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: P1063259

Luminaire Tested: **GLAN-SA9C-950-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: | P1063259 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 08/07/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | STREETWORKS |
| Catalog Number: | GLAN-SA9C-950-U-T3BC |
| Description: | GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 9xLight Square PACKAGE 90CRI 5000K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL |
| Light Source: | (126) 5000K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 40887 lumens |
| Efficiency: | N/A |
| Efficacy: | 98.0 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): | 417.1 |
| 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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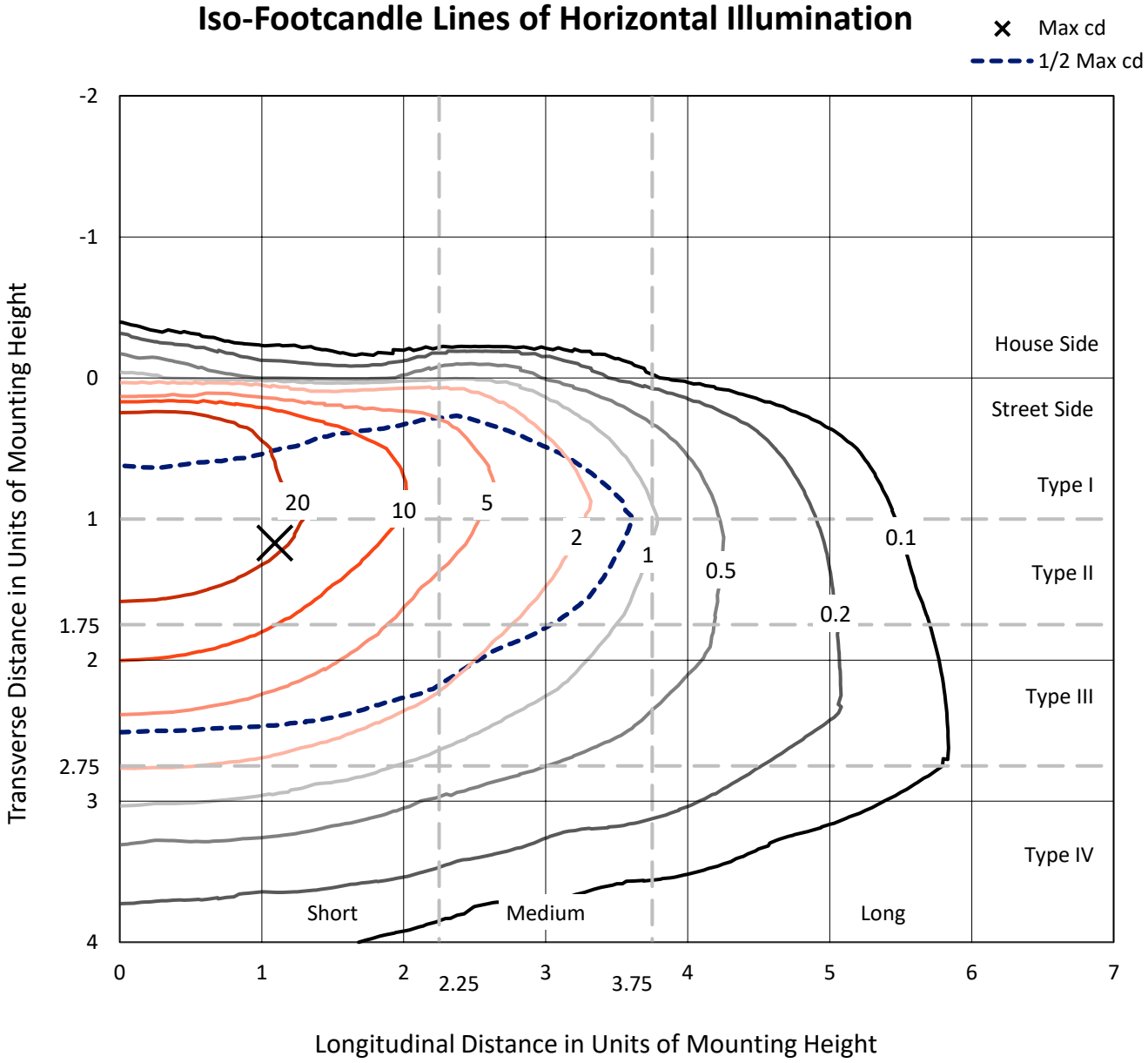
Scaled Data Report

REPORT NUMBER: P1063259
CATALOG NUMBER: GLAN-SA9C-950-U-T3BC

## Iso-Footcandle Lines of Horizontal Illumination




Based on 15 foot mounting height. Maximum calculated value = 45.9 fc
Type III - Short - N/A

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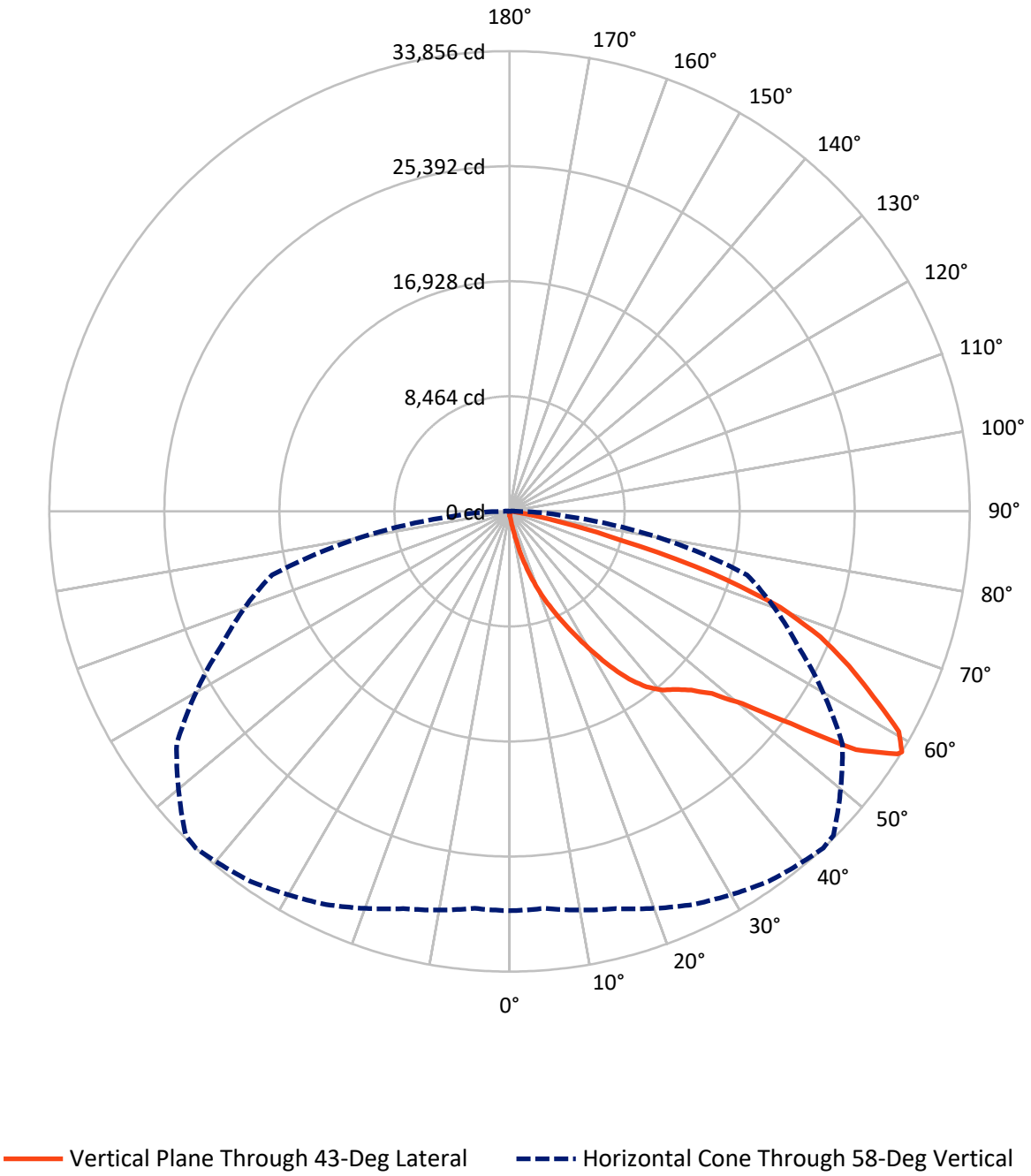
## Luminous Intensity Polar Plot



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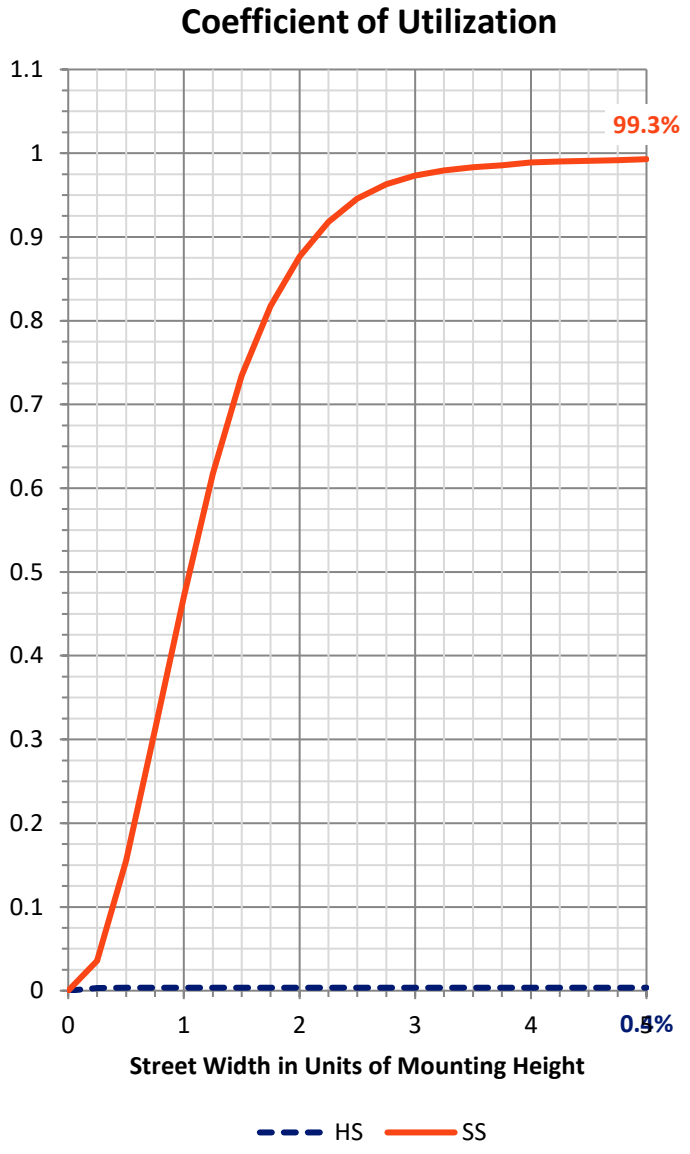
REPORT NUMBER: P1063259
CATALOG NUMBER: GLAN-SA9C-950-U-T3BC

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 149.3 | 0.0 | 149.3 |
| | % Fixture | 0.4 | 0.0 | 0.4 |
| **Street Side** | Lumens | 40737.8 | 0.0 | 40737.8 |
| | % Fixture | 99.6 | 0.0 | 99.6 |
| **Total** | Lumens | 40887.0 | 0.0 | 40887.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 39.2 | 0.1 |
| 10°-20° | 470.0 | 1.1 |
| 20°-30° | 1694.0 | 4.1 |
| 30°-40° | 3875.8 | 9.5 |
| 40°-50° | 6537.0 | 16.0 |
| 50°-60° | 10787.6 | 26.4 |
| 60°-70° | 12056.6 | 29.5 |
| 70°-80° | 4978.0 | 12.2 |
| 80°-90° | 448.8 | 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° | 40887.0 | 100.0 |
| 0°-180° | 40887.0 | 100.0 |



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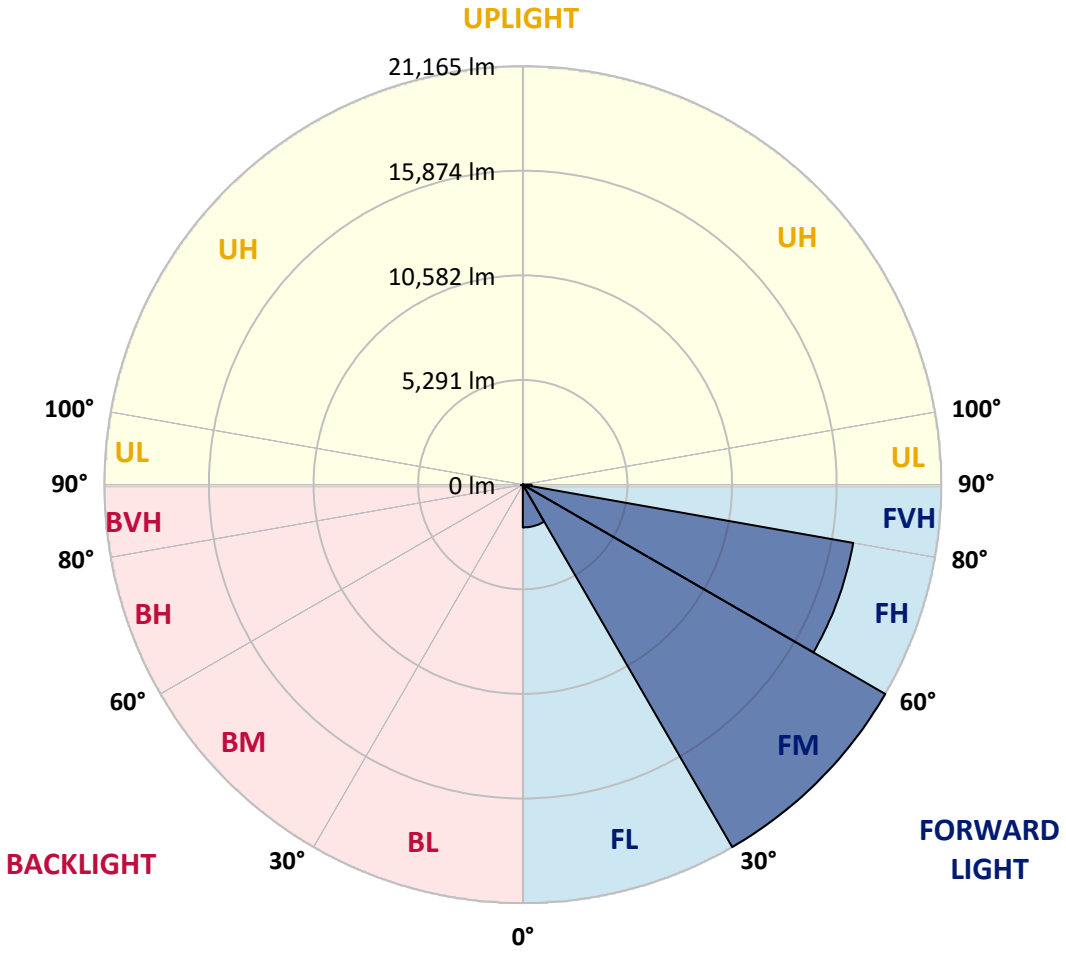
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2164.2 | 5.3 | | | |
| FM | (30°-60°) | 21164.7 | 51.8 | | | |
| FH | (60°-80°) | 16966.2 | 41.5 | | | G5 |
| FVH | (80°-90°) | 442.6 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 38.9 | 0.1 | B0/110 | | |
| BM | (30°-60°) | 35.8 | 0.1 | B0/220 | | |
| BH | (60°-80°) | 68.4 | 0.2 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 6.2 | 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° | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | *267.3* | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 |
| 2.5° | 320.8 | 331.5 | 320.8 | 320.8 | 320.8 | *310.1* | 310.1 | 299.4 | 299.4 | 288.7 | 278.0 |
| 5° | 470.5 | 470.5 | 438.4 | 417.1 | 395.7 | *385.0* | 374.3 | 352.9 | 331.5 | 310.1 | 288.7 |
| 7.5° | 1048.0 | 1048.0 | 951.7 | 823.4 | 652.3 | *556.1* | 534.7 | 438.4 | 374.3 | 331.5 | 288.7 |
| 10° | 2502.3 | 2502.3 | 2288.4 | 1935.6 | 1497.1 | *1112.1* | 994.5 | 630.9 | 449.1 | 352.9 | 299.4 |
| 12.5° | 4159.8 | 4213.3 | 3946.0 | 3496.8 | 2844.5 | *2170.8* | 1935.6 | 1154.9 | 598.8 | 385.0 | 299.4 |
| 15° | 5646.2 | 5517.9 | 5443.1 | 5015.3 | 4395.1 | *3593.1* | 3293.6 | 1946.2 | 866.2 | 438.4 | 299.4 |
| 17.5° | 6651.4 | 6651.4 | 6544.5 | 6255.8 | 5689.0 | *4983.2* | 4737.3 | 3143.9 | 1400.9 | 502.6 | 310.1 |
| 20° | 7827.7 | 7827.7 | 7635.3 | 7432.1 | 6929.5 | *6330.6* | 6095.4 | 4469.9 | 2170.8 | 641.6 | 310.1 |
| 22.5° | 9250.0 | 9271.4 | 9057.5 | 8693.9 | 8212.7 | *7549.7* | 7346.5 | 5699.7 | 3143.9 | 855.5 | 320.8 |
| 25° | 10982.4 | 11003.8 | 10693.6 | 10351.4 | 9613.6 | *8897.1* | 8587.0 | 7111.3 | 4330.9 | 1197.7 | 320.8 |
| 27.5° | 12896.5 | 13046.2 | 12586.4 | 11998.3 | 11217.6 | *10319.4* | 10084.1 | 8383.8 | 5507.2 | 1689.6 | 342.2 |
| 30° | 15281.2 | 15281.2 | 14671.7 | 13848.3 | 13003.5 | *11891.3* | 11591.9 | 9720.5 | 6758.4 | 2341.9 | 363.6 |
| 32.5° | 17334.4 | 17174.0 | 16393.4 | 15527.2 | 14628.9 | *13591.6* | 13270.8 | 11121.4 | 8041.6 | 3154.6 | 406.4 |
| 35° | 18906.4 | 18767.3 | 17804.9 | 16874.6 | 16093.9 | *15142.2* | 14757.2 | 12639.9 | 9399.7 | 4074.3 | 470.5 |
| 37.5° | 20253.8 | 20200.3 | 18895.7 | 17730.1 | 17216.8 | *16382.7* | 16040.5 | 14072.8 | 10736.4 | 5068.8 | 545.4 |
| 40° | 21729.5 | 21558.4 | 20168.2 | 18724.6 | 17954.6 | *17280.9* | 16970.8 | 15227.8 | 12019.7 | 6234.4 | 652.3 |
| 42.5° | 22991.3 | 22788.2 | 21537.0 | 20125.4 | 18810.1 | *17901.2* | 17601.7 | 16200.9 | 13270.8 | 7400.0 | 791.3 |
| 45° | 24392.2 | 24285.3 | 23023.4 | 21954.1 | 20200.3 | *18746.0* | 18350.3 | 16981.5 | 14415.0 | 8790.2 | 973.1 |
| 47.5° | 26498.9 | 26306.4 | 25130.1 | 24253.2 | 22221.4 | *20029.2* | 19462.4 | 17783.5 | 15516.5 | 10159.0 | 1251.2 |
| 50° | 28947.7 | 28819.4 | 28124.3 | 27429.2 | 25408.1 | *22221.4* | 21547.7 | 18938.4 | 16746.3 | 11784.4 | 1614.7 |
| 52.5° | 30947.4 | 30926.0 | 31011.6 | 31022.3 | 29493.1 | *25910.7* | 24905.5 | 20799.1 | 18157.8 | 13388.4 | 2128.0 |
| 55° | 30904.6 | 31000.9 | 31941.9 | 33022.0 | 33139.6 | *30947.4* | 29974.3 | 23932.4 | 19997.1 | 15366.8 | 2844.5 |
| 57.5° | 29749.7 | 29674.9 | 30669.4 | 32294.8 | 33439.0 | *33674.3* | 33513.9 | 28798.0 | 22766.8 | 17751.5 | 3946.0 |
| 58° | *29375.4* | *29311.3* | *30252.3* | *31909.8* | *33225.2* | *33856.1* | *33695.7* | *29899.4* | *23387.0* | *18093.6* | *4245.4* |
| 60° | 28017.4 | 28028.0 | 28584.1 | 30091.9 | 31407.2 | *32904.4* | 33054.1 | 33043.4 | 26477.5 | 20382.1 | 5753.2 |
| 62.5° | 26220.8 | 26135.3 | 26648.6 | 27878.3 | 29033.3 | *30038.5* | 30295.1 | 33257.2 | 31000.9 | 23290.8 | 8629.8 |
| 65° | 23739.9 | 23611.6 | 24156.9 | 25547.1 | 26787.6 | *27439.9* | 27450.6 | 30391.3 | 33128.9 | 26413.3 | 12736.1 |
| 67.5° | 19130.9 | 19024.0 | 20114.7 | 21900.6 | 23814.8 | *24670.2* | 25055.2 | 26370.5 | 31332.4 | 28530.6 | 15088.7 |
| 70° | 11720.2 | 11944.8 | 13463.3 | 16265.0 | 19537.3 | *21109.3* | 21686.7 | 22093.1 | 26680.6 | 28209.8 | 12618.5 |
| 72.5° | 5411.0 | 5143.6 | 6437.6 | 8394.5 | 12126.6 | *15623.4* | 16222.3 | 17815.6 | 21152.0 | 24488.5 | 9410.4 |
| 75° | 2523.7 | 2427.5 | 2726.9 | 3667.9 | 5496.5 | *8437.3* | 9528.0 | 14222.5 | 16222.3 | 17035.0 | 6790.5 |
| 77.5° | 1293.9 | 1304.6 | 1550.6 | 1668.2 | 2267.1 | *3903.2* | 4480.6 | 9356.9 | 11891.3 | 9506.7 | 4555.5 |
| 80° | 566.8 | 588.2 | 598.8 | 652.3 | 919.7 | *1507.8* | 1700.3 | 4341.6 | 8127.2 | 4844.2 | 2491.6 |
| 82.5° | 363.6 | 374.3 | 374.3 | 374.3 | 438.4 | *598.8* | 684.4 | 1743.1 | 4052.9 | 2406.1 | 769.9 |
| 85° | 192.5 | 192.5 | 213.9 | 267.3 | 310.1 | *363.6* | 385.0 | 556.1 | 1336.7 | 716.5 | 181.8 |
| 87.5° | 106.9 | 117.6 | 128.3 | 160.4 | 203.2 | *246.0* | 267.3 | 385.0 | 513.3 | 491.9 | 42.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1063259
CATALOG NUMBER: GLAN-SA9C-950-U-T3BC

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 | 267.3 |
| 2.5° | 278.0 | 267.3 | 256.6 | 246.0 | 235.3 | 224.6 | 224.6 | 224.6 | 224.6 | 224.6 | 224.6 |
| 5° | 267.3 | 256.6 | 246.0 | 224.6 | 203.2 | 192.5 | 181.8 | 171.1 | 171.1 | 171.1 | 171.1 |
| 7.5° | 267.3 | 256.6 | 224.6 | 203.2 | 181.8 | 160.4 | 139.0 | 139.0 | 139.0 | 139.0 | 139.0 |
| 10° | 267.3 | 246.0 | 213.9 | 181.8 | 149.7 | 128.3 | 117.6 | 106.9 | 106.9 | 106.9 | 106.9 |
| 12.5° | 267.3 | 235.3 | 203.2 | 160.4 | 128.3 | 106.9 | 96.2 | 85.5 | 85.5 | 85.5 | 85.5 |
| 15° | 267.3 | 235.3 | 192.5 | 149.7 | 117.6 | 85.5 | 74.9 | 64.2 | 64.2 | 64.2 | 64.2 |
| 17.5° | 256.6 | 224.6 | 181.8 | 128.3 | 96.2 | 64.2 | 53.5 | 42.8 | 42.8 | 53.5 | 53.5 |
| 20° | 246.0 | 213.9 | 160.4 | 106.9 | 74.9 | 53.5 | 32.1 | 32.1 | 32.1 | 32.1 | 32.1 |
| 22.5° | 246.0 | 213.9 | 149.7 | 96.2 | 64.2 | 32.1 | 21.4 | 21.4 | 21.4 | 21.4 | 32.1 |
| 25° | 246.0 | 203.2 | 128.3 | 74.9 | 42.8 | 21.4 | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 |
| 27.5° | 246.0 | 203.2 | 117.6 | 64.2 | 32.1 | 21.4 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30° | 235.3 | 192.5 | 106.9 | 53.5 | 21.4 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32.5° | 235.3 | 181.8 | 85.5 | 42.8 | 21.4 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35° | 246.0 | 171.1 | 74.9 | 32.1 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.7 |
| 37.5° | 256.6 | 160.4 | 64.2 | 21.4 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40° | 267.3 | 149.7 | 64.2 | 21.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5° | 288.7 | 149.7 | 53.5 | 21.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45° | 310.1 | 149.7 | 42.8 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5° | 352.9 | 160.4 | 42.8 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50° | 385.0 | 171.1 | 32.1 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5° | 427.7 | 160.4 | 32.1 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55° | 481.2 | 160.4 | 32.1 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57.5° | 524.0 | 149.7 | 32.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58° | *545.4* | *139.0* | *21.4* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* | *0.0* |
| 60° | 652.3 | 128.3 | 21.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62.5° | 1015.9 | 106.9 | 21.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65° | 2063.9 | 96.2 | 21.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 3849.7 | 85.5 | 21.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 4309.5 | 96.2 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2716.2 | 74.9 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 1432.9 | 74.9 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 716.5 | 74.9 | 10.7 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 331.5 | 53.5 | 10.7 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 139.0 | 32.1 | 21.4 | 10.7 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 64.2 | 32.1 | 21.4 | 21.4 | 10.7 | 10.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 32.1 | 32.1 | 32.1 | 21.4 | 21.4 | 10.7 | 10.7 | 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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Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-17

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-950-U-5WQ

Data in this report applies to families of products including GSS-SB1A-950-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

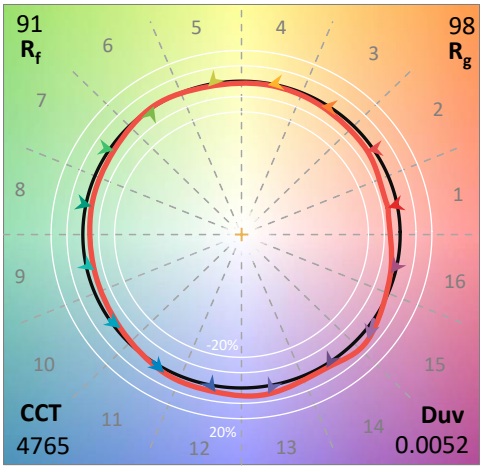
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-17 |
| 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-950-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 5000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4765 |
| CIE u': | 0.2105 |
| CIE v': | 0.4941 |
| Duv: | 0.0052 |
| CIE x: | 0.3536 |
| CIE y: | 0.3689 |
| CIE z: | 0.2775 |
| Peak Wavelength (nm): | 449 |
| Dominant Wavelength (nm): | 571 |
| Purity: | 16.80041 |
| Rf: | 90.7 |
| Rg: | 98 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 90.8 | | | | |
| R1: | 89.8 | R9: | 54.9 | | |
| R2: | 93.1 | R10: | 83.0 | | |
| R3: | 95.3 | R11: | 89.6 | | |
| R4: | 90.3 | R12: | 68.0 | | |
| R5: | 89.0 | R13: | 90.6 | | |
| R6: | 89.7 | R14: | 97.3 | | |
| R7: | 94.9 | R15: | 86.2 | | |
| R8: | 84.0 | | | | |




## Test Conditions

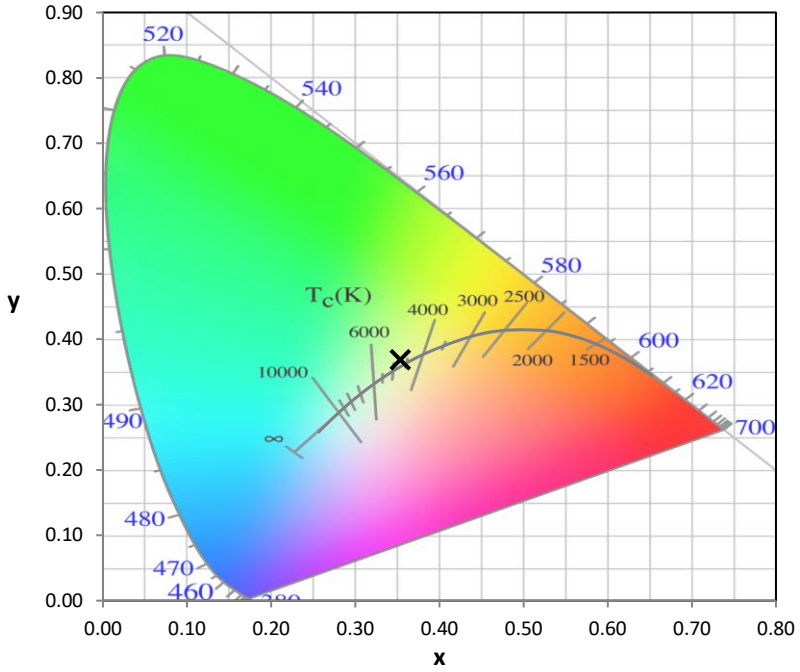
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-17

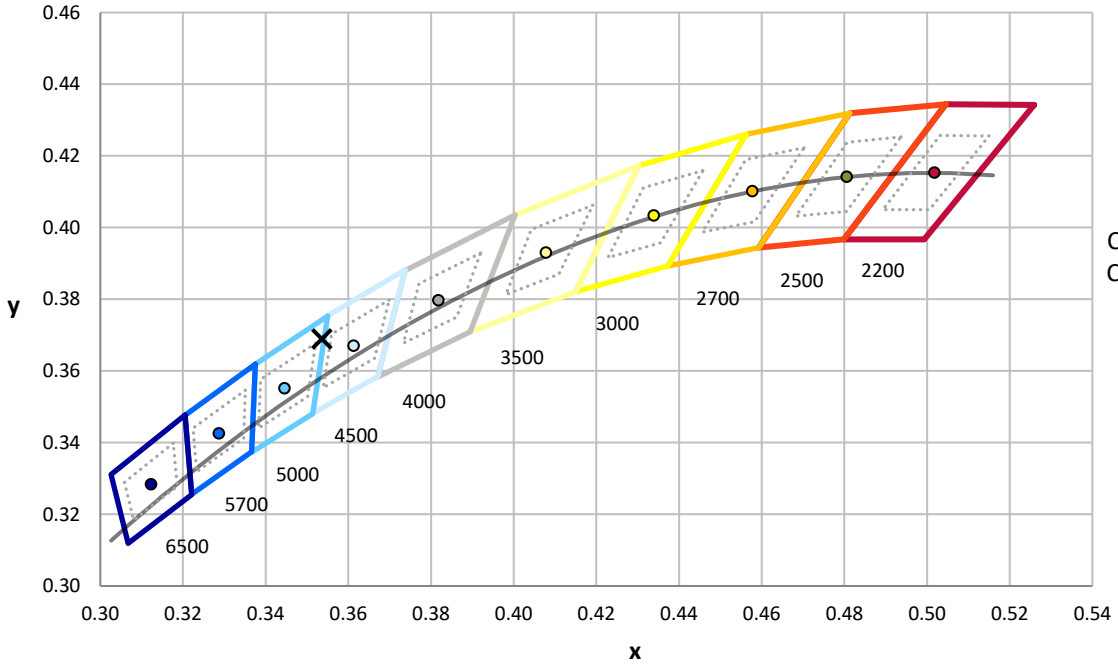
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-17

## CIE 1931 Chromaticity Diagram




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




CCT = 4765K
CIE x = 0.3536
CIE y = 0.3689
Duv = 0.0052

Point lies inside the ANSI 5000K 7-step quadrangle

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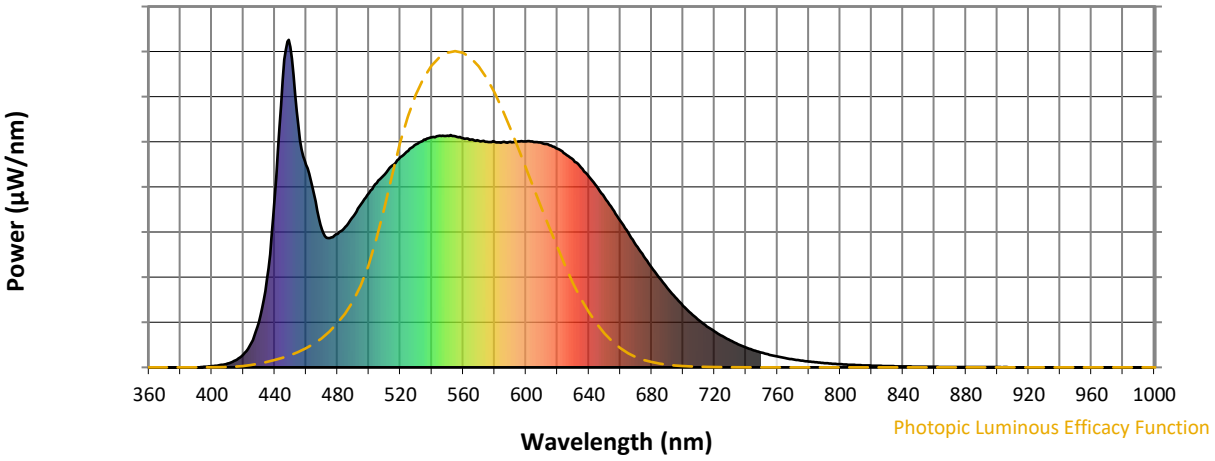
## Photopic Flux vs. Wavelength




## 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 | 462 | NR | 620 | 668 | NR | 750 | 45 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 498 | NR | 625 | 652 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 533 | NR | 630 | 634 | NR | 760 | 33 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 562 | NR | 635 | 610 | NR | 765 | 28 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 590 | NR | 640 | 583 | NR | 770 | 24 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 617 | NR | 645 | 552 | NR | 775 | 21 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 642 | NR | 650 | 519 | NR | 780 | 18 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 661 | NR | 655 | 484 | NR | 785 | 15 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 681 | NR | 660 | 448 | NR | 790 | 13 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 695 | NR | 665 | 411 | NR | 795 | 11 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 702 | NR | 670 | 373 | NR | 800 | 10 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 708 | NR | 675 | 338 | NR | 805 | 8 | NR | 935 | 0 | NR |
| 420 | 39 | NR | 550 | 707 | NR | 680 | 305 | NR | 810 | 7 | NR | 940 | 0 | NR |
| 425 | 74 | NR | 555 | 706 | NR | 685 | 272 | NR | 815 | 6 | NR | 945 | 0 | NR |
| 430 | 139 | NR | 560 | 700 | NR | 690 | 243 | NR | 820 | 5 | NR | 950 | 0 | NR |
| 435 | 270 | NR | 565 | 696 | NR | 695 | 214 | NR | 825 | 5 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 692 | NR | 700 | 188 | NR | 830 | 4 | NR | 960 | 0 | NR |
| 445 | 877 | NR | 575 | 689 | NR | 705 | 165 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 978 | NR | 580 | 688 | NR | 710 | 144 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 738 | NR | 585 | 688 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 618 | NR | 590 | 689 | NR | 720 | 110 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 529 | NR | 595 | 690 | NR | 725 | 95 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 420 | NR | 600 | 690 | NR | 730 | 82 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 395 | NR | 605 | 688 | NR | 735 | 71 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 408 | NR | 610 | 685 | NR | 740 | 61 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 429 | NR | 615 | 678 | NR | 745 | 52 | NR | 875 | 1 | NR | | | |

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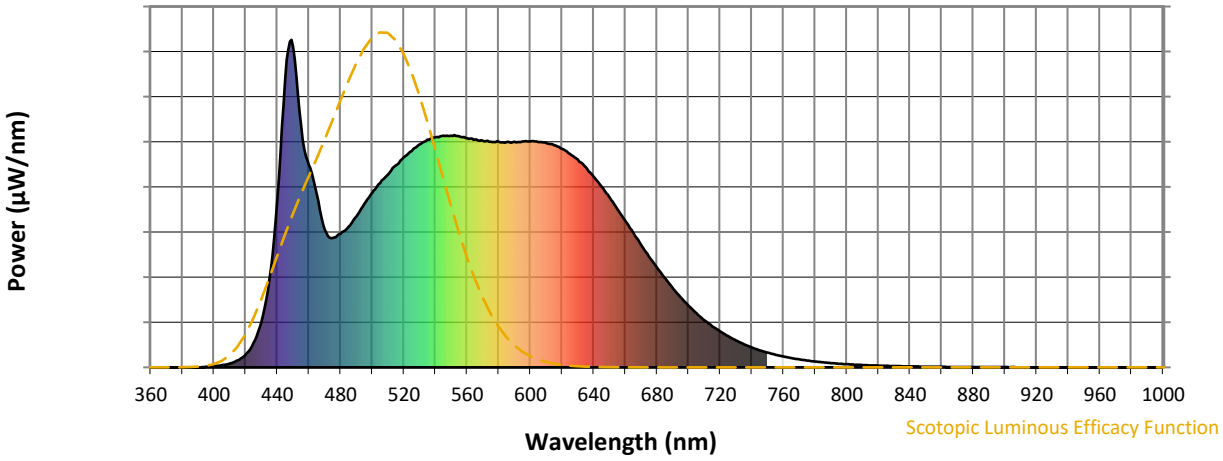
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.99**

| 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 | 462 | NR | 620 | 668 | NR | 750 | 45 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 498 | NR | 625 | 652 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 533 | NR | 630 | 634 | NR | 760 | 33 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 562 | NR | 635 | 610 | NR | 765 | 28 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 590 | NR | 640 | 583 | NR | 770 | 24 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 617 | NR | 645 | 552 | NR | 775 | 21 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 642 | NR | 650 | 519 | NR | 780 | 18 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 661 | NR | 655 | 484 | NR | 785 | 15 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 681 | NR | 660 | 448 | NR | 790 | 13 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 695 | NR | 665 | 411 | NR | 795 | 11 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 702 | NR | 670 | 373 | NR | 800 | 10 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 708 | NR | 675 | 338 | NR | 805 | 8 | NR | 935 | 0 | NR |
| 420 | 39 | NR | 550 | 707 | NR | 680 | 305 | NR | 810 | 7 | NR | 940 | 0 | NR |
| 425 | 74 | NR | 555 | 706 | NR | 685 | 272 | NR | 815 | 6 | NR | 945 | 0 | NR |
| 430 | 139 | NR | 560 | 700 | NR | 690 | 243 | NR | 820 | 5 | NR | 950 | 0 | NR |
| 435 | 270 | NR | 565 | 696 | NR | 695 | 214 | NR | 825 | 5 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 692 | NR | 700 | 188 | NR | 830 | 4 | NR | 960 | 0 | NR |
| 445 | 877 | NR | 575 | 689 | NR | 705 | 165 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 978 | NR | 580 | 688 | NR | 710 | 144 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 738 | NR | 585 | 688 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 618 | NR | 590 | 689 | NR | 720 | 110 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 529 | NR | 595 | 690 | NR | 725 | 95 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 420 | NR | 600 | 690 | NR | 730 | 82 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 395 | NR | 605 | 688 | NR | 735 | 71 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 408 | NR | 610 | 685 | NR | 740 | 61 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 429 | NR | 615 | 678 | NR | 745 | 52 | NR | 875 | 1 | NR | | | |

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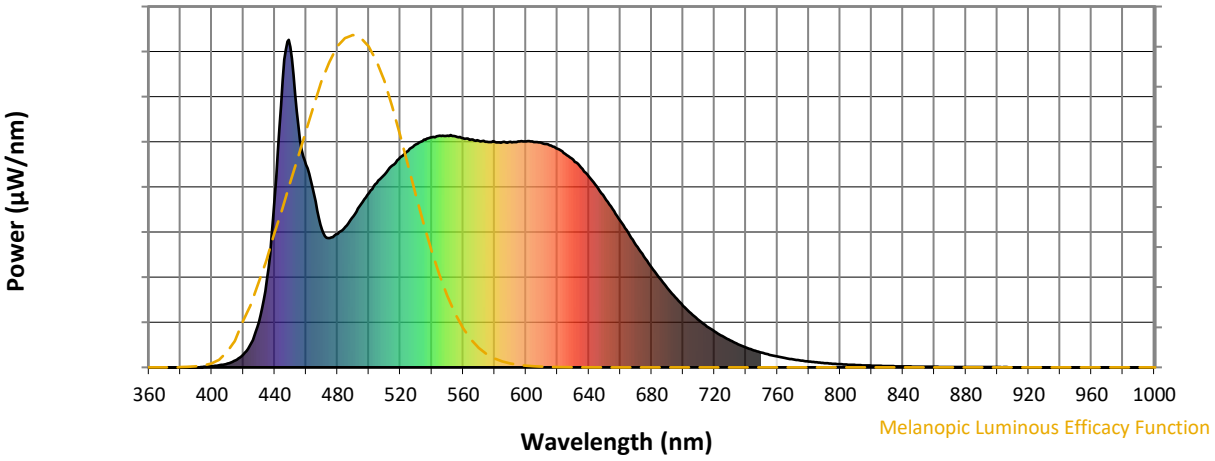
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 4.22**

| 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 | 462 | NR | 620 | 668 | NR | 750 | 45 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 498 | NR | 625 | 652 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 533 | NR | 630 | 634 | NR | 760 | 33 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 562 | NR | 635 | 610 | NR | 765 | 28 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 590 | NR | 640 | 583 | NR | 770 | 24 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 617 | NR | 645 | 552 | NR | 775 | 21 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 642 | NR | 650 | 519 | NR | 780 | 18 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 661 | NR | 655 | 484 | NR | 785 | 15 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 681 | NR | 660 | 448 | NR | 790 | 13 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 695 | NR | 665 | 411 | NR | 795 | 11 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 702 | NR | 670 | 373 | NR | 800 | 10 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 708 | NR | 675 | 338 | NR | 805 | 8 | NR | 935 | 0 | NR |
| 420 | 39 | NR | 550 | 707 | NR | 680 | 305 | NR | 810 | 7 | NR | 940 | 0 | NR |
| 425 | 74 | NR | 555 | 706 | NR | 685 | 272 | NR | 815 | 6 | NR | 945 | 0 | NR |
| 430 | 139 | NR | 560 | 700 | NR | 690 | 243 | NR | 820 | 5 | NR | 950 | 0 | NR |
| 435 | 270 | NR | 565 | 696 | NR | 695 | 214 | NR | 825 | 5 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 692 | NR | 700 | 188 | NR | 830 | 4 | NR | 960 | 0 | NR |
| 445 | 877 | NR | 575 | 689 | NR | 705 | 165 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 978 | NR | 580 | 688 | NR | 710 | 144 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 738 | NR | 585 | 688 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 618 | NR | 590 | 689 | NR | 720 | 110 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 529 | NR | 595 | 690 | NR | 725 | 95 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 420 | NR | 600 | 690 | NR | 730 | 82 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 395 | NR | 605 | 688 | NR | 735 | 71 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 408 | NR | 610 | 685 | NR | 740 | 61 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 429 | NR | 615 | 678 | NR | 745 | 52 | NR | 875 | 1 | NR | | | |

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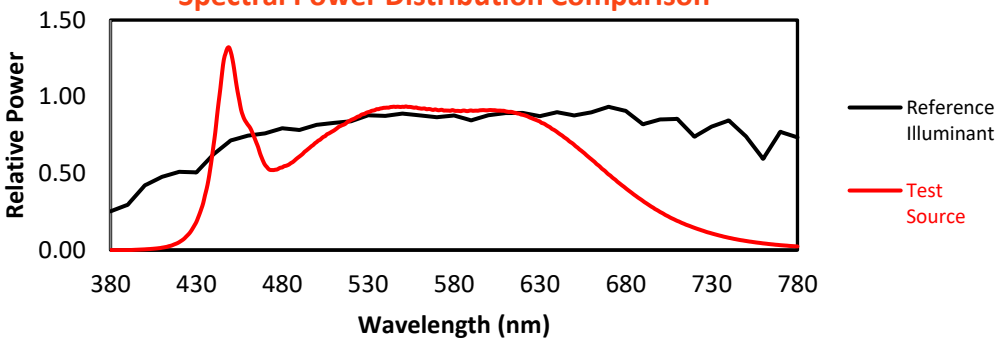
# TM-30-18

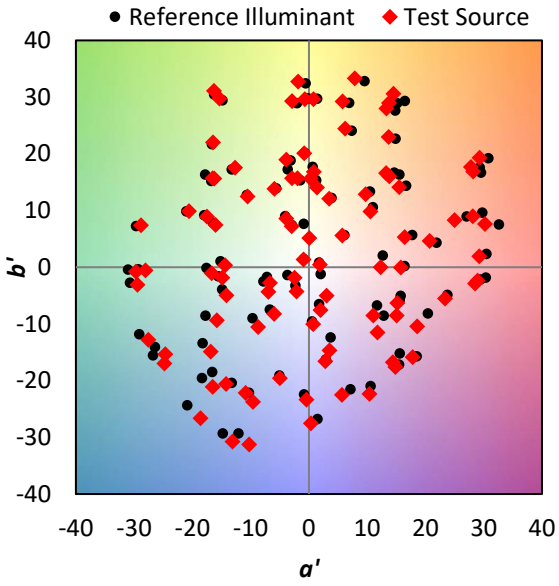
## Summary

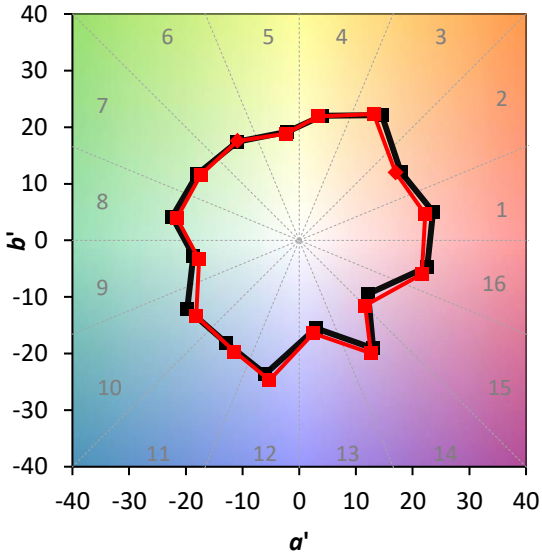
$R_f$ = 90.7
$R_g$ = 98
CIE $R_a$ = 90.8
$R_9$ = 54.9

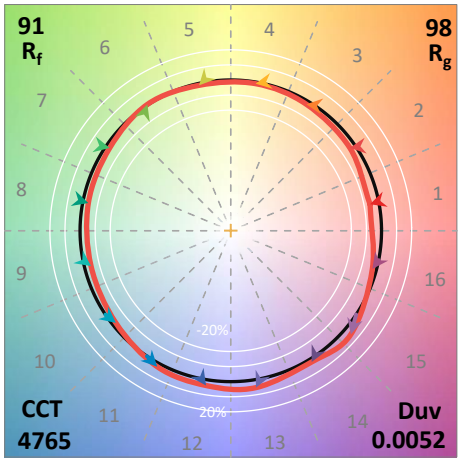
## Spectral Power Distribution Comparison

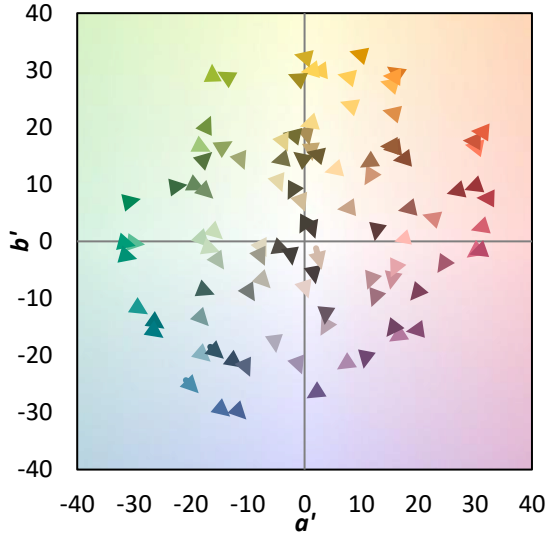



## Color Vector Graphics



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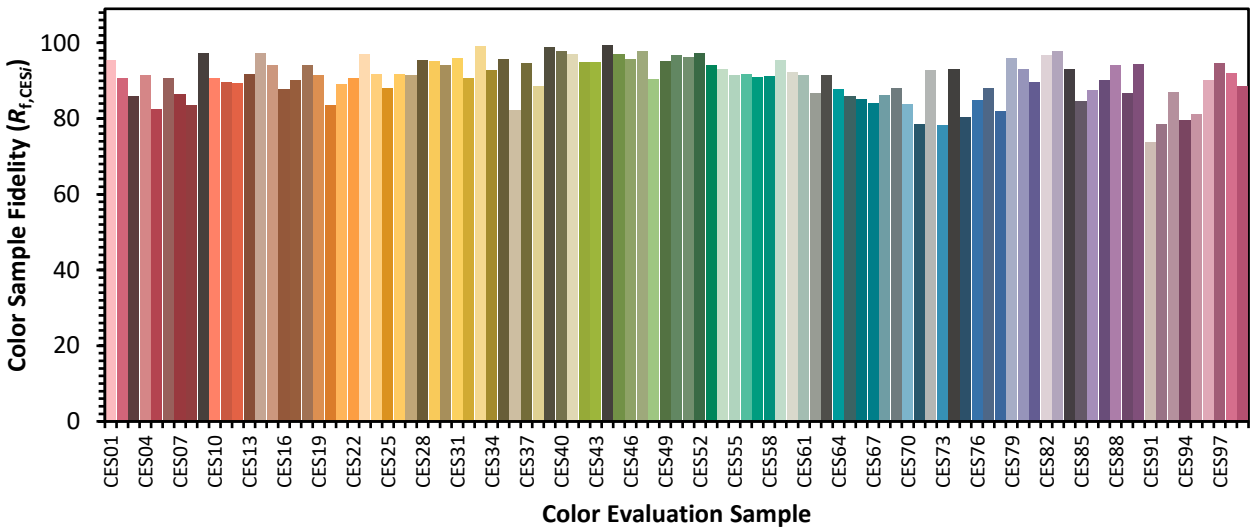
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 92 | CES51 = 96 | CES76 = 85 |
| CES02 = 60 | CES27 = 92 | CES52 = 97 | CES77 = 88 |
| CES03 = 31 | CES28 = 95 | CES53 = 94 | CES78 = 82 |
| CES04 = 69 | CES29 = 95 | CES54 = 93 | CES79 = 96 |
| CES05 = 48 | CES30 = 94 | CES55 = 92 | CES80 = 93 |
| CES06 = 50 | CES31 = 96 | CES56 = 92 | CES81 = 89 |
| CES07 = 41 | CES32 = 91 | CES57 = 91 | CES82 = 97 |
| CES08 = 40 | CES33 = 99 | CES58 = 91 | CES83 = 98 |
| CES09 = 29 | CES34 = 93 | CES59 = 95 | CES84 = 93 |
| CES10 = 73 | CES35 = 96 | CES60 = 92 | CES85 = 85 |
| CES11 = 56 | CES36 = 82 | CES61 = 92 | CES86 = 88 |
| CES12 = 62 | CES37 = 95 | CES62 = 87 | CES87 = 90 |
| CES13 = 42 | CES38 = 89 | CES63 = 91 | CES88 = 94 |
| CES14 = 74 | CES39 = 99 | CES64 = 88 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 86 | CES90 = 94 |
| CES16 = 46 | CES41 = 97 | CES66 = 85 | CES91 = 74 |
| CES17 = 48 | CES42 = 95 | CES67 = 84 | CES92 = 78 |
| CES18 = 56 | CES43 = 95 | CES68 = 86 | CES93 = 87 |
| CES19 = 70 | CES44 = 100 | CES69 = 88 | CES94 = 80 |
| CES20 = 65 | CES45 = 97 | CES70 = 84 | CES95 = 81 |
| CES21 = 85 | CES46 = 96 | CES71 = 79 | CES96 = 90 |
| CES22 = 77 | CES47 = 98 | CES72 = 93 | CES97 = 95 |
| CES23 = 91 | CES48 = 90 | CES73 = 78 | CES98 = 92 |
| CES24 = 90 | CES49 = 95 | CES74 = 93 | CES99 = 88 |
| CES25 = 70 | CES50 = 97 | CES75 = 80 | |



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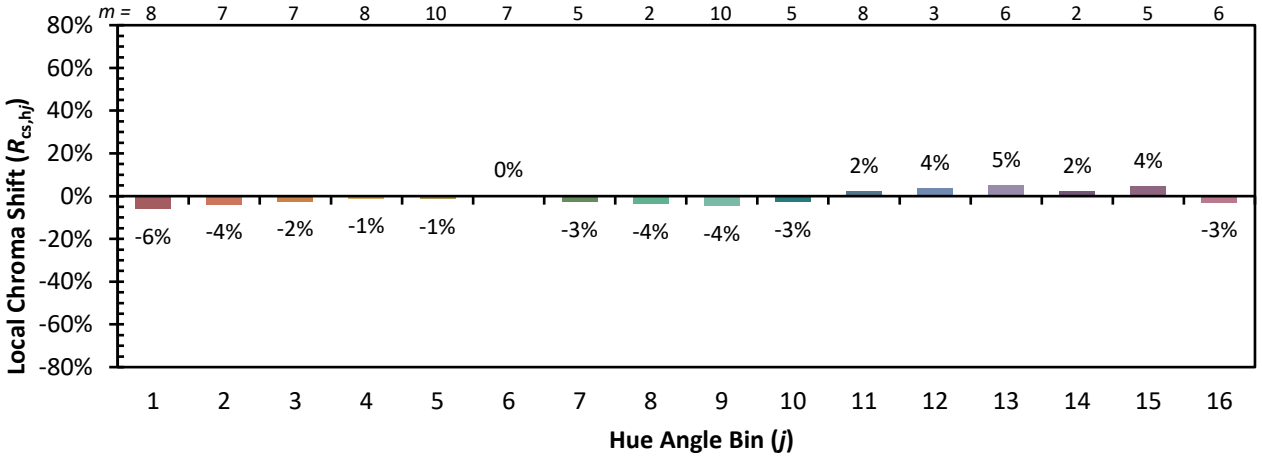
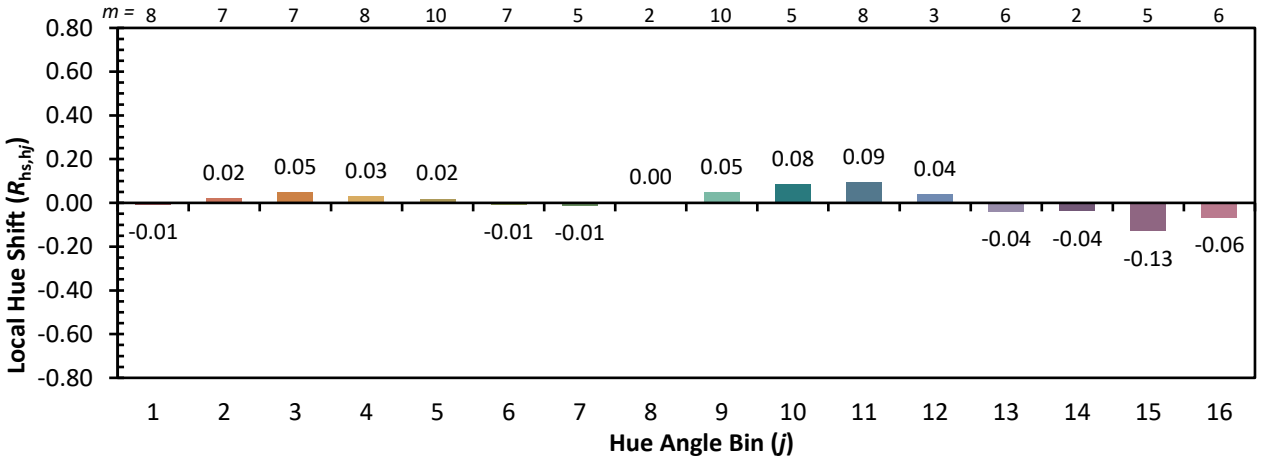
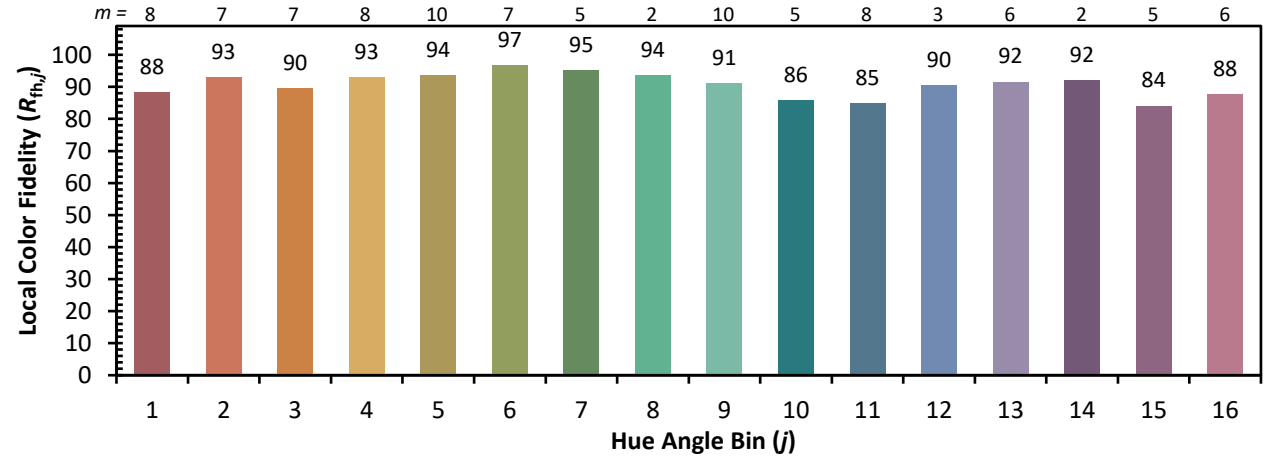
## Color Rendition by Hue-Angle Bin



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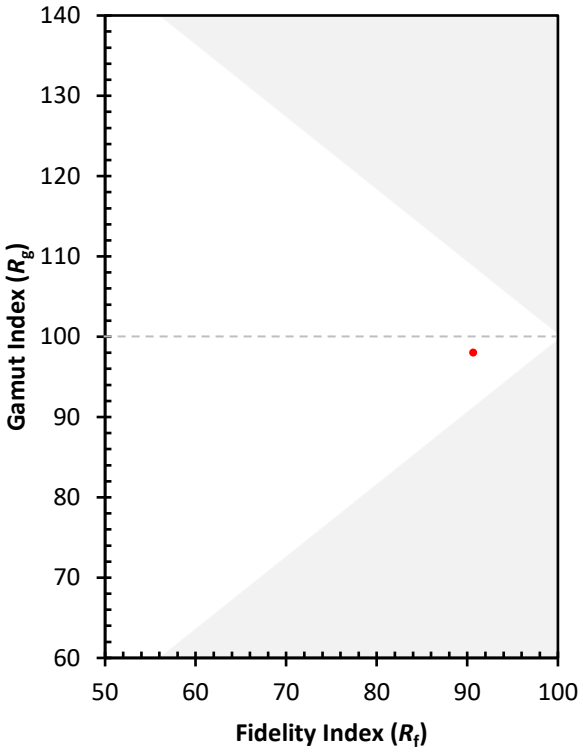
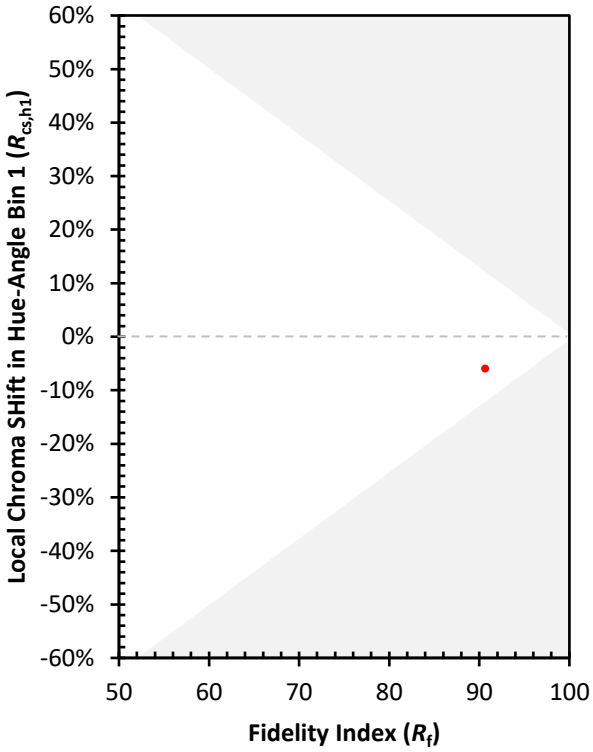
## Measure Comparisons




(END OF REPORT)