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: P1047185

Luminaire Tested: **GALN-SA8A-735-U-T3BC**

Issue Date: 07/10/2025

Report Generated By 670347003

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: | P1047185 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 07/10/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GALN-SA8A-735-U-T3BC |
| Description: | GALLEON II AREA AND ROADWAY LUMINAIRE 615mA 8xLight Square PACKAGE 70CRI 3500K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL |
| Light Source: | (112) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 29480.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 135.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B0 - U0 - G5 |

| | |
|---|---|
| Input Watts (W): | 217.6 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.97 |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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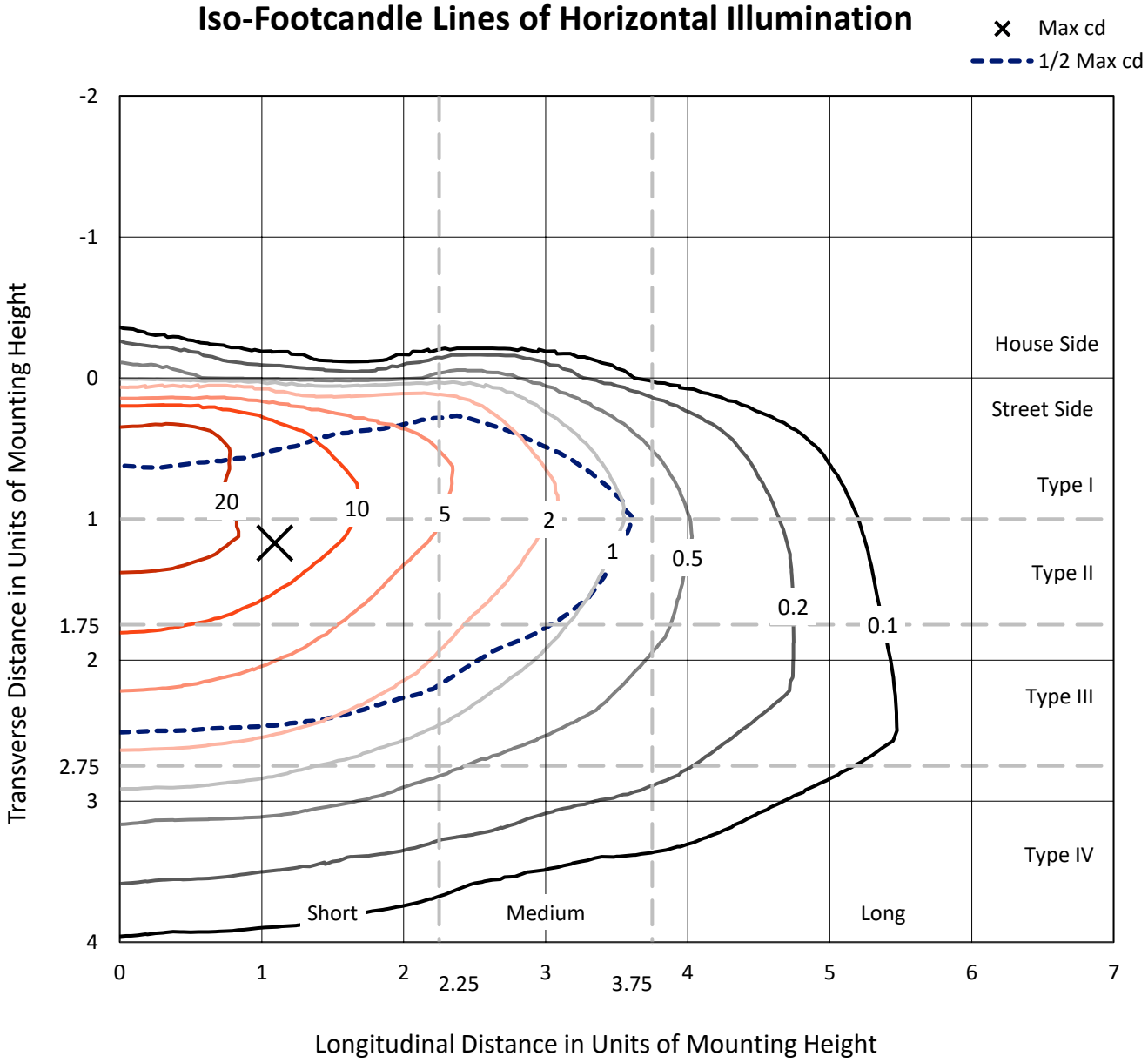
Scaled Data Report

REPORT NUMBER: P1047185
CATALOG NUMBER: GALN-SA8A-735-U-T3BC

## Iso-Footcandle Lines of Horizontal Illumination




Based on 15 foot mounting height. Maximum calculated value = 33.1 fc
Type III - Short - N/A

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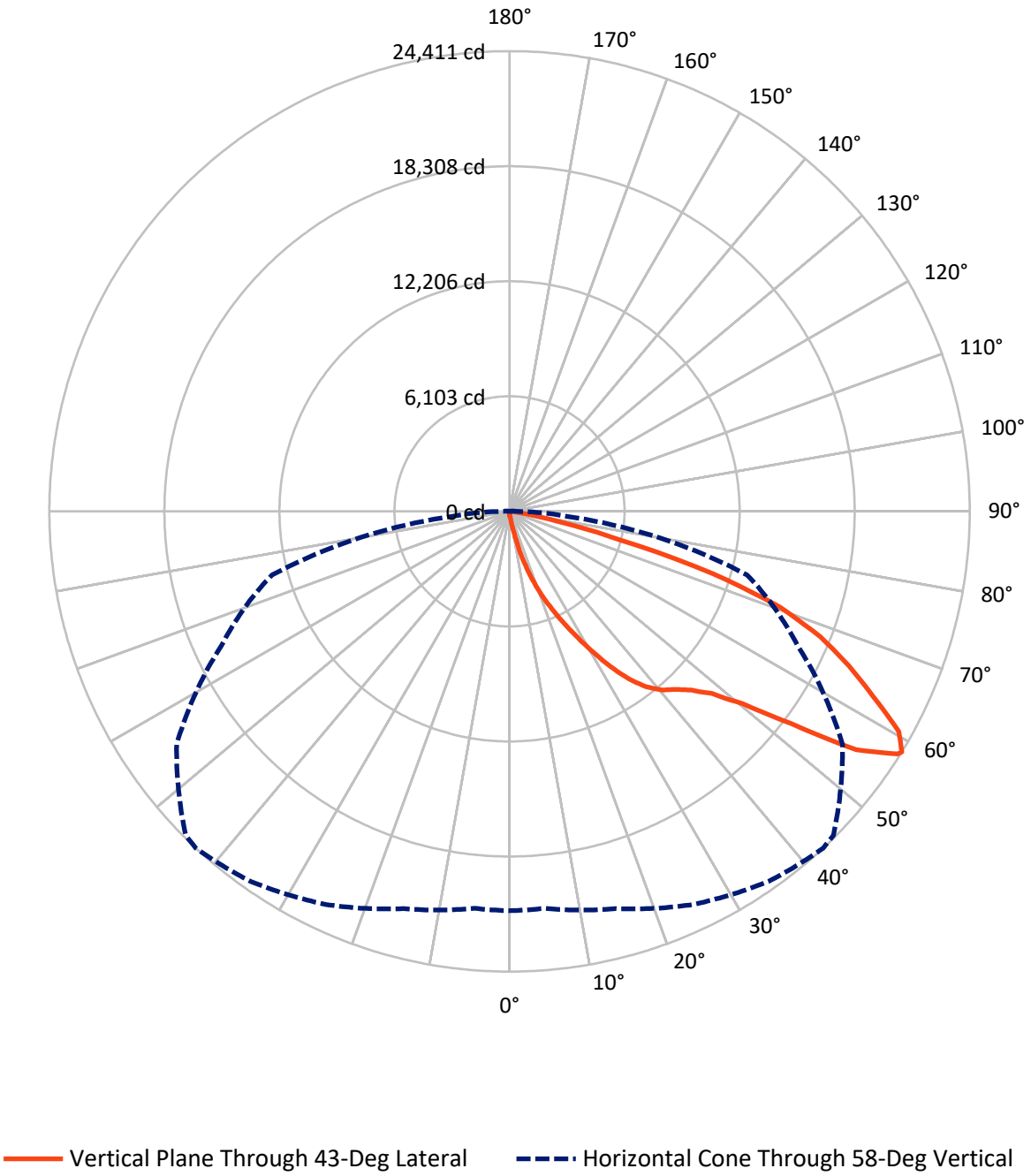
## Luminous Intensity Polar Plot



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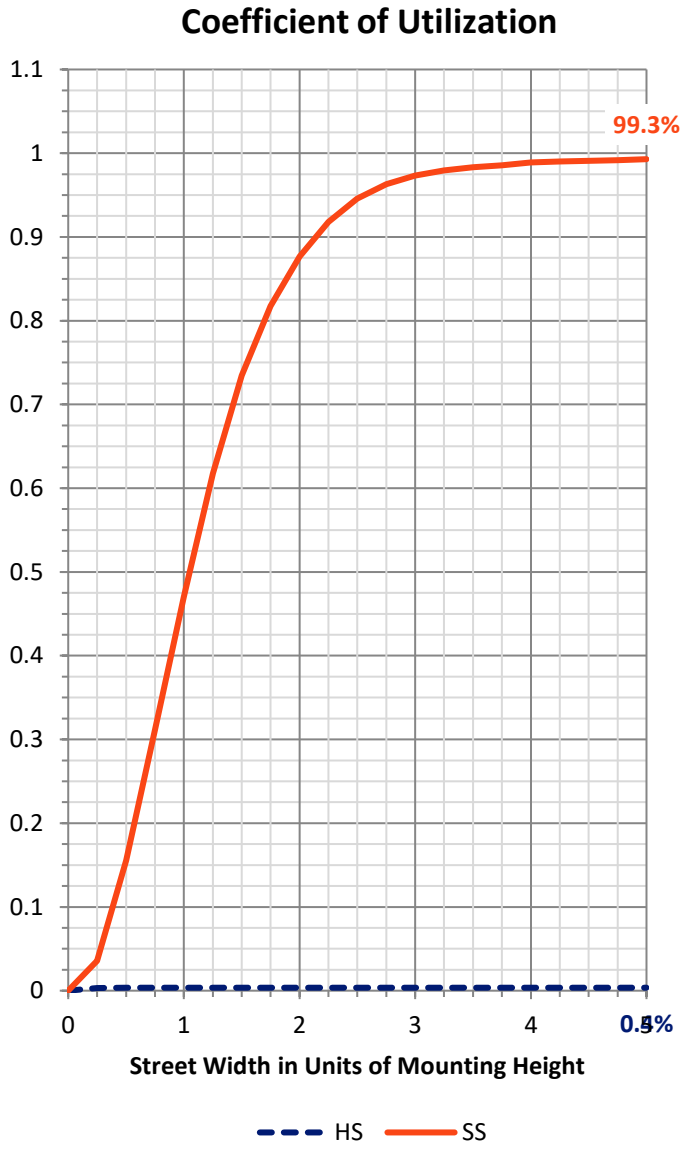
REPORT NUMBER: P1047185
CATALOG NUMBER: GALN-SA8A-735-U-T3BC

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 107.6 | 0.0 | 107.6 |
| | % Fixture | 0.4 | 0.0 | 0.4 |
| **Street Side** | Lumens | 29372.9 | 0.0 | 29372.9 |
| | % Fixture | 99.6 | 0.0 | 99.6 |
| **Total** | Lumens | 29480.5 | 0.0 | 29480.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 28.2 | 0.1 |
| 10°-20° | 338.9 | 1.1 |
| 20°-30° | 1221.4 | 4.1 |
| 30°-40° | 2794.6 | 9.5 |
| 40°-50° | 4713.4 | 16.0 |
| 50°-60° | 7778.2 | 26.4 |
| 60°-70° | 8693.1 | 29.5 |
| 70°-80° | 3589.2 | 12.2 |
| 80°-90° | 323.6 | 1.1 |
| 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° | 29480.5 | 100.0 |
| 0°-180° | 29480.5 | 100.0 |



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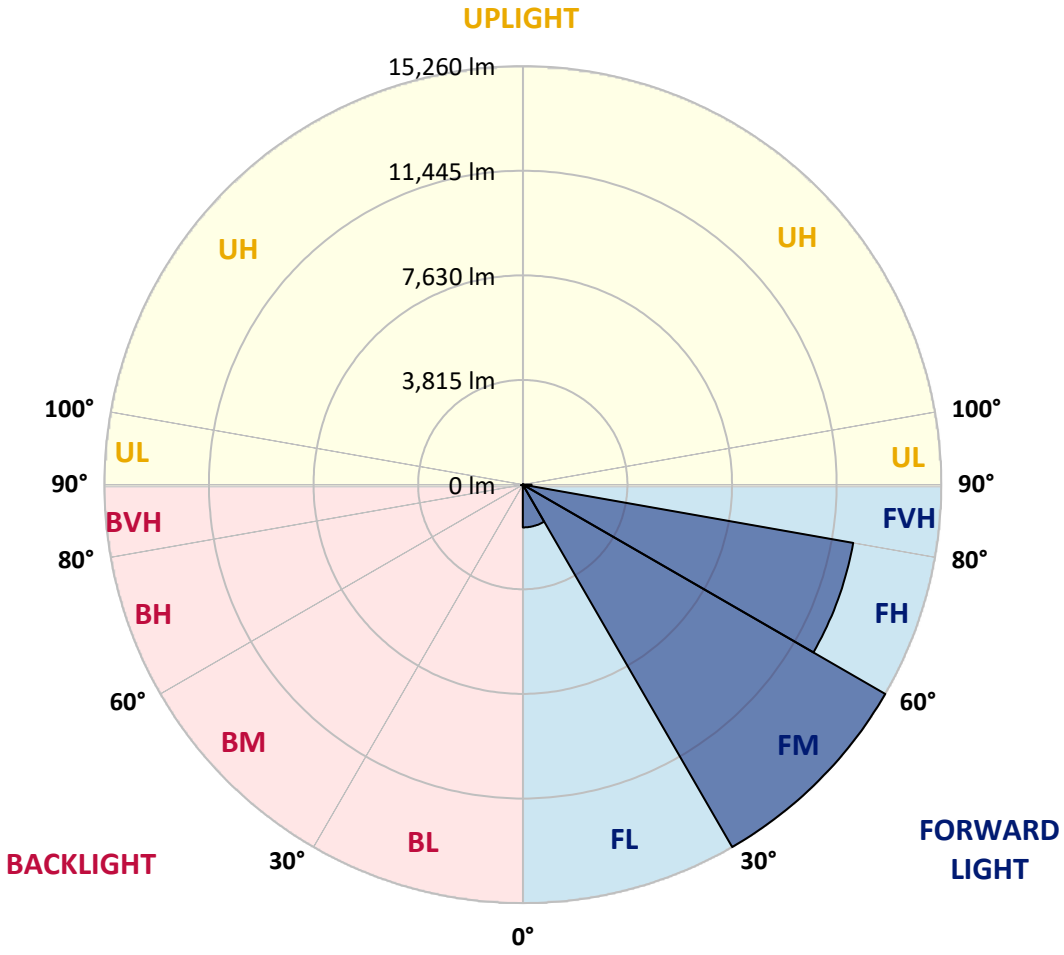
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1560.5 | 5.3 | | | |
| FM | (30°-60°) | 15260.3 | 51.8 | | | |
| FH | (60°-80°) | 12233.1 | 41.5 | | | G5 |
| FVH | (80°-90°) | 319.1 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 28.1 | 0.1 | B0/110 | | |
| BM | (30°-60°) | 25.8 | 0.1 | B0/220 | | |
| BH | (60°-80°) | 49.3 | 0.2 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 4.4 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B0-U0-G5**
Type III Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 43° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | *192.8* | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 |
| 2.5° | 231.3 | 239.0 | 231.3 | 231.3 | 231.3 | *223.6* | 223.6 | 215.9 | 215.9 | 208.2 | 200.5 |
| 5° | 339.3 | 339.3 | 316.1 | 300.7 | 285.3 | *277.6* | 269.9 | 254.4 | 239.0 | 223.6 | 208.2 |
| 7.5° | 755.6 | 755.6 | 686.2 | 593.7 | 470.3 | *400.9* | 385.5 | 316.1 | 269.9 | 239.0 | 208.2 |
| 10° | 1804.2 | 1804.2 | 1650.0 | 1395.6 | 1079.5 | *801.9* | 717.1 | 454.9 | 323.8 | 254.4 | 215.9 |
| 12.5° | 2999.3 | 3037.9 | 2845.1 | 2521.3 | 2051.0 | *1565.2* | 1395.6 | 832.7 | 431.8 | 277.6 | 215.9 |
| 15° | 4071.1 | 3978.6 | 3924.6 | 3616.2 | 3169.0 | *2590.7* | 2374.8 | 1403.3 | 624.5 | 316.1 | 215.9 |
| 17.5° | 4795.9 | 4795.9 | 4718.8 | 4510.6 | 4101.9 | *3593.0* | 3415.7 | 2266.9 | 1010.1 | 362.4 | 223.6 |
| 20° | 5644.0 | 5644.0 | 5505.2 | 5358.7 | 4996.3 | *4564.5* | 4394.9 | 3222.9 | 1565.2 | 462.6 | 223.6 |
| 22.5° | 6669.5 | 6684.9 | 6530.7 | 6268.5 | 5921.6 | *5443.5* | 5297.0 | 4109.6 | 2266.9 | 616.8 | 231.3 |
| 25° | 7918.6 | 7934.0 | 7710.4 | 7463.6 | 6931.6 | *6415.0* | 6191.4 | 5127.4 | 3122.7 | 863.6 | 231.3 |
| 27.5° | 9298.7 | 9406.7 | 9075.1 | 8651.0 | 8088.2 | *7440.5* | 7270.9 | 6044.9 | 3970.8 | 1218.2 | 246.7 |
| 30° | 11018.1 | 11018.1 | 10578.6 | 9984.9 | 9375.8 | *8573.9* | 8358.1 | 7008.7 | 4873.0 | 1688.6 | 262.2 |
| 32.5° | 12498.5 | 12382.9 | 11820.0 | 11195.5 | 10547.8 | *9799.9* | 9568.6 | 8018.8 | 5798.2 | 2274.6 | 293.0 |
| 35° | 13632.0 | 13531.7 | 12837.8 | 12167.0 | 11604.1 | *10917.9* | 10640.3 | 9113.7 | 6777.4 | 2937.7 | 339.3 |
| 37.5° | 14603.5 | 14564.9 | 13624.2 | 12783.8 | 12413.7 | *11812.3* | 11565.6 | 10146.9 | 7741.2 | 3654.7 | 393.2 |
| 40° | 15667.5 | 15544.1 | 14541.8 | 13500.9 | 12945.7 | *12460.0* | 12236.4 | 10979.6 | 8666.5 | 4495.2 | 470.3 |
| 42.5° | 16577.3 | 16430.8 | 15528.7 | 14510.9 | 13562.6 | *12907.2* | 12691.3 | 11681.2 | 9568.6 | 5335.6 | 570.6 |
| 45° | 17587.4 | 17510.3 | 16600.4 | 15829.4 | 14564.9 | *13516.3* | 13231.0 | 12244.1 | 10393.6 | 6337.9 | 701.6 |
| 47.5° | 19106.3 | 18967.5 | 18119.4 | 17487.1 | 16022.2 | *14441.5* | 14032.9 | 12822.4 | 11187.8 | 7324.9 | 902.1 |
| 50° | 20872.0 | 20779.5 | 20278.3 | 19777.1 | 18319.9 | *16022.2* | 15536.4 | 13655.1 | 12074.5 | 8496.8 | 1164.3 |
| 52.5° | 22313.8 | 22298.4 | 22360.1 | 22367.8 | 21265.2 | *18682.3* | 17957.5 | 14996.7 | 13092.2 | 9653.4 | 1534.4 |
| 55° | 22283.0 | 22352.4 | 23030.9 | 23809.7 | 23894.5 | *22313.8* | 21612.2 | 17255.8 | 14418.4 | 11079.8 | 2051.0 |
| 57.5° | 21450.3 | 21396.3 | 22113.4 | 23285.3 | 24110.4 | *24280.0* | 24164.3 | 20764.1 | 16415.4 | 12799.2 | 2845.1 |
| 58° | *21180.4* | *21134.2* | *21812.7* | *23007.8* | *23956.2* | *24411.1* | *24295.4* | *21558.2* | *16862.6* | *13046.0* | *3061.0* |
| 60° | 20201.2 | 20208.9 | 20609.8 | 21697.0 | 22645.4 | *23724.8* | 23832.8 | 23825.1 | 19090.9 | 14696.0 | 4148.2 |
| 62.5° | 18905.9 | 18844.2 | 19214.3 | 20101.0 | 20933.7 | *21658.5* | 21843.5 | 23979.3 | 22352.4 | 16793.2 | 6222.3 |
| 65° | 17117.0 | 17024.5 | 17417.7 | 18420.1 | 19314.5 | *19784.8* | 19792.5 | 21912.9 | 23886.8 | 19044.6 | 9183.1 |
| 67.5° | 13793.9 | 13716.8 | 14503.2 | 15790.9 | 17171.0 | *17787.8* | 18065.4 | 19013.8 | 22591.4 | 20571.3 | 10879.3 |
| 70° | 8450.6 | 8612.5 | 9707.4 | 11727.5 | 14086.9 | *15220.3* | 15636.7 | 15929.6 | 19237.4 | 20340.0 | 9098.2 |
| 72.5° | 3901.5 | 3708.7 | 4641.6 | 6052.6 | 8743.6 | *11264.9* | 11696.6 | 12845.5 | 15251.1 | 17656.8 | 6785.1 |
| 75° | 1819.6 | 1750.3 | 1966.1 | 2644.7 | 3963.1 | *6083.5* | 6869.9 | 10254.8 | 11696.6 | 12282.6 | 4896.1 |
| 77.5° | 933.0 | 940.7 | 1118.0 | 1202.8 | 1634.6 | *2814.3* | 3230.6 | 6746.6 | 8573.9 | 6854.5 | 3284.6 |
| 80° | 408.7 | 424.1 | 431.8 | 470.3 | 663.1 | *1087.2* | 1226.0 | 3130.4 | 5859.9 | 3492.8 | 1796.5 |
| 82.5° | 262.2 | 269.9 | 269.9 | 269.9 | 316.1 | *431.8* | 493.5 | 1256.8 | 2922.2 | 1734.8 | 555.1 |
| 85° | 138.8 | 138.8 | 154.2 | 192.8 | 223.6 | *262.2* | 277.6 | 400.9 | 963.8 | 516.6 | 131.1 |
| 87.5° | 77.1 | 84.8 | 92.5 | 115.7 | 146.5 | *177.3* | 192.8 | 277.6 | 370.1 | 354.7 | 30.8 |
| 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: P1047185
CATALOG NUMBER: GALN-SA8A-735-U-T3BC

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 | 192.8 |
| 2.5° | 200.5 | 192.8 | 185.0 | 177.3 | 169.6 | 161.9 | 161.9 | 161.9 | 161.9 | 161.9 | 161.9 |
| 5° | 192.8 | 185.0 | 177.3 | 161.9 | 146.5 | 138.8 | 131.1 | 123.4 | 123.4 | 123.4 | 123.4 |
| 7.5° | 192.8 | 185.0 | 161.9 | 146.5 | 131.1 | 115.7 | 100.2 | 100.2 | 100.2 | 100.2 | 100.2 |
| 10° | 192.8 | 177.3 | 154.2 | 131.1 | 107.9 | 92.5 | 84.8 | 77.1 | 77.1 | 77.1 | 77.1 |
| 12.5° | 192.8 | 169.6 | 146.5 | 115.7 | 92.5 | 77.1 | 69.4 | 61.7 | 61.7 | 61.7 | 61.7 |
| 15° | 192.8 | 169.6 | 138.8 | 107.9 | 84.8 | 61.7 | 54.0 | 46.3 | 46.3 | 46.3 | 46.3 |
| 17.5° | 185.0 | 161.9 | 131.1 | 92.5 | 69.4 | 46.3 | 38.6 | 30.8 | 30.8 | 38.6 | 38.6 |
| 20° | 177.3 | 154.2 | 115.7 | 77.1 | 54.0 | 38.6 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 |
| 22.5° | 177.3 | 154.2 | 107.9 | 69.4 | 46.3 | 23.1 | 15.4 | 15.4 | 15.4 | 15.4 | 23.1 |
| 25° | 177.3 | 146.5 | 92.5 | 54.0 | 30.8 | 15.4 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| 27.5° | 177.3 | 146.5 | 84.8 | 46.3 | 23.1 | 15.4 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30° | 169.6 | 138.8 | 77.1 | 38.6 | 15.4 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32.5° | 169.6 | 131.1 | 61.7 | 30.8 | 15.4 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35° | 177.3 | 123.4 | 54.0 | 23.1 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.7 |
| 37.5° | 185.0 | 115.7 | 46.3 | 15.4 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40° | 192.8 | 107.9 | 46.3 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5° | 208.2 | 107.9 | 38.6 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45° | 223.6 | 107.9 | 30.8 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5° | 254.4 | 115.7 | 30.8 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50° | 277.6 | 123.4 | 23.1 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 308.4 | 115.7 | 23.1 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 347.0 | 115.7 | 23.1 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57.5° | 377.8 | 107.9 | 23.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58° | *393.2* | *100.2* | *15.4* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* |
| 60° | 470.3 | 92.5 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62.5° | 732.5 | 77.1 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 1488.1 | 69.4 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2775.7 | 61.7 | 15.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 3107.3 | 69.4 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 1958.4 | 54.0 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 1033.2 | 54.0 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 516.6 | 54.0 | 7.7 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 239.0 | 38.6 | 7.7 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 100.2 | 23.1 | 15.4 | 7.7 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 46.3 | 23.1 | 15.4 | 15.4 | 7.7 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 23.1 | 23.1 | 23.1 | 15.4 | 15.4 | 7.7 | 7.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

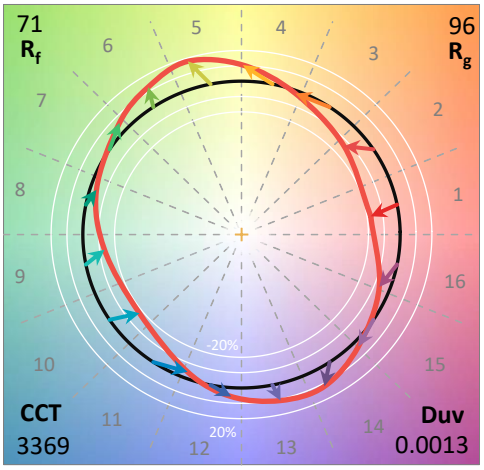
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

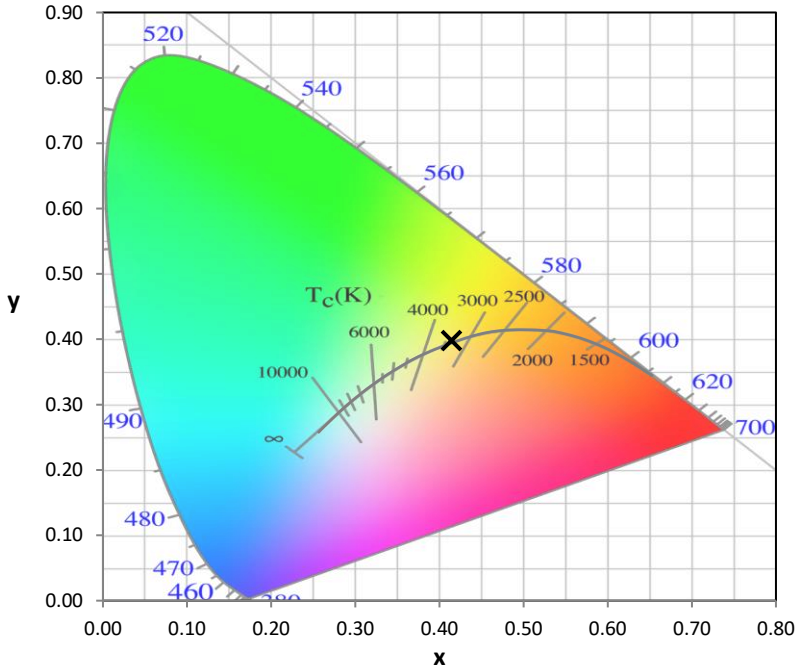
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-5

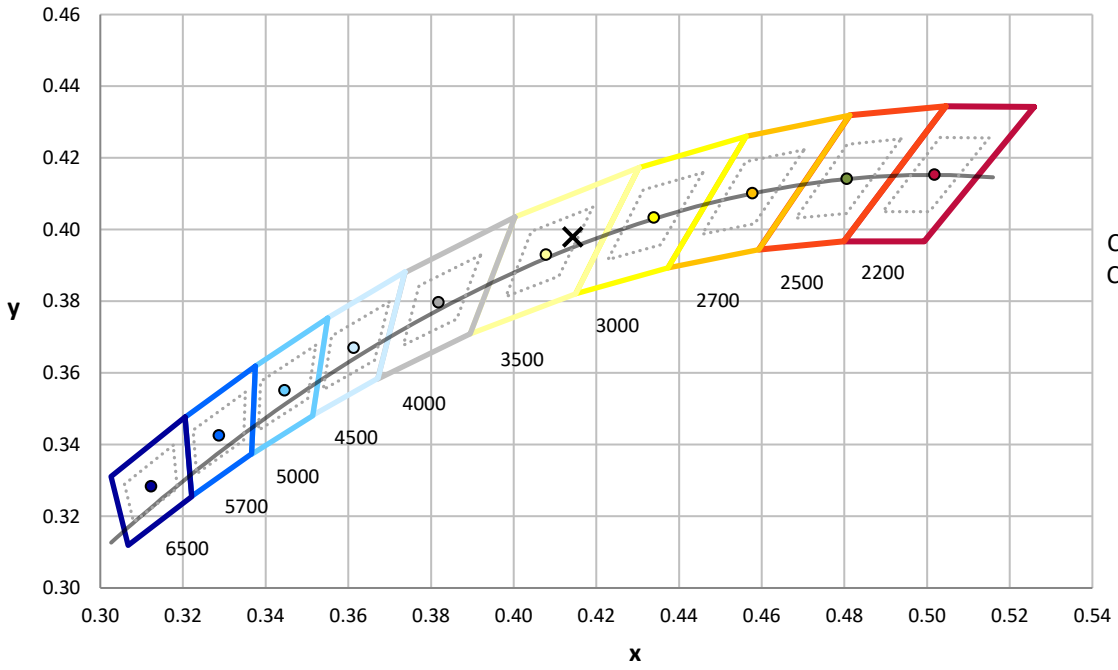
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

REPORT NUMBER: SP1-2407-184-5

**CIE 1931 Chromaticity Diagram**




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




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

Point lies inside the ANSI 3500K 4-step quadrangle

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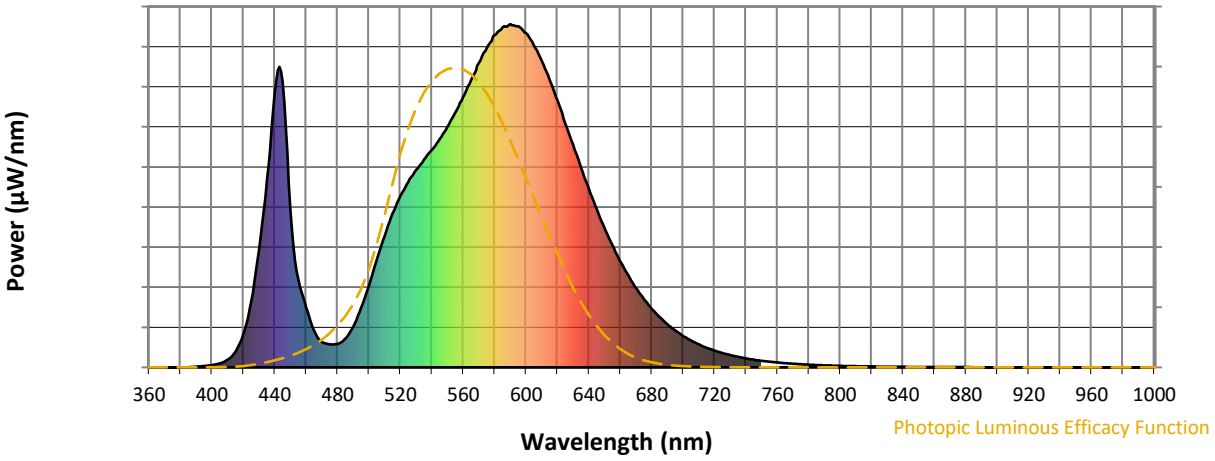
## Photopic Flux vs. Wavelength




## 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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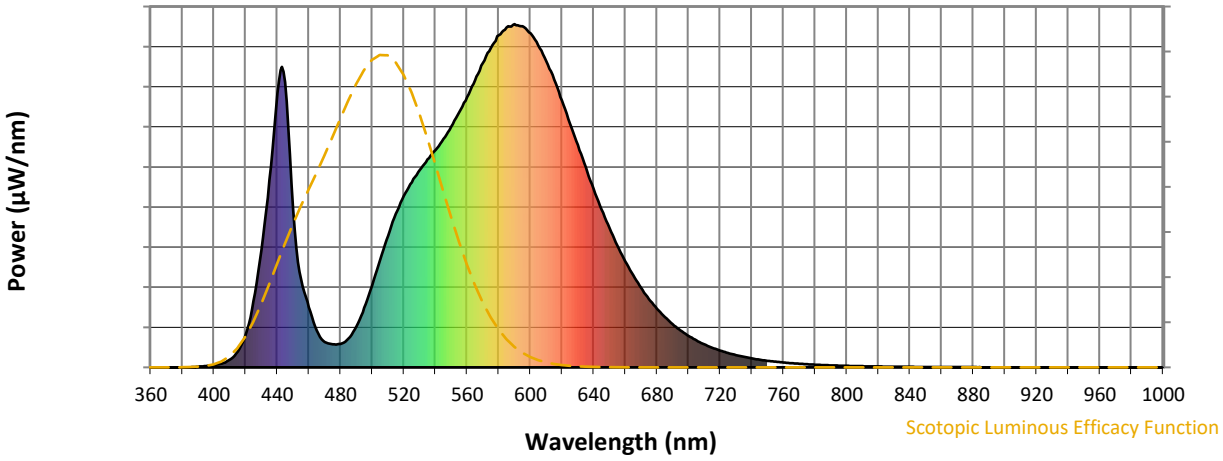
## Scotopic Flux vs. Wavelength




**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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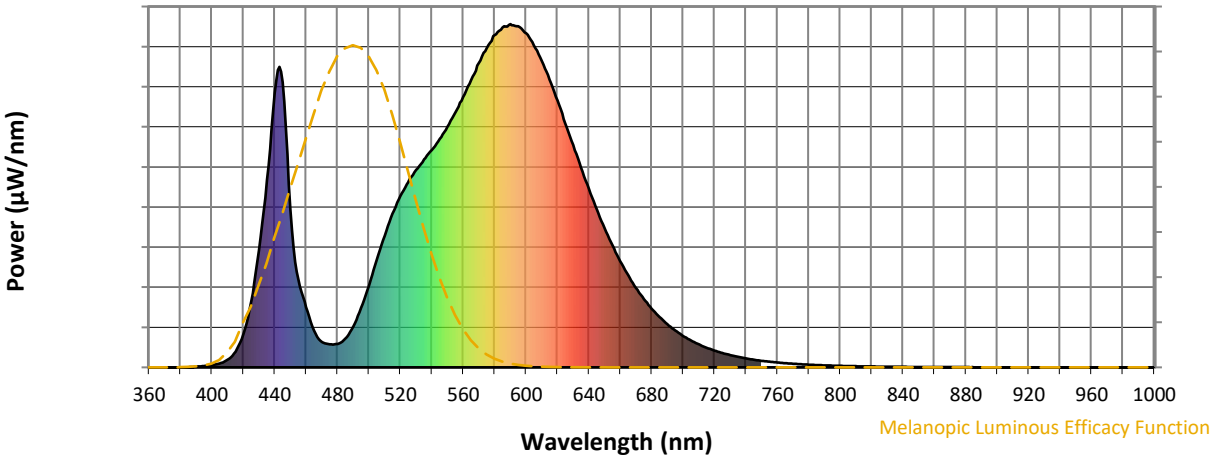
## Melanopic Flux vs. Wavelength




**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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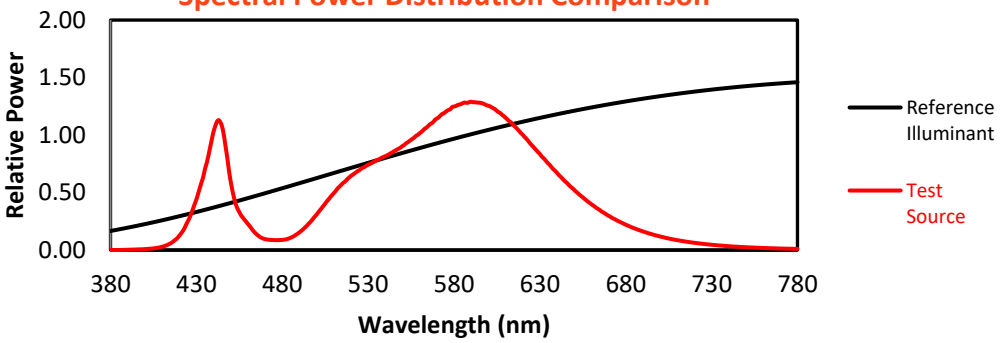
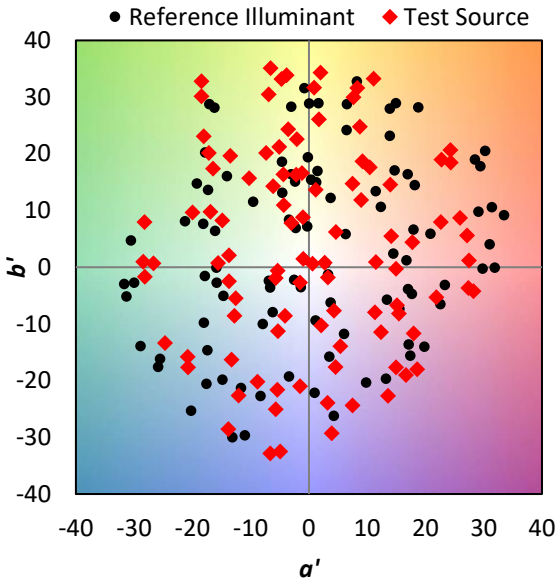
## Summary

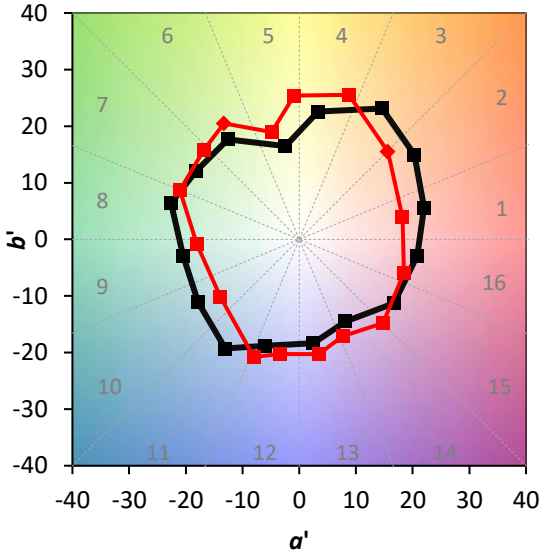
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

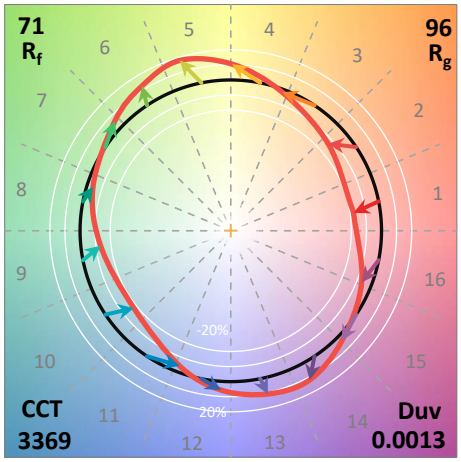
## Spectral Power Distribution Comparison

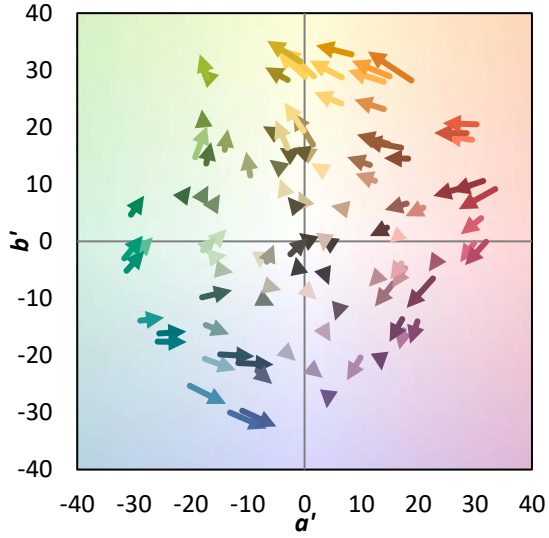



## Color Vector Graphics



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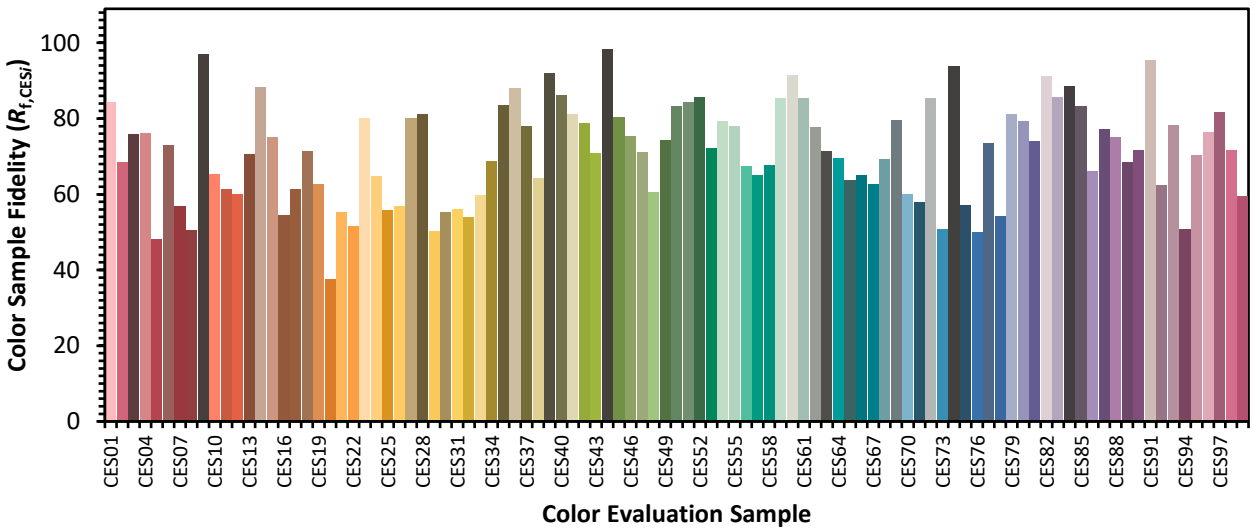
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| 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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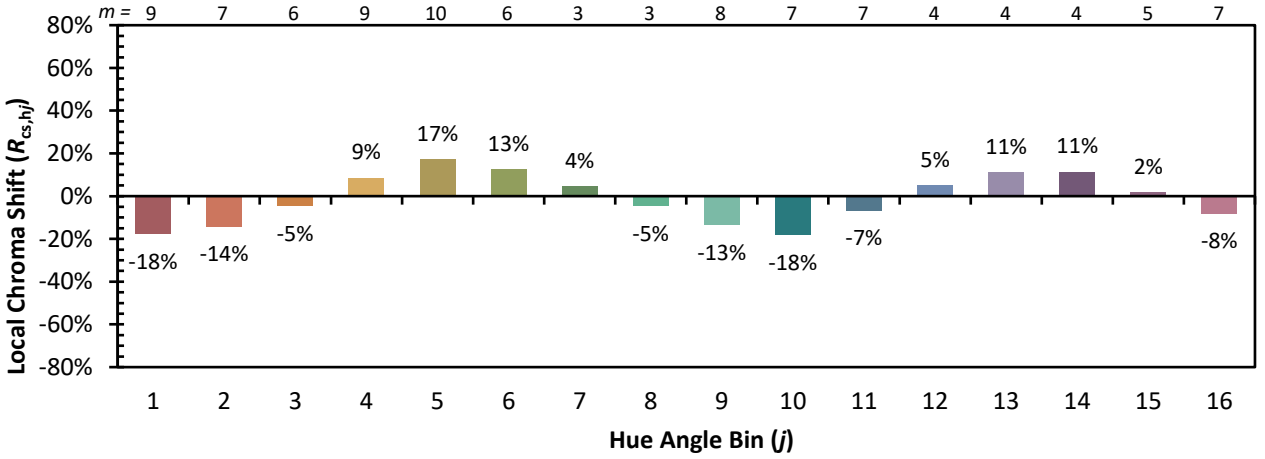
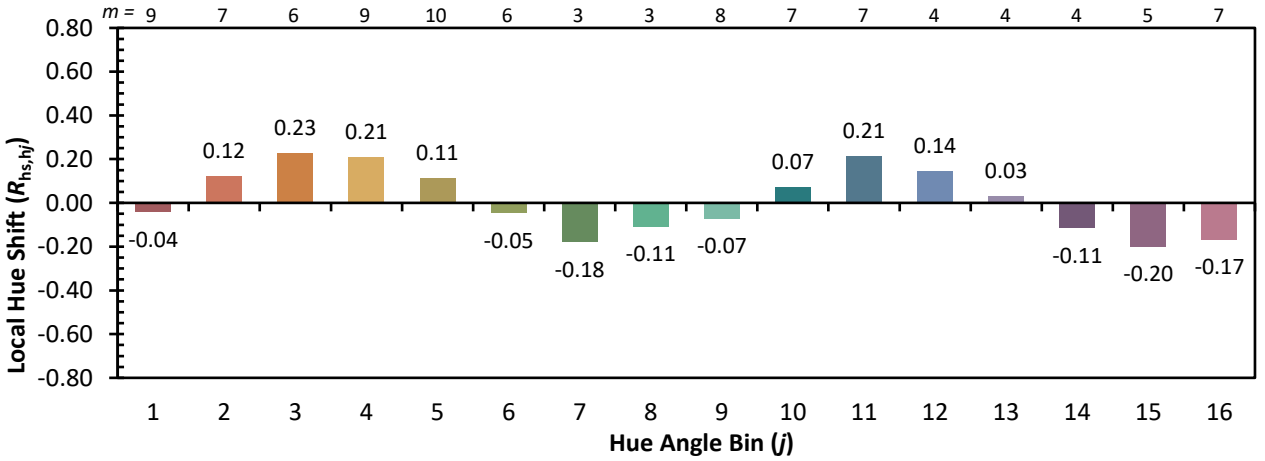
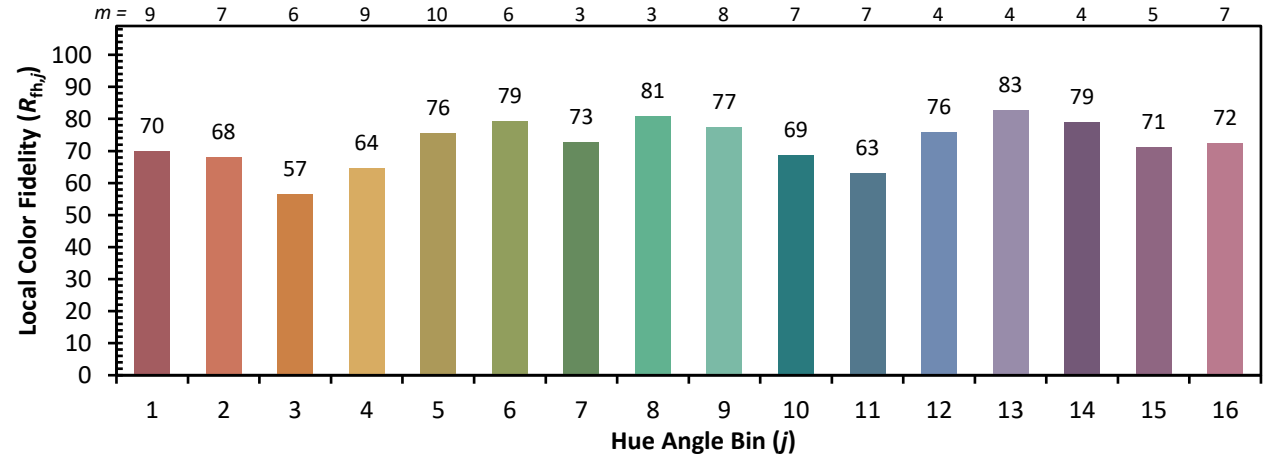
## Color Rendition by Hue-Angle Bin



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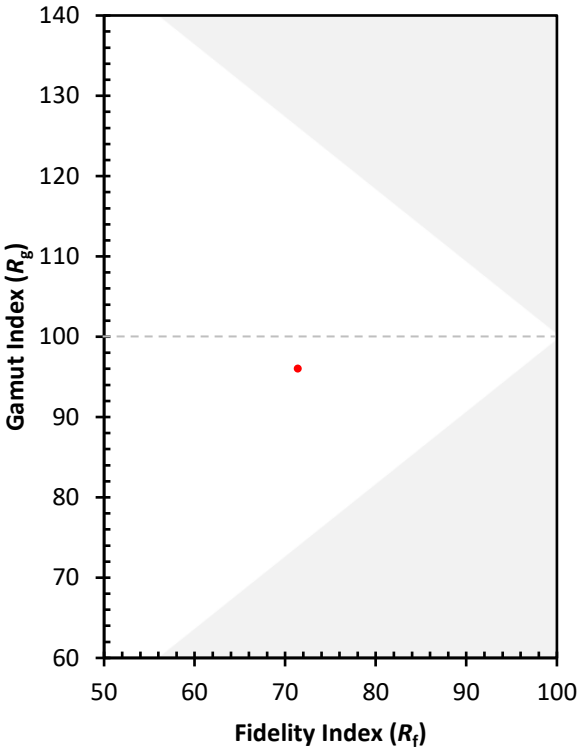
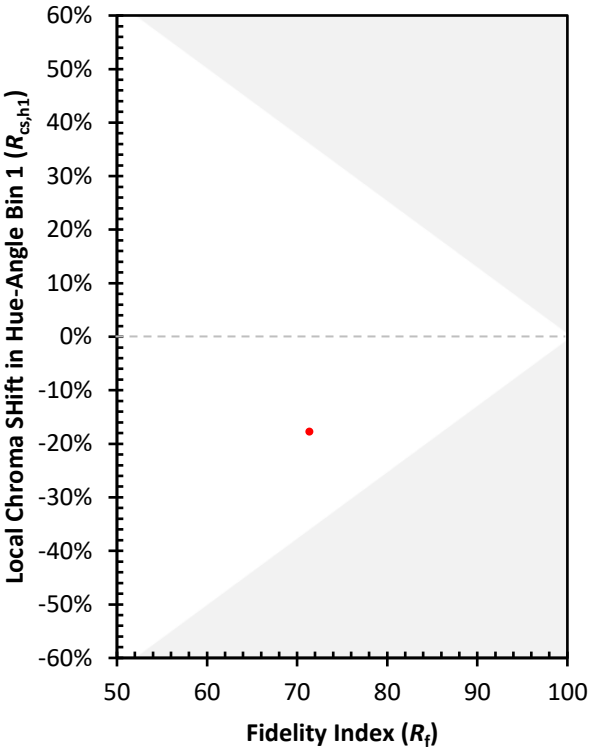
## Measure Comparisons

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