

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



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

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1048075

Luminaire Tested: **GALN-SA5C-927-U-T2BC**

Issue Date: 07/10/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1048075  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 07/10/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GALN-SA5C-927-U-T2BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 5xLight Square PACKAGE  
90CRI 2700K FIXTURE w/ TYPE II ANGLED BACKLIGHT CONTROL  
Light Source: (70) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17262.6 lumens  
Efficiency: N/A  
Efficacy: 73.1 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B0 - U0 - G3

Input Watts (W): 236  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

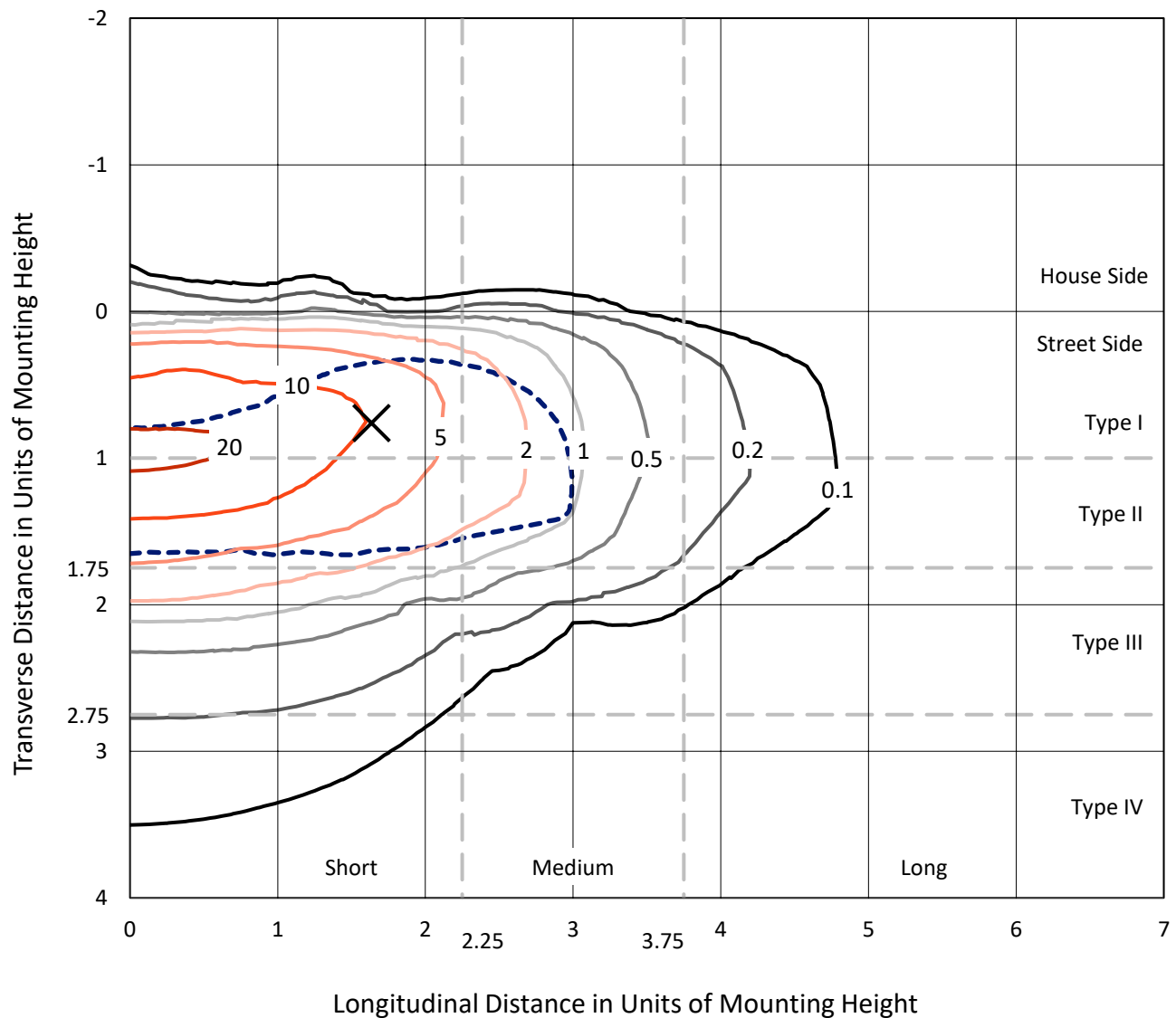


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

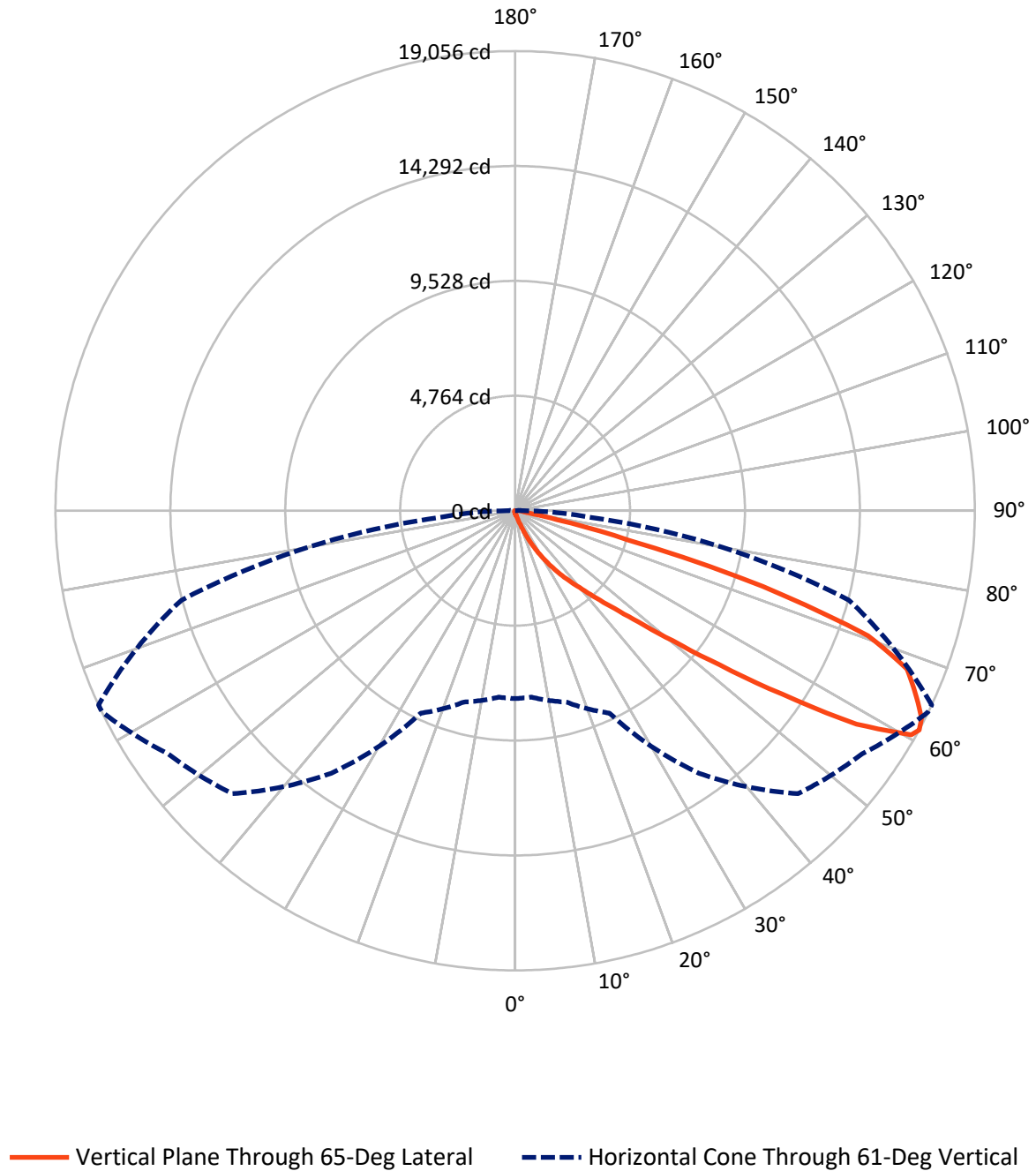


Based on 15 foot mounting height. Maximum calculated value = 22.8 fc  
 Type II - Short - N/A

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CATALOG NUMBER: GALN-SA5C-927-U-T2BC

## Luminous Intensity Polar Plot



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CATALOG NUMBER: GALN-SA5C-927-U-T2BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 73.7     | 0.0    | 73.7    |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 17188.9  | 0.0    | 17188.9 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 17262.6  | 0.0    | 17262.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 13.4    | 0.1       |
| 10°-20°   | 142.0   | 0.8       |
| 20°-30°   | 509.4   | 3.0       |
| 30°-40°   | 1356.3  | 7.9       |
| 40°-50°   | 3563.1  | 20.6      |
| 50°-60°   | 5519.9  | 32.0      |
| 60°-70°   | 4628.4  | 26.8      |
| 70°-80°   | 1362.0  | 7.9       |
| 80°-90°   | 168.0   | 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°    | 17262.6 | 100.0     |
| 0°-180°   | 17262.6 | 100.0     |



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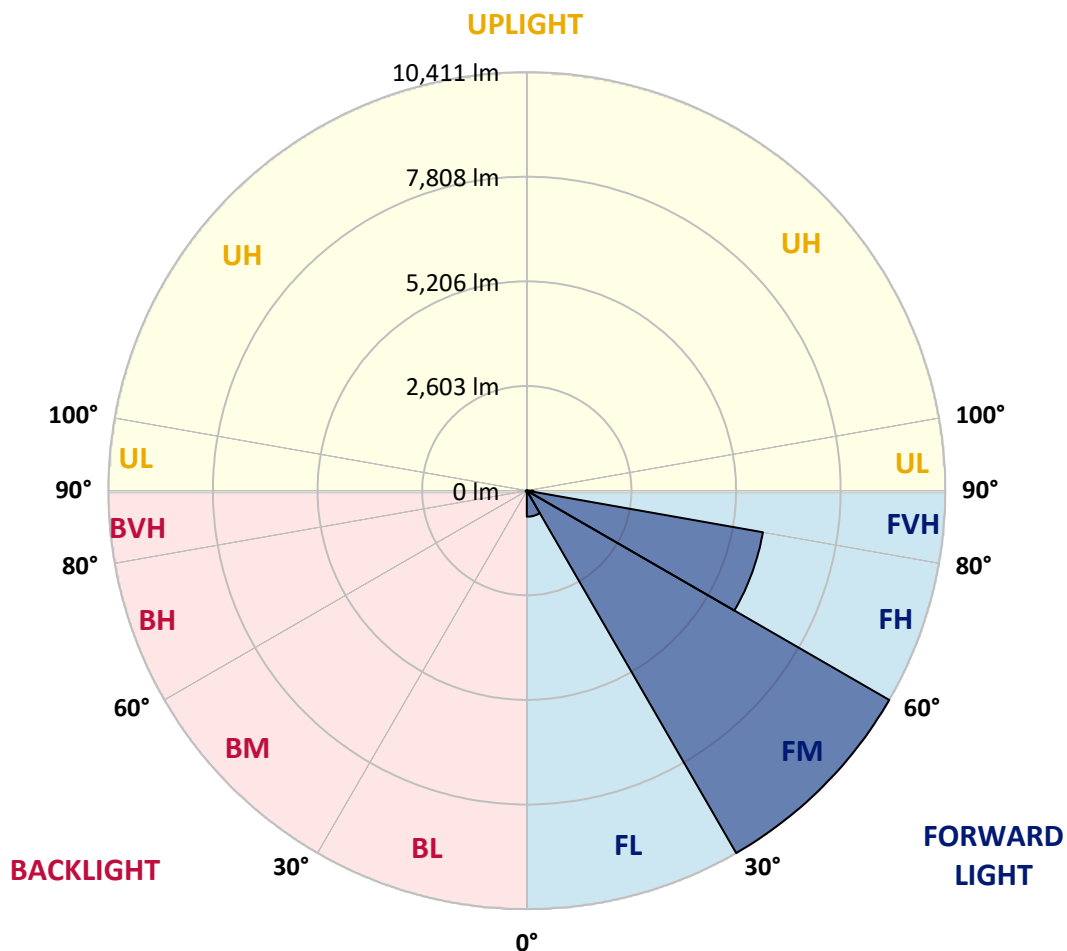
CATALOG NUMBER: GALN-SA5C-927-U-T2BC

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 648.3   | 3.8       |                         |      |         |
| FM   | (30°-60°)   | 10411.3 | 60.3      |                         |      |         |
| FH   | (60°-80°)   | 5964.4  | 34.6      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 164.9   | 1.0       |                         |      | G2/225  |
| BL   | (0°-30°)    | 16.5    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 28.0    | 0.2       | B0/220                  |      |         |
| BH   | (60°-80°)   | 26.0    | 0.2       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 3.1     | 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-G3**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 64°     | 65°     | 75°     | 85°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 105.7   | 105.7   | 105.7   | 105.7   | 105.7   | 105.7   | 105.7   | 105.7   | 105.7   | 105.7   | 105.7  |
| 2.5°  | 128.2   | 129.4   | 127.1   | 122.3   | 118.7   | 118.7   | 117.6   | 114.0   | 114.0   | 110.4   | 108.1  |
| 5°    | 179.3   | 176.9   | 172.2   | 162.7   | 154.4   | 146.1   | 137.7   | 129.4   | 128.2   | 117.6   | 110.4  |
| 7.5°  | 293.3   | 295.7   | 280.2   | 250.6   | 225.6   | 193.6   | 163.9   | 146.1   | 143.7   | 125.9   | 111.6  |
| 10°   | 643.6   | 625.8   | 590.2   | 475.0   | 390.7   | 294.5   | 218.5   | 169.8   | 167.4   | 135.4   | 114.0  |
| 12.5° | 1173.2  | 1159.0  | 1093.7  | 974.9   | 757.6   | 527.2   | 319.4   | 210.2   | 203.1   | 143.7   | 115.2  |
| 15°   | 1691.0  | 1668.4  | 1632.8  | 1512.9  | 1258.7  | 945.2   | 522.5   | 287.4   | 268.4   | 155.6   | 114.0  |
| 17.5° | 2021.1  | 2024.7  | 1992.6  | 1941.5  | 1777.7  | 1398.9  | 902.5   | 428.7   | 391.9   | 176.9   | 111.6  |
| 20°   | 2309.6  | 2301.3  | 2319.1  | 2291.8  | 2176.7  | 1901.2  | 1313.4  | 679.2   | 616.3   | 211.4   | 112.8  |
| 22.5° | 2642.1  | 2662.3  | 2675.4  | 2669.5  | 2542.4  | 2307.3  | 1780.0  | 1016.5  | 936.9   | 274.3   | 116.4  |
| 25°   | 3087.4  | 3085.1  | 3086.3  | 3070.8  | 2947.3  | 2686.1  | 2247.9  | 1435.7  | 1354.9  | 376.4   | 124.7  |
| 27.5° | 3554.1  | 3568.4  | 3574.3  | 3518.5  | 3357.0  | 3100.5  | 2681.3  | 1894.0  | 1799.0  | 540.3   | 135.4  |
| 30°   | 4191.8  | 4179.9  | 4152.6  | 4038.6  | 3842.7  | 3524.4  | 3108.8  | 2375.0  | 2275.2  | 769.5   | 152.0  |
| 32.5° | 5051.5  | 5038.5  | 4900.7  | 4649.0  | 4355.7  | 3966.2  | 3538.7  | 2857.1  | 2736.0  | 1055.7  | 174.6  |
| 35°   | 6468.2  | 6488.4  | 6150.0  | 5498.0  | 4972.0  | 4497.0  | 4014.9  | 3336.8  | 3229.9  | 1408.4  | 205.4  |
| 37.5° | 8637.7  | 8527.3  | 8067.7  | 6915.9  | 5783.0  | 5159.6  | 4469.7  | 3821.3  | 3728.7  | 1843.0  | 245.8  |
| 40°   | 10745.5 | 10636.3 | 10503.3 | 9412.0  | 7192.6  | 5889.9  | 5106.2  | 4390.1  | 4270.2  | 2333.4  | 305.2  |
| 42.5° | 12961.4 | 12900.8 | 12894.9 | 12071.9 | 9764.7  | 7038.2  | 5872.1  | 5056.3  | 4954.2  | 2871.3  | 402.6  |
| 45°   | 14531.2 | 14470.6 | 14597.7 | 14741.4 | 13267.7 | 9498.7  | 7205.6  | 5922.0  | 5773.5  | 3524.4  | 558.1  |
| 47.5° | 14742.6 | 14744.9 | 15084.6 | 15534.6 | 15870.7 | 13304.5 | 8982.1  | 7069.1  | 6888.6  | 4459.0  | 819.4  |
| 50°   | 14039.6 | 14066.9 | 14607.2 | 15412.3 | 16317.2 | 16497.7 | 12114.7 | 8733.9  | 8466.7  | 5566.9  | 1189.9 |
| 52.5° | 12701.3 | 12732.2 | 13485.0 | 14809.1 | 15906.3 | 17264.8 | 15803.0 | 10911.8 | 10604.2 | 6949.1  | 1712.3 |
| 55°   | 11496.0 | 11515.0 | 12378.3 | 14051.5 | 15411.1 | 16848.0 | 17992.7 | 13819.9 | 13416.2 | 8649.6  | 2227.7 |
| 57.5° | 10302.6 | 10258.6 | 10820.3 | 12735.7 | 15326.8 | 16336.2 | 18315.7 | 17134.2 | 16688.9 | 10508.0 | 2629.1 |
| 60°   | 8706.6  | 8633.0  | 9084.2  | 10302.6 | 14217.7 | 16672.2 | 17711.3 | 18967.6 | 18866.7 | 13095.5 | 2939.0 |
| 61°   | 7788.7  | 7757.8  | 8211.4  | 9256.4  | 13284.3 | 16586.7 | 17566.4 | 19044.8 | 19055.5 | 14319.8 | 3077.9 |
| 62.5° | 5562.2  | 5650.0  | 6343.5  | 7702.0  | 11126.7 | 16032.2 | 17585.4 | 18806.1 | 18911.8 | 15946.7 | 3437.8 |
| 65°   | 2472.3  | 2613.6  | 3152.8  | 4258.3  | 6470.6  | 13336.6 | 17416.8 | 18282.5 | 18230.2 | 16393.2 | 4677.5 |
| 67.5° | 1466.5  | 1487.9  | 1756.3  | 2413.0  | 3427.1  | 7173.6  | 15369.6 | 17590.2 | 17520.1 | 14271.1 | 5819.8 |
| 70°   | 1155.4  | 1166.1  | 1251.6  | 1514.0  | 1989.0  | 2747.8  | 8771.9  | 15218.8 | 15523.9 | 11572.0 | 5697.5 |
| 72.5° | 1096.0  | 1093.7  | 1105.5  | 1151.9  | 1252.8  | 1363.2  | 3396.2  | 10116.1 | 10737.2 | 8333.7  | 4777.2 |
| 75°   | 1081.8  | 1077.0  | 1065.2  | 1047.4  | 907.2   | 802.7   | 1052.1  | 4474.4  | 4834.2  | 5694.0  | 3596.9 |
| 77.5° | 1049.7  | 1050.9  | 1053.3  | 1004.6  | 777.8   | 567.6   | 509.4   | 1435.7  | 1765.8  | 3613.5  | 2556.6 |
| 80°   | 710.1   | 720.8   | 738.6   | 719.6   | 699.4   | 410.9   | 359.8   | 510.6   | 517.7   | 2028.2  | 1688.6 |
| 82.5° | 359.8   | 359.8   | 351.5   | 313.5   | 270.7   | 267.2   | 286.2   | 370.5   | 375.2   | 1026.0  | 794.4  |
| 85°   | 217.3   | 229.2   | 233.9   | 212.6   | 194.7   | 179.3   | 218.5   | 294.5   | 305.2   | 397.8   | 185.2  |
| 87.5° | 48.7    | 49.9    | 54.6    | 72.4    | 105.7   | 143.7   | 203.1   | 269.6   | 274.3   | 255.3   | 22.6   |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    |



REPORT NUMBER: P1048075

CATALOG NUMBER: GALN-SA5C-927-U-T2BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 105.7  | 105.7 | 105.7 | 105.7 | 105.7 | 105.7 | 105.7 | 105.7 | 105.7 | 105.7 | 105.7 |
| 2.5°  | 106.9  | 104.5 | 103.3 | 99.7  | 96.2  | 92.6  | 90.2  | 89.1  | 90.2  | 91.4  | 91.4  |
| 5°    | 105.7  | 102.1 | 96.2  | 90.2  | 85.5  | 80.7  | 76.0  | 74.8  | 74.8  | 76.0  | 76.0  |
| 7.5°  | 105.7  | 99.7  | 91.4  | 84.3  | 77.2  | 70.1  | 66.5  | 64.1  | 65.3  | 65.3  | 65.3  |
| 10°   | 105.7  | 98.6  | 87.9  | 77.2  | 68.9  | 60.6  | 54.6  | 52.2  | 52.2  | 52.2  | 52.2  |
| 12.5° | 104.5  | 97.4  | 84.3  | 71.2  | 59.4  | 49.9  | 42.7  | 39.2  | 40.4  | 40.4  | 40.4  |
| 15°   | 102.1  | 93.8  | 79.6  | 60.6  | 47.5  | 38.0  | 30.9  | 27.3  | 28.5  | 30.9  | 32.1  |
| 17.5° | 98.6   | 90.2  | 71.2  | 51.1  | 38.0  | 28.5  | 21.4  | 19.0  | 20.2  | 23.7  | 23.7  |
| 20°   | 97.4   | 86.7  | 62.9  | 41.6  | 28.5  | 20.2  | 14.2  | 11.9  | 13.1  | 17.8  | 19.0  |
| 22.5° | 97.4   | 84.3  | 57.0  | 34.4  | 21.4  | 13.1  | 8.3   | 4.7   | 4.7   | 8.3   | 8.3   |
| 25°   | 98.6   | 83.1  | 52.2  | 28.5  | 15.4  | 9.5   | 4.7   | 2.4   | 4.7   | 13.1  | 15.4  |
| 27.5° | 100.9  | 81.9  | 49.9  | 23.7  | 11.9  | 8.3   | 3.6   | 8.3   | 14.2  | 14.2  | 14.2  |
| 30°   | 103.3  | 79.6  | 46.3  | 20.2  | 10.7  | 5.9   | 5.9   | 11.9  | 11.9  | 14.2  | 15.4  |
| 32.5° | 106.9  | 78.4  | 43.9  | 17.8  | 8.3   | 4.7   | 8.3   | 7.1   | 7.1   | 8.3   | 9.5   |
| 35°   | 114.0  | 79.6  | 41.6  | 17.8  | 8.3   | 5.9   | 7.1   | 3.6   | 2.4   | 2.4   | 2.4   |
| 37.5° | 123.5  | 80.7  | 38.0  | 15.4  | 7.1   | 7.1   | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 138.9  | 84.3  | 35.6  | 14.2  | 5.9   | 5.9   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 165.1  | 91.4  | 34.4  | 13.1  | 5.9   | 4.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 217.3  | 108.1 | 32.1  | 11.9  | 5.9   | 2.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 312.3  | 147.2 | 30.9  | 9.5   | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 456.0  | 199.5 | 29.7  | 8.3   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 581.9  | 210.2 | 20.2  | 7.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 596.1  | 144.9 | 15.4  | 4.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 475.0  | 93.8  | 13.1  | 3.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 359.8  | 71.2  | 11.9  | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 61°   | 345.6  | 64.1  | 11.9  | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 381.2  | 55.8  | 10.7  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 619.9  | 46.3  | 9.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 1077.0 | 40.4  | 8.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 1360.9 | 38.0  | 7.1   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 1186.3 | 34.4  | 7.1   | 2.4   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 713.7  | 29.7  | 7.1   | 4.7   | 2.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 374.1  | 22.6  | 7.1   | 5.9   | 3.6   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 181.7  | 20.2  | 8.3   | 5.9   | 4.7   | 2.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 71.2   | 16.6  | 9.5   | 8.3   | 5.9   | 3.6   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 32.1   | 14.2  | 10.7  | 9.5   | 8.3   | 4.7   | 1.2   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 16.6   | 13.1  | 11.9  | 10.7  | 8.3   | 5.9   | 2.4   | 0.0   | 0.0   | 0.0   | 0.0   |
| 90°   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-13

Test Date: 10/11/2024

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

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

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-13  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-927-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI  
 2700K CCT 26 LEDS

### Spectral Parameters

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

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



### Test Conditions

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

REPORT NUMBER: SP1-2407-184-13

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

REPORT NUMBER: SP1-2407-184-13

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 2700K 4-step quadrangle

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

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

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

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### Melanopic Flux vs. Wavelength


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

| $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|
| 360               | 0                                      | NR                             | 490               | 253                                    | NR                             | 620               | 997                                    | NR                             | 750               | 78                                     | NR                             | 880               | 2                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 285                                    | NR                             | 625               | 996                                    | NR                             | 755               | 67                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 314                                    | NR                             | 630               | 989                                    | NR                             | 760               | 58                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 343                                    | NR                             | 635               | 969                                    | NR                             | 765               | 50                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 372                                    | NR                             | 640               | 939                                    | NR                             | 770               | 42                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 401                                    | NR                             | 645               | 901                                    | NR                             | 775               | 36                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 431                                    | NR                             | 650               | 858                                    | NR                             | 780               | 31                                     | NR                             | 910               | 1                                      | NR                             |
| 395               | 0                                      | NR                             | 525               | 459                                    | NR                             | 655               | 806                                    | NR                             | 785               | 26                                     | NR                             | 915               | 1                                      | NR                             |
| 400               | 0                                      | NR                             | 530               | 488                                    | NR                             | 660               | 752                                    | NR                             | 790               | 23                                     | NR                             | 920               | 1                                      | NR                             |
| 405               | 2                                      | NR                             | 535               | 516                                    | NR                             | 665               | 696                                    | NR                             | 795               | 19                                     | NR                             | 925               | 1                                      | NR                             |
| 410               | 5                                      | NR                             | 540               | 540                                    | NR                             | 670               | 636                                    | NR                             | 800               | 17                                     | NR                             | 930               | 0                                      | NR                             |
| 415               | 10                                     | NR                             | 545               | 566                                    | NR                             | 675               | 579                                    | NR                             | 805               | 14                                     | NR                             | 935               | 0                                      | NR                             |
| 420               | 19                                     | NR                             | 550               | 589                                    | NR                             | 680               | 524                                    | NR                             | 810               | 12                                     | NR                             | 940               | 0                                      | NR                             |
| 425               | 34                                     | NR                             | 555               | 612                                    | NR                             | 685               | 470                                    | NR                             | 815               | 11                                     | NR                             | 945               | 0                                      | NR                             |
| 430               | 61                                     | NR                             | 560               | 634                                    | NR                             | 690               | 421                                    | NR                             | 820               | 9                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 113                                    | NR                             | 565               | 660                                    | NR                             | 695               | 371                                    | NR                             | 825               | 8                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 198                                    | NR                             | 570               | 688                                    | NR                             | 700               | 327                                    | NR                             | 830               | 7                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 288                                    | NR                             | 575               | 719                                    | NR                             | 705               | 288                                    | NR                             | 835               | 6                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 286                                    | NR                             | 580               | 754                                    | NR                             | 710               | 251                                    | NR                             | 840               | 5                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 228                                    | NR                             | 585               | 791                                    | NR                             | 715               | 220                                    | NR                             | 845               | 4                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 207                                    | NR                             | 590               | 831                                    | NR                             | 720               | 192                                    | NR                             | 850               | 4                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 186                                    | NR                             | 595               | 870                                    | NR                             | 725               | 166                                    | NR                             | 855               | 3                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 168                                    | NR                             | 600               | 907                                    | NR                             | 730               | 144                                    | NR                             | 860               | 3                                      | NR                             | 990               | 1                                      | NR                             |
| 475               | 177                                    | NR                             | 605               | 940                                    | NR                             | 735               | 124                                    | NR                             | 865               | 2                                      | NR                             | 995               | 1                                      | NR                             |
| 480               | 198                                    | NR                             | 610               | 967                                    | NR                             | 740               | 106                                    | NR                             | 870               | 2                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 223                                    | NR                             | 615               | 988                                    | NR                             | 745               | 91                                     | NR                             | 875               | 2                                      | NR                             |                   |                                        |                                |

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TM-30-18

### Summary

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



### Color Vector Graphics



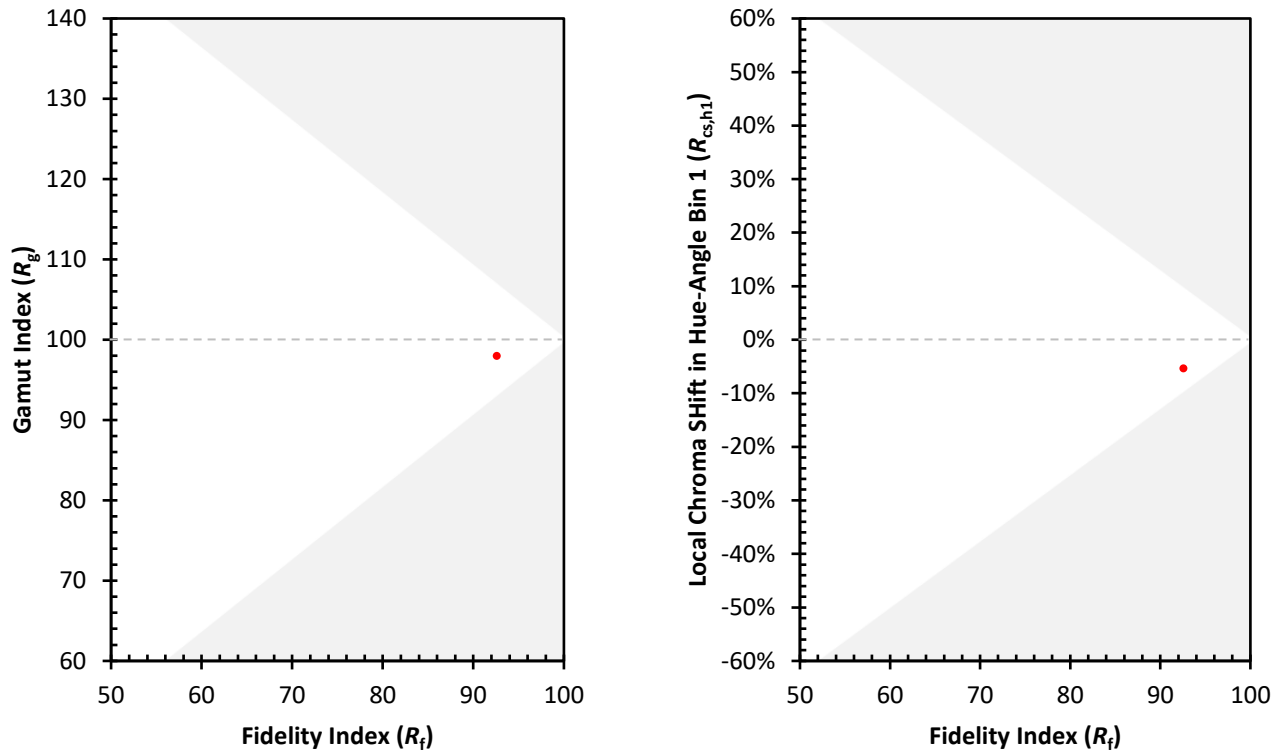
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)