

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: P1062890

Luminaire Tested: **GLAN-SA7B-757-U-T3BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1062890  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA7B-757-U-T3BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 800mA 7xLight Square PACKAGE  
70CRI 5700K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL  
Light Source: (98) 5700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 32883.7 lumens  
Efficiency: N/A  
Efficacy: 131.8 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): 249.5  
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

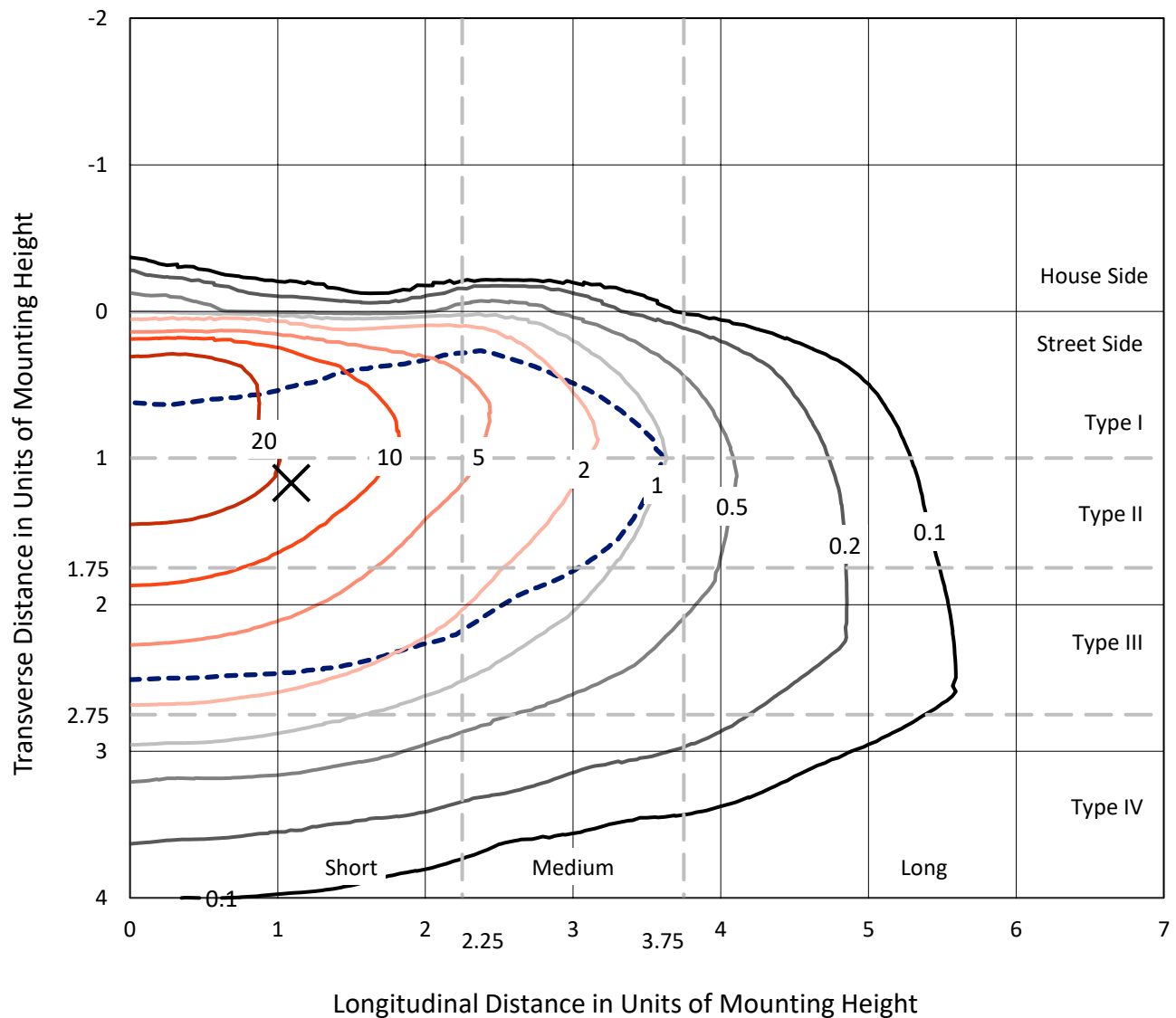


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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

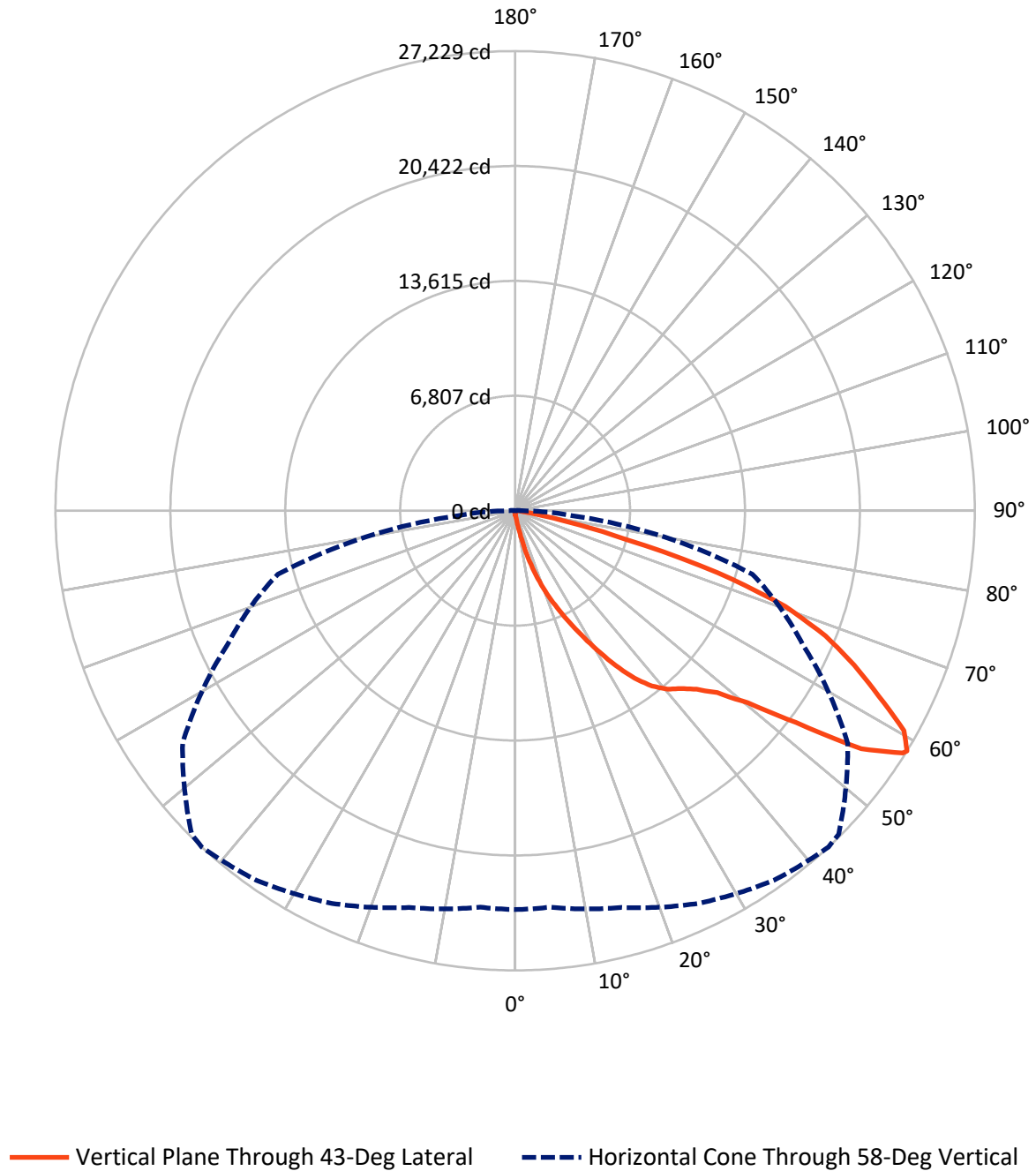


Based on 15 foot mounting height. Maximum calculated value = 36.9 fc  
 Type III - Short - N/A

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CATALOG NUMBER: GLAN-SA7B-757-U-T3BC

## Luminous Intensity Polar Plot



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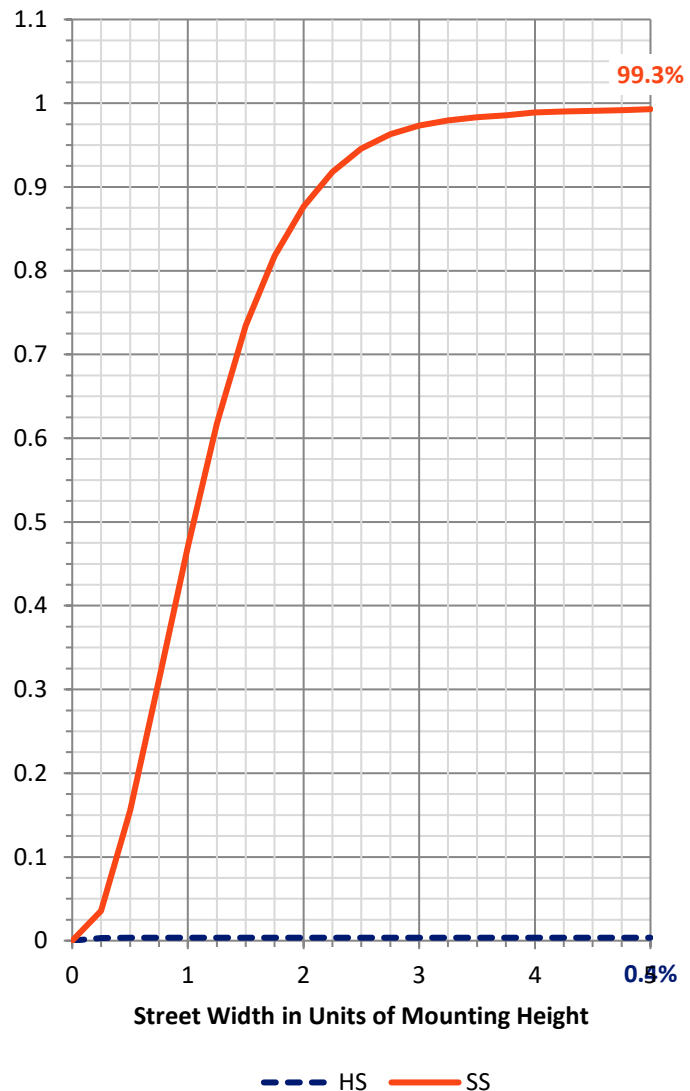
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 120.0    | 0.0    | 120.0   |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 32763.7  | 0.0    | 32763.7 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 32883.7  | 0.0    | 32883.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 31.5    | 0.1       |
| 10°-20°   | 378.0   | 1.1       |
| 20°-30°   | 1362.4  | 4.1       |
| 30°-40°   | 3117.2  | 9.5       |
| 40°-50°   | 5257.5  | 16.0      |
| 50°-60°   | 8676.0  | 26.4      |
| 60°-70°   | 9696.7  | 29.5      |
| 70°-80°   | 4003.6  | 12.2      |
| 80°-90°   | 360.9   | 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°    | 32883.7 | 100.0     |
| 0°-180°   | 32883.7 | 100.0     |



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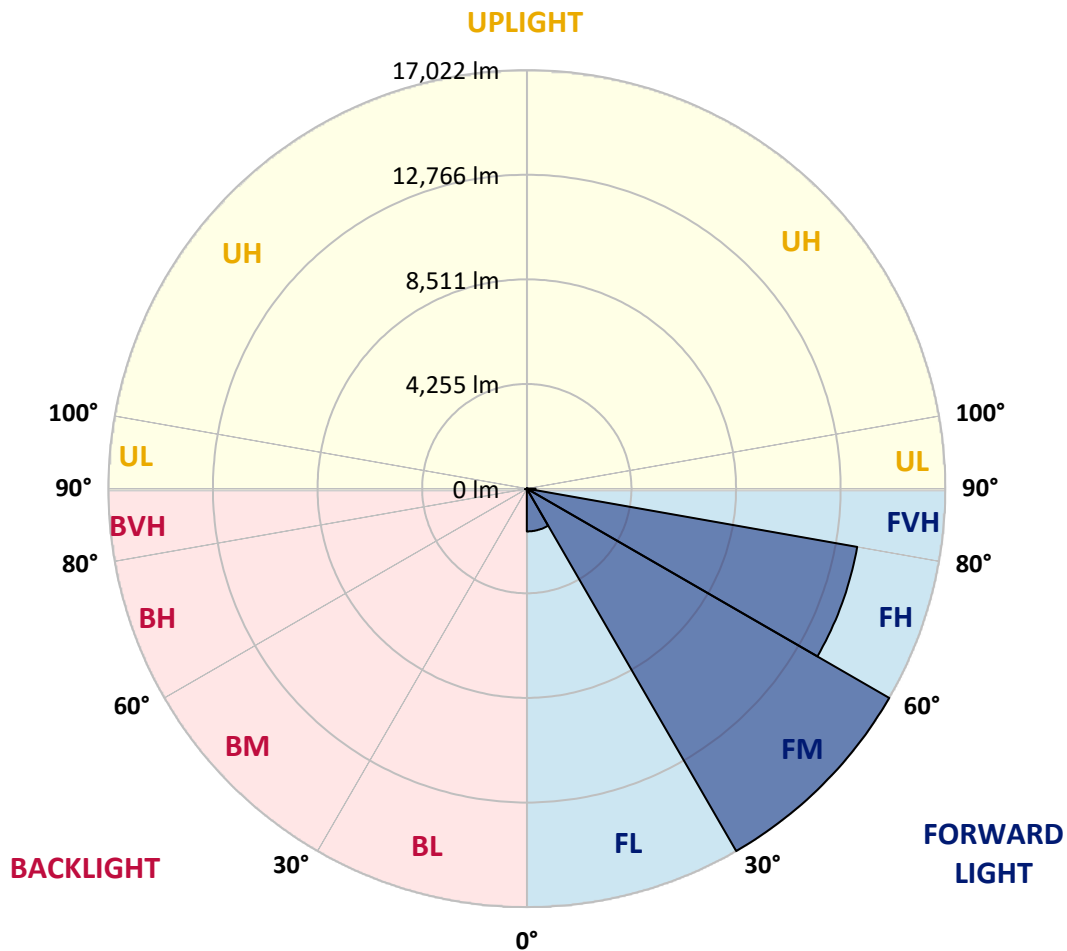
CATALOG NUMBER: GLAN-SA7B-757-U-T3BC

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|---------|-----------|-------------------------|------|--------|
|      |             |         |           | B                       | U    | G      |
| FL   | (0°-30°)    | 1740.6  | 5.3       |                         |      |        |
| FM   | (30°-60°)   | 17021.9 | 51.8      |                         |      |        |
| FH   | (60°-80°)   | 13645.2 | 41.5      |                         |      | G5     |
| FVH  | (80°-90°)   | 356.0   | 1.1       |                         |      | G3/500 |
| BL   | (0°-30°)    | 31.3    | 0.1       | B0/110                  |      |        |
| BM   | (30°-60°)   | 28.8    | 0.1       | B0/220                  |      |        |
| BH   | (60°-80°)   | 55.0    | 0.2       | B0/110                  |      | G0/110 |
| BVH  | (80°-90°)   | 4.9     | 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°    | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   | 215.0   |
| 2.5°  | 258.0   | 266.6   | 258.0   | 258.0   | 258.0   | 249.4   | 249.4   | 240.8   | 240.8   | 232.2   | 223.6   |
| 5°    | 378.4   | 378.4   | 352.6   | 335.4   | 318.2   | 309.6   | 301.0   | 283.8   | 266.6   | 249.4   | 232.2   |
| 7.5°  | 842.8   | 842.8   | 765.4   | 662.2   | 524.6   | 447.2   | 430.0   | 352.6   | 301.0   | 266.6   | 232.2   |
| 10°   | 2012.5  | 2012.5  | 1840.5  | 1556.7  | 1204.1  | 894.4   | 799.8   | 507.4   | 361.2   | 283.8   | 240.8   |
| 12.5° | 3345.6  | 3388.6  | 3173.6  | 2812.3  | 2287.7  | 1745.9  | 1556.7  | 928.8   | 481.6   | 309.6   | 240.8   |
| 15°   | 4541.0  | 4437.8  | 4377.6  | 4033.6  | 3534.8  | 2889.8  | 2648.9  | 1565.3  | 696.6   | 352.6   | 240.8   |
| 17.5° | 5349.5  | 5349.5  | 5263.5  | 5031.3  | 4575.4  | 4007.8  | 3810.0  | 2528.5  | 1126.7  | 404.2   | 249.4   |
| 20°   | 6295.5  | 6295.5  | 6140.7  | 5977.3  | 5573.1  | 5091.5  | 4902.3  | 3595.0  | 1745.9  | 516.0   | 249.4   |
| 22.5° | 7439.4  | 7456.6  | 7284.6  | 6992.2  | 6605.1  | 6071.9  | 5908.5  | 4584.0  | 2528.5  | 688.0   | 258.0   |
| 25°   | 8832.7  | 8849.9  | 8600.5  | 8325.2  | 7731.8  | 7155.6  | 6906.2  | 5719.3  | 3483.2  | 963.3   | 258.0   |
| 27.5° | 10372.1 | 10492.6 | 10122.7 | 9649.7  | 9021.9  | 8299.4  | 8110.2  | 6742.8  | 4429.2  | 1358.9  | 275.2   |
| 30°   | 12290.0 | 12290.0 | 11799.8 | 11137.6 | 10458.2 | 9563.7  | 9322.9  | 7817.8  | 5435.5  | 1883.5  | 292.4   |
| 32.5° | 13941.3 | 13812.3 | 13184.5 | 12487.9 | 11765.4 | 10931.2 | 10673.2 | 8944.5  | 6467.5  | 2537.1  | 326.8   |
| 35°   | 15205.6 | 15093.8 | 14319.8 | 13571.5 | 12943.7 | 12178.2 | 11868.6 | 10165.7 | 7559.8  | 3276.8  | 378.4   |
| 37.5° | 16289.3 | 16246.3 | 15197.0 | 14259.6 | 13846.7 | 13175.9 | 12900.7 | 11318.2 | 8634.9  | 4076.6  | 438.6   |
| 40°   | 17476.1 | 17338.5 | 16220.5 | 15059.4 | 14440.2 | 13898.3 | 13648.9 | 12247.0 | 9666.9  | 5014.1  | 524.6   |
| 42.5° | 18491.0 | 18327.6 | 17321.3 | 16186.1 | 15128.2 | 14397.2 | 14156.3 | 13029.7 | 10673.2 | 5951.5  | 636.4   |
| 45°   | 19617.6 | 19531.6 | 18516.8 | 17656.7 | 16246.3 | 15076.6 | 14758.4 | 13657.5 | 11593.4 | 7069.6  | 782.6   |
| 47.5° | 21311.9 | 21157.1 | 20211.1 | 19505.8 | 17871.7 | 16108.6 | 15652.8 | 14302.6 | 12479.3 | 8170.4  | 1006.3  |
| 50°   | 23281.4 | 23178.2 | 22619.2 | 22060.2 | 20434.7 | 17871.7 | 17329.9 | 15231.4 | 13468.3 | 9477.7  | 1298.7  |
| 52.5° | 24889.7 | 24872.5 | 24941.3 | 24949.9 | 23720.0 | 20838.9 | 20030.5 | 16727.9 | 14603.6 | 10767.8 | 1711.5  |
| 55°   | 24855.3 | 24932.7 | 25689.6 | 26558.2 | 26652.8 | 24889.7 | 24107.1 | 19247.8 | 16082.8 | 12358.9 | 2287.7  |
| 57.5° | 23926.5 | 23866.3 | 24666.1 | 25973.4 | 26893.6 | 27082.8 | 26953.8 | 23161.0 | 18310.4 | 14276.8 | 3173.6  |
| 58°   | 23625.4 | 23573.8 | 24330.7 | 25663.8 | 26721.6 | 27229.0 | 27100.0 | 24046.9 | 18809.2 | 14552.0 | 3414.4  |
| 60°   | 22533.2 | 22541.8 | 22989.0 | 24201.7 | 25259.5 | 26463.6 | 26584.0 | 26575.4 | 21294.7 | 16392.5 | 4627.0  |
| 62.5° | 21088.3 | 21019.5 | 21432.3 | 22421.4 | 23350.2 | 24158.7 | 24365.1 | 26747.4 | 24932.7 | 18731.8 | 6940.6  |
| 65°   | 19093.0 | 18989.8 | 19428.4 | 20546.5 | 21544.1 | 22068.8 | 22077.4 | 24442.5 | 26644.2 | 21243.1 | 10243.1 |
| 67.5° | 15386.2 | 15300.2 | 16177.5 | 17613.7 | 19153.2 | 19841.2 | 20150.9 | 21208.7 | 25199.3 | 22946.0 | 12135.2 |
| 70°   | 9426.1  | 9606.7  | 10828.0 | 13081.3 | 15713.0 | 16977.3 | 17441.7 | 17768.5 | 21458.1 | 22688.0 | 10148.5 |
| 72.5° | 4351.8  | 4136.8  | 5177.5  | 6751.4  | 9752.9  | 12565.3 | 13046.9 | 14328.4 | 17011.7 | 19695.0 | 7568.4  |
| 75°   | 2029.7  | 1952.3  | 2193.1  | 2950.0  | 4420.6  | 6785.8  | 7663.0  | 11438.6 | 13046.9 | 13700.5 | 5461.3  |
| 77.5° | 1040.7  | 1049.3  | 1247.1  | 1341.7  | 1823.3  | 3139.2  | 3603.6  | 7525.4  | 9563.7  | 7645.8  | 3663.8  |
| 80°   | 455.8   | 473.0   | 481.6   | 524.6   | 739.6   | 1212.7  | 1367.5  | 3491.8  | 6536.3  | 3896.0  | 2003.9  |
| 82.5° | 292.4   | 301.0   | 301.0   | 301.0   | 352.6   | 481.6   | 550.4   | 1401.9  | 3259.6  | 1935.1  | 619.2   |
| 85°   | 154.8   | 154.8   | 172.0   | 215.0   | 249.4   | 292.4   | 309.6   | 447.2   | 1075.1  | 576.2   | 146.2   |
| 87.5° | 86.0    | 94.6    | 103.2   | 129.0   | 163.4   | 197.8   | 215.0   | 309.6   | 412.8   | 395.6   | 34.4    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |



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CATALOG NUMBER: GLAN-SA7B-757-U-T3BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 215.0  | 215.0 | 215.0 | 215.0 | 215.0 | 215.0 | 215.0 | 215.0 | 215.0 | 215.0 | 215.0 |
| 2.5°  | 223.6  | 215.0 | 206.4 | 197.8 | 189.2 | 180.6 | 180.6 | 180.6 | 180.6 | 180.6 | 180.6 |
| 5°    | 215.0  | 206.4 | 197.8 | 180.6 | 163.4 | 154.8 | 146.2 | 137.6 | 137.6 | 137.6 | 137.6 |
| 7.5°  | 215.0  | 206.4 | 180.6 | 163.4 | 146.2 | 129.0 | 111.8 | 111.8 | 111.8 | 111.8 | 111.8 |
| 10°   | 215.0  | 197.8 | 172.0 | 146.2 | 120.4 | 103.2 | 94.6  | 86.0  | 86.0  | 86.0  | 86.0  |
| 12.5° | 215.0  | 189.2 | 163.4 | 129.0 | 103.2 | 86.0  | 77.4  | 68.8  | 68.8  | 68.8  | 68.8  |
| 15°   | 215.0  | 189.2 | 154.8 | 120.4 | 94.6  | 68.8  | 60.2  | 51.6  | 51.6  | 51.6  | 51.6  |
| 17.5° | 206.4  | 180.6 | 146.2 | 103.2 | 77.4  | 51.6  | 43.0  | 34.4  | 34.4  | 43.0  | 43.0  |
| 20°   | 197.8  | 172.0 | 129.0 | 86.0  | 60.2  | 43.0  | 25.8  | 25.8  | 25.8  | 25.8  | 25.8  |
| 22.5° | 197.8  | 172.0 | 120.4 | 77.4  | 51.6  | 25.8  | 17.2  | 17.2  | 17.2  | 17.2  | 25.8  |
| 25°   | 197.8  | 163.4 | 103.2 | 60.2  | 34.4  | 17.2  | 8.6   | 8.6   | 8.6   | 8.6   | 8.6   |
| 27.5° | 197.8  | 163.4 | 94.6  | 51.6  | 25.8  | 17.2  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   |
| 30°   | 189.2  | 154.8 | 86.0  | 43.0  | 17.2  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 32.5° | 189.2  | 146.2 | 68.8  | 34.4  | 17.2  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 35°   | 197.8  | 137.6 | 60.2  | 25.8  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 8.6   |
| 37.5° | 206.4  | 129.0 | 51.6  | 17.2  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 215.0  | 120.4 | 51.6  | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 232.2  | 120.4 | 43.0  | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 249.4  | 120.4 | 34.4  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 283.8  | 129.0 | 34.4  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 309.6  | 137.6 | 25.8  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 344.0  | 129.0 | 25.8  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 387.0  | 129.0 | 25.8  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 421.4  | 120.4 | 25.8  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 58°   | 438.6  | 111.8 | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 524.6  | 103.2 | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 817.0  | 86.0  | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 1659.9 | 77.4  | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 3096.2 | 68.8  | 17.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 3466.0 | 77.4  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 2184.5 | 60.2  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 1152.5 | 60.2  | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 576.2  | 60.2  | 8.6   | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 266.6  | 43.0  | 8.6   | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 111.8  | 25.8  | 17.2  | 8.6   | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 51.6   | 25.8  | 17.2  | 17.2  | 8.6   | 8.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 25.8   | 25.8  | 25.8  | 17.2  | 17.2  | 8.6   | 8.6   | 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: SP1-2407-184-7

Test Date: 10/10/2024

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

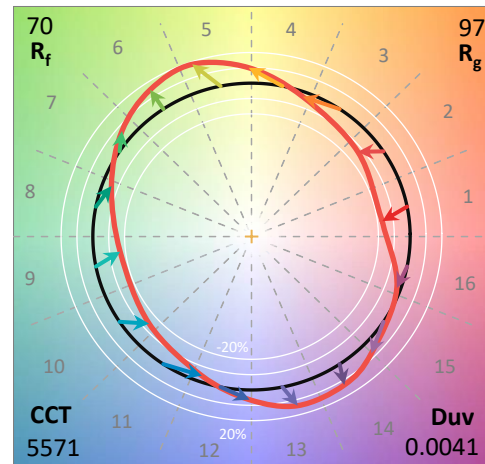
Data in this report applies to families of products including GSS-SB1A-757-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-7  
 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-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     | CRI (Ra): | 69.9 |      |       |
| CIE u':                   | 0.2033   | R1:       | 68.8 | R9:  | -35.4 |
| CIE v':                   | 0.4806   | R2:       | 72.5 | R10: | 36.7  |
| Duv:                      | 0.0041   | R3:       | 76.8 | R11: | 73.9  |
| CIE x:                    | 0.3308   | R4:       | 72.0 | R12: | 47.8  |
| CIE y:                    | 0.3476   | R5:       | 70.9 | R13: | 68.0  |
| CIE z:                    | 0.3216   | R6:       | 65.6 | R14: | 87.0  |
| Peak Wavelength (nm):     | 442      | R7:       | 75.5 | R15: | 59.8  |
| Dominant Wavelength (nm): | 544      | R8:       | 56.8 |      |       |
| Purity:                   | 3.635698 |           |      |      |       |
| Rf:                       | 70.4     |           |      |      |       |
| Rg:                       | 97.1     |           |      |      |       |



### Test Conditions

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

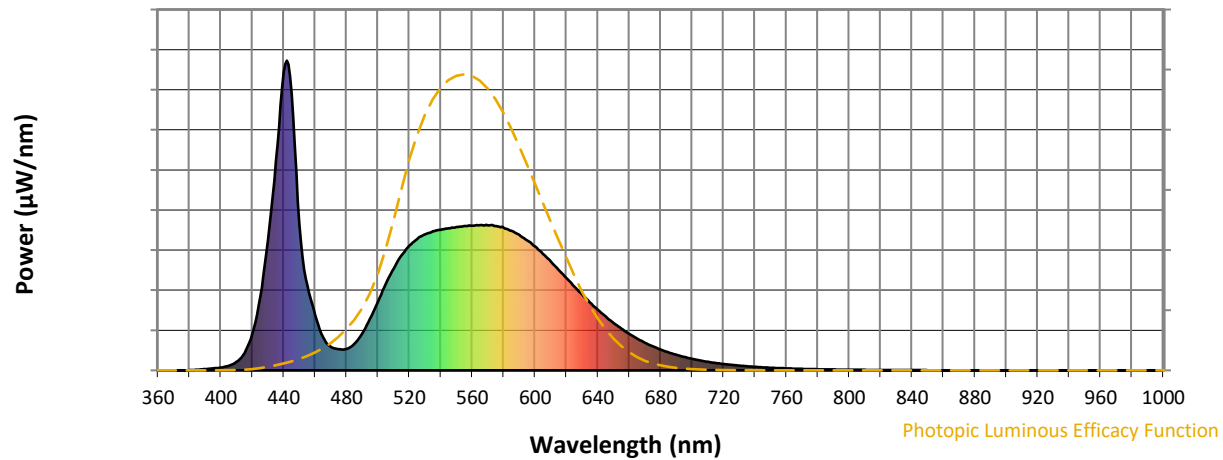
REPORT NUMBER: SP1-2407-184-7

| 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

### Photopic Flux vs. Wavelength

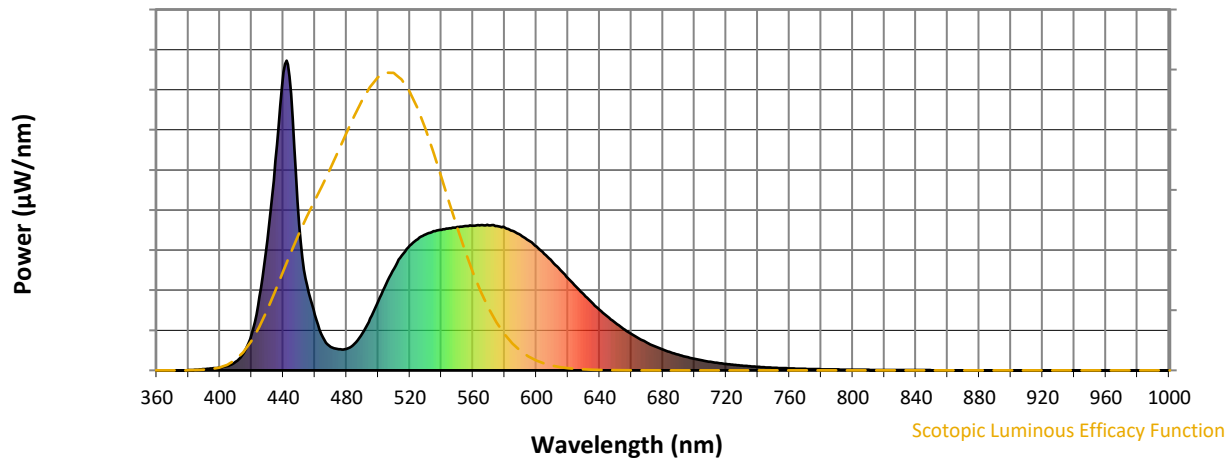


### Photopic Lumens: NR

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(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



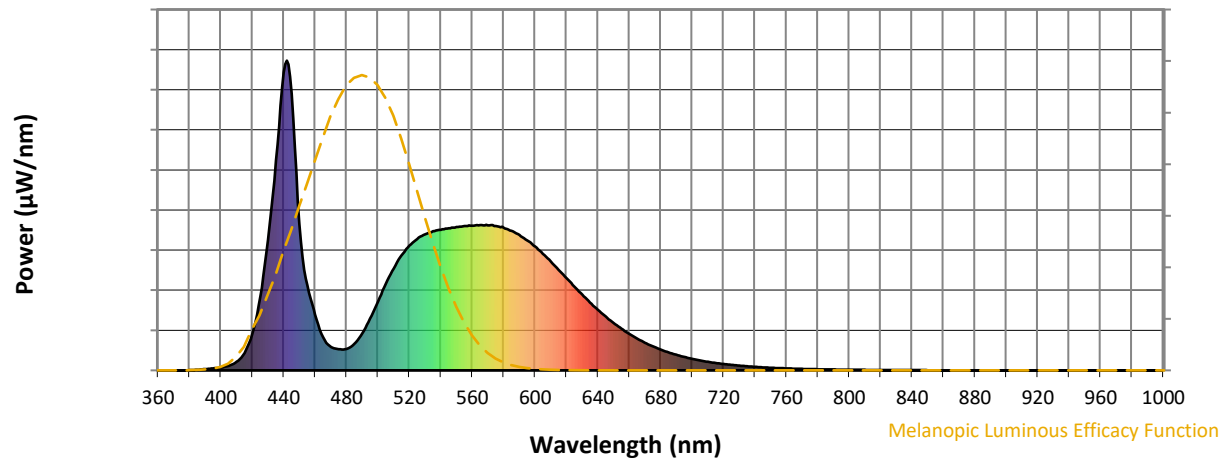
Scotopic Lumens: NR

S/P: 1.84

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(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

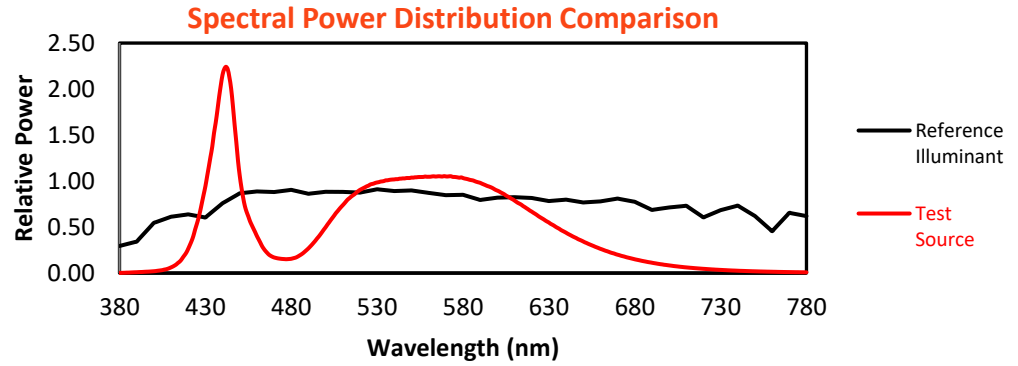
| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 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               |           |                             |                  |

REPORT NUMBER: SP1-2407-184-7

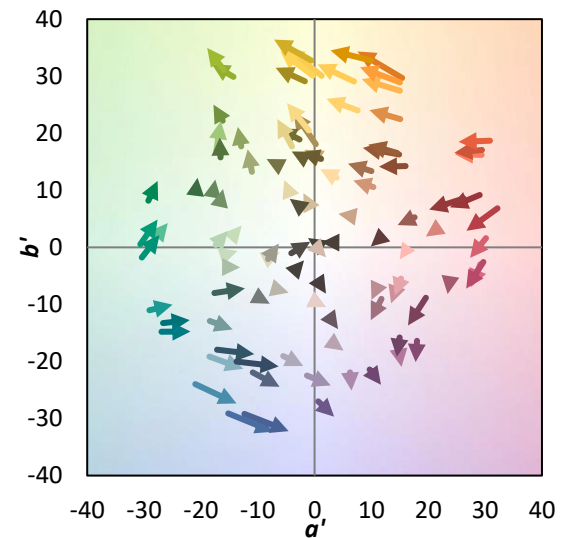
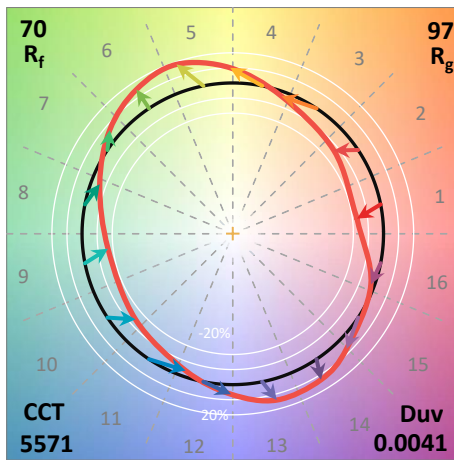
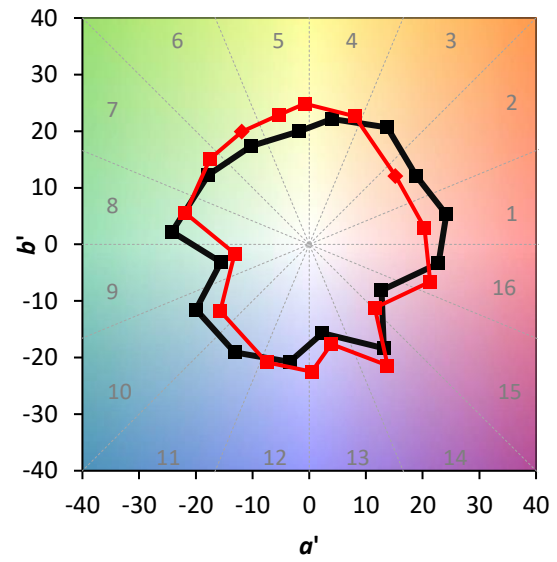
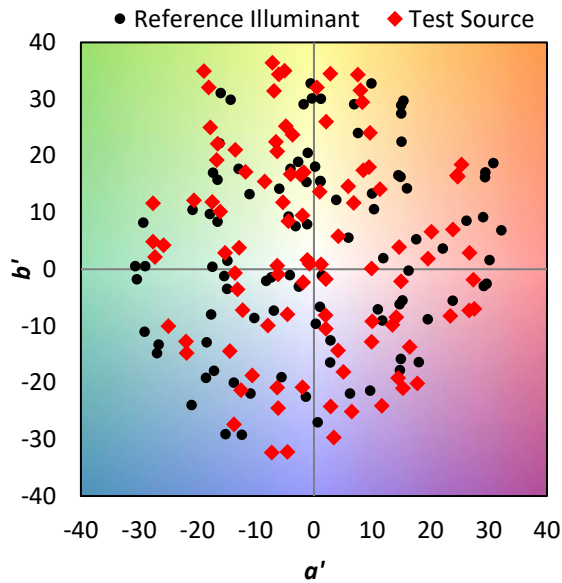
TM-30-18

### Summary

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



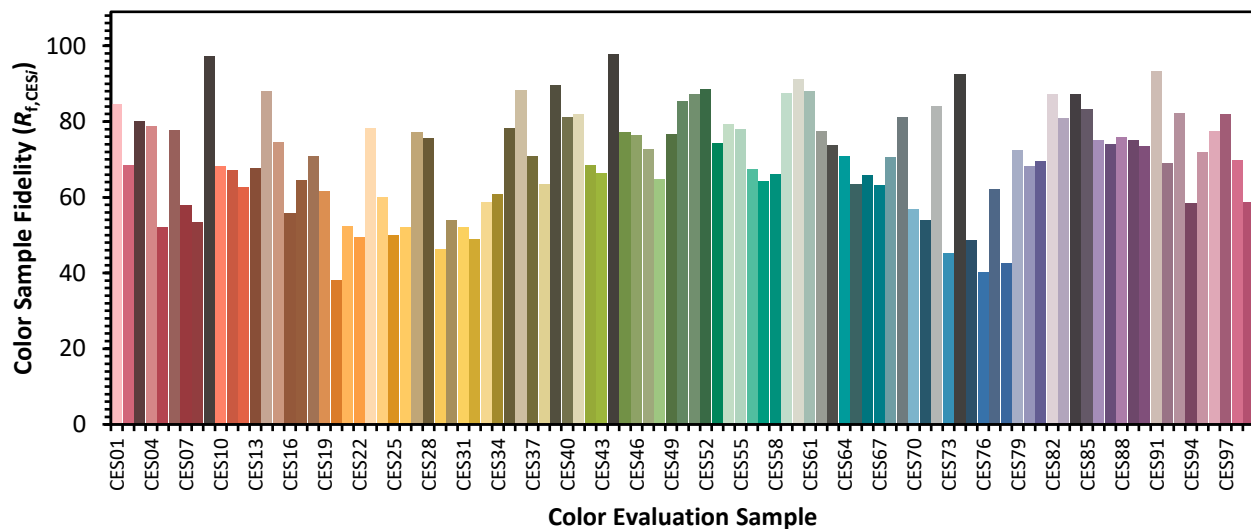
### Color Vector Graphics

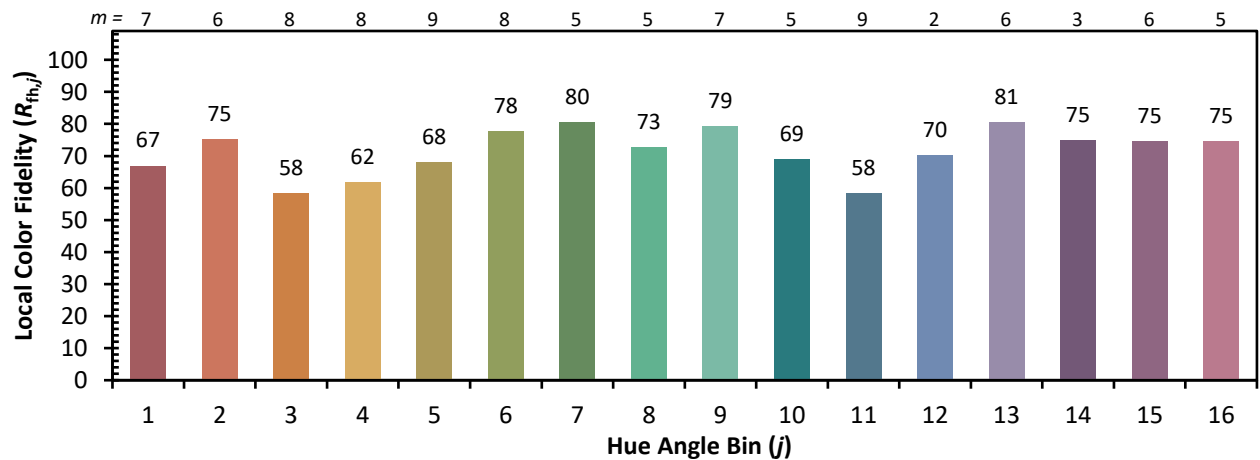
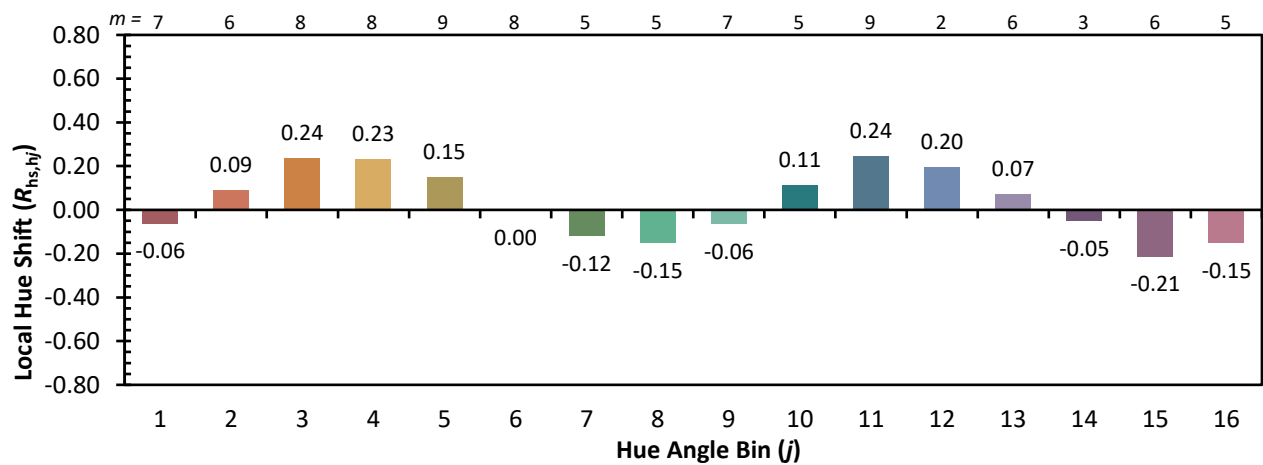
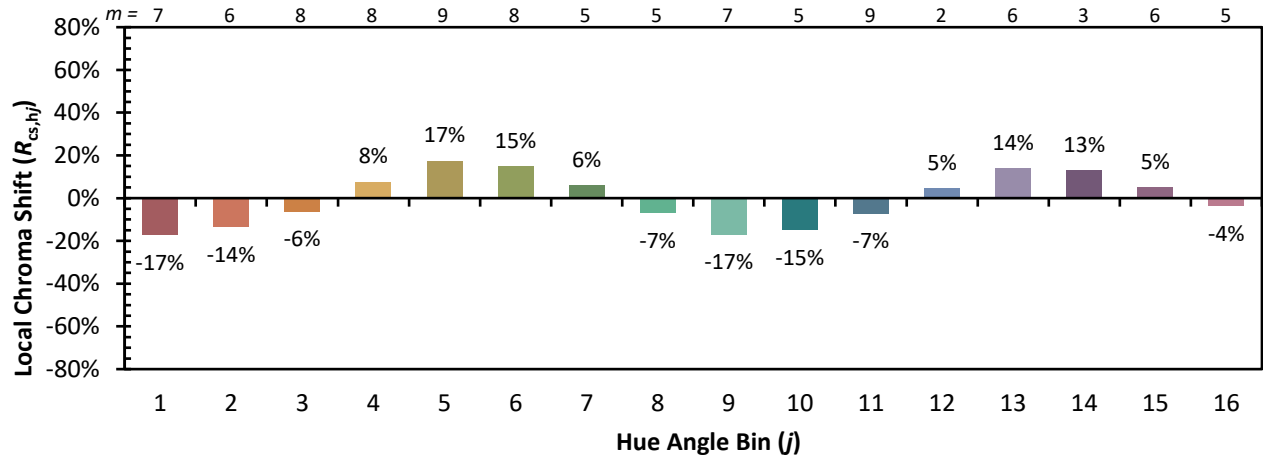




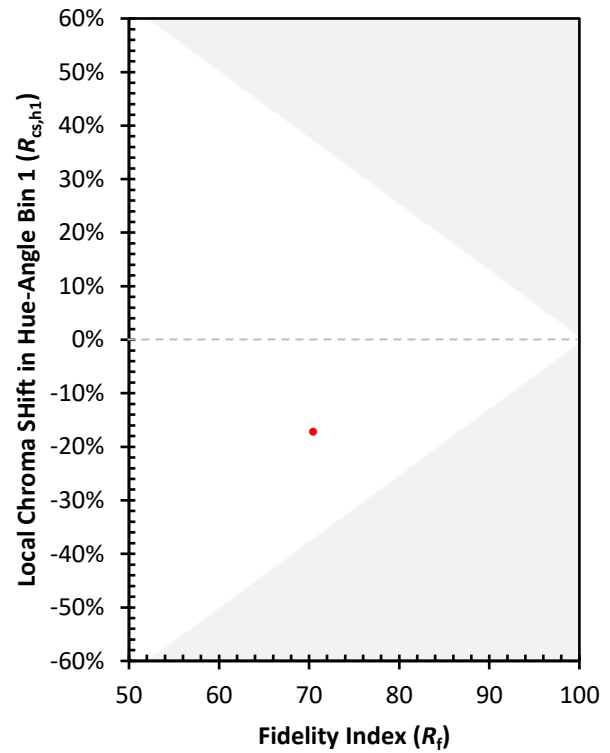
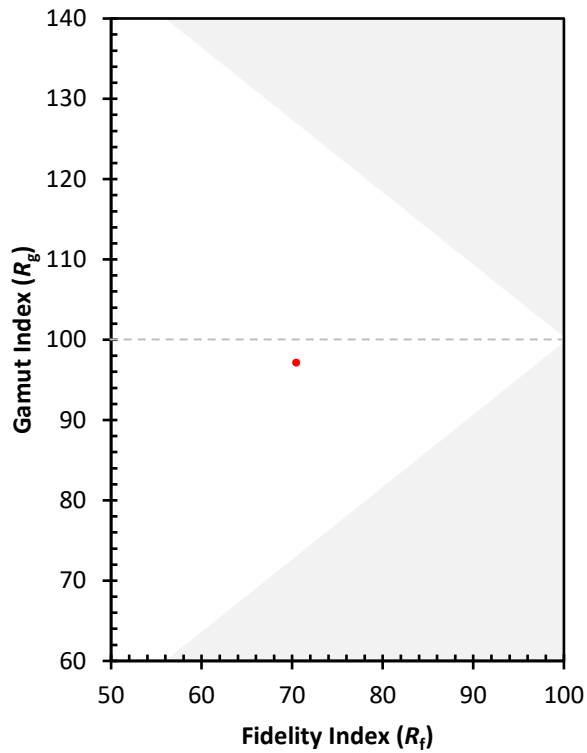
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)