

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P1057492

Luminaire Tested: **GAP-SA2A-827-U-T3BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1057492  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GAP-SA2A-827-U-T3BC  
Description: GALLEON PEDESTRAIAN COMPANION 615mA 2xLight Square PACKAGE 80CRI  
2700K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL  
Light Source: (28) 2700K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5222.8 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Luminous Opening: Rectangular (W 1.33' x L: 0.67' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G2

Input Watts (W): 55.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



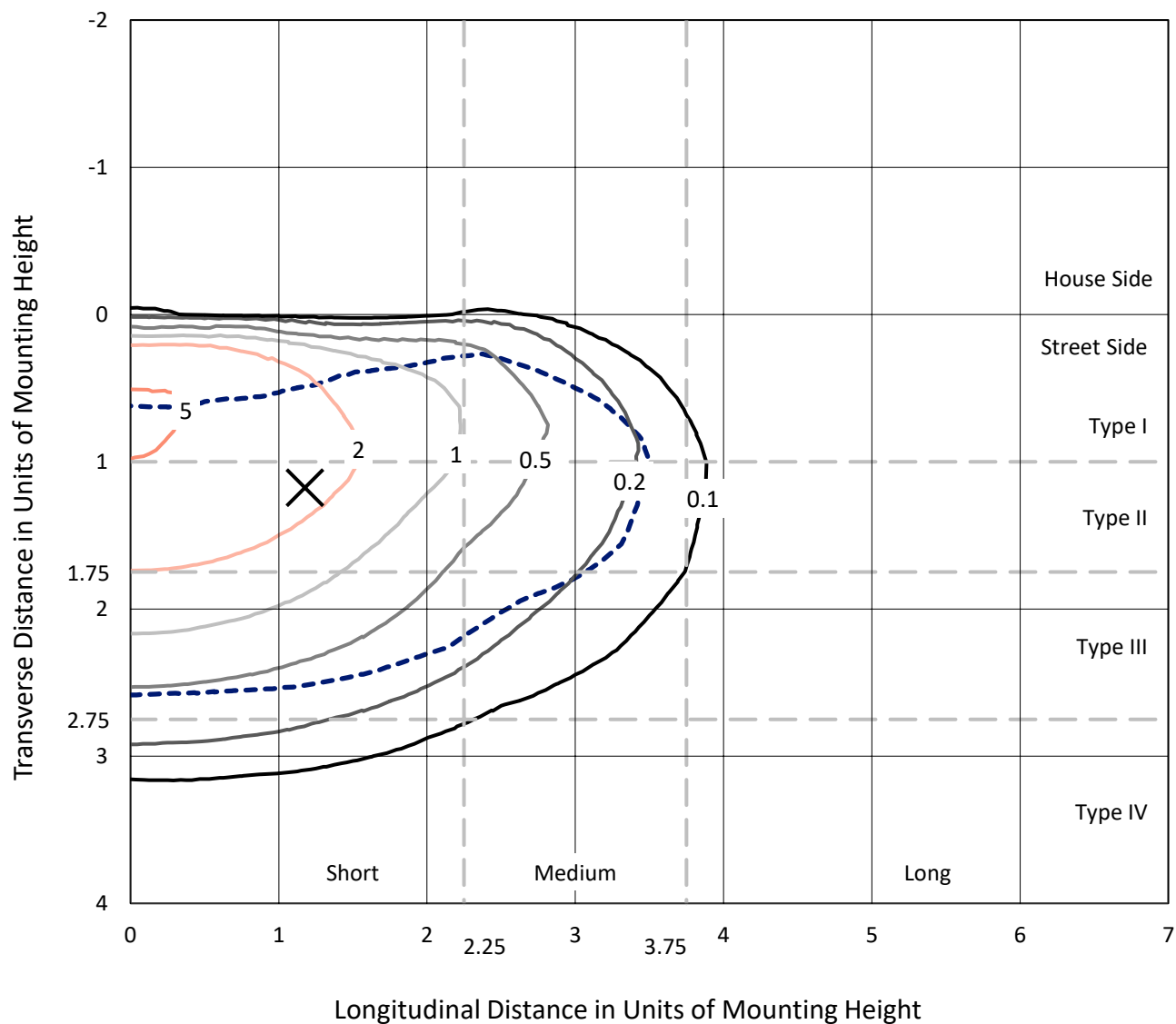
REPORT NUMBER: P1057492

CATALOG NUMBER: GAP-SA2A-827-U-T3BC

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

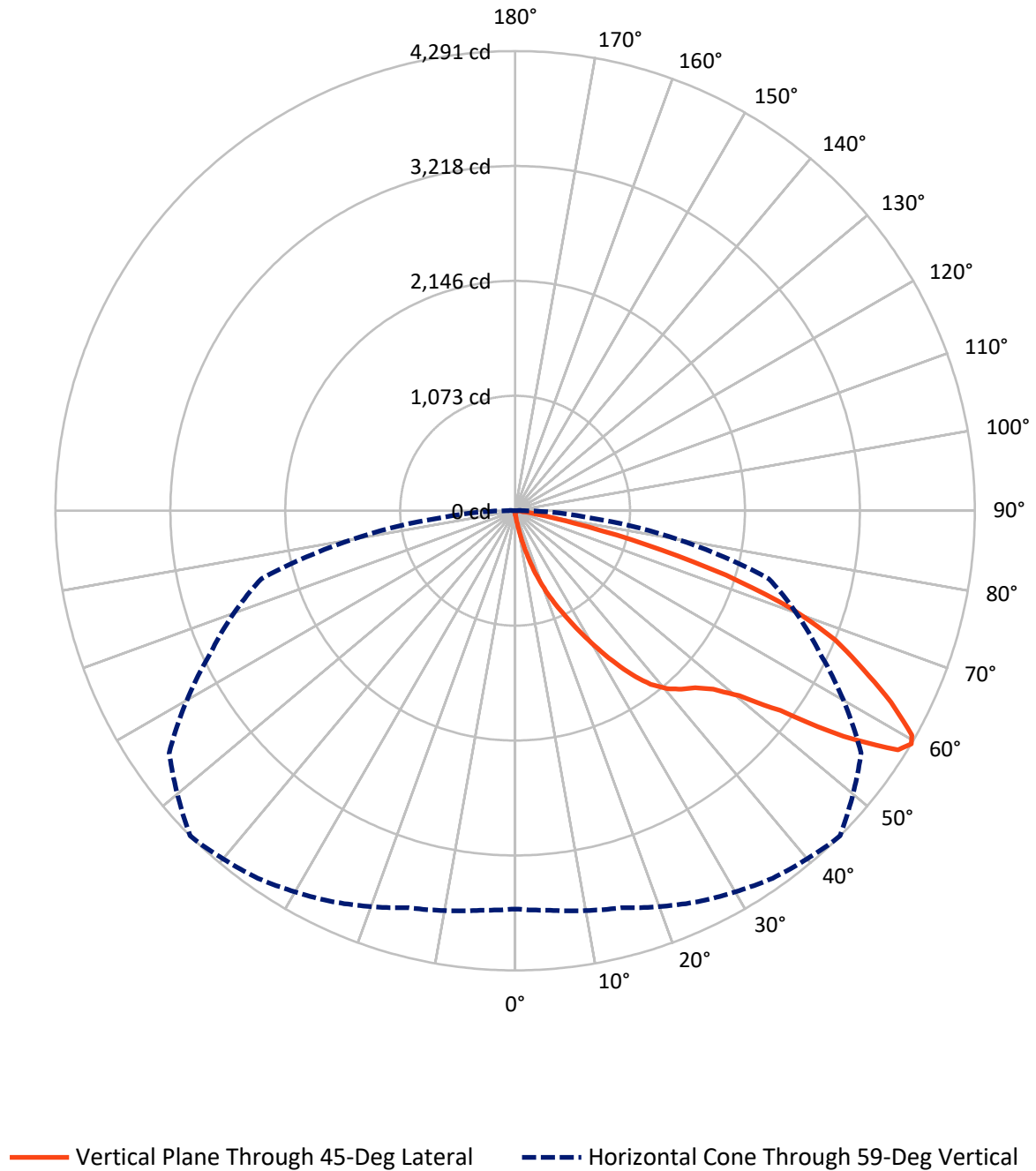


Based on 15 foot mounting height. Maximum calculated value = 5.8 fc  
 Type III - Short - N/A

REPORT NUMBER: P1057492

CATALOG NUMBER: GAP-SA2A-827-U-T3BC

## Luminous Intensity Polar Plot



REPORT NUMBER: P1057492

CATALOG NUMBER: GAP-SA2A-827-U-T3BC

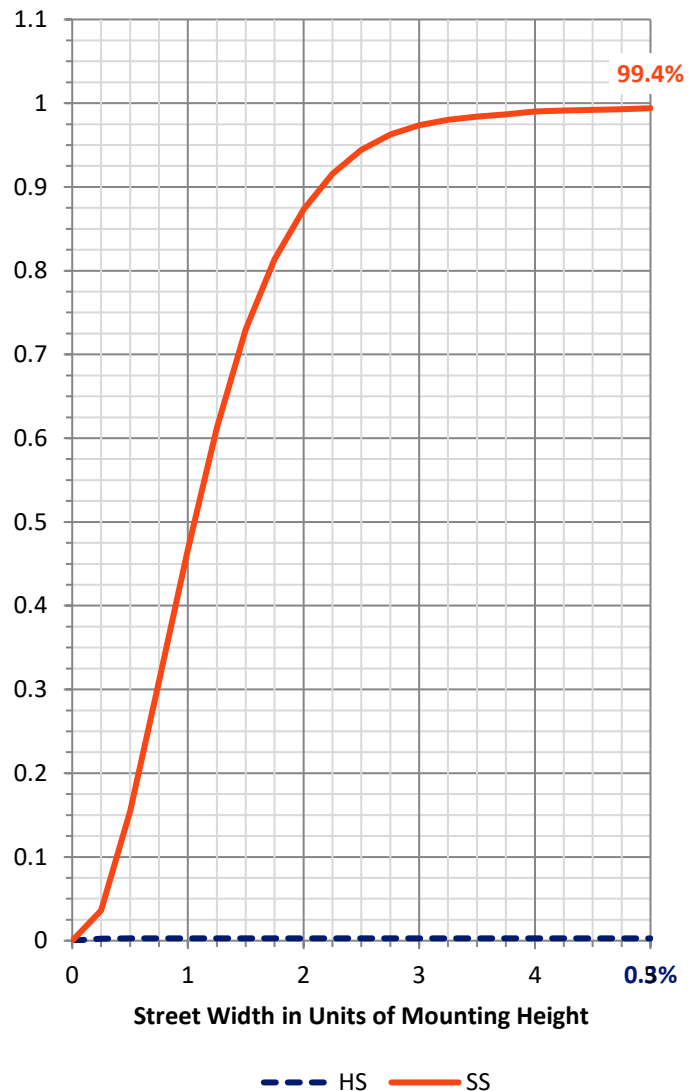
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 14.1     | 0.0    | 14.1   |
|                    | % Fixture | 0.3      | 0.0    | 0.3    |
| <b>Street Side</b> | Lumens    | 5208.7   | 0.0    | 5208.7 |
|                    | % Fixture | 99.7     | 0.0    | 99.7   |
| <b>Total</b>       | Lumens    | 5222.8   | 0.0    | 5222.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 5.1    | 0.1       |
| 10°-20°   | 60.5   | 1.2       |
| 20°-30°   | 213.8  | 4.1       |
| 30°-40°   | 492.7  | 9.4       |
| 40°-50°   | 831.3  | 15.9      |
| 50°-60°   | 1370.4 | 26.2      |
| 60°-70°   | 1556.8 | 29.8      |
| 70°-80°   | 640.1  | 12.3      |
| 80°-90°   | 52.1   | 1.0       |
| 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°    | 5222.8 | 100.0     |
| 0°-180°   | 5222.8 | 100.0     |



REPORT NUMBER: P1057492

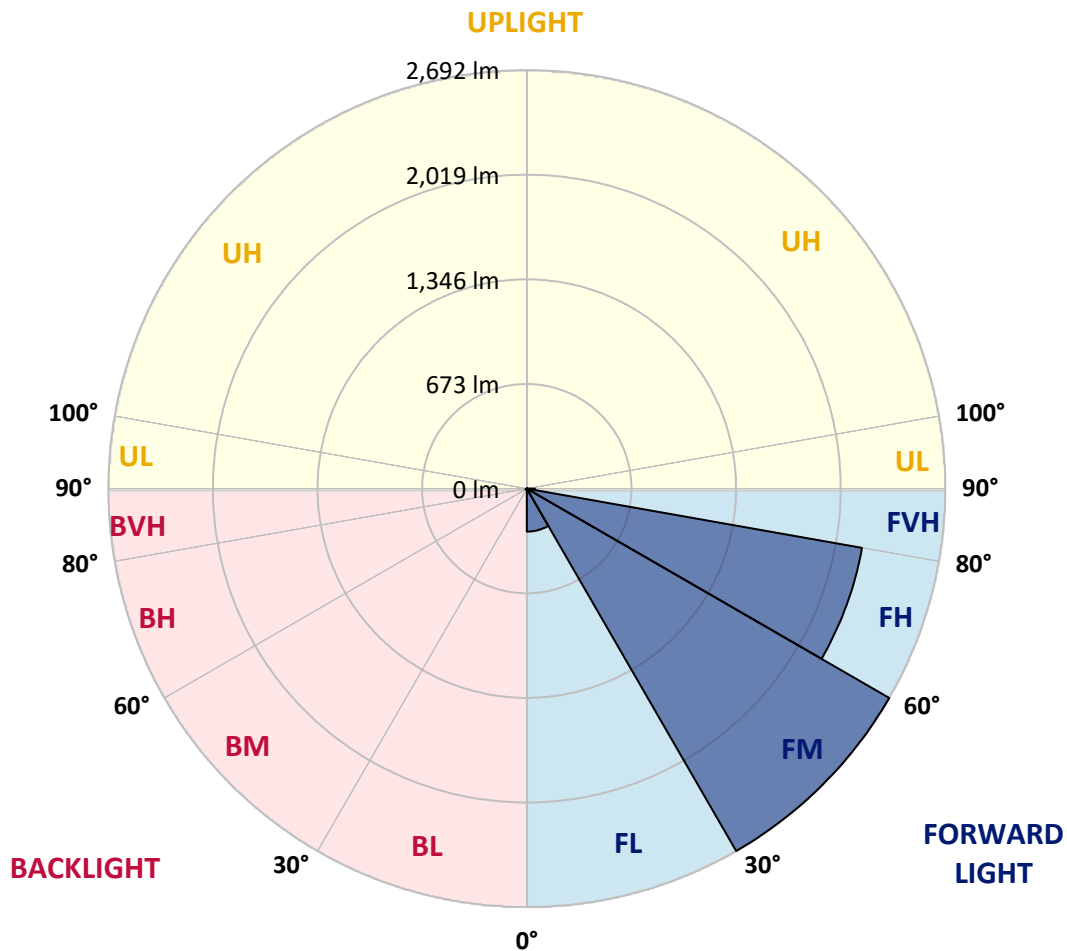
CATALOG NUMBER: GAP-SA2A-827-U-T3BC

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 276.4  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 2691.7 | 51.5      |                         |      |         |
| FH   | (60°-80°)   | 2188.8 | 41.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 51.7   | 1.0       |                         |      | G1/100  |
| BL   | (0°-30°)    | 3.0    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 2.7    | 0.1       | B0/220                  |      |         |
| BH   | (60°-80°)   | 8.1    | 0.2       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 0.4    | 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: P1057492

CATALOG NUMBER: GAP-SA2A-827-U-T3BC

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 44°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   | 29.2   |
| 2.5°  | 39.0   | 39.4   | 39.0   | 38.6   | 36.9   | 35.2   | 35.2   | 33.9   | 32.6   | 31.4   | 30.1   |
| 5°    | 68.7   | 67.0   | 65.3   | 61.4   | 54.2   | 47.9   | 47.0   | 41.5   | 36.9   | 33.5   | 30.5   |
| 7.5°  | 174.2  | 169.5  | 153.4  | 134.3  | 102.1  | 78.4   | 77.5   | 58.9   | 44.5   | 36.4   | 30.9   |
| 10°   | 363.6  | 350.9  | 326.3  | 285.6  | 220.8  | 161.5  | 148.7  | 90.7   | 58.5   | 40.3   | 31.4   |
| 12.5° | 552.6  | 553.0  | 529.7  | 474.2  | 394.9  | 299.6  | 283.1  | 164.0  | 83.5   | 47.0   | 31.8   |
| 15°   | 718.7  | 714.5  | 694.1  | 654.7  | 569.1  | 458.9  | 444.1  | 281.8  | 126.3  | 56.4   | 32.6   |
| 17.5° | 845.8  | 839.9  | 827.6  | 800.9  | 738.2  | 629.7  | 614.0  | 425.0  | 195.8  | 68.7   | 33.1   |
| 20°   | 995.0  | 990.8  | 975.1  | 938.2  | 881.0  | 794.6  | 772.1  | 581.8  | 298.3  | 89.0   | 33.9   |
| 22.5° | 1179.8 | 1167.5 | 1148.4 | 1101.4 | 1030.6 | 937.8  | 930.2  | 741.2  | 424.2  | 120.8  | 35.6   |
| 25°   | 1393.3 | 1376.0 | 1353.5 | 1294.2 | 1206.9 | 1094.2 | 1084.8 | 897.5  | 559.8  | 168.7  | 38.1   |
| 27.5° | 1652.3 | 1636.2 | 1595.9 | 1519.2 | 1414.5 | 1279.8 | 1269.2 | 1057.3 | 710.2  | 233.9  | 41.5   |
| 30°   | 1932.8 | 1912.0 | 1845.5 | 1745.9 | 1646.3 | 1487.0 | 1461.6 | 1220.9 | 860.7  | 315.3  | 46.2   |
| 32.5° | 2194.3 | 2167.6 | 2085.4 | 1967.5 | 1863.3 | 1695.1 | 1672.6 | 1405.6 | 1018.7 | 412.3  | 53.4   |
| 35°   | 2426.1 | 2394.7 | 2280.7 | 2152.3 | 2047.6 | 1899.3 | 1879.0 | 1585.3 | 1172.1 | 522.5  | 62.3   |
| 37.5° | 2610.4 | 2589.6 | 2432.0 | 2287.1 | 2201.9 | 2070.5 | 2057.0 | 1778.1 | 1342.9 | 649.6  | 74.6   |
| 40°   | 2800.7 | 2773.1 | 2587.9 | 2405.3 | 2308.7 | 2199.3 | 2183.2 | 1933.2 | 1506.9 | 786.9  | 89.8   |
| 42.5° | 2961.7 | 2935.8 | 2761.7 | 2568.0 | 2417.2 | 2287.1 | 2276.9 | 2063.3 | 1665.8 | 929.7  | 109.8  |
| 45°   | 3132.1 | 3108.7 | 2952.8 | 2801.1 | 2574.8 | 2374.4 | 2357.0 | 2171.0 | 1820.9 | 1096.7 | 136.0  |
| 47.5° | 3366.0 | 3335.0 | 3186.3 | 3069.8 | 2810.8 | 2508.7 | 2489.2 | 2276.5 | 1978.1 | 1271.3 | 172.5  |
| 50°   | 3658.8 | 3636.3 | 3528.7 | 3435.9 | 3161.3 | 2753.6 | 2712.1 | 2413.3 | 2127.3 | 1471.3 | 219.9  |
| 52.5° | 3943.1 | 3935.5 | 3943.1 | 3910.1 | 3701.2 | 3178.7 | 3097.7 | 2643.4 | 2317.1 | 1680.2 | 281.8  |
| 55°   | 3978.7 | 4002.0 | 4094.0 | 4199.9 | 4165.2 | 3787.6 | 3719.4 | 2993.9 | 2551.9 | 1943.8 | 376.3  |
| 57.5° | 3849.9 | 3863.0 | 3980.4 | 4167.3 | 4279.6 | 4222.0 | 4213.5 | 3574.0 | 2883.3 | 2257.0 | 518.3  |
| 59°   | 3718.1 | 3744.0 | 3837.6 | 4028.3 | 4189.3 | 4284.3 | 4291.0 | 3942.3 | 3135.4 | 2451.9 | 635.2  |
| 60°   | 3644.8 | 3652.9 | 3725.3 | 3913.1 | 4085.9 | 4236.0 | 4255.5 | 4130.9 | 3334.2 | 2599.0 | 739.9  |
| 62.5° | 3413.4 | 3417.7 | 3456.7 | 3604.5 | 3757.5 | 3895.7 | 3936.8 | 4245.7 | 3885.9 | 2967.6 | 1109.8 |
| 65°   | 3110.9 | 3116.4 | 3175.3 | 3317.2 | 3463.0 | 3555.8 | 3573.2 | 3923.6 | 4176.6 | 3351.6 | 1626.4 |
| 67.5° | 2565.5 | 2596.4 | 2671.4 | 2895.2 | 3100.3 | 3211.3 | 3224.0 | 3355.8 | 4017.7 | 3611.3 | 1899.7 |
| 70°   | 1737.0 | 1707.8 | 1893.8 | 2205.3 | 2576.1 | 2743.0 | 2743.9 | 2801.5 | 3420.2 | 3547.3 | 1584.0 |
| 72.5° | 758.5  | 805.2  | 940.8  | 1214.9 | 1664.1 | 2066.7 | 2058.2 | 2254.0 | 2727.8 | 3013.8 | 1177.6 |
| 75°   | 333.1  | 343.7  | 400.9  | 546.2  | 756.8  | 1122.6 | 1251.8 | 1809.5 | 2053.1 | 1970.9 | 856.4  |
| 77.5° | 179.3  | 181.8  | 197.1  | 228.4  | 289.4  | 530.1  | 559.8  | 1146.3 | 1455.6 | 1136.1 | 553.4  |
| 80°   | 68.2   | 68.2   | 71.2   | 81.8   | 120.8  | 207.2  | 222.5  | 517.8  | 1004.3 | 580.6  | 279.7  |
| 82.5° | 42.8   | 42.0   | 42.4   | 42.8   | 49.2   | 70.8   | 75.4   | 206.0  | 474.2  | 286.5  | 73.7   |
| 85°   | 21.6   | 22.5   | 25.0   | 30.1   | 35.6   | 43.6   | 44.9   | 64.4   | 144.1  | 67.0   | 19.1   |
| 87.5° | 14.0   | 14.4   | 15.7   | 20.3   | 25.0   | 31.8   | 32.6   | 44.9   | 57.2   | 47.0   | 3.8    |
| 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: P1057492

CATALOG NUMBER: GAP-SA2A-827-U-T3BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°   | 95°  | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 29.2  | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 | 29.2 |
| 2.5°  | 29.7  | 28.8 | 27.5 | 26.3 | 25.0 | 22.9 | 21.2 | 20.3 | 19.9 | 19.5 | 19.5 |
| 5°    | 29.2  | 28.0 | 25.4 | 23.3 | 21.2 | 18.6 | 16.5 | 15.3 | 14.8 | 14.4 | 14.4 |
| 7.5°  | 28.8  | 26.7 | 23.7 | 20.8 | 17.8 | 14.8 | 12.3 | 11.0 | 10.6 | 10.2 | 9.7  |
| 10°   | 28.4  | 25.8 | 21.6 | 18.2 | 14.8 | 11.4 | 8.9  | 7.2  | 6.8  | 6.4  | 6.4  |
| 12.5° | 28.0  | 24.6 | 19.9 | 16.1 | 11.9 | 8.1  | 5.9  | 4.2  | 3.4  | 3.0  | 3.0  |
| 15°   | 27.5  | 23.3 | 18.6 | 13.6 | 8.9  | 5.1  | 2.5  | 1.3  | 0.4  | 0.4  | 0.4  |
| 17.5° | 26.3  | 22.0 | 16.5 | 10.6 | 5.9  | 2.5  | 0.8  | 0.0  | 0.0  | 0.0  | 0.0  |
| 20°   | 25.4  | 20.8 | 14.4 | 8.1  | 3.4  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 22.5° | 25.0  | 19.9 | 12.3 | 5.5  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 25°   | 25.0  | 19.1 | 10.2 | 4.2  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 27.5° | 25.4  | 18.2 | 8.1  | 3.0  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 30°   | 24.6  | 17.4 | 5.9  | 2.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 32.5° | 24.6  | 15.7 | 4.2  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 35°   | 25.0  | 13.6 | 3.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 37.5° | 26.3  | 11.9 | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 28.4  | 11.0 | 2.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 31.4  | 10.6 | 1.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 34.7  | 10.6 | 0.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 39.8  | 11.0 | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 45.8  | 11.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 52.5  | 11.9 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 59.8  | 11.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 69.5  | 11.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 59°   | 79.7  | 10.2 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 90.3  | 9.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 145.8 | 8.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 286.0 | 7.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 489.0 | 8.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 519.5 | 7.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 341.1 | 6.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 173.7 | 6.8  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 78.0  | 6.8  | 0.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 31.4  | 3.8  | 0.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 12.7  | 2.5  | 1.3  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 5.1   | 2.5  | 1.7  | 0.8  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 3.4   | 2.5  | 2.1  | 1.7  | 0.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 90°   | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-8

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-827-U-5WQ

Data in this report applies to families of products including GSS-SB1A-827-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-8  
 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-827-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI  
 2700K CCT 26 LEDS

### Spectral Parameters

CCT (K): 2756  
 CIE  $u'$ : 0.2599  
 CIE  $v'$ : 0.5271  
 Duv: 0.0006  
 CIE x: 0.4563  
 CIE y: 0.4112  
 CIE z: 0.1325  
 Peak Wavelength (nm): 609  
 Dominant Wavelength (nm): 583  
 Purity: 60.41121  
 R<sub>f</sub>: 82.2  
 R<sub>g</sub>: 99.9

CRI (Ra): 82.9  
 R1: 81.6  
 R2: 88.8  
 R3: 96.0  
 R4: 83.4  
 R5: 81.4  
 R6: 87.0  
 R7: 84.0  
 R8: 60.8  
 R9: 10.8  
 R10: 74.8  
 R11: 84.3  
 R12: 72.1  
 R13: 82.9  
 R14: 97.3  
 R15: 73.7



### Test Conditions

Stabilization Time: 29M  
 Operation Time: 1H 29M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-8

| 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: SP1-2407-184-8

**CIE 1931 Chromaticity Diagram**



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



REPORT NUMBER: SP1-2407-184-8

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 158                      | NR            | 620    | 959                      | NR            | 750    | 35                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 211                      | NR            | 625    | 918                      | NR            | 755    | 30                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 264                      | NR            | 630    | 873                      | NR            | 760    | 26                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 318                      | NR            | 635    | 816                      | NR            | 765    | 22                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 363                      | NR            | 640    | 755                      | NR            | 770    | 19                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 403                      | NR            | 645    | 689                      | NR            | 775    | 16                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 435                      | NR            | 650    | 626                      | NR            | 780    | 14                       | NR            | 910    | 0                        | NR            |
| 395    | 1                        | NR            | 525    | 459                      | NR            | 655    | 564                      | NR            | 785    | 12                       | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 481                      | NR            | 660    | 503                      | NR            | 790    | 10                       | NR            | 920    | 0                        | NR            |
| 405    | 6                        | NR            | 535    | 501                      | NR            | 665    | 447                      | NR            | 795    | 9                        | NR            | 925    | 0                        | NR            |
| 410    | 13                       | NR            | 540    | 519                      | NR            | 670    | 392                      | NR            | 800    | 8                        | NR            | 930    | 0                        | NR            |
| 415    | 26                       | NR            | 545    | 542                      | NR            | 675    | 343                      | NR            | 805    | 7                        | NR            | 935    | 0                        | NR            |
| 420    | 51                       | NR            | 550    | 565                      | NR            | 680    | 299                      | NR            | 810    | 6                        | NR            | 940    | 0                        | NR            |
| 425    | 93                       | NR            | 555    | 593                      | NR            | 685    | 260                      | NR            | 815    | 5                        | NR            | 945    | 0                        | NR            |
| 430    | 156                      | NR            | 560    | 624                      | NR            | 690    | 225                      | NR            | 820    | 4                        | NR            | 950    | 0                        | NR            |
| 435    | 250                      | NR            | 565    | 662                      | NR            | 695    | 194                      | NR            | 825    | 4                        | NR            | 955    | 0                        | NR            |
| 440    | 391                      | NR            | 570    | 707                      | NR            | 700    | 166                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 460                      | NR            | 575    | 756                      | NR            | 705    | 143                      | NR            | 835    | 3                        | NR            | 965    | 0                        | NR            |
| 450    | 293                      | NR            | 580    | 810                      | NR            | 710    | 122                      | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 188                      | NR            | 585    | 860                      | NR            | 715    | 105                      | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 149                      | NR            | 590    | 910                      | NR            | 720    | 90                       | NR            | 850    | 2                        | NR            | 980    | 0                        | NR            |
| 465    | 103                      | NR            | 595    | 950                      | NR            | 725    | 77                       | NR            | 855    | 2                        | NR            | 985    | 0                        | NR            |
| 470    | 80                       | NR            | 600    | 980                      | NR            | 730    | 66                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 82                       | NR            | 605    | 995                      | NR            | 735    | 56                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 92                       | NR            | 610    | 998                      | NR            | 740    | 48                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 116                      | NR            | 615    | 985                      | NR            | 745    | 41                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-184-8

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.2

| $\lambda$<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               | 158                                  | NR                             | 620               | 959                                  | NR                             | 750               | 35                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 211                                  | NR                             | 625               | 918                                  | NR                             | 755               | 30                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 264                                  | NR                             | 630               | 873                                  | NR                             | 760               | 26                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 318                                  | NR                             | 635               | 816                                  | NR                             | 765               | 22                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 363                                  | NR                             | 640               | 755                                  | NR                             | 770               | 19                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 403                                  | NR                             | 645               | 689                                  | NR                             | 775               | 16                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 435                                  | NR                             | 650               | 626                                  | NR                             | 780               | 14                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 459                                  | NR                             | 655               | 564                                  | NR                             | 785               | 12                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 481                                  | NR                             | 660               | 503                                  | NR                             | 790               | 10                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 501                                  | NR                             | 665               | 447                                  | NR                             | 795               | 9                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 13                                   | NR                             | 540               | 519                                  | NR                             | 670               | 392                                  | NR                             | 800               | 8                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 26                                   | NR                             | 545               | 542                                  | NR                             | 675               | 343                                  | NR                             | 805               | 7                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 51                                   | NR                             | 550               | 565                                  | NR                             | 680               | 299                                  | NR                             | 810               | 6                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 93                                   | NR                             | 555               | 593                                  | NR                             | 685               | 260                                  | NR                             | 815               | 5                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 156                                  | NR                             | 560               | 624                                  | NR                             | 690               | 225                                  | NR                             | 820               | 4                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 250                                  | NR                             | 565               | 662                                  | NR                             | 695               | 194                                  | NR                             | 825               | 4                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 391                                  | NR                             | 570               | 707                                  | NR                             | 700               | 166                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 460                                  | NR                             | 575               | 756                                  | NR                             | 705               | 143                                  | NR                             | 835               | 3                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 293                                  | NR                             | 580               | 810                                  | NR                             | 710               | 122                                  | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 188                                  | NR                             | 585               | 860                                  | NR                             | 715               | 105                                  | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 149                                  | NR                             | 590               | 910                                  | NR                             | 720               | 90                                   | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 103                                  | NR                             | 595               | 950                                  | NR                             | 725               | 77                                   | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 80                                   | NR                             | 600               | 980                                  | NR                             | 730               | 66                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 82                                   | NR                             | 605               | 995                                  | NR                             | 735               | 56                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 92                                   | NR                             | 610               | 998                                  | NR                             | 740               | 48                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 116                                  | NR                             | 615               | 985                                  | NR                             | 745               | 41                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-184-8

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.16**

| $\lambda$<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               | 158                                  | NR                             | 620               | 959                                  | NR                             | 750               | 35                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 211                                  | NR                             | 625               | 918                                  | NR                             | 755               | 30                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 264                                  | NR                             | 630               | 873                                  | NR                             | 760               | 26                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 318                                  | NR                             | 635               | 816                                  | NR                             | 765               | 22                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 363                                  | NR                             | 640               | 755                                  | NR                             | 770               | 19                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 403                                  | NR                             | 645               | 689                                  | NR                             | 775               | 16                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 435                                  | NR                             | 650               | 626                                  | NR                             | 780               | 14                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 459                                  | NR                             | 655               | 564                                  | NR                             | 785               | 12                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 481                                  | NR                             | 660               | 503                                  | NR                             | 790               | 10                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 501                                  | NR                             | 665               | 447                                  | NR                             | 795               | 9                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 13                                   | NR                             | 540               | 519                                  | NR                             | 670               | 392                                  | NR                             | 800               | 8                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 26                                   | NR                             | 545               | 542                                  | NR                             | 675               | 343                                  | NR                             | 805               | 7                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 51                                   | NR                             | 550               | 565                                  | NR                             | 680               | 299                                  | NR                             | 810               | 6                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 93                                   | NR                             | 555               | 593                                  | NR                             | 685               | 260                                  | NR                             | 815               | 5                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 156                                  | NR                             | 560               | 624                                  | NR                             | 690               | 225                                  | NR                             | 820               | 4                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 250                                  | NR                             | 565               | 662                                  | NR                             | 695               | 194                                  | NR                             | 825               | 4                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 391                                  | NR                             | 570               | 707                                  | NR                             | 700               | 166                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 460                                  | NR                             | 575               | 756                                  | NR                             | 705               | 143                                  | NR                             | 835               | 3                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 293                                  | NR                             | 580               | 810                                  | NR                             | 710               | 122                                  | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 188                                  | NR                             | 585               | 860                                  | NR                             | 715               | 105                                  | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 149                                  | NR                             | 590               | 910                                  | NR                             | 720               | 90                                   | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 103                                  | NR                             | 595               | 950                                  | NR                             | 725               | 77                                   | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 80                                   | NR                             | 600               | 980                                  | NR                             | 730               | 66                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 82                                   | NR                             | 605               | 995                                  | NR                             | 735               | 56                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 92                                   | NR                             | 610               | 998                                  | NR                             | 740               | 48                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 116                                  | NR                             | 615               | 985                                  | NR                             | 745               | 41                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-184-8

TM-30-18

### Summary

$R_f = 82.2$   
 $R_g = 99.9$   
 $CIE R_a = 82.9$   
 $R_9 = 10.8$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 76 | CES51 = 89 | CES76 = 75 |
| CES02 = 63 | CES27 = 89 | CES52 = 91 | CES77 = 87 |
| CES03 = 31 | CES28 = 90 | CES53 = 82 | CES78 = 76 |
| CES04 = 71 | CES29 = 68 | CES54 = 88 | CES79 = 91 |
| CES05 = 50 | CES30 = 69 | CES55 = 87 | CES80 = 90 |
| CES06 = 52 | CES31 = 72 | CES56 = 80 | CES81 = 74 |
| CES07 = 43 | CES32 = 71 | CES57 = 78 | CES82 = 95 |
| CES08 = 42 | CES33 = 71 | CES58 = 80 | CES83 = 90 |
| CES09 = 29 | CES34 = 84 | CES59 = 93 | CES84 = 94 |
| CES10 = 77 | CES35 = 92 | CES60 = 96 | CES85 = 83 |
| CES11 = 59 | CES36 = 92 | CES61 = 94 | CES86 = 69 |
| CES12 = 66 | CES37 = 89 | CES62 = 84 | CES87 = 85 |
| CES13 = 44 | CES38 = 75 | CES63 = 79 | CES88 = 84 |
| CES14 = 74 | CES39 = 93 | CES64 = 85 | CES89 = 74 |
| CES15 = 72 | CES40 = 89 | CES65 = 79 | CES90 = 81 |
| CES16 = 48 | CES41 = 85 | CES66 = 83 | CES91 = 96 |
| CES17 = 50 | CES42 = 88 | CES67 = 82 | CES92 = 72 |
| CES18 = 57 | CES43 = 81 | CES68 = 86 | CES93 = 84 |
| CES19 = 73 | CES44 = 98 | CES69 = 92 | CES94 = 63 |
| CES20 = 67 | CES45 = 87 | CES70 = 81 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 81 | CES96 = 85 |
| CES22 = 79 | CES47 = 76 | CES72 = 93 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 75 | CES98 = 82 |
| CES24 = 91 | CES49 = 81 | CES74 = 91 | CES99 = 76 |
| CES25 = 72 | CES50 = 88 | CES75 = 79 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)