

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: P1047454

Luminaire Tested: **GALN-SA3B-927-U-T3BC**

Issue Date: 07/10/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1047454  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 07/10/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GALN-SA3B-927-U-T3BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 800mA 3xLight Square PACKAGE  
90CRI 2700K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL  
Light Source: (42) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9213.3 lumens  
Efficiency: N/A  
Efficacy: 86.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G2

Input Watts (W): 106.2  
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

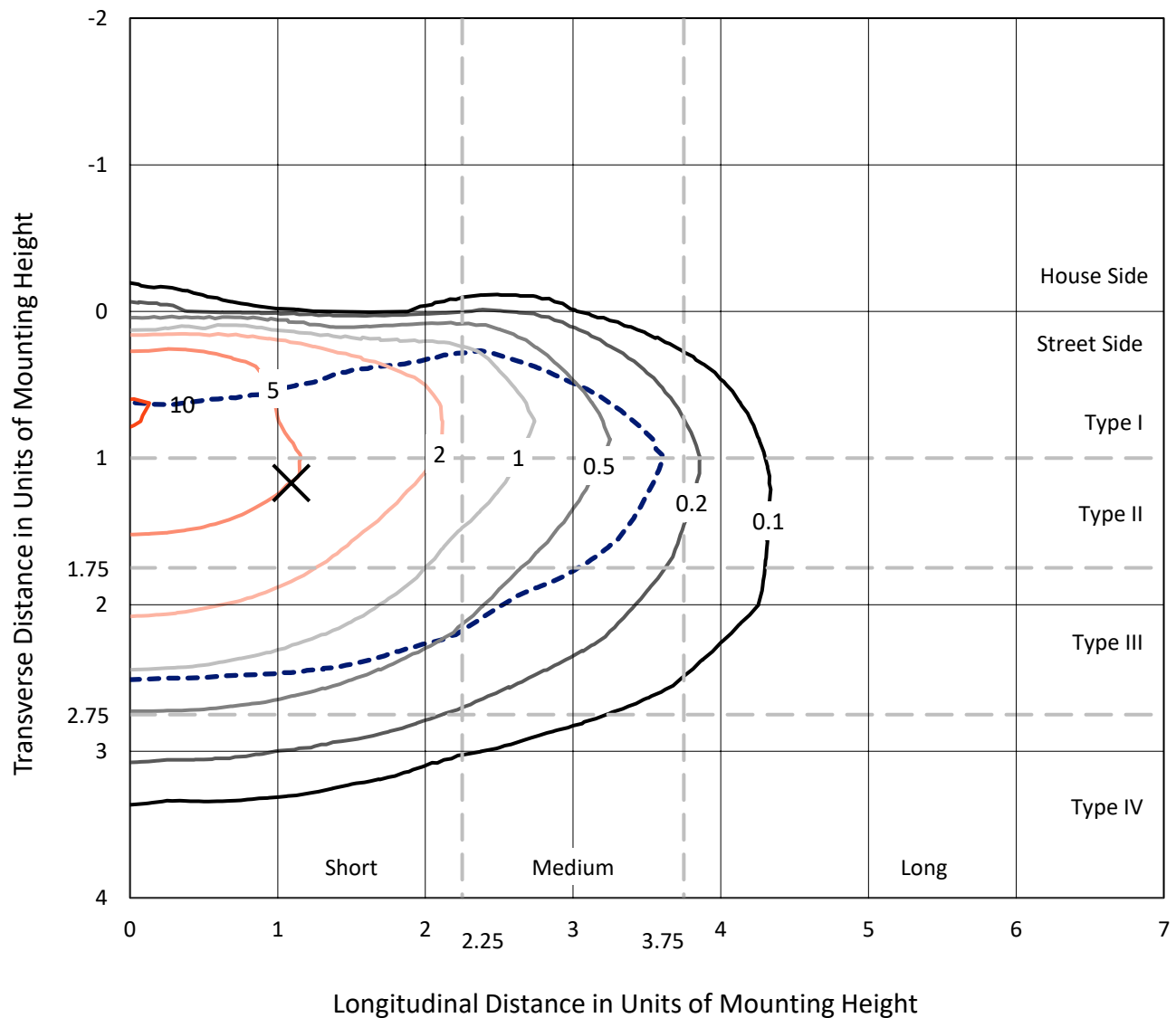


REPORT NUMBER: P1047454

CATALOG NUMBER: GALN-SA3B-927-U-T3BC

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

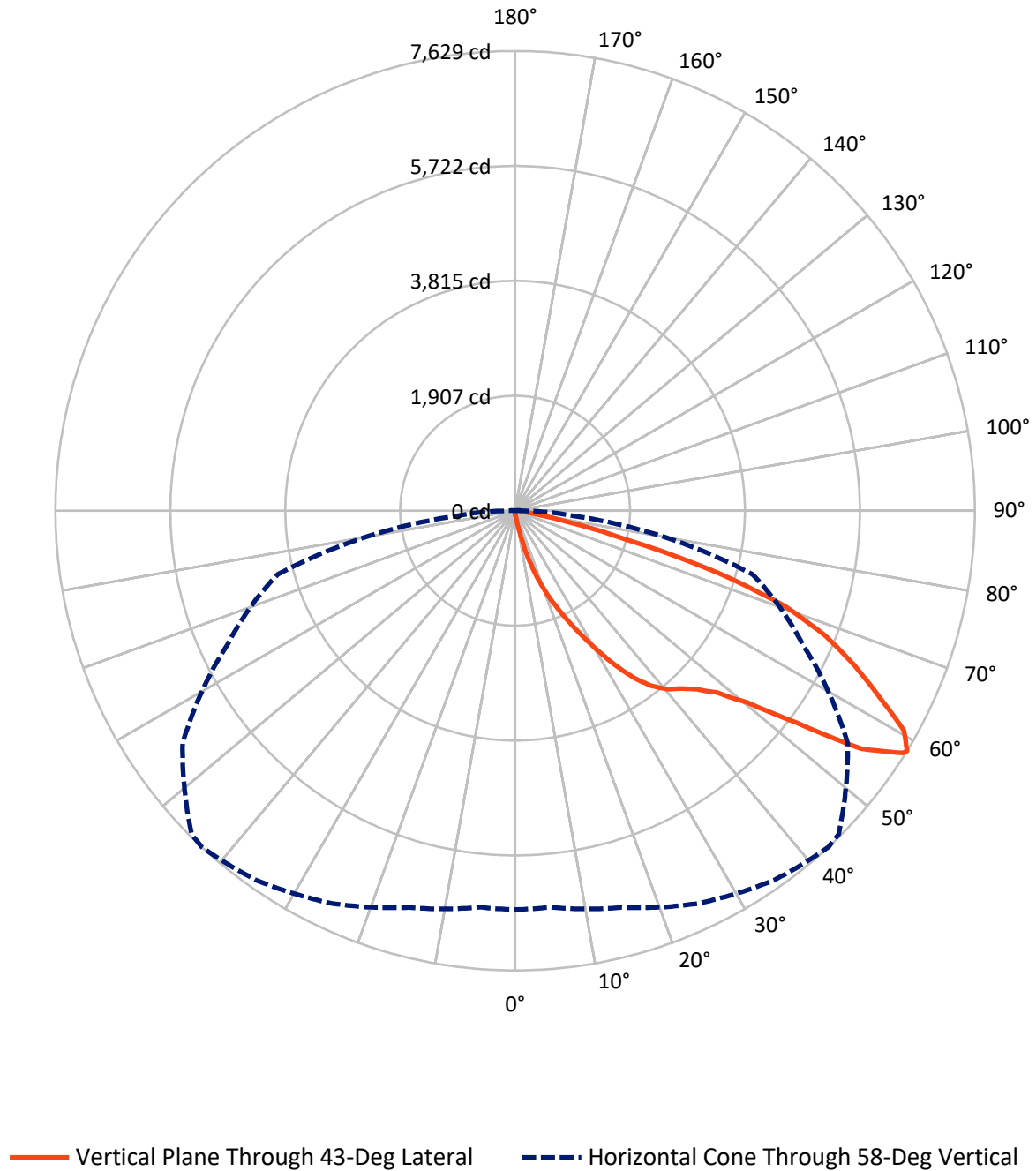


Based on 15 foot mounting height. Maximum calculated value = 10.3 fc  
 Type III - Short - N/A

REPORT NUMBER: P1047454

CATALOG NUMBER: GALN-SA3B-927-U-T3BC

## Luminous Intensity Polar Plot



REPORT NUMBER: P1047454

CATALOG NUMBER: GALN-SA3B-927-U-T3BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 33.6     | 0.0    | 33.6   |
|                    | % Fixture | 0.4      | 0.0    | 0.4    |
| <b>Street Side</b> | Lumens    | 9179.7   | 0.0    | 9179.7 |
|                    | % Fixture | 99.6     | 0.0    | 99.6   |
| <b>Total</b>       | Lumens    | 9213.3   | 0.0    | 9213.3 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 8.8    | 0.1       |
| 10°-20°   | 105.9  | 1.1       |
| 20°-30°   | 381.7  | 4.1       |
| 30°-40°   | 873.4  | 9.5       |
| 40°-50°   | 1473.0 | 16.0      |
| 50°-60°   | 2430.8 | 26.4      |
| 60°-70°   | 2716.8 | 29.5      |
| 70°-80°   | 1121.7 | 12.2      |
| 80°-90°   | 101.1  | 1.1       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-90°    | 9213.3 | 100.0     |
| 0°-180°   | 9213.3 | 100.0     |



REPORT NUMBER: P1047454

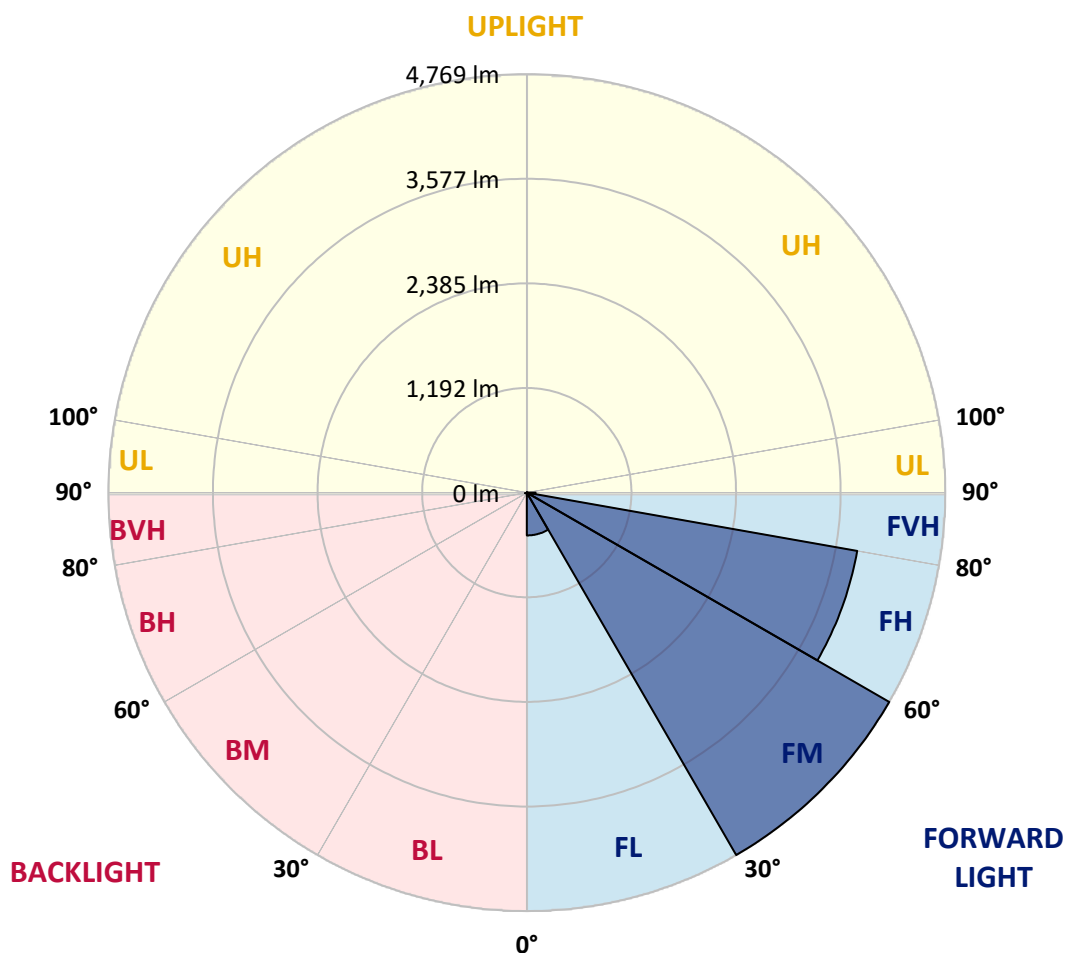
CATALOG NUMBER: GALN-SA3B-927-U-T3BC

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 487.7  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 4769.2 | 51.8      |                         |      |         |
| FH   | (60°-80°)   | 3823.1 | 41.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 99.7   | 1.1       |                         |      | G1/100  |
| BL   | (0°-30°)    | 8.8    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 8.1    | 0.1       | B0/220                  |      |         |
| BH   | (60°-80°)   | 15.4   | 0.2       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 1.4    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B0-U0-G2**

Type III Short



REPORT NUMBER: P1047454

CATALOG NUMBER: GALN-SA3B-927-U-T3BC

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 43°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   | 60.2   |
| 2.5°  | 72.3   | 74.7   | 72.3   | 72.3   | 72.3   | 69.9   | 69.9   | 67.5   | 67.5   | 65.1   | 62.7   |
| 5°    | 106.0  | 106.0  | 98.8   | 94.0   | 89.2   | 86.7   | 84.3   | 79.5   | 74.7   | 69.9   | 65.1   |
| 7.5°  | 236.1  | 236.1  | 214.5  | 185.5  | 147.0  | 125.3  | 120.5  | 98.8   | 84.3   | 74.7   | 65.1   |
| 10°   | 563.9  | 563.9  | 515.7  | 436.1  | 337.4  | 250.6  | 224.1  | 142.2  | 101.2  | 79.5   | 67.5   |
| 12.5° | 937.4  | 949.4  | 889.2  | 788.0  | 641.0  | 489.2  | 436.1  | 260.2  | 134.9  | 86.7   | 67.5   |
| 15°   | 1272.3 | 1243.4 | 1226.5 | 1130.1 | 990.4  | 809.6  | 742.2  | 438.6  | 195.2  | 98.8   | 67.5   |
| 17.5° | 1498.8 | 1498.8 | 1474.7 | 1409.7 | 1281.9 | 1122.9 | 1067.5 | 708.4  | 315.7  | 113.3  | 69.9   |
| 20°   | 1763.9 | 1763.9 | 1720.5 | 1674.7 | 1561.5 | 1426.5 | 1373.5 | 1007.2 | 489.2  | 144.6  | 69.9   |
| 22.5° | 2084.4 | 2089.2 | 2041.0 | 1959.1 | 1850.6 | 1701.2 | 1655.4 | 1284.4 | 708.4  | 192.8  | 72.3   |
| 25°   | 2474.7 | 2479.5 | 2409.7 | 2332.6 | 2166.3 | 2004.8 | 1935.0 | 1602.4 | 975.9  | 269.9  | 72.3   |
| 27.5° | 2906.1 | 2939.8 | 2836.2 | 2703.6 | 2527.7 | 2325.3 | 2272.3 | 1889.2 | 1241.0 | 380.7  | 77.1   |
| 30°   | 3443.4 | 3443.4 | 3306.1 | 3120.5 | 2930.2 | 2679.5 | 2612.1 | 2190.4 | 1522.9 | 527.7  | 81.9   |
| 32.5° | 3906.1 | 3869.9 | 3694.0 | 3498.8 | 3296.4 | 3062.7 | 2990.4 | 2506.1 | 1812.1 | 710.9  | 91.6   |
| 35°   | 4260.3 | 4229.0 | 4012.1 | 3802.4 | 3626.5 | 3412.1 | 3325.3 | 2848.2 | 2118.1 | 918.1  | 106.0  |
| 37.5° | 4563.9 | 4551.9 | 4257.9 | 3995.2 | 3879.6 | 3691.6 | 3614.5 | 3171.1 | 2419.3 | 1142.2 | 122.9  |
| 40°   | 4896.4 | 4857.9 | 4544.6 | 4219.3 | 4045.8 | 3894.0 | 3824.1 | 3431.4 | 2708.5 | 1404.8 | 147.0  |
| 42.5° | 5180.8 | 5135.0 | 4853.1 | 4535.0 | 4238.6 | 4033.8 | 3966.3 | 3650.6 | 2990.4 | 1667.5 | 178.3  |
| 45°   | 5496.4 | 5472.3 | 5188.0 | 4947.0 | 4551.9 | 4224.1 | 4135.0 | 3826.5 | 3248.2 | 1980.7 | 219.3  |
| 47.5° | 5971.1 | 5927.8 | 5662.7 | 5465.1 | 5007.3 | 4513.3 | 4385.6 | 4007.3 | 3496.4 | 2289.2 | 281.9  |
| 50°   | 6523.0 | 6494.0 | 6337.4 | 6180.8 | 5725.4 | 5007.3 | 4855.5 | 4267.5 | 3773.5 | 2655.4 | 363.9  |
| 52.5° | 6973.6 | 6968.7 | 6988.0 | 6990.4 | 6645.9 | 5838.6 | 5612.1 | 4686.8 | 4091.6 | 3016.9 | 479.5  |
| 55°   | 6963.9 | 6985.6 | 7197.7 | 7441.0 | 7467.5 | 6973.6 | 6754.3 | 5392.8 | 4506.1 | 3462.7 | 641.0  |
| 57.5° | 6703.7 | 6686.8 | 6910.9 | 7277.2 | 7535.0 | 7588.0 | 7551.9 | 6489.2 | 5130.2 | 4000.0 | 889.2  |
| 58°   | 6619.3 | 6604.9 | 6816.9 | 7190.4 | 7486.8 | 7629.0 | 7592.9 | 6737.4 | 5269.9 | 4077.2 | 956.6  |
| 60°   | 6313.3 | 6315.7 | 6441.0 | 6780.8 | 7077.2 | 7414.5 | 7448.3 | 7445.9 | 5966.3 | 4592.8 | 1296.4 |
| 62.5° | 5908.5 | 5889.2 | 6004.9 | 6282.0 | 6542.2 | 6768.7 | 6826.6 | 7494.1 | 6985.6 | 5248.2 | 1944.6 |
| 65°   | 5349.5 | 5320.5 | 5443.4 | 5756.7 | 6036.2 | 6183.2 | 6185.6 | 6848.3 | 7465.1 | 5951.9 | 2869.9 |
| 67.5° | 4310.9 | 4286.8 | 4532.6 | 4935.0 | 5366.3 | 5559.1 | 5645.8 | 5942.2 | 7060.3 | 6429.0 | 3400.0 |
| 70°   | 2641.0 | 2691.6 | 3033.8 | 3665.1 | 4402.5 | 4756.7 | 4886.8 | 4978.4 | 6012.1 | 6356.7 | 2843.4 |
| 72.5° | 1219.3 | 1159.0 | 1450.6 | 1891.6 | 2732.6 | 3520.5 | 3655.5 | 4014.5 | 4766.3 | 5518.1 | 2120.5 |
| 75°   | 568.7  | 547.0  | 614.5  | 826.5  | 1238.6 | 1901.2 | 2147.0 | 3204.9 | 3655.5 | 3838.6 | 1530.1 |
| 77.5° | 291.6  | 294.0  | 349.4  | 375.9  | 510.8  | 879.5  | 1009.6 | 2108.5 | 2679.5 | 2142.2 | 1026.5 |
| 80°   | 127.7  | 132.5  | 134.9  | 147.0  | 207.2  | 339.8  | 383.1  | 978.3  | 1831.3 | 1091.6 | 561.5  |
| 82.5° | 81.9   | 84.3   | 84.3   | 84.3   | 98.8   | 134.9  | 154.2  | 392.8  | 913.3  | 542.2  | 173.5  |
| 85°   | 43.4   | 43.4   | 48.2   | 60.2   | 69.9   | 81.9   | 86.7   | 125.3  | 301.2  | 161.4  | 41.0   |
| 87.5° | 24.1   | 26.5   | 28.9   | 36.1   | 45.8   | 55.4   | 60.2   | 86.7   | 115.7  | 110.8  | 9.6    |
| 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: P1047454

CATALOG NUMBER: GALN-SA3B-927-U-T3BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°   | 95°  | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 60.2  | 60.2 | 60.2 | 60.2 | 60.2 | 60.2 | 60.2 | 60.2 | 60.2 | 60.2 | 60.2 |
| 2.5°  | 62.7  | 60.2 | 57.8 | 55.4 | 53.0 | 50.6 | 50.6 | 50.6 | 50.6 | 50.6 | 50.6 |
| 5°    | 60.2  | 57.8 | 55.4 | 50.6 | 45.8 | 43.4 | 41.0 | 38.6 | 38.6 | 38.6 | 38.6 |
| 7.5°  | 60.2  | 57.8 | 50.6 | 45.8 | 41.0 | 36.1 | 31.3 | 31.3 | 31.3 | 31.3 | 31.3 |
| 10°   | 60.2  | 55.4 | 48.2 | 41.0 | 33.7 | 28.9 | 26.5 | 24.1 | 24.1 | 24.1 | 24.1 |
| 12.5° | 60.2  | 53.0 | 45.8 | 36.1 | 28.9 | 24.1 | 21.7 | 19.3 | 19.3 | 19.3 | 19.3 |
| 15°   | 60.2  | 53.0 | 43.4 | 33.7 | 26.5 | 19.3 | 16.9 | 14.5 | 14.5 | 14.5 | 14.5 |
| 17.5° | 57.8  | 50.6 | 41.0 | 28.9 | 21.7 | 14.5 | 12.0 | 9.6  | 9.6  | 12.0 | 12.0 |
| 20°   | 55.4  | 48.2 | 36.1 | 24.1 | 16.9 | 12.0 | 7.2  | 7.2  | 7.2  | 7.2  | 7.2  |
| 22.5° | 55.4  | 48.2 | 33.7 | 21.7 | 14.5 | 7.2  | 4.8  | 4.8  | 4.8  | 4.8  | 7.2  |
| 25°   | 55.4  | 45.8 | 28.9 | 16.9 | 9.6  | 4.8  | 2.4  | 2.4  | 2.4  | 2.4  | 2.4  |
| 27.5° | 55.4  | 45.8 | 26.5 | 14.5 | 7.2  | 4.8  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  |
| 30°   | 53.0  | 43.4 | 24.1 | 12.0 | 4.8  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 32.5° | 53.0  | 41.0 | 19.3 | 9.6  | 4.8  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 35°   | 55.4  | 38.6 | 16.9 | 7.2  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 2.4  |
| 37.5° | 57.8  | 36.1 | 14.5 | 4.8  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 60.2  | 33.7 | 14.5 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 65.1  | 33.7 | 12.0 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 69.9  | 33.7 | 9.6  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 79.5  | 36.1 | 9.6  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 86.7  | 38.6 | 7.2  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 96.4  | 36.1 | 7.2  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 108.4 | 36.1 | 7.2  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 118.1 | 33.7 | 7.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 58°   | 122.9 | 31.3 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 147.0 | 28.9 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 228.9 | 24.1 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 465.1 | 21.7 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 867.5 | 19.3 | 4.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 971.1 | 21.7 | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 612.1 | 16.9 | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 322.9 | 16.9 | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 161.4 | 16.9 | 2.4  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 74.7  | 12.0 | 2.4  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 31.3  | 7.2  | 4.8  | 2.4  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 14.5  | 7.2  | 4.8  | 4.8  | 2.4  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 7.2   | 7.2  | 7.2  | 4.8  | 4.8  | 2.4  | 2.4  | 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: SP1-2407-184-13

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-927-U-5WQ

Data in this report applies to families of products including GSS-SB1A-927-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-13  
 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-927-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI  
 2700K CCT 26 LEDS

### Spectral Parameters

CCT (K): 2731  
 CIE  $u'$ : 0.2605  
 CIE  $v'$ : 0.5298  
 Duv: 0.0021  
 CIE x: 0.4610  
 CIE y: 0.4166  
 CIE z: 0.1224  
 Peak Wavelength (nm): 622  
 Dominant Wavelength (nm): 583  
 Purity: 63.43685  
 R<sub>f</sub>: 92.6  
 R<sub>g</sub>: 98

CRI (Ra): 91.8  
 R1: 91.4  
 R2: 95.1  
 R3: 97.6  
 R4: 92.3  
 R5: 91.1  
 R6: 94.7  
 R7: 92.3  
 R8: 80.0  
 R9: 54.7  
 R10: 87.7  
 R11: 92.9  
 R12: 84.0  
 R13: 92.2  
 R14: 97.8  
 R15: 86.8



### Test Conditions

Stabilization Time: M  
 Operation Time: 1H 0M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-13

| 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: SP1-2407-184-13

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-13

### 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               | 253                                    | NR                             | 620               | 997                                    | NR                             | 750               | 78                                     | NR                             | 880               | 2                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 285                                    | NR                             | 625               | 996                                    | NR                             | 755               | 67                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 314                                    | NR                             | 630               | 989                                    | NR                             | 760               | 58                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 343                                    | NR                             | 635               | 969                                    | NR                             | 765               | 50                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 372                                    | NR                             | 640               | 939                                    | NR                             | 770               | 42                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 401                                    | NR                             | 645               | 901                                    | NR                             | 775               | 36                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 431                                    | NR                             | 650               | 858                                    | NR                             | 780               | 31                                     | NR                             | 910               | 1                                      | NR                             |
| 395               | 0                                      | NR                             | 525               | 459                                    | NR                             | 655               | 806                                    | NR                             | 785               | 26                                     | NR                             | 915               | 1                                      | NR                             |
| 400               | 0                                      | NR                             | 530               | 488                                    | NR                             | 660               | 752                                    | NR                             | 790               | 23                                     | NR                             | 920               | 1                                      | NR                             |
| 405               | 2                                      | NR                             | 535               | 516                                    | NR                             | 665               | 696                                    | NR                             | 795               | 19                                     | NR                             | 925               | 1                                      | NR                             |
| 410               | 5                                      | NR                             | 540               | 540                                    | NR                             | 670               | 636                                    | NR                             | 800               | 17                                     | NR                             | 930               | 0                                      | NR                             |
| 415               | 10                                     | NR                             | 545               | 566                                    | NR                             | 675               | 579                                    | NR                             | 805               | 14                                     | NR                             | 935               | 0                                      | NR                             |
| 420               | 19                                     | NR                             | 550               | 589                                    | NR                             | 680               | 524                                    | NR                             | 810               | 12                                     | NR                             | 940               | 0                                      | NR                             |
| 425               | 34                                     | NR                             | 555               | 612                                    | NR                             | 685               | 470                                    | NR                             | 815               | 11                                     | NR                             | 945               | 0                                      | NR                             |
| 430               | 61                                     | NR                             | 560               | 634                                    | NR                             | 690               | 421                                    | NR                             | 820               | 9                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 113                                    | NR                             | 565               | 660                                    | NR                             | 695               | 371                                    | NR                             | 825               | 8                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 198                                    | NR                             | 570               | 688                                    | NR                             | 700               | 327                                    | NR                             | 830               | 7                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 288                                    | NR                             | 575               | 719                                    | NR                             | 705               | 288                                    | NR                             | 835               | 6                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 286                                    | NR                             | 580               | 754                                    | NR                             | 710               | 251                                    | NR                             | 840               | 5                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 228                                    | NR                             | 585               | 791                                    | NR                             | 715               | 220                                    | NR                             | 845               | 4                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 207                                    | NR                             | 590               | 831                                    | NR                             | 720               | 192                                    | NR                             | 850               | 4                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 186                                    | NR                             | 595               | 870                                    | NR                             | 725               | 166                                    | NR                             | 855               | 3                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 168                                    | NR                             | 600               | 907                                    | NR                             | 730               | 144                                    | NR                             | 860               | 3                                      | NR                             | 990               | 1                                      | NR                             |
| 475               | 177                                    | NR                             | 605               | 940                                    | NR                             | 735               | 124                                    | NR                             | 865               | 2                                      | NR                             | 995               | 1                                      | NR                             |
| 480               | 198                                    | NR                             | 610               | 967                                    | NR                             | 740               | 106                                    | NR                             | 870               | 2                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 223                                    | NR                             | 615               | 988                                    | NR                             | 745               | 91                                     | NR                             | 875               | 2                                      | NR                             |                   |                                        |                                |

REPORT NUMBER: SP1-2407-184-13

### Scotopic Flux vs. Wavelength



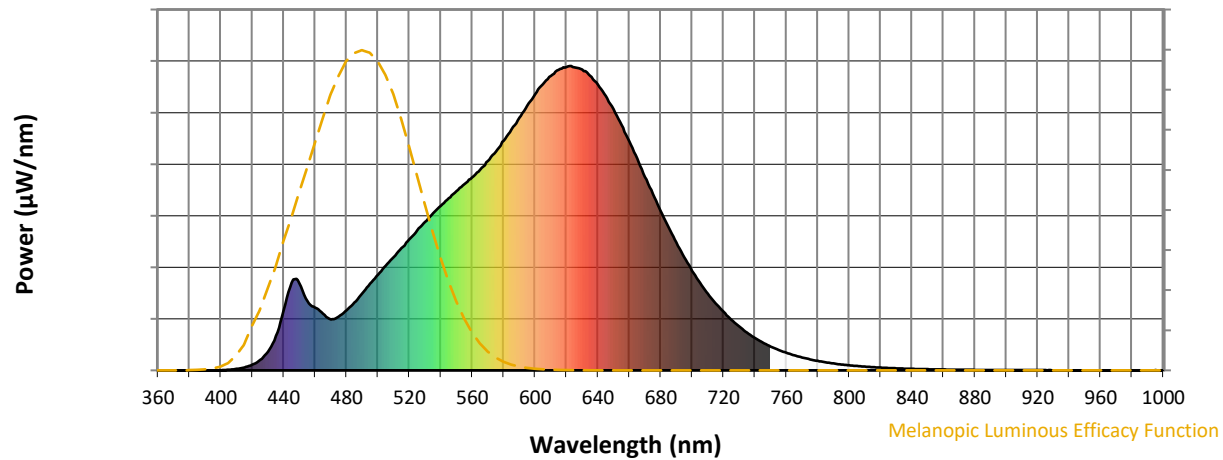
Scotopic Lumens: NR

S/P: 1.27

| $\lambda$<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               | 253                                  | NR                             | 620               | 997                                  | NR                             | 750               | 78                                   | NR                             | 880               | 2                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 285                                  | NR                             | 625               | 996                                  | NR                             | 755               | 67                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 314                                  | NR                             | 630               | 989                                  | NR                             | 760               | 58                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 343                                  | NR                             | 635               | 969                                  | NR                             | 765               | 50                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 372                                  | NR                             | 640               | 939                                  | NR                             | 770               | 42                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 401                                  | NR                             | 645               | 901                                  | NR                             | 775               | 36                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 431                                  | NR                             | 650               | 858                                  | NR                             | 780               | 31                                   | NR                             | 910               | 1                                    | NR                             |
| 395               | 0                                    | NR                             | 525               | 459                                  | NR                             | 655               | 806                                  | NR                             | 785               | 26                                   | NR                             | 915               | 1                                    | NR                             |
| 400               | 0                                    | NR                             | 530               | 488                                  | NR                             | 660               | 752                                  | NR                             | 790               | 23                                   | NR                             | 920               | 1                                    | NR                             |
| 405               | 2                                    | NR                             | 535               | 516                                  | NR                             | 665               | 696                                  | NR                             | 795               | 19                                   | NR                             | 925               | 1                                    | NR                             |
| 410               | 5                                    | NR                             | 540               | 540                                  | NR                             | 670               | 636                                  | NR                             | 800               | 17                                   | NR                             | 930               | 0                                    | NR                             |
| 415               | 10                                   | NR                             | 545               | 566                                  | NR                             | 675               | 579                                  | NR                             | 805               | 14                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 19                                   | NR                             | 550               | 589                                  | NR                             | 680               | 524                                  | NR                             | 810               | 12                                   | NR                             | 940               | 0                                    | NR                             |
| 425               | 34                                   | NR                             | 555               | 612                                  | NR                             | 685               | 470                                  | NR                             | 815               | 11                                   | NR                             | 945               | 0                                    | NR                             |
| 430               | 61                                   | NR                             | 560               | 634                                  | NR                             | 690               | 421                                  | NR                             | 820               | 9                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 113                                  | NR                             | 565               | 660                                  | NR                             | 695               | 371                                  | NR                             | 825               | 8                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 198                                  | NR                             | 570               | 688                                  | NR                             | 700               | 327                                  | NR                             | 830               | 7                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 288                                  | NR                             | 575               | 719                                  | NR                             | 705               | 288                                  | NR                             | 835               | 6                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 286                                  | NR                             | 580               | 754                                  | NR                             | 710               | 251                                  | NR                             | 840               | 5                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 228                                  | NR                             | 585               | 791                                  | NR                             | 715               | 220                                  | NR                             | 845               | 4                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 207                                  | NR                             | 590               | 831                                  | NR                             | 720               | 192                                  | NR                             | 850               | 4                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 186                                  | NR                             | 595               | 870                                  | NR                             | 725               | 166                                  | NR                             | 855               | 3                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 168                                  | NR                             | 600               | 907                                  | NR                             | 730               | 144                                  | NR                             | 860               | 3                                    | NR                             | 990               | 1                                    | NR                             |
| 475               | 177                                  | NR                             | 605               | 940                                  | NR                             | 735               | 124                                  | NR                             | 865               | 2                                    | NR                             | 995               | 1                                    | NR                             |
| 480               | 198                                  | NR                             | 610               | 967                                  | NR                             | 740               | 106                                  | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 223                                  | NR                             | 615               | 988                                  | NR                             | 745               | 91                                   | NR                             | 875               | 2                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-184-13

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.38**

| $\lambda$<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               | 253                                    | NR                             | 620               | 997                                    | NR                             | 750               | 78                                     | NR                             | 880               | 2                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 285                                    | NR                             | 625               | 996                                    | NR                             | 755               | 67                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 314                                    | NR                             | 630               | 989                                    | NR                             | 760               | 58                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 343                                    | NR                             | 635               | 969                                    | NR                             | 765               | 50                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 372                                    | NR                             | 640               | 939                                    | NR                             | 770               | 42                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 401                                    | NR                             | 645               | 901                                    | NR                             | 775               | 36                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 431                                    | NR                             | 650               | 858                                    | NR                             | 780               | 31                                     | NR                             | 910               | 1                                      | NR                             |
| 395               | 0                                      | NR                             | 525               | 459                                    | NR                             | 655               | 806                                    | NR                             | 785               | 26                                     | NR                             | 915               | 1                                      | NR                             |
| 400               | 0                                      | NR                             | 530               | 488                                    | NR                             | 660               | 752                                    | NR                             | 790               | 23                                     | NR                             | 920               | 1                                      | NR                             |
| 405               | 2                                      | NR                             | 535               | 516                                    | NR                             | 665               | 696                                    | NR                             | 795               | 19                                     | NR                             | 925               | 1                                      | NR                             |
| 410               | 5                                      | NR                             | 540               | 540                                    | NR                             | 670               | 636                                    | NR                             | 800               | 17                                     | NR                             | 930               | 0                                      | NR                             |
| 415               | 10                                     | NR                             | 545               | 566                                    | NR                             | 675               | 579                                    | NR                             | 805               | 14                                     | NR                             | 935               | 0                                      | NR                             |
| 420               | 19                                     | NR                             | 550               | 589                                    | NR                             | 680               | 524                                    | NR                             | 810               | 12                                     | NR                             | 940               | 0                                      | NR                             |
| 425               | 34                                     | NR                             | 555               | 612                                    | NR                             | 685               | 470                                    | NR                             | 815               | 11                                     | NR                             | 945               | 0                                      | NR                             |
| 430               | 61                                     | NR                             | 560               | 634                                    | NR                             | 690               | 421                                    | NR                             | 820               | 9                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 113                                    | NR                             | 565               | 660                                    | NR                             | 695               | 371                                    | NR                             | 825               | 8                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 198                                    | NR                             | 570               | 688                                    | NR                             | 700               | 327                                    | NR                             | 830               | 7                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 288                                    | NR                             | 575               | 719                                    | NR                             | 705               | 288                                    | NR                             | 835               | 6                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 286                                    | NR                             | 580               | 754                                    | NR                             | 710               | 251                                    | NR                             | 840               | 5                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 228                                    | NR                             | 585               | 791                                    | NR                             | 715               | 220                                    | NR                             | 845               | 4                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 207                                    | NR                             | 590               | 831                                    | NR                             | 720               | 192                                    | NR                             | 850               | 4                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 186                                    | NR                             | 595               | 870                                    | NR                             | 725               | 166                                    | NR                             | 855               | 3                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 168                                    | NR                             | 600               | 907                                    | NR                             | 730               | 144                                    | NR                             | 860               | 3                                      | NR                             | 990               | 1                                      | NR                             |
| 475               | 177                                    | NR                             | 605               | 940                                    | NR                             | 735               | 124                                    | NR                             | 865               | 2                                      | NR                             | 995               | 1                                      | NR                             |
| 480               | 198                                    | NR                             | 610               | 967                                    | NR                             | 740               | 106                                    | NR                             | 870               | 2                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 223                                    | NR                             | 615               | 988                                    | NR                             | 745               | 91                                     | NR                             | 875               | 2                                      | NR                             |                   |                                        |                                |

REPORT NUMBER: SP1-2407-184-13

TM-30-18

### Summary

$R_f = 92.6$   
 $R_g = 98$   
 $CIE R_a = 91.8$   
 $R_9 = 54.7$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 94 | CES51 = 98 | CES76 = 90 |
| CES02 = 64 | CES27 = 95 | CES52 = 98 | CES77 = 90 |
| CES03 = 32 | CES28 = 97 | CES53 = 96 | CES78 = 89 |
| CES04 = 71 | CES29 = 95 | CES54 = 96 | CES79 = 93 |
| CES05 = 51 | CES30 = 98 | CES55 = 95 | CES80 = 94 |
| CES06 = 52 | CES31 = 96 | CES56 = 94 | CES81 = 82 |
| CES07 = 44 | CES32 = 91 | CES57 = 94 | CES82 = 97 |
| CES08 = 43 | CES33 = 97 | CES58 = 94 | CES83 = 96 |
| CES09 = 29 | CES34 = 96 | CES59 = 96 | CES84 = 96 |
| CES10 = 77 | CES35 = 98 | CES60 = 96 | CES85 = 85 |
| CES11 = 59 | CES36 = 90 | CES61 = 94 | CES86 = 82 |
| CES12 = 66 | CES37 = 95 | CES62 = 95 | CES87 = 93 |
| CES13 = 44 | CES38 = 96 | CES63 = 94 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 85 |
| CES15 = 72 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 91 | CES91 = 85 |
| CES17 = 50 | CES42 = 97 | CES67 = 90 | CES92 = 82 |
| CES18 = 57 | CES43 = 97 | CES68 = 91 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 93 | CES94 = 79 |
| CES20 = 68 | CES45 = 99 | CES70 = 90 | CES95 = 87 |
| CES21 = 87 | CES46 = 96 | CES71 = 89 | CES96 = 92 |
| CES22 = 79 | CES47 = 94 | CES72 = 96 | CES97 = 96 |
| CES23 = 92 | CES48 = 93 | CES73 = 87 | CES98 = 93 |
| CES24 = 91 | CES49 = 96 | CES74 = 92 | CES99 = 90 |
| CES25 = 72 | CES50 = 98 | CES75 = 90 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)