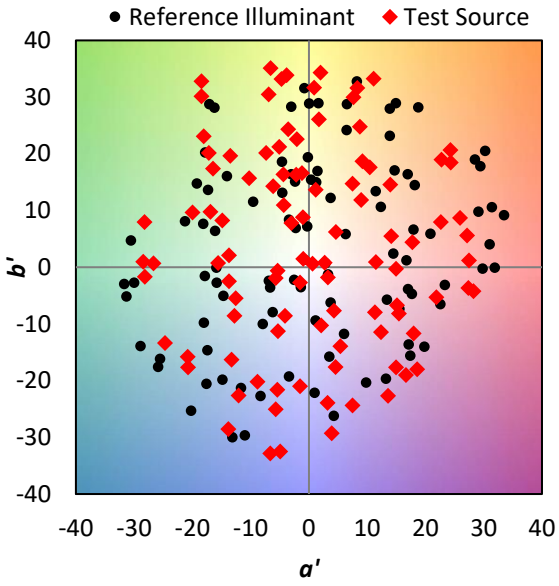
## Summary

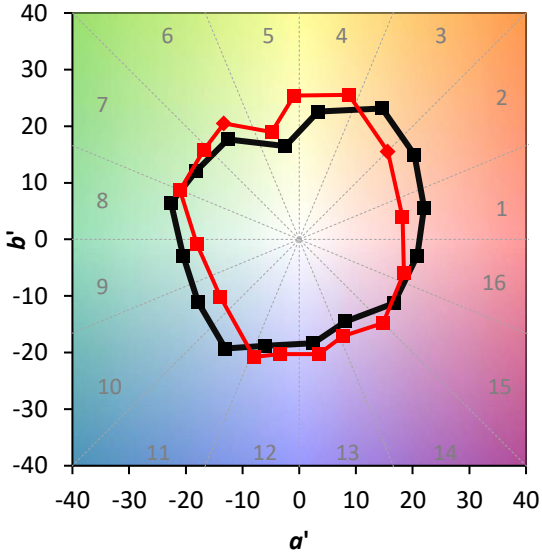
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

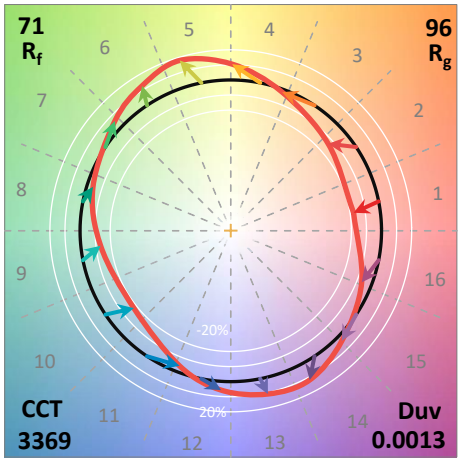
## Spectral Power Distribution Comparison

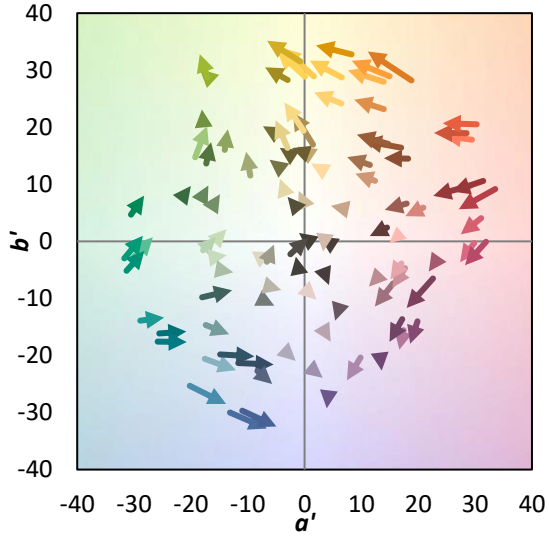



## Color Vector Graphics



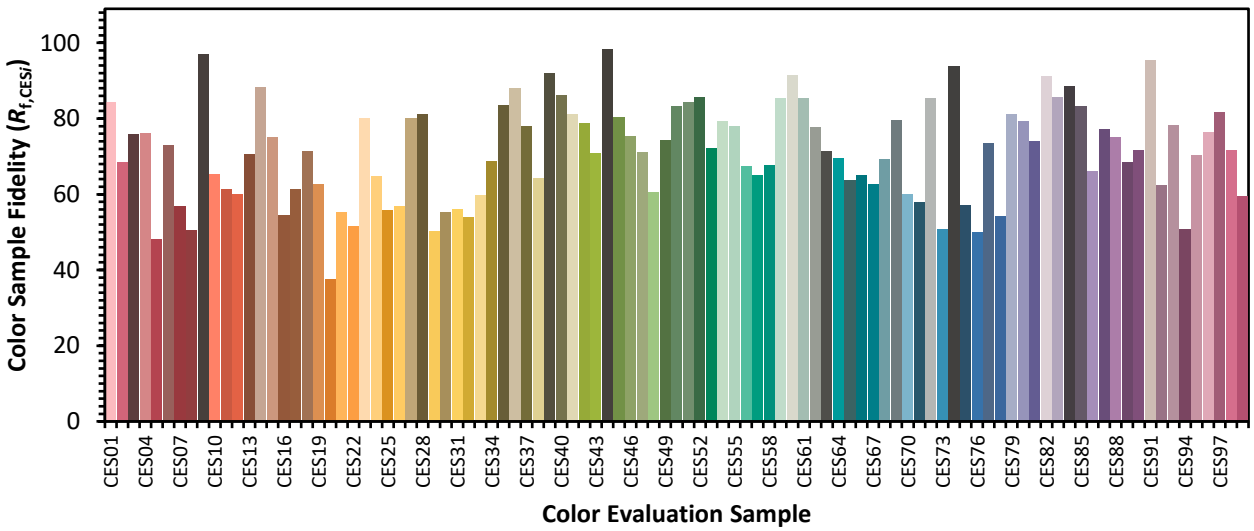



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## Individual Sample Fidelity Index ($R_{f,i}$)

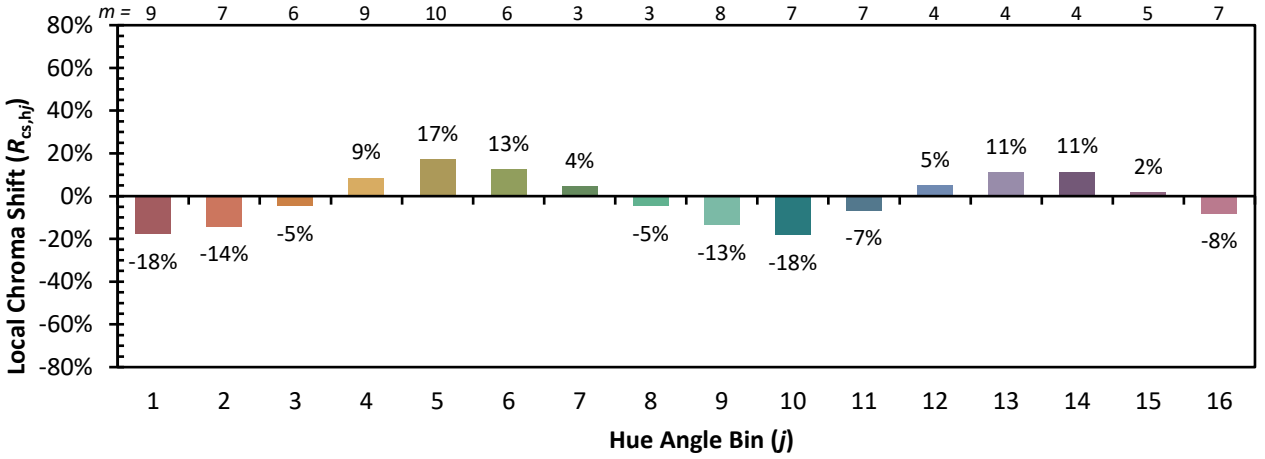
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06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

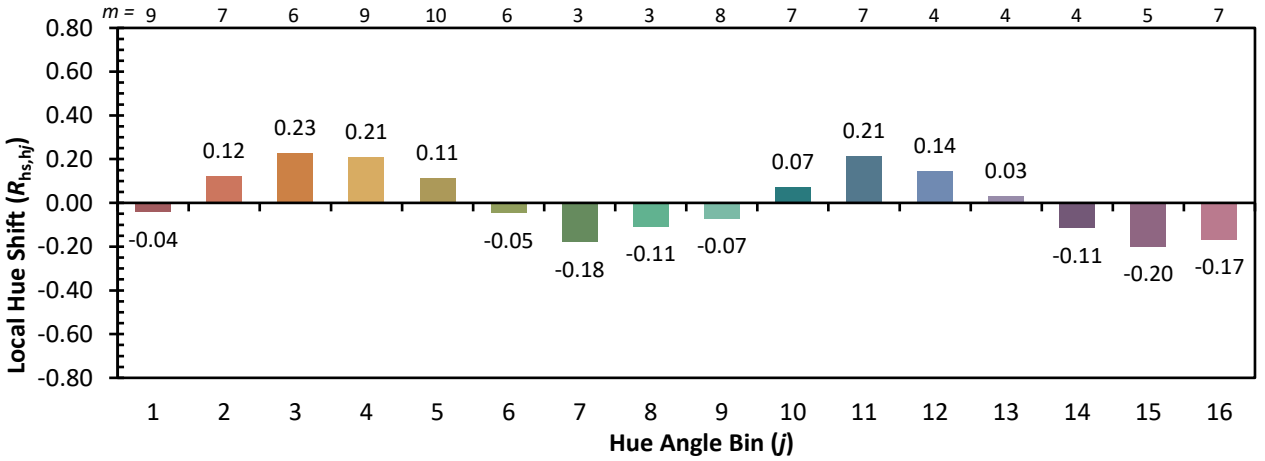


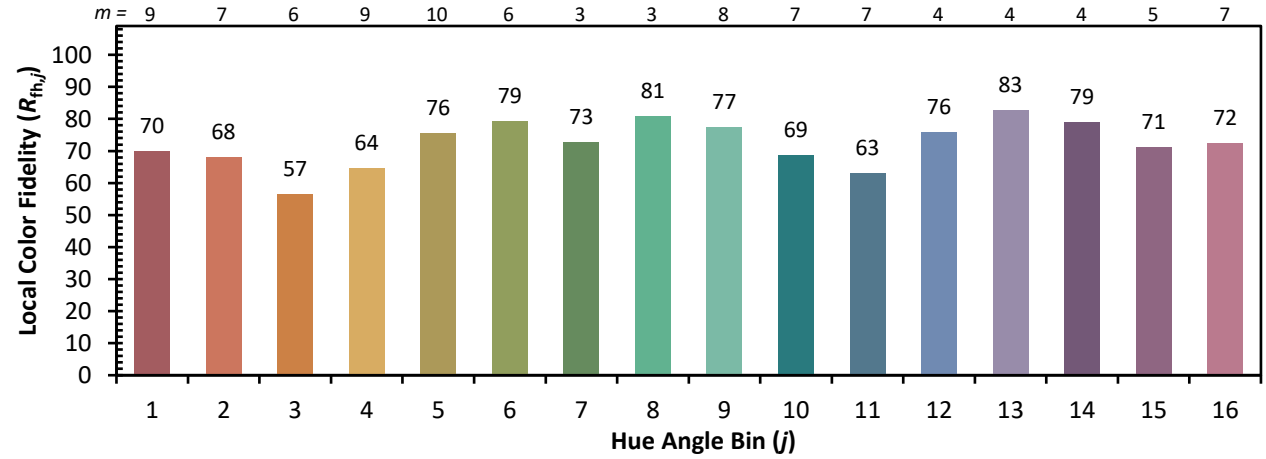
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## Color Rendition by Hue-Angle Bin



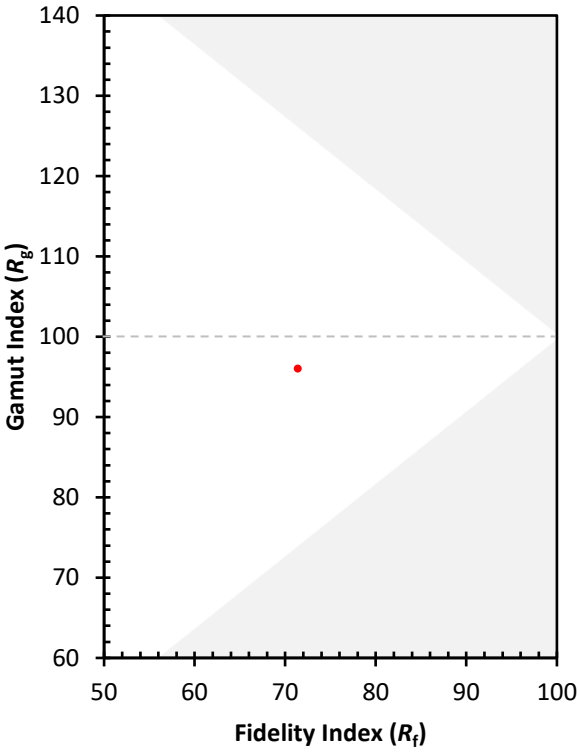



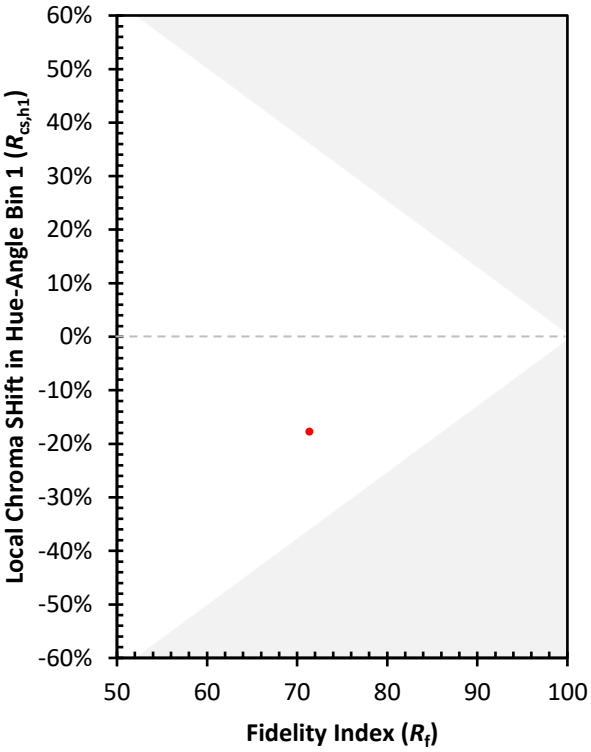



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## Measure Comparisons




(END OF REPORT)