

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: McGRAW-EDISON

Report Number: P1048366

Luminaire Tested: **GALN-SA6B-730-U-T4BC**

Issue Date: 07/10/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1048366  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 07/10/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GALN-SA6B-730-U-T4BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 800mA 6xLight Square PACKAGE  
70CRI 3000K FIXTURE w/ TYPE IV ANGLED BACKLIGHT CONTROL  
Light Source: (84) 3000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26278.5 lumens  
Efficiency: N/A  
Efficacy: 122.9 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G5

Input Watts (W): 213.8  
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

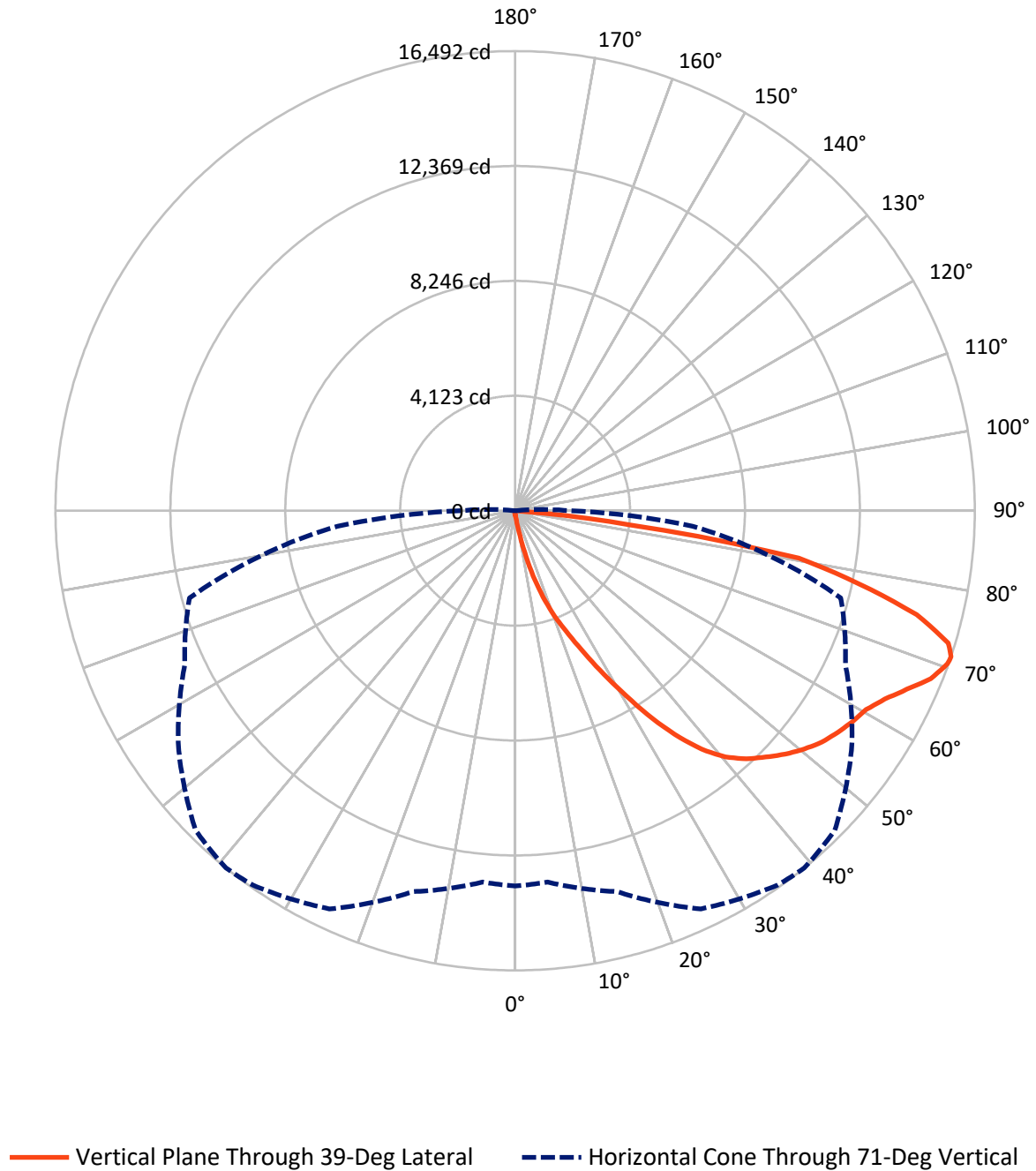




REPORT NUMBER: P1048366

CATALOG NUMBER: GALN-SA6B-730-U-T4BC

## Luminous Intensity Polar Plot



REPORT NUMBER: P1048366

CATALOG NUMBER: GALN-SA6B-730-U-T4BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 93.4     | 0.0    | 93.4    |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 26185.1  | 0.0    | 26185.1 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 26278.5  | 0.0    | 26278.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 22.0    | 0.1       |
| 10°-20°   | 280.9   | 1.1       |
| 20°-30°   | 1000.2  | 3.8       |
| 30°-40°   | 2410.6  | 9.2       |
| 40°-50°   | 4034.4  | 15.4      |
| 50°-60°   | 5181.7  | 19.7      |
| 60°-70°   | 6557.5  | 25.0      |
| 70°-80°   | 5846.3  | 22.2      |
| 80°-90°   | 945.0   | 3.6       |
| 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°    | 26278.5 | 100.0     |
| 0°-180°   | 26278.5 | 100.0     |



REPORT NUMBER: P1048366

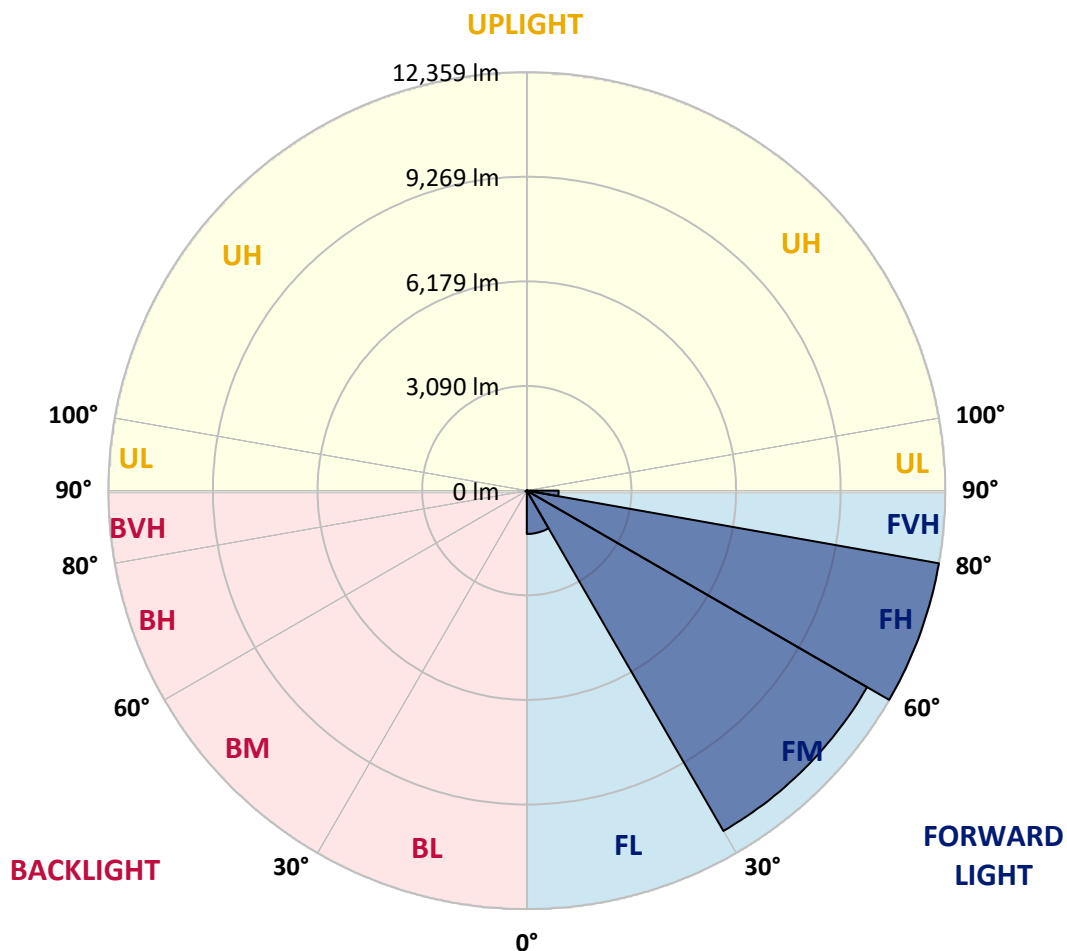
CATALOG NUMBER: GALN-SA6B-730-U-T4BC

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|---------|-----------|-------------------------|------|--------|
|      |             |         |           | B                       | U    | G      |
| FL   | (0°-30°)    | 1280.5  | 4.9       |                         |      |        |
| FM   | (30°-60°)   | 11605.1 | 44.2      |                         |      |        |
| FH   | (60°-80°)   | 12358.8 | 47.0      |                         |      | G5     |
| FVH  | (80°-90°)   | 940.7   | 3.6       |                         |      | G5     |
| BL   | (0°-30°)    | 22.6    | 0.1       | B0/110                  |      |        |
| BM   | (30°-60°)   | 21.6    | 0.1       | B0/220                  |      |        |
| BH   | (60°-80°)   | 44.9    | 0.2       | B0/110                  |      | G0/110 |
| BVH  | (80°-90°)   | 4.3     | 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



REPORT NUMBER: P1048366

CATALOG NUMBER: GALN-SA6B-730-U-T4BC

**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 39°     | 45°     | 55°     | 65°     | 75°     | 85°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 144.1   | 144.1   | 144.1   | 144.1   | 144.1   | 144.1   | 144.1   | 144.1   | 144.1   | 144.1   | 144.1  |
| 2.5°  | 165.4   | 165.4   | 165.4   | 160.1   | 160.1   | 158.3   | 156.5   | 156.5   | 153.0   | 151.2   | 147.7  |
| 5°    | 250.8   | 245.5   | 233.0   | 225.9   | 211.7   | 202.8   | 193.9   | 181.4   | 169.0   | 160.1   | 149.4  |
| 7.5°  | 567.5   | 579.9   | 539.0   | 462.5   | 384.2   | 350.4   | 293.5   | 236.6   | 195.7   | 169.0   | 151.2  |
| 10°   | 1446.3  | 1439.1  | 1300.4  | 1147.4  | 885.9   | 780.9   | 611.9   | 386.0   | 252.6   | 185.0   | 153.0  |
| 12.5° | 2460.2  | 2453.1  | 2289.5  | 2081.3  | 1736.2  | 1517.4  | 1197.2  | 720.5   | 362.9   | 209.9   | 153.0  |
| 15°   | 3312.3  | 3283.9  | 3232.3  | 3025.9  | 2622.1  | 2438.9  | 2015.5  | 1273.7  | 587.0   | 252.6   | 156.5  |
| 17.5° | 3876.3  | 3851.4  | 3803.3  | 3728.6  | 3472.4  | 3255.4  | 2915.6  | 2001.3  | 949.9   | 327.3   | 163.7  |
| 20°   | 4393.9  | 4376.1  | 4337.0  | 4322.8  | 4157.3  | 4041.7  | 3760.6  | 2837.4  | 1480.1  | 444.7   | 174.3  |
| 22.5° | 5105.5  | 5068.1  | 5084.1  | 4998.8  | 4836.9  | 4698.1  | 4525.6  | 3712.6  | 2127.6  | 640.4   | 193.9  |
| 25°   | 5977.2  | 5959.4  | 5914.9  | 5854.4  | 5630.3  | 5509.3  | 5244.2  | 4538.0  | 2851.6  | 896.6   | 215.2  |
| 27.5° | 7030.3  | 7010.7  | 7000.0  | 6861.3  | 6603.3  | 6471.7  | 6101.7  | 5317.2  | 3666.3  | 1255.9  | 243.7  |
| 30°   | 8243.5  | 8252.4  | 8183.0  | 8005.1  | 7704.5  | 7519.5  | 7138.8  | 6133.7  | 4500.7  | 1677.5  | 274.0  |
| 32.5° | 9499.4  | 9481.6  | 9374.9  | 9165.0  | 8896.4  | 8723.8  | 8239.9  | 7028.5  | 5375.9  | 2234.3  | 309.5  |
| 35°   | 10853.2 | 10819.4 | 10538.3 | 10298.1 | 10068.7 | 9851.6  | 9410.5  | 8067.4  | 6251.1  | 2858.7  | 357.6  |
| 37.5° | 12219.4 | 12061.0 | 11497.1 | 11192.9 | 11034.6 | 10856.7 | 10445.8 | 9175.6  | 7121.0  | 3556.1  | 416.3  |
| 40°   | 13251.1 | 13128.4 | 12459.5 | 11899.2 | 11772.9 | 11621.7 | 11315.7 | 10132.7 | 8046.0  | 4305.0  | 487.4  |
| 42.5° | 13822.2 | 13754.6 | 13153.3 | 12600.1 | 12303.0 | 12169.6 | 11908.1 | 10968.8 | 8960.4  | 5132.2  | 590.6  |
| 45°   | 14065.9 | 13960.9 | 13558.9 | 13301.0 | 12827.8 | 12607.2 | 12295.9 | 11600.3 | 9915.7  | 6071.4  | 734.7  |
| 47.5° | 13991.2 | 13930.7 | 13642.5 | 13736.8 | 13393.5 | 13050.1 | 12592.9 | 12084.2 | 10732.2 | 7149.5  | 932.2  |
| 50°   | 13521.5 | 13469.9 | 13381.0 | 13891.6 | 13848.9 | 13443.3 | 12977.2 | 12466.6 | 11399.3 | 8261.3  | 1238.1 |
| 52.5° | 12628.5 | 12607.2 | 12834.9 | 13770.6 | 14106.8 | 13790.2 | 13347.2 | 12804.6 | 12021.9 | 9422.9  | 1675.7 |
| 55°   | 11477.6 | 11564.7 | 12215.8 | 13582.0 | 14238.4 | 14046.3 | 13674.5 | 13121.3 | 12521.8 | 10461.8 | 2321.5 |
| 57.5° | 11004.4 | 11027.5 | 11840.5 | 13448.6 | 14297.1 | 14272.2 | 13993.0 | 13423.7 | 12980.7 | 11292.6 | 3307.0 |
| 60°   | 11557.6 | 11522.0 | 11950.8 | 13550.0 | 14414.6 | 14475.0 | 14275.8 | 13704.8 | 13379.2 | 12005.9 | 4619.8 |
| 62.5° | 12557.4 | 12537.8 | 12674.8 | 13982.3 | 14757.9 | 14880.6 | 14668.9 | 13907.6 | 13731.5 | 12475.5 | 6117.7 |
| 65°   | 13450.4 | 13409.5 | 13663.9 | 14749.0 | 15360.9 | 15448.1 | 15263.1 | 14254.5 | 13886.2 | 12817.1 | 7524.8 |
| 67.5° | 13836.4 | 13827.5 | 14236.7 | 15478.3 | 15994.2 | 16088.5 | 15926.6 | 14733.0 | 13850.6 | 12925.6 | 8145.7 |
| 70°   | 13660.3 | 13626.5 | 14281.1 | 15787.9 | 16351.8 | 16458.5 | 16302.0 | 14910.9 | 13464.6 | 12582.3 | 7226.0 |
| 71°   | 13466.4 | 13375.7 | 14147.7 | 15766.5 | 16401.6 | 16492.3 | 16218.4 | 14749.0 | 13076.8 | 12094.8 | 6391.6 |
| 72.5° | 12865.1 | 12881.1 | 13781.3 | 15544.2 | 16282.4 | 16255.7 | 15745.2 | 14169.1 | 12609.0 | 10988.4 | 5134.0 |
| 75°   | 11385.1 | 11479.3 | 12594.7 | 14610.2 | 15218.6 | 14878.9 | 14097.9 | 13060.8 | 11669.7 | 7878.8  | 3564.9 |
| 77.5° | 9303.7  | 9444.3  | 10669.9 | 12813.5 | 12641.0 | 12607.2 | 12575.2 | 11507.8 | 9965.5  | 4232.0  | 2479.8 |
| 80°   | 4442.0  | 4746.1  | 6436.1  | 9147.2  | 9937.0  | 10319.5 | 10079.3 | 9273.5  | 7706.3  | 2015.5  | 1481.8 |
| 82.5° | 290.0   | 286.4   | 405.6   | 768.5   | 3239.4  | 4187.6  | 6653.1  | 6628.2  | 5372.3  | 982.0   | 604.8  |
| 85°   | 137.0   | 140.5   | 154.8   | 176.1   | 204.6   | 224.1   | 309.5   | 1814.5  | 2570.5  | 467.9   | 131.6  |
| 87.5° | 80.1    | 81.8    | 96.1    | 122.7   | 160.1   | 177.9   | 211.7   | 272.2   | 334.4   | 257.9   | 28.5   |
| 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: P1048366

CATALOG NUMBER: GALN-SA6B-730-U-T4BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 144.1  | 144.1 | 144.1 | 144.1 | 144.1 | 144.1 | 144.1 | 144.1 | 144.1 | 144.1 | 144.1 |
| 2.5°  | 145.9  | 144.1 | 138.8 | 133.4 | 128.1 | 124.5 | 122.7 | 124.5 | 124.5 | 126.3 | 126.3 |
| 5°    | 145.9  | 140.5 | 131.6 | 121.0 | 113.9 | 106.7 | 103.2 | 101.4 | 103.2 | 103.2 | 103.2 |
| 7.5°  | 144.1  | 135.2 | 122.7 | 110.3 | 101.4 | 92.5  | 88.9  | 87.2  | 87.2  | 88.9  | 88.9  |
| 10°   | 140.5  | 131.6 | 115.6 | 101.4 | 90.7  | 80.1  | 74.7  | 69.4  | 69.4  | 69.4  | 71.2  |
| 12.5° | 138.8  | 126.3 | 106.7 | 92.5  | 78.3  | 65.8  | 55.1  | 49.8  | 51.6  | 51.6  | 51.6  |
| 15°   | 135.2  | 121.0 | 101.4 | 83.6  | 65.8  | 49.8  | 40.9  | 35.6  | 37.4  | 39.1  | 37.4  |
| 17.5° | 135.2  | 119.2 | 94.3  | 72.9  | 51.6  | 37.4  | 30.2  | 26.7  | 26.7  | 28.5  | 28.5  |
| 20°   | 135.2  | 115.6 | 88.9  | 62.3  | 39.1  | 28.5  | 21.3  | 19.6  | 19.6  | 23.1  | 24.9  |
| 22.5° | 138.8  | 115.6 | 81.8  | 51.6  | 32.0  | 21.3  | 16.0  | 14.2  | 16.0  | 19.6  | 21.3  |
| 25°   | 144.1  | 113.9 | 74.7  | 46.3  | 26.7  | 16.0  | 12.5  | 8.9   | 10.7  | 14.2  | 16.0  |
| 27.5° | 149.4  | 112.1 | 67.6  | 40.9  | 21.3  | 12.5  | 8.9   | 7.1   | 5.3   | 7.1   | 7.1   |
| 30°   | 154.8  | 112.1 | 60.5  | 33.8  | 17.8  | 8.9   | 5.3   | 3.6   | 1.8   | 0.0   | 0.0   |
| 32.5° | 158.3  | 108.5 | 55.1  | 26.7  | 14.2  | 7.1   | 3.6   | 1.8   | 0.0   | 0.0   | 0.0   |
| 35°   | 161.9  | 105.0 | 48.0  | 21.3  | 10.7  | 5.3   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 37.5° | 165.4  | 99.6  | 40.9  | 17.8  | 8.9   | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 169.0  | 92.5  | 33.8  | 16.0  | 5.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 172.6  | 87.2  | 28.5  | 12.5  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 181.4  | 83.6  | 23.1  | 10.7  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 197.5  | 80.1  | 21.3  | 7.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 220.6  | 76.5  | 19.6  | 5.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 252.6  | 74.7  | 17.8  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 309.5  | 72.9  | 16.0  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 407.4  | 71.2  | 16.0  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 624.4  | 67.6  | 16.0  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 1115.4 | 65.8  | 14.2  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 1944.4 | 67.6  | 14.2  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 2787.6 | 71.2  | 12.5  | 5.3   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 2385.5 | 62.3  | 12.5  | 7.1   | 3.6   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 71°   | 1944.4 | 55.1  | 12.5  | 7.1   | 3.6   | 1.8   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 1250.6 | 42.7  | 10.7  | 7.1   | 3.6   | 3.6   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 528.3  | 35.6  | 10.7  | 7.1   | 5.3   | 3.6   | 3.6   | 1.8   | 0.0   | 0.0   | 0.0   |
| 77.5° | 225.9  | 26.7  | 10.7  | 8.9   | 7.1   | 5.3   | 5.3   | 3.6   | 1.8   | 0.0   | 0.0   |
| 80°   | 85.4   | 21.3  | 12.5  | 10.7  | 8.9   | 8.9   | 7.1   | 3.6   | 1.8   | 0.0   | 0.0   |
| 82.5° | 39.1   | 17.8  | 12.5  | 10.7  | 10.7  | 8.9   | 7.1   | 5.3   | 3.6   | 0.0   | 0.0   |
| 85°   | 24.9   | 16.0  | 12.5  | 10.7  | 10.7  | 8.9   | 8.9   | 5.3   | 3.6   | 0.0   | 0.0   |
| 87.5° | 19.6   | 16.0  | 12.5  | 12.5  | 10.7  | 10.7  | 7.1   | 5.3   | 1.8   | 0.0   | 0.0   |
| 90°   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

Test Date: 10/10/2024

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

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

### Test Information

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

### Spectral Parameters

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

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



### Test Conditions

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

REPORT NUMBER: SP1-2407-184-4

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |

REPORT NUMBER: SP1-2407-184-4

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-4

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

REPORT NUMBER: SP1-2407-184-4

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.19

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

REPORT NUMBER: SP1-2407-184-4

### Melanopic Flux vs. Wavelength


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

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

REPORT NUMBER: SP1-2407-184-4

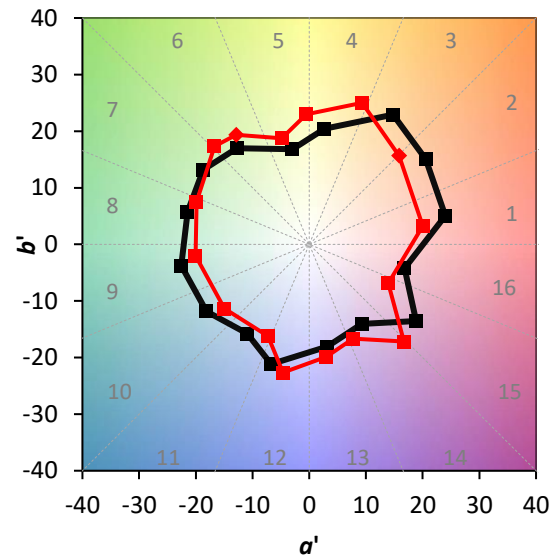
TM-30-18

### Summary

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



### Color Vector Graphics



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

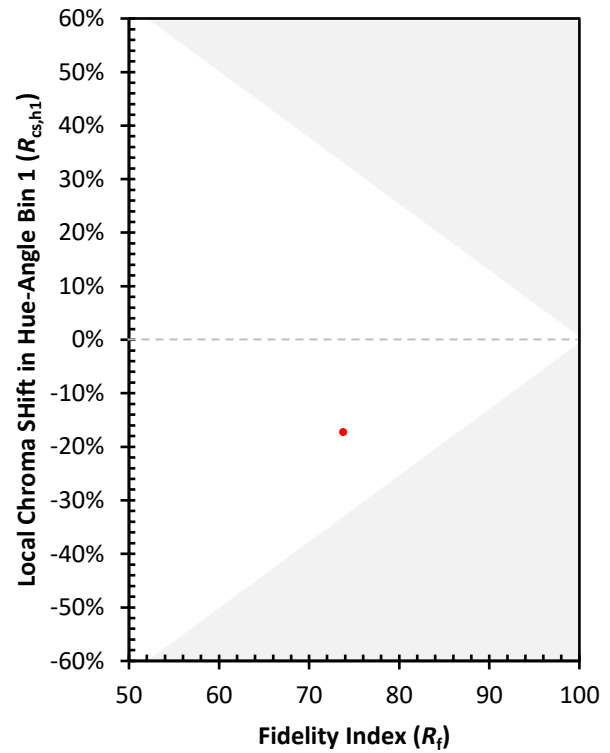
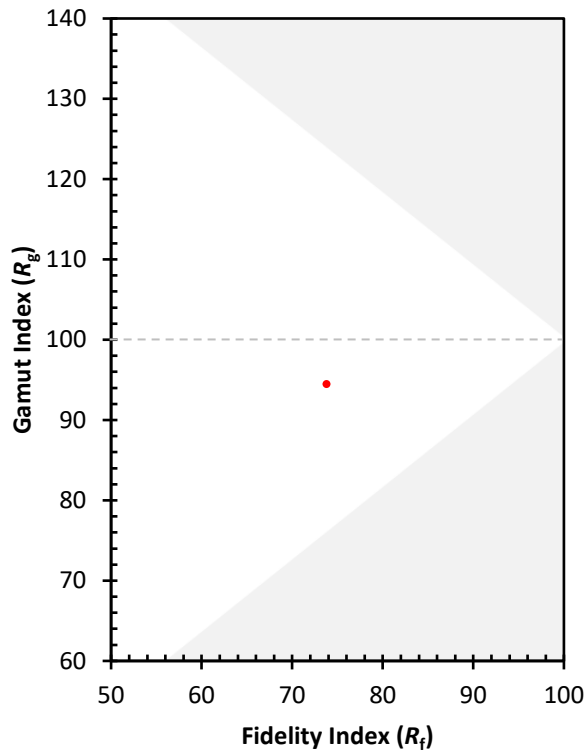
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54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



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)