

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: P1062675

Luminaire Tested: **GLAN-SA7C-740-U-T3BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1062675  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA7C-740-U-T3BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 7xLight Square PACKAGE  
70CRI 4000K FIXTURE w/ TYPE III ANGLED BACKLIGHT CONTROL  
Light Source: (98) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 40523.9 lumens  
Efficiency: N/A  
Efficacy: 122.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G5

Input Watts (W): 330  
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

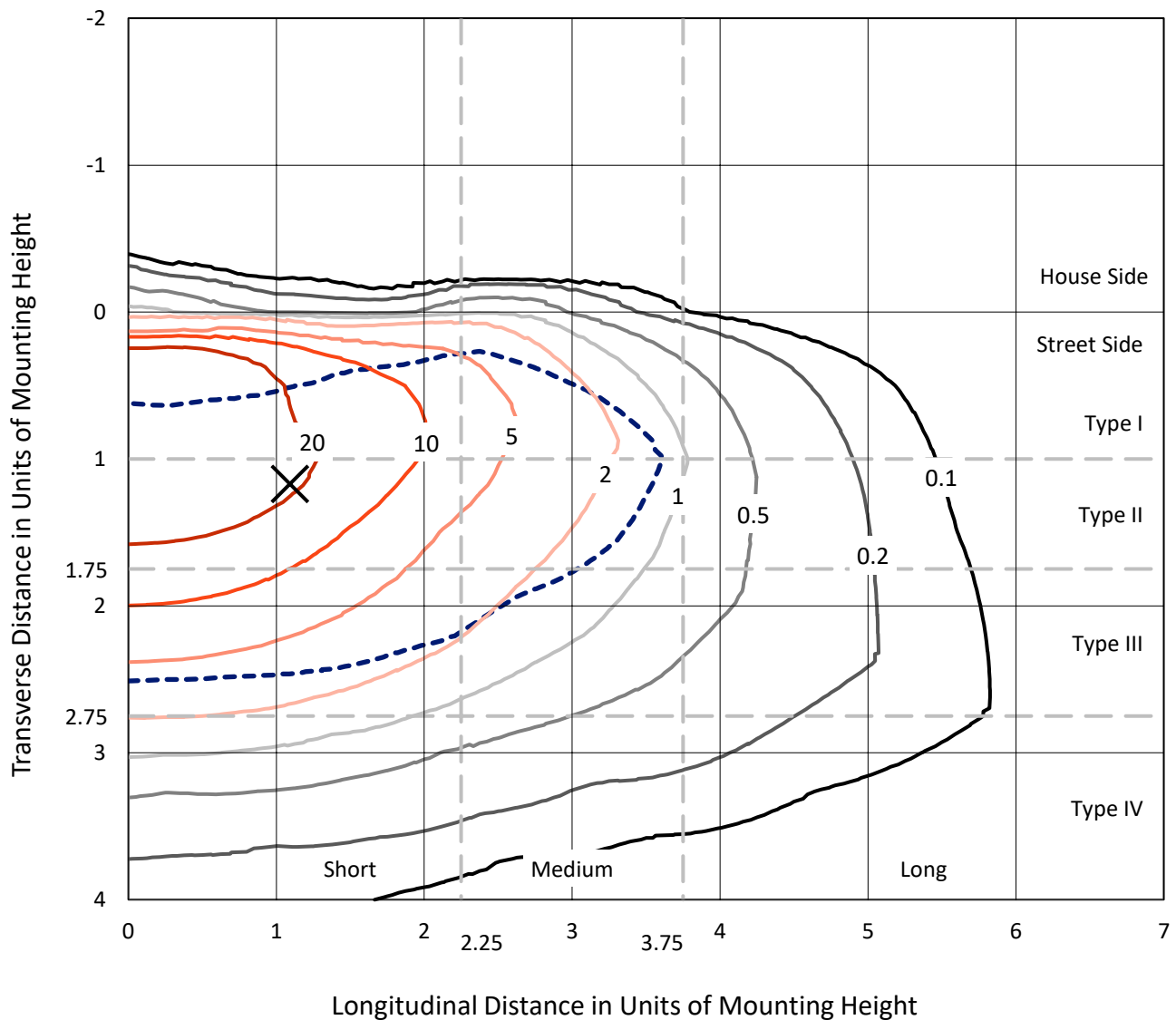


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

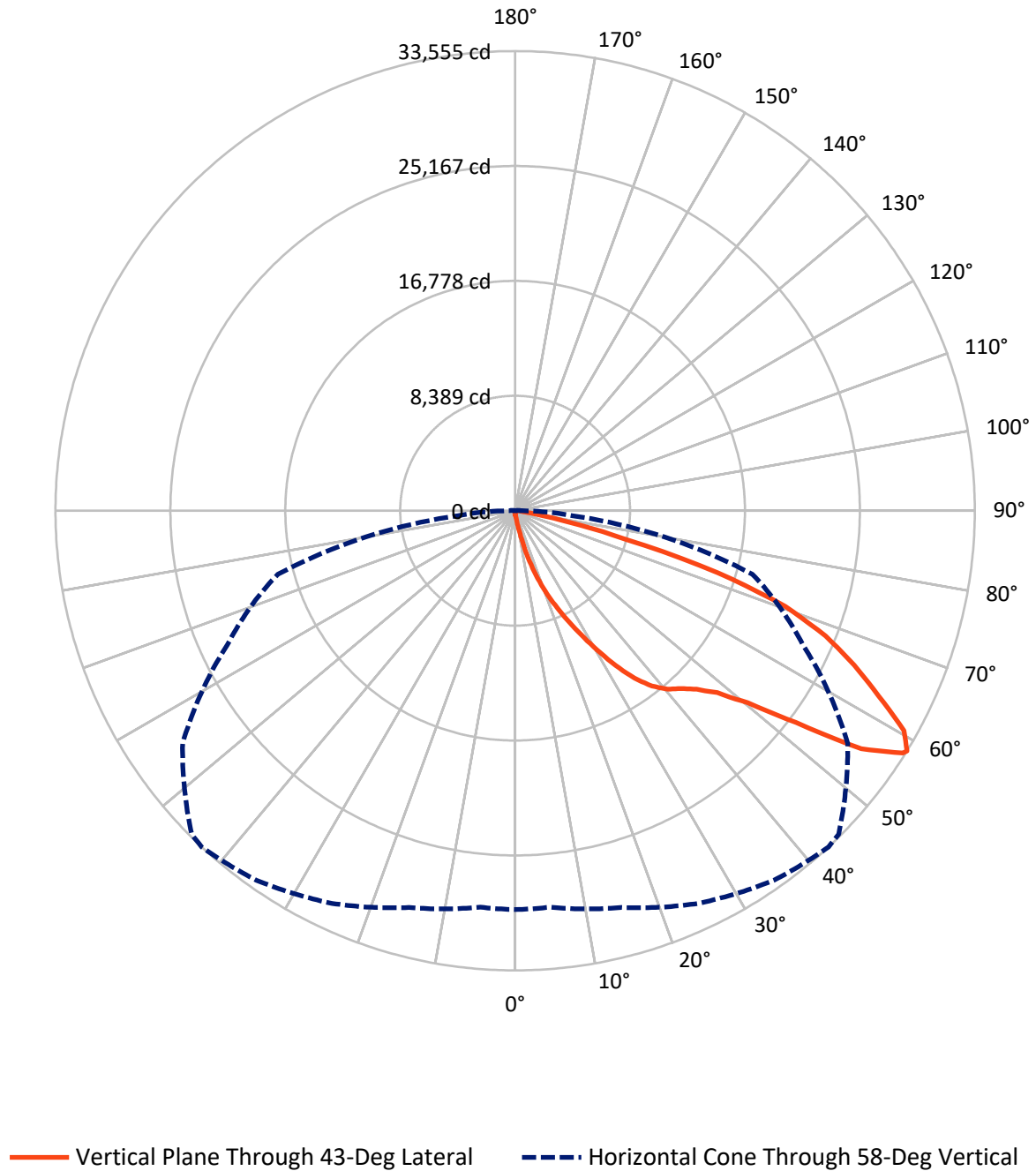


Based on 15 foot mounting height. Maximum calculated value = 45.5 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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CATALOG NUMBER: GLAN-SA7C-740-U-T3BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 148.0    | 0.0    | 148.0   |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 40375.9  | 0.0    | 40375.9 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 40523.9  | 0.0    | 40523.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 38.8    | 0.1       |
| 10°-20°   | 465.8   | 1.1       |
| 20°-30°   | 1679.0  | 4.1       |
| 30°-40°   | 3841.4  | 9.5       |
| 40°-50°   | 6479.0  | 16.0      |
| 50°-60°   | 10691.8 | 26.4      |
| 60°-70°   | 11949.6 | 29.5      |
| 70°-80°   | 4933.8  | 12.2      |
| 80°-90°   | 444.8   | 1.1       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 40523.9 | 100.0     |
| 0°-180°   | 40523.9 | 100.0     |



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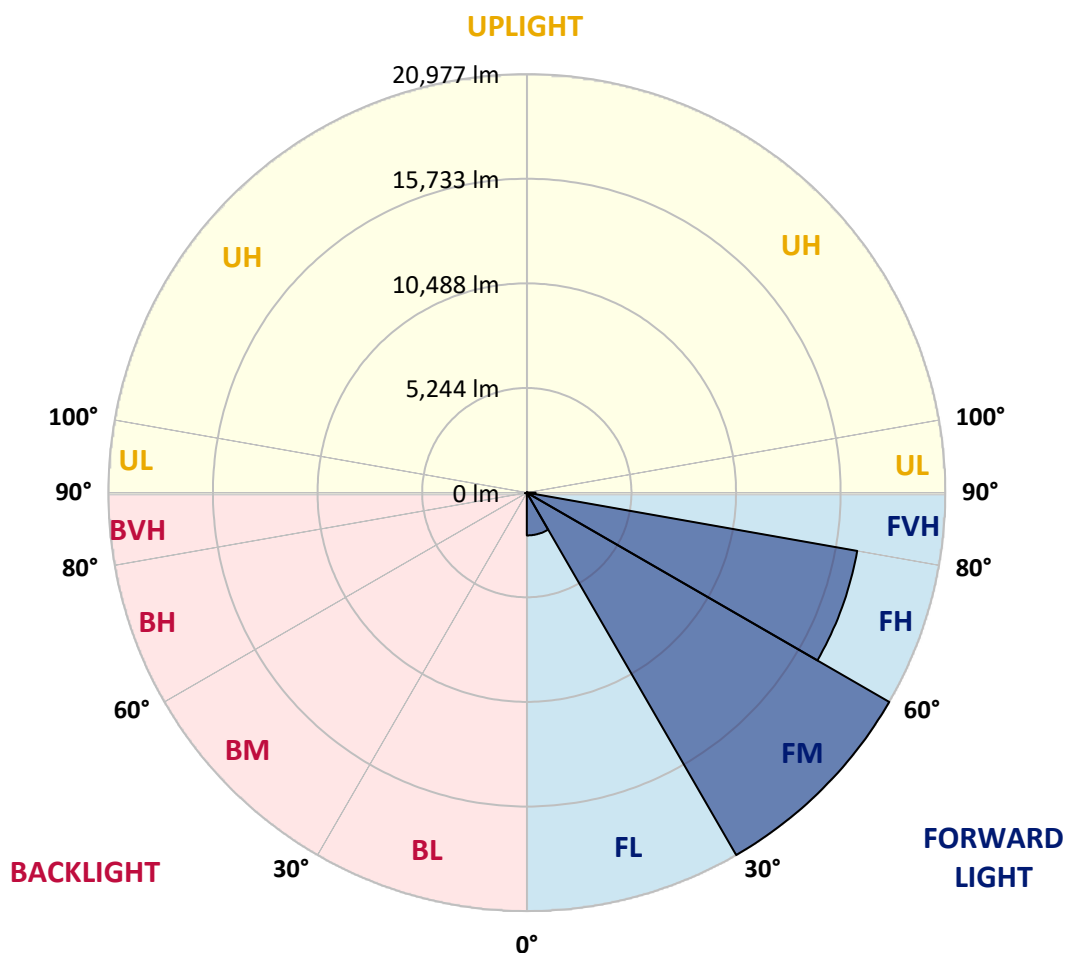
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|---------|-----------|-------------------------|------|--------|
|      |             |         |           | B                       | U    | G      |
| FL   | (0°-30°)    | 2145.0  | 5.3       |                         |      |        |
| FM   | (30°-60°)   | 20976.7 | 51.8      |                         |      |        |
| FH   | (60°-80°)   | 16815.5 | 41.5      |                         |      | G5     |
| FVH  | (80°-90°)   | 438.7   | 1.1       |                         |      | G3/500 |
| BL   | (0°-30°)    | 38.6    | 0.1       | B0/110                  |      |        |
| BM   | (30°-60°)   | 35.5    | 0.1       | B0/220                  |      |        |
| BH   | (60°-80°)   | 67.8    | 0.2       | B0/110                  |      | G0/110 |
| BVH  | (80°-90°)   | 6.1     | 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-G5**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 43°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   | 265.0   |
| 2.5°  | 318.0   | 328.6   | 318.0   | 318.0   | 318.0   | 307.4   | 307.4   | 296.8   | 296.8   | 286.2   | 275.6   |
| 5°    | 466.3   | 466.3   | 434.5   | 413.3   | 392.2   | 381.6   | 371.0   | 349.8   | 328.6   | 307.4   | 286.2   |
| 7.5°  | 1038.7  | 1038.7  | 943.3   | 816.1   | 646.5   | 551.1   | 529.9   | 434.5   | 371.0   | 328.6   | 286.2   |
| 10°   | 2480.1  | 2480.1  | 2268.1  | 1918.4  | 1483.8  | 1102.3  | 985.7   | 625.3   | 445.1   | 349.8   | 296.8   |
| 12.5° | 4122.9  | 4175.9  | 3910.9  | 3465.8  | 2819.2  | 2151.5  | 1918.4  | 1144.7  | 593.5   | 381.6   | 296.8   |
| 15°   | 5596.1  | 5468.9  | 5394.7  | 4970.8  | 4356.1  | 3561.2  | 3264.4  | 1929.0  | 858.5   | 434.5   | 296.8   |
| 17.5° | 6592.4  | 6592.4  | 6486.4  | 6200.2  | 5638.5  | 4939.0  | 4695.2  | 3116.0  | 1388.4  | 498.1   | 307.4   |
| 20°   | 7758.2  | 7758.2  | 7567.4  | 7366.1  | 6867.9  | 6274.4  | 6041.2  | 4430.2  | 2151.5  | 635.9   | 307.4   |
| 22.5° | 9167.8  | 9189.0  | 8977.1  | 8616.7  | 8139.8  | 7482.7  | 7281.3  | 5649.1  | 3116.0  | 847.9   | 318.0   |
| 25°   | 10884.8 | 10906.0 | 10598.7 | 10259.5 | 9528.2  | 8818.1  | 8510.7  | 7048.1  | 4292.5  | 1187.1  | 318.0   |
| 27.5° | 12782.0 | 12930.4 | 12474.6 | 11891.7 | 11118.0 | 10227.7 | 9994.5  | 8309.4  | 5458.3  | 1674.6  | 339.2   |
| 30°   | 15145.5 | 15145.5 | 14541.4 | 13725.3 | 12888.0 | 11785.7 | 11489.0 | 9634.2  | 6698.4  | 2321.1  | 360.4   |
| 32.5° | 17180.4 | 17021.5 | 16247.8 | 15389.3 | 14499.0 | 13470.9 | 13152.9 | 11022.6 | 7970.2  | 3126.6  | 402.7   |
| 35°   | 18738.4 | 18600.7 | 17646.8 | 16724.7 | 15951.0 | 15007.7 | 14626.2 | 12527.6 | 9316.2  | 4038.1  | 466.3   |
| 37.5° | 20073.9 | 20020.9 | 18727.8 | 17572.6 | 17063.9 | 16237.2 | 15898.0 | 13947.8 | 10641.1 | 5023.8  | 540.5   |
| 40°   | 21536.5 | 21366.9 | 19989.1 | 18558.3 | 17795.2 | 17127.4 | 16820.1 | 15092.5 | 11912.9 | 6179.0  | 646.5   |
| 42.5° | 22787.1 | 22585.8 | 21345.7 | 19946.7 | 18643.1 | 17742.2 | 17445.4 | 16057.0 | 13152.9 | 7334.3  | 784.3   |
| 45°   | 24175.6 | 24069.6 | 22818.9 | 21759.1 | 20020.9 | 18579.5 | 18187.3 | 16830.7 | 14287.0 | 8712.1  | 964.5   |
| 47.5° | 26263.5 | 26072.7 | 24906.9 | 24037.8 | 22024.0 | 19851.3 | 19289.6 | 17625.6 | 15378.7 | 10068.7 | 1240.0  |
| 50°   | 28690.6 | 28563.4 | 27874.5 | 27185.6 | 25182.4 | 22024.0 | 21356.3 | 18770.2 | 16597.5 | 11679.7 | 1600.4  |
| 52.5° | 30672.5 | 30651.3 | 30736.1 | 30746.7 | 29231.1 | 25680.6 | 24684.3 | 20614.4 | 17996.5 | 13269.5 | 2109.1  |
| 55°   | 30630.1 | 30725.5 | 31658.2 | 32728.7 | 32845.3 | 30672.5 | 29708.1 | 23719.8 | 19819.5 | 15230.3 | 2819.2  |
| 57.5° | 29485.5 | 29411.3 | 30397.0 | 32008.0 | 33142.0 | 33375.2 | 33216.2 | 28542.2 | 22564.6 | 17593.8 | 3910.9  |
| 58°   | 29114.5 | 29050.9 | 29983.6 | 31626.4 | 32930.1 | 33555.4 | 33396.4 | 29633.9 | 23179.3 | 17932.9 | 4207.7  |
| 60°   | 27768.5 | 27779.1 | 28330.2 | 29824.6 | 31128.3 | 32612.1 | 32760.5 | 32749.9 | 26242.3 | 20201.1 | 5702.1  |
| 62.5° | 25987.9 | 25903.1 | 26411.9 | 27630.7 | 28775.4 | 29771.7 | 30026.0 | 32961.9 | 30725.5 | 23083.9 | 8553.1  |
| 65°   | 23529.0 | 23401.9 | 23942.4 | 25320.2 | 26549.7 | 27196.2 | 27206.8 | 30121.4 | 32834.7 | 26178.7 | 12623.0 |
| 67.5° | 18961.0 | 18855.0 | 19936.1 | 21706.1 | 23603.2 | 24451.1 | 24832.7 | 26136.3 | 31054.1 | 28277.2 | 14954.7 |
| 70°   | 11616.1 | 11838.7 | 13343.7 | 16120.6 | 19363.8 | 20921.8 | 21494.1 | 21896.8 | 26443.7 | 27959.3 | 12506.4 |
| 72.5° | 5362.9  | 5098.0  | 6380.4  | 8320.0  | 12018.9 | 15484.7 | 16078.2 | 17657.4 | 20964.2 | 24270.9 | 9326.8  |
| 75°   | 2501.3  | 2405.9  | 2702.7  | 3635.3  | 5447.7  | 8362.3  | 9443.4  | 14096.2 | 16078.2 | 16883.7 | 6730.2  |
| 77.5° | 1282.4  | 1293.0  | 1536.8  | 1653.4  | 2246.9  | 3868.5  | 4440.8  | 9273.8  | 11785.7 | 9422.2  | 4515.0  |
| 80°   | 561.7   | 582.9   | 593.5   | 646.5   | 911.5   | 1494.4  | 1685.2  | 4303.1  | 8055.0  | 4801.2  | 2469.5  |
| 82.5° | 360.4   | 371.0   | 371.0   | 371.0   | 434.5   | 593.5   | 678.3   | 1727.6  | 4016.9  | 2384.7  | 763.1   |
| 85°   | 190.8   | 190.8   | 212.0   | 265.0   | 307.4   | 360.4   | 381.6   | 551.1   | 1324.8  | 710.1   | 180.2   |
| 87.5° | 106.0   | 116.6   | 127.2   | 159.0   | 201.4   | 243.8   | 265.0   | 381.6   | 508.7   | 487.5   | 42.4    |
| 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: GLAN-SA7C-740-U-T3BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 265.0  | 265.0 | 265.0 | 265.0 | 265.0 | 265.0 | 265.0 | 265.0 | 265.0 | 265.0 | 265.0 |
| 2.5°  | 275.6  | 265.0 | 254.4 | 243.8 | 233.2 | 222.6 | 222.6 | 222.6 | 222.6 | 222.6 | 222.6 |
| 5°    | 265.0  | 254.4 | 243.8 | 222.6 | 201.4 | 190.8 | 180.2 | 169.6 | 169.6 | 169.6 | 169.6 |
| 7.5°  | 265.0  | 254.4 | 222.6 | 201.4 | 180.2 | 159.0 | 137.8 | 137.8 | 137.8 | 137.8 | 137.8 |
| 10°   | 265.0  | 243.8 | 212.0 | 180.2 | 148.4 | 127.2 | 116.6 | 106.0 | 106.0 | 106.0 | 106.0 |
| 12.5° | 265.0  | 233.2 | 201.4 | 159.0 | 127.2 | 106.0 | 95.4  | 84.8  | 84.8  | 84.8  | 84.8  |
| 15°   | 265.0  | 233.2 | 190.8 | 148.4 | 116.6 | 84.8  | 74.2  | 63.6  | 63.6  | 63.6  | 63.6  |
| 17.5° | 254.4  | 222.6 | 180.2 | 127.2 | 95.4  | 63.6  | 53.0  | 42.4  | 42.4  | 53.0  | 53.0  |
| 20°   | 243.8  | 212.0 | 159.0 | 106.0 | 74.2  | 53.0  | 31.8  | 31.8  | 31.8  | 31.8  | 31.8  |
| 22.5° | 243.8  | 212.0 | 148.4 | 95.4  | 63.6  | 31.8  | 21.2  | 21.2  | 21.2  | 21.2  | 31.8  |
| 25°   | 243.8  | 201.4 | 127.2 | 74.2  | 42.4  | 21.2  | 10.6  | 10.6  | 10.6  | 10.6  | 10.6  |
| 27.5° | 243.8  | 201.4 | 116.6 | 63.6  | 31.8  | 21.2  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   |
| 30°   | 233.2  | 190.8 | 106.0 | 53.0  | 21.2  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 32.5° | 233.2  | 180.2 | 84.8  | 42.4  | 21.2  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 35°   | 243.8  | 169.6 | 74.2  | 31.8  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 10.6  |
| 37.5° | 254.4  | 159.0 | 63.6  | 21.2  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 265.0  | 148.4 | 63.6  | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 286.2  | 148.4 | 53.0  | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 307.4  | 148.4 | 42.4  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 349.8  | 159.0 | 42.4  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 381.6  | 169.6 | 31.8  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 423.9  | 159.0 | 31.8  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 476.9  | 159.0 | 31.8  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 519.3  | 148.4 | 31.8  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 58°   | 540.5  | 137.8 | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 646.5  | 127.2 | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 1006.9 | 106.0 | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 2045.5 | 95.4  | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 3815.5 | 84.8  | 21.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 4271.3 | 95.4  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 2692.1 | 74.2  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 1420.2 | 74.2  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 710.1  | 74.2  | 10.6  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 328.6  | 53.0  | 10.6  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 137.8  | 31.8  | 21.2  | 10.6  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 63.6   | 31.8  | 21.2  | 21.2  | 10.6  | 10.6  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 31.8   | 31.8  | 31.8  | 21.2  | 21.2  | 10.6  | 10.6  | 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: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-1  
 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-740-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 4000K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 3949     | CRI (Ra): | 70.7 |      |       |
| CIE u':                   | 0.2248   | R1:       | 68.0 | R9:  | -36.7 |
| CIE v':                   | 0.5053   | R2:       | 76.0 | R10: | 45.1  |
| Duv:                      | 0.0022   | R3:       | 84.3 | R11: | 70.7  |
| CIE x:                    | 0.3844   | R4:       | 72.0 | R12: | 47.1  |
| CIE y:                    | 0.3840   | R5:       | 68.6 | R13: | 68.5  |
| CIE z:                    | 0.2316   | R6:       | 68.3 | R14: | 91.1  |
| Peak Wavelength (nm):     | 440      | R7:       | 77.9 | R15: | 58.7  |
| Dominant Wavelength (nm): | 578      | R8:       | 50.3 |      |       |
| Purity:                   | 30.60026 |           |      |      |       |
| Rf:                       | 71.8     |           |      |      |       |
| Rg:                       | 96.5     |           |      |      |       |



### Test Conditions

Stabilization Time: 34M  
 Operation Time: 1H 34M  
 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 4000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-1

### 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       | 139                         | NR               | 620       | 607                         | NR               | 750       | 15                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 198                         | NR               | 625       | 554                         | NR               | 755       | 13                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 267                         | NR               | 630       | 504                         | NR               | 760       | 11                          | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 343                         | NR               | 635       | 452                         | NR               | 765       | 10                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 410                         | NR               | 640       | 403                         | NR               | 770       | 8                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 470                         | NR               | 645       | 357                         | NR               | 775       | 7                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 516                         | NR               | 650       | 314                         | NR               | 780       | 6                           | NR               | 910       | 0                           | NR               |
| 395       | 7                           | NR               | 525       | 550                         | NR               | 655       | 275                         | NR               | 785       | 5                           | NR               | 915       | 0                           | NR               |
| 400       | 10                          | NR               | 530       | 578                         | NR               | 660       | 240                         | NR               | 790       | 5                           | NR               | 920       | 0                           | NR               |
| 405       | 17                          | NR               | 535       | 601                         | NR               | 665       | 208                         | NR               | 795       | 4                           | NR               | 925       | 0                           | NR               |
| 410       | 35                          | NR               | 540       | 620                         | NR               | 670       | 179                         | NR               | 800       | 4                           | NR               | 930       | 0                           | NR               |
| 415       | 70                          | NR               | 545       | 641                         | NR               | 675       | 155                         | NR               | 805       | 3                           | NR               | 935       | 0                           | NR               |
| 420       | 147                         | NR               | 550       | 664                         | NR               | 680       | 133                         | NR               | 810       | 3                           | NR               | 940       | 0                           | NR               |
| 425       | 285                         | NR               | 555       | 689                         | NR               | 685       | 114                         | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 487                         | NR               | 560       | 715                         | NR               | 690       | 98                          | NR               | 820       | 2                           | NR               | 950       | 0                           | NR               |
| 435       | 787                         | NR               | 565       | 743                         | NR               | 695       | 84                          | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 1000                        | NR               | 570       | 771                         | NR               | 700       | 72                          | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 783                         | NR               | 575       | 794                         | NR               | 705       | 61                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 417                         | NR               | 580       | 811                         | NR               | 710       | 52                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 261                         | NR               | 585       | 817                         | NR               | 715       | 45                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 167                         | NR               | 590       | 815                         | NR               | 720       | 39                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 104                         | NR               | 595       | 801                         | NR               | 725       | 33                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 79                          | NR               | 600       | 777                         | NR               | 730       | 28                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 73                          | NR               | 605       | 744                         | NR               | 735       | 24                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 76                          | NR               | 610       | 704                         | NR               | 740       | 21                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 98                          | NR               | 615       | 657                         | NR               | 745       | 18                          | NR               | 875       | 1                           | NR               |           |                             |                  |

REPORT NUMBER: SP1-2407-184-1

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.47

| 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    | 139                      | NR            | 620    | 607                      | NR            | 750    | 15                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 198                      | NR            | 625    | 554                      | NR            | 755    | 13                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 267                      | NR            | 630    | 504                      | NR            | 760    | 11                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 343                      | NR            | 635    | 452                      | NR            | 765    | 10                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 410                      | NR            | 640    | 403                      | NR            | 770    | 8                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 470                      | NR            | 645    | 357                      | NR            | 775    | 7                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 516                      | NR            | 650    | 314                      | NR            | 780    | 6                        | NR            | 910    | 0                        | NR            |
| 395    | 7                        | NR            | 525    | 550                      | NR            | 655    | 275                      | NR            | 785    | 5                        | NR            | 915    | 0                        | NR            |
| 400    | 10                       | NR            | 530    | 578                      | NR            | 660    | 240                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 17                       | NR            | 535    | 601                      | NR            | 665    | 208                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 35                       | NR            | 540    | 620                      | NR            | 670    | 179                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 70                       | NR            | 545    | 641                      | NR            | 675    | 155                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 147                      | NR            | 550    | 664                      | NR            | 680    | 133                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 285                      | NR            | 555    | 689                      | NR            | 685    | 114                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 487                      | NR            | 560    | 715                      | NR            | 690    | 98                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 787                      | NR            | 565    | 743                      | NR            | 695    | 84                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 1000                     | NR            | 570    | 771                      | NR            | 700    | 72                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 783                      | NR            | 575    | 794                      | NR            | 705    | 61                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 417                      | NR            | 580    | 811                      | NR            | 710    | 52                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 261                      | NR            | 585    | 817                      | NR            | 715    | 45                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 167                      | NR            | 590    | 815                      | NR            | 720    | 39                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 104                      | NR            | 595    | 801                      | NR            | 725    | 33                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 79                       | NR            | 600    | 777                      | NR            | 730    | 28                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 73                       | NR            | 605    | 744                      | NR            | 735    | 24                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 704                      | NR            | 740    | 21                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 98                       | NR            | 615    | 657                      | NR            | 745    | 18                       | NR            | 875    | 1                        | NR            |        |                          |               |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.78

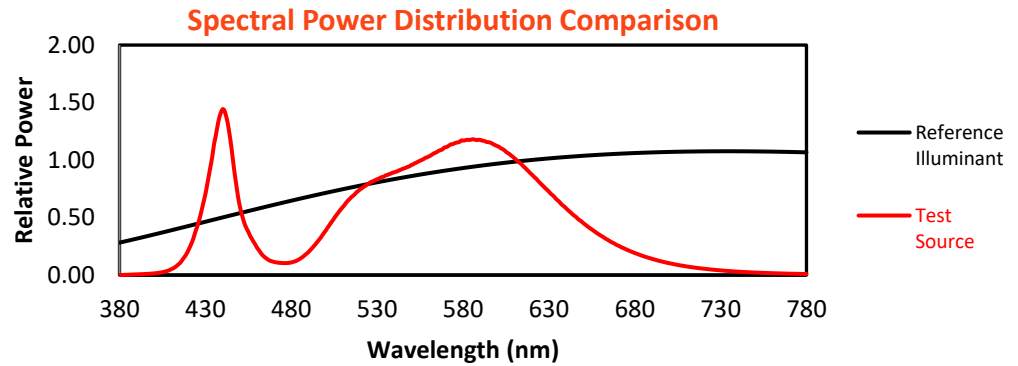
| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 139                         | NR               | 620       | 607                         | NR               | 750       | 15                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 198                         | NR               | 625       | 554                         | NR               | 755       | 13                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 267                         | NR               | 630       | 504                         | NR               | 760       | 11                          | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 343                         | NR               | 635       | 452                         | NR               | 765       | 10                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 410                         | NR               | 640       | 403                         | NR               | 770       | 8                           | NR               | 900       | 0                           | NR               |
| 385       | 2                           | NR               | 515       | 470                         | NR               | 645       | 357                         | NR               | 775       | 7                           | NR               | 905       | 0                           | NR               |
| 390       | 4                           | NR               | 520       | 516                         | NR               | 650       | 314                         | NR               | 780       | 6                           | NR               | 910       | 0                           | NR               |
| 395       | 7                           | NR               | 525       | 550                         | NR               | 655       | 275                         | NR               | 785       | 5                           | NR               | 915       | 0                           | NR               |
| 400       | 10                          | NR               | 530       | 578                         | NR               | 660       | 240                         | NR               | 790       | 5                           | NR               | 920       | 0                           | NR               |
| 405       | 17                          | NR               | 535       | 601                         | NR               | 665       | 208                         | NR               | 795       | 4                           | NR               | 925       | 0                           | NR               |
| 410       | 35                          | NR               | 540       | 620                         | NR               | 670       | 179                         | NR               | 800       | 4                           | NR               | 930       | 0                           | NR               |
| 415       | 70                          | NR               | 545       | 641                         | NR               | 675       | 155                         | NR               | 805       | 3                           | NR               | 935       | 0                           | NR               |
| 420       | 147                         | NR               | 550       | 664                         | NR               | 680       | 133                         | NR               | 810       | 3                           | NR               | 940       | 0                           | NR               |
| 425       | 285                         | NR               | 555       | 689                         | NR               | 685       | 114                         | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 487                         | NR               | 560       | 715                         | NR               | 690       | 98                          | NR               | 820       | 2                           | NR               | 950       | 0                           | NR               |
| 435       | 787                         | NR               | 565       | 743                         | NR               | 695       | 84                          | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 1000                        | NR               | 570       | 771                         | NR               | 700       | 72                          | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 783                         | NR               | 575       | 794                         | NR               | 705       | 61                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 417                         | NR               | 580       | 811                         | NR               | 710       | 52                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 261                         | NR               | 585       | 817                         | NR               | 715       | 45                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 167                         | NR               | 590       | 815                         | NR               | 720       | 39                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 104                         | NR               | 595       | 801                         | NR               | 725       | 33                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 79                          | NR               | 600       | 777                         | NR               | 730       | 28                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 73                          | NR               | 605       | 744                         | NR               | 735       | 24                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 76                          | NR               | 610       | 704                         | NR               | 740       | 21                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 98                          | NR               | 615       | 657                         | NR               | 745       | 18                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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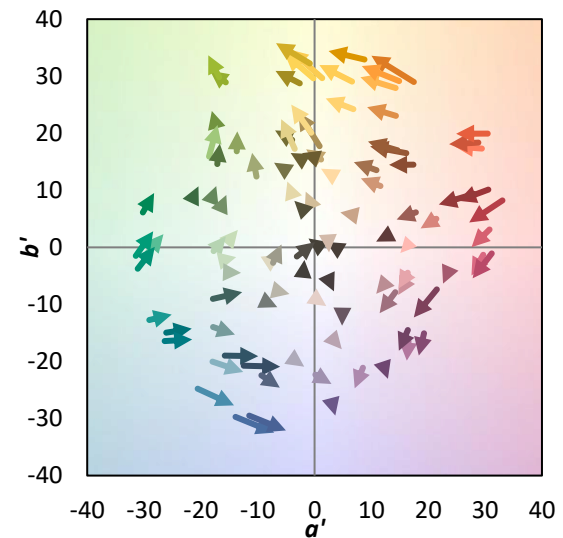
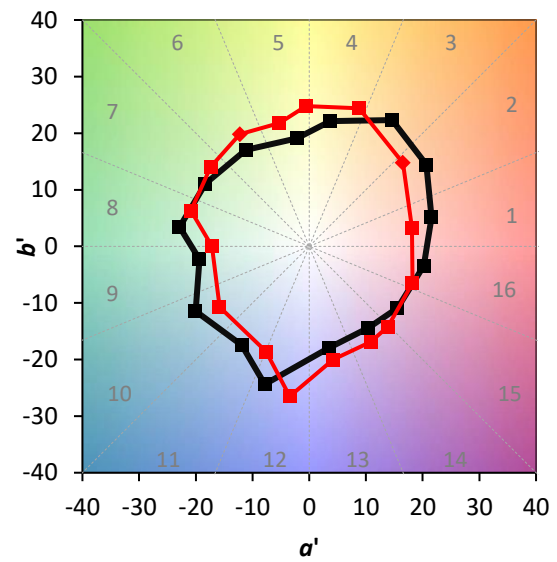
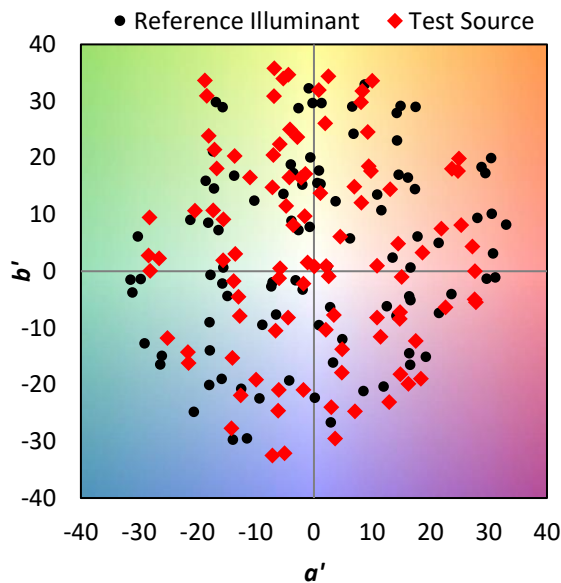
TM-30-18

### Summary

$R_f = 71.8$   
 $R_g = 96.5$   
 $CIE R_a = 70.7$   
 $R_g = -36.7$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)