

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: LUMARK

Report Number: P1068104

Luminaire Tested: **NAV-SA5D-835-U-LBC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1068104  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SA5D-835-U-LBC  
Description: Navion AREA AND ROADWAY LUMINAIRE 1200mA 5xLight Square PACKAGE  
80CRI 3500K FIXTURE w/ LEFT CORNER BACKLIGHT CONTROL  
Light Source: (70) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 23053.4 lumens  
Efficiency: N/A  
Efficacy: 85.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G4

Input Watts (W): 269.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

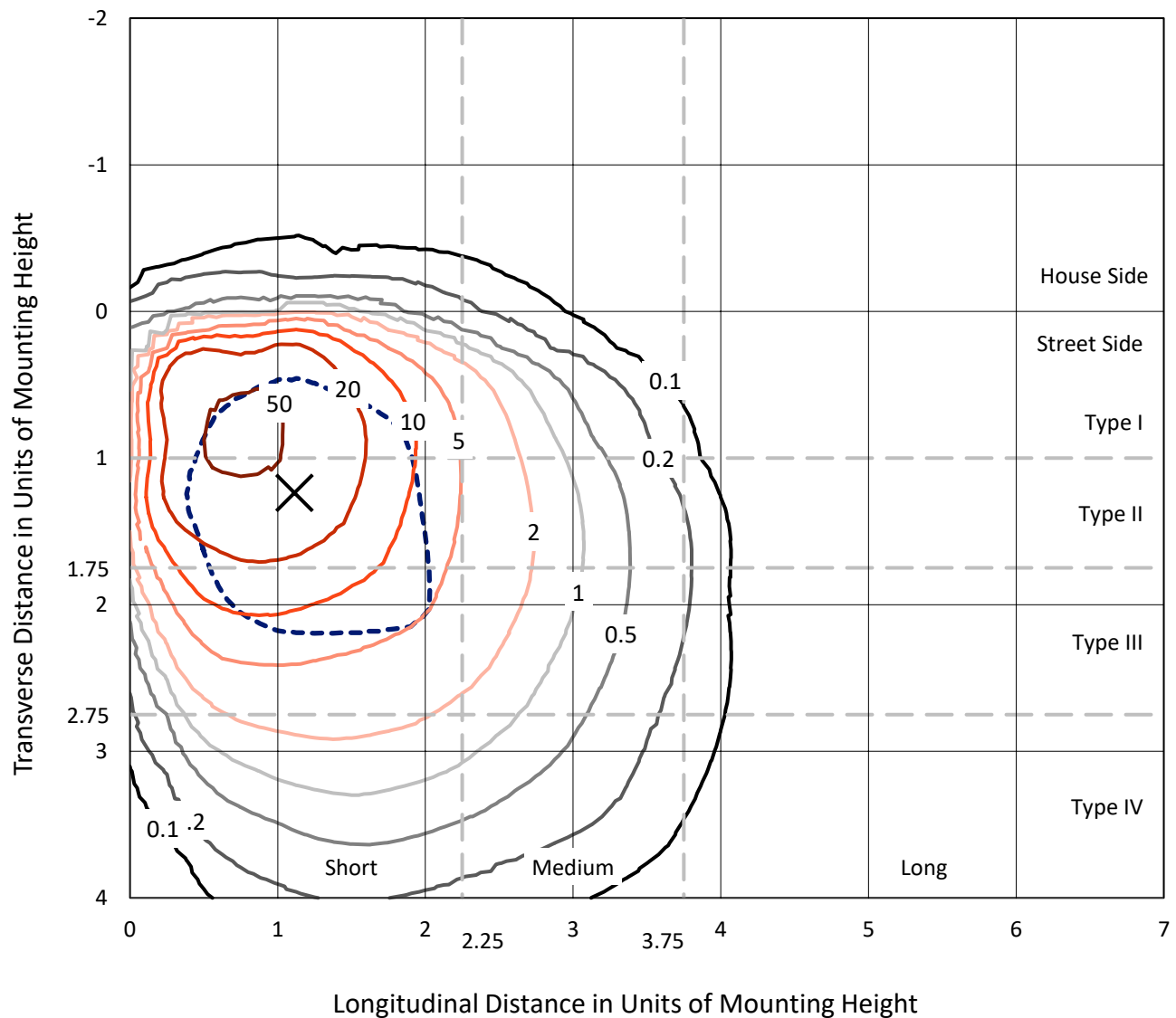


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

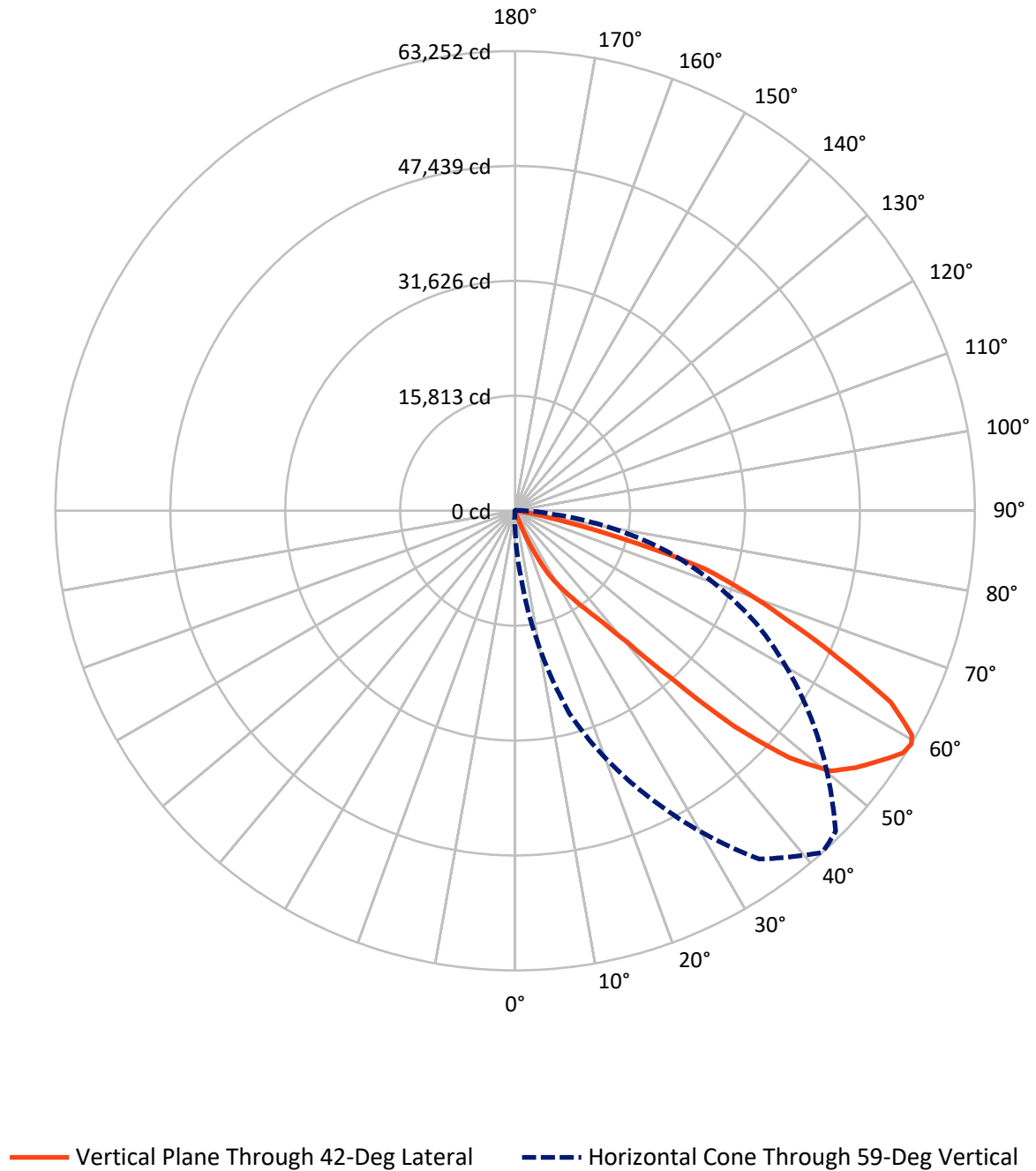


Based on 15 foot mounting height. Maximum calculated value = 68.5 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 111.1    | 0.0    | 111.1   |
|                    | % Fixture | 0.5      | 0.0    | 0.5     |
| <b>Street Side</b> | Lumens    | 22942.3  | 0.0    | 22942.3 |
|                    | % Fixture | 99.5     | 0.0    | 99.5    |
| <b>Total</b>       | Lumens    | 23053.4  | 0.0    | 23053.4 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 6.8     | 0.0       |
| 10°-20°   | 33.6    | 0.1       |
| 20°-30°   | 430.0   | 1.9       |
| 30°-40°   | 1449.8  | 6.3       |
| 40°-50°   | 4378.9  | 19.0      |
| 50°-60°   | 7729.8  | 33.5      |
| 60°-70°   | 6806.2  | 29.5      |
| 70°-80°   | 2166.4  | 9.4       |
| 80°-90°   | 51.8    | 0.2       |
| 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°    | 23053.4 | 100.0     |
| 0°-180°   | 23053.4 | 100.0     |



REPORT NUMBER: P1068104

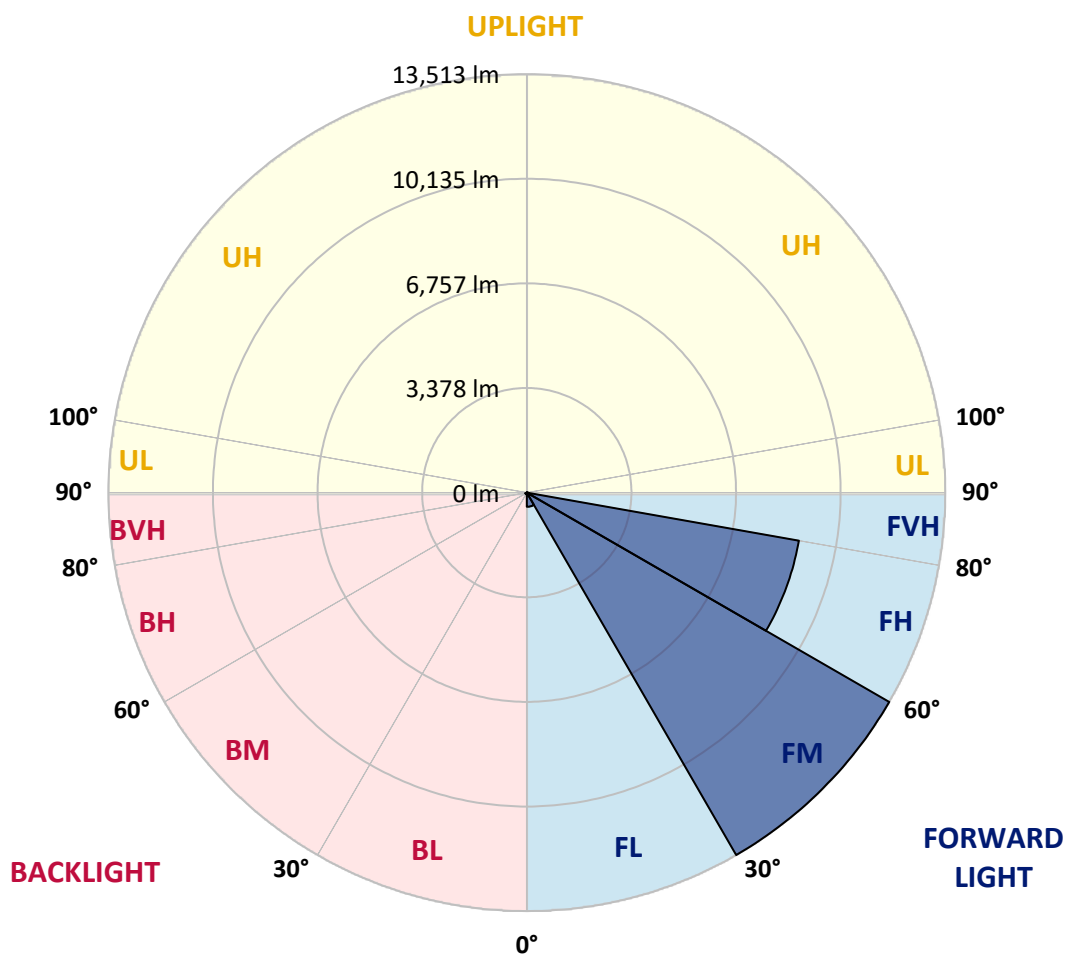
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 458.0   | 2.0       |                         |      |          |
| FM   | (30°-60°)   | 13513.1 | 58.6      |                         |      |          |
| FH   | (60°-80°)   | 8921.9  | 38.7      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 49.3    | 0.2       |                         |      | G1/100   |
| BL   | (0°-30°)    | 12.4    | 0.1       | B0/110                  |      |          |
| BM   | (30°-60°)   | 45.4    | 0.2       | B0/220                  |      |          |
| BH   | (60°-80°)   | 50.8    | 0.2       | B0/110                  |      | G0/110   |
| BVH  | (80°-90°)   | 2.5     | 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 III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°      | 15°     | 25°     | 35°     | 42°     | 45°     | 55°     | 65°     | 75°     | 85°    |
|-------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 65.1   | 65.1    | 65.1    | 65.1    | 65.1    | 65.1    | 65.1    | 65.1    | 65.1    | 65.1    | 65.1   |
| 2.5°  | 101.2  | 101.2   | 94.0    | 86.7    | 79.5    | 72.3    | 72.3    | 72.3    | 65.1    | 65.1    | 57.8   |
| 5°    | 115.6  | 115.6   | 108.4   | 101.2   | 101.2   | 94.0    | 94.0    | 86.7    | 79.5    | 79.5    | 72.3   |
| 7.5°  | 122.9  | 122.9   | 122.9   | 122.9   | 115.6   | 115.6   | 115.6   | 108.4   | 101.2   | 94.0    | 86.7   |
| 10°   | 130.1  | 137.3   | 144.6   | 144.6   | 144.6   | 144.6   | 144.6   | 137.3   | 122.9   | 115.6   | 101.2  |
| 12.5° | 144.6  | 151.8   | 166.2   | 180.7   | 180.7   | 187.9   | 180.7   | 173.5   | 159.0   | 137.3   | 115.6  |
| 15°   | 159.0  | 173.5   | 195.2   | 224.1   | 253.0   | 260.2   | 260.2   | 238.5   | 209.6   | 166.2   | 137.3  |
| 17.5° | 180.7  | 202.4   | 260.2   | 354.2   | 455.4   | 534.9   | 534.9   | 477.0   | 332.5   | 216.8   | 159.0  |
| 20°   | 195.2  | 238.5   | 419.2   | 852.9   | 1301.0  | 1633.5  | 1568.5  | 1387.8  | 744.5   | 339.7   | 173.5  |
| 22.5° | 216.8  | 303.6   | 889.0   | 2240.7  | 3469.4  | 4076.6  | 3932.0  | 2985.2  | 1669.7  | 607.2   | 209.6  |
| 25°   | 245.8  | 440.9   | 1763.6  | 4199.5  | 6447.4  | 7105.1  | 7011.2  | 5572.8  | 3043.0  | 1019.1  | 267.4  |
| 27.5° | 303.6  | 650.5   | 2826.1  | 6367.9  | 9512.0  | 10075.8 | 10039.7 | 8160.4  | 4864.4  | 1640.8  | 346.9  |
| 30°   | 383.1  | 946.9   | 4192.2  | 8651.9  | 11543.1 | 12114.1 | 11933.4 | 10054.1 | 6563.0  | 2508.1  | 448.1  |
| 32.5° | 477.0  | 1322.7  | 5428.2  | 10336.0 | 13415.2 | 14166.9 | 13950.0 | 11702.1 | 7929.1  | 3245.4  | 665.0  |
| 35°   | 621.6  | 1691.4  | 6649.8  | 11825.0 | 15576.3 | 16530.4 | 16169.0 | 13400.7 | 9107.3  | 4076.6  | 802.3  |
| 37.5° | 693.9  | 1908.2  | 7770.1  | 13444.1 | 18004.9 | 19306.0 | 19031.3 | 15547.4 | 10307.1 | 5139.1  | 983.0  |
| 40°   | 701.1  | 2168.4  | 8933.8  | 15554.7 | 21438.2 | 23758.4 | 23266.9 | 19233.7 | 12540.6 | 6505.2  | 1264.9 |
| 42.5° | 722.8  | 2558.7  | 10444.5 | 19154.2 | 28182.0 | 31514.1 | 30957.5 | 26013.6 | 17607.4 | 9244.6  | 1792.5 |
| 45°   | 824.0  | 3296.0  | 13523.6 | 25883.5 | 37441.0 | 42327.2 | 41683.9 | 35460.6 | 24683.6 | 14398.2 | 3057.4 |
| 47.5° | 1178.2 | 4958.4  | 18922.9 | 33147.6 | 46909.7 | 50805.6 | 50646.6 | 42905.4 | 31094.9 | 19681.8 | 5182.5 |
| 50°   | 1893.7 | 7611.1  | 25066.7 | 39255.3 | 52937.9 | 56284.4 | 55886.9 | 46013.4 | 34752.2 | 23288.6 | 6642.5 |
| 52.5° | 2529.8 | 10148.1 | 28926.5 | 41503.2 | 54737.6 | 58727.5 | 58243.2 | 47148.2 | 35713.5 | 24351.1 | 7047.3 |
| 55°   | 2688.8 | 11066.1 | 30075.7 | 42197.1 | 55930.3 | 60794.7 | 60093.6 | 47907.2 | 35836.4 | 23592.2 | 6375.1 |
| 57.5° | 2609.3 | 10198.7 | 29331.2 | 42876.5 | 57592.7 | 62919.7 | 61987.3 | 49388.9 | 36248.4 | 22305.6 | 5305.4 |
| 59°   | 2472.0 | 9129.0  | 28868.6 | 43418.6 | 58510.7 | 63252.2 | 62377.6 | 49714.2 | 36523.1 | 21720.1 | 4654.8 |
| 60°   | 2313.0 | 8406.2  | 28507.2 | 43772.8 | 58452.8 | 62731.8 | 61828.3 | 49562.4 | 36631.5 | 21214.2 | 4344.0 |
| 62.5° | 1785.3 | 6707.6  | 27986.8 | 43519.8 | 54802.7 | 57983.0 | 57469.8 | 45847.2 | 35041.3 | 19595.1 | 3426.1 |
| 65°   | 1387.8 | 5131.9  | 26078.6 | 38814.4 | 46635.1 | 48774.5 | 48615.5 | 38821.6 | 29490.2 | 16891.8 | 2472.0 |
| 67.5° | 1098.7 | 3744.1  | 22052.6 | 31434.6 | 37520.5 | 40563.5 | 40447.9 | 31514.1 | 22385.1 | 12909.2 | 1778.1 |
| 70°   | 896.3  | 2667.1  | 15121.0 | 23700.6 | 30010.7 | 33841.5 | 33675.3 | 25363.1 | 16588.3 | 8189.3  | 1293.8 |
| 72.5° | 758.9  | 1705.8  | 9172.3  | 17867.6 | 25045.0 | 27235.1 | 26750.8 | 20462.5 | 12063.5 | 4459.7  | 1026.4 |
| 75°   | 643.3  | 1048.1  | 4546.4  | 11138.3 | 14918.6 | 14904.1 | 14419.9 | 10834.8 | 6476.3  | 2182.9  | 816.8  |
| 77.5° | 520.4  | 737.3   | 1785.3  | 3057.4  | 4705.4  | 5825.8  | 5731.8  | 3838.1  | 1937.1  | 636.1   | 506.0  |
| 80°   | 339.7  | 346.9   | 477.0   | 838.4   | 1293.8  | 1431.1  | 1626.3  | 1170.9  | 563.8   | 303.6   | 209.6  |
| 82.5° | 151.8  | 166.2   | 216.8   | 274.7   | 274.7   | 253.0   | 224.1   | 166.2   | 122.9   | 101.2   | 50.6   |
| 85°   | 36.1   | 50.6    | 36.1    | 43.4    | 36.1    | 28.9    | 28.9    | 14.5    | 0.0     | 0.0     | 0.0    |
| 87.5° | 7.2    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 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    |



REPORT NUMBER: P1068104

CATALOG NUMBER: NAV-SA5D-835-U-LBC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|------|------|------|------|------|------|------|
| 0°    | 65.1   | 65.1  | 65.1  | 65.1  | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 |
| 2.5°  | 57.8   | 57.8  | 57.8  | 50.6  | 50.6 | 50.6 | 43.4 | 43.4 | 43.4 | 36.1 | 36.1 |
| 5°    | 72.3   | 65.1  | 57.8  | 57.8  | 50.6 | 50.6 | 43.4 | 36.1 | 36.1 | 36.1 | 28.9 |
| 7.5°  | 79.5   | 72.3  | 65.1  | 57.8  | 50.6 | 43.4 | 43.4 | 36.1 | 28.9 | 28.9 | 28.9 |
| 10°   | 94.0   | 86.7  | 72.3  | 57.8  | 50.6 | 43.4 | 36.1 | 36.1 | 28.9 | 21.7 | 21.7 |
| 12.5° | 108.4  | 94.0  | 79.5  | 65.1  | 50.6 | 43.4 | 36.1 | 36.1 | 28.9 | 21.7 | 14.5 |
| 15°   | 122.9  | 108.4 | 86.7  | 65.1  | 50.6 | 43.4 | 36.1 | 36.1 | 21.7 | 14.5 | 7.2  |
| 17.5° | 137.3  | 115.6 | 86.7  | 72.3  | 50.6 | 43.4 | 36.1 | 28.9 | 14.5 | 7.2  | 0.0  |
| 20°   | 144.6  | 122.9 | 94.0  | 72.3  | 50.6 | 43.4 | 36.1 | 21.7 | 7.2  | 0.0  | 0.0  |
| 22.5° | 159.0  | 137.3 | 101.2 | 72.3  | 50.6 | 36.1 | 21.7 | 7.2  | 0.0  | 0.0  | 0.0  |
| 25°   | 187.9  | 144.6 | 101.2 | 72.3  | 50.6 | 36.1 | 14.5 | 0.0  | 0.0  | 0.0  | 0.0  |
| 27.5° | 209.6  | 159.0 | 101.2 | 72.3  | 50.6 | 28.9 | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 30°   | 245.8  | 173.5 | 108.4 | 72.3  | 50.6 | 21.7 | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  |
| 32.5° | 303.6  | 187.9 | 108.4 | 72.3  | 43.4 | 21.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 35°   | 368.6  | 216.8 | 108.4 | 72.3  | 43.4 | 21.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 37.5° | 375.9  | 231.3 | 108.4 | 72.3  | 43.4 | 14.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 390.3  | 216.8 | 115.6 | 72.3  | 43.4 | 14.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 448.1  | 202.4 | 122.9 | 72.3  | 43.4 | 14.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 665.0  | 209.6 | 122.9 | 79.5  | 43.4 | 21.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 1156.5 | 216.8 | 115.6 | 79.5  | 43.4 | 21.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 1481.7 | 253.0 | 115.6 | 86.7  | 50.6 | 14.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 1575.7 | 296.3 | 115.6 | 94.0  | 65.1 | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 1532.3 | 346.9 | 122.9 | 101.2 | 79.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 1416.7 | 375.9 | 130.1 | 108.4 | 86.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 59°   | 1293.8 | 397.5 | 151.8 | 115.6 | 86.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 1192.6 | 419.2 | 159.0 | 122.9 | 86.7 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 961.3  | 448.1 | 173.5 | 144.6 | 72.3 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 838.4  | 469.8 | 180.7 | 159.0 | 65.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 766.2  | 484.3 | 195.2 | 166.2 | 57.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 708.3  | 477.0 | 209.6 | 159.0 | 50.6 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 643.3  | 455.4 | 253.0 | 144.6 | 43.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 578.2  | 412.0 | 274.7 | 130.1 | 28.9 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 419.2  | 346.9 | 253.0 | 115.6 | 14.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 180.7  | 187.9 | 180.7 | 86.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 36.1   | 43.4  | 36.1  | 21.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 0.0    | 0.0   | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  | 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  |



REPORT NUMBER: P1068104

CATALOG NUMBER: NAV-SA5D-835-U-LBC

**CANDELA DISTRIBUTION (continued):**

|       | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 | 65.1 |
| 2.5°  | 36.1 | 36.1 | 36.1 | 36.1 | 43.4 | 43.4 | 57.8 | 72.3 | 86.7 | 94.0 | 94.0 |
| 5°    | 28.9 | 28.9 | 28.9 | 28.9 | 28.9 | 36.1 | 43.4 | 57.8 | 79.5 | 86.7 | 86.7 |
| 7.5°  | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 21.7 | 36.1 | 50.6 | 72.3 | 79.5 | 86.7 |
| 10°   | 21.7 | 14.5 | 14.5 | 7.2  | 7.2  | 14.5 | 21.7 | 43.4 | 65.1 | 72.3 | 79.5 |
| 12.5° | 14.5 | 7.2  | 7.2  | 0.0  | 0.0  | 7.2  | 14.5 | 36.1 | 57.8 | 65.1 | 72.3 |
| 15°   | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 28.9 | 50.6 | 57.8 | 72.3 |
| 17.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 21.7 | 43.4 | 57.8 | 65.1 |
| 20°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 14.5 | 36.1 | 50.6 | 57.8 |
| 22.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 28.9 | 43.4 | 50.6 |
| 25°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 21.7 | 28.9 | 36.1 |
| 27.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 14.5 | 21.7 | 28.9 |
| 30°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 14.5 | 21.7 | 28.9 |
| 32.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 | 21.7 |
| 35°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 | 21.7 |
| 37.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 | 14.5 |
| 40°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 42.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 45°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 47.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 50°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 52.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 7.2  |
| 55°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 7.2  |
| 57.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 59°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 60°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 62.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 65°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 67.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 70°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 72.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  |
| 75°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 7.2  |
| 77.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 80°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 14.5 |
| 82.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 7.2  |
| 85°   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 7.2  |
| 87.5° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 7.2  | 7.2  |
| 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: P1068104

CATALOG NUMBER: NAV-SA5D-835-U-LBC

**CANDELA DISTRIBUTION (continued):**

|       | 285°  | 295°  | 305° | 315° | 318° | 325°  | 335°  | 345°  | 355°  | 360°   |
|-------|-------|-------|------|------|------|-------|-------|-------|-------|--------|
| 0°    | 65.1  | 65.1  | 65.1 | 65.1 | 65.1 | 65.1  | 65.1  | 65.1  | 65.1  | 65.1   |
| 2.5°  | 101.2 | 101.2 | 94.0 | 86.7 | 86.7 | 86.7  | 94.0  | 101.2 | 101.2 | 101.2  |
| 5°    | 94.0  | 94.0  | 86.7 | 86.7 | 86.7 | 86.7  | 94.0  | 108.4 | 115.6 | 115.6  |
| 7.5°  | 94.0  | 94.0  | 86.7 | 86.7 | 86.7 | 86.7  | 94.0  | 108.4 | 115.6 | 122.9  |
| 10°   | 86.7  | 86.7  | 86.7 | 86.7 | 79.5 | 86.7  | 94.0  | 108.4 | 130.1 | 130.1  |
| 12.5° | 86.7  | 86.7  | 86.7 | 86.7 | 79.5 | 86.7  | 101.2 | 115.6 | 137.3 | 144.6  |
| 15°   | 86.7  | 86.7  | 86.7 | 79.5 | 79.5 | 86.7  | 101.2 | 122.9 | 144.6 | 159.0  |
| 17.5° | 79.5  | 86.7  | 86.7 | 79.5 | 79.5 | 86.7  | 101.2 | 122.9 | 159.0 | 180.7  |
| 20°   | 72.3  | 79.5  | 86.7 | 79.5 | 79.5 | 79.5  | 101.2 | 122.9 | 166.2 | 195.2  |
| 22.5° | 65.1  | 72.3  | 79.5 | 79.5 | 72.3 | 79.5  | 101.2 | 130.1 | 180.7 | 216.8  |
| 25°   | 57.8  | 65.1  | 65.1 | 72.3 | 72.3 | 79.5  | 101.2 | 130.1 | 187.9 | 245.8  |
| 27.5° | 43.4  | 50.6  | 57.8 | 65.1 | 65.1 | 79.5  | 101.2 | 137.3 | 202.4 | 303.6  |
| 30°   | 36.1  | 43.4  | 50.6 | 57.8 | 65.1 | 79.5  | 101.2 | 137.3 | 216.8 | 383.1  |
| 32.5° | 36.1  | 43.4  | 50.6 | 57.8 | 65.1 | 72.3  | 101.2 | 144.6 | 238.5 | 477.0  |
| 35°   | 28.9  | 36.1  | 43.4 | 57.8 | 57.8 | 72.3  | 101.2 | 144.6 | 260.2 | 621.6  |
| 37.5° | 28.9  | 36.1  | 43.4 | 57.8 | 57.8 | 72.3  | 101.2 | 144.6 | 318.0 | 693.9  |
| 40°   | 21.7  | 28.9  | 36.1 | 57.8 | 57.8 | 72.3  | 108.4 | 151.8 | 325.3 | 701.1  |
| 42.5° | 21.7  | 28.9  | 36.1 | 50.6 | 57.8 | 72.3  | 108.4 | 151.8 | 303.6 | 722.8  |
| 45°   | 21.7  | 28.9  | 36.1 | 57.8 | 65.1 | 79.5  | 108.4 | 159.0 | 296.3 | 824.0  |
| 47.5° | 21.7  | 28.9  | 36.1 | 57.8 | 72.3 | 79.5  | 108.4 | 159.0 | 303.6 | 1178.2 |
| 50°   | 21.7  | 28.9  | 36.1 | 57.8 | 79.5 | 79.5  | 108.4 | 159.0 | 332.5 | 1893.7 |
| 52.5° | 14.5  | 21.7  | 28.9 | 50.6 | 65.1 | 86.7  | 115.6 | 151.8 | 354.2 | 2529.8 |
| 55°   | 14.5  | 14.5  | 21.7 | 43.4 | 57.8 | 94.0  | 122.9 | 151.8 | 412.0 | 2688.8 |
| 57.5° | 14.5  | 14.5  | 21.7 | 36.1 | 50.6 | 101.2 | 130.1 | 151.8 | 477.0 | 2609.3 |
| 59°   | 14.5  | 14.5  | 14.5 | 36.1 | 43.4 | 101.2 | 130.1 | 159.0 | 484.3 | 2472.0 |
| 60°   | 14.5  | 14.5  | 14.5 | 28.9 | 43.4 | 101.2 | 137.3 | 166.2 | 491.5 | 2313.0 |
| 62.5° | 7.2   | 7.2   | 7.2  | 28.9 | 36.1 | 101.2 | 151.8 | 202.4 | 506.0 | 1785.3 |
| 65°   | 14.5  | 14.5  | 7.2  | 21.7 | 36.1 | 86.7  | 173.5 | 216.8 | 513.2 | 1387.8 |
| 67.5° | 14.5  | 14.5  | 14.5 | 28.9 | 36.1 | 86.7  | 180.7 | 224.1 | 513.2 | 1098.7 |
| 70°   | 14.5  | 14.5  | 14.5 | 28.9 | 43.4 | 86.7  | 180.7 | 231.3 | 506.0 | 896.3  |
| 72.5° | 14.5  | 14.5  | 14.5 | 28.9 | 43.4 | 79.5  | 166.2 | 238.5 | 484.3 | 758.9  |
| 75°   | 14.5  | 14.5  | 14.5 | 21.7 | 36.1 | 72.3  | 159.0 | 260.2 | 440.9 | 643.3  |
| 77.5° | 14.5  | 14.5  | 14.5 | 14.5 | 28.9 | 57.8  | 144.6 | 289.1 | 390.3 | 520.4  |
| 80°   | 21.7  | 14.5  | 14.5 | 14.5 | 21.7 | 50.6  | 137.3 | 281.9 | 325.3 | 339.7  |
| 82.5° | 21.7  | 14.5  | 14.5 | 7.2  | 14.5 | 36.1  | 108.4 | 216.8 | 166.2 | 151.8  |
| 85°   | 14.5  | 14.5  | 14.5 | 7.2  | 7.2  | 21.7  | 50.6  | 65.1  | 50.6  | 36.1   |
| 87.5° | 14.5  | 14.5  | 14.5 | 7.2  | 7.2  | 7.2   | 7.2   | 7.2   | 7.2   | 7.2    |
| 90°   | 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: SP1-2407-184-10

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-835-U-5WQ

Data in this report applies to families of products including GSS-SB1A-835-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-10  
 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-835-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3500K CCT 26 LEDS

### Spectral Parameters

CCT (K): 3411  
 CIE  $u'$ : 0.2360  
 CIE  $v'$ : 0.5189  
 Duv: 0.0044  
 CIE x: 0.4154  
 CIE y: 0.4059  
 CIE z: 0.1787  
 Peak Wavelength (nm): 601  
 Dominant Wavelength (nm): 579  
 Purity: 46.51914  
 R<sub>f</sub>: 86.6  
 R<sub>g</sub>: 95.9

CRI (Ra): 83.5  
 R1: 81.1  
 R2: 88.9  
 R3: 97.2  
 R4: 83.8  
 R5: 81.7  
 R6: 86.9  
 R7: 86.1  
 R8: 62.2  
 R9: 6.3  
 R10: 75.4  
 R11: 84.1  
 R12: 69.7  
 R13: 82.8  
 R14: 98.5  
 R15: 72.6



### Test Conditions

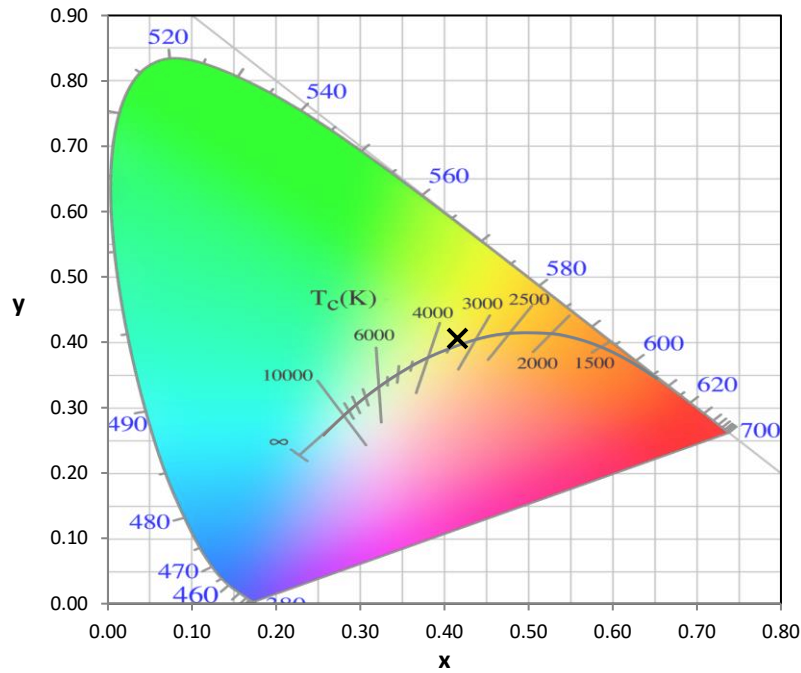
Stabilization Time: 35M  
 Operation Time: 1H 35M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-10

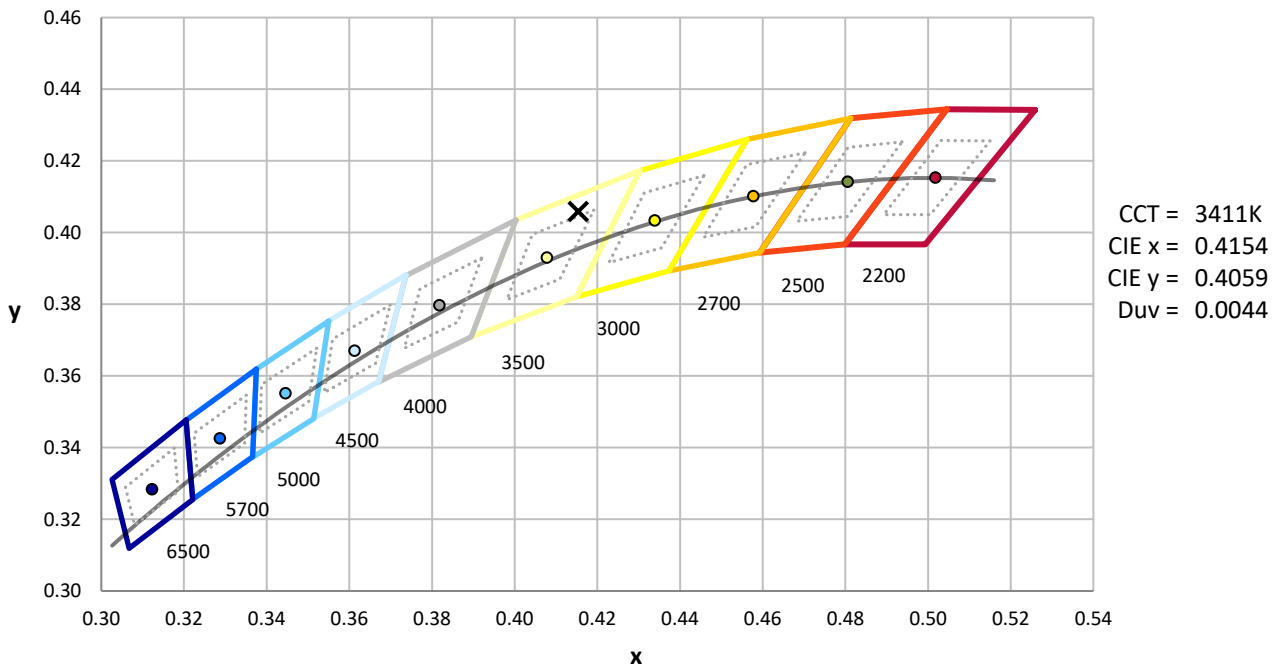
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-2407-184-10

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2407-184-10

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<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               | 311                                  | NR                             | 620               | 903                                  | NR                             | 750               | 26                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 376                                  | NR                             | 625               | 851                                  | NR                             | 755               | 22                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 438                                  | NR                             | 630               | 797                                  | NR                             | 760               | 19                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 491                                  | NR                             | 635               | 735                                  | NR                             | 765               | 16                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 533                                  | NR                             | 640               | 672                                  | NR                             | 770               | 14                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 566                                  | NR                             | 645               | 607                                  | NR                             | 775               | 12                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 592                                  | NR                             | 650               | 546                                  | NR                             | 780               | 10                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 608                                  | NR                             | 655               | 487                                  | NR                             | 785               | 9                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 625                                  | NR                             | 660               | 429                                  | NR                             | 790               | 7                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 642                                  | NR                             | 665               | 378                                  | NR                             | 795               | 6                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 12                                   | NR                             | 540               | 657                                  | NR                             | 670               | 329                                  | NR                             | 800               | 5                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 22                                   | NR                             | 545               | 677                                  | NR                             | 675               | 286                                  | NR                             | 805               | 5                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 43                                   | NR                             | 550               | 701                                  | NR                             | 680               | 248                                  | NR                             | 810               | 4                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 80                                   | NR                             | 555               | 728                                  | NR                             | 685               | 213                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 140                                  | NR                             | 560               | 757                                  | NR                             | 690               | 184                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 243                                  | NR                             | 565               | 793                                  | NR                             | 695               | 156                                  | NR                             | 825               | 3                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 412                                  | NR                             | 570               | 831                                  | NR                             | 700               | 134                                  | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 610                                  | NR                             | 575               | 872                                  | NR                             | 705               | 114                                  | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 597                                  | NR                             | 580               | 911                                  | NR                             | 710               | 97                                   | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 412                                  | NR                             | 585               | 944                                  | NR                             | 715               | 83                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 330                                  | NR                             | 590               | 974                                  | NR                             | 720               | 70                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 274                                  | NR                             | 595               | 992                                  | NR                             | 725               | 60                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 211                                  | NR                             | 600               | 999                                  | NR                             | 730               | 51                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 200                                  | NR                             | 605               | 992                                  | NR                             | 735               | 43                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 220                                  | NR                             | 610               | 975                                  | NR                             | 740               | 36                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 255                                  | NR                             | 615               | 944                                  | NR                             | 745               | 31                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-184-10

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.48

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 311                      | NR            | 620    | 903                      | NR            | 750    | 26                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 376                      | NR            | 625    | 851                      | NR            | 755    | 22                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 438                      | NR            | 630    | 797                      | NR            | 760    | 19                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 491                      | NR            | 635    | 735                      | NR            | 765    | 16                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 533                      | NR            | 640    | 672                      | NR            | 770    | 14                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 566                      | NR            | 645    | 607                      | NR            | 775    | 12                       | NR            | 905    | 0                        | NR            |
| 390    | 0                        | NR            | 520    | 592                      | NR            | 650    | 546                      | NR            | 780    | 10                       | NR            | 910    | 0                        | NR            |
| 395    | 1                        | NR            | 525    | 608                      | NR            | 655    | 487                      | NR            | 785    | 9                        | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 625                      | NR            | 660    | 429                      | NR            | 790    | 7                        | NR            | 920    | 0                        | NR            |
| 405    | 6                        | NR            | 535    | 642                      | NR            | 665    | 378                      | NR            | 795    | 6                        | NR            | 925    | 0                        | NR            |
| 410    | 12                       | NR            | 540    | 657                      | NR            | 670    | 329                      | NR            | 800    | 5                        | NR            | 930    | 0                        | NR            |
| 415    | 22                       | NR            | 545    | 677                      | NR            | 675    | 286                      | NR            | 805    | 5                        | NR            | 935    | 0                        | NR            |
| 420    | 43                       | NR            | 550    | 701                      | NR            | 680    | 248                      | NR            | 810    | 4                        | NR            | 940    | 0                        | NR            |
| 425    | 80                       | NR            | 555    | 728                      | NR            | 685    | 213                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 140                      | NR            | 560    | 757                      | NR            | 690    | 184                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 243                      | NR            | 565    | 793                      | NR            | 695    | 156                      | NR            | 825    | 3                        | NR            | 955    | 0                        | NR            |
| 440    | 412                      | NR            | 570    | 831                      | NR            | 700    | 134                      | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 610                      | NR            | 575    | 872                      | NR            | 705    | 114                      | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 597                      | NR            | 580    | 911                      | NR            | 710    | 97                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 412                      | NR            | 585    | 944                      | NR            | 715    | 83                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 330                      | NR            | 590    | 974                      | NR            | 720    | 70                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 274                      | NR            | 595    | 992                      | NR            | 725    | 60                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 211                      | NR            | 600    | 999                      | NR            | 730    | 51                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 200                      | NR            | 605    | 992                      | NR            | 735    | 43                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 220                      | NR            | 610    | 975                      | NR            | 740    | 36                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 255                      | NR            | 615    | 944                      | NR            | 745    | 31                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-184-10

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.88**

| $\lambda$<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               | 311                                  | NR                             | 620               | 903                                  | NR                             | 750               | 26                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 376                                  | NR                             | 625               | 851                                  | NR                             | 755               | 22                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 438                                  | NR                             | 630               | 797                                  | NR                             | 760               | 19                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 491                                  | NR                             | 635               | 735                                  | NR                             | 765               | 16                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 533                                  | NR                             | 640               | 672                                  | NR                             | 770               | 14                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 566                                  | NR                             | 645               | 607                                  | NR                             | 775               | 12                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 592                                  | NR                             | 650               | 546                                  | NR                             | 780               | 10                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 608                                  | NR                             | 655               | 487                                  | NR                             | 785               | 9                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 625                                  | NR                             | 660               | 429                                  | NR                             | 790               | 7                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 642                                  | NR                             | 665               | 378                                  | NR                             | 795               | 6                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 12                                   | NR                             | 540               | 657                                  | NR                             | 670               | 329                                  | NR                             | 800               | 5                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 22                                   | NR                             | 545               | 677                                  | NR                             | 675               | 286                                  | NR                             | 805               | 5                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 43                                   | NR                             | 550               | 701                                  | NR                             | 680               | 248                                  | NR                             | 810               | 4                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 80                                   | NR                             | 555               | 728                                  | NR                             | 685               | 213                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 140                                  | NR                             | 560               | 757                                  | NR                             | 690               | 184                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 243                                  | NR                             | 565               | 793                                  | NR                             | 695               | 156                                  | NR                             | 825               | 3                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 412                                  | NR                             | 570               | 831                                  | NR                             | 700               | 134                                  | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 610                                  | NR                             | 575               | 872                                  | NR                             | 705               | 114                                  | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 597                                  | NR                             | 580               | 911                                  | NR                             | 710               | 97                                   | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 412                                  | NR                             | 585               | 944                                  | NR                             | 715               | 83                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 330                                  | NR                             | 590               | 974                                  | NR                             | 720               | 70                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 274                                  | NR                             | 595               | 992                                  | NR                             | 725               | 60                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 211                                  | NR                             | 600               | 999                                  | NR                             | 730               | 51                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 200                                  | NR                             | 605               | 992                                  | NR                             | 735               | 43                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 220                                  | NR                             | 610               | 975                                  | NR                             | 740               | 36                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 255                                  | NR                             | 615               | 944                                  | NR                             | 745               | 31                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-184-10

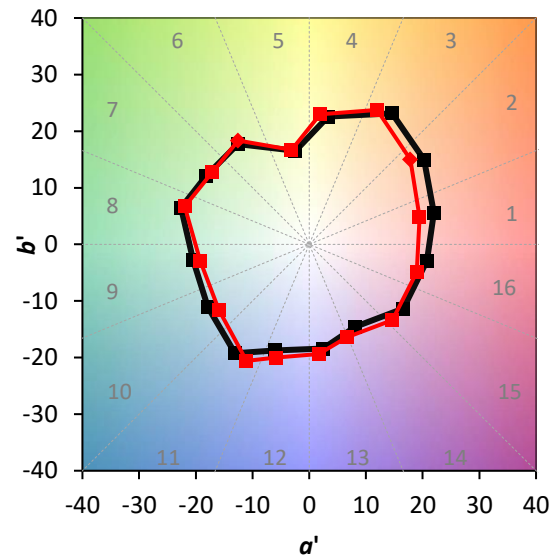
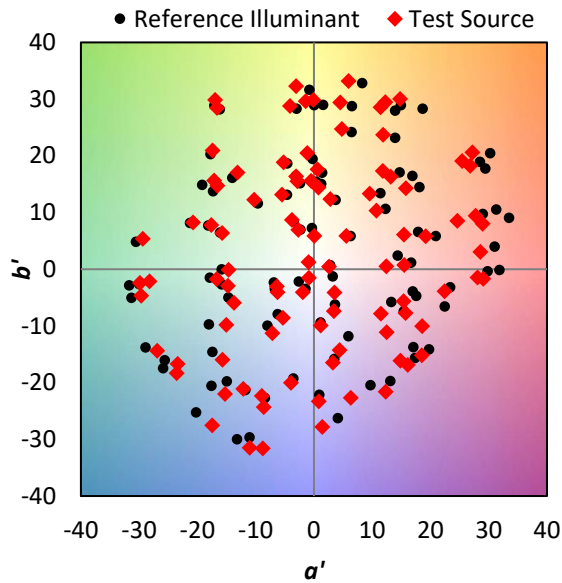
TM-30-18

### Summary

$R_f = 86.6$   
 $R_g = 95.9$   
 $\text{CIE } R_a = 83.5$   
 $R_9 = 6.3$

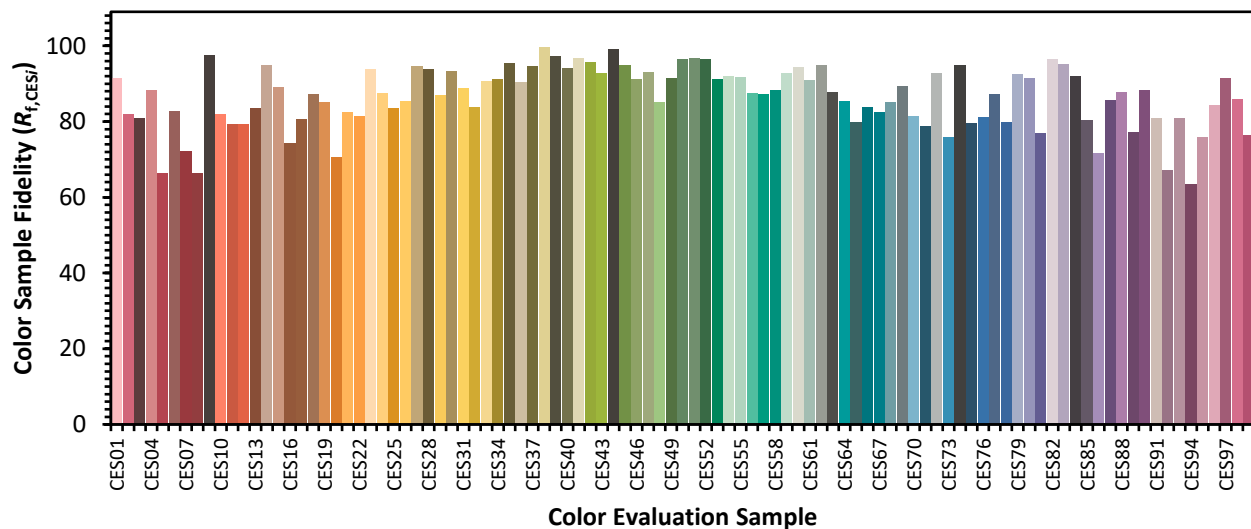


### Color Vector Graphics

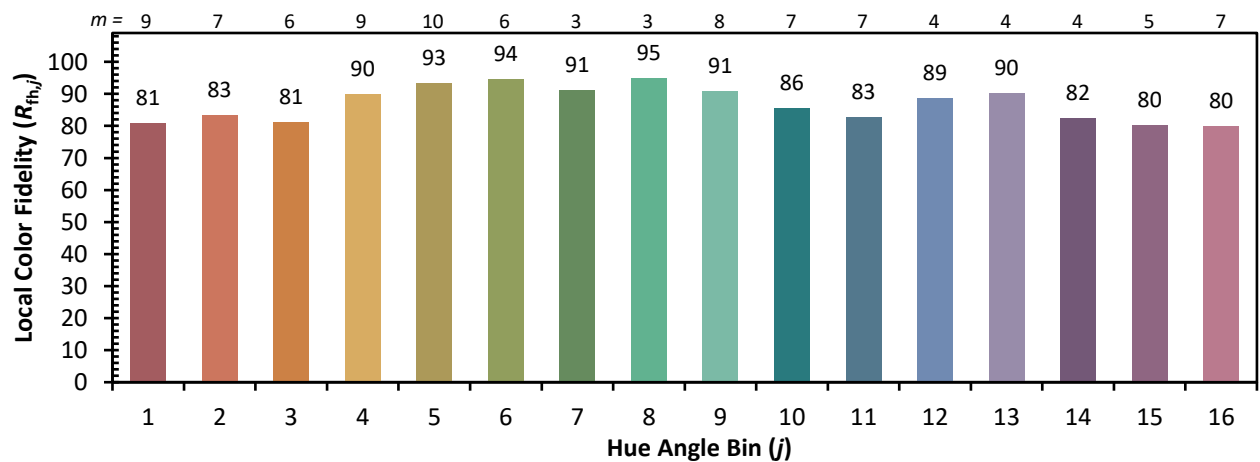
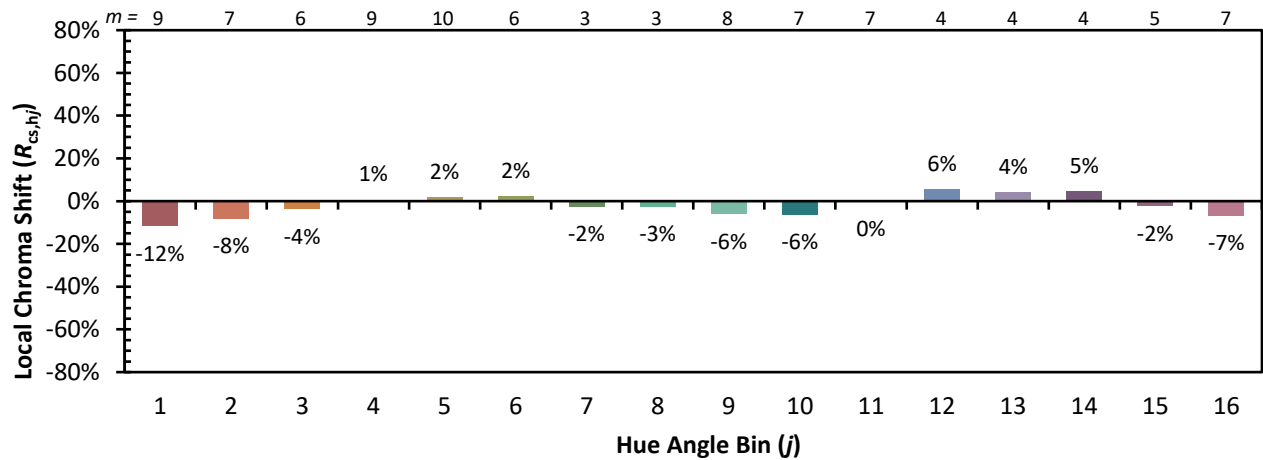


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

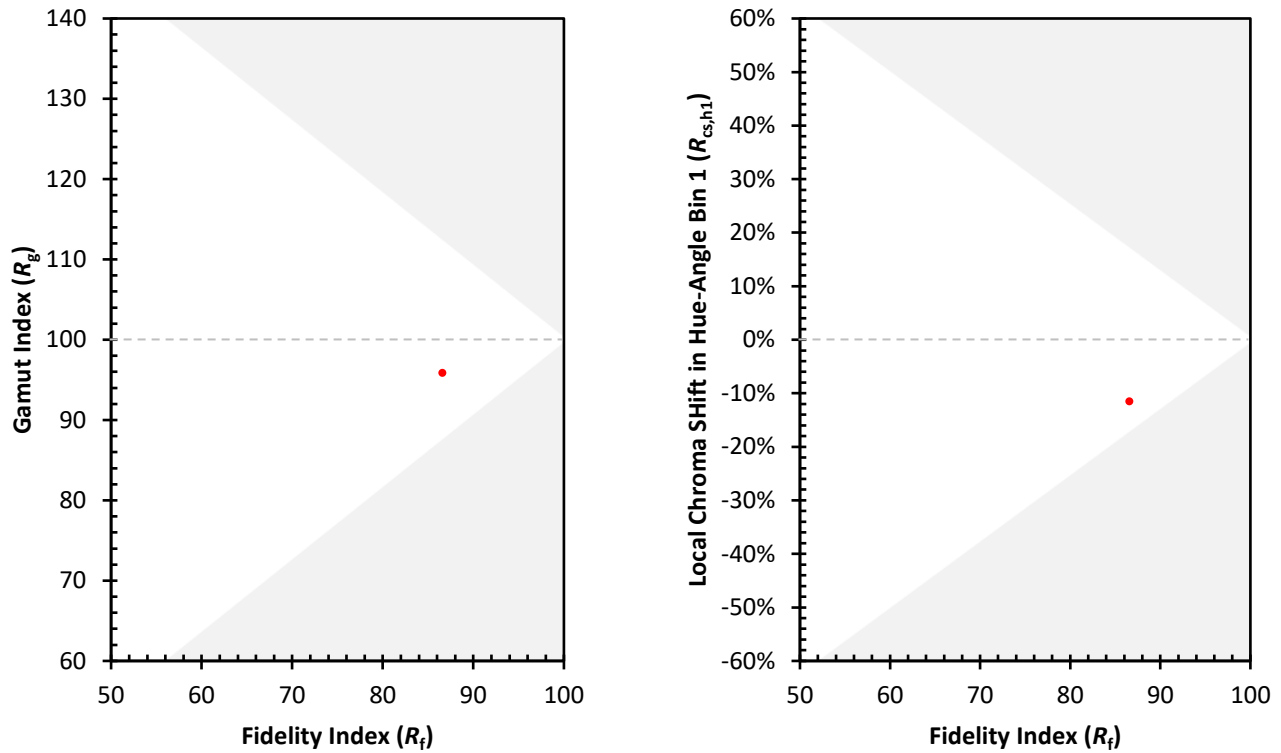
|            |             |            |            |
|------------|-------------|------------|------------|
| CES01 = 86 | CES26 = 85  | CES51 = 97 | CES76 = 81 |
| CES02 = 62 | CES27 = 95  | CES52 = 96 | CES77 = 87 |
| CES03 = 31 | CES28 = 94  | CES53 = 91 | CES78 = 80 |
| CES04 = 70 | CES29 = 87  | CES54 = 92 | CES79 = 93 |
| CES05 = 49 | CES30 = 93  | CES55 = 92 | CES80 = 91 |
| CES06 = 51 | CES31 = 89  | CES56 = 88 | CES81 = 77 |
| CES07 = 41 | CES32 = 84  | CES57 = 87 | CES82 = 96 |
| CES08 = 40 | CES33 = 91  | CES58 = 88 | CES83 = 95 |
| CES09 = 29 | CES34 = 91  | CES59 = 93 | CES84 = 92 |
| CES10 = 75 | CES35 = 95  | CES60 = 94 | CES85 = 80 |
| CES11 = 58 | CES36 = 90  | CES61 = 91 | CES86 = 72 |
| CES12 = 64 | CES37 = 95  | CES62 = 95 | CES87 = 86 |
| CES13 = 43 | CES38 = 100 | CES63 = 88 | CES88 = 88 |
| CES14 = 74 | CES39 = 97  | CES64 = 85 | CES89 = 77 |
| CES15 = 71 | CES40 = 94  | CES65 = 80 | CES90 = 88 |
| CES16 = 47 | CES41 = 97  | CES66 = 84 | CES91 = 81 |
| CES17 = 49 | CES42 = 96  | CES67 = 82 | CES92 = 67 |
| CES18 = 56 | CES43 = 93  | CES68 = 85 | CES93 = 81 |
| CES19 = 72 | CES44 = 99  | CES69 = 89 | CES94 = 63 |
| CES20 = 66 | CES45 = 95  | CES70 = 81 | CES95 = 76 |
| CES21 = 86 | CES46 = 91  | CES71 = 79 | CES96 = 84 |
| CES22 = 78 | CES47 = 93  | CES72 = 93 | CES97 = 92 |
| CES23 = 91 | CES48 = 85  | CES73 = 76 | CES98 = 86 |
| CES24 = 90 | CES49 = 92  | CES74 = 95 | CES99 = 77 |
| CES25 = 72 | CES50 = 96  | CES75 = 80 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)