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: P1047651

Luminaire Tested: **GALN-SA7C-740-U-T2BC**

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: | P1047651 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 07/10/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GALN-SA7C-740-U-T2BC |
| Description: | GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 7xLight Square PACKAGE 70CRI 4000K FIXTURE w/ TYPE II ANGLED BACKLIGHT CONTROL |
| Light Source: | (98) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 38563.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 116.9 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1.5' x H: 0') |
| IES Classification: | Type II - Short |
| BUG Rating: | B0 - U0 - G5 |

| | |
|---|---|
| Input Watts (W): | 330 |
| 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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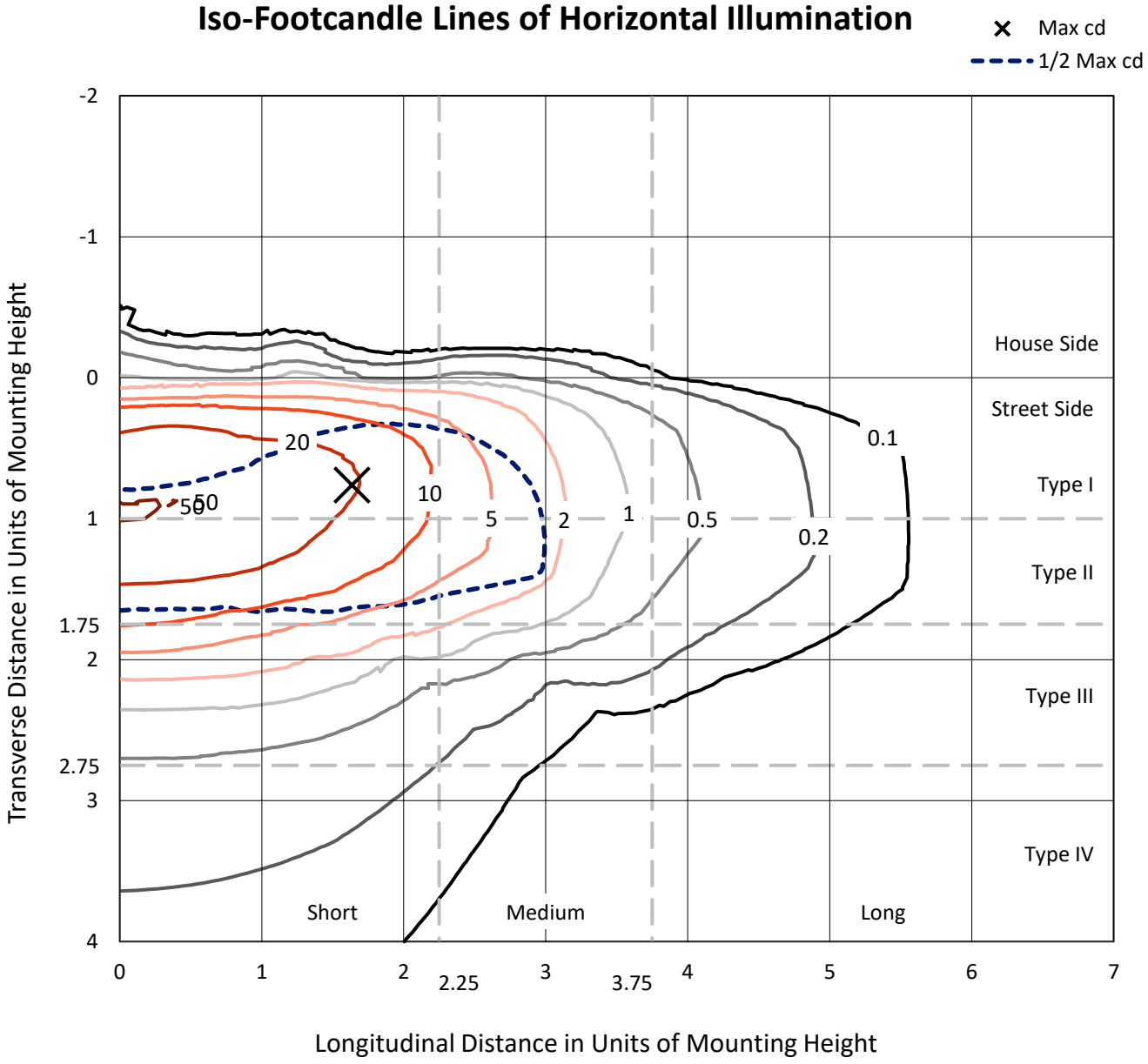
Scaled Data Report

REPORT NUMBER: P1047651
CATALOG NUMBER: GALN-SA7C-740-U-T2BC

## Iso-Footcandle Lines of Horizontal Illumination




Based on 15 foot mounting height. Maximum calculated value = 51 fc
Type II - Short - N/A

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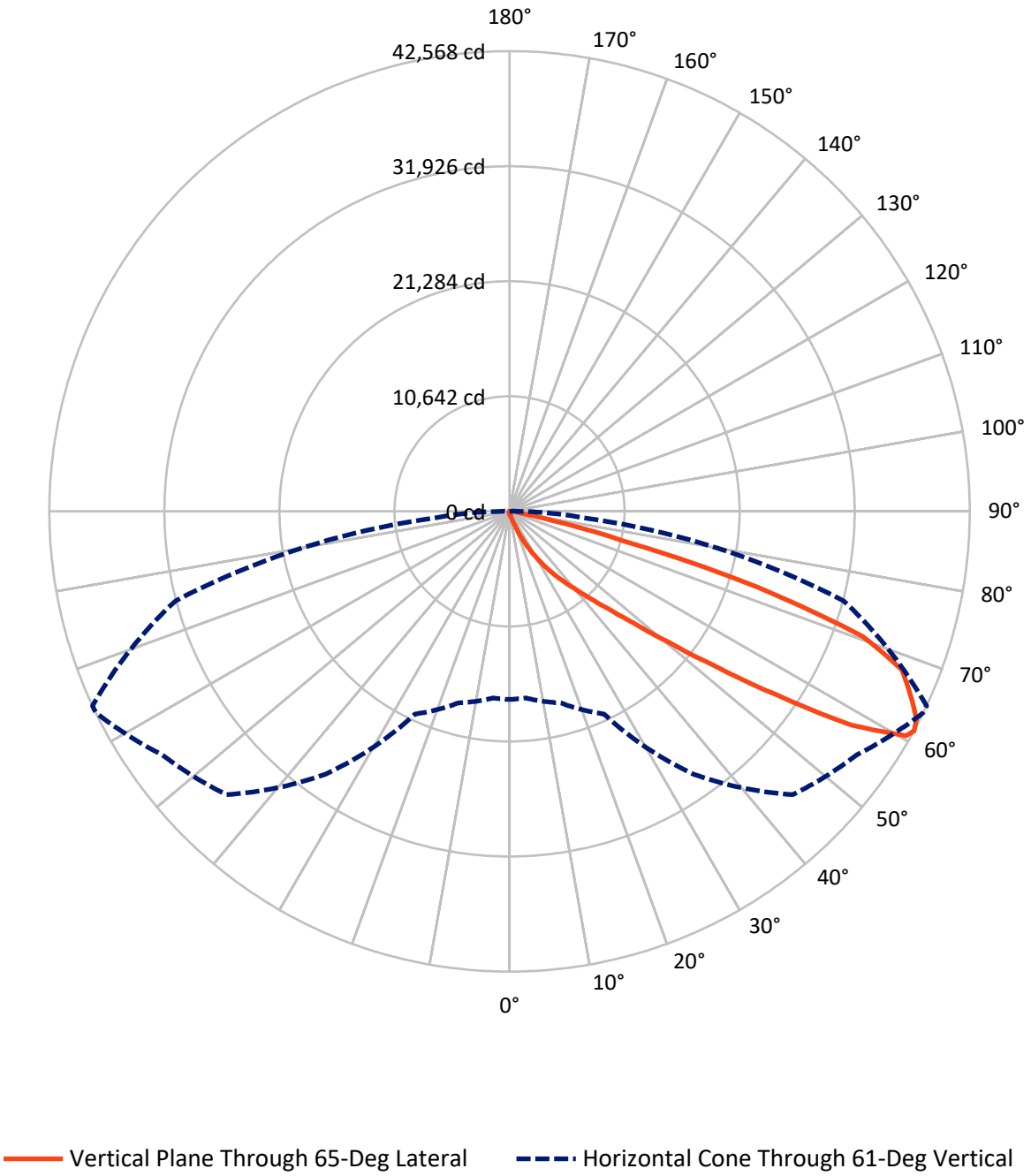
## Luminous Intensity Polar Plot



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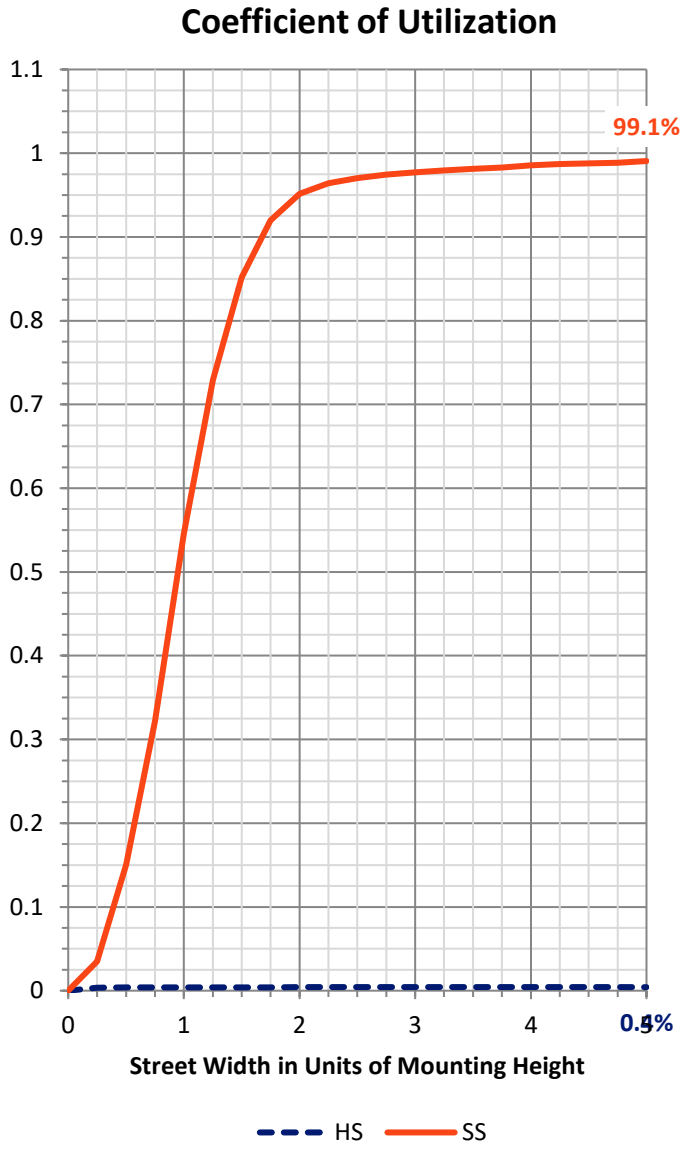
REPORT NUMBER: P1047651
CATALOG NUMBER: GALN-SA7C-740-U-T2BC

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 164.6 | 0.0 | 164.6 |
| | % Fixture | 0.4 | 0.0 | 0.4 |
| **Street Side** | Lumens | 38398.4 | 0.0 | 38398.4 |
| | % Fixture | 99.6 | 0.0 | 99.6 |
| **Total** | Lumens | 38563.1 | 0.0 | 38563.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 30.0 | 0.1 |
| 10°-20° | 317.1 | 0.8 |
| 20°-30° | 1138.0 | 3.0 |
| 30°-40° | 3029.9 | 7.9 |
| 40°-50° | 7959.6 | 20.6 |
| 50°-60° | 12331.0 | 32.0 |
| 60°-70° | 10339.3 | 26.8 |
| 70°-80° | 3042.7 | 7.9 |
| 80°-90° | 375.3 | 1.0 |
| 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° | 38563.1 | 100.0 |
| 0°-180° | 38563.1 | 100.0 |



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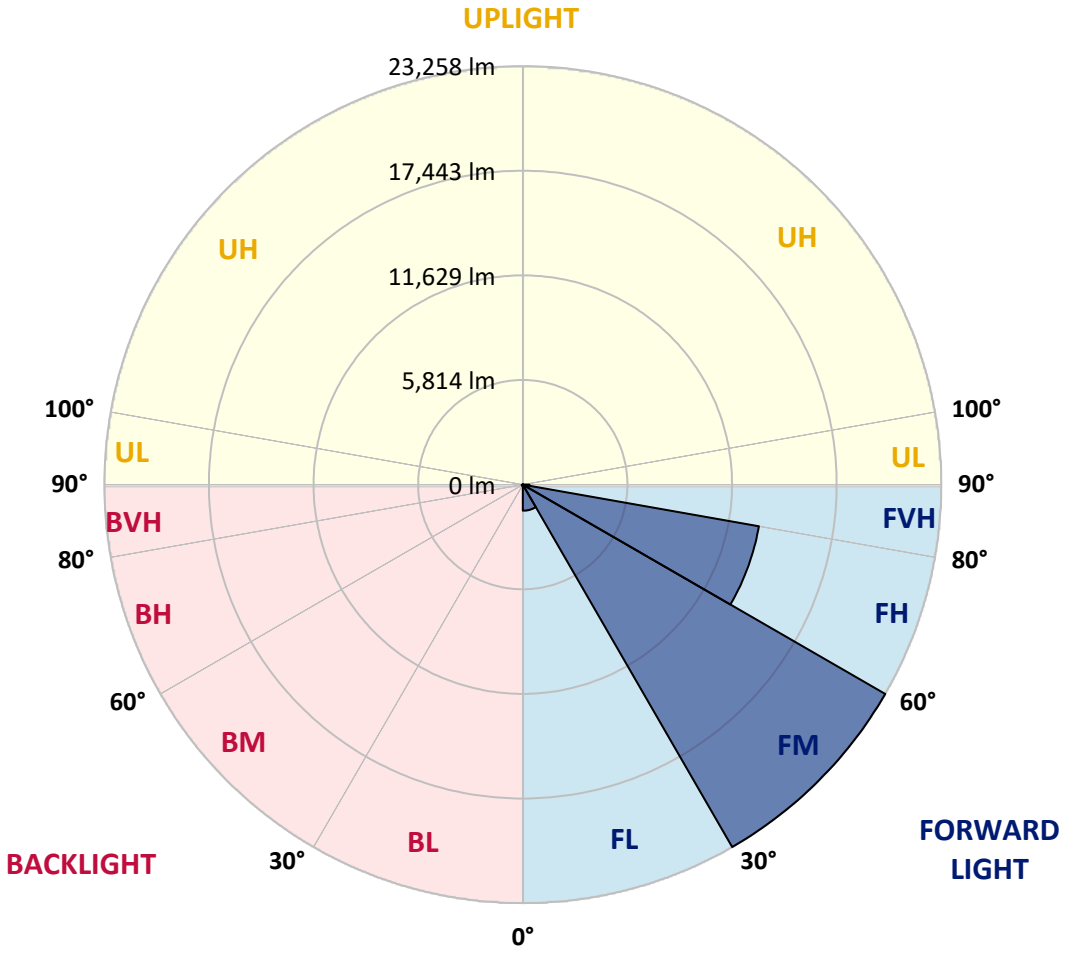
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1448.2 | 3.8 | | | |
| FM | (30°-60°) | 23257.9 | 60.3 | | | |
| FH | (60°-80°) | 13323.9 | 34.6 | | | G5 |
| FVH | (80°-90°) | 368.4 | 1.0 | | | G3/500 |
| BL | (0°-30°) | 36.9 | 0.1 | B0/110 | | |
| BM | (30°-60°) | 62.7 | 0.2 | B0/220 | | |
| BH | (60°-80°) | 58.1 | 0.2 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 7.0 | 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 II Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | *236.1* | 236.1 | 236.1 |
| 2.5° | 286.5 | 289.1 | 283.8 | 273.2 | 265.3 | 265.3 | 262.6 | 254.7 | *254.7* | 246.7 | 241.4 |
| 5° | 400.6 | 395.3 | 384.6 | 363.4 | 344.9 | 326.3 | 307.7 | 289.1 | *286.5* | 262.6 | 246.7 |
| 7.5° | 655.2 | 660.5 | 626.0 | 559.7 | 504.0 | 432.4 | 366.1 | 326.3 | *321.0* | 281.2 | 249.4 |
| 10° | 1437.8 | 1398.0 | 1318.4 | 1061.1 | 872.7 | 657.9 | 488.1 | 379.3 | *374.0* | 302.4 | 254.7 |
| 12.5° | 2620.9 | 2589.1 | 2443.2 | 2177.9 | 1692.4 | 1177.8 | 713.6 | 469.5 | *453.6* | 321.0 | 257.3 |
| 15° | 3777.5 | 3727.1 | 3647.5 | 3379.6 | 2811.9 | 2111.6 | 1167.2 | 642.0 | *599.5* | 347.5 | 254.7 |
| 17.5° | 4514.9 | 4522.9 | 4451.3 | 4337.2 | 3971.1 | 3124.9 | 2016.1 | 957.6 | *875.4* | 395.3 | 249.4 |
| 20° | 5159.5 | 5141.0 | 5180.8 | 5119.8 | 4862.4 | 4247.0 | 2933.9 | 1517.4 | *1376.8* | 472.2 | 252.0 |
| 22.5° | 5902.3 | 5947.4 | 5976.6 | 5963.3 | 5679.5 | 5154.2 | 3976.4 | 2270.7 | *2093.0* | 612.8 | 260.0 |
| 25° | 6897.1 | 6891.8 | 6894.4 | 6859.9 | 6584.1 | 6000.5 | 5021.6 | 3207.1 | *3026.8* | 840.9 | 278.5 |
| 27.5° | 7939.6 | 7971.4 | 7984.7 | 7860.0 | 7499.2 | 6926.3 | 5989.8 | 4231.1 | *4018.9* | 1207.0 | 302.4 |
| 30° | 9364.1 | 9337.6 | 9276.6 | 9021.9 | 8584.2 | 7873.3 | 6944.8 | 5305.4 | *5082.6* | 1719.0 | 339.5 |
| 32.5° | 11284.7 | 11255.5 | 10947.8 | 10385.4 | 9730.2 | 8860.1 | 7905.1 | 6382.5 | *6111.9* | 2358.3 | 390.0 |
| 35° | 14449.4 | 14494.5 | 13738.5 | 12282.1 | 11107.0 | 10045.9 | 8968.9 | 7454.2 | *7215.4* | 3146.1 | 458.9 |
| 37.5° | 19295.9 | 19049.2 | 18022.6 | 15449.5 | 12918.8 | 11526.1 | 9984.9 | 8536.5 | *8329.6* | 4117.0 | 549.1 |
| 40° | 24004.5 | 23760.4 | 23463.3 | 21025.5 | 16067.5 | 13157.5 | 11406.7 | 9807.1 | *9539.2* | 5212.6 | 681.7 |
| 42.5° | 28954.5 | 28819.2 | 28805.9 | 26967.6 | 21813.3 | 15722.7 | 13117.7 | 11295.3 | *11067.2* | 6414.3 | 899.3 |
| 45° | 32461.4 | 32326.1 | 32609.9 | 32930.9 | 29638.9 | 21219.1 | 16096.7 | 13229.1 | *12897.5* | 7873.3 | 1246.8 |
| 47.5° | 32933.6 | 32938.9 | 33697.5 | 34702.9 | 35453.6 | 29721.1 | 20065.2 | 15791.7 | *15388.4* | 9961.0 | 1830.4 |
| 50° | 31363.1 | 31424.2 | 32631.1 | 34429.7 | 36451.1 | 36854.3 | 27063.1 | 19510.8 | *18913.9* | 12436.0 | 2658.0 |
| 52.5° | 28373.5 | 28442.5 | 30124.3 | 33082.1 | 35533.2 | 38567.9 | 35302.4 | 24375.9 | *23688.8* | 15523.7 | 3825.2 |
| 55° | 25681.0 | 25723.5 | 27652.0 | 31389.7 | 34427.0 | 37636.8 | 40194.1 | 30872.4 | *29970.5* | 19322.4 | 4976.5 |
| 57.5° | 23015.0 | 22916.9 | 24171.6 | 28450.5 | 34238.7 | 36493.5 | 40915.6 | 38276.1 | *37281.4* | 23473.9 | 5873.1 |
| 60° | 19449.8 | 19285.3 | 20293.3 | 23015.0 | 31761.1 | 37244.2 | 39565.4 | 42371.9 | *42146.5* | 29254.2 | 6565.5 |
| 61° | *17399.2* | *17330.2* | *18343.6* | *20678.0* | *29676.0* | *37053.2* | *39241.7* | *42544.4* | *42568.3* | *31989.2* | *6875.9* |
| 62.5° | 12425.4 | 12621.7 | 14170.8 | 17205.6 | 24856.0 | 35814.4 | 39284.2 | 42011.2 | *42247.3* | 35623.4 | 7679.6 |
| 65° | 5523.0 | 5838.6 | 7043.0 | 9512.7 | 14454.7 | 29792.7 | 38907.5 | 40841.3 | *40724.6* | 36620.8 | 10449.1 |
| 67.5° | 3276.1 | 3323.9 | 3923.4 | 5390.3 | 7655.8 | 16025.1 | 34334.2 | 39294.8 | *39138.3* | 31880.4 | 13001.0 |
| 70° | 2581.1 | 2605.0 | 2796.0 | 3382.2 | 4443.3 | 6138.4 | 19595.7 | 33997.3 | *34679.1* | 25850.8 | 12727.8 |
| 72.5° | 2448.5 | 2443.2 | 2469.7 | 2573.1 | 2798.6 | 3045.3 | 7586.8 | 22598.5 | *23985.9* | 18616.8 | 10671.9 |
| 75° | 2416.6 | 2406.0 | 2379.5 | 2339.7 | 2026.7 | 1793.2 | 2350.3 | 9995.5 | *10799.2* | 12719.8 | 8035.1 |
| 77.5° | 2345.0 | 2347.7 | 2353.0 | 2244.2 | 1737.5 | 1268.0 | 1138.0 | 3207.1 | *3944.6* | 8072.2 | 5711.3 |
| 80° | 1586.3 | 1610.2 | 1650.0 | 1607.6 | 1562.5 | 917.8 | 803.8 | 1140.7 | *1156.6* | 4530.9 | 3772.2 |
| 82.5° | 803.8 | 803.8 | 785.2 | 700.3 | 604.8 | 596.9 | 639.3 | 827.6 | *838.3* | 2292.0 | 1774.7 |
| 85° | 485.4 | 512.0 | 522.6 | 474.8 | 435.0 | 400.6 | 488.1 | 657.9 | *681.7* | 888.7 | 413.8 |
| 87.5° | 108.8 | 111.4 | 122.0 | 161.8 | 236.1 | 321.0 | 453.6 | 602.2 | *612.8* | 570.3 | 50.4 |
| 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: P1047651
CATALOG NUMBER: GALN-SA7C-740-U-T2BC

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 | 236.1 |
| 2.5° | 238.7 | 233.4 | 230.8 | 222.8 | 214.9 | 206.9 | 201.6 | 199.0 | 201.6 | 204.3 | 204.3 |
| 5° | 236.1 | 228.1 | 214.9 | 201.6 | 191.0 | 180.4 | 169.8 | 167.1 | 167.1 | 169.8 | 169.8 |
| 7.5° | 236.1 | 222.8 | 204.3 | 188.3 | 172.4 | 156.5 | 148.6 | 143.2 | 145.9 | 145.9 | 145.9 |
| 10° | 236.1 | 220.2 | 196.3 | 172.4 | 153.9 | 135.3 | 122.0 | 116.7 | 116.7 | 116.7 | 116.7 |
| 12.5° | 233.4 | 217.5 | 188.3 | 159.2 | 132.6 | 111.4 | 95.5 | 87.5 | 90.2 | 90.2 | 90.2 |
| 15° | 228.1 | 209.6 | 177.7 | 135.3 | 106.1 | 84.9 | 69.0 | 61.0 | 63.7 | 69.0 | 71.6 |
| 17.5° | 220.2 | 201.6 | 159.2 | 114.1 | 84.9 | 63.7 | 47.7 | 42.4 | 45.1 | 53.1 | 53.1 |
| 20° | 217.5 | 193.6 | 140.6 | 92.8 | 63.7 | 45.1 | 31.8 | 26.5 | 29.2 | 39.8 | 42.4 |
| 22.5° | 217.5 | 188.3 | 127.3 | 76.9 | 47.7 | 29.2 | 18.6 | 10.6 | 10.6 | 18.6 | 18.6 |
| 25° | 220.2 | 185.7 | 116.7 | 63.7 | 34.5 | 21.2 | 10.6 | 5.3 | 10.6 | 29.2 | 34.5 |
| 27.5° | 225.5 | 183.0 | 111.4 | 53.1 | 26.5 | 18.6 | 8.0 | 18.6 | 31.8 | 31.8 | 31.8 |
| 30° | 230.8 | 177.7 | 103.5 | 45.1 | 23.9 | 13.3 | 13.3 | 26.5 | 26.5 | 31.8 | 34.5 |
| 32.5° | 238.7 | 175.1 | 98.2 | 39.8 | 18.6 | 10.6 | 18.6 | 15.9 | 15.9 | 18.6 | 21.2 |
| 35° | 254.7 | 177.7 | 92.8 | 39.8 | 18.6 | 13.3 | 15.9 | 8.0 | 5.3 | 5.3 | 5.3 |
| 37.5° | 275.9 | 180.4 | 84.9 | 34.5 | 15.9 | 15.9 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40° | 310.4 | 188.3 | 79.6 | 31.8 | 13.3 | 13.3 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5° | 368.7 | 204.3 | 76.9 | 29.2 | 13.3 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45° | 485.4 | 241.4 | 71.6 | 26.5 | 13.3 | 5.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5° | 697.7 | 328.9 | 69.0 | 21.2 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50° | 1018.6 | 445.7 | 66.3 | 18.6 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 1299.8 | 469.5 | 45.1 | 15.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 1331.7 | 323.6 | 34.5 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57.5° | 1061.1 | 209.6 | 29.2 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60° | 803.8 | 159.2 | 26.5 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 61° | *771.9* | *143.2* | *26.5* | *2.7* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* |
| 62.5° | 851.5 | 124.7 | 23.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 1384.7 | 103.5 | 21.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2406.0 | 90.2 | 18.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 3040.0 | 84.9 | 15.9 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2650.1 | 76.9 | 15.9 | 5.3 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 1594.3 | 66.3 | 15.9 | 10.6 | 5.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 835.6 | 50.4 | 15.9 | 13.3 | 8.0 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 405.9 | 45.1 | 18.6 | 13.3 | 10.6 | 5.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 159.2 | 37.1 | 21.2 | 18.6 | 13.3 | 8.0 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 71.6 | 31.8 | 23.9 | 21.2 | 18.6 | 10.6 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 37.1 | 29.2 | 26.5 | 23.9 | 18.6 | 13.3 | 5.3 | 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: SP1-2407-184-1

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

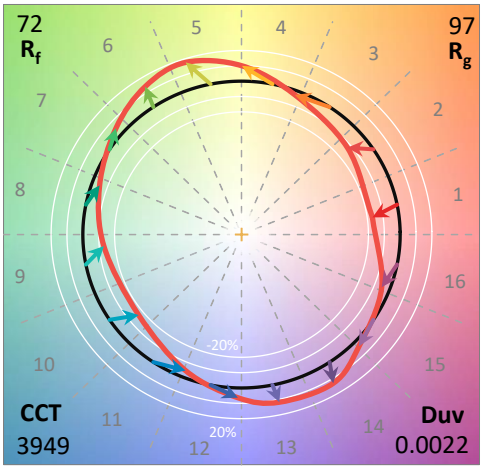
## Test Information

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

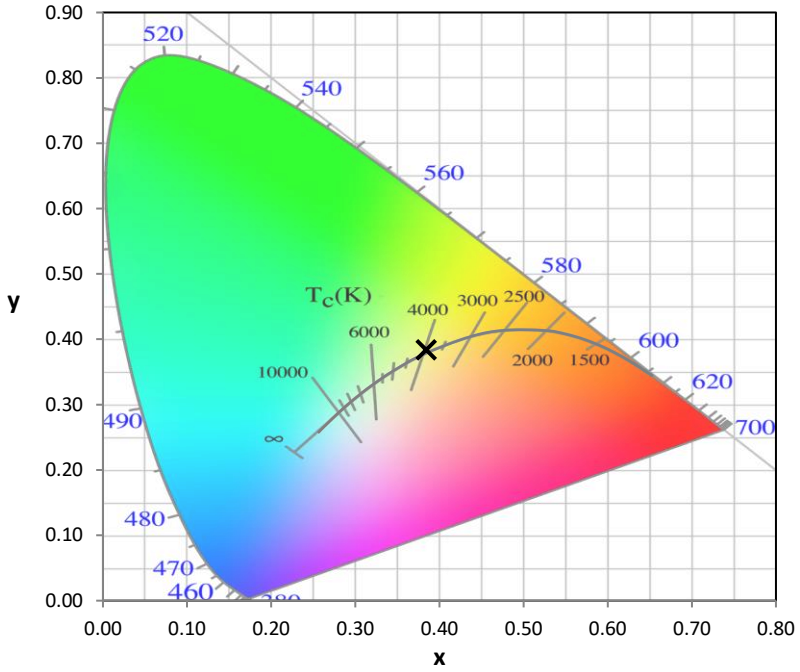
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-1

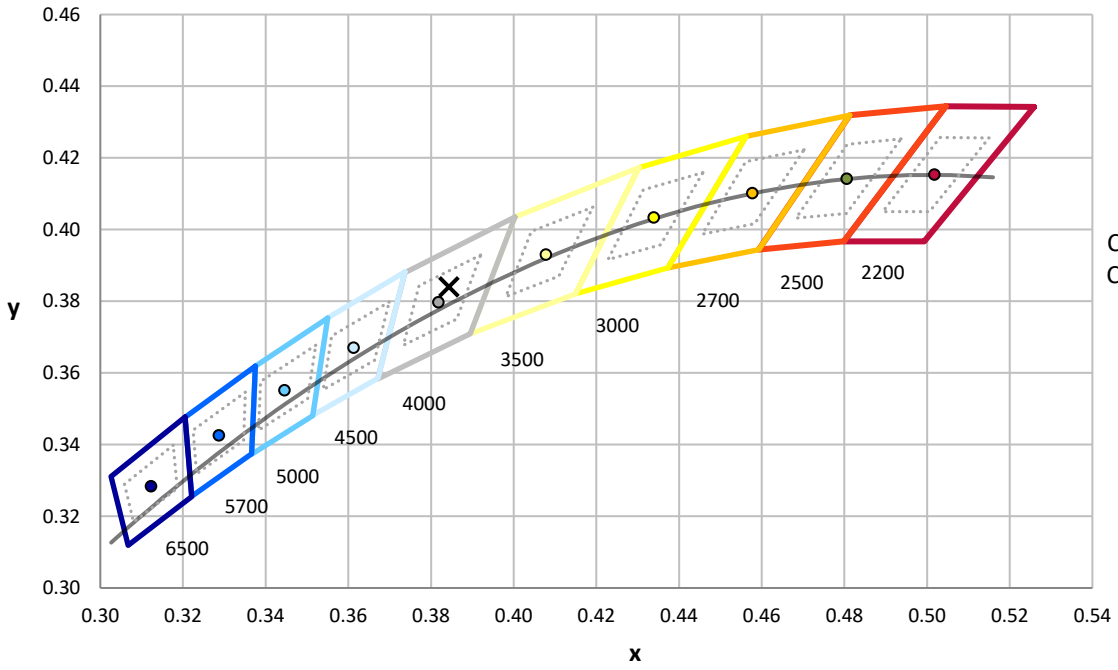
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-1

## 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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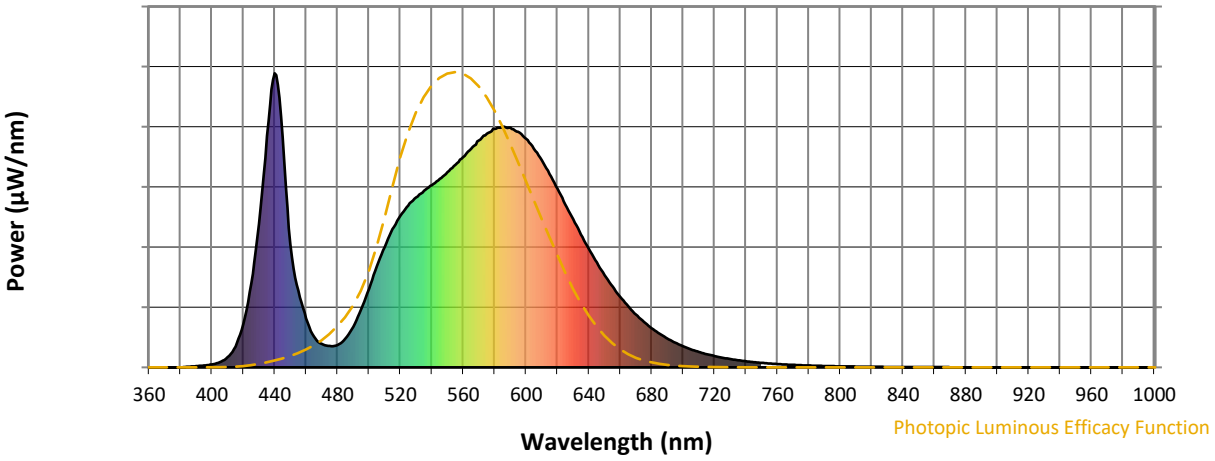
## Photopic Flux vs. Wavelength




## 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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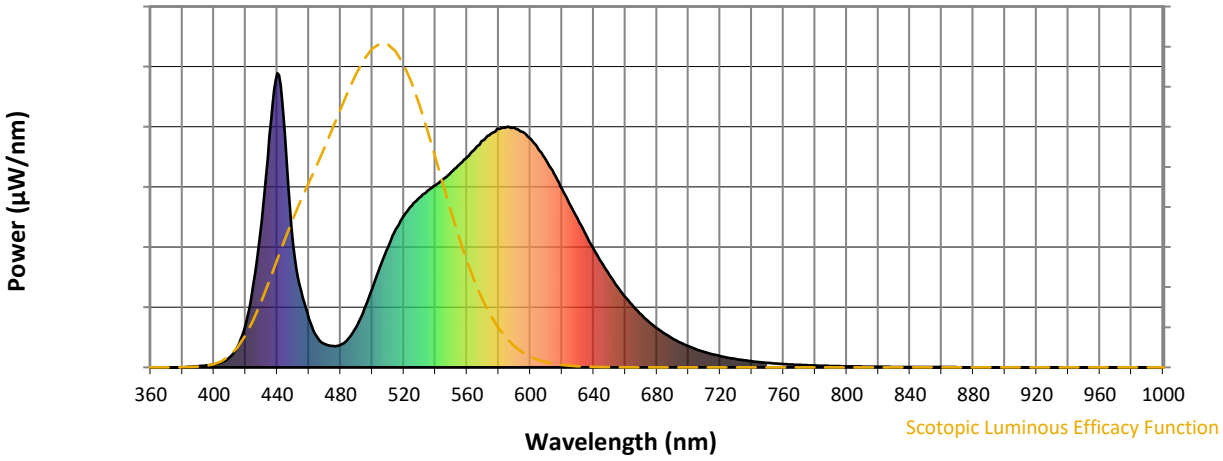
## Scotopic Flux vs. Wavelength




**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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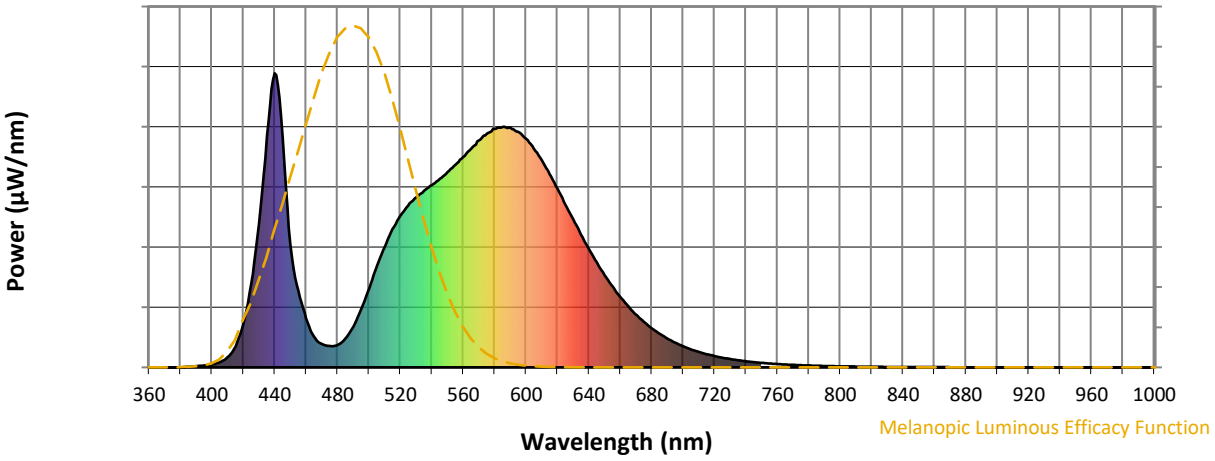
## Melanopic Flux vs. Wavelength




**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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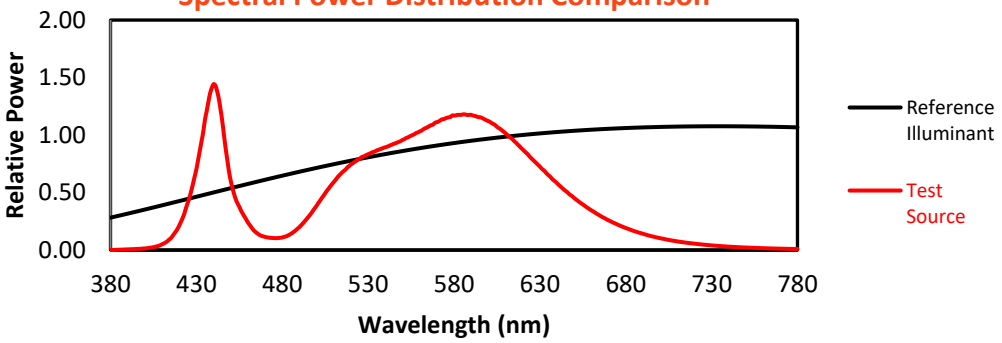
# TM-30-18

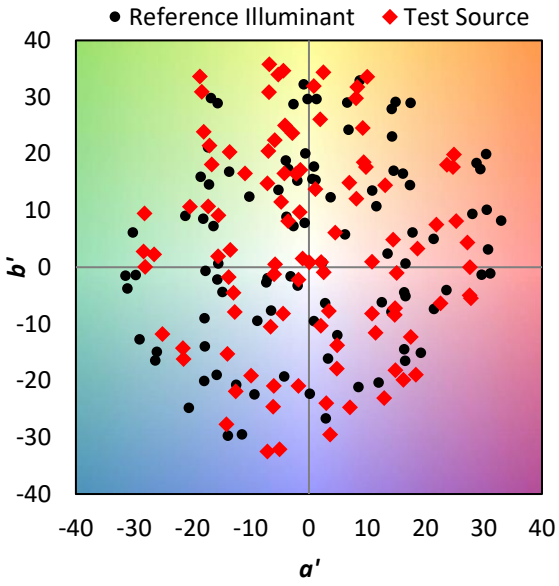
## Summary

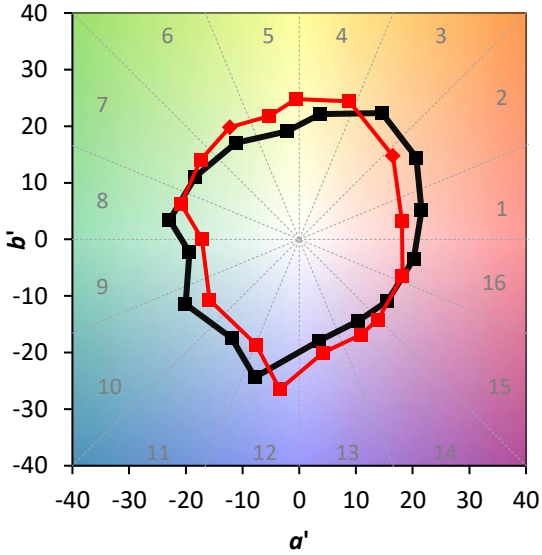
$R_f$ = 71.8
$R_g$ = 96.5
CIE $R_a$ = 70.7
$R_9$ = -36.7

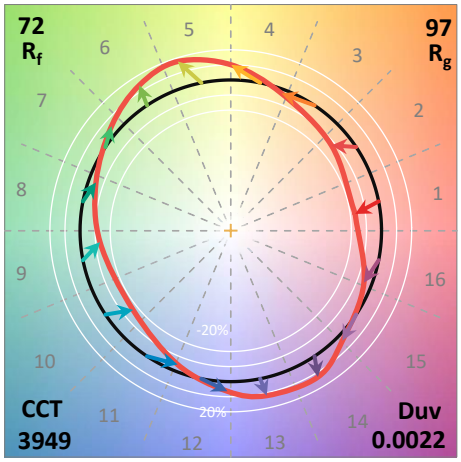
## Spectral Power Distribution Comparison

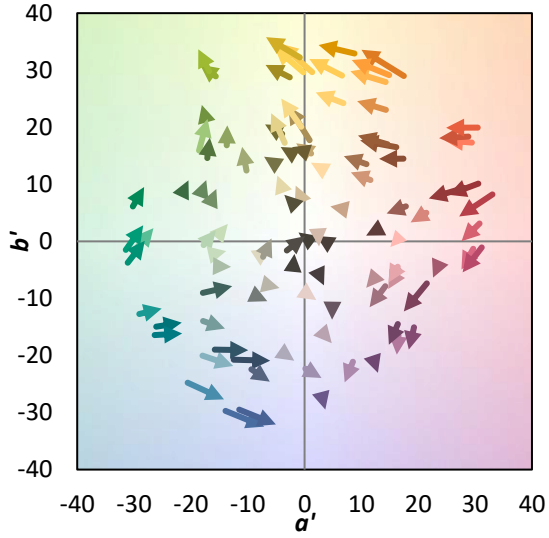



## Color Vector Graphics



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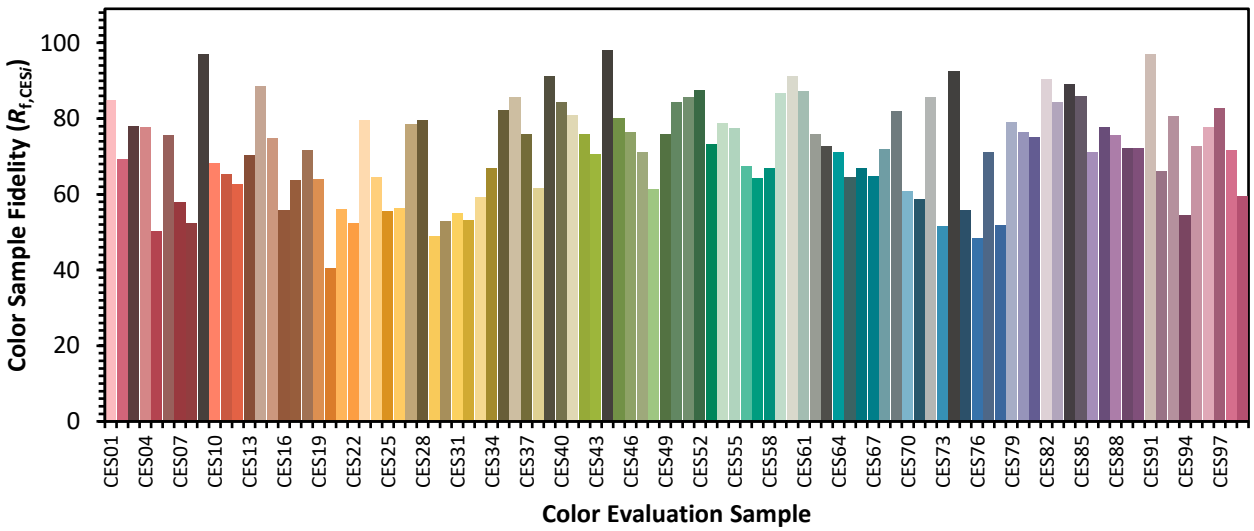
**Individual Sample Fidelity Index ($R_{f,i}$)**

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



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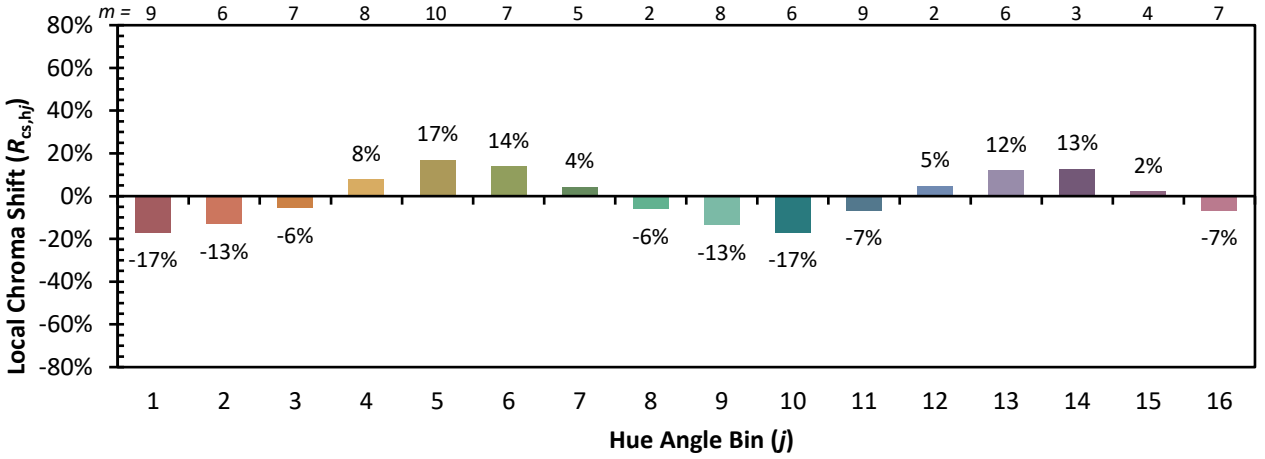
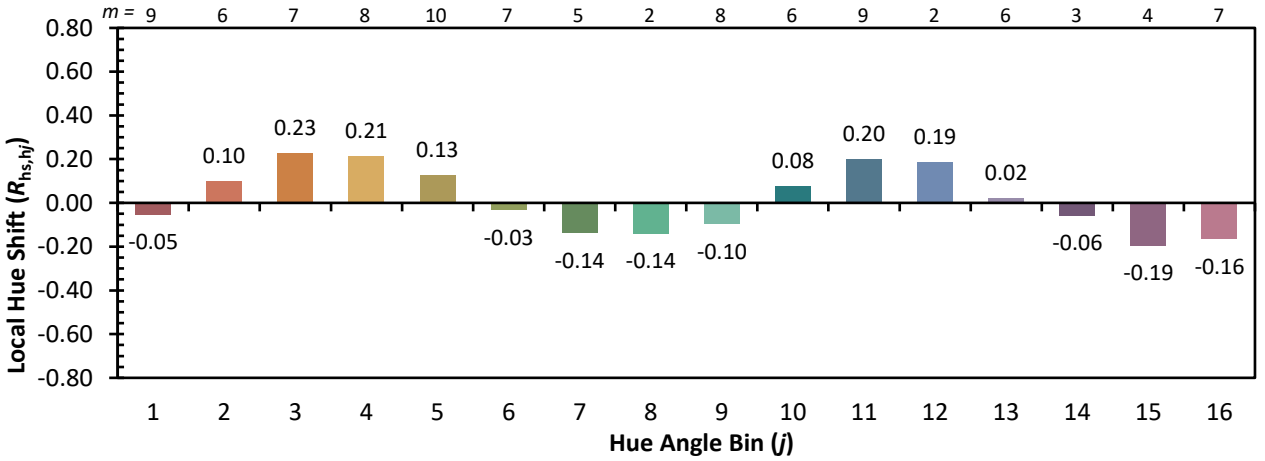
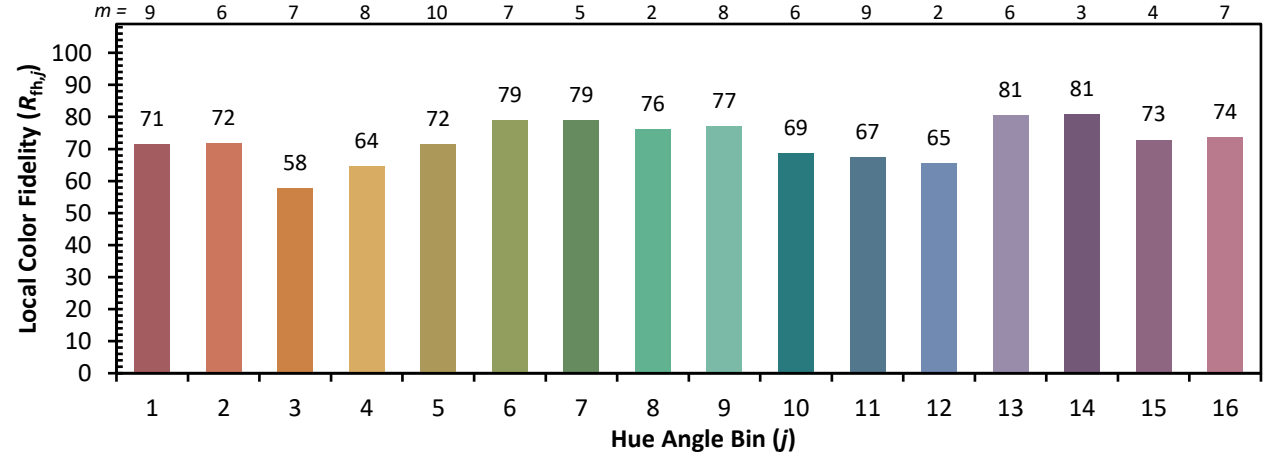
## Color Rendition by Hue-Angle Bin



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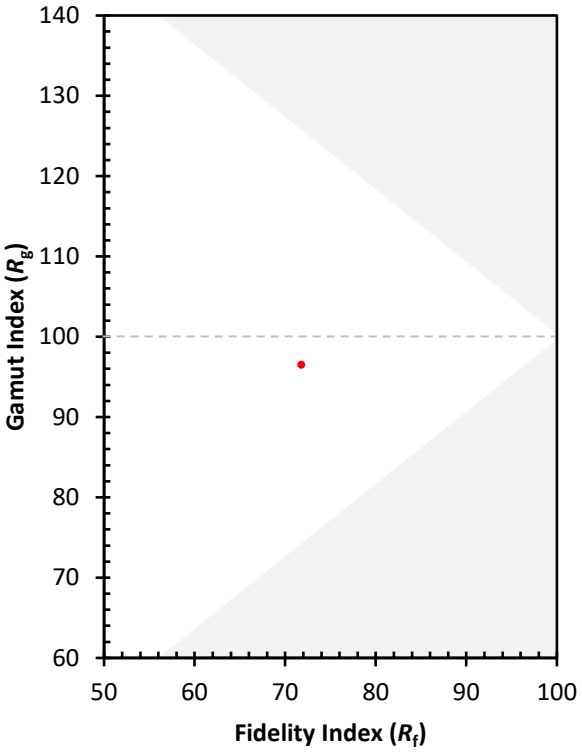
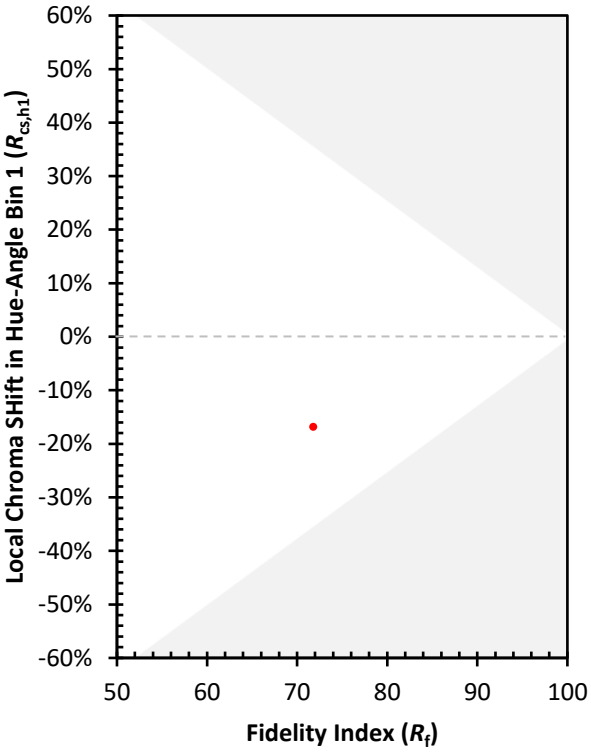
## Measure Comparisons




(END OF REPORT)