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: STREETWORKS

Report Number: P1065872

Luminaire Tested: **NVN-SA5D-760-U-T3BC**

Issue Date: 08/07/2025

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: | P1065872 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 08/07/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | STREETWORKS |
| Catalog Number: | NVN-SA5D-760-U-T3BC |
| Description: | Navion AREA AND ROADWAY LUMINAIRE 1200mA 5xLight Square PACKAGE 70CRI 5700K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL |
| Light Source: | (70) 5700K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 31781.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 117.8 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1.5' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B0 - U0 - G5 |

| | |
|---|---|
| Input Watts (W): | 269.7 |
| 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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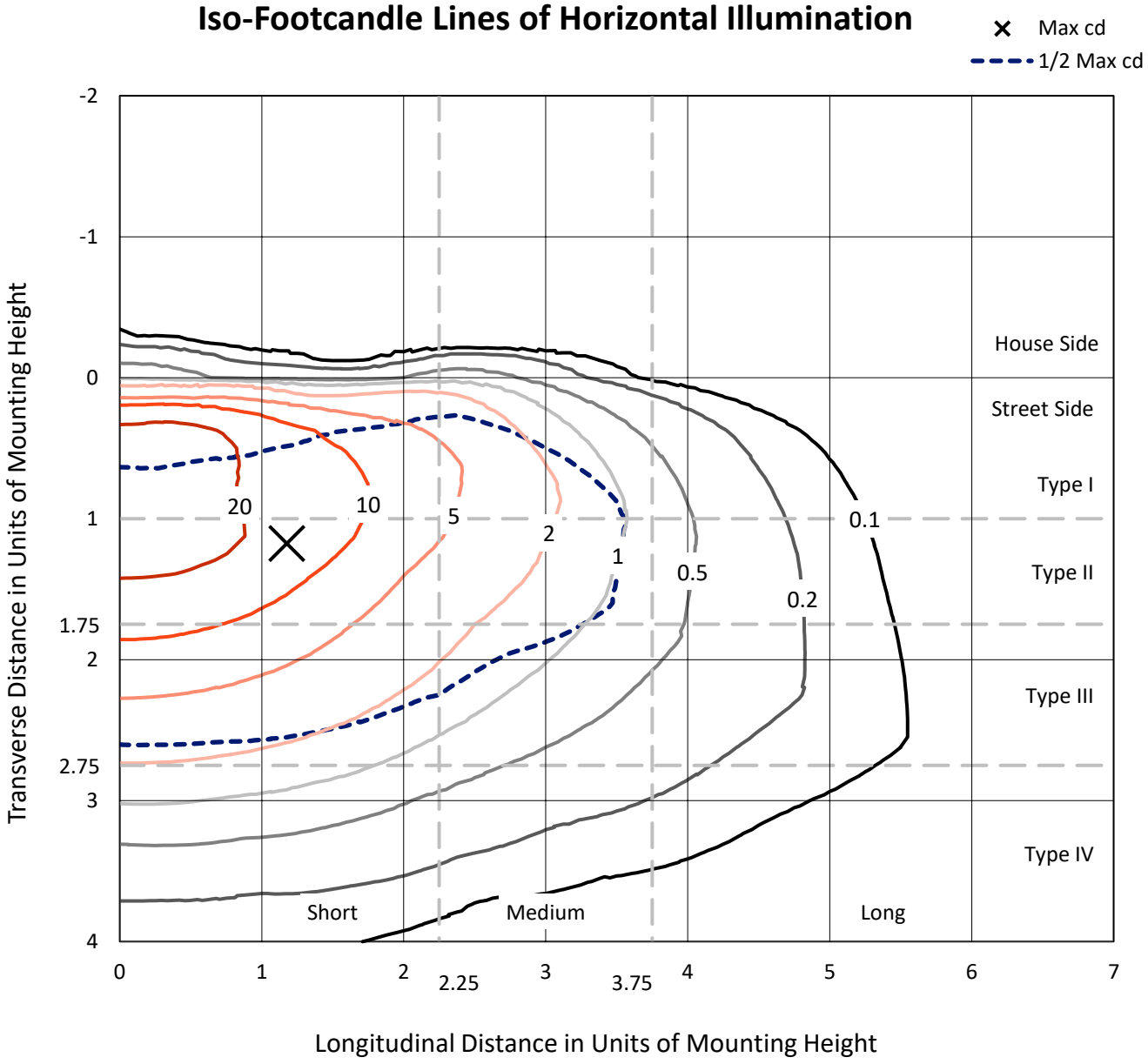
REPORT NUMBER: P1065872
CATALOG NUMBER: NVN-SA5D-760-U-T3BC

## Iso-Footcandle Lines of Horizontal Illumination




Based on 15 foot mounting height. Maximum calculated value = 34.7 fc
Type III - Short - N/A

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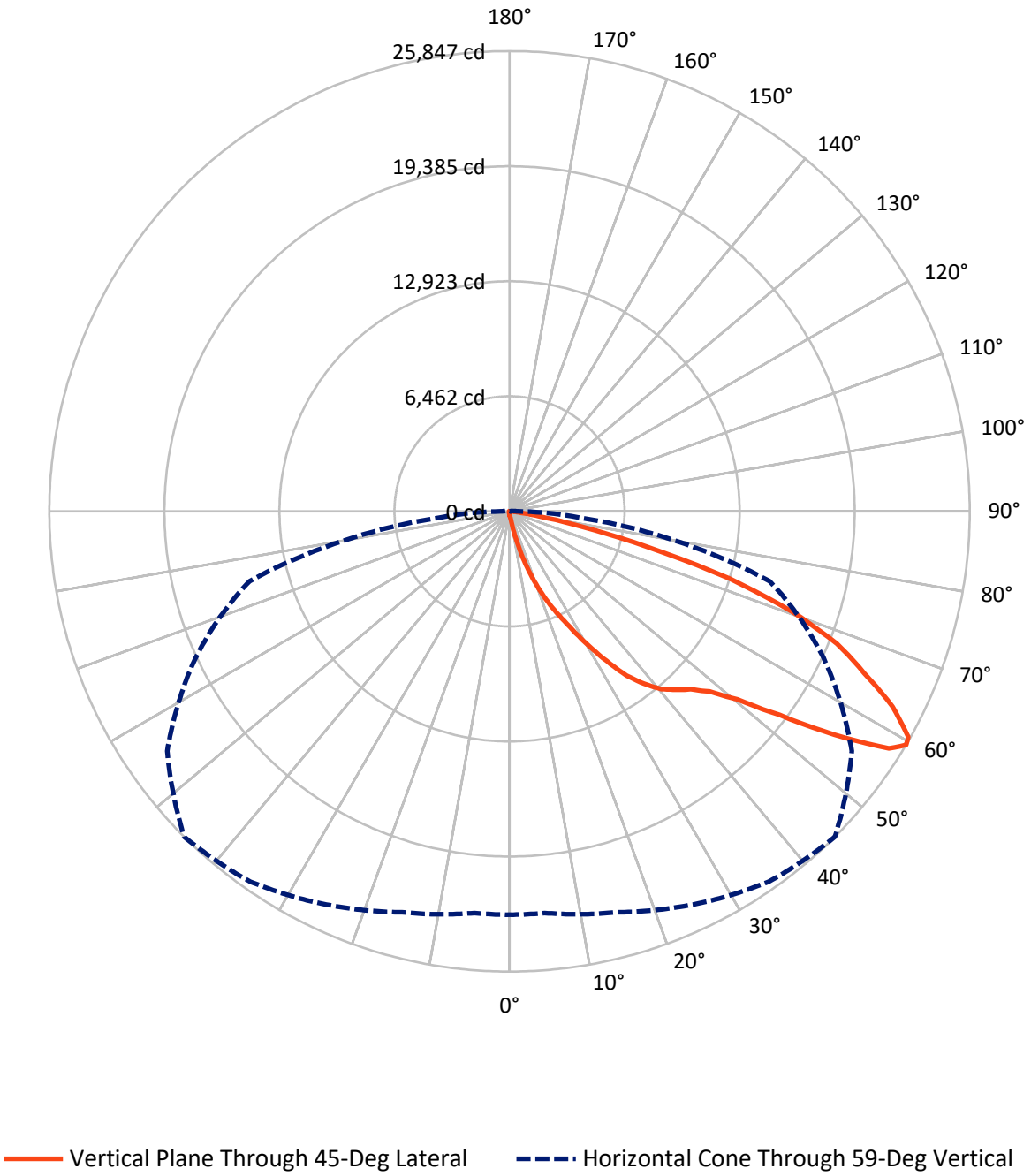
## Luminous Intensity Polar Plot



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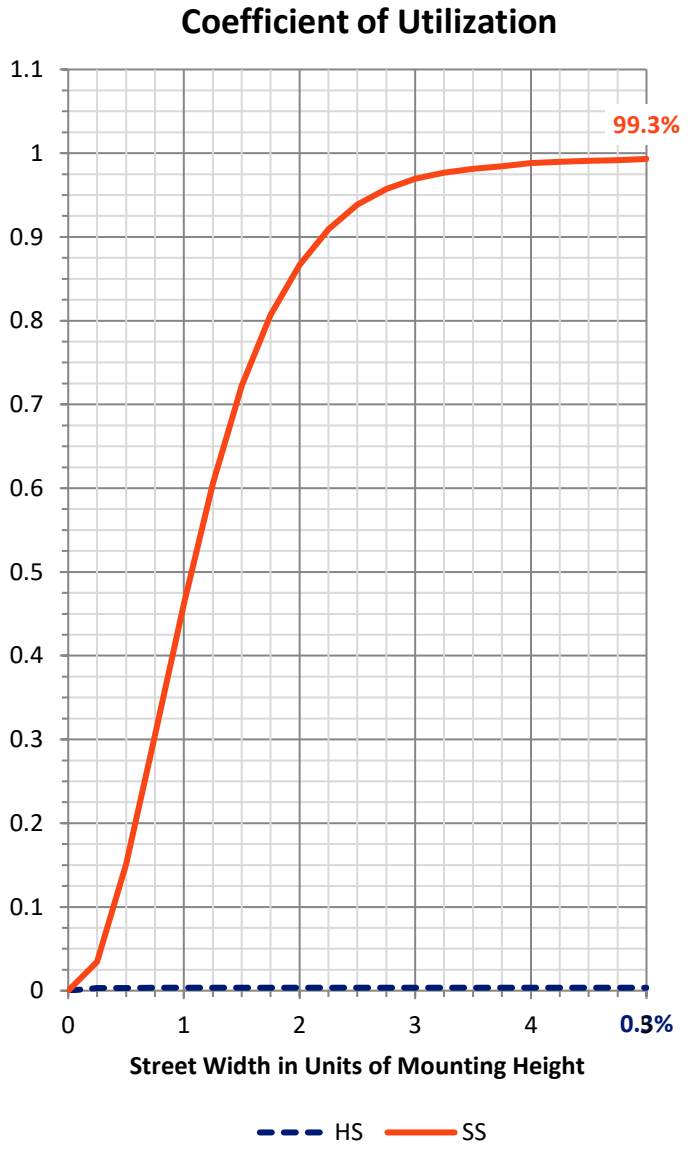
REPORT NUMBER: P1065872
CATALOG NUMBER: NVN-SA5D-760-U-T3BC

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 112.8 | 0.0 | 112.8 |
| | % Fixture | 0.4 | 0.0 | 0.4 |
| **Street Side** | Lumens | 31668.2 | 0.0 | 31668.2 |
| | % Fixture | 99.6 | 0.0 | 99.6 |
| **Total** | Lumens | 31781.1 | 0.0 | 31781.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 29.5 | 0.1 |
| 10°-20° | 351.3 | 1.1 |
| 20°-30° | 1262.2 | 4.0 |
| 30°-40° | 2932.9 | 9.2 |
| 40°-50° | 4999.0 | 15.7 |
| 50°-60° | 8237.0 | 25.9 |
| 60°-70° | 9523.8 | 30.0 |
| 70°-80° | 4091.7 | 12.9 |
| 80°-90° | 353.6 | 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° | 31781.1 | 100.0 |
| 0°-180° | 31781.1 | 100.0 |



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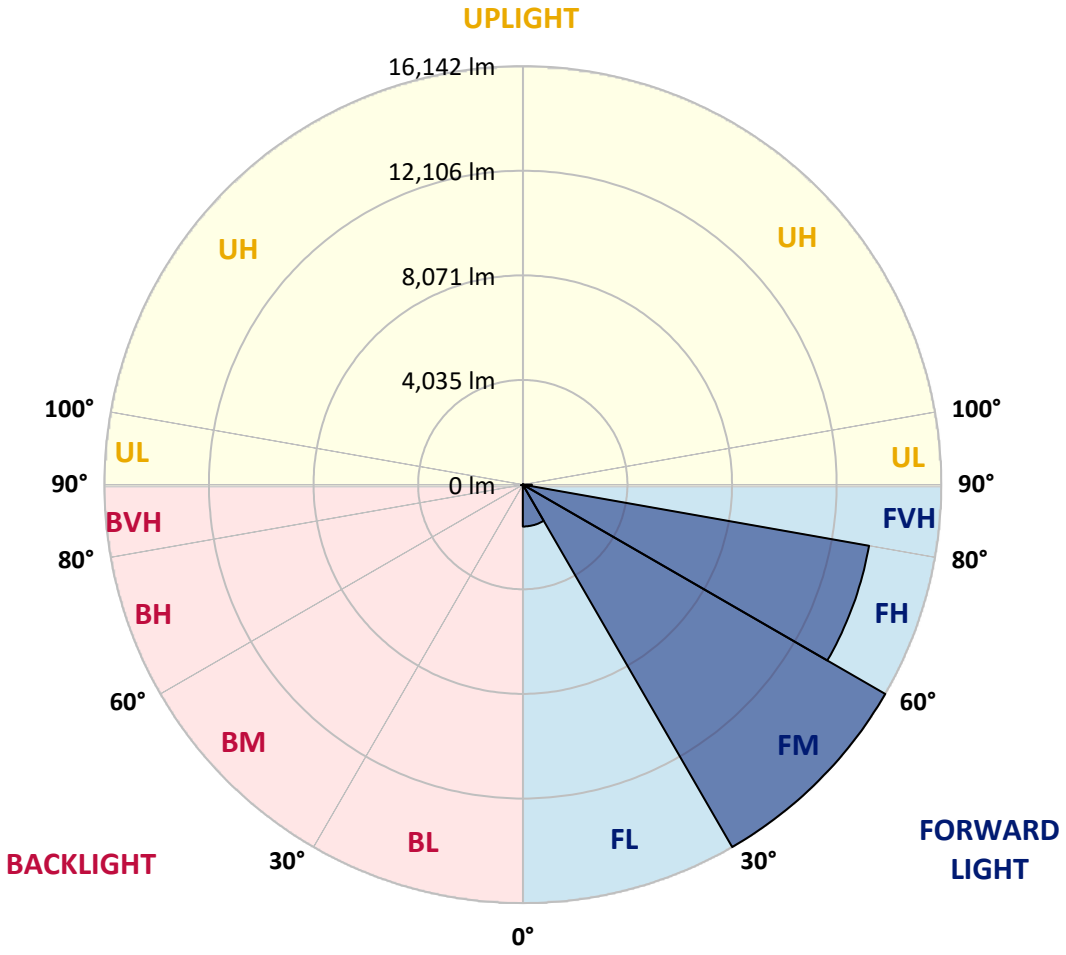
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1615.1 | 5.1 | | | |
| FM | (30°-60°) | 16141.7 | 50.8 | | | |
| FH | (60°-80°) | 13562.5 | 42.7 | | | G5 |
| FVH | (80°-90°) | 349.0 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 27.8 | 0.1 | B0/110 | | |
| BM | (30°-60°) | 27.3 | 0.1 | B0/220 | | |
| BH | (60°-80°) | 53.1 | 0.2 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 4.6 | 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° | 44° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | *200.9* | 200.9 | 200.9 | 200.9 | 200.9 |
| 2.5° | 260.7 | 260.7 | 254.3 | 245.8 | 243.6 | 237.2 | *237.2* | 230.8 | 222.2 | 215.8 | 207.3 |
| 5° | 378.2 | 376.1 | 359.0 | 337.6 | 309.9 | 292.8 | *292.8* | 269.3 | 247.9 | 228.7 | 211.6 |
| 7.5° | 827.0 | 807.8 | 745.8 | 643.2 | 508.6 | 418.8 | *412.4* | 335.5 | 284.2 | 245.8 | 213.7 |
| 10° | 1897.6 | 1831.4 | 1743.8 | 1498.0 | 1106.9 | 773.6 | *758.6* | 489.4 | 339.8 | 265.0 | 218.0 |
| 12.5° | 3109.3 | 3162.7 | 2987.5 | 2600.7 | 2143.4 | 1594.2 | *1487.3* | 824.9 | 448.8 | 290.6 | 222.2 |
| 15° | 4212.0 | 4199.1 | 4100.8 | 3784.6 | 3256.7 | 2525.9 | *2459.7* | 1433.9 | 643.2 | 331.2 | 226.5 |
| 17.5° | 5036.8 | 5021.9 | 4927.9 | 4724.8 | 4318.8 | 3588.0 | *3530.3* | 2286.6 | 1008.6 | 388.9 | 230.8 |
| 20° | 5906.6 | 5887.3 | 5754.9 | 5592.4 | 5237.7 | 4615.9 | *4547.5* | 3239.6 | 1579.2 | 483.0 | 230.8 |
| 22.5° | 6949.4 | 6913.1 | 6772.1 | 6496.4 | 6122.4 | 5581.8 | *5519.8* | 4214.1 | 2286.6 | 636.8 | 241.5 |
| 25° | 8210.2 | 8148.3 | 7953.8 | 7705.9 | 7255.0 | 6537.0 | *6470.7* | 5299.7 | 3139.2 | 869.7 | 252.2 |
| 27.5° | 9648.4 | 9659.1 | 9396.3 | 8977.4 | 8372.6 | 7639.7 | *7515.7* | 6272.0 | 4021.8 | 1203.1 | 265.0 |
| 30° | 11355.9 | 11249.0 | 10879.3 | 10392.1 | 9804.4 | 8870.6 | *8750.9* | 7240.1 | 5013.3 | 1694.6 | 286.4 |
| 32.5° | 12954.3 | 12838.9 | 12341.0 | 11727.7 | 11097.3 | 10112.1 | *10013.8* | 8327.8 | 5915.1 | 2275.9 | 324.8 |
| 35° | 14326.2 | 14245.0 | 13548.4 | 12800.4 | 12240.6 | 11360.1 | *11330.2* | 9541.6 | 6975.1 | 2902.0 | 367.6 |
| 37.5° | 15533.6 | 15386.2 | 14490.8 | 13715.1 | 13146.6 | 12358.1 | *12294.0* | 10652.8 | 7996.5 | 3628.6 | 431.7 |
| 40° | 16563.6 | 16482.4 | 15390.4 | 14371.1 | 13909.5 | 13204.3 | *13123.1* | 11627.2 | 9052.2 | 4472.7 | 510.7 |
| 42.5° | 17666.3 | 17559.5 | 16499.5 | 15356.3 | 14505.7 | 13751.4 | *13698.0* | 12430.7 | 9992.5 | 5400.1 | 628.3 |
| 45° | 18912.2 | 18713.4 | 17783.9 | 16758.1 | 15465.2 | 14317.7 | *14257.9* | 13146.6 | 10956.2 | 6395.9 | 771.4 |
| 47.5° | 20243.5 | 20070.4 | 19318.2 | 18598.0 | 17110.7 | 15251.5 | *15123.3* | 13755.7 | 11913.6 | 7545.6 | 953.1 |
| 50° | 21598.3 | 21602.6 | 21038.5 | 20692.3 | 19121.6 | 16768.8 | *16587.2* | 14651.1 | 12920.1 | 8776.5 | 1222.3 |
| 52.5° | 23175.4 | 23216.0 | 23207.5 | 22951.0 | 21733.0 | 19249.8 | *19006.2* | 16010.2 | 14089.0 | 10212.6 | 1594.2 |
| 55° | 23835.8 | 23908.4 | 24380.7 | 24949.1 | 24617.9 | 22395.4 | *22134.7* | 18354.4 | 15638.3 | 11813.2 | 2145.5 |
| 57.5° | 23295.1 | 23376.3 | 24028.1 | 25023.9 | 25784.7 | 25150.0 | *25120.1* | 21406.0 | 17679.1 | 13753.5 | 3047.3 |
| 59° | *22651.9* | *22641.2* | *23310.1* | *24365.7* | *25391.5* | *25803.9* | *25846.6* | *23470.3* | *19457.1* | *15114.8* | *3825.2* |
| 60° | 22224.5 | 22233.0 | 22677.5 | 23761.0 | 24850.8 | 25566.7 | *25733.4* | 24686.3 | 20495.7 | 16093.5 | 4491.9 |
| 62.5° | 20574.7 | 20673.0 | 21025.6 | 22032.1 | 23066.4 | 23865.7 | *24149.9* | 25769.7 | 23468.2 | 18405.7 | 6810.5 |
| 65° | 18781.8 | 18788.2 | 19290.4 | 20151.6 | 21143.2 | 21705.2 | *21884.7* | 24083.6 | 25453.4 | 20760.7 | 9851.4 |
| 67.5° | 15582.8 | 15713.1 | 16283.7 | 17679.1 | 18989.1 | 19700.7 | *19837.5* | 20963.7 | 24630.7 | 22295.0 | 11375.1 |
| 70° | 10905.0 | 11075.9 | 11890.1 | 13700.1 | 15651.2 | 16820.1 | *16811.5* | 17427.0 | 21677.4 | 21611.2 | 9644.1 |
| 72.5° | 5445.0 | 5739.9 | 6404.5 | 8342.7 | 10706.2 | 12541.9 | *12928.7* | 14018.5 | 17414.2 | 17950.5 | 7195.2 |
| 75° | 2406.2 | 2423.3 | 2801.6 | 3778.2 | 5321.1 | 7652.5 | *7998.7* | 11127.2 | 13360.3 | 12475.6 | 5197.1 |
| 77.5° | 1399.7 | 1412.5 | 1480.9 | 1696.8 | 2156.2 | 3750.4 | *4139.3* | 7297.7 | 9441.1 | 7250.7 | 3389.2 |
| 80° | 508.6 | 521.4 | 519.3 | 643.2 | 944.5 | 1476.6 | *1645.5* | 3536.7 | 6297.6 | 3818.8 | 1775.8 |
| 82.5° | 312.0 | 312.0 | 301.3 | 303.4 | 344.1 | 566.3 | *619.7* | 1506.6 | 3066.6 | 1880.5 | 508.6 |
| 85° | 153.9 | 162.4 | 173.1 | 194.5 | 230.8 | 279.9 | *297.0* | 431.7 | 1032.2 | 455.2 | 121.8 |
| 87.5° | 91.9 | 94.0 | 102.6 | 123.9 | 153.9 | 200.9 | *213.7* | 292.8 | 369.7 | 305.6 | 29.9 |
| 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: P1065872
CATALOG NUMBER: NVN-SA5D-760-U-T3BC

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 | 200.9 |
| 2.5° | 203.0 | 200.9 | 190.2 | 181.6 | 173.1 | 164.5 | 158.1 | 151.7 | 151.7 | 153.9 | 151.7 |
| 5° | 203.0 | 194.5 | 177.4 | 162.4 | 149.6 | 138.9 | 128.2 | 119.7 | 117.5 | 117.5 | 119.7 |
| 7.5° | 200.9 | 190.2 | 166.7 | 147.5 | 130.4 | 115.4 | 104.7 | 94.0 | 91.9 | 94.0 | 91.9 |
| 10° | 198.7 | 185.9 | 158.1 | 134.6 | 111.1 | 96.2 | 81.2 | 70.5 | 70.5 | 70.5 | 72.7 |
| 12.5° | 198.7 | 179.5 | 149.6 | 121.8 | 96.2 | 79.1 | 64.1 | 53.4 | 51.3 | 51.3 | 51.3 |
| 15° | 196.6 | 175.2 | 141.0 | 106.8 | 81.2 | 59.8 | 47.0 | 36.3 | 36.3 | 36.3 | 36.3 |
| 17.5° | 192.3 | 168.8 | 130.4 | 94.0 | 64.1 | 44.9 | 32.1 | 21.4 | 21.4 | 25.6 | 25.6 |
| 20° | 188.1 | 162.4 | 117.5 | 76.9 | 53.4 | 34.2 | 21.4 | 12.8 | 12.8 | 19.2 | 21.4 |
| 22.5° | 190.2 | 162.4 | 109.0 | 68.4 | 42.7 | 25.6 | 17.1 | 10.7 | 8.5 | 15.0 | 19.2 |
| 25° | 192.3 | 158.1 | 98.3 | 59.8 | 32.1 | 19.2 | 12.8 | 4.3 | 2.1 | 4.3 | 6.4 |
| 27.5° | 192.3 | 153.9 | 85.5 | 47.0 | 23.5 | 15.0 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30° | 190.2 | 147.5 | 74.8 | 38.5 | 17.1 | 8.5 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32.5° | 188.1 | 141.0 | 68.4 | 29.9 | 15.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35° | 190.2 | 132.5 | 59.8 | 23.5 | 8.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 |
| 37.5° | 196.6 | 123.9 | 51.3 | 19.2 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40° | 205.1 | 117.5 | 42.7 | 15.0 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5° | 222.2 | 117.5 | 38.5 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45° | 243.6 | 117.5 | 32.1 | 8.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5° | 271.4 | 119.7 | 27.8 | 8.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50° | 305.6 | 123.9 | 25.6 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 331.2 | 119.7 | 23.5 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 376.1 | 115.4 | 21.4 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57.5° | 435.9 | 109.0 | 21.4 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59° | *495.8* | *100.4* | *21.4* | *2.1* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* |
| 60° | 564.2 | 96.2 | 19.2 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62.5° | 931.7 | 85.5 | 17.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 1799.3 | 81.2 | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 2908.4 | 81.2 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 3058.0 | 81.2 | 8.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2034.4 | 66.2 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 1089.9 | 59.8 | 6.4 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 587.7 | 55.6 | 8.5 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 258.6 | 40.6 | 10.7 | 6.4 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 102.6 | 27.8 | 12.8 | 10.7 | 8.5 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 49.2 | 21.4 | 17.1 | 15.0 | 10.7 | 6.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 23.5 | 21.4 | 19.2 | 17.1 | 15.0 | 10.7 | 2.1 | 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: SP1-2407-184-7

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-757-U-5WQ

Data in this report applies to families of products including GSS-SB1A-757-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

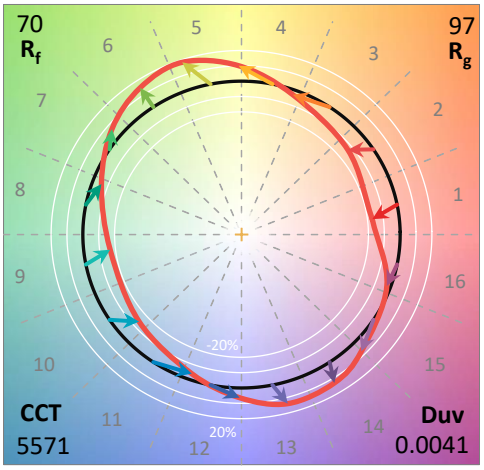
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-7 |
| 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-757-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 5700K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 5571 |
| CIE u': | 0.2033 |
| CIE v': | 0.4806 |
| Duv: | 0.0041 |
| CIE x: | 0.3308 |
| CIE y: | 0.3476 |
| CIE z: | 0.3216 |
| Peak Wavelength (nm): | 442 |
| Dominant Wavelength (nm): | 544 |
| Purity: | 3.635698 |
| Rf: | 70.4 |
| Rg: | 97.1 |

| | |
|---|---|
| CRI (Ra): | 69.9 |
| R1: | 68.8 |
| R2: | 72.5 |
| R3: | 76.8 |
| R4: | 72.0 |
| R5: | 70.9 |
| R6: | 65.6 |
| R7: | 75.5 |
| R8: | 56.8 |
| R9: | -35.4 |
| R10: | 36.7 |
| R11: | 73.9 |
| R12: | 47.8 |
| R13: | 68.0 |
| R14: | 87.0 |
| R15: | 59.8 |




## Test Conditions

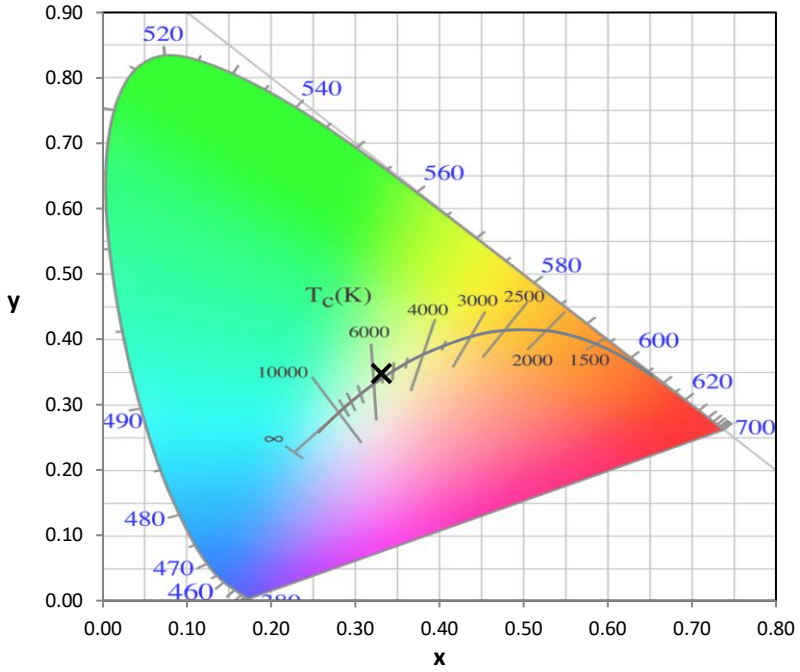
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-7

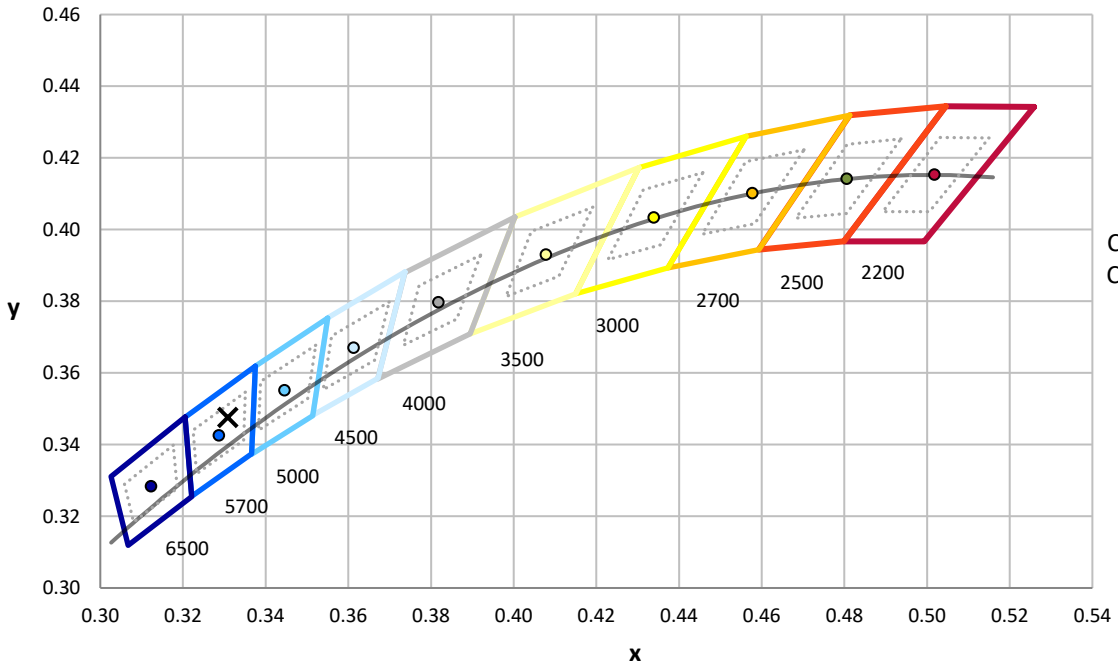
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-7

## CIE 1931 Chromaticity Diagram




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




CCT = 5571K
CIE x = 0.3308
CIE y = 0.3476
Duv = 0.0041

Point lies inside the ANSI 5700K 4-step quadrangle

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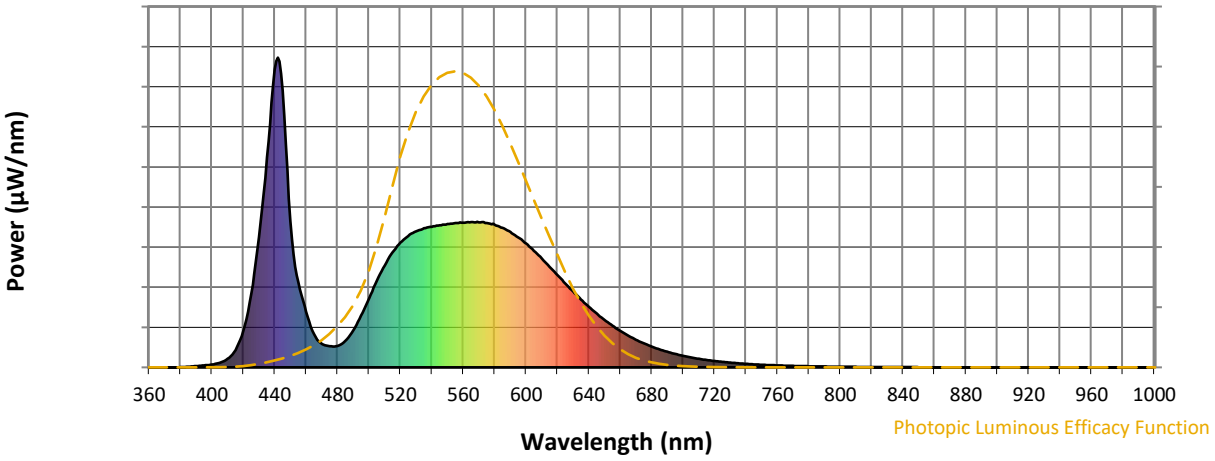
## Photopic Flux vs. Wavelength




## 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 | 120 | NR | 620 | 298 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 167 | NR | 625 | 270 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 222 | NR | 630 | 245 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 279 | NR | 635 | 219 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 329 | NR | 640 | 196 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 371 | NR | 645 | 173 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 403 | NR | 650 | 153 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 6 | NR | 525 | 424 | NR | 655 | 135 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 9 | NR | 530 | 439 | NR | 660 | 117 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 14 | NR | 535 | 449 | NR | 665 | 103 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 28 | NR | 540 | 454 | NR | 670 | 89 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 55 | NR | 545 | 459 | NR | 675 | 77 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 118 | NR | 550 | 463 | NR | 680 | 67 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 237 | NR | 555 | 466 | NR | 685 | 58 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 420 | NR | 560 | 467 | NR | 690 | 50 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 677 | NR | 565 | 469 | NR | 695 | 43 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 962 | NR | 570 | 469 | NR | 700 | 37 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 894 | NR | 575 | 466 | NR | 705 | 32 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 472 | NR | 580 | 461 | NR | 710 | 28 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 275 | NR | 585 | 450 | NR | 715 | 24 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 180 | NR | 590 | 437 | NR | 720 | 21 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 420 | NR | 725 | 18 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 76 | NR | 600 | 400 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 68 | NR | 605 | 376 | NR | 735 | 13 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 69 | NR | 610 | 352 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 86 | NR | 615 | 325 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

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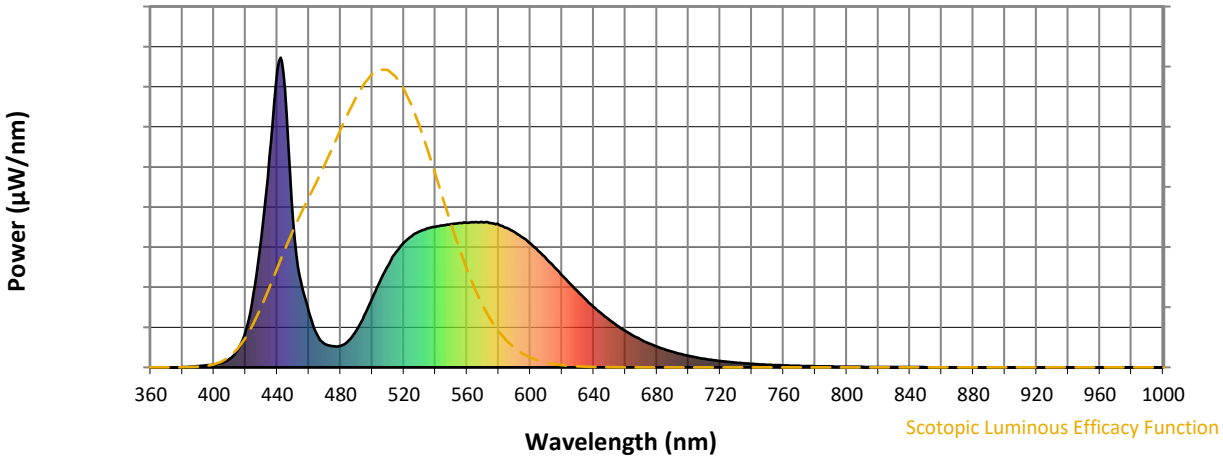
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.84**

| 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 | 120 | NR | 620 | 298 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 167 | NR | 625 | 270 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 222 | NR | 630 | 245 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 279 | NR | 635 | 219 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 329 | NR | 640 | 196 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 371 | NR | 645 | 173 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 403 | NR | 650 | 153 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 6 | NR | 525 | 424 | NR | 655 | 135 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 9 | NR | 530 | 439 | NR | 660 | 117 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 14 | NR | 535 | 449 | NR | 665 | 103 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 28 | NR | 540 | 454 | NR | 670 | 89 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 55 | NR | 545 | 459 | NR | 675 | 77 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 118 | NR | 550 | 463 | NR | 680 | 67 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 237 | NR | 555 | 466 | NR | 685 | 58 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 420 | NR | 560 | 467 | NR | 690 | 50 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 677 | NR | 565 | 469 | NR | 695 | 43 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 962 | NR | 570 | 469 | NR | 700 | 37 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 894 | NR | 575 | 466 | NR | 705 | 32 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 472 | NR | 580 | 461 | NR | 710 | 28 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 275 | NR | 585 | 450 | NR | 715 | 24 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 180 | NR | 590 | 437 | NR | 720 | 21 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 420 | NR | 725 | 18 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 76 | NR | 600 | 400 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 68 | NR | 605 | 376 | NR | 735 | 13 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 69 | NR | 610 | 352 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 86 | NR | 615 | 325 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

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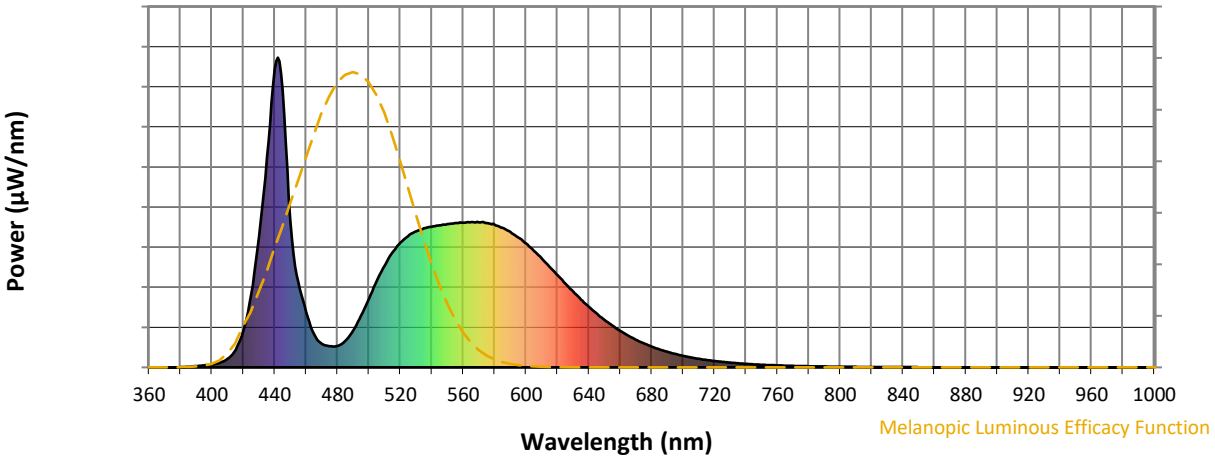
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.71**

| 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 | 120 | NR | 620 | 298 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 167 | NR | 625 | 270 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 222 | NR | 630 | 245 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 279 | NR | 635 | 219 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 329 | NR | 640 | 196 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 371 | NR | 645 | 173 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 403 | NR | 650 | 153 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 6 | NR | 525 | 424 | NR | 655 | 135 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 9 | NR | 530 | 439 | NR | 660 | 117 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 14 | NR | 535 | 449 | NR | 665 | 103 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 28 | NR | 540 | 454 | NR | 670 | 89 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 55 | NR | 545 | 459 | NR | 675 | 77 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 118 | NR | 550 | 463 | NR | 680 | 67 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 237 | NR | 555 | 466 | NR | 685 | 58 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 420 | NR | 560 | 467 | NR | 690 | 50 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 677 | NR | 565 | 469 | NR | 695 | 43 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 962 | NR | 570 | 469 | NR | 700 | 37 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 894 | NR | 575 | 466 | NR | 705 | 32 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 472 | NR | 580 | 461 | NR | 710 | 28 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 275 | NR | 585 | 450 | NR | 715 | 24 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 180 | NR | 590 | 437 | NR | 720 | 21 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 420 | NR | 725 | 18 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 76 | NR | 600 | 400 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 68 | NR | 605 | 376 | NR | 735 | 13 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 69 | NR | 610 | 352 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 86 | NR | 615 | 325 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

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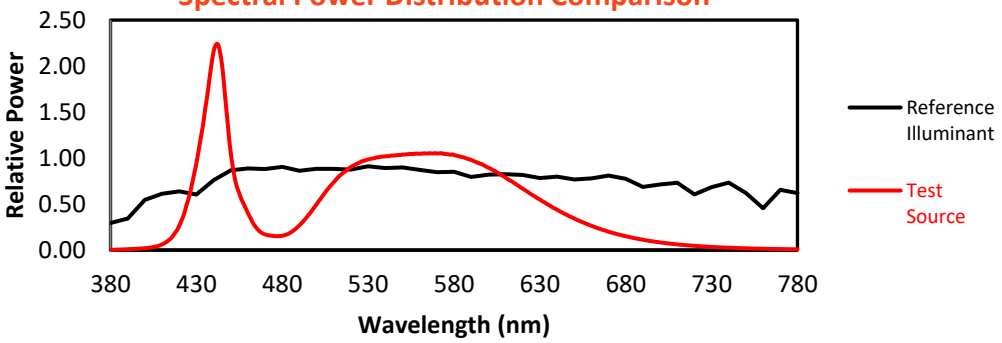
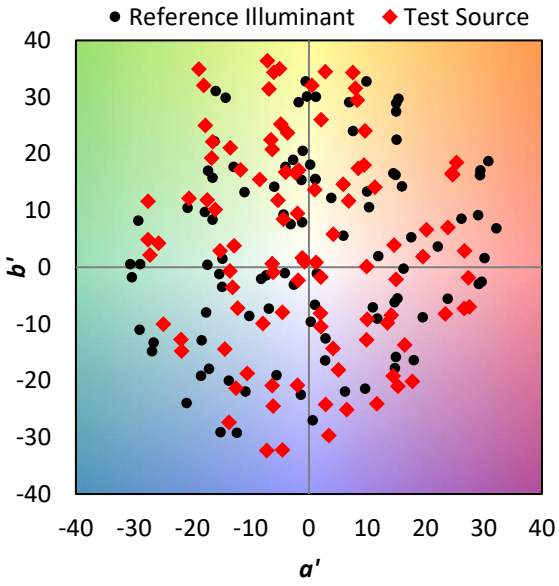
## Summary

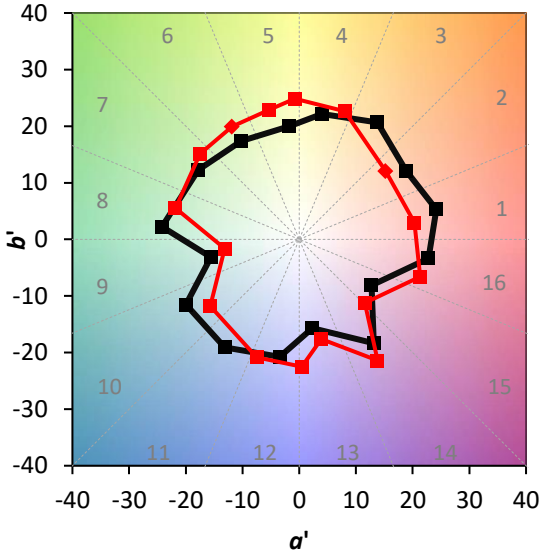
$R_f$ = 70.4
$R_g$ = 97.1
CIE $R_a$ = 69.9
$R_9$ = -35.4

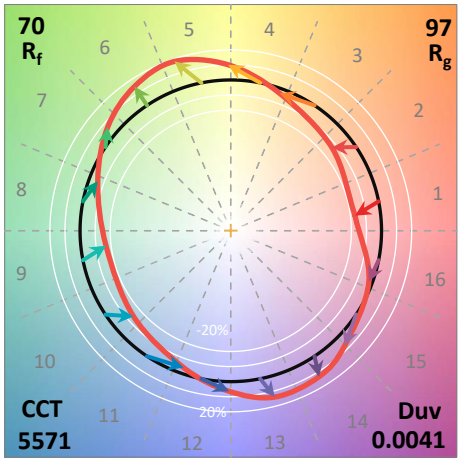
## Spectral Power Distribution Comparison

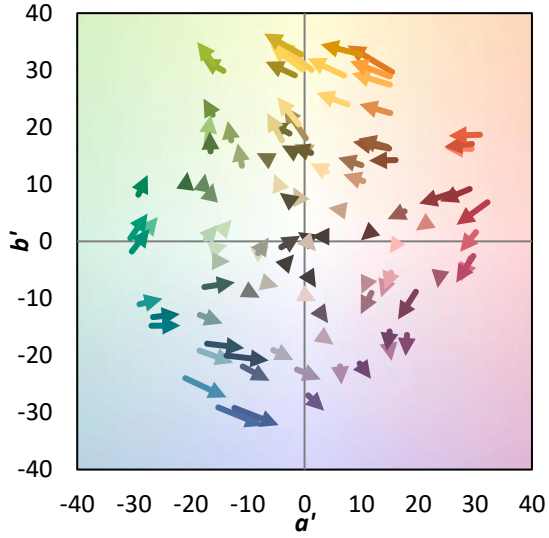



## Color Vector Graphics



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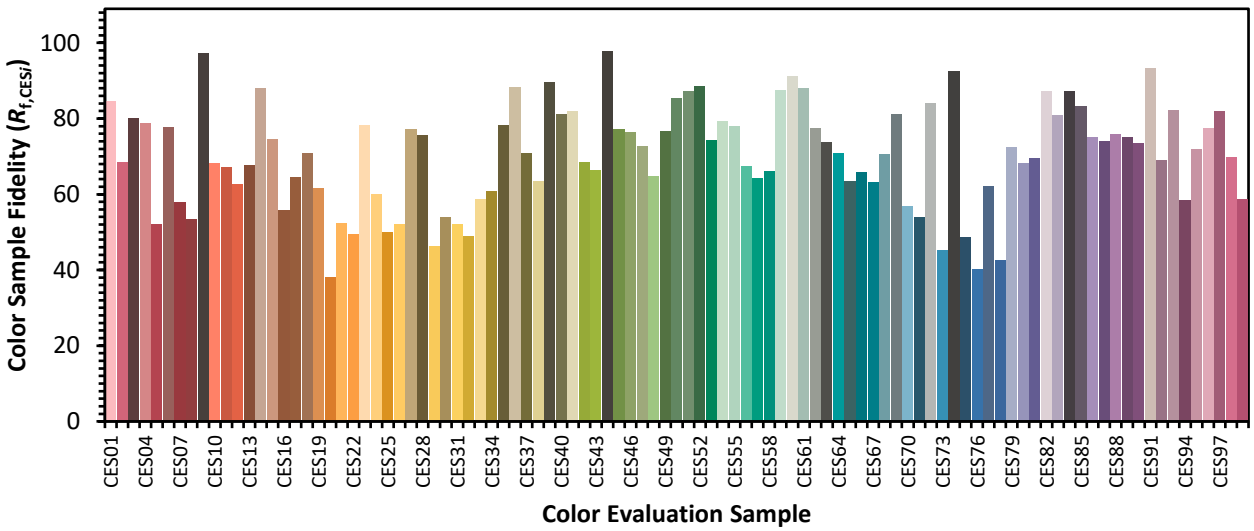
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 52 | CES51 = 87 | CES76 = 40 |
| CES02 = 59 | CES27 = 77 | CES52 = 88 | CES77 = 62 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 43 |
| CES04 = 68 | CES29 = 46 | CES54 = 79 | CES79 = 72 |
| CES05 = 45 | CES30 = 54 | CES55 = 78 | CES80 = 68 |
| CES06 = 49 | CES31 = 52 | CES56 = 67 | CES81 = 70 |
| CES07 = 38 | CES32 = 49 | CES57 = 64 | CES82 = 87 |
| CES08 = 37 | CES33 = 59 | CES58 = 66 | CES83 = 81 |
| CES09 = 29 | CES34 = 61 | CES59 = 87 | CES84 = 87 |
| CES10 = 72 | CES35 = 78 | CES60 = 91 | CES85 = 83 |
| CES11 = 55 | CES36 = 88 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 71 | CES62 = 77 | CES87 = 74 |
| CES13 = 41 | CES38 = 64 | CES63 = 74 | CES88 = 76 |
| CES14 = 74 | CES39 = 90 | CES64 = 71 | CES89 = 75 |
| CES15 = 70 | CES40 = 81 | CES65 = 63 | CES90 = 73 |
| CES16 = 46 | CES41 = 82 | CES66 = 66 | CES91 = 93 |
| CES17 = 48 | CES42 = 69 | CES67 = 63 | CES92 = 69 |
| CES18 = 55 | CES43 = 67 | CES68 = 71 | CES93 = 82 |
| CES19 = 70 | CES44 = 98 | CES69 = 81 | CES94 = 58 |
| CES20 = 63 | CES45 = 77 | CES70 = 57 | CES95 = 72 |
| CES21 = 85 | CES46 = 76 | CES71 = 54 | CES96 = 78 |
| CES22 = 77 | CES47 = 73 | CES72 = 84 | CES97 = 82 |
| CES23 = 91 | CES48 = 65 | CES73 = 45 | CES98 = 70 |
| CES24 = 90 | CES49 = 77 | CES74 = 92 | CES99 = 59 |
| CES25 = 71 | CES50 = 85 | CES75 = 49 | |



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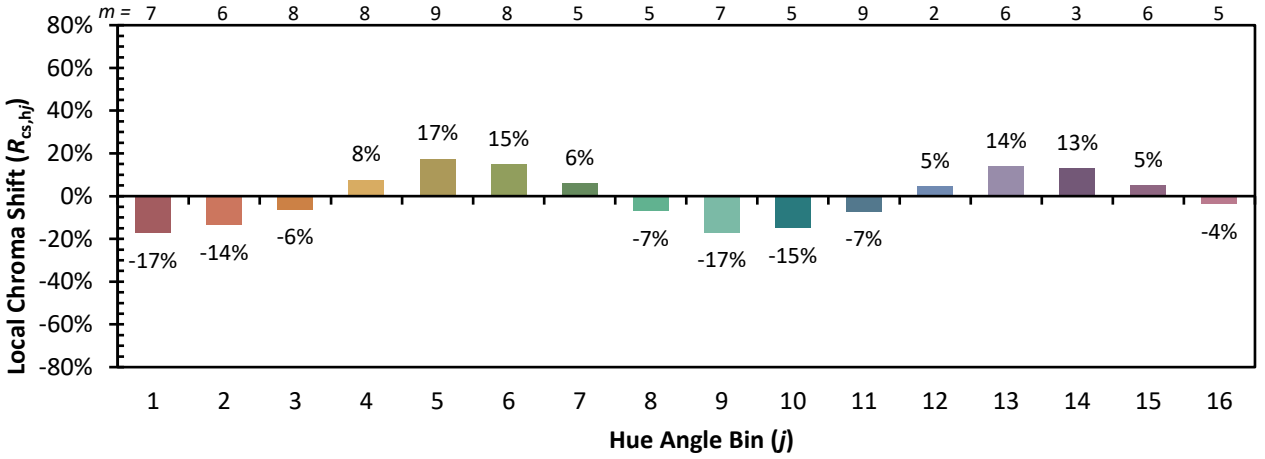
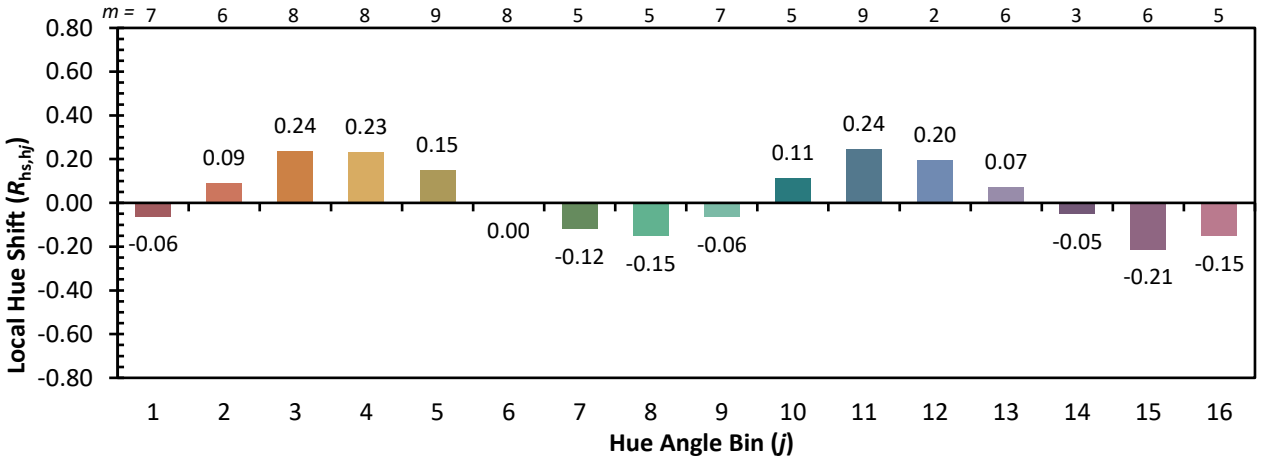
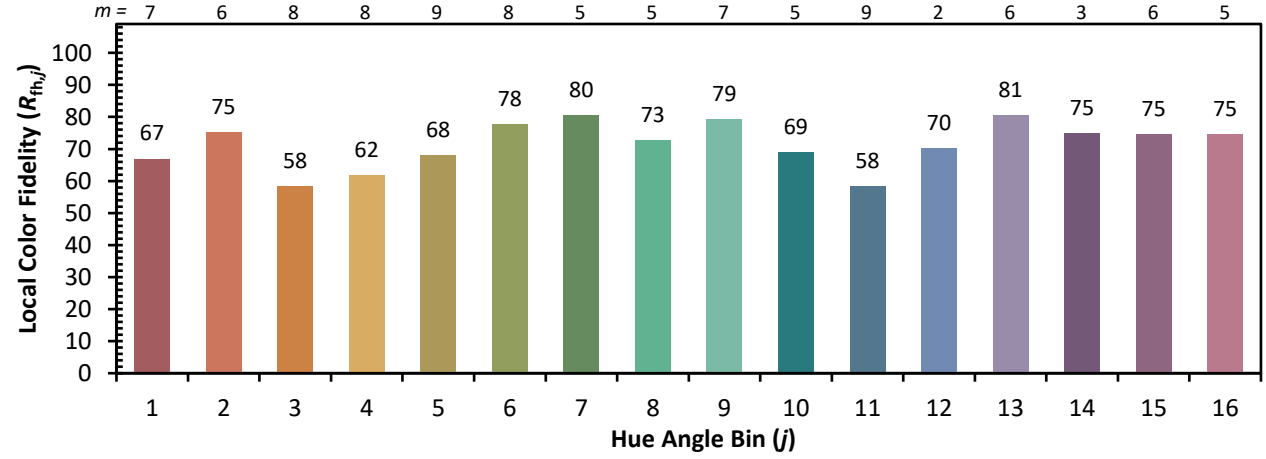
## Color Rendition by Hue-Angle Bin



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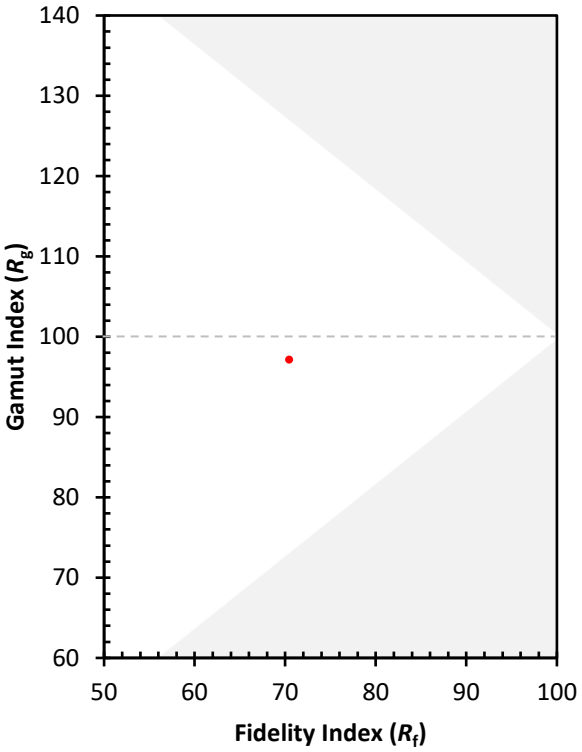
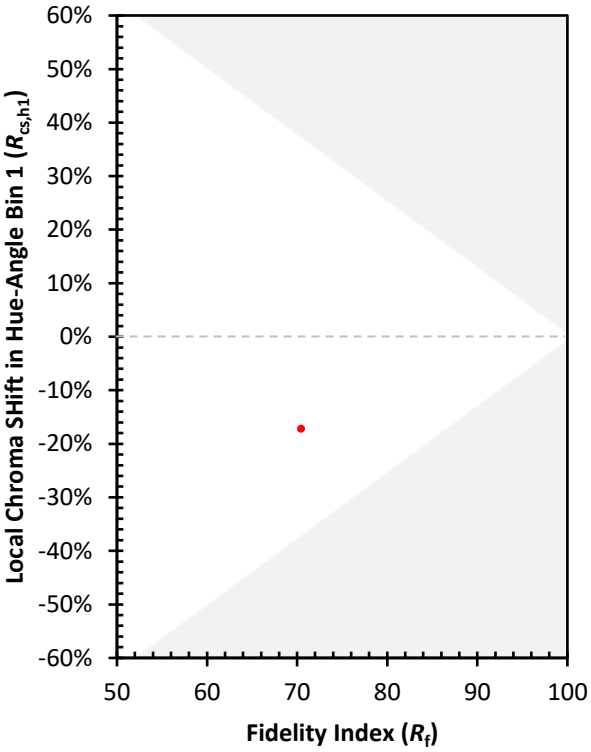
## Measure Comparisons




(END OF REPORT)