

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: P1066354

Luminaire Tested: **NVN-SA6B-760-U-T4BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1066354  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: NVN-SA6B-760-U-T4BC  
Description: Navion AREA AND ROADWAY LUMINAIRE 800mA 6xLight Square PACKAGE  
70CRI 5700K FIXTURE w/ TYPE IV ANGLED BACKLIGHT CONTROL  
Light Source: (84) 5700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26667.7 lumens  
Efficiency: N/A  
Efficacy: 126.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G5

Input Watts (W): 211  
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

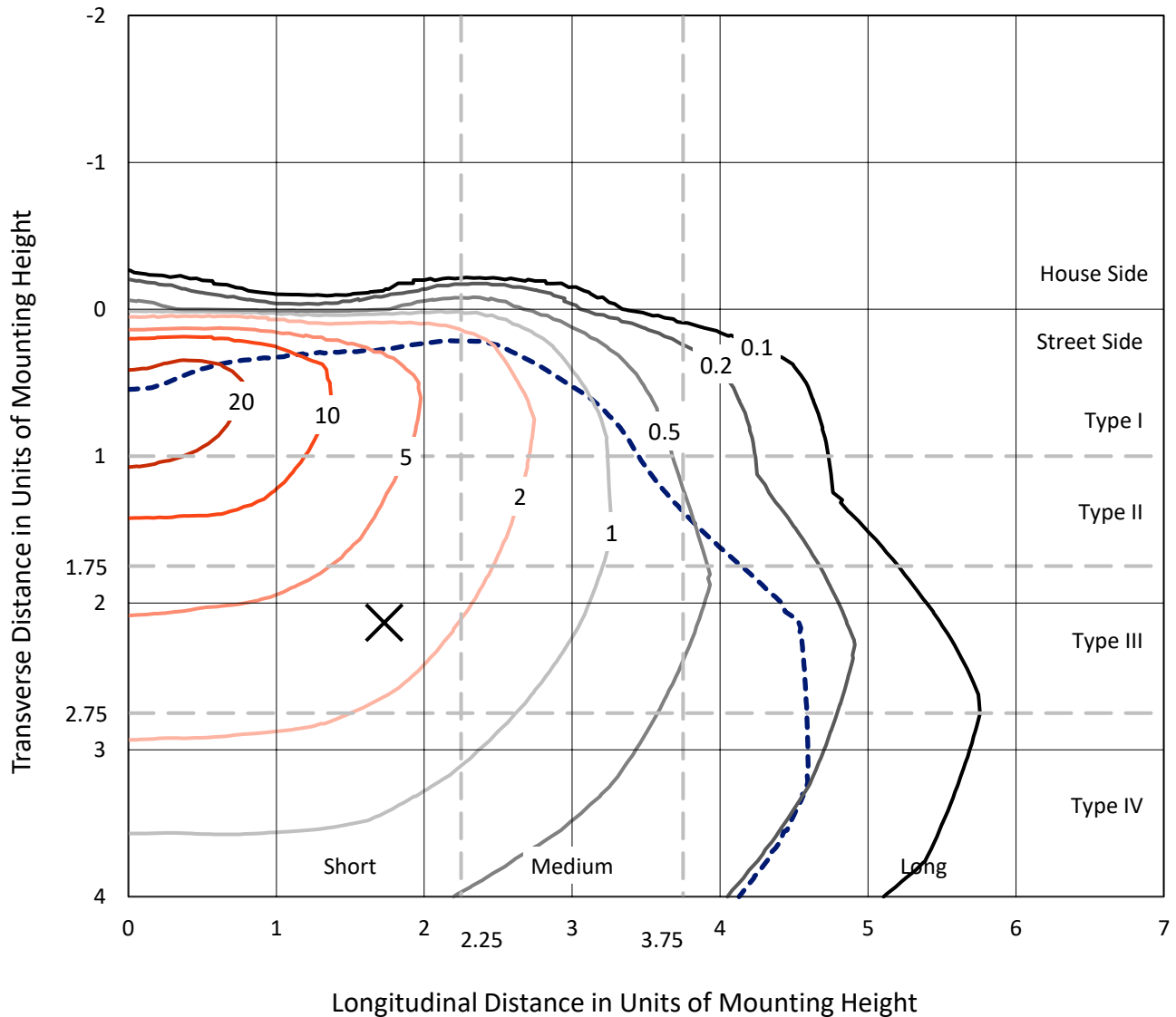


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
- - - 1/2 Max cd

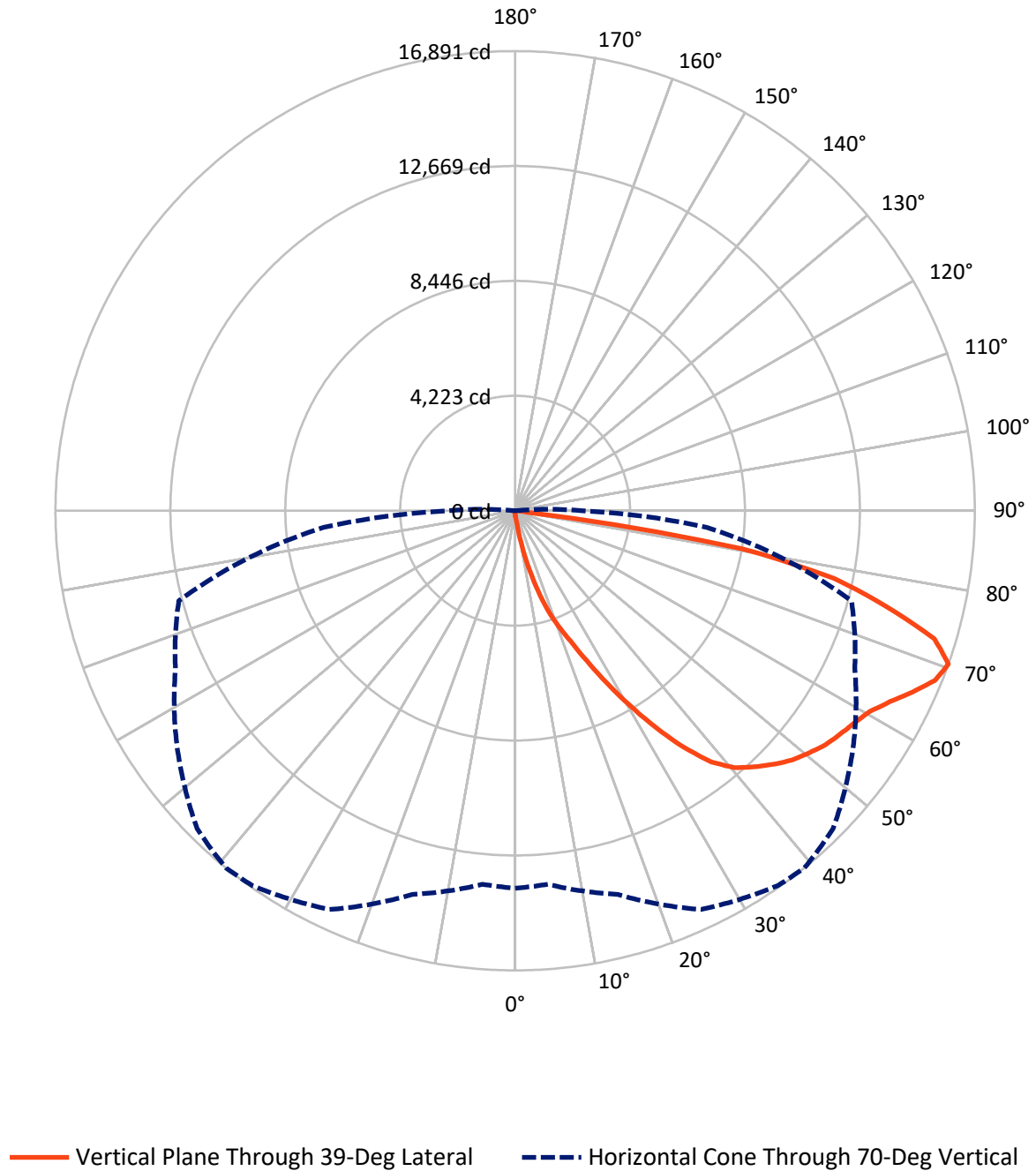


Based on 15 foot mounting height. Maximum calculated value = 29.1 fc  
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 82.1     | 0.0    | 82.1    |
|                    | % Fixture | 0.3      | 0.0    | 0.3     |
| <b>Street Side</b> | Lumens    | 26585.6  | 0.0    | 26585.6 |
|                    | % Fixture | 99.7     | 0.0    | 99.7    |
| <b>Total</b>       | Lumens    | 26667.7  | 0.0    | 26667.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 28.0    | 0.1       |
| 10°-20°   | 327.9   | 1.2       |
| 20°-30°   | 1112.5  | 4.2       |
| 30°-40°   | 2614.7  | 9.8       |
| 40°-50°   | 4245.7  | 15.9      |
| 50°-60°   | 5380.2  | 20.2      |
| 60°-70°   | 6834.2  | 25.6      |
| 70°-80°   | 5552.8  | 20.8      |
| 80°-90°   | 571.7   | 2.1       |
| 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°    | 26667.7 | 100.0     |
| 0°-180°   | 26667.7 | 100.0     |



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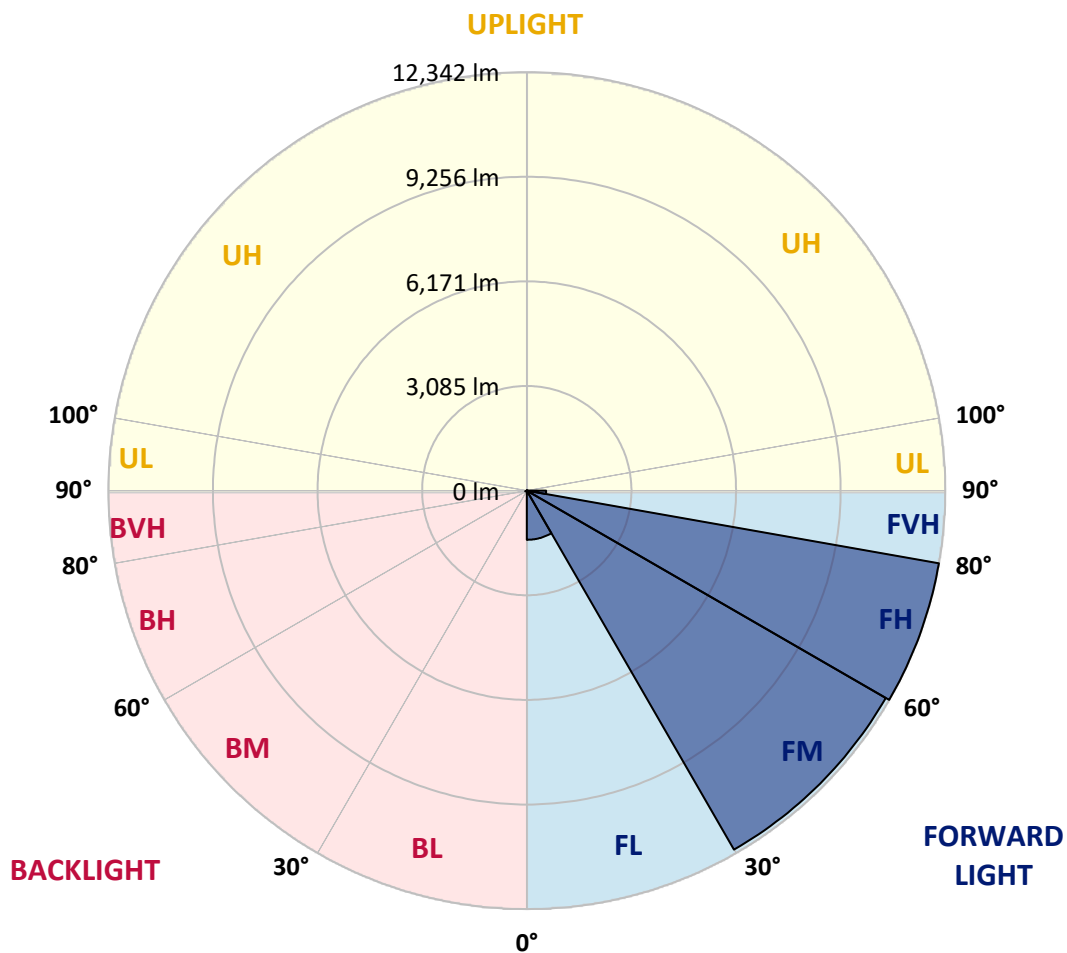
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|---------|-----------|-------------------------|------|--------|
|      |             |         |           | B                       | U    | G      |
| FL   | (0°-30°)    | 1450.7  | 5.4       |                         |      |        |
| FM   | (30°-60°)   | 12224.8 | 45.8      |                         |      |        |
| FH   | (60°-80°)   | 12341.9 | 46.3      |                         |      | G5     |
| FVH  | (80°-90°)   | 568.3   | 2.1       |                         |      | G4/750 |
| BL   | (0°-30°)    | 17.8    | 0.1       | B0/110                  |      |        |
| BM   | (30°-60°)   | 15.8    | 0.1       | B0/220                  |      |        |
| BH   | (60°-80°)   | 45.1    | 0.2       | B0/110                  |      | G0/110 |
| BVH  | (80°-90°)   | 3.4     | 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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 39°     | 45°     | 55°     | 65°     | 75°     | 85°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 144.8   | 144.8   | 144.8   | 144.8   | 144.8   | 144.8   | 144.8   | 144.8   | 144.8   | 144.8   | 144.8  |
| 2.5°  | 188.2   | 188.2   | 188.2   | 181.0   | 181.0   | 173.8   | 173.8   | 166.5   | 159.3   | 159.3   | 152.0  |
| 5°    | 354.8   | 362.0   | 340.3   | 296.8   | 267.9   | 253.4   | 238.9   | 202.7   | 181.0   | 166.5   | 152.0  |
| 7.5°  | 970.2   | 941.2   | 897.8   | 753.0   | 579.2   | 492.3   | 419.9   | 296.8   | 217.2   | 173.8   | 152.0  |
| 10°   | 2041.7  | 1962.1  | 1839.0  | 1643.5  | 1303.2  | 1165.7  | 905.0   | 543.0   | 304.1   | 195.5   | 152.0  |
| 12.5° | 2997.4  | 3011.9  | 2859.9  | 2671.6  | 2258.9  | 2027.3  | 1672.5  | 1020.9  | 477.9   | 231.7   | 152.0  |
| 15°   | 3721.5  | 3707.0  | 3649.1  | 3497.0  | 3127.8  | 2903.3  | 2584.8  | 1715.9  | 803.7   | 289.6   | 159.3  |
| 17.5° | 4293.4  | 4235.5  | 4213.8  | 4148.6  | 3909.7  | 3786.6  | 3439.1  | 2526.8  | 1274.3  | 391.0   | 166.5  |
| 20°   | 4865.4  | 4850.9  | 4829.2  | 4756.8  | 4597.5  | 4510.7  | 4242.8  | 3345.0  | 1896.9  | 557.5   | 181.0  |
| 22.5° | 5698.0  | 5618.4  | 5632.9  | 5473.6  | 5343.3  | 5191.2  | 4974.0  | 4213.8  | 2613.7  | 796.4   | 202.7  |
| 25°   | 6675.5  | 6668.2  | 6552.4  | 6480.0  | 6262.8  | 6096.3  | 5806.7  | 5053.7  | 3410.1  | 1151.2  | 224.4  |
| 27.5° | 7826.7  | 7747.0  | 7696.3  | 7573.3  | 7348.8  | 7160.6  | 6762.4  | 5886.3  | 4271.7  | 1549.4  | 253.4  |
| 30°   | 9028.5  | 9028.5  | 8934.4  | 8746.2  | 8529.0  | 8297.3  | 7891.8  | 6762.4  | 5126.1  | 2056.2  | 289.6  |
| 32.5° | 10433.1 | 10462.1 | 10230.4 | 9948.1  | 9665.7  | 9506.4  | 8977.9  | 7754.3  | 5944.2  | 2635.4  | 333.0  |
| 35°   | 11794.3 | 11758.1 | 11374.4 | 11063.0 | 10853.1 | 10679.3 | 10230.4 | 8840.3  | 6871.0  | 3308.8  | 391.0  |
| 37.5° | 13097.5 | 13003.4 | 12366.3 | 11924.6 | 11830.5 | 11714.7 | 11265.8 | 9926.3  | 7790.5  | 4054.5  | 463.4  |
| 40°   | 14031.5 | 13886.7 | 13227.9 | 12619.7 | 12482.1 | 12417.0 | 12069.4 | 10911.0 | 8760.7  | 4887.1  | 557.5  |
| 42.5° | 14437.0 | 14270.5 | 13814.3 | 13322.0 | 13017.9 | 12865.9 | 12561.8 | 11714.7 | 9730.8  | 5813.9  | 695.1  |
| 45°   | 14516.6 | 14386.3 | 14060.5 | 13944.7 | 13532.0 | 13300.3 | 12887.6 | 12286.6 | 10635.9 | 6733.4  | 883.3  |
| 47.5° | 14227.0 | 14169.1 | 13973.6 | 14219.8 | 14009.8 | 13691.2 | 13191.7 | 12713.8 | 11439.5 | 7848.4  | 1144.0 |
| 50°   | 13517.5 | 13474.0 | 13568.2 | 14212.5 | 14357.3 | 13995.3 | 13524.7 | 13046.9 | 12134.6 | 8999.6  | 1513.2 |
| 52.5° | 12561.8 | 12554.5 | 12996.2 | 14024.3 | 14509.4 | 14284.9 | 13850.5 | 13379.9 | 12684.9 | 10114.6 | 2034.5 |
| 55°   | 11519.2 | 11642.3 | 12417.0 | 13850.5 | 14596.3 | 14494.9 | 14169.1 | 13676.8 | 13177.2 | 11149.9 | 2874.4 |
| 57.5° | 11432.3 | 11381.6 | 12127.4 | 13778.1 | 14647.0 | 14704.9 | 14487.7 | 13988.1 | 13597.1 | 11997.0 | 3996.6 |
| 60°   | 12301.1 | 12185.3 | 12467.6 | 13930.2 | 14871.4 | 14972.8 | 14806.2 | 14227.0 | 14017.1 | 12663.1 | 5473.6 |
| 62.5° | 13307.5 | 13198.9 | 13343.7 | 14516.6 | 15313.1 | 15457.9 | 15247.9 | 14473.2 | 14357.3 | 13126.5 | 7059.2 |
| 65°   | 14111.2 | 14024.3 | 14299.4 | 15392.7 | 15928.5 | 16051.6 | 15906.8 | 14929.3 | 14509.4 | 13503.0 | 8348.0 |
| 67.5° | 14241.5 | 14132.9 | 14704.9 | 15979.2 | 16551.1 | 16638.0 | 16522.2 | 15371.0 | 14458.7 | 13532.0 | 8644.8 |
| 70°   | 13872.2 | 13778.1 | 14596.3 | 16167.4 | 16819.0 | 16891.4 | 16522.2 | 15161.0 | 13770.9 | 12793.5 | 7066.4 |
| 72.5° | 12735.5 | 12807.9 | 13865.0 | 15711.3 | 16449.8 | 16116.7 | 15334.8 | 14103.9 | 12880.3 | 10845.8 | 4959.5 |
| 75°   | 10968.9 | 11048.6 | 12453.2 | 14458.7 | 14516.6 | 14111.2 | 13691.2 | 12974.5 | 11526.4 | 7146.1  | 3439.1 |
| 77.5° | 7797.7  | 7515.3  | 9615.0  | 11939.1 | 11729.1 | 11989.8 | 12026.0 | 10795.2 | 9651.2  | 3721.5  | 2302.4 |
| 80°   | 767.5   | 651.6   | 1209.1  | 3424.6  | 7566.0  | 8456.6  | 8804.1  | 8319.0  | 7117.1  | 1665.2  | 1209.1 |
| 82.5° | 166.5   | 166.5   | 181.0   | 195.5   | 304.1   | 456.1   | 2092.4  | 5126.1  | 4597.5  | 847.1   | 391.0  |
| 85°   | 94.1    | 94.1    | 115.8   | 137.6   | 181.0   | 202.7   | 238.9   | 318.6   | 1238.1  | 304.1   | 72.4   |
| 87.5° | 72.4    | 79.6    | 94.1    | 115.8   | 152.0   | 166.5   | 202.7   | 253.4   | 311.3   | 282.4   | 21.7   |
| 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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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 144.8  | 144.8 | 144.8 | 144.8 | 144.8 | 144.8 | 144.8 | 144.8 | 144.8 | 144.8 | 144.8 |
| 2.5°  | 152.0  | 144.8 | 137.6 | 130.3 | 123.1 | 123.1 | 115.8 | 115.8 | 115.8 | 115.8 | 115.8 |
| 5°    | 144.8  | 137.6 | 130.3 | 115.8 | 108.6 | 101.4 | 94.1  | 94.1  | 94.1  | 94.1  | 94.1  |
| 7.5°  | 144.8  | 137.6 | 123.1 | 108.6 | 94.1  | 86.9  | 79.6  | 72.4  | 72.4  | 79.6  | 79.6  |
| 10°   | 144.8  | 130.3 | 108.6 | 94.1  | 79.6  | 72.4  | 65.2  | 57.9  | 57.9  | 57.9  | 57.9  |
| 12.5° | 137.6  | 123.1 | 101.4 | 86.9  | 72.4  | 57.9  | 43.4  | 36.2  | 36.2  | 36.2  | 36.2  |
| 15°   | 130.3  | 115.8 | 94.1  | 72.4  | 50.7  | 36.2  | 29.0  | 21.7  | 21.7  | 21.7  | 21.7  |
| 17.5° | 130.3  | 108.6 | 86.9  | 65.2  | 36.2  | 21.7  | 14.5  | 7.2   | 7.2   | 7.2   | 14.5  |
| 20°   | 130.3  | 108.6 | 79.6  | 50.7  | 21.7  | 14.5  | 14.5  | 7.2   | 0.0   | 7.2   | 7.2   |
| 22.5° | 130.3  | 101.4 | 65.2  | 36.2  | 21.7  | 14.5  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 25°   | 137.6  | 101.4 | 57.9  | 29.0  | 14.5  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 27.5° | 137.6  | 94.1  | 50.7  | 21.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 30°   | 144.8  | 94.1  | 43.4  | 14.5  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 32.5° | 144.8  | 86.9  | 29.0  | 14.5  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 35°   | 144.8  | 79.6  | 21.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 37.5° | 144.8  | 72.4  | 21.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 152.0  | 65.2  | 14.5  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 159.3  | 57.9  | 14.5  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 166.5  | 50.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 188.2  | 50.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 217.2  | 50.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 260.6  | 50.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 340.3  | 43.4  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 492.3  | 43.4  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 825.4  | 43.4  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 1448.0 | 43.4  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 2447.2 | 43.4  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 3192.9 | 50.7  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 2425.5 | 43.4  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 1158.4 | 29.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 514.1  | 29.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 224.4  | 21.7  | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 86.9   | 14.5  | 7.2   | 7.2   | 7.2   | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 36.2   | 14.5  | 7.2   | 7.2   | 7.2   | 7.2   | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 21.7   | 14.5  | 14.5  | 14.5  | 7.2   | 7.2   | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 14.5   | 14.5  | 14.5  | 14.5  | 14.5  | 7.2   | 7.2   | 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

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| 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           |

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**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 5700K 4-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

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

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.84

| λ (nm) | Power W <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    | 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

| $\lambda$<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               | 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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TM-30-18

### Summary

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



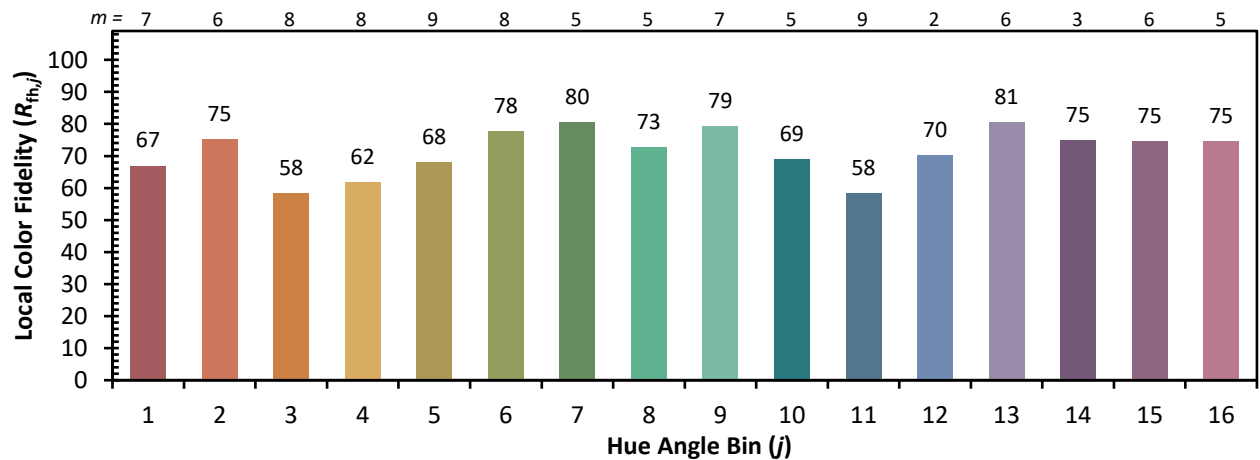
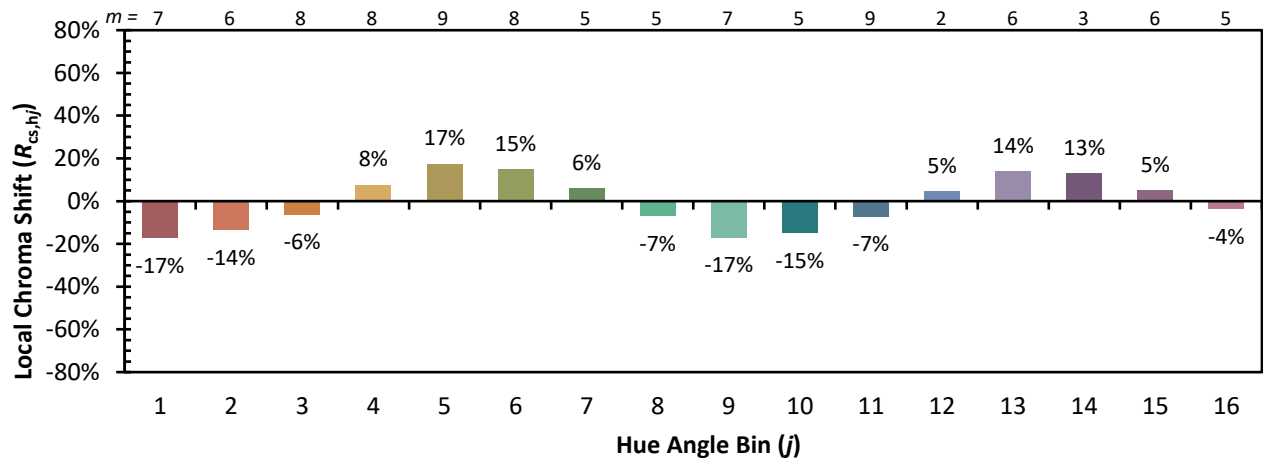
### Color Vector Graphics



**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)