

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: P1063890

Luminaire Tested: **GLAN-SA5B-740-U-T4BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1063890  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA5B-740-U-T4BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 800mA 5xLight Square PACKAGE  
70CRI 4000K FIXTURE w/ TYPE IV ANGLED BACKLIGHT CONTROL  
Light Source: (70) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22574 lumens  
Efficiency: N/A  
Efficacy: 126.3 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G5

Input Watts (W): 178.8  
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

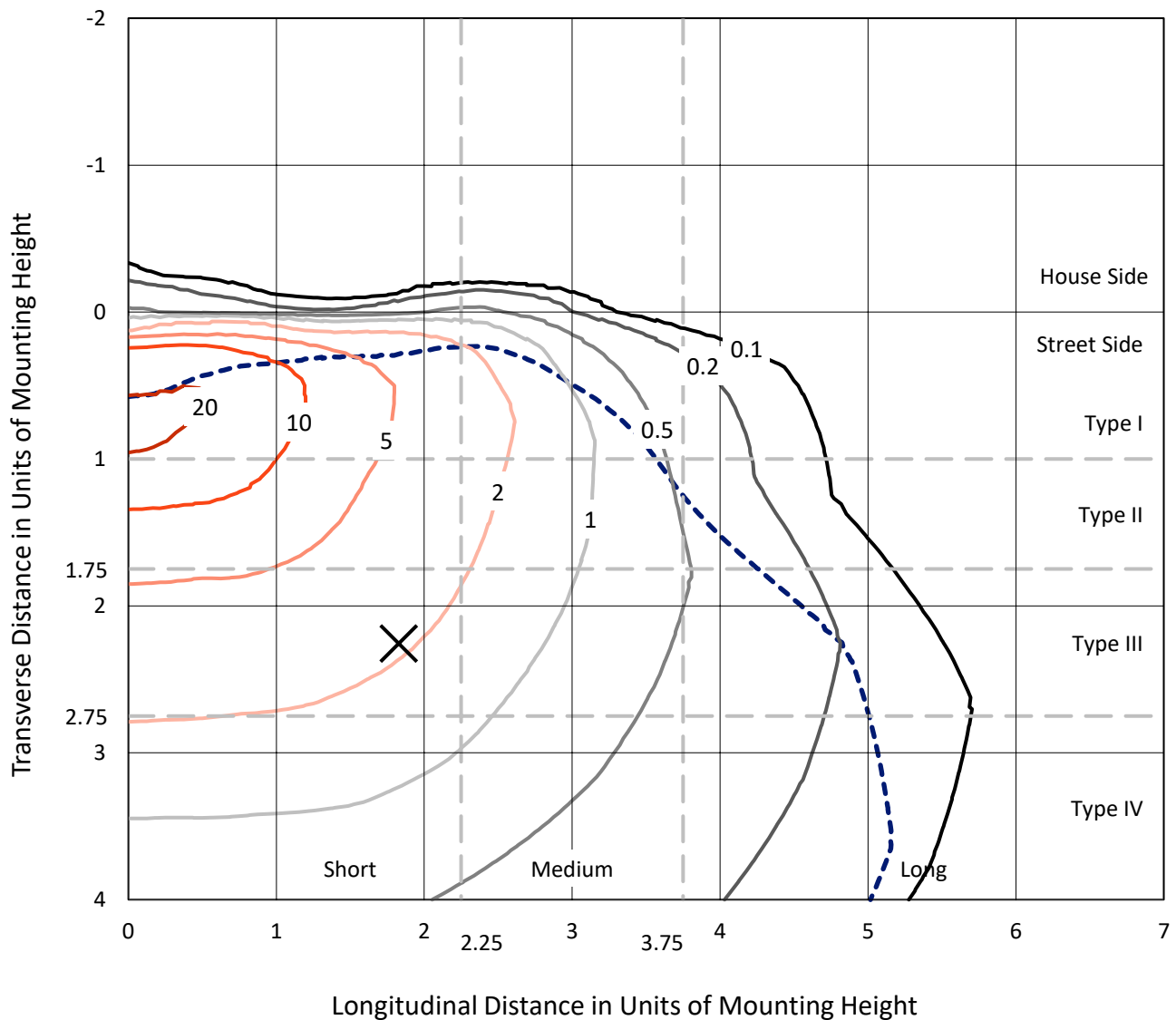


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

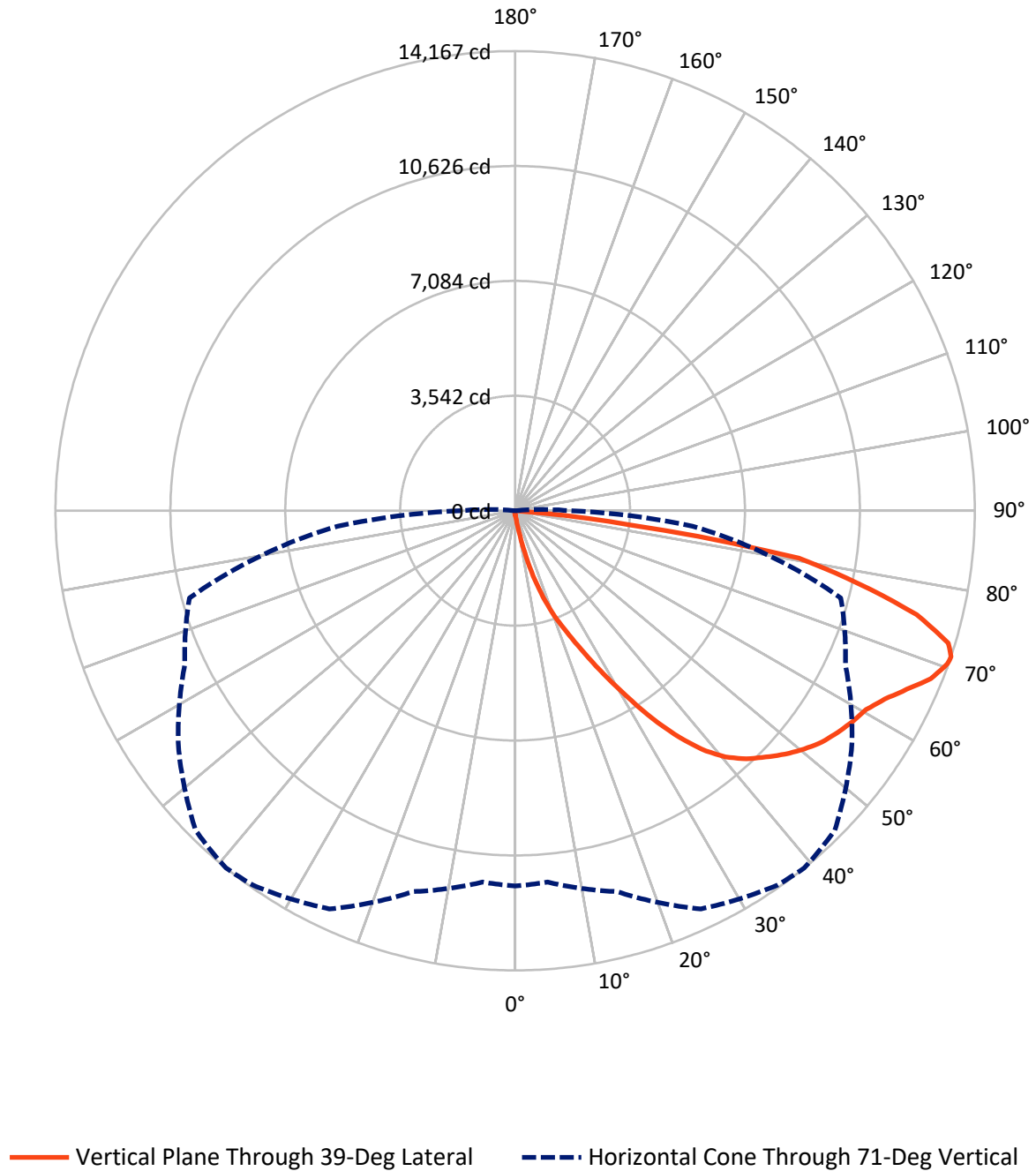


Based on 15 foot mounting height. Maximum calculated value = 23.2 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 80.2     | 0.0    | 80.2    |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 22493.7  | 0.0    | 22493.7 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 22574.0  | 0.0    | 22574.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 18.9    | 0.1       |
| 10°-20°   | 241.3   | 1.1       |
| 20°-30°   | 859.2   | 3.8       |
| 30°-40°   | 2070.8  | 9.2       |
| 40°-50°   | 3465.7  | 15.4      |
| 50°-60°   | 4451.2  | 19.7      |
| 60°-70°   | 5633.0  | 25.0      |
| 70°-80°   | 5022.1  | 22.2      |
| 80°-90°   | 811.8   | 3.6       |
| 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°    | 22574.0 | 100.0     |
| 0°-180°   | 22574.0 | 100.0     |



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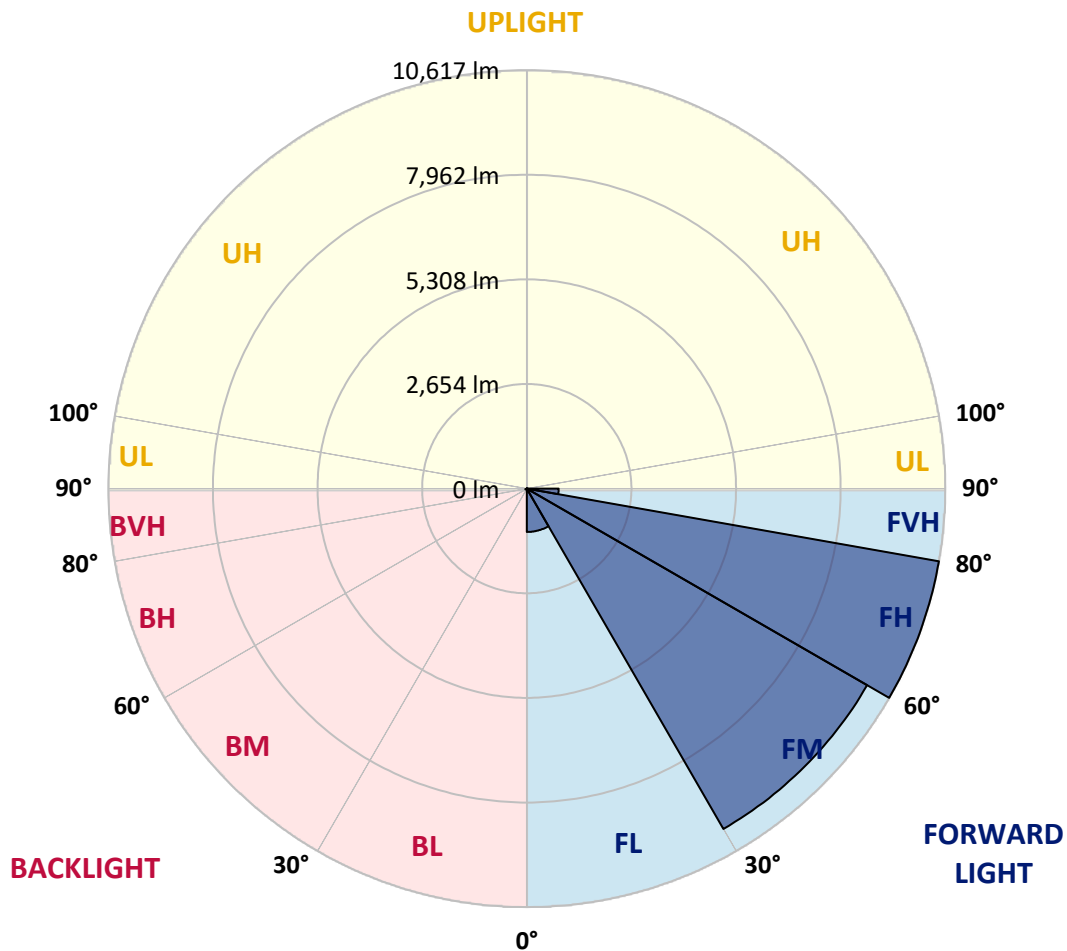
CATALOG NUMBER: GLAN-SA5B-740-U-T4BC

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1100.0  | 4.9       |                         |      |          |
| FM   | (30°-60°)   | 9969.1  | 44.2      |                         |      |          |
| FH   | (60°-80°)   | 10616.6 | 47.0      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 808.1   | 3.6       |                         |      | G5       |
| BL   | (0°-30°)    | 19.4    | 0.1       | B0/110                  |      |          |
| BM   | (30°-60°)   | 18.6    | 0.1       | B0/220                  |      |          |
| BH   | (60°-80°)   | 38.6    | 0.2       | B0/110                  |      | G0/110   |
| BVH  | (80°-90°)   | 3.7     | 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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 39°     | 45°     | 55°     | 65°     | 75°     | 85°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 123.8   | 123.8   | 123.8   | 123.8   | 123.8   | 123.8   | 123.8   | 123.8   | 123.8   | 123.8   | 123.8  |
| 2.5°  | 142.1   | 142.1   | 142.1   | 137.5   | 137.5   | 136.0   | 134.5   | 134.5   | 131.4   | 129.9   | 126.8  |
| 5°    | 215.5   | 210.9   | 200.2   | 194.1   | 181.8   | 174.2   | 166.6   | 155.9   | 145.2   | 137.5   | 128.4  |
| 7.5°  | 487.5   | 498.2   | 463.0   | 397.3   | 330.1   | 301.0   | 252.1   | 203.2   | 168.1   | 145.2   | 129.9  |
| 10°   | 1242.4  | 1236.3  | 1117.1  | 985.6   | 761.0   | 670.9   | 525.7   | 331.6   | 217.0   | 158.9   | 131.4  |
| 12.5° | 2113.4  | 2107.3  | 1966.7  | 1787.9  | 1491.5  | 1303.5  | 1028.4  | 618.9   | 311.7   | 180.3   | 131.4  |
| 15°   | 2845.4  | 2820.9  | 2776.6  | 2599.4  | 2252.5  | 2095.1  | 1731.4  | 1094.1  | 504.3   | 217.0   | 134.5  |
| 17.5° | 3329.8  | 3308.4  | 3267.2  | 3203.0  | 2982.9  | 2796.5  | 2504.6  | 1719.2  | 816.0   | 281.2   | 140.6  |
| 20°   | 3774.5  | 3759.2  | 3725.6  | 3713.4  | 3571.3  | 3471.9  | 3230.5  | 2437.4  | 1271.4  | 382.0   | 149.8  |
| 22.5° | 4385.8  | 4353.7  | 4367.4  | 4294.1  | 4155.0  | 4035.8  | 3887.6  | 3189.2  | 1827.7  | 550.1   | 166.6  |
| 25°   | 5134.5  | 5119.3  | 5081.1  | 5029.1  | 4836.6  | 4732.6  | 4504.9  | 3898.3  | 2449.6  | 770.2   | 184.9  |
| 27.5° | 6039.2  | 6022.4  | 6013.2  | 5894.0  | 5672.4  | 5559.4  | 5241.5  | 4567.6  | 3149.5  | 1078.9  | 209.4  |
| 30°   | 7081.4  | 7089.0  | 7029.4  | 6876.6  | 6618.4  | 6459.4  | 6132.4  | 5269.0  | 3866.2  | 1441.0  | 235.3  |
| 32.5° | 8160.3  | 8145.0  | 8053.3  | 7873.0  | 7642.2  | 7494.0  | 7078.3  | 6037.7  | 4618.0  | 1919.3  | 265.9  |
| 35°   | 9323.2  | 9294.1  | 9052.7  | 8846.4  | 8649.3  | 8462.8  | 8083.8  | 6930.1  | 5369.9  | 2455.7  | 307.2  |
| 37.5° | 10496.8 | 10360.8 | 9876.4  | 9615.0  | 9479.0  | 9326.2  | 8973.2  | 7882.1  | 6117.1  | 3054.7  | 357.6  |
| 40°   | 11383.1 | 11277.7 | 10703.1 | 10221.7 | 10113.2 | 9983.3  | 9720.5  | 8704.3  | 6911.8  | 3698.1  | 418.7  |
| 42.5° | 11873.6 | 11815.6 | 11299.0 | 10823.8 | 10568.6 | 10454.0 | 10229.4 | 9422.5  | 7697.2  | 4408.7  | 507.3  |
| 45°   | 12083.0 | 11992.8 | 11647.5 | 11425.9 | 11019.4 | 10829.9 | 10562.5 | 9965.0  | 8517.8  | 5215.5  | 631.1  |
| 47.5° | 12018.8 | 11966.8 | 11719.3 | 11800.3 | 11505.3 | 11210.4 | 10817.7 | 10380.6 | 9219.3  | 6141.6  | 800.7  |
| 50°   | 11615.4 | 11571.1 | 11494.7 | 11933.2 | 11896.6 | 11548.1 | 11147.8 | 10709.2 | 9792.3  | 7096.7  | 1063.6 |
| 52.5° | 10848.2 | 10829.9 | 11025.5 | 11829.3 | 12118.1 | 11846.1 | 11465.6 | 10999.5 | 10327.2 | 8094.5  | 1439.5 |
| 55°   | 9859.5  | 9934.4  | 10493.7 | 11667.3 | 12231.2 | 12066.2 | 11746.8 | 11271.5 | 10756.6 | 8987.0  | 1994.2 |
| 57.5° | 9453.1  | 9472.9  | 10171.3 | 11552.7 | 12281.6 | 12260.2 | 12020.3 | 11531.3 | 11150.8 | 9700.6  | 2840.8 |
| 60°   | 9928.3  | 9897.7  | 10266.0 | 11639.8 | 12382.5 | 12434.5 | 12263.3 | 11772.8 | 11493.1 | 10313.4 | 3968.6 |
| 62.5° | 10787.1 | 10770.3 | 10888.0 | 12011.2 | 12677.4 | 12782.9 | 12601.0 | 11947.0 | 11795.7 | 10716.8 | 5255.3 |
| 65°   | 11554.2 | 11519.1 | 11737.6 | 12669.8 | 13195.5 | 13270.3 | 13111.4 | 12245.0 | 11928.6 | 11010.2 | 6464.0 |
| 67.5° | 11885.9 | 11878.2 | 12229.7 | 13296.3 | 13739.5 | 13820.5 | 13681.4 | 12656.0 | 11898.1 | 11103.4 | 6997.3 |
| 70°   | 11734.6 | 11705.5 | 12267.9 | 13562.2 | 14046.6 | 14138.3 | 14003.9 | 12808.8 | 11566.5 | 10808.5 | 6207.3 |
| 71°   | 11568.0 | 11490.1 | 12153.3 | 13543.9 | 14089.4 | 14167.4 | 13932.0 | 12669.8 | 11233.3 | 10389.8 | 5490.6 |
| 72.5° | 11051.5 | 11065.2 | 11838.5 | 13352.9 | 13987.0 | 13964.1 | 13525.5 | 12171.6 | 10831.4 | 9439.3  | 4410.2 |
| 75°   | 9780.1  | 9861.1  | 10819.2 | 12550.6 | 13073.2 | 12781.3 | 12110.5 | 11219.6 | 10024.6 | 6768.1  | 3062.4 |
| 77.5° | 7992.2  | 8112.9  | 9165.8  | 11007.2 | 10858.9 | 10829.9 | 10802.4 | 9885.5  | 8560.6  | 3635.4  | 2130.2 |
| 80°   | 3815.8  | 4077.1  | 5528.8  | 7857.7  | 8536.2  | 8864.7  | 8658.4  | 7966.2  | 6619.9  | 1731.4  | 1272.9 |
| 82.5° | 249.1   | 246.0   | 348.4   | 660.2   | 2782.7  | 3597.2  | 5715.2  | 5693.8  | 4615.0  | 843.5   | 519.6  |
| 85°   | 117.7   | 120.7   | 132.9   | 151.3   | 175.7   | 192.5   | 265.9   | 1558.7  | 2208.2  | 401.9   | 113.1  |
| 87.5° | 68.8    | 70.3    | 82.5    | 105.4   | 137.5   | 152.8   | 181.8   | 233.8   | 287.3   | 221.6   | 24.5   |
| 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-SA5B-740-U-T4BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 123.8  | 123.8 | 123.8 | 123.8 | 123.8 | 123.8 | 123.8 | 123.8 | 123.8 | 123.8 | 123.8 |
| 2.5°  | 125.3  | 123.8 | 119.2 | 114.6 | 110.0 | 107.0 | 105.4 | 107.0 | 107.0 | 108.5 | 108.5 |
| 5°    | 125.3  | 120.7 | 113.1 | 103.9 | 97.8  | 91.7  | 88.6  | 87.1  | 88.6  | 88.6  | 88.6  |
| 7.5°  | 123.8  | 116.1 | 105.4 | 94.7  | 87.1  | 79.5  | 76.4  | 74.9  | 74.9  | 76.4  | 76.4  |
| 10°   | 120.7  | 113.1 | 99.3  | 87.1  | 77.9  | 68.8  | 64.2  | 59.6  | 59.6  | 59.6  | 61.1  |
| 12.5° | 119.2  | 108.5 | 91.7  | 79.5  | 67.2  | 56.5  | 47.4  | 42.8  | 44.3  | 44.3  | 44.3  |
| 15°   | 116.1  | 103.9 | 87.1  | 71.8  | 56.5  | 42.8  | 35.1  | 30.6  | 32.1  | 33.6  | 32.1  |
| 17.5° | 116.1  | 102.4 | 81.0  | 62.7  | 44.3  | 32.1  | 26.0  | 22.9  | 22.9  | 24.5  | 24.5  |
| 20°   | 116.1  | 99.3  | 76.4  | 53.5  | 33.6  | 24.5  | 18.3  | 16.8  | 16.8  | 19.9  | 21.4  |
| 22.5° | 119.2  | 99.3  | 70.3  | 44.3  | 27.5  | 18.3  | 13.8  | 12.2  | 13.8  | 16.8  | 18.3  |
| 25°   | 123.8  | 97.8  | 64.2  | 39.7  | 22.9  | 13.8  | 10.7  | 7.6   | 9.2   | 12.2  | 13.8  |
| 27.5° | 128.4  | 96.3  | 58.1  | 35.1  | 18.3  | 10.7  | 7.6   | 6.1   | 4.6   | 6.1   | 6.1   |
| 30°   | 132.9  | 96.3  | 52.0  | 29.0  | 15.3  | 7.6   | 4.6   | 3.1   | 1.5   | 0.0   | 0.0   |
| 32.5° | 136.0  | 93.2  | 47.4  | 22.9  | 12.2  | 6.1   | 3.1   | 1.5   | 0.0   | 0.0   | 0.0   |
| 35°   | 139.1  | 90.2  | 41.3  | 18.3  | 9.2   | 4.6   | 1.5   | 0.0   | 0.0   | 0.0   | 0.0   |
| 37.5° | 142.1  | 85.6  | 35.1  | 15.3  | 7.6   | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 145.2  | 79.5  | 29.0  | 13.8  | 4.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 148.2  | 74.9  | 24.5  | 10.7  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 155.9  | 71.8  | 19.9  | 9.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 169.6  | 68.8  | 18.3  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 189.5  | 65.7  | 16.8  | 4.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 217.0  | 64.2  | 15.3  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 265.9  | 62.7  | 13.8  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 349.9  | 61.1  | 13.8  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 536.4  | 58.1  | 13.8  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 958.1  | 56.5  | 12.2  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 1670.3 | 58.1  | 12.2  | 3.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 2394.6 | 61.1  | 10.7  | 4.6   | 1.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 2049.2 | 53.5  | 10.7  | 6.1   | 3.1   | 1.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 71°   | 1670.3 | 47.4  | 10.7  | 6.1   | 3.1   | 1.5   | 1.5   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 1074.3 | 36.7  | 9.2   | 6.1   | 3.1   | 3.1   | 1.5   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 453.9  | 30.6  | 9.2   | 6.1   | 4.6   | 3.1   | 3.1   | 1.5   | 0.0   | 0.0   | 0.0   |
| 77.5° | 194.1  | 22.9  | 9.2   | 7.6   | 6.1   | 4.6   | 4.6   | 3.1   | 1.5   | 0.0   | 0.0   |
| 80°   | 73.4   | 18.3  | 10.7  | 9.2   | 7.6   | 7.6   | 6.1   | 3.1   | 1.5   | 0.0   | 0.0   |
| 82.5° | 33.6   | 15.3  | 10.7  | 9.2   | 9.2   | 7.6   | 6.1   | 4.6   | 3.1   | 0.0   | 0.0   |
| 85°   | 21.4   | 13.8  | 10.7  | 9.2   | 9.2   | 7.6   | 7.6   | 4.6   | 3.1   | 0.0   | 0.0   |
| 87.5° | 16.8   | 13.8  | 10.7  | 10.7  | 9.2   | 9.2   | 6.1   | 4.6   | 1.5   | 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



REPORT NUMBER: SP1-2407-184-1

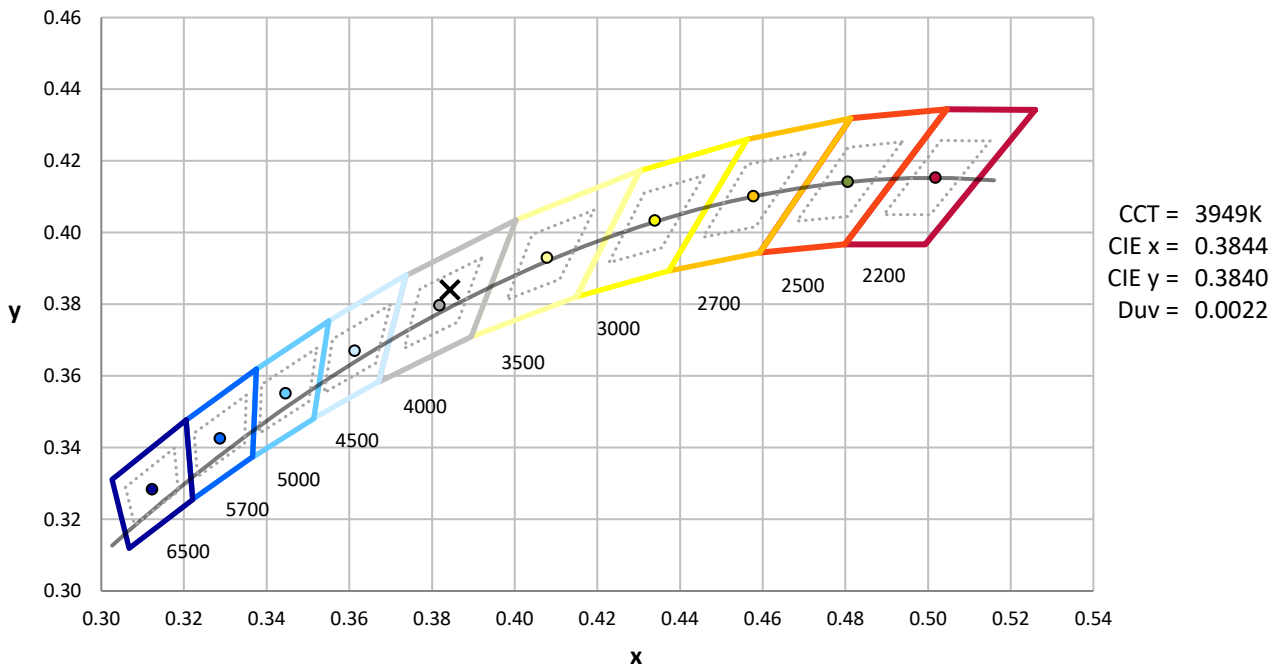
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-2407-184-1

**CIE 1931 Chromaticity Diagram**



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



REPORT NUMBER: SP1-2407-184-1

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 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<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</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

### 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               |           |                             |                  |

REPORT NUMBER: SP1-2407-184-1

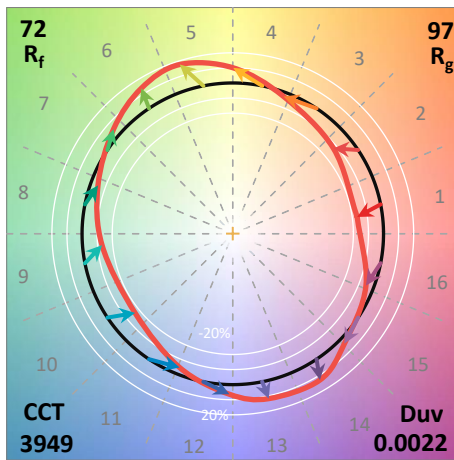
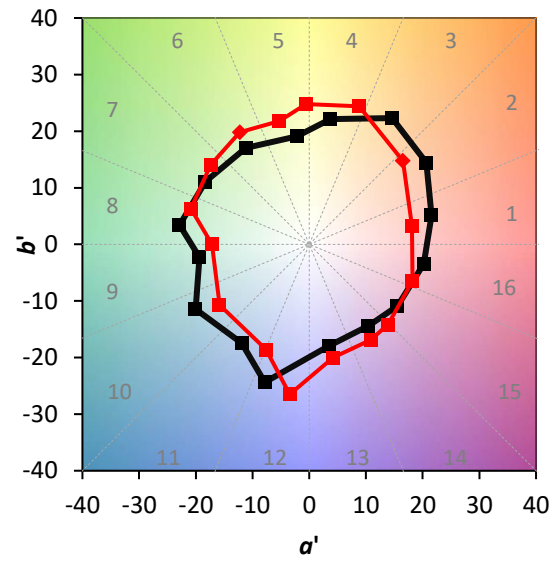
TM-30-18

### 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)