

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

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Peachtree City, GA 30269

Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P1456434

Luminaire Tested: GLAN-SB8D-727-U-T3LG

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1456434  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/21/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB8D-727-U-T3LG  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 8xLight Square  
PACKAGE 70CRI 2700K FIXTURE w/ TYPE III LOW GLARE  
Light Source: (208) 2700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

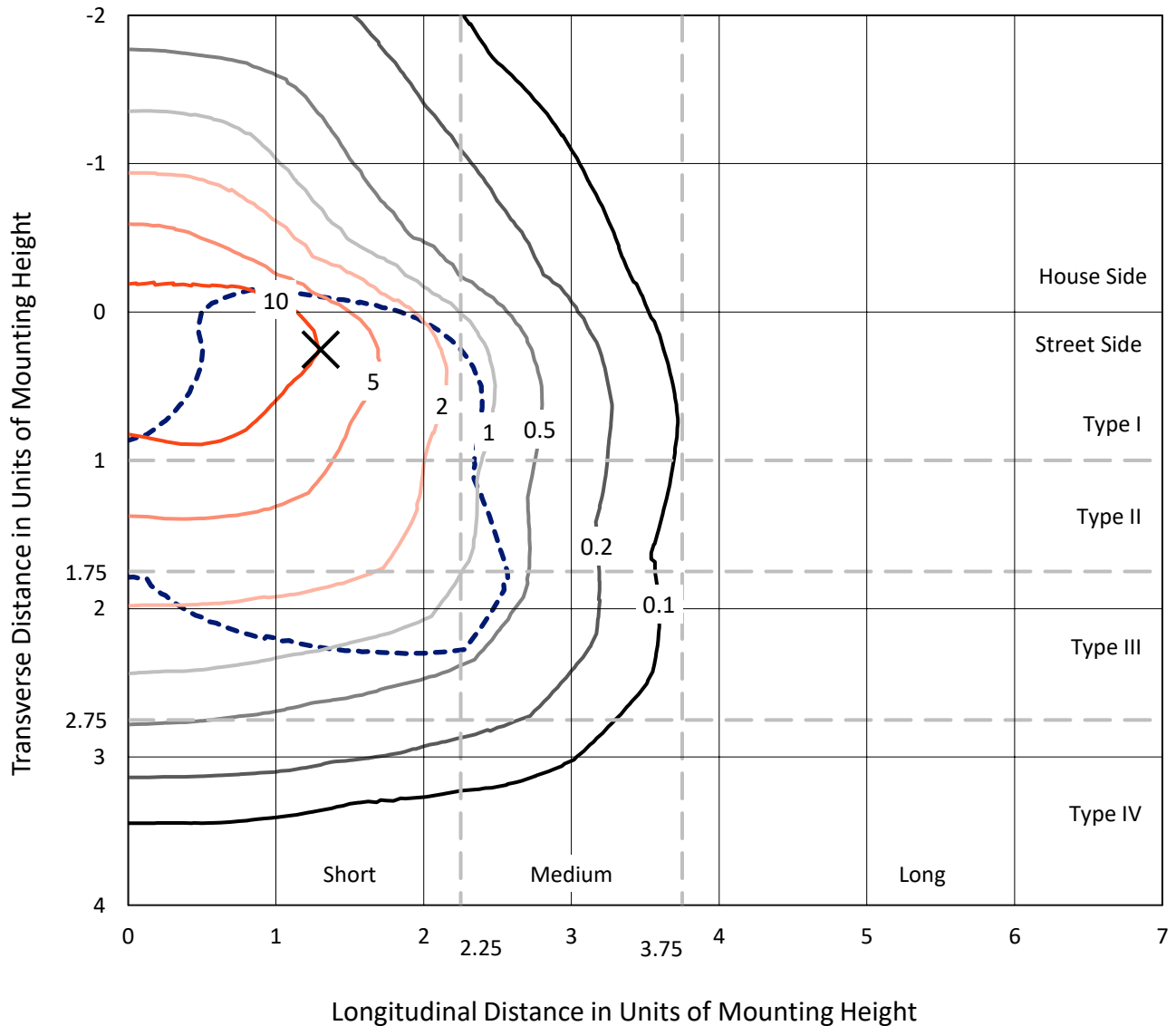
Lumens per Lamp: N/A  
Luminaire Lumens: 74469.4 lumens  
Efficiency: N/A  
Efficacy: 127.3 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B5 - U0 - G5  
  
Input Watts (W): 584.9  
Input Voltage (V): 120  
Input Current (Ain): 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

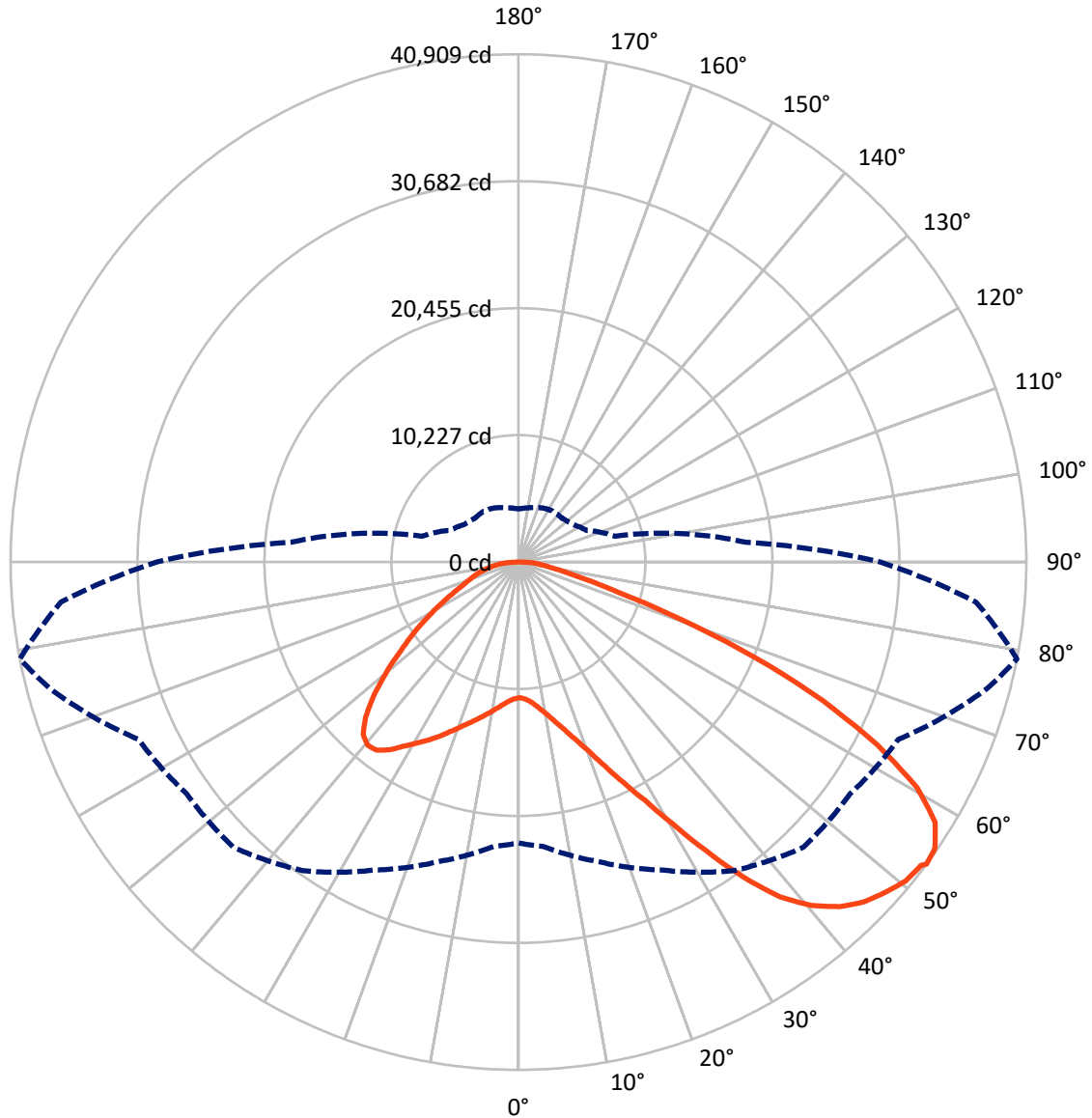


Based on 30 foot mounting height. Maximum calculated value = 18.9 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 53-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 18773.2  | 0.0    | 18773.2 |
|                    | % Fixture | 25.2     | 0.0    | 25.2    |
| <b>Street Side</b> | Lumens    | 55696.2  | 0.0    | 55696.2 |
|                    | % Fixture | 74.8     | 0.0    | 74.8    |
| <b>Total</b>       | Lumens    | 74469.4  | 0.0    | 74469.4 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 1041.7  | 1.4       |
| 10°-20°   | 3225.7  | 4.3       |
| 20°-30°   | 6167.3  | 8.3       |
| 30°-40°   | 10588.7 | 14.2      |
| 40°-50°   | 14831.5 | 19.9      |
| 50°-60°   | 16831.9 | 22.6      |
| 60°-70°   | 14760.5 | 19.8      |
| 70°-80°   | 5771.6  | 7.8       |
| 80°-90°   | 1250.5  | 1.7       |
| 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°    | 74469.4 | 100.0     |
| 0°-180°   | 74469.4 | 100.0     |



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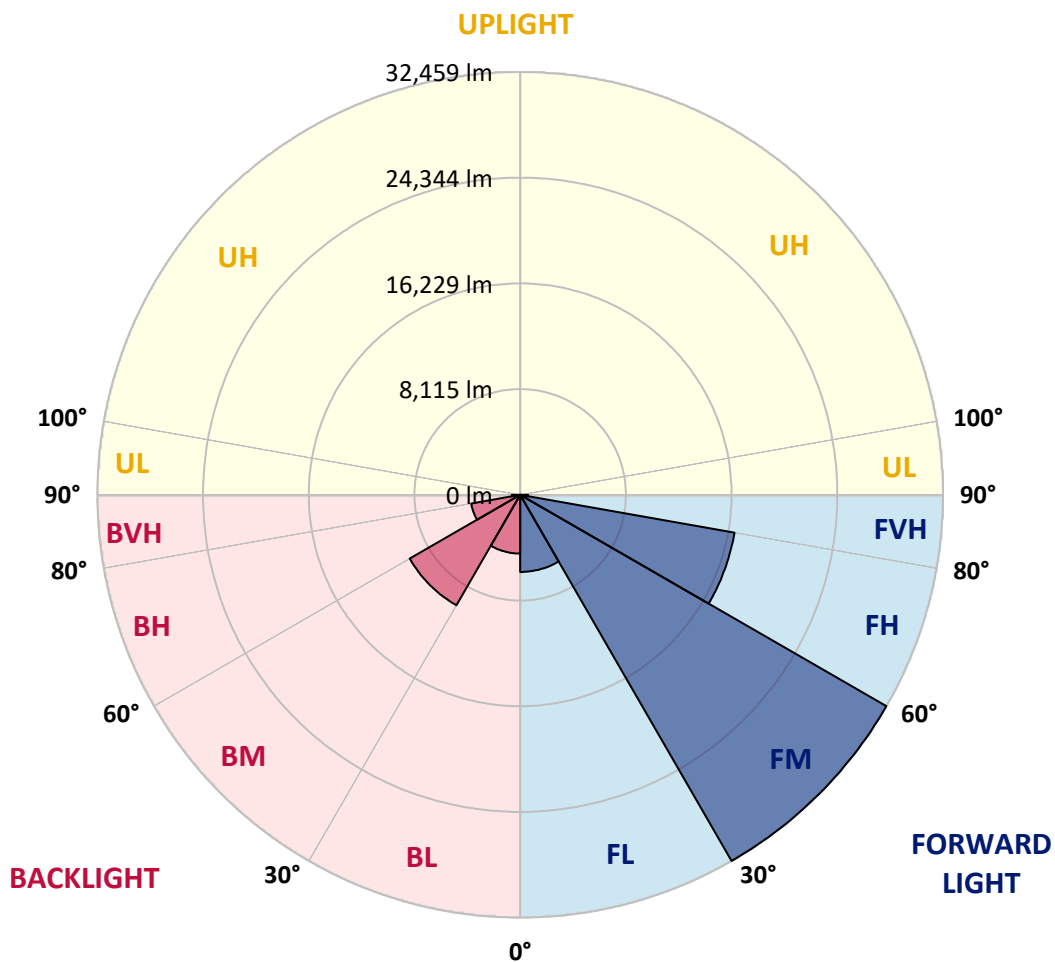
CATALOG NUMBER: GLAN-SB8D-727-U-T3LG

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 5919.6  | 7.9       |                         |      |         |
| FM   | (30°-60°)   | 32458.6 | 43.6      |                         |      |         |
| FH   | (60°-80°)   | 16711.5 | 22.4      |                         |      | G5      |
| FVH  | (80°-90°)   | 606.5   | 0.8       |                         |      | G4/750  |
| BL   | (0°-30°)    | 4515.0  | 6.1       | B4/5000                 |      |         |
| BM   | (30°-60°)   | 9793.5  | 13.2      | B5                      |      |         |
| BH   | (60°-80°)   | 3820.7  | 5.1       | B4/5000                 |      | G4/5000 |
| BVH  | (80°-90°)   | 644.0   | 0.9       |                         |      | G4/750  |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B5-U0-G5**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 79°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 |
| 2.5°  | 10948.9 | 10948.9 | 10882.5 | 10948.9 | 10915.7 | 10965.5 | 10998.7 | 10998.7 | 11065.0 | 11048.4 | 11048.4 |
| 5°    | 10766.4 | 10733.2 | 10716.6 | 10832.8 | 10899.1 | 11031.8 | 11181.1 | 11247.5 | 11363.6 | 11363.6 | 11380.2 |
| 7.5°  | 10285.3 | 10268.7 | 10351.7 | 10583.9 | 10799.6 | 11131.4 | 11446.6 | 11629.0 | 11811.5 | 11844.7 | 11844.7 |
| 10°   | 9986.7  | 9970.1  | 10069.7 | 10351.7 | 10700.0 | 11181.1 | 11678.8 | 12060.4 | 12359.0 | 12441.9 | 12441.9 |
| 12.5° | 9986.7  | 9986.7  | 10069.7 | 10351.7 | 10716.6 | 11297.3 | 11977.4 | 12624.4 | 13088.9 | 13188.4 | 13155.3 |
| 15°   | 10268.7 | 10252.1 | 10351.7 | 10650.3 | 10998.7 | 11546.1 | 12375.6 | 13238.2 | 13868.6 | 14051.1 | 14067.7 |
| 17.5° | 10567.3 | 10550.7 | 10700.0 | 11081.6 | 11496.3 | 12043.8 | 12889.8 | 13951.5 | 14847.4 | 15079.6 | 15129.4 |
| 20°   | 11031.8 | 11015.2 | 11197.7 | 11562.7 | 12077.0 | 12707.3 | 13586.6 | 14797.6 | 16041.8 | 16290.6 | 16357.0 |
| 22.5° | 11562.7 | 11579.3 | 11778.3 | 12226.3 | 12740.5 | 13570.0 | 14648.3 | 15992.0 | 17485.0 | 17866.6 | 17932.9 |
| 25°   | 12674.2 | 12624.4 | 12790.3 | 13105.5 | 13652.9 | 14648.3 | 15975.4 | 17435.3 | 19210.3 | 19674.8 | 19757.8 |
| 27.5° | 14150.6 | 14067.7 | 14250.1 | 14565.3 | 14963.5 | 15892.5 | 17418.7 | 19044.4 | 21184.4 | 21765.1 | 21781.6 |
| 30°   | 15477.7 | 15428.0 | 15676.8 | 16323.8 | 16738.5 | 17451.9 | 19077.6 | 20935.6 | 23623.1 | 24469.1 | 24502.3 |
| 32.5° | 16622.4 | 16605.8 | 17070.3 | 17899.8 | 18845.4 | 19608.5 | 21184.4 | 23324.4 | 26708.6 | 27687.4 | 27471.8 |
| 35°   | 17717.3 | 17767.1 | 18347.7 | 19210.3 | 20471.1 | 21997.3 | 23589.9 | 26028.5 | 29960.1 | 31138.0 | 30789.6 |
| 37.5° | 18828.8 | 18861.9 | 19625.1 | 20736.5 | 22063.7 | 24054.4 | 26194.4 | 28964.8 | 32780.3 | 34240.2 | 33477.1 |
| 40°   | 19857.3 | 19956.8 | 20985.4 | 22179.8 | 23905.1 | 25929.0 | 28317.8 | 31005.3 | 34953.5 | 36396.8 | 35567.3 |
| 42.5° | 20885.8 | 21035.1 | 22146.6 | 23788.9 | 25630.3 | 27737.2 | 29794.2 | 32249.4 | 36347.0 | 37956.1 | 36678.8 |
| 45°   | 21947.5 | 22047.1 | 23424.0 | 25132.7 | 27222.9 | 29163.9 | 30640.3 | 33045.7 | 37309.2 | 39051.0 | 37309.2 |
| 47.5° | 22660.9 | 22859.9 | 24369.6 | 26343.7 | 28433.9 | 30258.7 | 31320.5 | 33377.5 | 37923.0 | 39764.4 | 37541.4 |
| 50°   | 22942.9 | 23224.9 | 24850.7 | 27040.4 | 29429.3 | 31287.3 | 31851.3 | 33560.0 | 38603.1 | 40394.8 | 37491.6 |
| 52.5° | 22893.1 | 23158.6 | 24933.6 | 27355.6 | 30225.6 | 32232.9 | 32365.6 | 33759.1 | 39084.2 | 40610.4 | 37060.3 |
| 53°   | 22627.7 | 22992.7 | 24983.4 | 27372.2 | 30341.7 | 32481.7 | 32597.8 | 33775.7 | 39150.6 | 40909.0 | 36994.0 |
| 55°   | 21715.3 | 21914.4 | 24469.1 | 27355.6 | 30889.1 | 33410.7 | 33244.8 | 34273.3 | 39333.0 | 40710.0 | 36264.0 |
| 57.5° | 20885.8 | 21084.9 | 23307.9 | 27040.4 | 31337.0 | 34721.2 | 34289.9 | 34190.4 | 38337.7 | 39581.9 | 34422.6 |
| 60°   | 20355.0 | 20421.3 | 22295.9 | 26045.1 | 31154.6 | 35633.7 | 34970.1 | 33211.6 | 35882.5 | 36911.0 | 31187.7 |
| 62.5° | 19907.1 | 19890.5 | 21549.4 | 24618.4 | 30457.8 | 35766.4 | 35102.8 | 30789.6 | 32282.6 | 32448.5 | 26874.5 |
| 65°   | 18895.1 | 18779.0 | 20388.2 | 23009.3 | 29014.6 | 35169.2 | 33477.1 | 27123.4 | 27504.9 | 26957.5 | 21582.6 |
| 67.5° | 16887.8 | 16639.0 | 18065.7 | 20554.0 | 26078.3 | 33477.1 | 30374.9 | 22859.9 | 21682.1 | 20587.2 | 16257.4 |
| 70°   | 12093.5 | 12093.5 | 13238.2 | 15726.6 | 20935.6 | 28931.6 | 26078.3 | 17302.6 | 14930.3 | 13951.5 | 10865.9 |
| 72.5° | 5922.4  | 6071.7  | 7266.1  | 9290.0  | 14034.5 | 21002.0 | 19973.4 | 11214.3 | 9057.7  | 8576.6  | 6967.5  |
| 75°   | 2521.6  | 2538.2  | 3102.2  | 4114.1  | 7116.8  | 12425.3 | 12508.3 | 6469.8  | 5806.2  | 5574.0  | 4611.8  |
| 77.5° | 1758.5  | 1791.6  | 2040.5  | 2422.0  | 3384.2  | 5706.7  | 6503.0  | 3915.1  | 3898.5  | 3732.6  | 3284.7  |
| 80°   | 1343.7  | 1376.9  | 1542.8  | 1808.2  | 2272.7  | 2919.7  | 3367.6  | 2654.3  | 2787.0  | 2621.1  | 2372.3  |
| 82.5° | 1011.9  | 1045.1  | 1161.2  | 1360.3  | 1625.7  | 1957.5  | 1891.2  | 1957.5  | 2057.1  | 1957.5  | 1708.7  |
| 85°   | 680.2   | 696.7   | 779.7   | 945.6   | 1045.1  | 1177.8  | 1177.8  | 1426.7  | 1493.0  | 1459.9  | 1343.7  |
| 87.5° | 348.4   | 348.4   | 414.7   | 497.7   | 530.9   | 547.4   | 481.1   | 630.4   | 713.3   | 779.7   | 630.4   |
| 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-SB8D-727-U-T3LG

**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°     | 105°    | 115°    | 125°    | 135°    | 145°    | 155°    | 165°    | 175°    | 180°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 | 10932.3 |
| 2.5°  | 11048.4 | 11065.0 | 11015.2 | 10998.7 | 10982.1 | 10899.1 | 10899.1 | 10816.2 | 10799.6 | 10816.2 | 10766.4 |
| 5°    | 11413.4 | 11380.2 | 11247.5 | 11148.0 | 11031.8 | 10799.6 | 10666.9 | 10484.4 | 10434.6 | 10384.9 | 10335.1 |
| 7.5°  | 11861.3 | 11811.5 | 11579.3 | 11313.8 | 10998.7 | 10550.7 | 10301.9 | 10003.3 | 9903.8  | 9820.8  | 9787.6  |
| 10°   | 12425.3 | 12325.8 | 11960.8 | 11396.8 | 10816.2 | 10268.7 | 9920.4  | 9555.4  | 9389.5  | 9356.3  | 9273.4  |
| 12.5° | 13155.3 | 12972.8 | 12292.6 | 11413.4 | 10650.3 | 9936.9  | 9555.4  | 9273.4  | 9207.0  | 9190.4  | 9107.5  |
| 15°   | 13968.1 | 13702.7 | 12607.8 | 11430.0 | 10434.6 | 9654.9  | 9422.7  | 9273.4  | 9273.4  | 9256.8  | 9207.0  |
| 17.5° | 14963.5 | 14532.2 | 12906.4 | 11363.6 | 10169.2 | 9572.0  | 9455.9  | 9323.1  | 9290.0  | 9306.6  | 9240.2  |
| 20°   | 16157.9 | 15444.6 | 13221.6 | 11280.7 | 10053.1 | 9588.6  | 9455.9  | 9273.4  | 9190.4  | 9173.8  | 9124.1  |
| 22.5° | 17534.8 | 16489.7 | 13570.0 | 11148.0 | 10053.1 | 9572.0  | 9356.3  | 9107.5  | 8941.6  | 8875.2  | 8808.9  |
| 25°   | 19110.8 | 17700.7 | 13934.9 | 11098.2 | 10086.2 | 9505.6  | 9157.3  | 8759.1  | 8493.7  | 8394.1  | 8344.4  |
| 27.5° | 21018.5 | 18978.1 | 14200.4 | 11148.0 | 10069.7 | 9356.3  | 8808.9  | 8294.6  | 7996.0  | 7830.1  | 7796.9  |
| 30°   | 23125.4 | 20355.0 | 14382.9 | 11230.9 | 9970.1  | 9074.3  | 8394.1  | 7813.5  | 7398.8  | 7199.7  | 7150.0  |
| 32.5° | 25613.8 | 21897.8 | 14565.3 | 11230.9 | 9721.3  | 8676.2  | 7913.1  | 7282.7  | 6851.3  | 6619.1  | 6585.9  |
| 35°   | 28367.6 | 23788.9 | 14731.2 | 11214.3 | 9422.7  | 8244.8  | 7432.0  | 6785.0  | 6337.1  | 6104.8  | 6088.2  |
| 37.5° | 30706.7 | 25215.6 | 14814.2 | 11048.4 | 9007.9  | 7747.2  | 6984.1  | 6337.1  | 5872.6  | 5623.7  | 5607.2  |
| 40°   | 32149.9 | 25812.8 | 14648.3 | 10716.6 | 8510.3  | 7232.9  | 6486.4  | 5889.2  | 5424.7  | 5126.1  | 5059.7  |
| 42.5° | 32697.4 | 25530.8 | 14117.4 | 10169.2 | 7913.1  | 6718.6  | 6071.7  | 5441.3  | 4827.5  | 4578.6  | 4528.9  |
| 45°   | 32514.9 | 24435.9 | 12989.4 | 9389.5  | 7249.5  | 6254.1  | 5706.7  | 4993.4  | 4595.2  | 4379.6  | 4363.0  |
| 47.5° | 31901.1 | 22743.8 | 11579.3 | 8410.7  | 6552.7  | 5839.4  | 5225.6  | 4877.2  | 4512.3  | 4280.0  | 4263.4  |
| 50°   | 30822.8 | 20935.6 | 9887.2  | 7299.3  | 5922.4  | 5408.1  | 5109.5  | 4827.5  | 4528.9  | 4346.4  | 4313.2  |
| 52.5° | 29445.9 | 18895.1 | 8327.8  | 6221.0  | 5374.9  | 5026.5  | 4993.4  | 4794.3  | 4562.0  | 4363.0  | 4280.0  |
| 53°   | 29130.7 | 18364.3 | 8029.2  | 6038.5  | 5292.0  | 4976.8  | 4960.2  | 4794.3  | 4528.9  | 4346.4  | 4280.0  |
| 55°   | 27621.1 | 16721.9 | 7083.6  | 5391.5  | 4877.2  | 4810.9  | 4960.2  | 4777.7  | 4445.9  | 4296.6  | 4246.8  |
| 57.5° | 25199.0 | 14565.3 | 6171.2  | 4794.3  | 4445.9  | 4611.8  | 4910.4  | 4711.3  | 4346.4  | 4080.9  | 3998.0  |
| 60°   | 22279.3 | 12093.5 | 5474.4  | 4396.1  | 4130.7  | 4363.0  | 4711.3  | 4479.1  | 3981.4  | 3848.7  | 3832.1  |
| 62.5° | 18795.6 | 9787.6  | 4943.6  | 4064.4  | 3865.3  | 4097.5  | 4412.7  | 4014.6  | 3649.6  | 3550.1  | 3516.9  |
| 65°   | 14681.5 | 7780.3  | 4528.9  | 3815.5  | 3599.9  | 3782.3  | 3998.0  | 3749.2  | 3516.9  | 3434.0  | 3417.4  |
| 67.5° | 10915.7 | 6104.8  | 4197.1  | 3599.9  | 3334.4  | 3450.6  | 3699.4  | 3633.0  | 3434.0  | 3384.2  | 3367.6  |
| 70°   | 7531.5  | 4960.2  | 3898.5  | 3400.8  | 3002.6  | 3135.4  | 3516.9  | 3566.7  | 3367.6  | 3334.4  | 3317.8  |
| 72.5° | 5275.4  | 4197.1  | 3583.3  | 3185.1  | 2737.2  | 2869.9  | 3434.0  | 3434.0  | 3218.3  | 3268.1  | 3234.9  |
| 75°   | 3964.8  | 3533.5  | 3218.3  | 2919.7  | 2405.4  | 2604.5  | 3317.8  | 3284.7  | 3069.0  | 3284.7  | 3201.7  |
| 77.5° | 2986.1  | 2853.3  | 2787.0  | 2587.9  | 2106.8  | 2305.9  | 3085.6  | 3019.2  | 2737.2  | 2753.8  | 2604.5  |
| 80°   | 2173.2  | 2206.4  | 2388.8  | 2206.4  | 1758.5  | 1907.8  | 2604.5  | 2571.3  | 2223.0  | 2289.3  | 2106.8  |
| 82.5° | 1559.4  | 1642.3  | 2040.5  | 1775.0  | 1277.4  | 1360.3  | 1791.6  | 1940.9  | 1741.9  | 1642.3  | 1675.5  |
| 85°   | 1177.8  | 1227.6  | 1642.3  | 1310.5  | 796.3   | 895.8   | 1227.6  | 1393.5  | 1360.3  | 1260.8  | 1277.4  |
| 87.5° | 497.7   | 564.0   | 763.1   | 613.8   | 464.5   | 464.5   | 763.1   | 978.8   | 879.2   | 746.5   | 779.7   |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-3

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-727-U-5WQ

Data in this report applies to families of products including GSS-SB1A-727-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-727-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2700K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 2672  
 CIE u': 0.2638  
 CIE v': 0.5276  
 Duv: -0.0002  
 CIE x: 0.4619  
 CIE y: 0.4106  
 CIE z: 0.1275  
 Peak Wavelength (nm): 601  
 Dominant Wavelength (nm): 584  
 Purity: 61.88407  
 Rf: 67.9  
 Rg: 98.6

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 71.1 |      |       |
| R1:       | 68.3 | R9:  | -27.8 |
| R2:       | 79.8 | R10: | 54.4  |
| R3:       | 91.2 | R11: | 65.8  |
| R4:       | 69.4 | R12: | 45.6  |
| R5:       | 66.5 | R13: | 69.8  |
| R6:       | 72.6 | R14: | 94.5  |
| R7:       | 77.0 | R15: | 60.1  |
| R8:       | 44.1 |      |       |



**Test Conditions**

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

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

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-3

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360               | 0                           | NR                      | 490               | 52                          | NR                      | 620               | 888                         | NR                      | 750               | 27                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 87                          | NR                      | 625               | 834                         | NR                      | 755               | 23                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 135                         | NR                      | 630               | 776                         | NR                      | 760               | 20                          | NR                      | 890               | 1                           | NR                      |
| 375               | 0                           | NR                      | 505               | 196                         | NR                      | 635               | 712                         | NR                      | 765               | 17                          | NR                      | 895               | 0                           | NR                      |
| 380               | 0                           | NR                      | 510               | 258                         | NR                      | 640               | 648                         | NR                      | 770               | 15                          | NR                      | 900               | 0                           | NR                      |
| 385               | 1                           | NR                      | 515               | 317                         | NR                      | 645               | 583                         | NR                      | 775               | 12                          | NR                      | 905               | 0                           | NR                      |
| 390               | 2                           | NR                      | 520               | 368                         | NR                      | 650               | 523                         | NR                      | 780               | 11                          | NR                      | 910               | 0                           | NR                      |
| 395               | 4                           | NR                      | 525               | 408                         | NR                      | 655               | 465                         | NR                      | 785               | 9                           | NR                      | 915               | 0                           | NR                      |
| 400               | 6                           | NR                      | 530               | 443                         | NR                      | 660               | 410                         | NR                      | 790               | 8                           | NR                      | 920               | 0                           | NR                      |
| 405               | 11                          | NR                      | 535               | 473                         | NR                      | 665               | 360                         | NR                      | 795               | 7                           | NR                      | 925               | 0                           | NR                      |
| 410               | 23                          | NR                      | 540               | 498                         | NR                      | 670               | 313                         | NR                      | 800               | 6                           | NR                      | 930               | 0                           | NR                      |
| 415               | 51                          | NR                      | 545               | 530                         | NR                      | 675               | 272                         | NR                      | 805               | 5                           | NR                      | 935               | 0                           | NR                      |
| 420               | 111                         | NR                      | 550               | 563                         | NR                      | 680               | 236                         | NR                      | 810               | 4                           | NR                      | 940               | 0                           | NR                      |
| 425               | 214                         | NR                      | 555               | 605                         | NR                      | 685               | 203                         | NR                      | 815               | 4                           | NR                      | 945               | 0                           | NR                      |
| 430               | 339                         | NR                      | 560               | 651                         | NR                      | 690               | 175                         | NR                      | 820               | 3                           | NR                      | 950               | 0                           | NR                      |
| 435               | 467                         | NR                      | 565               | 705                         | NR                      | 695               | 150                         | NR                      | 825               | 3                           | NR                      | 955               | 0                           | NR                      |
| 440               | 535                         | NR                      | 570               | 765                         | NR                      | 700               | 128                         | NR                      | 830               | 3                           | NR                      | 960               | 0                           | NR                      |
| 445               | 372                         | NR                      | 575               | 824                         | NR                      | 705               | 110                         | NR                      | 835               | 2                           | NR                      | 965               | 0                           | NR                      |
| 450               | 160                         | NR                      | 580               | 882                         | NR                      | 710               | 94                          | NR                      | 840               | 2                           | NR                      | 970               | 0                           | NR                      |
| 455               | 89                          | NR                      | 585               | 930                         | NR                      | 715               | 80                          | NR                      | 845               | 2                           | NR                      | 975               | 0                           | NR                      |
| 460               | 53                          | NR                      | 590               | 968                         | NR                      | 720               | 69                          | NR                      | 850               | 1                           | NR                      | 980               | 0                           | NR                      |
| 465               | 31                          | NR                      | 595               | 991                         | NR                      | 725               | 59                          | NR                      | 855               | 1                           | NR                      | 985               | 0                           | NR                      |
| 470               | 23                          | NR                      | 600               | 999                         | NR                      | 730               | 50                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 21                          | NR                      | 605               | 992                         | NR                      | 735               | 43                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 23                          | NR                      | 610               | 969                         | NR                      | 740               | 36                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 32                          | NR                      | 615               | 935                         | NR                      | 745               | 31                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

REPORT NUMBER: SP1-2407-184-3

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.02**

| $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360               | 0                           | NR                      | 490               | 52                          | NR                      | 620               | 888                         | NR                      | 750               | 27                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 87                          | NR                      | 625               | 834                         | NR                      | 755               | 23                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 135                         | NR                      | 630               | 776                         | NR                      | 760               | 20                          | NR                      | 890               | 1                           | NR                      |
| 375               | 0                           | NR                      | 505               | 196                         | NR                      | 635               | 712                         | NR                      | 765               | 17                          | NR                      | 895               | 0                           | NR                      |
| 380               | 0                           | NR                      | 510               | 258                         | NR                      | 640               | 648                         | NR                      | 770               | 15                          | NR                      | 900               | 0                           | NR                      |
| 385               | 1                           | NR                      | 515               | 317                         | NR                      | 645               | 583                         | NR                      | 775               | 12                          | NR                      | 905               | 0                           | NR                      |
| 390               | 2                           | NR                      | 520               | 368                         | NR                      | 650               | 523                         | NR                      | 780               | 11                          | NR                      | 910               | 0                           | NR                      |
| 395               | 4                           | NR                      | 525               | 408                         | NR                      | 655               | 465                         | NR                      | 785               | 9                           | NR                      | 915               | 0                           | NR                      |
| 400               | 6                           | NR                      | 530               | 443                         | NR                      | 660               | 410                         | NR                      | 790               | 8                           | NR                      | 920               | 0                           | NR                      |
| 405               | 11                          | NR                      | 535               | 473                         | NR                      | 665               | 360                         | NR                      | 795               | 7                           | NR                      | 925               | 0                           | NR                      |
| 410               | 23                          | NR                      | 540               | 498                         | NR                      | 670               | 313                         | NR                      | 800               | 6                           | NR                      | 930               | 0                           | NR                      |
| 415               | 51                          | NR                      | 545               | 530                         | NR                      | 675               | 272                         | NR                      | 805               | 5                           | NR                      | 935               | 0                           | NR                      |
| 420               | 111                         | NR                      | 550               | 563                         | NR                      | 680               | 236                         | NR                      | 810               | 4                           | NR                      | 940               | 0                           | NR                      |
| 425               | 214                         | NR                      | 555               | 605                         | NR                      | 685               | 203                         | NR                      | 815               | 4                           | NR                      | 945               | 0                           | NR                      |
| 430               | 339                         | NR                      | 560               | 651                         | NR                      | 690               | 175                         | NR                      | 820               | 3                           | NR                      | 950               | 0                           | NR                      |
| 435               | 467                         | NR                      | 565               | 705                         | NR                      | 695               | 150                         | NR                      | 825               | 3                           | NR                      | 955               | 0                           | NR                      |
| 440               | 535                         | NR                      | 570               | 765                         | NR                      | 700               | 128                         | NR                      | 830               | 3                           | NR                      | 960               | 0                           | NR                      |
| 445               | 372                         | NR                      | 575               | 824                         | NR                      | 705               | 110                         | NR                      | 835               | 2                           | NR                      | 965               | 0                           | NR                      |
| 450               | 160                         | NR                      | 580               | 882                         | NR                      | 710               | 94                          | NR                      | 840               | 2                           | NR                      | 970               | 0                           | NR                      |
| 455               | 89                          | NR                      | 585               | 930                         | NR                      | 715               | 80                          | NR                      | 845               | 2                           | NR                      | 975               | 0                           | NR                      |
| 460               | 53                          | NR                      | 590               | 968                         | NR                      | 720               | 69                          | NR                      | 850               | 1                           | NR                      | 980               | 0                           | NR                      |
| 465               | 31                          | NR                      | 595               | 991                         | NR                      | 725               | 59                          | NR                      | 855               | 1                           | NR                      | 985               | 0                           | NR                      |
| 470               | 23                          | NR                      | 600               | 999                         | NR                      | 730               | 50                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 21                          | NR                      | 605               | 992                         | NR                      | 735               | 43                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 23                          | NR                      | 610               | 969                         | NR                      | 740               | 36                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 32                          | NR                      | 615               | 935                         | NR                      | 745               | 31                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

REPORT NUMBER: SP1-2407-184-3

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 1.71**

| 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    | 52                       | NR            | 620    | 888                      | NR            | 750    | 27                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 87                       | NR            | 625    | 834                      | NR            | 755    | 23                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 135                      | NR            | 630    | 776                      | NR            | 760    | 20                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 196                      | NR            | 635    | 712                      | NR            | 765    | 17                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 258                      | NR            | 640    | 648                      | NR            | 770    | 15                       | NR            | 900    | 0                        | NR            |
| 385    | 1                        | NR            | 515    | 317                      | NR            | 645    | 583                      | NR            | 775    | 12                       | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 368                      | NR            | 650    | 523                      | NR            | 780    | 11                       | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 408                      | NR            | 655    | 465                      | NR            | 785    | 9                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 443                      | NR            | 660    | 410                      | NR            | 790    | 8                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 473                      | NR            | 665    | 360                      | NR            | 795    | 7                        | NR            | 925    | 0                        | NR            |
| 410    | 23                       | NR            | 540    | 498                      | NR            | 670    | 313                      | NR            | 800    | 6                        | NR            | 930    | 0                        | NR            |
| 415    | 51                       | NR            | 545    | 530                      | NR            | 675    | 272                      | NR            | 805    | 5                        | NR            | 935    | 0                        | NR            |
| 420    | 111                      | NR            | 550    | 563                      | NR            | 680    | 236                      | NR            | 810    | 4                        | NR            | 940    | 0                        | NR            |
| 425    | 214                      | NR            | 555    | 605                      | NR            | 685    | 203                      | NR            | 815    | 4                        | NR            | 945    | 0                        | NR            |
| 430    | 339                      | NR            | 560    | 651                      | NR            | 690    | 175                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 467                      | NR            | 565    | 705                      | NR            | 695    | 150                      | NR            | 825    | 3                        | NR            | 955    | 0                        | NR            |
| 440    | 535                      | NR            | 570    | 765                      | NR            | 700    | 128                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 372                      | NR            | 575    | 824                      | NR            | 705    | 110                      | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 160                      | NR            | 580    | 882                      | NR            | 710    | 94                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 89                       | NR            | 585    | 930                      | NR            | 715    | 80                       | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 53                       | NR            | 590    | 968                      | NR            | 720    | 69                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 31                       | NR            | 595    | 991                      | NR            | 725    | 59                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 23                       | NR            | 600    | 999                      | NR            | 730    | 50                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 21                       | NR            | 605    | 992                      | NR            | 735    | 43                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 23                       | NR            | 610    | 969                      | NR            | 740    | 36                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 32                       | NR            | 615    | 935                      | NR            | 745    | 31                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 67.9$   
 $R_g = 98.6$   
 $CIE R_a = 71.1$   
 $R_9 = -27.8$

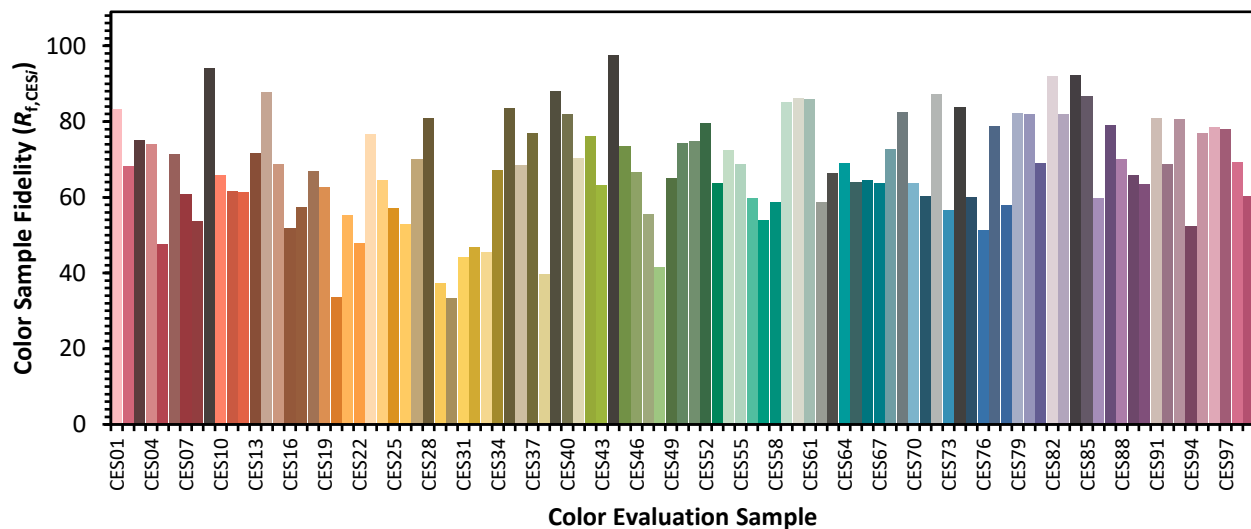


**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 53 | CES51 = 75 | CES76 = 51 |
| CES02 = 63 | CES27 = 70 | CES52 = 80 | CES77 = 79 |
| CES03 = 31 | CES28 = 81 | CES53 = 64 | CES78 = 58 |
| CES04 = 71 | CES29 = 37 | CES54 = 73 | CES79 = 82 |
| CES05 = 50 | CES30 = 33 | CES55 = 69 | CES80 = 82 |
| CES06 = 52 | CES31 = 44 | CES56 = 60 | CES81 = 69 |
| CES07 = 42 | CES32 = 47 | CES57 = 54 | CES82 = 92 |
| CES08 = 41 | CES33 = 45 | CES58 = 59 | CES83 = 82 |
| CES09 = 29 | CES34 = 67 | CES59 = 85 | CES84 = 92 |
| CES10 = 77 | CES35 = 84 | CES60 = 86 | CES85 = 87 |
| CES11 = 60 | CES36 = 68 | CES61 = 86 | CES86 = 60 |
| CES12 = 66 | CES37 = 77 | CES62 = 59 | CES87 = 79 |
| CES13 = 44 | CES38 = 40 | CES63 = 66 | CES88 = 70 |
| CES14 = 74 | CES39 = 88 | CES64 = 69 | CES89 = 66 |
| CES15 = 72 | CES40 = 82 | CES65 = 64 | CES90 = 64 |
| CES16 = 48 | CES41 = 70 | CES66 = 65 | CES91 = 81 |
| CES17 = 51 | CES42 = 76 | CES67 = 64 | CES92 = 69 |
| CES18 = 57 | CES43 = 63 | CES68 = 73 | CES93 = 81 |
| CES19 = 73 | CES44 = 97 | CES69 = 83 | CES94 = 53 |
| CES20 = 67 | CES45 = 74 | CES70 = 64 | CES95 = 77 |
| CES21 = 88 | CES46 = 67 | CES71 = 60 | CES96 = 79 |
| CES22 = 80 | CES47 = 55 | CES72 = 87 | CES97 = 78 |
| CES23 = 92 | CES48 = 42 | CES73 = 57 | CES98 = 69 |
| CES24 = 92 | CES49 = 65 | CES74 = 84 | CES99 = 60 |
| CES25 = 73 | CES50 = 74 | CES75 = 60 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)