

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: P1066329

Luminaire Tested: **NVN-SA6A-750-U-T4BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1066329  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: NVN-SA6A-750-U-T4BC  
Description: Navion AREA AND ROADWAY LUMINAIRE 615mA 6xLight Square PACKAGE  
70CRI 5000K FIXTURE w/ TYPE IV ANGLED BACKLIGHT CONTROL  
Light Source: (84) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21335.8 lumens  
Efficiency: N/A  
Efficacy: 132.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G4

Input Watts (W): 161.6  
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

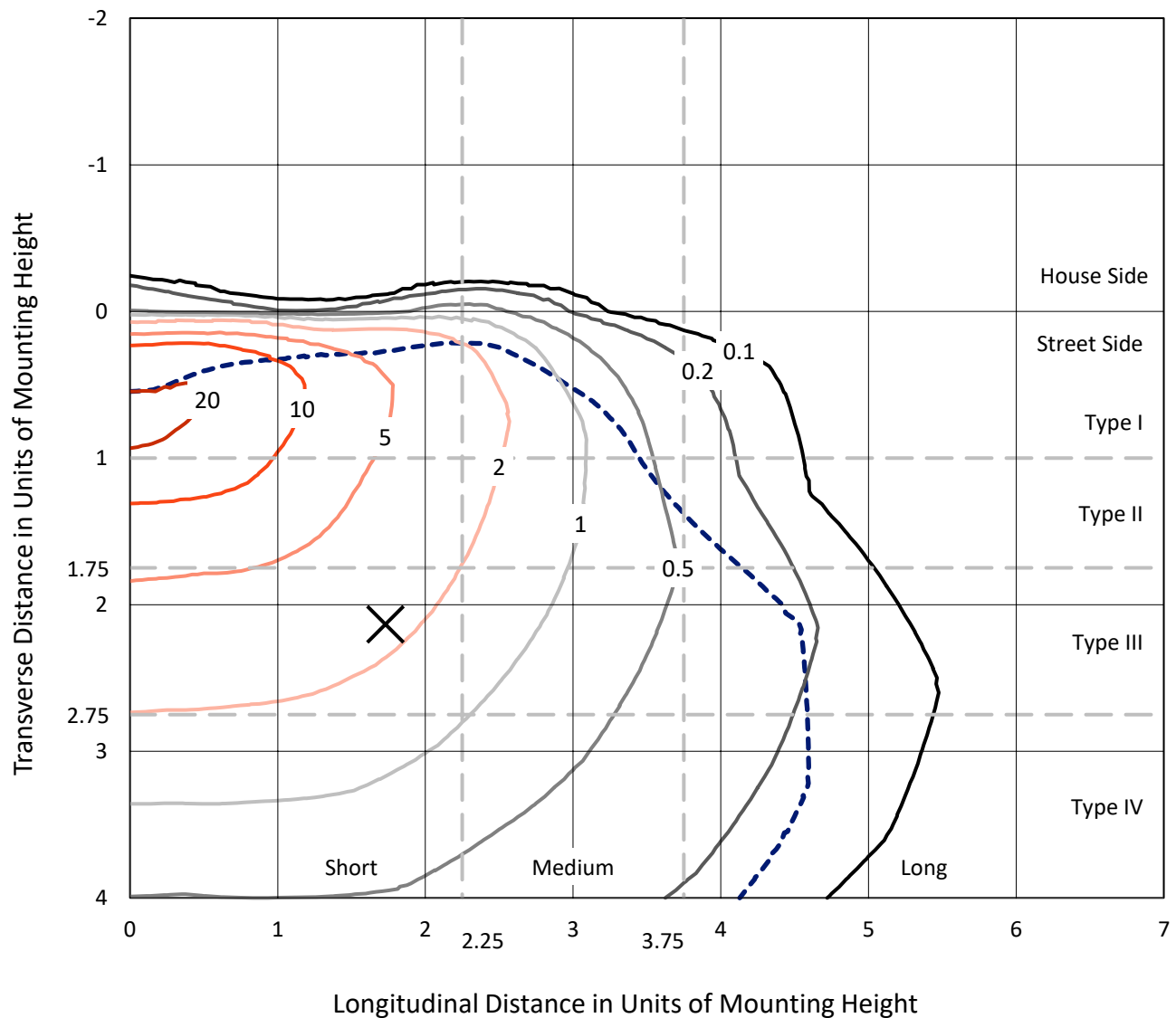


REPORT NUMBER: P1066329

CATALOG NUMBER: NVN-SA6A-750-U-T4BC

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

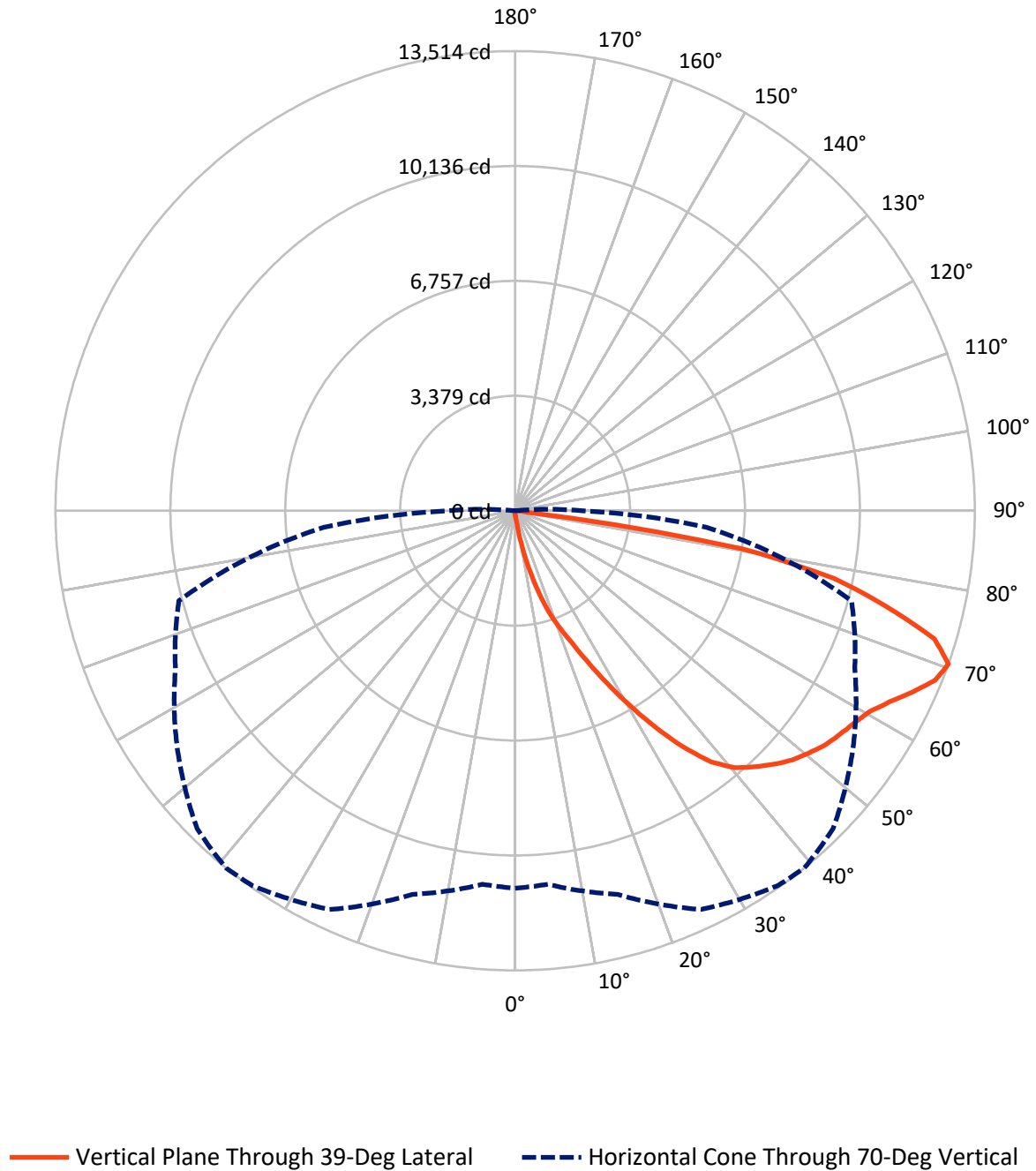


Based on 15 foot mounting height. Maximum calculated value = 23.2 fc  
 Type IV - Short - N/A

REPORT NUMBER: P1066329

CATALOG NUMBER: NVN-SA6A-750-U-T4BC

## Luminous Intensity Polar Plot



REPORT NUMBER: P1066329

CATALOG NUMBER: NVN-SA6A-750-U-T4BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 65.7     | 0.0    | 65.7    |
|                    | % Fixture | 0.3      | 0.0    | 0.3     |
| <b>Street Side</b> | Lumens    | 21270.0  | 0.0    | 21270.0 |
|                    | % Fixture | 99.7     | 0.0    | 99.7    |
| <b>Total</b>       | Lumens    | 21335.8  | 0.0    | 21335.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 22.4    | 0.1       |
| 10°-20°   | 262.3   | 1.2       |
| 20°-30°   | 890.1   | 4.2       |
| 30°-40°   | 2091.9  | 9.8       |
| 40°-50°   | 3396.8  | 15.9      |
| 50°-60°   | 4304.4  | 20.2      |
| 60°-70°   | 5467.8  | 25.6      |
| 70°-80°   | 4442.6  | 20.8      |
| 80°-90°   | 457.4   | 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°    | 21335.8 | 100.0     |
| 0°-180°   | 21335.8 | 100.0     |



REPORT NUMBER: P1066329

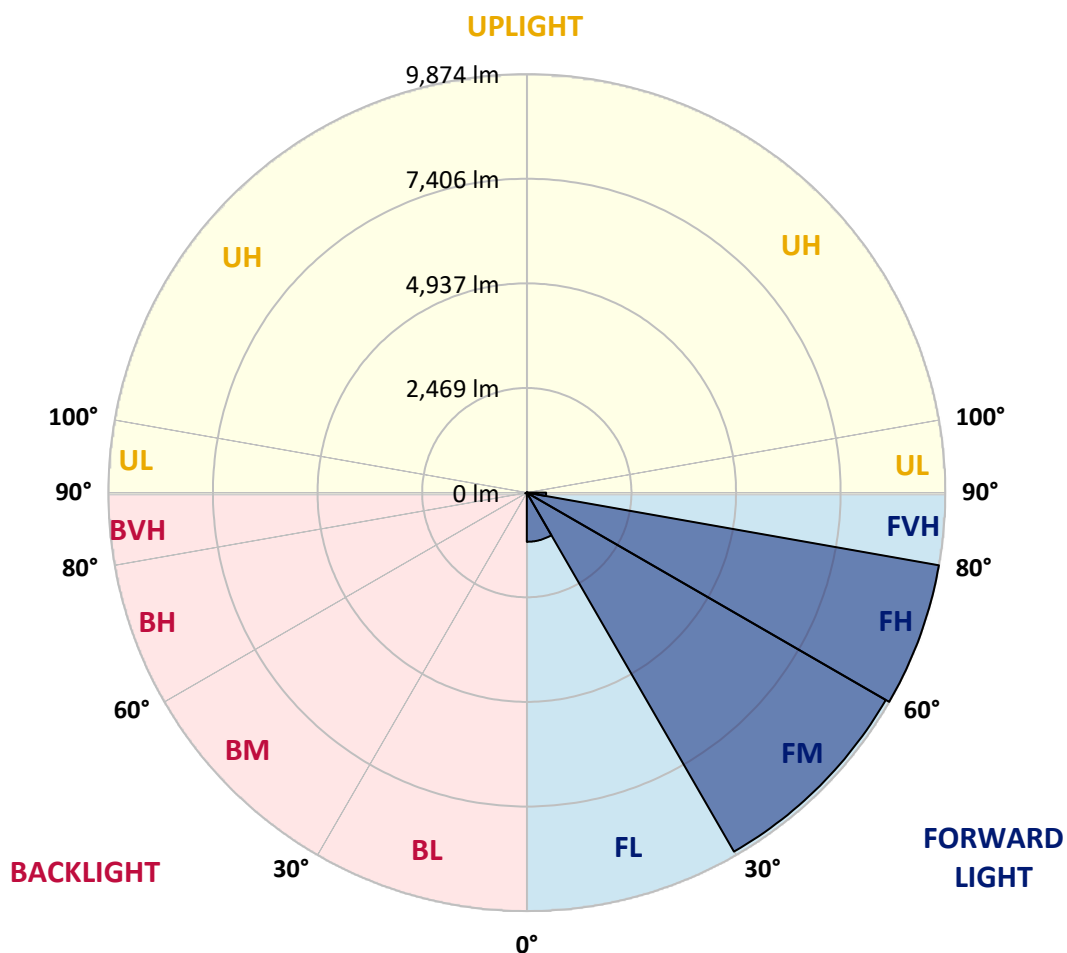
CATALOG NUMBER: NVN-SA6A-750-U-T4BC

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1160.6 | 5.4       |                         |      |          |
| FM   | (30°-60°)   | 9780.5 | 45.8      |                         |      |          |
| FH   | (60°-80°)   | 9874.2 | 46.3      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 454.7  | 2.1       |                         |      | G3/500   |
| BL   | (0°-30°)    | 14.2   | 0.1       | B0/110                  |      |          |
| BM   | (30°-60°)   | 12.6   | 0.1       | B0/220                  |      |          |
| BH   | (60°-80°)   | 36.1   | 0.2       | B0/110                  |      | G0/110   |
| BVH  | (80°-90°)   | 2.7    | 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 IV Short





REPORT NUMBER: P1066329

CATALOG NUMBER: NVN-SA6A-750-U-T4BC

**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 39°     | 45°     | 55°     | 65°     | 75°     | 85°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 115.9   | 115.9   | 115.9   | 115.9   | 115.9   | 115.9   | 115.9   | 115.9   | 115.9   | 115.9   | 115.9  |
| 2.5°  | 150.6   | 150.6   | 150.6   | 144.8   | 144.8   | 139.0   | 139.0   | 133.2   | 127.4   | 127.4   | 121.6  |
| 5°    | 283.8   | 289.6   | 272.3   | 237.5   | 214.3   | 202.7   | 191.2   | 162.2   | 144.8   | 133.2   | 121.6  |
| 7.5°  | 776.2   | 753.0   | 718.3   | 602.4   | 463.4   | 393.9   | 336.0   | 237.5   | 173.8   | 139.0   | 121.6  |
| 10°   | 1633.5  | 1569.8  | 1471.3  | 1314.9  | 1042.7  | 932.6   | 724.1   | 434.4   | 243.3   | 156.4   | 121.6  |
| 12.5° | 2398.1  | 2409.7  | 2288.1  | 2137.5  | 1807.3  | 1621.9  | 1338.1  | 816.8   | 382.3   | 185.4   | 121.6  |
| 15°   | 2977.4  | 2965.8  | 2919.5  | 2797.8  | 2502.4  | 2322.8  | 2068.0  | 1372.8  | 643.0   | 231.7   | 127.4  |
| 17.5° | 3435.0  | 3388.7  | 3371.3  | 3319.2  | 3128.0  | 3029.5  | 2751.5  | 2021.6  | 1019.5  | 312.8   | 133.2  |
| 20°   | 3892.6  | 3881.0  | 3863.7  | 3805.7  | 3678.3  | 3608.8  | 3394.5  | 2676.2  | 1517.7  | 446.0   | 144.8  |
| 22.5° | 4558.8  | 4495.0  | 4506.6  | 4379.2  | 4274.9  | 4153.3  | 3979.5  | 3371.3  | 2091.1  | 637.2   | 162.2  |
| 25°   | 5340.8  | 5335.0  | 5242.3  | 5184.4  | 5010.6  | 4877.4  | 4645.7  | 4043.2  | 2728.3  | 921.0   | 179.6  |
| 27.5° | 6261.8  | 6198.1  | 6157.5  | 6059.0  | 5879.5  | 5728.9  | 5410.3  | 4709.4  | 3417.6  | 1239.6  | 202.7  |
| 30°   | 7223.4  | 7223.4  | 7148.1  | 6997.4  | 6823.7  | 6638.3  | 6313.9  | 5410.3  | 4101.2  | 1645.1  | 231.7  |
| 32.5° | 8347.1  | 8370.3  | 8184.9  | 7959.0  | 7733.1  | 7605.7  | 7182.8  | 6203.9  | 4755.7  | 2108.5  | 266.5  |
| 35°   | 9436.1  | 9407.2  | 9100.2  | 8851.1  | 8683.1  | 8544.1  | 8184.9  | 7072.7  | 5497.2  | 2647.2  | 312.8  |
| 37.5° | 10478.8 | 10403.5 | 9893.7  | 9540.4  | 9465.1  | 9372.4  | 9013.3  | 7941.6  | 6232.8  | 3243.8  | 370.7  |
| 40°   | 11226.0 | 11110.2 | 10583.1 | 10096.5 | 9986.4  | 9934.3  | 9656.2  | 8729.4  | 7009.0  | 3910.0  | 446.0  |
| 42.5° | 11550.4 | 11417.2 | 11052.3 | 10658.4 | 10415.1 | 10293.4 | 10050.1 | 9372.4  | 7785.2  | 4651.4  | 556.1  |
| 45°   | 11614.1 | 11509.9 | 11249.2 | 11156.5 | 10826.3 | 10641.0 | 10310.8 | 9830.0  | 8509.3  | 5387.1  | 706.7  |
| 47.5° | 11382.4 | 11336.1 | 11179.7 | 11376.6 | 11208.7 | 10953.8 | 10554.1 | 10171.8 | 9152.3  | 6279.2  | 915.2  |
| 50°   | 10814.8 | 10780.0 | 10855.3 | 11370.8 | 11486.7 | 11197.1 | 10820.6 | 10438.2 | 9708.4  | 7200.2  | 1210.7 |
| 52.5° | 10050.1 | 10044.3 | 10397.7 | 11220.2 | 11608.3 | 11428.8 | 11081.2 | 10704.7 | 10148.6 | 8092.2  | 1627.7 |
| 55°   | 9216.0  | 9314.5  | 9934.3  | 11081.2 | 11677.9 | 11596.8 | 11336.1 | 10942.2 | 10542.5 | 8920.6  | 2299.7 |
| 57.5° | 9146.5  | 9105.9  | 9702.6  | 11023.3 | 11718.4 | 11764.7 | 11591.0 | 11191.3 | 10878.5 | 9598.3  | 3197.5 |
| 60°   | 9841.6  | 9748.9  | 9974.8  | 11144.9 | 11898.0 | 11979.1 | 11845.8 | 11382.4 | 11214.4 | 10131.2 | 4379.2 |
| 62.5° | 10646.8 | 10559.9 | 10675.7 | 11614.1 | 12251.3 | 12367.2 | 12199.2 | 11579.4 | 11486.7 | 10502.0 | 5647.8 |
| 65°   | 11289.8 | 11220.2 | 11440.4 | 12315.0 | 12743.7 | 12842.2 | 12726.3 | 11944.3 | 11608.3 | 10803.2 | 6678.9 |
| 67.5° | 11394.0 | 11307.1 | 11764.7 | 12784.2 | 13241.9 | 13311.4 | 13218.7 | 12297.7 | 11567.8 | 10826.3 | 6916.3 |
| 70°   | 11098.6 | 11023.3 | 11677.9 | 12934.8 | 13456.2 | 13514.1 | 13218.7 | 12129.7 | 11017.5 | 10235.5 | 5653.6 |
| 72.5° | 10189.2 | 10247.1 | 11092.8 | 12569.9 | 13160.8 | 12894.3 | 12268.7 | 11284.0 | 10305.0 | 8677.3  | 3967.9 |
| 75°   | 8775.8  | 8839.5  | 9963.2  | 11567.8 | 11614.1 | 11289.8 | 10953.8 | 10380.3 | 9221.8  | 5717.3  | 2751.5 |
| 77.5° | 6238.6  | 6012.7  | 7692.6  | 9552.0  | 9384.0  | 9592.5  | 9621.5  | 8636.7  | 7721.5  | 2977.4  | 1842.0 |
| 80°   | 614.0   | 521.3   | 967.4   | 2739.9  | 6053.3  | 6765.7  | 7043.8  | 6655.7  | 5694.1  | 1332.3  | 967.4  |
| 82.5° | 133.2   | 133.2   | 144.8   | 156.4   | 243.3   | 364.9   | 1674.1  | 4101.2  | 3678.3  | 677.7   | 312.8  |
| 85°   | 75.3    | 75.3    | 92.7    | 110.1   | 144.8   | 162.2   | 191.2   | 254.9   | 990.5   | 243.3   | 57.9   |
| 87.5° | 57.9    | 63.7    | 75.3    | 92.7    | 121.6   | 133.2   | 162.2   | 202.7   | 249.1   | 225.9   | 17.4   |
| 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: P1066329

CATALOG NUMBER: NVN-SA6A-750-U-T4BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 115.9  | 115.9 | 115.9 | 115.9 | 115.9 | 115.9 | 115.9 | 115.9 | 115.9 | 115.9 | 115.9 |
| 2.5°  | 121.6  | 115.9 | 110.1 | 104.3 | 98.5  | 98.5  | 92.7  | 92.7  | 92.7  | 92.7  | 92.7  |
| 5°    | 115.9  | 110.1 | 104.3 | 92.7  | 86.9  | 81.1  | 75.3  | 75.3  | 75.3  | 75.3  | 75.3  |
| 7.5°  | 115.9  | 110.1 | 98.5  | 86.9  | 75.3  | 69.5  | 63.7  | 57.9  | 57.9  | 63.7  | 63.7  |
| 10°   | 115.9  | 104.3 | 86.9  | 75.3  | 63.7  | 57.9  | 52.1  | 46.3  | 46.3  | 46.3  | 46.3  |
| 12.5° | 110.1  | 98.5  | 81.1  | 69.5  | 57.9  | 46.3  | 34.8  | 29.0  | 29.0  | 29.0  | 29.0  |
| 15°   | 104.3  | 92.7  | 75.3  | 57.9  | 40.5  | 29.0  | 23.2  | 17.4  | 17.4  | 17.4  | 17.4  |
| 17.5° | 104.3  | 86.9  | 69.5  | 52.1  | 29.0  | 17.4  | 11.6  | 5.8   | 5.8   | 5.8   | 11.6  |
| 20°   | 104.3  | 86.9  | 63.7  | 40.5  | 17.4  | 11.6  | 11.6  | 5.8   | 0.0   | 5.8   | 5.8   |
| 22.5° | 104.3  | 81.1  | 52.1  | 29.0  | 17.4  | 11.6  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 25°   | 110.1  | 81.1  | 46.3  | 23.2  | 11.6  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 27.5° | 110.1  | 75.3  | 40.5  | 17.4  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 30°   | 115.9  | 75.3  | 34.8  | 11.6  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 32.5° | 115.9  | 69.5  | 23.2  | 11.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 35°   | 115.9  | 63.7  | 17.4  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 37.5° | 115.9  | 57.9  | 17.4  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 121.6  | 52.1  | 11.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 127.4  | 46.3  | 11.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 133.2  | 40.5  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 150.6  | 40.5  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 173.8  | 40.5  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 208.5  | 40.5  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 272.3  | 34.8  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 393.9  | 34.8  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 660.4  | 34.8  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 1158.5 | 34.8  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 1957.9 | 34.8  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 2554.5 | 40.5  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 1940.5 | 34.8  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 926.8  | 23.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 411.3  | 23.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 179.6  | 17.4  | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 69.5   | 11.6  | 5.8   | 5.8   | 5.8   | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 29.0   | 11.6  | 5.8   | 5.8   | 5.8   | 5.8   | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 17.4   | 11.6  | 11.6  | 11.6  | 5.8   | 5.8   | 5.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 11.6   | 11.6  | 11.6  | 11.6  | 11.6  | 5.8   | 5.8   | 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: SP1-2407-184-6

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-750-U-5WQ

Data in this report applies to families of products including GSS-SB1A-750-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-6  
 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-750-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 5000K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 4896     | CRI (Ra): | 70.2 |      |       |
| CIE u':                   | 0.2101   | R1:       | 68.1 | R9:  | -35.1 |
| CIE v':                   | 0.4901   | R2:       | 73.9 | R10: | 39.3  |
| Duv:                      | 0.0035   | R3:       | 79.4 | R11: | 71.1  |
| CIE x:                    | 0.3489   | R4:       | 72.1 | R12: | 43.8  |
| CIE y:                    | 0.3618   | R5:       | 69.2 | R13: | 68.1  |
| CIE z:                    | 0.2893   | R6:       | 65.7 | R14: | 88.4  |
| Peak Wavelength (nm):     | 443      | R7:       | 78.1 | R15: | 59.7  |
| Dominant Wavelength (nm): | 570      | R8:       | 55.3 |      |       |
| Purity:                   | 13.25435 |           |      |      |       |
| Rf:                       | 70.7     |           |      |      |       |
| Rg:                       | 96.8     |           |      |      |       |



### Test Conditions

Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-6

| 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: SP1-2407-184-6

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-6

### 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    | 118                      | NR            | 620    | 401                      | NR            | 750    | 12                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 168                      | NR            | 625    | 365                      | NR            | 755    | 10                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 230                      | NR            | 630    | 331                      | NR            | 760    | 9                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 299                      | NR            | 635    | 298                      | NR            | 765    | 8                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 362                      | NR            | 640    | 266                      | NR            | 770    | 6                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 418                      | NR            | 645    | 236                      | NR            | 775    | 6                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 461                      | NR            | 650    | 209                      | NR            | 780    | 5                        | NR            | 910    | 0                        | NR            |
| 395    | 6                        | NR            | 525    | 491                      | NR            | 655    | 184                      | NR            | 785    | 4                        | NR            | 915    | 0                        | NR            |
| 400    | 9                        | NR            | 530    | 514                      | NR            | 660    | 160                      | NR            | 790    | 4                        | NR            | 920    | 0                        | NR            |
| 405    | 14                       | NR            | 535    | 530                      | NR            | 665    | 140                      | NR            | 795    | 3                        | NR            | 925    | 0                        | NR            |
| 410    | 27                       | NR            | 540    | 539                      | NR            | 670    | 122                      | NR            | 800    | 3                        | NR            | 930    | 0                        | NR            |
| 415    | 55                       | NR            | 545    | 549                      | NR            | 675    | 106                      | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 115                      | NR            | 550    | 557                      | NR            | 680    | 92                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 226                      | NR            | 555    | 565                      | NR            | 685    | 79                       | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 395                      | NR            | 560    | 572                      | NR            | 690    | 68                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 648                      | NR            | 565    | 580                      | NR            | 695    | 59                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 937                      | NR            | 570    | 586                      | NR            | 700    | 51                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 953                      | NR            | 575    | 588                      | NR            | 705    | 44                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 591                      | NR            | 580    | 588                      | NR            | 710    | 38                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 334                      | NR            | 585    | 580                      | NR            | 715    | 32                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 221                      | NR            | 590    | 568                      | NR            | 720    | 28                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 140                      | NR            | 595    | 550                      | NR            | 725    | 24                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 93                       | NR            | 600    | 527                      | NR            | 730    | 21                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 79                       | NR            | 605    | 499                      | NR            | 735    | 18                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 469                      | NR            | 740    | 15                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 87                       | NR            | 615    | 435                      | NR            | 745    | 13                       | NR            | 875    | 0                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-184-6

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.7

| λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>Λ</sup> /nm | Lumens<br>(Φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 118                         | NR               | 620       | 401                         | NR               | 750       | 12                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 168                         | NR               | 625       | 365                         | NR               | 755       | 10                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 230                         | NR               | 630       | 331                         | NR               | 760       | 9                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 299                         | NR               | 635       | 298                         | NR               | 765       | 8                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 362                         | NR               | 640       | 266                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 418                         | NR               | 645       | 236                         | NR               | 775       | 6                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 461                         | NR               | 650       | 209                         | NR               | 780       | 5                           | NR               | 910       | 0                           | NR               |
| 395       | 6                           | NR               | 525       | 491                         | NR               | 655       | 184                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 9                           | NR               | 530       | 514                         | NR               | 660       | 160                         | NR               | 790       | 4                           | NR               | 920       | 0                           | NR               |
| 405       | 14                          | NR               | 535       | 530                         | NR               | 665       | 140                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 27                          | NR               | 540       | 539                         | NR               | 670       | 122                         | NR               | 800       | 3                           | NR               | 930       | 0                           | NR               |
| 415       | 55                          | NR               | 545       | 549                         | NR               | 675       | 106                         | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 115                         | NR               | 550       | 557                         | NR               | 680       | 92                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 226                         | NR               | 555       | 565                         | NR               | 685       | 79                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 395                         | NR               | 560       | 572                         | NR               | 690       | 68                          | NR               | 820       | 2                           | NR               | 950       | 0                           | NR               |
| 435       | 648                         | NR               | 565       | 580                         | NR               | 695       | 59                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 937                         | NR               | 570       | 586                         | NR               | 700       | 51                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 953                         | NR               | 575       | 588                         | NR               | 705       | 44                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 591                         | NR               | 580       | 588                         | NR               | 710       | 38                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 334                         | NR               | 585       | 580                         | NR               | 715       | 32                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 221                         | NR               | 590       | 568                         | NR               | 720       | 28                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 140                         | NR               | 595       | 550                         | NR               | 725       | 24                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 93                          | NR               | 600       | 527                         | NR               | 730       | 21                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 79                          | NR               | 605       | 499                         | NR               | 735       | 18                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 76                          | NR               | 610       | 469                         | NR               | 740       | 15                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 87                          | NR               | 615       | 435                         | NR               | 745       | 13                          | NR               | 875       | 0                           | NR               |           |                             |                  |

REPORT NUMBER: SP1-2407-184-6

### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.37

| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 118                         | NR               | 620       | 401                         | NR               | 750       | 12                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 168                         | NR               | 625       | 365                         | NR               | 755       | 10                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 230                         | NR               | 630       | 331                         | NR               | 760       | 9                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 299                         | NR               | 635       | 298                         | NR               | 765       | 8                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 362                         | NR               | 640       | 266                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 418                         | NR               | 645       | 236                         | NR               | 775       | 6                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 461                         | NR               | 650       | 209                         | NR               | 780       | 5                           | NR               | 910       | 0                           | NR               |
| 395       | 6                           | NR               | 525       | 491                         | NR               | 655       | 184                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 9                           | NR               | 530       | 514                         | NR               | 660       | 160                         | NR               | 790       | 4                           | NR               | 920       | 0                           | NR               |
| 405       | 14                          | NR               | 535       | 530                         | NR               | 665       | 140                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 27                          | NR               | 540       | 539                         | NR               | 670       | 122                         | NR               | 800       | 3                           | NR               | 930       | 0                           | NR               |
| 415       | 55                          | NR               | 545       | 549                         | NR               | 675       | 106                         | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 115                         | NR               | 550       | 557                         | NR               | 680       | 92                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 226                         | NR               | 555       | 565                         | NR               | 685       | 79                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 395                         | NR               | 560       | 572                         | NR               | 690       | 68                          | NR               | 820       | 2                           | NR               | 950       | 0                           | NR               |
| 435       | 648                         | NR               | 565       | 580                         | NR               | 695       | 59                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 937                         | NR               | 570       | 586                         | NR               | 700       | 51                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 953                         | NR               | 575       | 588                         | NR               | 705       | 44                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 591                         | NR               | 580       | 588                         | NR               | 710       | 38                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 334                         | NR               | 585       | 580                         | NR               | 715       | 32                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 221                         | NR               | 590       | 568                         | NR               | 720       | 28                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 140                         | NR               | 595       | 550                         | NR               | 725       | 24                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 93                          | NR               | 600       | 527                         | NR               | 730       | 21                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 79                          | NR               | 605       | 499                         | NR               | 735       | 18                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 76                          | NR               | 610       | 469                         | NR               | 740       | 15                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 87                          | NR               | 615       | 435                         | NR               | 745       | 13                          | NR               | 875       | 0                           | NR               |           |                             |                  |

REPORT NUMBER: SP1-2407-184-6

TM-30-18

### Summary

$R_f = 70.7$   
 $R_g = 96.8$   
 $CIE R_a = 70.2$   
 $R_g = -35.1$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 53 | CES51 = 87 | CES76 = 42 |
| CES02 = 59 | CES27 = 78 | CES52 = 88 | CES77 = 64 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 45 |
| CES04 = 69 | CES29 = 48 | CES54 = 80 | CES79 = 74 |
| CES05 = 46 | CES30 = 56 | CES55 = 79 | CES80 = 71 |
| CES06 = 50 | CES31 = 54 | CES56 = 68 | CES81 = 72 |
| CES07 = 39 | CES32 = 50 | CES57 = 65 | CES82 = 88 |
| CES08 = 38 | CES33 = 60 | CES58 = 67 | CES83 = 82 |
| CES09 = 29 | CES34 = 62 | CES59 = 87 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 91 | CES85 = 84 |
| CES11 = 56 | CES36 = 90 | CES61 = 87 | CES86 = 74 |
| CES12 = 61 | CES37 = 72 | CES62 = 79 | CES87 = 75 |
| CES13 = 41 | CES38 = 66 | CES63 = 72 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 70 | CES89 = 74 |
| CES15 = 70 | CES40 = 83 | CES65 = 63 | CES90 = 73 |
| CES16 = 46 | CES41 = 83 | CES66 = 64 | CES91 = 92 |
| CES17 = 49 | CES42 = 70 | CES67 = 62 | CES92 = 67 |
| CES18 = 55 | CES43 = 68 | CES68 = 69 | CES93 = 81 |
| CES19 = 71 | CES44 = 98 | CES69 = 80 | CES94 = 56 |
| CES20 = 64 | CES45 = 78 | CES70 = 56 | CES95 = 71 |
| CES21 = 85 | CES46 = 77 | CES71 = 53 | CES96 = 77 |
| CES22 = 77 | CES47 = 73 | CES72 = 84 | CES97 = 82 |
| CES23 = 91 | CES48 = 65 | CES73 = 46 | CES98 = 71 |
| CES24 = 90 | CES49 = 76 | CES74 = 94 | CES99 = 59 |
| CES25 = 71 | CES50 = 85 | CES75 = 49 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)