

Signify Classified - Internal  
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: P1063391

Luminaire Tested: **GLAN-SA6C-730-U-T2BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1063391  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA6C-730-U-T2BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 6xLight Square PACKAGE  
70CRI 3000K FIXTURE w/ TYPE II ANGLED BACKLIGHT CONTROL  
Light Source: (84) 3000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 32147.7 lumens  
Efficiency: N/A  
Efficacy: 113.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B0 - U0 - G4

Input Watts (W): 282.5  
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

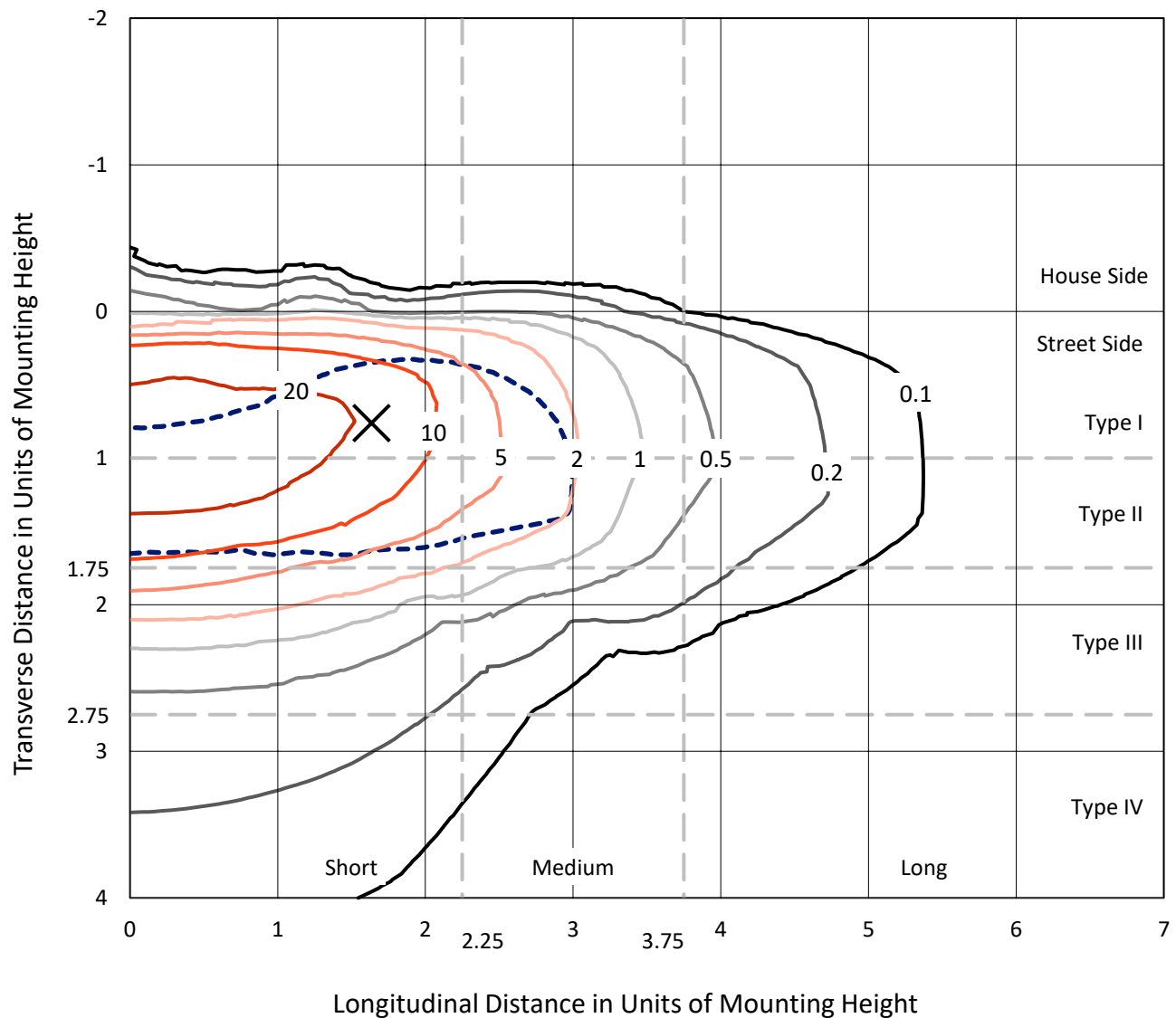


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

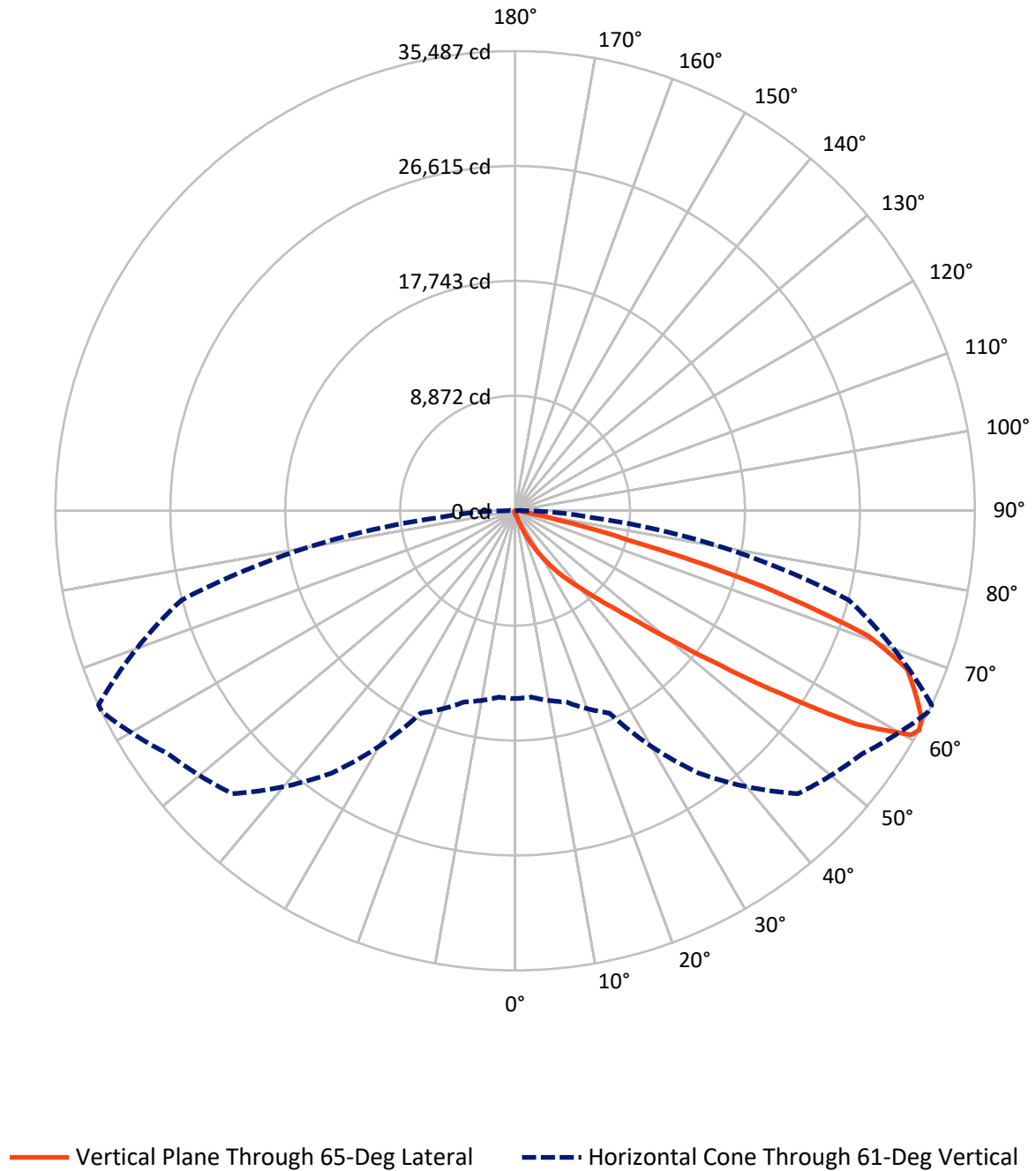


Based on 15 foot mounting height. Maximum calculated value = 42.5 fc  
 Type II - Short - N/A

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## Luminous Intensity Polar Plot



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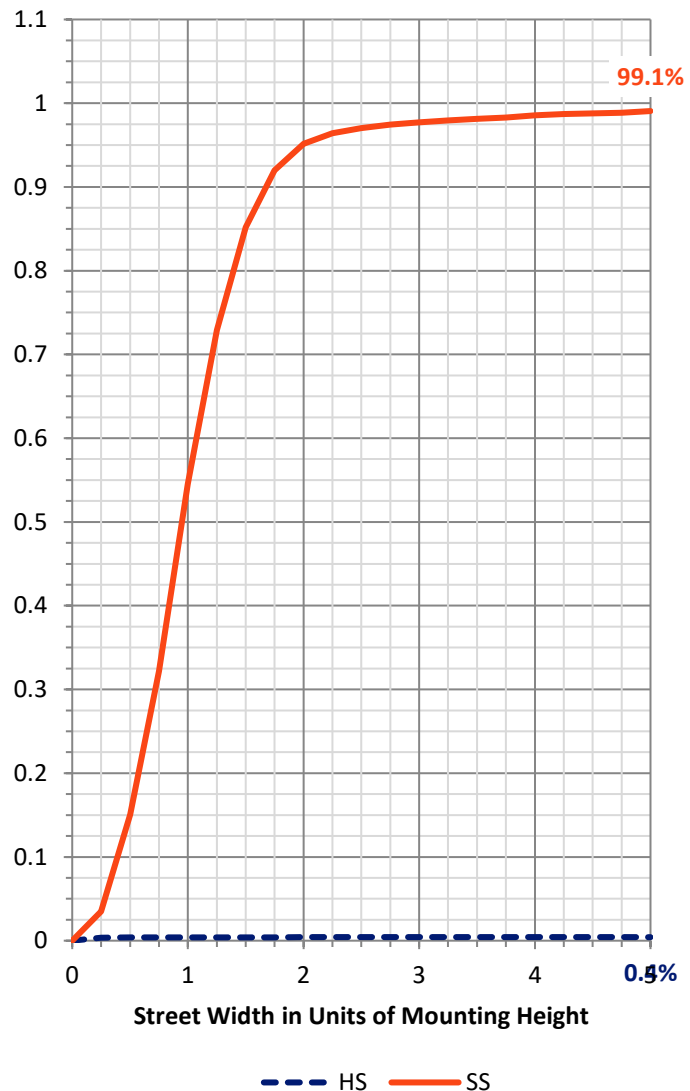
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 137.2    | 0.0    | 137.2   |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 32010.4  | 0.0    | 32010.4 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 32147.7  | 0.0    | 32147.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 25.0    | 0.1       |
| 10°-20°   | 264.4   | 0.8       |
| 20°-30°   | 948.7   | 3.0       |
| 30°-40°   | 2525.9  | 7.9       |
| 40°-50°   | 6635.4  | 20.6      |
| 50°-60°   | 10279.6 | 32.0      |
| 60°-70°   | 8619.3  | 26.8      |
| 70°-80°   | 2536.5  | 7.9       |
| 80°-90°   | 312.9   | 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°    | 32147.7 | 100.0     |
| 0°-180°   | 32147.7 | 100.0     |



REPORT NUMBER: P1063391

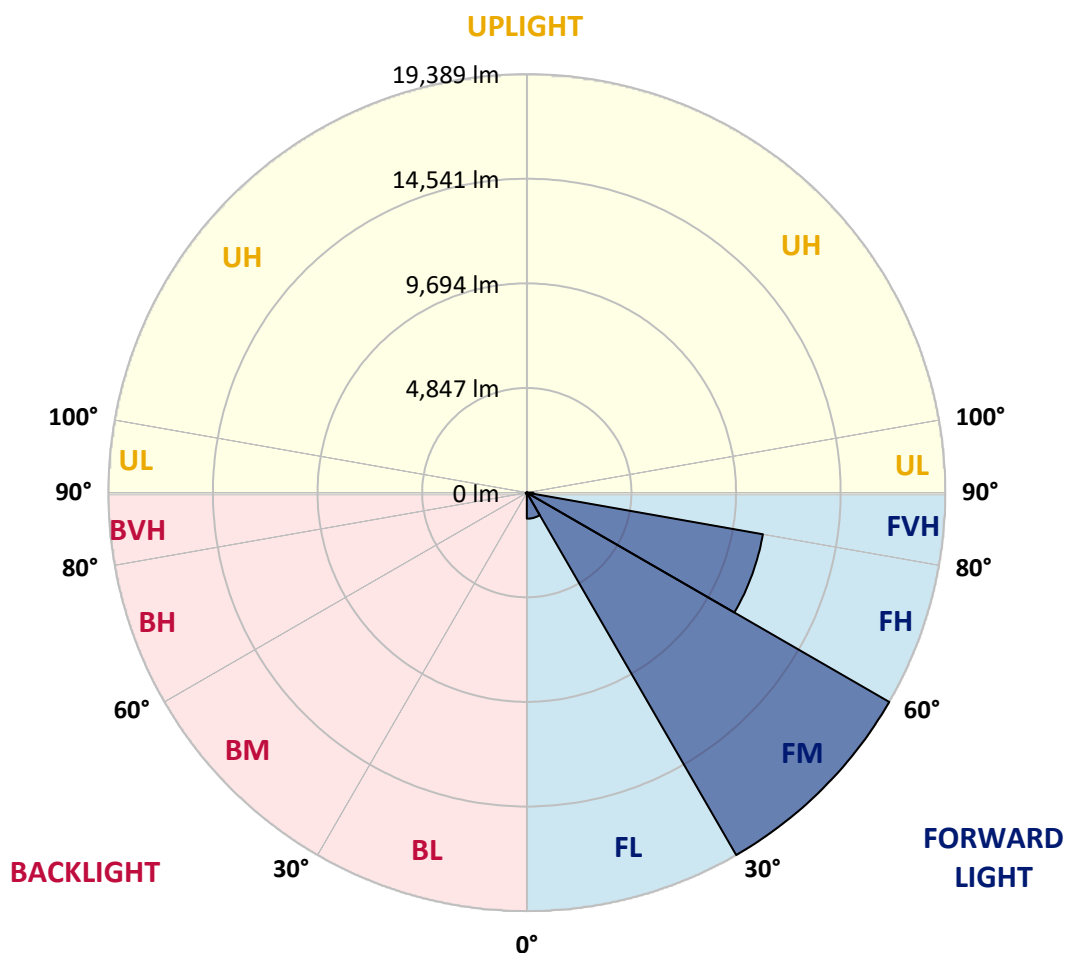
CATALOG NUMBER: GLAN-SA6C-730-U-T2BC

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1207.3  | 3.8       |                         |      |          |
| FM   | (30°-60°)   | 19388.7 | 60.3      |                         |      |          |
| FH   | (60°-80°)   | 11107.4 | 34.6      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 307.1   | 1.0       |                         |      | G3/500   |
| BL   | (0°-30°)    | 30.8    | 0.1       | B0/110                  |      |          |
| BM   | (30°-60°)   | 52.2    | 0.2       | B0/220                  |      |          |
| BH   | (60°-80°)   | 48.4    | 0.2       | B0/110                  |      | G0/110   |
| BVH  | (80°-90°)   | 5.8     | 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-G4**

Type II Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 64°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   | 196.8   |
| 2.5°  | 238.8   | 241.0   | 236.6   | 227.8   | 221.1   | 221.1   | 218.9   | 212.3   | 212.3   | 205.7   | 201.2   |
| 5°    | 333.9   | 329.5   | 320.7   | 303.0   | 287.5   | 272.0   | 256.5   | 241.0   | 238.8   | 218.9   | 205.7   |
| 7.5°  | 546.2   | 550.6   | 521.9   | 466.6   | 420.2   | 360.5   | 305.2   | 272.0   | 267.6   | 234.4   | 207.9   |
| 10°   | 1198.6  | 1165.4  | 1099.1  | 884.6   | 727.6   | 548.4   | 406.9   | 316.2   | 311.8   | 252.1   | 212.3   |
| 12.5° | 2184.9  | 2158.3  | 2036.7  | 1815.6  | 1410.9  | 981.9   | 594.9   | 391.4   | 378.2   | 267.6   | 214.5   |
| 15°   | 3149.1  | 3107.0  | 3040.7  | 2817.3  | 2344.1  | 1760.3  | 973.0   | 535.2   | 499.8   | 289.7   | 212.3   |
| 17.5° | 3763.8  | 3770.5  | 3710.8  | 3615.7  | 3310.5  | 2605.0  | 1680.7  | 798.3   | 729.8   | 329.5   | 207.9   |
| 20°   | 4301.2  | 4285.7  | 4318.9  | 4268.0  | 4053.5  | 3540.5  | 2445.8  | 1264.9  | 1147.7  | 393.6   | 210.1   |
| 22.5° | 4920.4  | 4958.0  | 4982.3  | 4971.3  | 4734.6  | 4296.8  | 3314.9  | 1893.0  | 1744.8  | 510.8   | 216.7   |
| 25°   | 5749.7  | 5745.3  | 5747.5  | 5718.7  | 5488.7  | 5002.2  | 4186.2  | 2673.6  | 2523.2  | 701.0   | 232.2   |
| 27.5° | 6618.8  | 6645.3  | 6656.4  | 6552.4  | 6251.7  | 5774.0  | 4993.4  | 3527.2  | 3350.3  | 1006.2  | 252.1   |
| 30°   | 7806.3  | 7784.2  | 7733.3  | 7521.0  | 7156.1  | 6563.5  | 5789.5  | 4422.8  | 4237.1  | 1433.0  | 283.1   |
| 32.5° | 9407.4  | 9383.0  | 9126.5  | 8657.7  | 8111.5  | 7386.1  | 6590.0  | 5320.7  | 5095.1  | 1965.9  | 325.1   |
| 35°   | 12045.6 | 12083.2 | 11452.9 | 10238.8 | 9259.2  | 8374.6  | 7476.8  | 6214.1  | 6015.0  | 2622.7  | 382.6   |
| 37.5° | 16085.8 | 15880.2 | 15024.3 | 12879.3 | 10769.6 | 9608.6  | 8323.8  | 7116.3  | 6943.8  | 3432.1  | 457.8   |
| 40°   | 20011.1 | 19807.6 | 19559.9 | 17527.7 | 13394.5 | 10968.6 | 9509.1  | 8175.6  | 7952.2  | 4345.4  | 568.3   |
| 42.5° | 24137.6 | 24024.8 | 24013.7 | 22481.2 | 18184.4 | 13107.0 | 10935.4 | 9416.2  | 9226.0  | 5347.2  | 749.7   |
| 45°   | 27061.1 | 26948.3 | 27184.9 | 27452.5 | 24708.1 | 17689.1 | 13418.9 | 11028.3 | 10751.9 | 6563.5  | 1039.4  |
| 47.5° | 27454.7 | 27459.1 | 28091.6 | 28929.7 | 29555.5 | 24776.7 | 16727.1 | 13164.5 | 12828.4 | 8303.9  | 1525.9  |
| 50°   | 26145.5 | 26196.4 | 27202.6 | 28701.9 | 30387.0 | 30723.2 | 22560.8 | 16264.9 | 15767.4 | 10367.1 | 2215.8  |
| 52.5° | 23653.3 | 23710.8 | 25112.8 | 27578.5 | 29621.9 | 32151.7 | 29429.5 | 20320.7 | 19747.9 | 12941.2 | 3188.9  |
| 55°   | 21408.7 | 21444.1 | 23051.8 | 26167.6 | 28699.7 | 31375.5 | 33507.3 | 25736.4 | 24984.5 | 16107.9 | 4148.6  |
| 57.5° | 19186.2 | 19104.4 | 20150.4 | 23717.4 | 28542.7 | 30422.4 | 34108.8 | 31908.5 | 31079.2 | 19568.8 | 4896.1  |
| 60°   | 16214.1 | 16077.0 | 16917.3 | 19186.2 | 26477.2 | 31048.2 | 32983.2 | 35322.9 | 35134.9 | 24387.5 | 5473.2  |
| 61°   | 14504.7 | 14447.2 | 15291.9 | 17238.0 | 24739.1 | 30889.0 | 32713.4 | 35466.6 | 35486.5 | 26667.4 | 5732.0  |
| 62.5° | 10358.3 | 10521.9 | 11813.4 | 14343.2 | 20720.9 | 29856.3 | 32748.8 | 35022.1 | 35219.0 | 29697.1 | 6402.0  |
| 65°   | 4604.2  | 4867.3  | 5871.3  | 7930.1  | 12050.0 | 24836.4 | 32434.8 | 34046.9 | 33949.6 | 30528.6 | 8710.8  |
| 67.5° | 2731.1  | 2770.9  | 3270.7  | 4493.6  | 6382.1  | 13359.1 | 28622.3 | 32757.7 | 32627.2 | 26576.8 | 10838.1 |
| 70°   | 2151.7  | 2171.6  | 2330.8  | 2819.6  | 3704.1  | 5117.2  | 16335.7 | 28341.5 | 28909.8 | 21550.2 | 10610.4 |
| 72.5° | 2041.1  | 2036.7  | 2058.8  | 2145.1  | 2333.0  | 2538.7  | 6324.6  | 18839.0 | 19995.6 | 15519.7 | 8896.5  |
| 75°   | 2014.6  | 2005.8  | 1983.6  | 1950.5  | 1689.5  | 1494.9  | 1959.3  | 8332.6  | 9002.7  | 10603.7 | 6698.4  |
| 77.5° | 1954.9  | 1957.1  | 1961.5  | 1870.9  | 1448.5  | 1057.1  | 948.7   | 2673.6  | 3288.4  | 6729.3  | 4761.2  |
| 80°   | 1322.4  | 1342.3  | 1375.5  | 1340.1  | 1302.5  | 765.1   | 670.1   | 950.9   | 964.2   | 3777.1  | 3144.6  |
| 82.5° | 670.1   | 670.1   | 654.6   | 583.8   | 504.2   | 497.6   | 533.0   | 690.0   | 698.8   | 1910.7  | 1479.4  |
| 85°   | 404.7   | 426.8   | 435.6   | 395.8   | 362.7   | 333.9   | 406.9   | 548.4   | 568.3   | 740.8   | 345.0   |
| 87.5° | 90.7    | 92.9    | 101.7   | 134.9   | 196.8   | 267.6   | 378.2   | 502.0   | 510.8   | 475.5   | 42.0    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

REPORT NUMBER: P1063391

CATALOG NUMBER: GLAN-SA6C-730-U-T2BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 196.8  | 196.8 | 196.8 | 196.8 | 196.8 | 196.8 | 196.8 | 196.8 | 196.8 | 196.8 | 196.8 |
| 2.5°  | 199.0  | 194.6 | 192.4 | 185.8 | 179.1 | 172.5 | 168.1 | 165.9 | 168.1 | 170.3 | 170.3 |
| 5°    | 196.8  | 190.2 | 179.1 | 168.1 | 159.2 | 150.4 | 141.5 | 139.3 | 139.3 | 141.5 | 141.5 |
| 7.5°  | 196.8  | 185.8 | 170.3 | 157.0 | 143.7 | 130.5 | 123.8 | 119.4 | 121.6 | 121.6 | 121.6 |
| 10°   | 196.8  | 183.5 | 163.6 | 143.7 | 128.3 | 112.8 | 101.7 | 97.3  | 97.3  | 97.3  | 97.3  |
| 12.5° | 194.6  | 181.3 | 157.0 | 132.7 | 110.6 | 92.9  | 79.6  | 73.0  | 75.2  | 75.2  | 75.2  |
| 15°   | 190.2  | 174.7 | 148.2 | 112.8 | 88.5  | 70.8  | 57.5  | 50.9  | 53.1  | 57.5  | 59.7  |
| 17.5° | 183.5  | 168.1 | 132.7 | 95.1  | 70.8  | 53.1  | 39.8  | 35.4  | 37.6  | 44.2  | 44.2  |
| 20°   | 181.3  | 161.4 | 117.2 | 77.4  | 53.1  | 37.6  | 26.5  | 22.1  | 24.3  | 33.2  | 35.4  |
| 22.5° | 181.3  | 157.0 | 106.1 | 64.1  | 39.8  | 24.3  | 15.5  | 8.8   | 8.8   | 15.5  | 15.5  |
| 25°   | 183.5  | 154.8 | 97.3  | 53.1  | 28.7  | 17.7  | 8.8   | 4.4   | 8.8   | 24.3  | 28.7  |
| 27.5° | 188.0  | 152.6 | 92.9  | 44.2  | 22.1  | 15.5  | 6.6   | 15.5  | 26.5  | 26.5  | 26.5  |
| 30°   | 192.4  | 148.2 | 86.2  | 37.6  | 19.9  | 11.1  | 11.1  | 22.1  | 22.1  | 26.5  | 28.7  |
| 32.5° | 199.0  | 146.0 | 81.8  | 33.2  | 15.5  | 8.8   | 15.5  | 13.3  | 13.3  | 15.5  | 17.7  |
| 35°   | 212.3  | 148.2 | 77.4  | 33.2  | 15.5  | 11.1  | 13.3  | 6.6   | 4.4   | 4.4   | 4.4   |
| 37.5° | 230.0  | 150.4 | 70.8  | 28.7  | 13.3  | 13.3  | 6.6   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 258.7  | 157.0 | 66.3  | 26.5  | 11.1  | 11.1  | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 307.4  | 170.3 | 64.1  | 24.3  | 11.1  | 8.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 404.7  | 201.2 | 59.7  | 22.1  | 11.1  | 4.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 581.6  | 274.2 | 57.5  | 17.7  | 6.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 849.2  | 371.5 | 55.3  | 15.5  | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 1083.6 | 391.4 | 37.6  | 13.3  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 1110.1 | 269.8 | 28.7  | 8.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 884.6  | 174.7 | 24.3  | 6.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 670.1  | 132.7 | 22.1  | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 61°   | 643.5  | 119.4 | 22.1  | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 709.9  | 103.9 | 19.9  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 1154.4 | 86.2  | 17.7  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 2005.8 | 75.2  | 15.5  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 2534.3 | 70.8  | 13.3  | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 2209.2 | 64.1  | 13.3  | 4.4   | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 1329.1 | 55.3  | 13.3  | 8.8   | 4.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 696.6  | 42.0  | 13.3  | 11.1  | 6.6   | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 338.3  | 37.6  | 15.5  | 11.1  | 8.8   | 4.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 132.7  | 31.0  | 17.7  | 15.5  | 11.1  | 6.6   | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 59.7   | 26.5  | 19.9  | 17.7  | 15.5  | 8.8   | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 31.0   | 24.3  | 22.1  | 19.9  | 15.5  | 11.1  | 4.4   | 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   |



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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

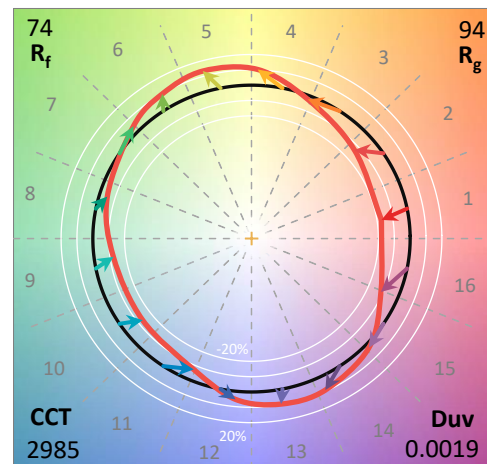
### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-730-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 3000K CCT 26 LEDS

### Spectral Parameters

CCT (K): 2985  
 CIE  $u'$ : 0.2504  
 CIE  $v'$ : 0.5243  
 Duv: 0.0019  
 CIE x: 0.4408  
 CIE y: 0.4101  
 CIE z: 0.1491  
 Peak Wavelength (nm): 595  
 Dominant Wavelength (nm): 582  
 Purity: 55.41818  
 R<sub>f</sub>: 73.8  
 R<sub>g</sub>: 94.4

CRI (Ra): 70.8  
 R1: 66.3  
 R2: 80.6  
 R3: 94.5  
 R4: 68.2  
 R5: 66.5  
 R6: 74.7  
 R7: 76.2  
 R8: 39.6  
 R9: -43.2  
 R10: 57.6  
 R11: 64.8  
 R12: 53.5  
 R13: 68.7  
 R14: 97.0  
 R15: 56.4



### Test Conditions

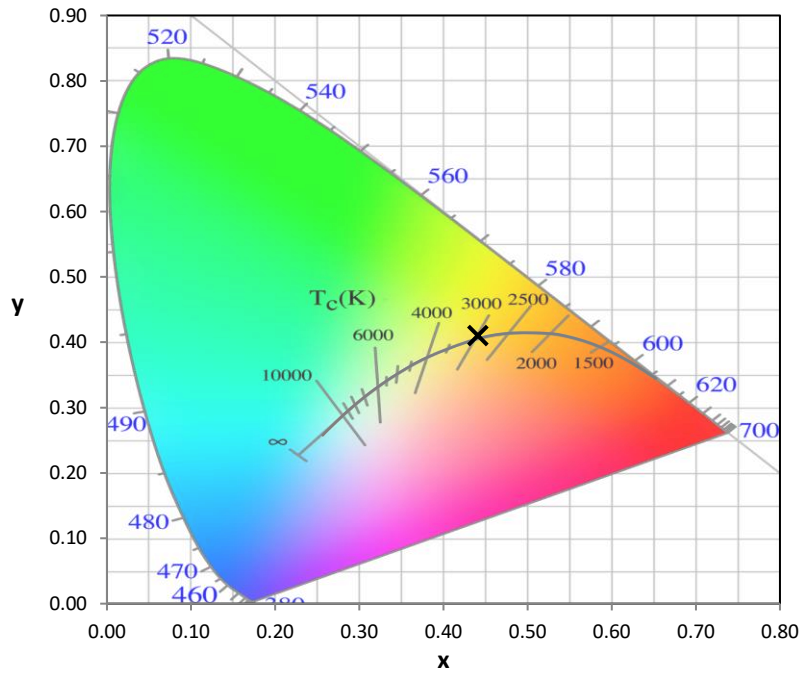
Stabilization Time: 36M  
 Operation Time: 1H 36M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-4

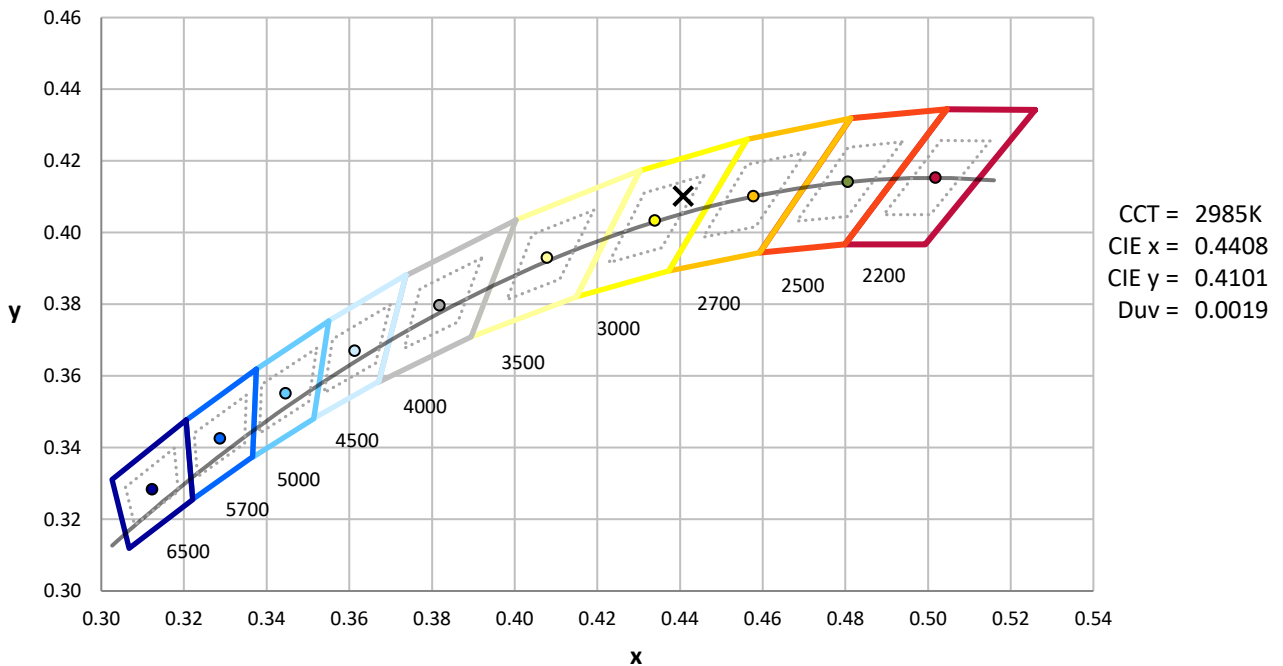
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-2407-184-4

**CIE 1931 Chromaticity Diagram**



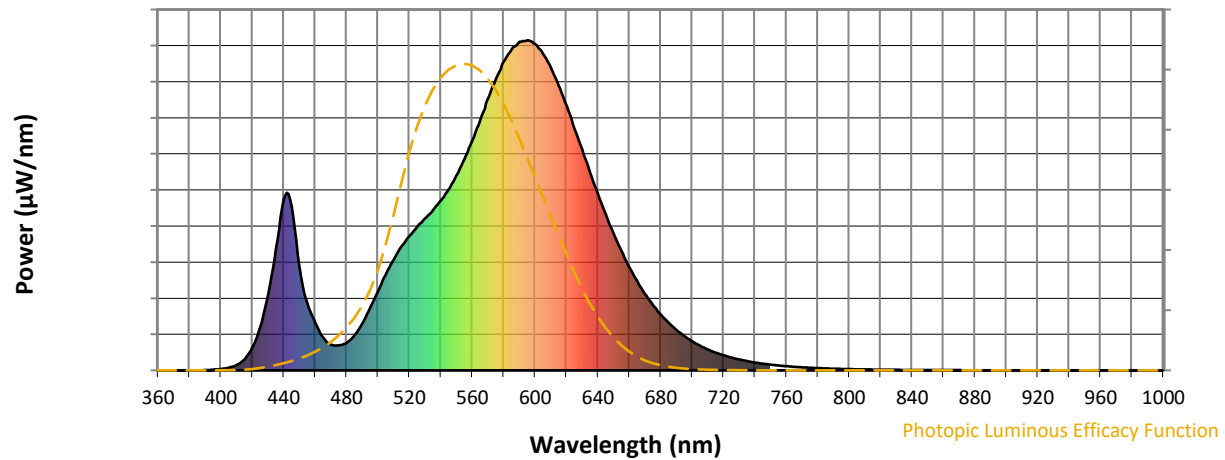
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 4-step quadrangle

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### Photopic Flux vs. Wavelength

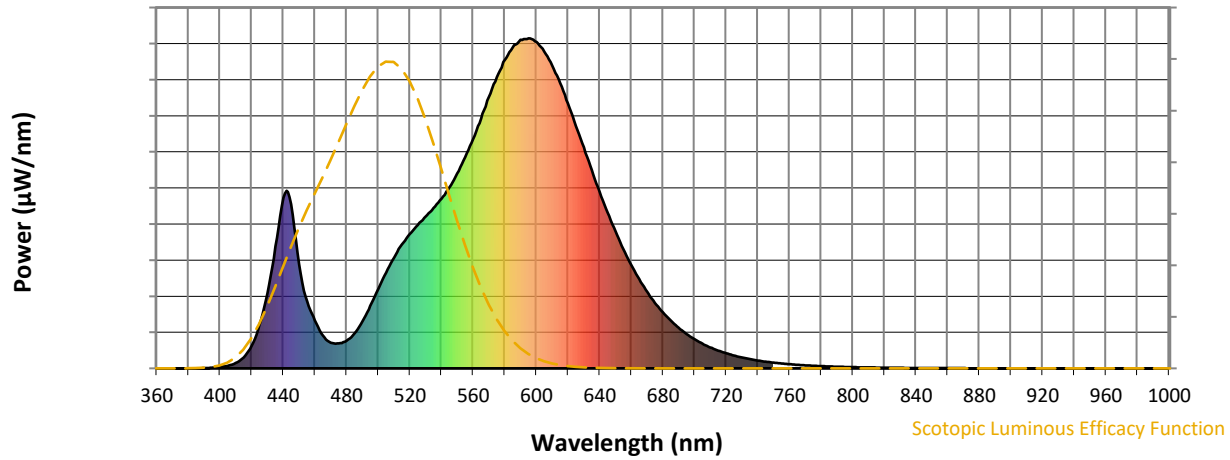


### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|
| 360               | 0                             | NR                             | 490               | 142                           | NR                             | 620               | 803                           | NR                             | 750               | 17                            | NR                             | 880               | 0                             | NR                             |
| 365               | 0                             | NR                             | 495               | 189                           | NR                             | 625               | 734                           | NR                             | 755               | 15                            | NR                             | 885               | 0                             | NR                             |
| 370               | 0                             | NR                             | 500               | 240                           | NR                             | 630               | 670                           | NR                             | 760               | 13                            | NR                             | 890               | 0                             | NR                             |
| 375               | 0                             | NR                             | 505               | 290                           | NR                             | 635               | 600                           | NR                             | 765               | 11                            | NR                             | 895               | 0                             | NR                             |
| 380               | 0                             | NR                             | 510               | 335                           | NR                             | 640               | 535                           | NR                             | 770               | 9                             | NR                             | 900               | 0                             | NR                             |
| 385               | 0                             | NR                             | 515               | 375                           | NR                             | 645               | 473                           | NR                             | 775               | 8                             | NR                             | 905               | 0                             | NR                             |
| 390               | 1                             | NR                             | 520               | 408                           | NR                             | 650               | 415                           | NR                             | 780               | 7                             | NR                             | 910               | 0                             | NR                             |
| 395               | 2                             | NR                             | 525               | 434                           | NR                             | 655               | 362                           | NR                             | 785               | 6                             | NR                             | 915               | 0                             | NR                             |
| 400               | 4                             | NR                             | 530               | 461                           | NR                             | 660               | 313                           | NR                             | 790               | 5                             | NR                             | 920               | 0                             | NR                             |
| 405               | 8                             | NR                             | 535               | 486                           | NR                             | 665               | 271                           | NR                             | 795               | 4                             | NR                             | 925               | 0                             | NR                             |
| 410               | 16                            | NR                             | 540               | 514                           | NR                             | 670               | 231                           | NR                             | 800               | 4                             | NR                             | 930               | 0                             | NR                             |
| 415               | 33                            | NR                             | 545               | 549                           | NR                             | 675               | 198                           | NR                             | 805               | 3                             | NR                             | 935               | 0                             | NR                             |
| 420               | 69                            | NR                             | 550               | 591                           | NR                             | 680               | 169                           | NR                             | 810               | 3                             | NR                             | 940               | 0                             | NR                             |
| 425               | 131                           | NR                             | 555               | 640                           | NR                             | 685               | 144                           | NR                             | 815               | 2                             | NR                             | 945               | 0                             | NR                             |
| 430               | 227                           | NR                             | 560               | 695                           | NR                             | 690               | 123                           | NR                             | 820               | 2                             | NR                             | 950               | 0                             | NR                             |
| 435               | 369                           | NR                             | 565               | 757                           | NR                             | 695               | 104                           | NR                             | 825               | 2                             | NR                             | 955               | 0                             | NR                             |
| 440               | 517                           | NR                             | 570               | 822                           | NR                             | 700               | 88                            | NR                             | 830               | 2                             | NR                             | 960               | 0                             | NR                             |
| 445               | 498                           | NR                             | 575               | 882                           | NR                             | 705               | 75                            | NR                             | 835               | 1                             | NR                             | 965               | 0                             | NR                             |
| 450               | 315                           | NR                             | 580               | 935                           | NR                             | 710               | 63                            | NR                             | 840               | 1                             | NR                             | 970               | 0                             | NR                             |
| 455               | 204                           | NR                             | 585               | 972                           | NR                             | 715               | 54                            | NR                             | 845               | 1                             | NR                             | 975               | 0                             | NR                             |
| 460               | 145                           | NR                             | 590               | 996                           | NR                             | 720               | 46                            | NR                             | 850               | 1                             | NR                             | 980               | 0                             | NR                             |
| 465               | 100                           | NR                             | 595               | 1000                          | NR                             | 725               | 39                            | NR                             | 855               | 1                             | NR                             | 985               | 0                             | NR                             |
| 470               | 78                            | NR                             | 600               | 989                           | NR                             | 730               | 33                            | NR                             | 860               | 1                             | NR                             | 990               | 0                             | NR                             |
| 475               | 76                            | NR                             | 605               | 960                           | NR                             | 735               | 28                            | NR                             | 865               | 1                             | NR                             | 995               | 0                             | NR                             |
| 480               | 83                            | NR                             | 610               | 918                           | NR                             | 740               | 24                            | NR                             | 870               | 1                             | NR                             | 1000              | 0                             | NR                             |
| 485               | 105                           | NR                             | 615               | 864                           | NR                             | 745               | 20                            | NR                             | 875               | 1                             | NR                             |                   |                               |                                |

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### Scotopic Flux vs. Wavelength



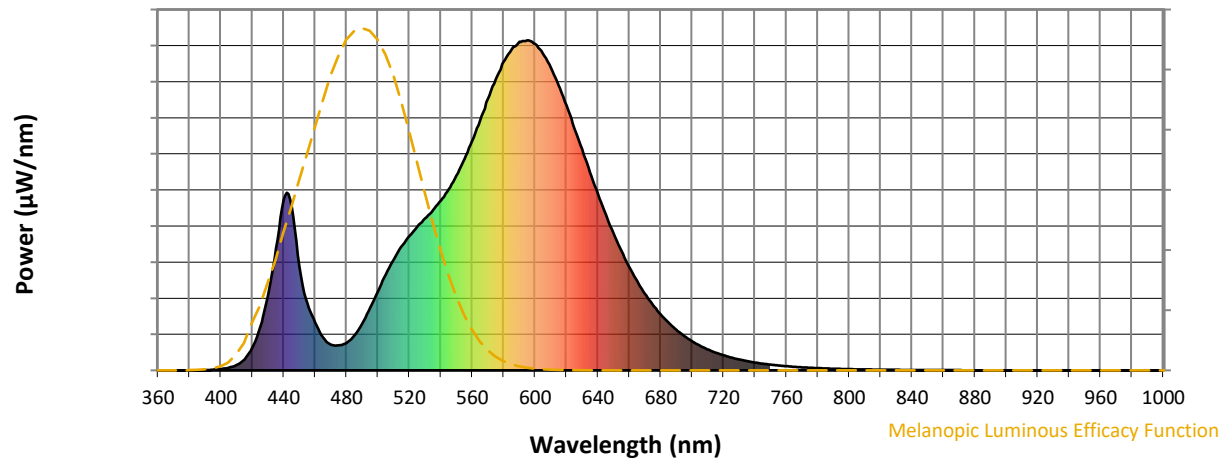
Scotopic Lumens: NR

S/P: 1.19

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 142                                  | NR                             | 620               | 803                                  | NR                             | 750               | 17                                   | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 189                                  | NR                             | 625               | 734                                  | NR                             | 755               | 15                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 240                                  | NR                             | 630               | 670                                  | NR                             | 760               | 13                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 290                                  | NR                             | 635               | 600                                  | NR                             | 765               | 11                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 335                                  | NR                             | 640               | 535                                  | NR                             | 770               | 9                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 375                                  | NR                             | 645               | 473                                  | NR                             | 775               | 8                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 408                                  | NR                             | 650               | 415                                  | NR                             | 780               | 7                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 434                                  | NR                             | 655               | 362                                  | NR                             | 785               | 6                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 461                                  | NR                             | 660               | 313                                  | NR                             | 790               | 5                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 8                                    | NR                             | 535               | 486                                  | NR                             | 665               | 271                                  | NR                             | 795               | 4                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 16                                   | NR                             | 540               | 514                                  | NR                             | 670               | 231                                  | NR                             | 800               | 4                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 33                                   | NR                             | 545               | 549                                  | NR                             | 675               | 198                                  | NR                             | 805               | 3                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 69                                   | NR                             | 550               | 591                                  | NR                             | 680               | 169                                  | NR                             | 810               | 3                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 131                                  | NR                             | 555               | 640                                  | NR                             | 685               | 144                                  | NR                             | 815               | 2                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 227                                  | NR                             | 560               | 695                                  | NR                             | 690               | 123                                  | NR                             | 820               | 2                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 369                                  | NR                             | 565               | 757                                  | NR                             | 695               | 104                                  | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 517                                  | NR                             | 570               | 822                                  | NR                             | 700               | 88                                   | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 498                                  | NR                             | 575               | 882                                  | NR                             | 705               | 75                                   | NR                             | 835               | 1                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 315                                  | NR                             | 580               | 935                                  | NR                             | 710               | 63                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 204                                  | NR                             | 585               | 972                                  | NR                             | 715               | 54                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 145                                  | NR                             | 590               | 996                                  | NR                             | 720               | 46                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 100                                  | NR                             | 595               | 1000                                 | NR                             | 725               | 39                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 78                                   | NR                             | 600               | 989                                  | NR                             | 730               | 33                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 76                                   | NR                             | 605               | 960                                  | NR                             | 735               | 28                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 83                                   | NR                             | 610               | 918                                  | NR                             | 740               | 24                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 105                                  | NR                             | 615               | 864                                  | NR                             | 745               | 20                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.13**

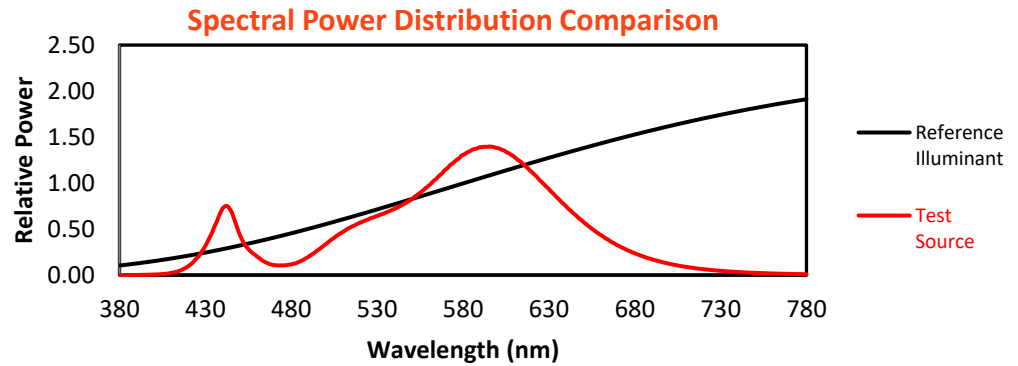
| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 142                                  | NR                             | 620               | 803                                  | NR                             | 750               | 17                                   | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 189                                  | NR                             | 625               | 734                                  | NR                             | 755               | 15                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 240                                  | NR                             | 630               | 670                                  | NR                             | 760               | 13                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 290                                  | NR                             | 635               | 600                                  | NR                             | 765               | 11                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 335                                  | NR                             | 640               | 535                                  | NR                             | 770               | 9                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 375                                  | NR                             | 645               | 473                                  | NR                             | 775               | 8                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 408                                  | NR                             | 650               | 415                                  | NR                             | 780               | 7                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 434                                  | NR                             | 655               | 362                                  | NR                             | 785               | 6                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 461                                  | NR                             | 660               | 313                                  | NR                             | 790               | 5                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 8                                    | NR                             | 535               | 486                                  | NR                             | 665               | 271                                  | NR                             | 795               | 4                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 16                                   | NR                             | 540               | 514                                  | NR                             | 670               | 231                                  | NR                             | 800               | 4                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 33                                   | NR                             | 545               | 549                                  | NR                             | 675               | 198                                  | NR                             | 805               | 3                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 69                                   | NR                             | 550               | 591                                  | NR                             | 680               | 169                                  | NR                             | 810               | 3                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 131                                  | NR                             | 555               | 640                                  | NR                             | 685               | 144                                  | NR                             | 815               | 2                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 227                                  | NR                             | 560               | 695                                  | NR                             | 690               | 123                                  | NR                             | 820               | 2                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 369                                  | NR                             | 565               | 757                                  | NR                             | 695               | 104                                  | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 517                                  | NR                             | 570               | 822                                  | NR                             | 700               | 88                                   | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 498                                  | NR                             | 575               | 882                                  | NR                             | 705               | 75                                   | NR                             | 835               | 1                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 315                                  | NR                             | 580               | 935                                  | NR                             | 710               | 63                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 204                                  | NR                             | 585               | 972                                  | NR                             | 715               | 54                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 145                                  | NR                             | 590               | 996                                  | NR                             | 720               | 46                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 100                                  | NR                             | 595               | 1000                                 | NR                             | 725               | 39                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 78                                   | NR                             | 600               | 989                                  | NR                             | 730               | 33                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 76                                   | NR                             | 605               | 960                                  | NR                             | 735               | 28                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 83                                   | NR                             | 610               | 918                                  | NR                             | 740               | 24                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 105                                  | NR                             | 615               | 864                                  | NR                             | 745               | 20                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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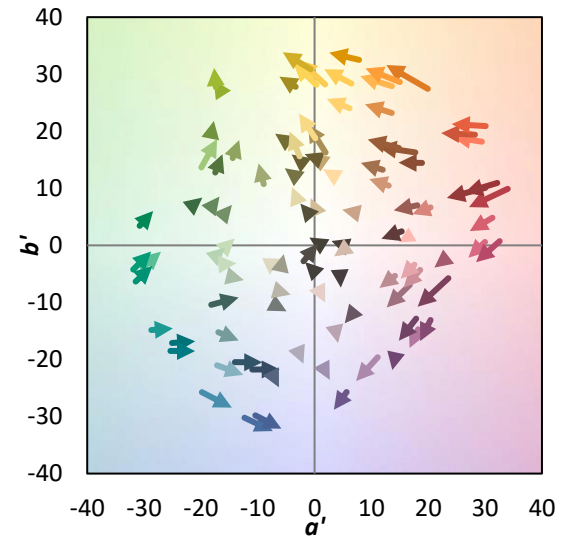
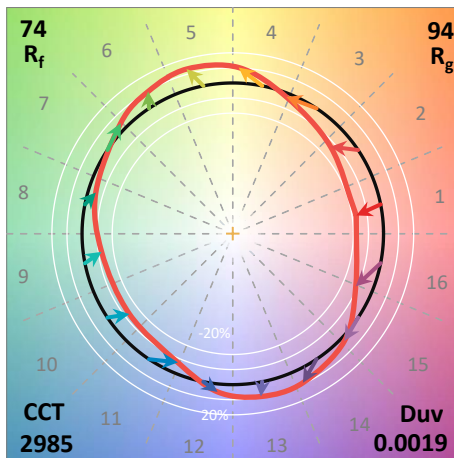
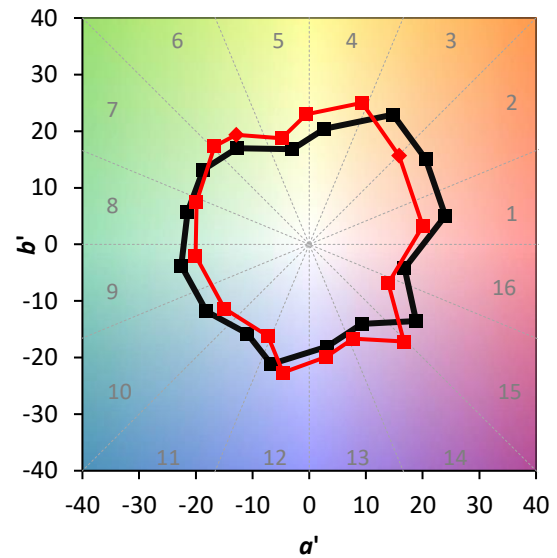
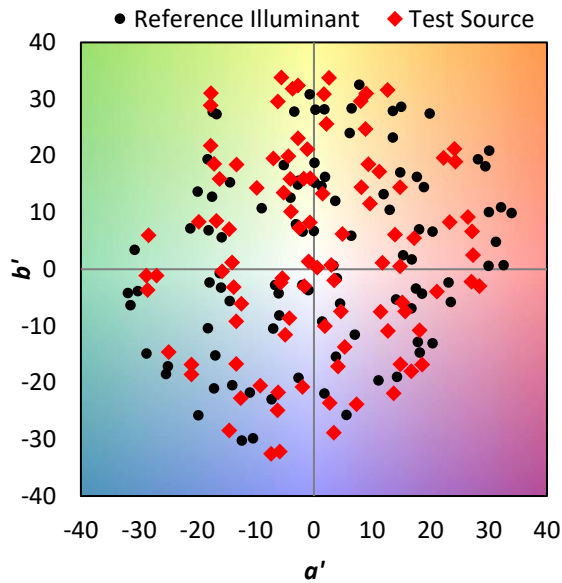
TM-30-18

### Summary

$R_f = 73.8$   
 $R_g = 94.4$   
 $CIE R_a = 70.8$   
 $R_g = -43.2$



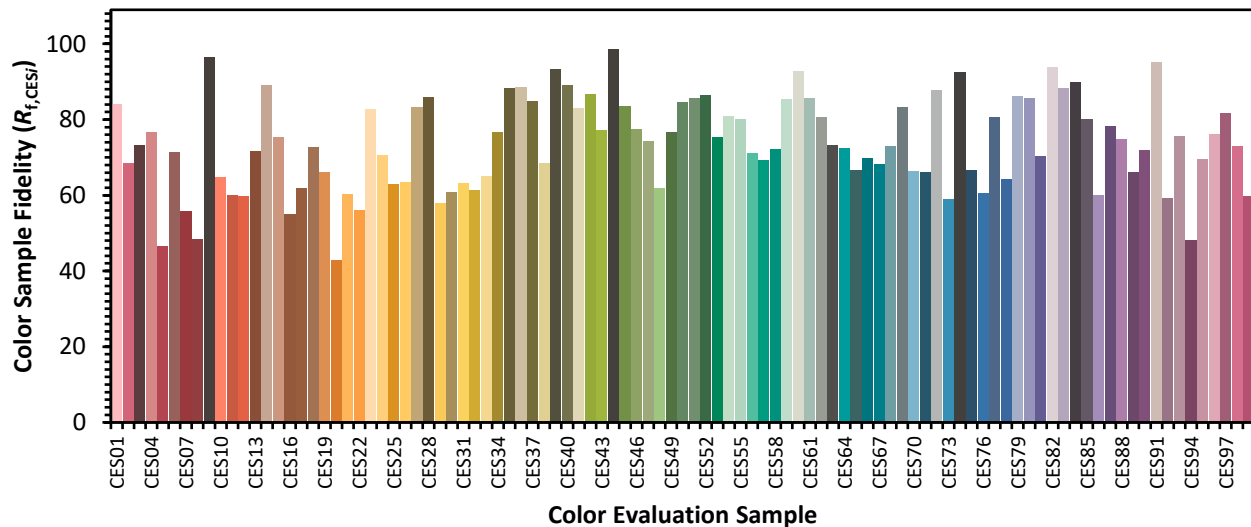
### Color Vector Graphics



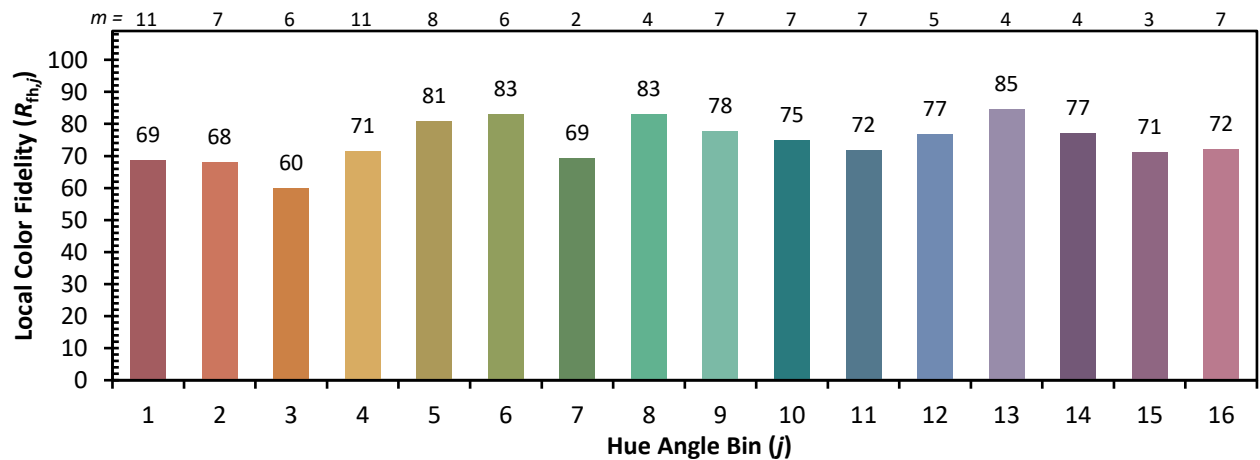
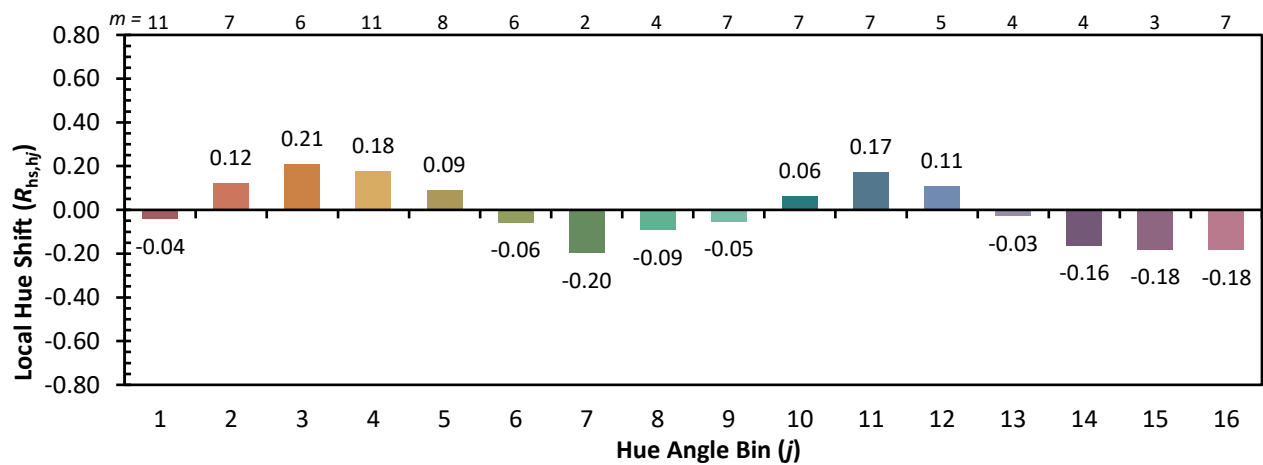
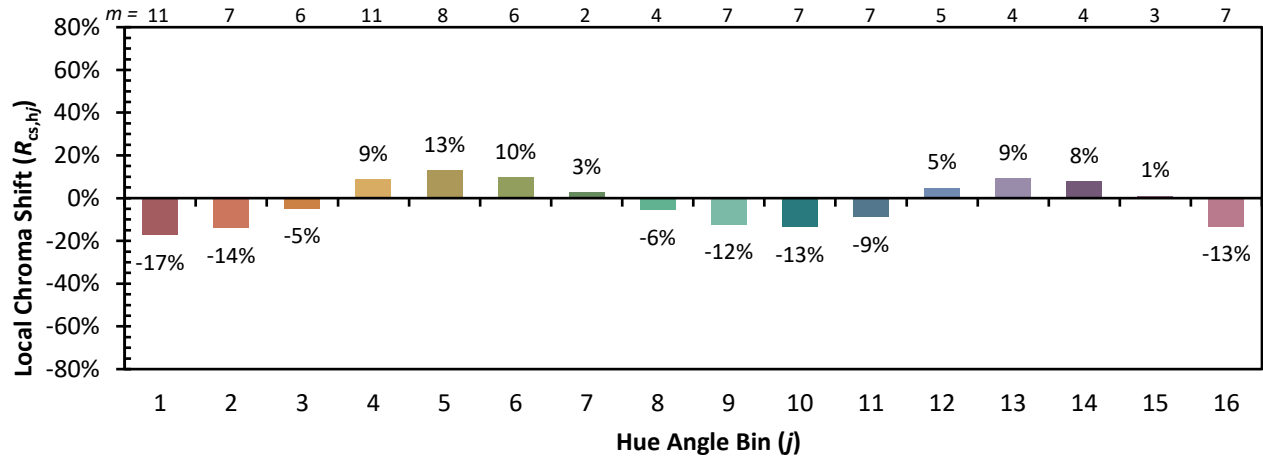


**Individual Sample Fidelity Index ( $R_{fi}$ )**

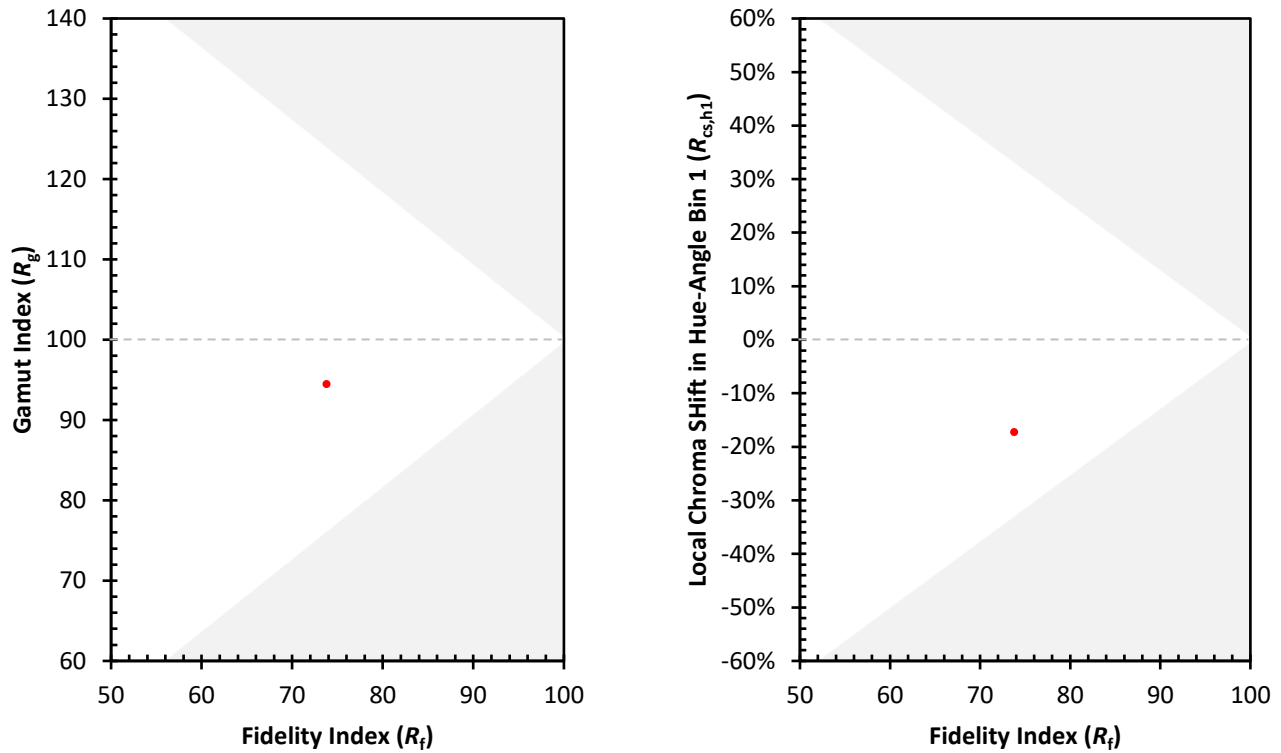
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 51 | CES31 = 63 | CES56 = 71 | CES81 = 70 |
| CES07 = 41 | CES32 = 61 | CES57 = 69 | CES82 = 94 |
| CES08 = 40 | CES33 = 65 | CES58 = 72 | CES83 = 88 |
| CES09 = 29 | CES34 = 77 | CES59 = 85 | CES84 = 90 |
| CES10 = 76 | CES35 = 88 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 89 | CES61 = 86 | CES86 = 60 |
| CES12 = 65 | CES37 = 85 | CES62 = 81 | CES87 = 78 |
| CES13 = 43 | CES38 = 69 | CES63 = 73 | CES88 = 75 |
| CES14 = 74 | CES39 = 93 | CES64 = 72 | CES89 = 66 |
| CES15 = 71 | CES40 = 89 | CES65 = 67 | CES90 = 72 |
| CES16 = 47 | CES41 = 83 | CES66 = 70 | CES91 = 95 |
| CES17 = 50 | CES42 = 87 | CES67 = 68 | CES92 = 59 |
| CES18 = 56 | CES43 = 77 | CES68 = 73 | CES93 = 76 |
| CES19 = 73 | CES44 = 99 | CES69 = 83 | CES94 = 48 |
| CES20 = 66 | CES45 = 83 | CES70 = 66 | CES95 = 70 |
| CES21 = 87 | CES46 = 77 | CES71 = 66 | CES96 = 76 |
| CES22 = 79 | CES47 = 74 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 62 | CES73 = 59 | CES98 = 73 |
| CES24 = 91 | CES49 = 77 | CES74 = 93 | CES99 = 60 |
| CES25 = 73 | CES50 = 85 | CES75 = 67 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)