

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: P1057454

Luminaire Tested: **GAP-SA1C-735-U-T3BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1057454  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GAP-SA1C-735-U-T3BC  
Description: GALLEON PEDESTRAIAN COMPANION 1050mA 1xLight Square PACKAGE 70CRI  
3500K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL  
Light Source: (14) 3500K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5392.6 lumens  
Efficiency: N/A  
Efficacy: 109.2 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G2

Input Watts (W): 49.4  
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

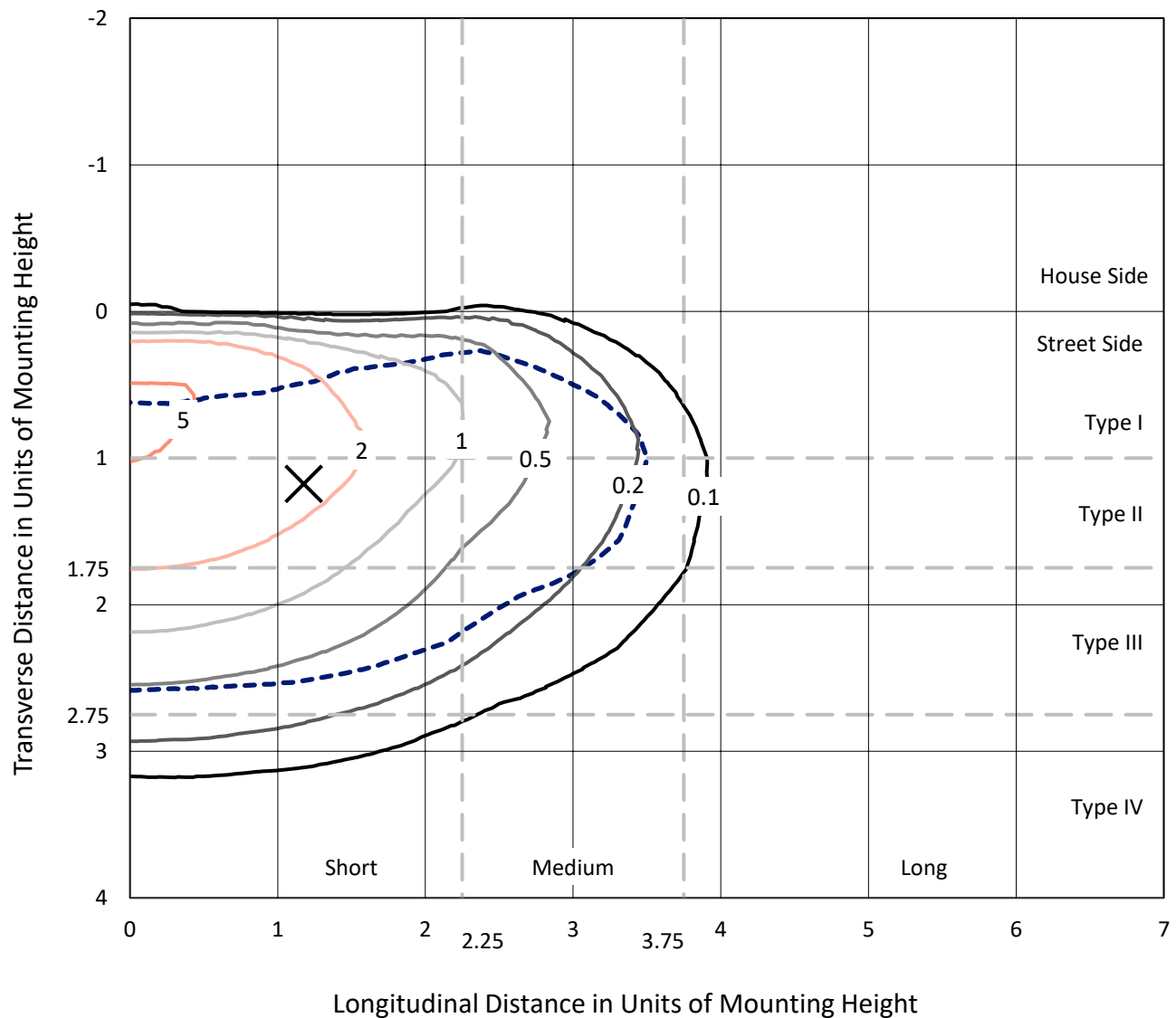


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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

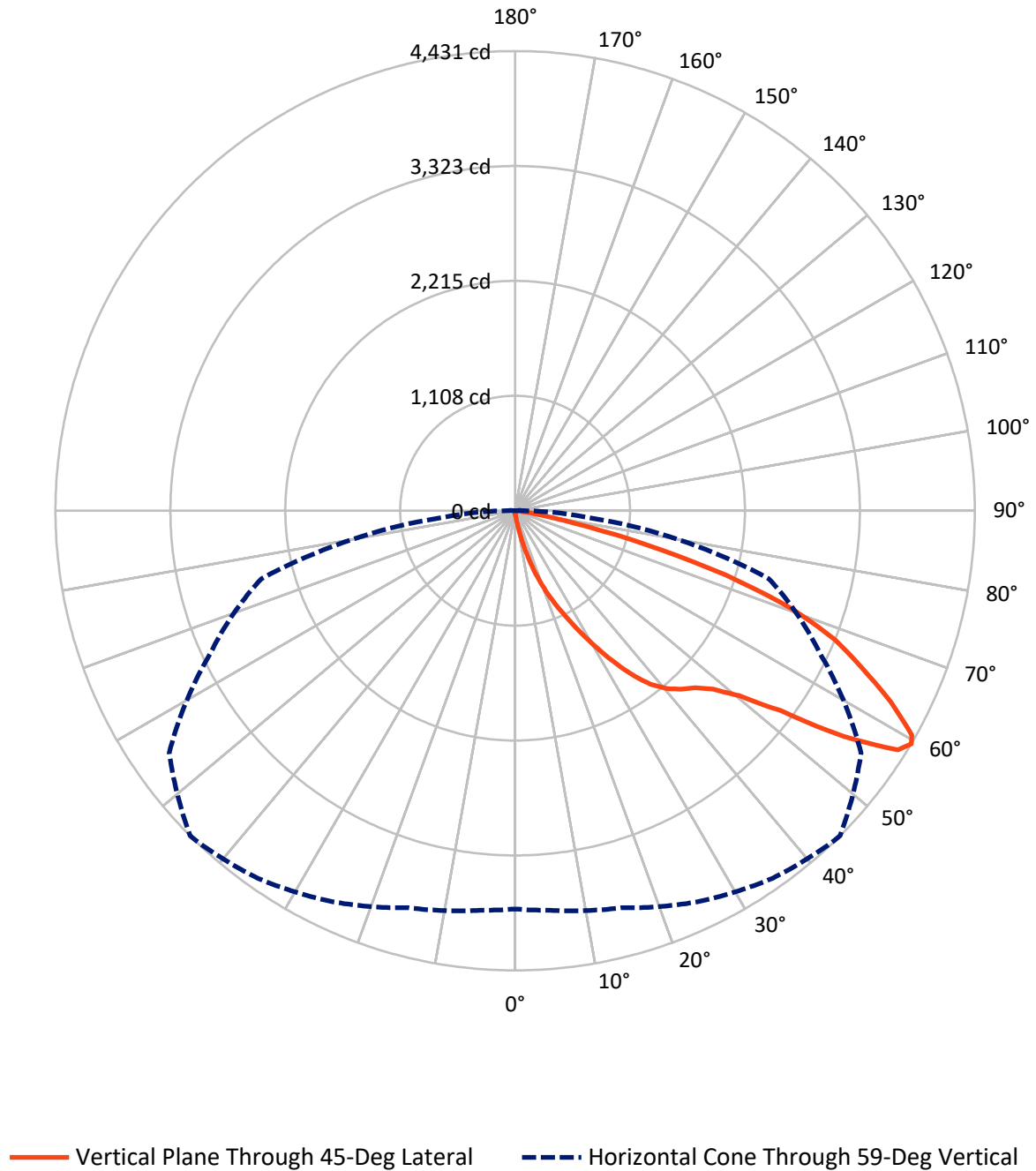


Based on 15 foot mounting height. Maximum calculated value = 6 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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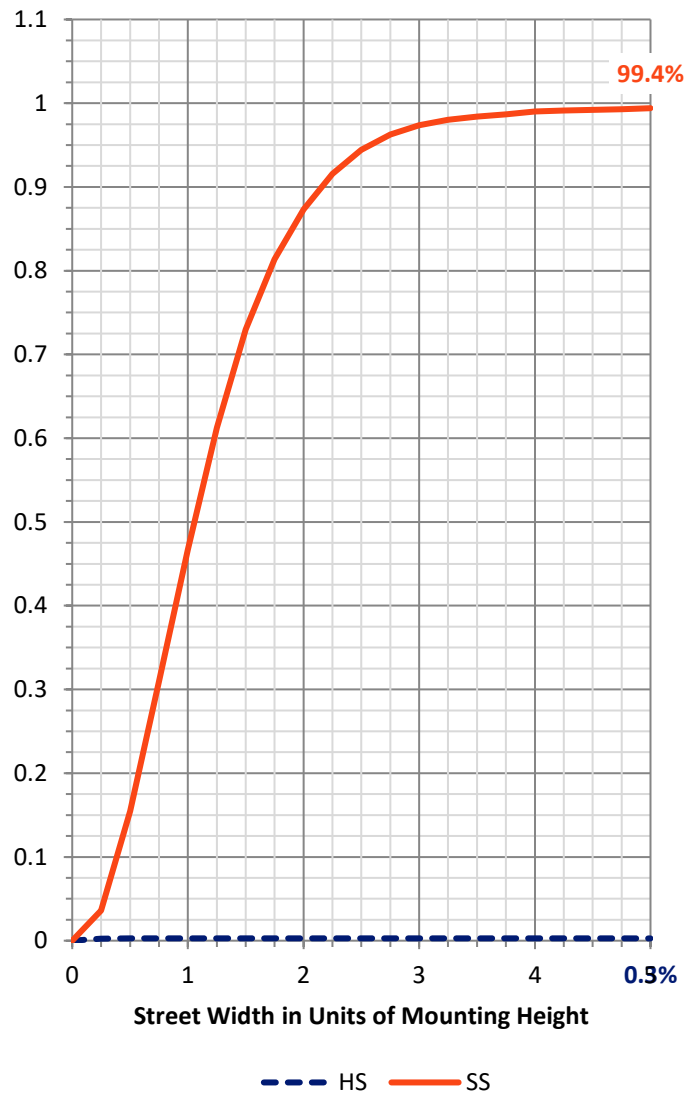
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 14.6     | 0.0    | 14.6   |
|                    | % Fixture | 0.3      | 0.0    | 0.3    |
| <b>Street Side</b> | Lumens    | 5378.0   | 0.0    | 5378.0 |
|                    | % Fixture | 99.7     | 0.0    | 99.7   |
| <b>Total</b>       | Lumens    | 5392.6   | 0.0    | 5392.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 5.3    | 0.1       |
| 10°-20°   | 62.4   | 1.2       |
| 20°-30°   | 220.7  | 4.1       |
| 30°-40°   | 508.8  | 9.4       |
| 40°-50°   | 858.3  | 15.9      |
| 50°-60°   | 1415.0 | 26.2      |
| 60°-70°   | 1607.4 | 29.8      |
| 70°-80°   | 660.9  | 12.3      |
| 80°-90°   | 53.8   | 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°    | 5392.6 | 100.0     |
| 0°-180°   | 5392.6 | 100.0     |



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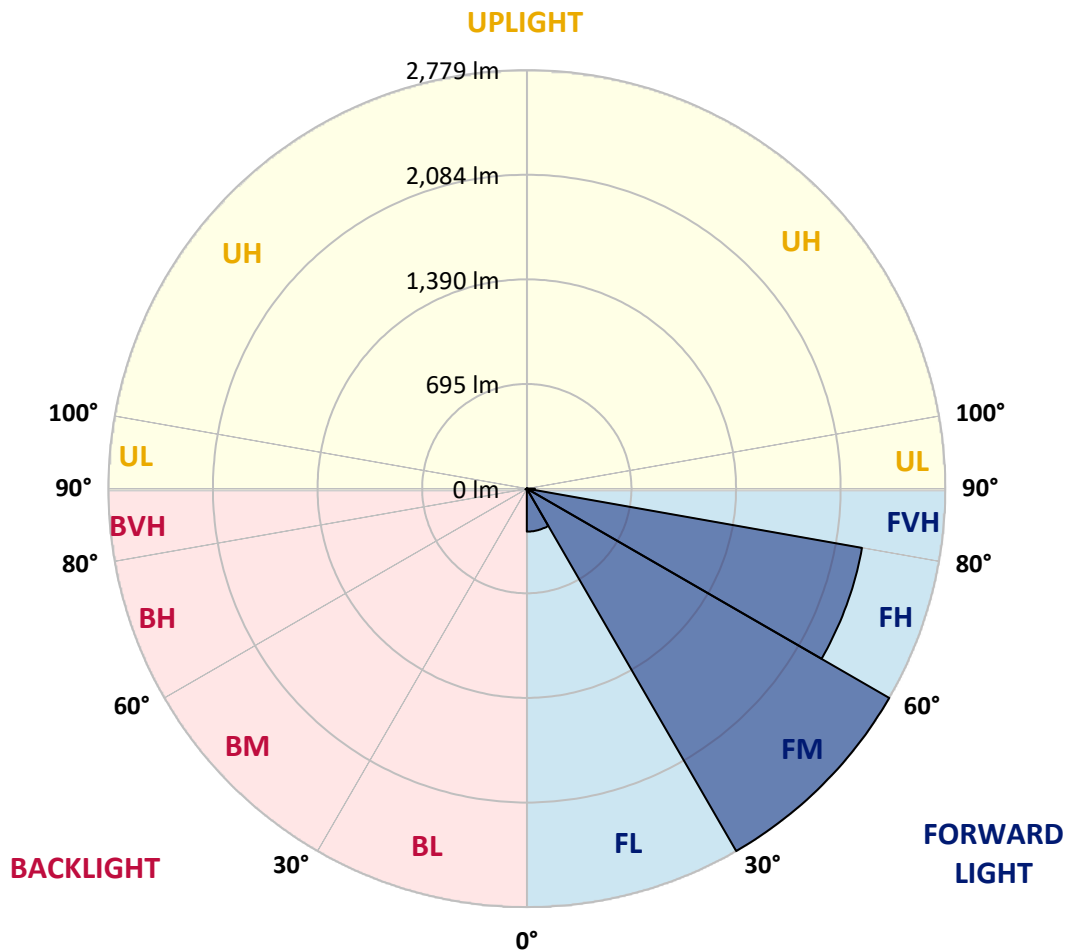
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 285.4  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 2779.2 | 51.5      |                         |      |         |
| FH   | (60°-80°)   | 2260.0 | 41.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 53.4   | 1.0       |                         |      | G1/100  |
| BL   | (0°-30°)    | 3.1    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 2.8    | 0.1       | B0/220                  |      |         |
| BH   | (60°-80°)   | 8.3    | 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



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 44°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   | 30.2   |
| 2.5°  | 40.3   | 40.7   | 40.3   | 39.8   | 38.1   | 36.3   | 36.3   | 35.0   | 33.7   | 32.4   | 31.1   |
| 5°    | 70.9   | 69.1   | 67.4   | 63.4   | 56.0   | 49.4   | 48.6   | 42.9   | 38.1   | 34.6   | 31.5   |
| 7.5°  | 179.8  | 175.0  | 158.4  | 138.7  | 105.4  | 80.9   | 80.1   | 60.8   | 45.9   | 37.6   | 31.9   |
| 10°   | 375.4  | 362.3  | 336.9  | 294.9  | 228.0  | 166.7  | 153.6  | 93.6   | 60.4   | 41.6   | 32.4   |
| 12.5° | 570.6  | 571.0  | 546.9  | 489.6  | 407.8  | 309.3  | 292.3  | 169.3  | 86.2   | 48.6   | 32.8   |
| 15°   | 742.1  | 737.7  | 716.7  | 676.0  | 587.6  | 473.9  | 458.5  | 291.0  | 130.4  | 58.2   | 33.7   |
| 17.5° | 873.3  | 867.2  | 854.5  | 827.0  | 762.2  | 650.2  | 634.0  | 438.9  | 202.1  | 70.9   | 34.1   |
| 20°   | 1027.3 | 1023.0 | 1006.8 | 968.7  | 909.6  | 820.4  | 797.2  | 600.7  | 308.0  | 91.9   | 35.0   |
| 22.5° | 1218.1 | 1205.4 | 1185.7 | 1137.2 | 1064.1 | 968.3  | 960.4  | 765.3  | 438.0  | 124.7  | 36.8   |
| 25°   | 1438.6 | 1420.7 | 1397.5 | 1336.2 | 1246.1 | 1129.7 | 1120.1 | 926.7  | 578.0  | 174.1  | 39.4   |
| 27.5° | 1706.0 | 1689.3 | 1647.8 | 1568.6 | 1460.5 | 1321.4 | 1310.4 | 1091.7 | 733.3  | 241.5  | 42.9   |
| 30°   | 1995.6 | 1974.2 | 1905.5 | 1802.7 | 1699.8 | 1535.3 | 1509.1 | 1260.6 | 888.6  | 325.5  | 47.7   |
| 32.5° | 2265.6 | 2238.0 | 2153.1 | 2031.5 | 1923.9 | 1750.2 | 1727.0 | 1451.3 | 1051.8 | 425.7  | 55.1   |
| 35°   | 2504.9 | 2472.5 | 2354.8 | 2222.3 | 2114.2 | 1961.1 | 1940.1 | 1636.8 | 1210.2 | 539.5  | 64.3   |
| 37.5° | 2695.2 | 2673.8 | 2511.0 | 2361.4 | 2273.5 | 2137.8 | 2123.8 | 1835.9 | 1386.6 | 670.7  | 77.0   |
| 40°   | 2891.7 | 2863.3 | 2672.1 | 2483.5 | 2383.7 | 2270.8 | 2254.2 | 1996.1 | 1555.9 | 812.5  | 92.8   |
| 42.5° | 3058.0 | 3031.3 | 2851.4 | 2651.5 | 2495.7 | 2361.4 | 2350.9 | 2130.4 | 1720.0 | 960.0  | 113.3  |
| 45°   | 3233.9 | 3209.8 | 3048.8 | 2892.1 | 2658.5 | 2451.5 | 2433.6 | 2241.5 | 1880.1 | 1132.4 | 140.5  |
| 47.5° | 3475.4 | 3443.4 | 3289.9 | 3169.5 | 2902.2 | 2590.2 | 2570.1 | 2350.5 | 2042.4 | 1312.6 | 178.1  |
| 50°   | 3777.7 | 3754.5 | 3643.4 | 3547.6 | 3264.0 | 2843.1 | 2800.3 | 2491.8 | 2196.4 | 1519.1 | 227.1  |
| 52.5° | 4071.3 | 4063.4 | 4071.3 | 4037.2 | 3821.5 | 3282.0 | 3198.4 | 2729.4 | 2392.5 | 1734.8 | 291.0  |
| 55°   | 4108.1 | 4132.1 | 4227.1 | 4336.5 | 4300.6 | 3910.7 | 3840.3 | 3091.2 | 2634.9 | 2007.0 | 388.5  |
| 57.5° | 3975.0 | 3988.6 | 4109.8 | 4302.8 | 4418.7 | 4359.2 | 4350.5 | 3690.2 | 2977.0 | 2330.3 | 535.1  |
| 59°   | 3839.0 | 3865.7 | 3962.4 | 4159.3 | 4325.5 | 4423.5 | 4430.5 | 4070.4 | 3237.4 | 2531.6 | 655.9  |
| 60°   | 3763.3 | 3771.6 | 3846.4 | 4040.2 | 4218.8 | 4373.6 | 4393.8 | 4265.1 | 3442.6 | 2683.4 | 763.9  |
| 62.5° | 3524.4 | 3528.8 | 3569.0 | 3721.7 | 3879.7 | 4022.3 | 4064.7 | 4383.7 | 4012.2 | 3064.1 | 1145.9 |
| 65°   | 3212.0 | 3217.7 | 3278.5 | 3425.1 | 3575.6 | 3671.4 | 3689.3 | 4051.2 | 4312.4 | 3460.5 | 1679.3 |
| 67.5° | 2648.9 | 2680.8 | 2758.3 | 2989.3 | 3201.0 | 3315.7 | 3328.8 | 3464.9 | 4148.3 | 3728.7 | 1961.5 |
| 70°   | 1793.5 | 1763.3 | 1955.4 | 2277.0 | 2659.8 | 2832.2 | 2833.1 | 2892.6 | 3531.4 | 3662.6 | 1635.5 |
| 72.5° | 783.2  | 831.3  | 971.3  | 1254.4 | 1718.2 | 2133.9 | 2125.1 | 2327.3 | 2816.4 | 3111.8 | 1215.9 |
| 75°   | 343.9  | 354.8  | 413.9  | 564.0  | 781.4  | 1159.0 | 1292.5 | 1868.3 | 2119.9 | 2035.0 | 884.3  |
| 77.5° | 185.1  | 187.7  | 203.5  | 235.8  | 298.8  | 547.4  | 578.0  | 1183.5 | 1502.9 | 1173.0 | 571.4  |
| 80°   | 70.4   | 70.4   | 73.5   | 84.4   | 124.7  | 214.0  | 229.7  | 534.7  | 1037.0 | 599.4  | 288.8  |
| 82.5° | 44.2   | 43.3   | 43.8   | 44.2   | 50.8   | 73.1   | 77.9   | 212.6  | 489.6  | 295.8  | 76.1   |
| 85°   | 22.3   | 23.2   | 25.8   | 31.1   | 36.8   | 45.1   | 46.4   | 66.5   | 148.8  | 69.1   | 19.7   |
| 87.5° | 14.4   | 14.9   | 16.2   | 21.0   | 25.8   | 32.8   | 33.7   | 46.4   | 59.1   | 48.6   | 3.9    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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CATALOG NUMBER: GAP-SA1C-735-U-T3BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°   | 95°  | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 30.2  | 30.2 | 30.2 | 30.2 | 30.2 | 30.2 | 30.2 | 30.2 | 30.2 | 30.2 | 30.2 |
| 2.5°  | 30.6  | 29.8 | 28.4 | 27.1 | 25.8 | 23.6 | 21.9 | 21.0 | 20.6 | 20.1 | 20.1 |
| 5°    | 30.2  | 28.9 | 26.3 | 24.1 | 21.9 | 19.3 | 17.1 | 15.8 | 15.3 | 14.9 | 14.9 |
| 7.5°  | 29.8  | 27.6 | 24.5 | 21.4 | 18.4 | 15.3 | 12.7 | 11.4 | 10.9 | 10.5 | 10.1 |
| 10°   | 29.3  | 26.7 | 22.3 | 18.8 | 15.3 | 11.8 | 9.2  | 7.4  | 7.0  | 6.6  | 6.6  |
| 12.5° | 28.9  | 25.4 | 20.6 | 16.6 | 12.3 | 8.3  | 6.1  | 4.4  | 3.5  | 3.1  | 3.1  |
| 15°   | 28.4  | 24.1 | 19.3 | 14.0 | 9.2  | 5.3  | 2.6  | 1.3  | 0.4  | 0.4  | 0.4  |
| 17.5° | 27.1  | 22.8 | 17.1 | 10.9 | 6.1  | 2.6  | 0.9  | 0.0  | 0.0  | 0.0  | 0.0  |
| 20°   | 26.3  | 21.4 | 14.9 | 8.3  | 3.5  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 22.5° | 25.8  | 20.6 | 12.7 | 5.7  | 2.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 25°   | 25.8  | 19.7 | 10.5 | 4.4  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 27.5° | 26.3  | 18.8 | 8.3  | 3.1  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 30°   | 25.4  | 17.9 | 6.1  | 2.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 32.5° | 25.4  | 16.2 | 4.4  | 1.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 35°   | 25.8  | 14.0 | 3.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 37.5° | 27.1  | 12.3 | 2.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 29.3  | 11.4 | 2.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 32.4  | 10.9 | 1.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 35.9  | 10.9 | 0.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 41.1  | 11.4 | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 47.3  | 11.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 54.3  | 12.3 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 61.7  | 11.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 71.8  | 11.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 59°   | 82.3  | 10.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 93.2  | 9.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 150.5 | 8.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 295.3 | 7.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 504.9 | 8.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 536.4 | 7.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 352.2 | 6.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 179.4 | 7.0  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 80.5  | 7.0  | 0.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 32.4  | 3.9  | 0.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 13.1  | 2.6  | 1.3  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 5.3   | 2.6  | 1.8  | 0.9  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 3.5   | 2.6  | 2.2  | 1.8  | 0.9  | 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: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-5  
 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-735-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 3369     | CRI (Ra): | 70.1 |      |       |
| CIE u':                   | 0.2386   | R1:       | 66.6 | R9:  | -40.2 |
| CIE v':                   | 0.5156   | R2:       | 77.6 | R10: | 49.1  |
| Duv:                      | 0.0013   | R3:       | 88.5 | R11: | 66.3  |
| CIE x:                    | 0.4143   | R4:       | 69.5 | R12: | 45.7  |
| CIE y:                    | 0.3980   | R5:       | 66.4 | R13: | 68.0  |
| CIE z:                    | 0.1877   | R6:       | 69.6 | R14: | 93.4  |
| Peak Wavelength (nm):     | 590      | R7:       | 77.5 | R15: | 57.6  |
| Dominant Wavelength (nm): | 580      | R8:       | 44.9 |      |       |
| Purity:                   | 43.80166 |           |      |      |       |
| Rf:                       | 71.4     |           |      |      |       |
| Rg:                       | 96       |           |      |      |       |



### Test Conditions

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

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

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**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 3500K 4-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 119                         | NR               | 620       | 778                         | NR               | 750       | 19                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 173                         | NR               | 625       | 711                         | NR               | 755       | 16                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 239                         | NR               | 630       | 648                         | NR               | 760       | 14                          | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 313                         | NR               | 635       | 582                         | NR               | 765       | 12                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 383                         | NR               | 640       | 520                         | NR               | 770       | 11                          | NR               | 900       | 0                           | NR               |
| 385       | 0                           | NR               | 515       | 448                         | NR               | 645       | 460                         | NR               | 775       | 9                           | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 500                         | NR               | 650       | 406                         | NR               | 780       | 8                           | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 539                         | NR               | 655       | 355                         | NR               | 785       | 7                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 575                         | NR               | 660       | 309                         | NR               | 790       | 6                           | NR               | 920       | 0                           | NR               |
| 405       | 11                          | NR               | 535       | 606                         | NR               | 665       | 269                         | NR               | 795       | 5                           | NR               | 925       | 0                           | NR               |
| 410       | 22                          | NR               | 540       | 633                         | NR               | 670       | 231                         | NR               | 800       | 4                           | NR               | 930       | 0                           | NR               |
| 415       | 45                          | NR               | 545       | 666                         | NR               | 675       | 199                         | NR               | 805       | 4                           | NR               | 935       | 0                           | NR               |
| 420       | 96                          | NR               | 550       | 701                         | NR               | 680       | 171                         | NR               | 810       | 3                           | NR               | 940       | 0                           | NR               |
| 425       | 193                         | NR               | 555       | 743                         | NR               | 685       | 147                         | NR               | 815       | 3                           | NR               | 945       | 0                           | NR               |
| 430       | 341                         | NR               | 560       | 788                         | NR               | 690       | 126                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 547                         | NR               | 565       | 837                         | NR               | 695       | 107                         | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 799                         | NR               | 570       | 887                         | NR               | 700       | 92                          | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 831                         | NR               | 575       | 931                         | NR               | 705       | 78                          | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 461                         | NR               | 580       | 967                         | NR               | 710       | 67                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 256                         | NR               | 585       | 990                         | NR               | 715       | 57                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 176                         | NR               | 590       | 1000                        | NR               | 720       | 49                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 107                         | NR               | 595       | 994                         | NR               | 725       | 42                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 74                          | NR               | 600       | 973                         | NR               | 730       | 36                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 67                          | NR               | 605       | 938                         | NR               | 735       | 31                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 68                          | NR               | 610       | 892                         | NR               | 740       | 26                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 84                          | NR               | 615       | 838                         | NR               | 745       | 22                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.29

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 119                      | NR            | 620    | 778                      | NR            | 750    | 19                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 173                      | NR            | 625    | 711                      | NR            | 755    | 16                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 239                      | NR            | 630    | 648                      | NR            | 760    | 14                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 313                      | NR            | 635    | 582                      | NR            | 765    | 12                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 383                      | NR            | 640    | 520                      | NR            | 770    | 11                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 448                      | NR            | 645    | 460                      | NR            | 775    | 9                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 500                      | NR            | 650    | 406                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 539                      | NR            | 655    | 355                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 575                      | NR            | 660    | 309                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 606                      | NR            | 665    | 269                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 22                       | NR            | 540    | 633                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 45                       | NR            | 545    | 666                      | NR            | 675    | 199                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 96                       | NR            | 550    | 701                      | NR            | 680    | 171                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 193                      | NR            | 555    | 743                      | NR            | 685    | 147                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 341                      | NR            | 560    | 788                      | NR            | 690    | 126                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 547                      | NR            | 565    | 837                      | NR            | 695    | 107                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 799                      | NR            | 570    | 887                      | NR            | 700    | 92                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 831                      | NR            | 575    | 931                      | NR            | 705    | 78                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 461                      | NR            | 580    | 967                      | NR            | 710    | 67                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 256                      | NR            | 585    | 990                      | NR            | 715    | 57                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 176                      | NR            | 590    | 1000                     | NR            | 720    | 49                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 994                      | NR            | 725    | 42                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 74                       | NR            | 600    | 973                      | NR            | 730    | 36                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 67                       | NR            | 605    | 938                      | NR            | 735    | 31                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 68                       | NR            | 610    | 892                      | NR            | 740    | 26                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 84                       | NR            | 615    | 838                      | NR            | 745    | 22                       | NR            | 875    | 1                        | NR            |        |                          |               |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.36

| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 119                         | NR               | 620       | 778                         | NR               | 750       | 19                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 173                         | NR               | 625       | 711                         | NR               | 755       | 16                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 239                         | NR               | 630       | 648                         | NR               | 760       | 14                          | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 313                         | NR               | 635       | 582                         | NR               | 765       | 12                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 383                         | NR               | 640       | 520                         | NR               | 770       | 11                          | NR               | 900       | 0                           | NR               |
| 385       | 0                           | NR               | 515       | 448                         | NR               | 645       | 460                         | NR               | 775       | 9                           | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 500                         | NR               | 650       | 406                         | NR               | 780       | 8                           | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 539                         | NR               | 655       | 355                         | NR               | 785       | 7                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 575                         | NR               | 660       | 309                         | NR               | 790       | 6                           | NR               | 920       | 0                           | NR               |
| 405       | 11                          | NR               | 535       | 606                         | NR               | 665       | 269                         | NR               | 795       | 5                           | NR               | 925       | 0                           | NR               |
| 410       | 22                          | NR               | 540       | 633                         | NR               | 670       | 231                         | NR               | 800       | 4                           | NR               | 930       | 0                           | NR               |
| 415       | 45                          | NR               | 545       | 666                         | NR               | 675       | 199                         | NR               | 805       | 4                           | NR               | 935       | 0                           | NR               |
| 420       | 96                          | NR               | 550       | 701                         | NR               | 680       | 171                         | NR               | 810       | 3                           | NR               | 940       | 0                           | NR               |
| 425       | 193                         | NR               | 555       | 743                         | NR               | 685       | 147                         | NR               | 815       | 3                           | NR               | 945       | 0                           | NR               |
| 430       | 341                         | NR               | 560       | 788                         | NR               | 690       | 126                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 547                         | NR               | 565       | 837                         | NR               | 695       | 107                         | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 799                         | NR               | 570       | 887                         | NR               | 700       | 92                          | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 831                         | NR               | 575       | 931                         | NR               | 705       | 78                          | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 461                         | NR               | 580       | 967                         | NR               | 710       | 67                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 256                         | NR               | 585       | 990                         | NR               | 715       | 57                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 176                         | NR               | 590       | 1000                        | NR               | 720       | 49                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 107                         | NR               | 595       | 994                         | NR               | 725       | 42                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 74                          | NR               | 600       | 973                         | NR               | 730       | 36                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 67                          | NR               | 605       | 938                         | NR               | 735       | 31                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 68                          | NR               | 610       | 892                         | NR               | 740       | 26                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 84                          | NR               | 615       | 838                         | NR               | 745       | 22                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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TM-30-18

### Summary

$R_f = 71.4$   
 $R_g = 96$   
 CIE  $R_a = 70.1$   
 $R_g = -40.2$



### Color Vector Graphics



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

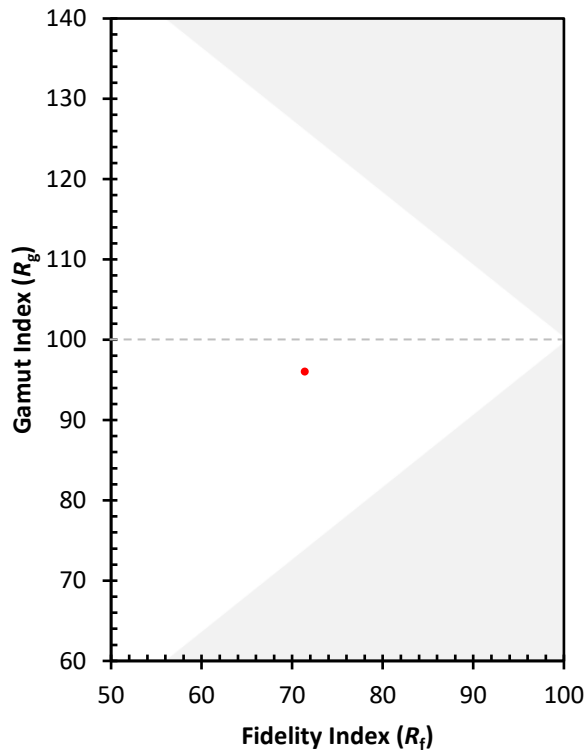
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)