

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: P1379953

Luminaire Tested: **VAL-T-SB5C-730-U-T2**

Issue Date: 02/18/2026

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Report Generated By 670245763



**Test Information**

Test Method: LM-79-08  
 Report Number: P1379953  
 Test Lab: INNOVATION CENTER(G3)  
 Issue Date: 02/18/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: VAL-T-SB5C-730-U-T2  
 Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 55 SQUARE 252W 70CRI  
 3000K FIXTURE w/ TYPE II DISTRIBUTION OPTIC  
 Light Source: (130) 3000K CCT, 70 CRI LEDS  
 Ballast/Driver: ELECTRONIC DRIVER

Luminaire Equipment:

| <u>Sample No.</u> | <u>Condition</u> | <u>Description</u> |
|-------------------|------------------|--------------------|
| a                 | good             | reflector          |
| b                 | good             | lens               |
| c                 | good             | housing            |
| d                 | good             | cord               |

**Summary**

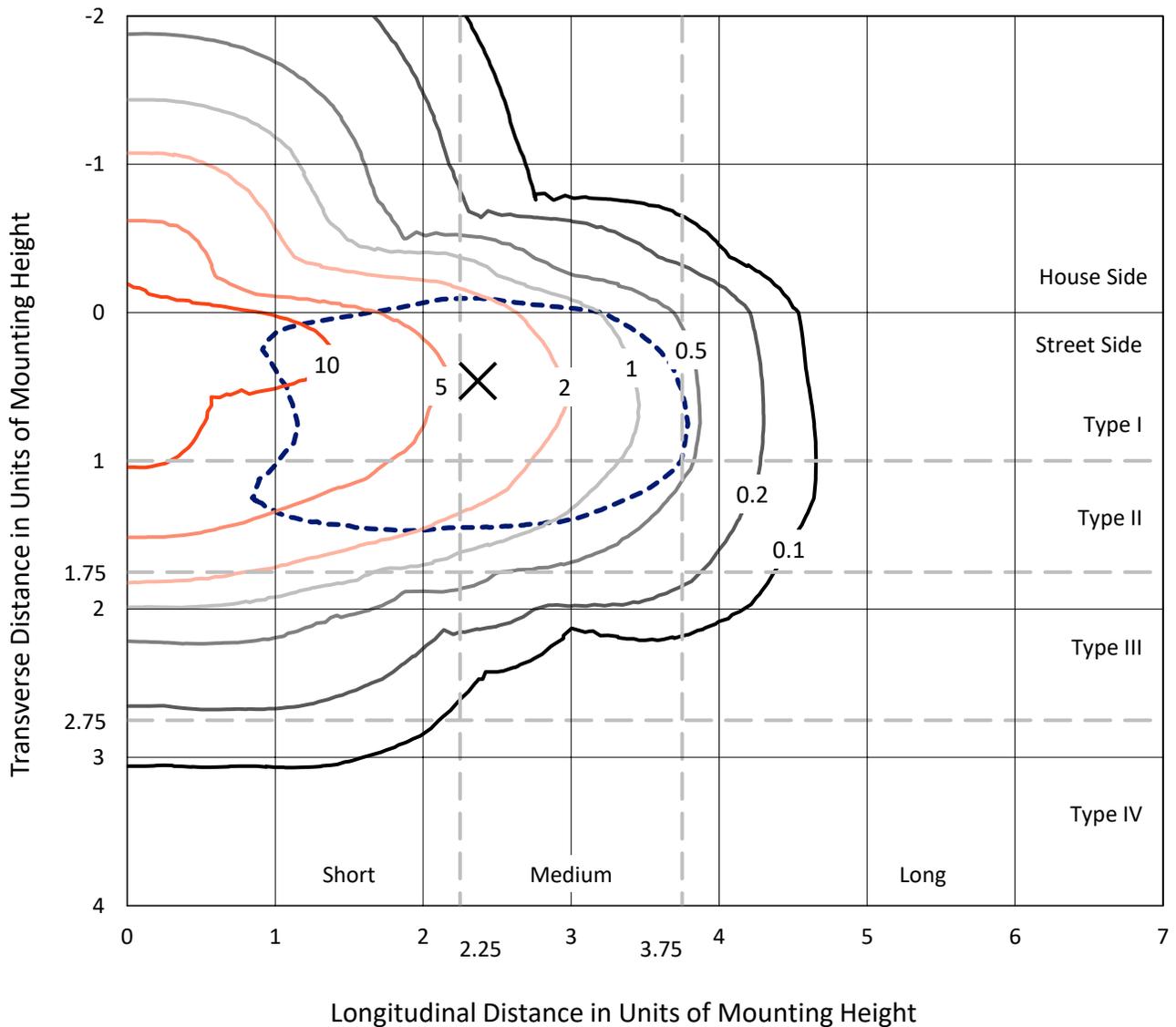
Lumens per Lamp: N/A  
 Luminaire Lumens: 35195.6 lumens  
 Efficiency: N/A  
 Efficacy: 139.7 lumens/watt  
 Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
 IES Classification: Type II - Medium  
 BUG Rating: B3 - U0 - G4

Input Watts (W): 252  
 Input Voltage (V): 120  
 Input Current (A<sub>in</sub>): NR  
 Voltage Rise (V): NR  
 Power Factor: 0.98  
 Total Harmonic Distortion (THDi): 7.9%  
 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

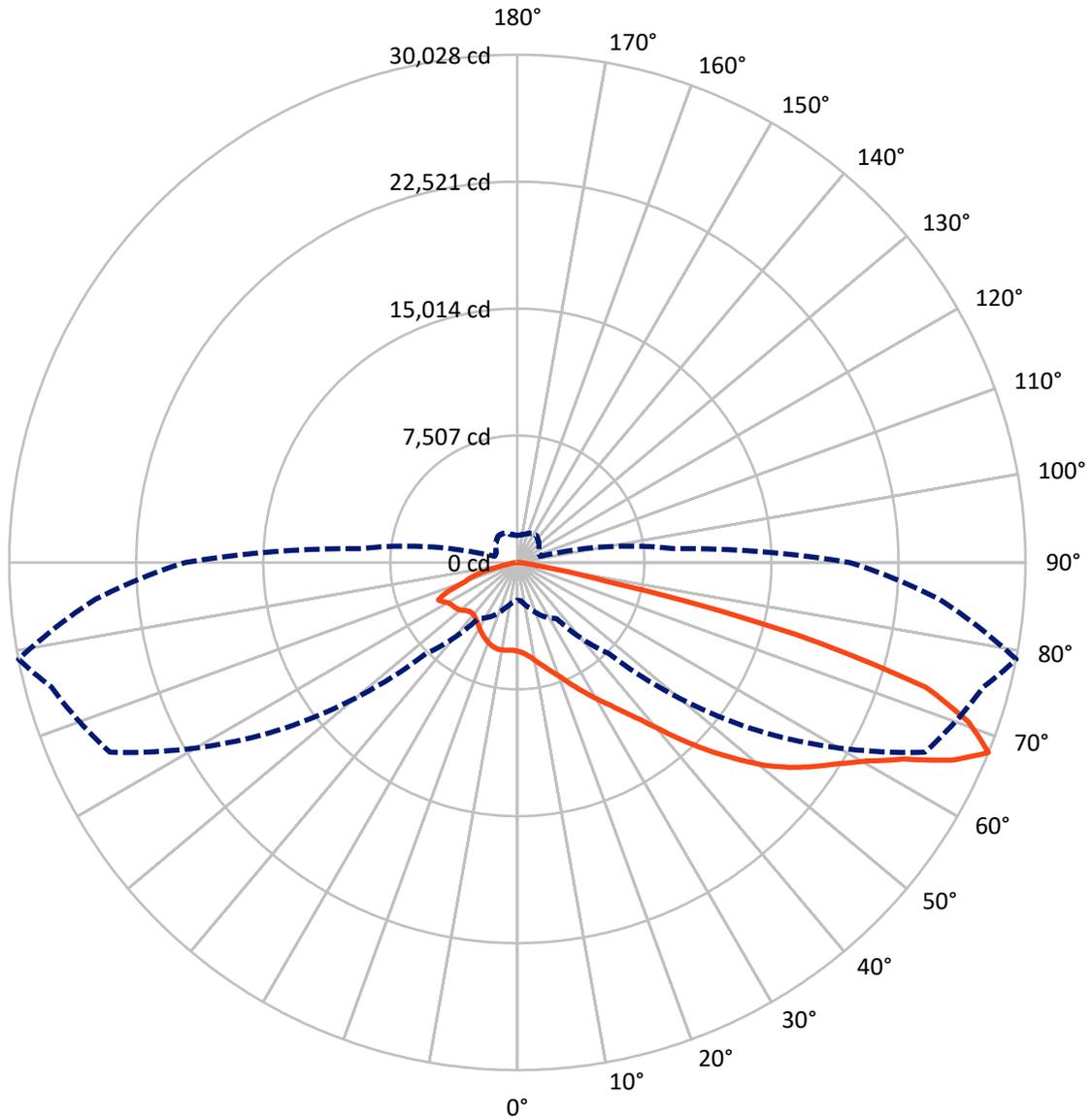
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 15.6 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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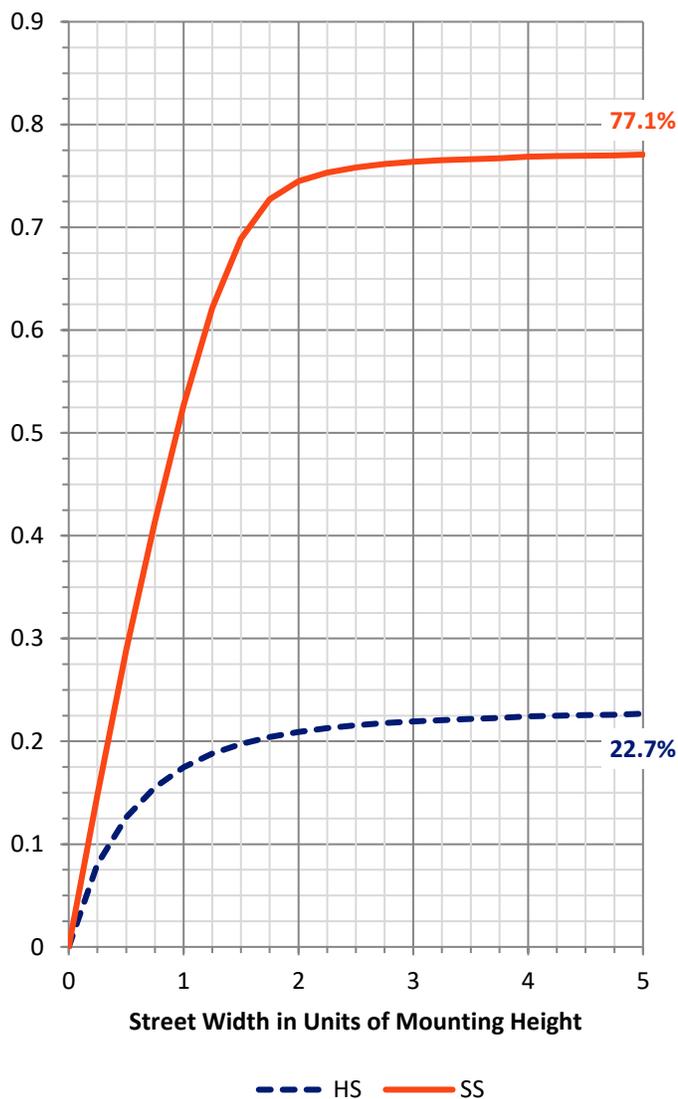
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 8064.2   | 0.0    | 8064.2  |
|                    | % Fixture | 22.9     | 0.0    | 22.9    |
| <b>Street Side</b> | Lumens    | 27131.4  | 0.0    | 27131.4 |
|                    | % Fixture | 77.1     | 0.0    | 77.1    |
| <b>Total</b>       | Lumens    | 35195.6  | 0.0    | 35195.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 501.6   | 1.4       |
| 10°-20°   | 1510.2  | 4.3       |
| 20°-30°   | 2551.5  | 7.2       |
| 30°-40°   | 3936.3  | 11.2      |
| 40°-50°   | 6011.3  | 17.1      |
| 50°-60°   | 8311.5  | 23.6      |
| 60°-70°   | 8399.4  | 23.9      |
| 70°-80°   | 3695.4  | 10.5      |
| 80°-90°   | 278.4   | 0.8       |
| 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°    | 35195.6 | 100.0     |
| 0°-180°   | 35195.6 | 100.0     |

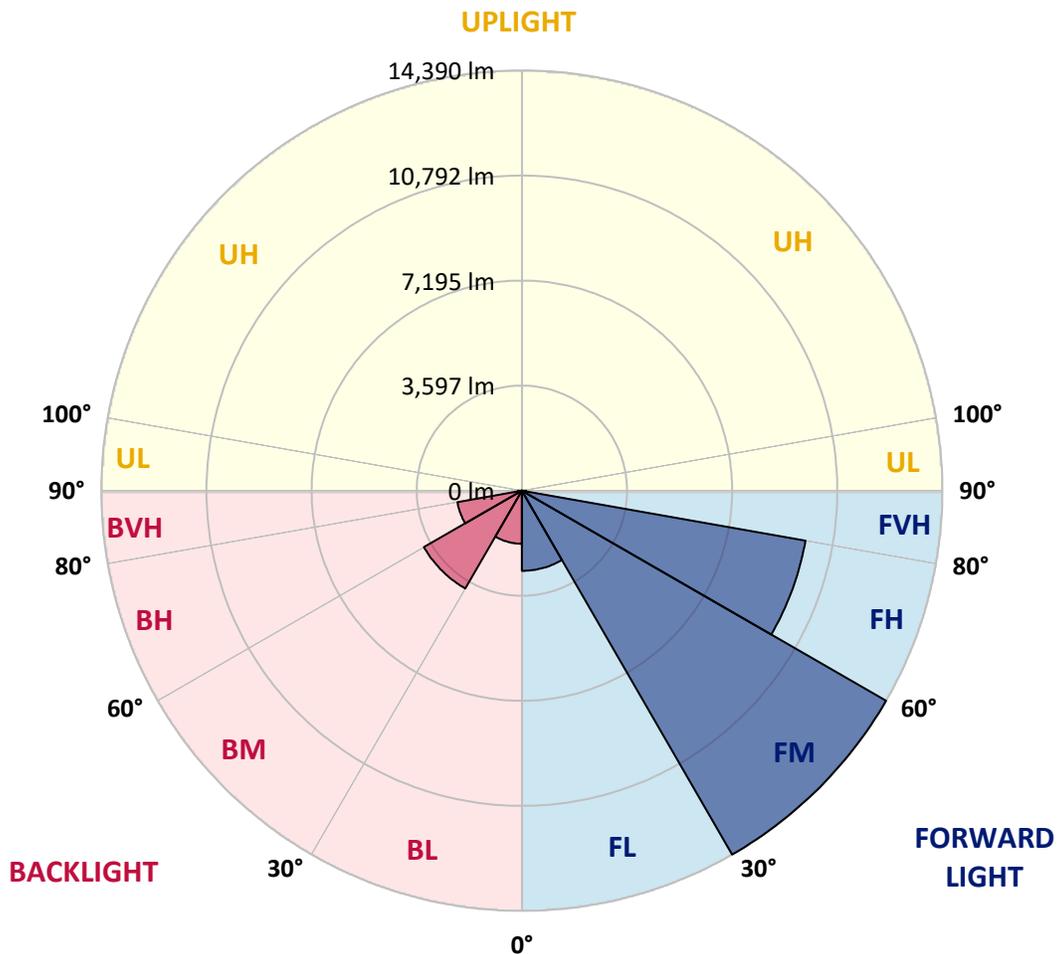


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|----------------|---------|-----------|-------------------------|------|----------|
|                |         |           | B                       | U    | G        |
| FL (0°-30°)    | 2745.9  | 7.8       |                         |      |          |
| FM (30°-60°)   | 14389.6 | 40.9      |                         |      |          |
| FH (60°-80°)   | 9854.9  | 28.0      |                         |      | G4/12000 |
| FVH (80°-90°)  | 141.0   | 0.4       |                         |      | G2/225   |
| BL (0°-30°)    | 1817.4  | 5.2       | B3/2500                 |      |          |
| BM (30°-60°)   | 3869.4  | 11.0      | B3/5000                 |      |          |
| BH (60°-80°)   | 2240.0  | 6.4       | B3/2500                 |      | G3/2500  |
| BVH (80°-90°)  | 137.4   | 0.4       |                         |      | G2/225   |
| UL (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B3-U0-G4**  
 Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 79°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  | 5249.5  |
| 2.5°  | 5493.1  | 5579.6  | 5579.6  | 5540.3  | 5524.6  | 5516.7  | 5461.7  | 5398.8  | 5375.2  | 5335.9  | 5312.4  |
| 5°    | 5831.0  | 5831.0  | 5846.8  | 5807.5  | 5831.0  | 5799.6  | 5721.0  | 5642.4  | 5548.1  | 5477.4  | 5446.0  |
| 7.5°  | 5862.5  | 5925.3  | 5964.6  | 5964.6  | 6011.8  | 6019.6  | 5980.3  | 5893.9  | 5776.0  | 5666.0  | 5611.0  |
| 10°   | 5893.9  | 5948.9  | 5948.9  | 6011.8  | 6113.9  | 6192.5  | 6216.1  | 6184.7  | 5996.1  | 5917.5  | 5807.5  |
| 12.5° | 5823.2  | 5886.0  | 5909.6  | 6035.4  | 6176.8  | 6326.1  | 6436.1  | 6451.9  | 6334.0  | 6192.5  | 6027.5  |
| 15°   | 5579.6  | 5634.6  | 5728.9  | 5917.5  | 6169.0  | 6396.9  | 6609.0  | 6726.9  | 6593.3  | 6491.2  | 6263.3  |
| 17.5° | 5249.5  | 5280.9  | 5438.1  | 5681.7  | 6027.5  | 6412.6  | 6781.9  | 7009.8  | 6978.4  | 6844.8  | 6577.6  |
| 20°   | 5218.1  | 5249.5  | 5296.7  | 5477.4  | 5878.2  | 6357.6  | 6891.9  | 7332.0  | 7418.5  | 7214.1  | 6884.1  |
| 22.5° | 5485.3  | 5516.7  | 5516.7  | 5540.3  | 5791.7  | 6310.4  | 7002.0  | 7677.8  | 7874.3  | 7701.4  | 7277.0  |
| 25°   | 5854.6  | 5917.5  | 5846.8  | 5791.7  | 5878.2  | 6341.8  | 7064.8  | 8070.7  | 8455.8  | 8243.6  | 7717.1  |
| 27.5° | 6381.1  | 6373.3  | 6310.4  | 6145.4  | 6121.8  | 6436.1  | 7237.7  | 8377.2  | 9013.7  | 8793.7  | 8172.9  |
| 30°   | 7112.0  | 7151.3  | 7009.8  | 6664.0  | 6506.9  | 6648.3  | 7473.5  | 8628.7  | 9603.1  | 9422.4  | 8605.1  |
| 32.5° | 7937.1  | 7921.4  | 7748.5  | 7418.5  | 7033.4  | 6994.1  | 7693.5  | 8895.9  | 10279.0 | 10051.1 | 9147.3  |
| 35°   | 8825.1  | 8809.4  | 8754.4  | 8188.6  | 7685.7  | 7473.5  | 8047.1  | 9202.4  | 11064.8 | 10876.2 | 9783.9  |
| 37.5° | 9626.7  | 9697.4  | 9862.5  | 8950.9  | 8416.5  | 8102.2  | 8502.9  | 9713.2  | 12070.7 | 11795.7 | 10554.0 |
| 40°   | 10310.4 | 10436.1 | 10593.3 | 9768.2  | 9100.2  | 8833.0  | 9108.0  | 10546.2 | 13147.3 | 12982.3 | 11481.3 |
| 42.5° | 10939.1 | 11025.5 | 11009.8 | 10506.9 | 9933.2  | 9634.6  | 9870.3  | 11410.6 | 14538.3 | 14420.4 | 12620.8 |
| 45°   | 11709.2 | 11803.5 | 11764.2 | 11284.9 | 10711.2 | 10444.0 | 10868.4 | 12424.4 | 15858.5 | 15874.3 | 13697.4 |
| 47.5° | 12463.6 | 12557.9 | 12534.4 | 12094.3 | 11544.2 | 11324.2 | 11905.7 | 13618.9 | 17131.6 | 17343.8 | 14868.4 |
| 50°   | 13170.9 | 13257.4 | 13304.5 | 13029.5 | 12550.1 | 12314.3 | 12919.4 | 14742.6 | 18365.4 | 18844.8 | 15984.3 |
| 52.5° | 13367.4 | 13477.4 | 13799.6 | 13901.8 | 13689.6 | 13406.7 | 13846.7 | 15819.2 | 19426.3 | 20141.4 | 17060.9 |
| 55°   | 12723.0 | 12911.6 | 13603.1 | 14121.8 | 14750.5 | 14781.9 | 14813.3 | 16864.4 | 20353.6 | 21312.4 | 18043.2 |
| 57.5° | 11599.2 | 11630.6 | 12440.1 | 13493.1 | 14986.2 | 16322.2 | 16479.4 | 18082.5 | 21257.4 | 22451.9 | 19017.7 |
| 60°   | 9108.0  | 8943.0  | 10255.4 | 12039.3 | 14137.5 | 16935.2 | 19135.5 | 19968.6 | 22381.1 | 23827.1 | 20188.6 |
| 62.5° | 4880.2  | 4895.9  | 5980.3  | 8196.5  | 11709.2 | 16337.9 | 21414.5 | 22781.9 | 24023.6 | 25611.0 | 21925.3 |
| 65°   | 3064.8  | 3182.7  | 3795.7  | 4778.0  | 7088.4  | 12982.3 | 21556.0 | 26522.6 | 26624.7 | 28204.3 | 24102.1 |
| 67.5° | 2239.7  | 2271.1  | 2789.8  | 3504.9  | 4062.9  | 7614.9  | 17351.7 | 26569.7 | 28502.9 | 30027.5 | 25029.5 |
| 70°   | 1666.0  | 1681.7  | 2051.1  | 2640.5  | 2962.7  | 3567.8  | 11057.0 | 22994.1 | 27528.5 | 28282.9 | 22711.2 |
| 72.5° | 1218.1  | 1225.9  | 1422.4  | 1941.1  | 2334.0  | 2121.8  | 5194.5  | 16565.8 | 23905.7 | 25249.5 | 20432.2 |
| 75°   | 856.6   | 872.3   | 1013.8  | 1343.8  | 1571.7  | 1477.4  | 1980.4  | 10357.6 | 17163.1 | 17013.7 | 14271.1 |
| 77.5° | 644.4   | 652.3   | 746.6   | 950.9   | 1068.8  | 966.6   | 1115.9  | 4840.9  | 6129.7  | 5532.4  | 4502.9  |
| 80°   | 471.5   | 495.1   | 542.2   | 597.2   | 715.1   | 620.8   | 628.7   | 1359.5  | 1477.4  | 1296.7  | 1163.1  |
| 82.5° | 251.5   | 282.9   | 361.5   | 361.5   | 416.5   | 369.4   | 330.1   | 605.1   | 636.5   | 597.2   | 518.7   |
| 85°   | 78.6    | 78.6    | 86.4    | 110.0   | 165.0   | 165.0   | 165.0   | 204.3   | 212.2   | 212.2   | 180.7   |
| 87.5° | 15.7    | 15.7    | 15.7    | 15.7    | 23.6    | 31.4    | 47.2    | 62.9    | 70.7    | 78.6    | 78.6    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |



REPORT NUMBER: P1379953  
 CATALOG NUMBER: VAL-T-SB5C-730-U-T2

**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°     | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 5249.5  | 5249.5  | 5249.5 | 5249.5 | 5249.5 | 5249.5 | 5249.5 | 5249.5 | 5249.5 | 5249.5 | 5249.5 |
| 2.5°  | 5296.7  | 5241.6  | 5186.6 | 5092.3 | 5045.2 | 4974.5 | 4911.6 | 4880.2 | 4856.6 | 4848.7 | 4848.7 |
| 5°    | 5398.8  | 5312.4  | 5139.5 | 4974.5 | 4825.1 | 4691.5 | 4589.4 | 4510.8 | 4463.7 | 4424.4 | 4424.4 |
| 7.5°  | 5501.0  | 5383.1  | 5123.8 | 4833.0 | 4620.8 | 4455.8 | 4314.3 | 4267.2 | 4251.5 | 4212.2 | 4188.6 |
| 10°   | 5673.9  | 5485.3  | 5100.2 | 4683.7 | 4385.1 | 4243.6 | 4180.7 | 4165.0 | 4172.9 | 4180.7 | 4180.7 |
| 12.5° | 5807.5  | 5603.1  | 5037.3 | 4495.1 | 4204.3 | 4125.7 | 4133.6 | 4172.9 | 4235.8 | 4227.9 | 4212.2 |
| 15°   | 5996.1  | 5689.6  | 4911.6 | 4275.0 | 4062.9 | 4062.9 | 4141.5 | 4227.9 | 4290.8 | 4330.1 | 4306.5 |
| 17.5° | 6216.1  | 5791.7  | 4723.0 | 4070.7 | 3945.0 | 4015.7 | 4180.7 | 4267.2 | 4377.2 | 4400.8 | 4385.1 |
| 20°   | 6491.2  | 5878.2  | 4510.8 | 3874.3 | 3866.4 | 4015.7 | 4157.2 | 4282.9 | 4369.3 | 4392.9 | 4408.6 |
| 22.5° | 6758.3  | 5956.8  | 4235.8 | 3732.8 | 3780.0 | 3968.6 | 4102.2 | 4235.8 | 4275.0 | 4298.6 | 4306.5 |
| 25°   | 7033.4  | 6035.4  | 3984.3 | 3622.8 | 3717.1 | 3905.7 | 4015.7 | 4070.7 | 4078.6 | 4062.9 | 4062.9 |
| 27.5° | 7332.0  | 6043.2  | 3732.8 | 3536.3 | 3646.4 | 3811.4 | 3874.3 | 3890.0 | 3858.5 | 3748.5 | 3717.1 |
| 30°   | 7646.4  | 5964.6  | 3528.5 | 3457.8 | 3567.8 | 3701.4 | 3748.5 | 3701.4 | 3591.4 | 3434.2 | 3418.5 |
| 32.5° | 7905.7  | 5846.8  | 3379.2 | 3363.5 | 3481.3 | 3599.2 | 3599.2 | 3512.8 | 3347.7 | 3190.6 | 3182.7 |
| 35°   | 8298.6  | 5681.7  | 3229.9 | 3300.6 | 3402.7 | 3457.8 | 3473.5 | 3347.7 | 3167.0 | 3017.7 | 3002.0 |
| 37.5° | 8683.7  | 5540.3  | 3167.0 | 3222.0 | 3316.3 | 3363.5 | 3316.3 | 3190.6 | 3072.7 | 2947.0 | 2947.0 |
| 40°   | 9280.9  | 5453.8  | 3088.4 | 3167.0 | 3245.6 | 3253.4 | 3167.0 | 3072.7 | 3088.4 | 3017.7 | 3009.8 |
| 42.5° | 9933.2  | 5446.0  | 3057.0 | 3112.0 | 3167.0 | 3151.3 | 3025.5 | 3025.5 | 3049.1 | 2915.5 | 2884.1 |
| 45°   | 10679.8 | 5556.0  | 3057.0 | 3033.4 | 3064.8 | 3017.7 | 2947.0 | 2931.2 | 2876.2 | 2679.8 | 2671.9 |
| 47.5° | 11457.8 | 5823.2  | 3072.7 | 2923.4 | 2915.5 | 2899.8 | 2868.4 | 2813.4 | 2648.3 | 2483.3 | 2459.7 |
| 50°   | 12070.7 | 6192.5  | 3119.8 | 2781.9 | 2750.5 | 2805.5 | 2750.5 | 2656.2 | 2467.6 | 2310.4 | 2286.8 |
| 52.5° | 12801.6 | 6561.9  | 3088.4 | 2609.0 | 2569.7 | 2711.2 | 2656.2 | 2522.6 | 2381.1 | 2286.8 | 2263.3 |
| 55°   | 13571.7 | 6947.0  | 2962.7 | 2373.3 | 2404.7 | 2593.3 | 2577.6 | 2428.3 | 2255.4 | 2129.7 | 2113.9 |
| 57.5° | 14341.8 | 7434.2  | 2750.5 | 2169.0 | 2286.8 | 2522.6 | 2459.7 | 2279.0 | 2161.1 | 2074.7 | 2058.9 |
| 60°   | 15520.6 | 8133.6  | 2444.0 | 1956.8 | 2169.0 | 2373.3 | 2271.1 | 2216.1 | 2090.4 | 2019.6 | 1980.4 |
| 62.5° | 17045.2 | 9296.7  | 2043.2 | 1760.3 | 2003.9 | 2192.5 | 2184.7 | 2121.8 | 2011.8 | 1933.2 | 1909.6 |
| 65°   | 19214.1 | 10404.7 | 1673.9 | 1571.7 | 1791.7 | 1972.5 | 2066.8 | 2011.8 | 1901.8 | 1815.3 | 1807.5 |
| 67.5° | 19630.6 | 9296.7  | 1391.0 | 1375.2 | 1556.0 | 1760.3 | 1941.1 | 1901.8 | 1728.9 | 1618.9 | 1603.1 |
| 70°   | 17084.5 | 6640.5  | 1170.9 | 1186.6 | 1359.5 | 1540.3 | 1736.7 | 1642.4 | 1501.0 | 1438.1 | 1430.3 |
| 72.5° | 15167.0 | 5705.3  | 982.3  | 1013.8 | 1139.5 | 1304.5 | 1422.4 | 1453.8 | 1351.7 | 1296.7 | 1273.1 |
| 75°   | 10931.2 | 4275.0  | 793.7  | 833.0  | 919.4  | 1013.8 | 1233.8 | 1288.8 | 1194.5 | 1139.5 | 1100.2 |
| 77.5° | 4055.0  | 1783.9  | 589.4  | 628.7  | 691.6  | 825.1  | 998.0  | 1115.9 | 1045.2 | 1084.5 | 974.5  |
| 80°   | 974.5   | 628.7   | 432.2  | 424.4  | 487.2  | 620.8  | 793.7  | 880.2  | 809.4  | 770.1  | 668.0  |
| 82.5° | 424.4   | 306.5   | 282.9  | 282.9  | 298.6  | 408.6  | 526.5  | 620.8  | 605.1  | 502.9  | 479.4  |
| 85°   | 157.2   | 133.6   | 133.6  | 141.5  | 141.5  | 188.6  | 282.9  | 330.1  | 298.6  | 259.3  | 251.5  |
| 87.5° | 70.7    | 70.7    | 55.0   | 47.2   | 39.3   | 39.3   | 47.2   | 31.4   | 23.6   | 15.7   | 15.7   |
| 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: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-4  
 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-730-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3000K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 2985  
 CIE u': 0.2504  
 CIE v': 0.5243  
 Duv: 0.0019  
 CIE x: 0.4408  
 CIE y: 0.4101  
 CIE z: 0.1491  
 Peak Wavelength (nm): 595  
 Dominant Wavelength (nm): 582  
 Purity: 55.41818  
 Rf: 73.8  
 Rg: 94.4

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 70.8 |      |       |
| R1:       | 66.3 | R9:  | -43.2 |
| R2:       | 80.6 | R10: | 57.6  |
| R3:       | 94.5 | R11: | 64.8  |
| R4:       | 68.2 | R12: | 53.5  |
| R5:       | 66.5 | R13: | 68.7  |
| R6:       | 74.7 | R14: | 97.0  |
| R7:       | 76.2 | R15: | 56.4  |
| R8:       | 39.6 |      |       |



**Test Conditions**

Stabilization Time: 36M  
 Operation Time: 1H 36M  
 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



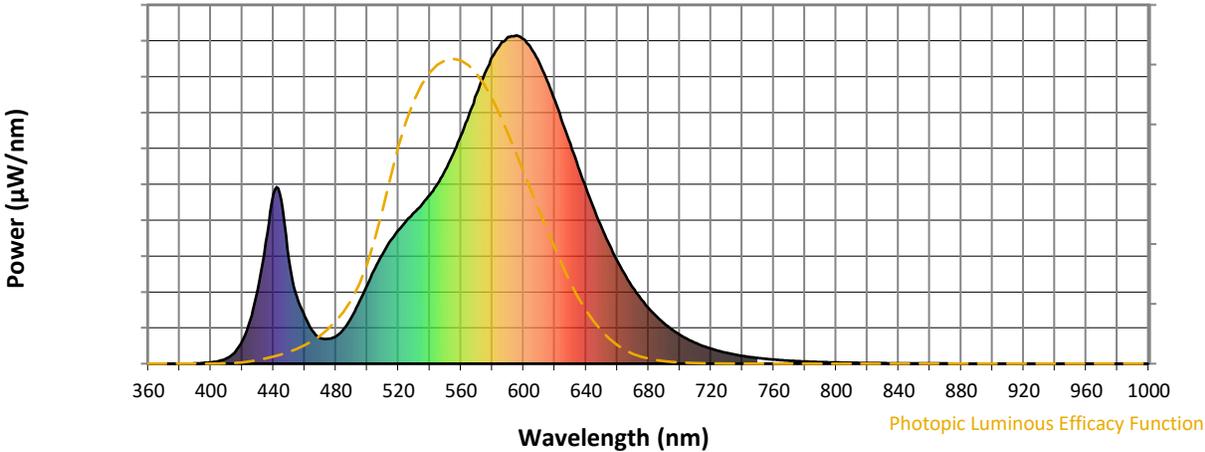
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| 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    | 142                      | NR            | 620    | 803                      | NR            | 750    | 17                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 189                      | NR            | 625    | 734                      | NR            | 755    | 15                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 240                      | NR            | 630    | 670                      | NR            | 760    | 13                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 290                      | NR            | 635    | 600                      | NR            | 765    | 11                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 335                      | NR            | 640    | 535                      | NR            | 770    | 9                        | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 375                      | NR            | 645    | 473                      | NR            | 775    | 8                        | NR            | 905    | 0                        | NR            |
| 390    | 1                        | NR            | 520    | 408                      | NR            | 650    | 415                      | NR            | 780    | 7                        | NR            | 910    | 0                        | NR            |
| 395    | 2                        | NR            | 525    | 434                      | NR            | 655    | 362                      | NR            | 785    | 6                        | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 461                      | NR            | 660    | 313                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 8                        | NR            | 535    | 486                      | NR            | 665    | 271                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 16                       | NR            | 540    | 514                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 33                       | NR            | 545    | 549                      | NR            | 675    | 198                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 69                       | NR            | 550    | 591                      | NR            | 680    | 169                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 131                      | NR            | 555    | 640                      | NR            | 685    | 144                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 227                      | NR            | 560    | 695                      | NR            | 690    | 123                      | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 369                      | NR            | 565    | 757                      | NR            | 695    | 104                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 517                      | NR            | 570    | 822                      | NR            | 700    | 88                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 498                      | NR            | 575    | 882                      | NR            | 705    | 75                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 315                      | NR            | 580    | 935                      | NR            | 710    | 63                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 204                      | NR            | 585    | 972                      | NR            | 715    | 54                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 145                      | NR            | 590    | 996                      | NR            | 720    | 46                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 100                      | NR            | 595    | 1000                     | NR            | 725    | 39                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 78                       | NR            | 600    | 989                      | NR            | 730    | 33                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 76                       | NR            | 605    | 960                      | NR            | 735    | 28                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 83                       | NR            | 610    | 918                      | NR            | 740    | 24                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 105                      | NR            | 615    | 864                      | NR            | 745    | 20                       | NR            | 875    | 1                        | NR            |        |                          |               |

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.19**

| $\lambda$<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               | 142                         | NR                      | 620               | 803                         | NR                      | 750               | 17                          | NR                      | 880               | 0                           | NR                      |
| 365               | 0                           | NR                      | 495               | 189                         | NR                      | 625               | 734                         | NR                      | 755               | 15                          | NR                      | 885               | 0                           | NR                      |
| 370               | 0                           | NR                      | 500               | 240                         | NR                      | 630               | 670                         | NR                      | 760               | 13                          | NR                      | 890               | 0                           | NR                      |
| 375               | 0                           | NR                      | 505               | 290                         | NR                      | 635               | 600                         | NR                      | 765               | 11                          | NR                      | 895               | 0                           | NR                      |
| 380               | 0                           | NR                      | 510               | 335                         | NR                      | 640               | 535                         | NR                      | 770               | 9                           | NR                      | 900               | 0                           | NR                      |
| 385               | 0                           | NR                      | 515               | 375                         | NR                      | 645               | 473                         | NR                      | 775               | 8                           | NR                      | 905               | 0                           | NR                      |
| 390               | 1                           | NR                      | 520               | 408                         | NR                      | 650               | 415                         | NR                      | 780               | 7                           | NR                      | 910               | 0                           | NR                      |
| 395               | 2                           | NR                      | 525               | 434                         | NR                      | 655               | 362                         | NR                      | 785               | 6                           | NR                      | 915               | 0                           | NR                      |
| 400               | 4                           | NR                      | 530               | 461                         | NR                      | 660               | 313                         | NR                      | 790               | 5                           | NR                      | 920               | 0                           | NR                      |
| 405               | 8                           | NR                      | 535               | 486                         | NR                      | 665               | 271                         | NR                      | 795               | 4                           | NR                      | 925               | 0                           | NR                      |
| 410               | 16                          | NR                      | 540               | 514                         | NR                      | 670               | 231                         | NR                      | 800               | 4                           | NR                      | 930               | 0                           | NR                      |
| 415               | 33                          | NR                      | 545               | 549                         | NR                      | 675               | 198                         | NR                      | 805               | 3                           | NR                      | 935               | 0                           | NR                      |
| 420               | 69                          | NR                      | 550               | 591                         | NR                      | 680               | 169                         | NR                      | 810               | 3                           | NR                      | 940               | 0                           | NR                      |
| 425               | 131                         | NR                      | 555               | 640                         | NR                      | 685               | 144                         | NR                      | 815               | 2                           | NR                      | 945               | 0                           | NR                      |
| 430               | 227                         | NR                      | 560               | 695                         | NR                      | 690               | 123                         | NR                      | 820               | 2                           | NR                      | 950               | 0                           | NR                      |
| 435               | 369                         | NR                      | 565               | 757                         | NR                      | 695               | 104                         | NR                      | 825               | 2                           | NR                      | 955               | 0                           | NR                      |
| 440               | 517                         | NR                      | 570               | 822                         | NR                      | 700               | 88                          | NR                      | 830               | 2                           | NR                      | 960               | 0                           | NR                      |
| 445               | 498                         | NR                      | 575               | 882                         | NR                      | 705               | 75                          | NR                      | 835               | 1                           | NR                      | 965               | 0                           | NR                      |
| 450               | 315                         | NR                      | 580               | 935                         | NR                      | 710               | 63                          | NR                      | 840               | 1                           | NR                      | 970               | 0                           | NR                      |
| 455               | 204                         | NR                      | 585               | 972                         | NR                      | 715               | 54                          | NR                      | 845               | 1                           | NR                      | 975               | 0                           | NR                      |
| 460               | 145                         | NR                      | 590               | 996                         | NR                      | 720               | 46                          | NR                      | 850               | 1                           | NR                      | 980               | 0                           | NR                      |
| 465               | 100                         | NR                      | 595               | 1000                        | NR                      | 725               | 39                          | NR                      | 855               | 1                           | NR                      | 985               | 0                           | NR                      |
| 470               | 78                          | NR                      | 600               | 989                         | NR                      | 730               | 33                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 76                          | NR                      | 605               | 960                         | NR                      | 735               | 28                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 83                          | NR                      | 610               | 918                         | NR                      | 740               | 24                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 105                         | NR                      | 615               | 864                         | NR                      | 745               | 20                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.13

| 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    | 142                      | NR            | 620    | 803                      | NR            | 750    | 17                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 189                      | NR            | 625    | 734                      | NR            | 755    | 15                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 240                      | NR            | 630    | 670                      | NR            | 760    | 13                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 290                      | NR            | 635    | 600                      | NR            | 765    | 11                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 335                      | NR            | 640    | 535                      | NR            | 770    | 9                        | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 375                      | NR            | 645    | 473                      | NR            | 775    | 8                        | NR            | 905    | 0                        | NR            |
| 390    | 1                        | NR            | 520    | 408                      | NR            | 650    | 415                      | NR            | 780    | 7                        | NR            | 910    | 0                        | NR            |
| 395    | 2                        | NR            | 525    | 434                      | NR            | 655    | 362                      | NR            | 785    | 6                        | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 461                      | NR            | 660    | 313                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 8                        | NR            | 535    | 486                      | NR            | 665    | 271                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 16                       | NR            | 540    | 514                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 33                       | NR            | 545    | 549                      | NR            | 675    | 198                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 69                       | NR            | 550    | 591                      | NR            | 680    | 169                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 131                      | NR            | 555    | 640                      | NR            | 685    | 144                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 227                      | NR            | 560    | 695                      | NR            | 690    | 123                      | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 369                      | NR            | 565    | 757                      | NR            | 695    | 104                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 517                      | NR            | 570    | 822                      | NR            | 700    | 88                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 498                      | NR            | 575    | 882                      | NR            | 705    | 75                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 315                      | NR            | 580    | 935                      | NR            | 710    | 63                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 204                      | NR            | 585    | 972                      | NR            | 715    | 54                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 145                      | NR            | 590    | 996                      | NR            | 720    | 46                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 100                      | NR            | 595    | 1000                     | NR            | 725    | 39                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 78                       | NR            | 600    | 989                      | NR            | 730    | 33                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 76                       | NR            | 605    | 960                      | NR            | 735    | 28                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 83                       | NR            | 610    | 918                      | NR            | 740    | 24                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 105                      | NR            | 615    | 864                      | NR            | 745    | 20                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 73.8$   
 $R_g = 94.4$   
 CIE  $R_a = 70.8$   
 $R_9 = -43.2$

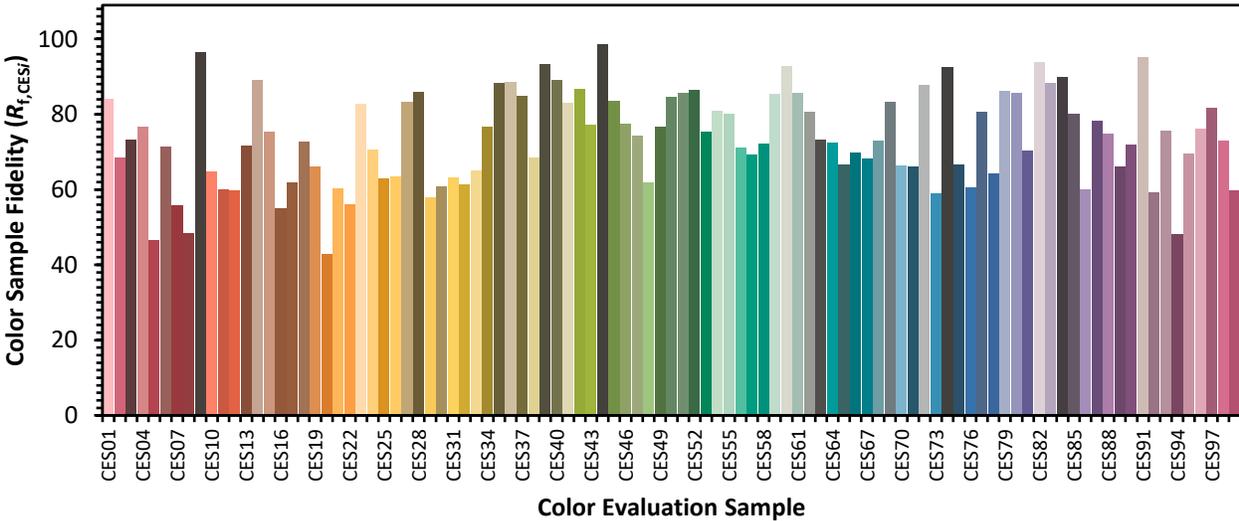


**Color Vector Graphics**

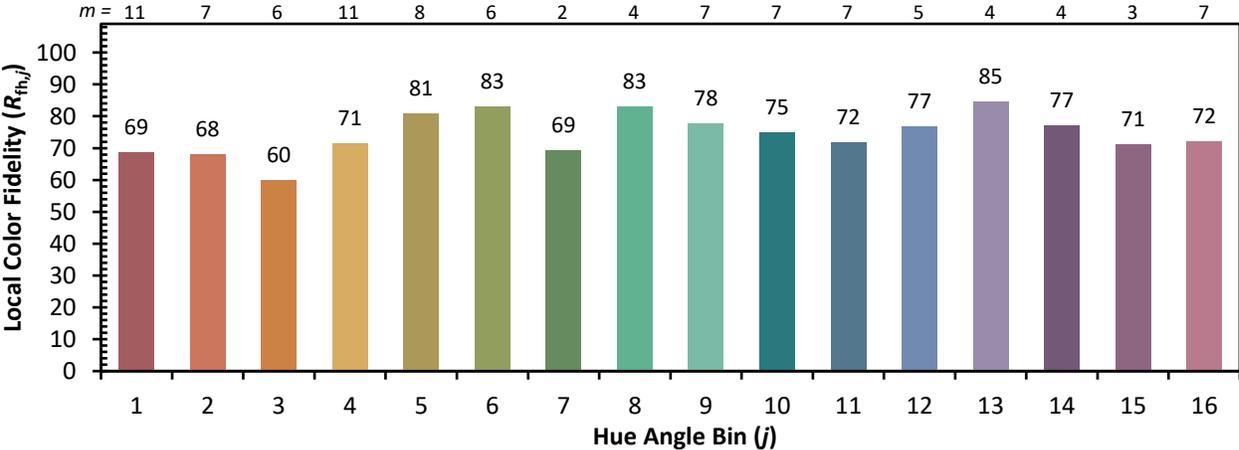
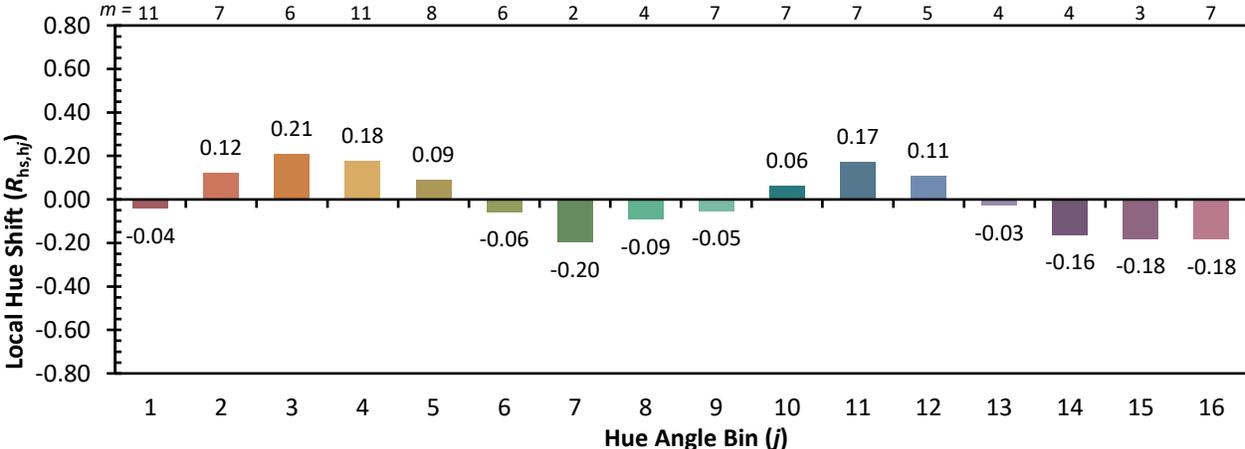
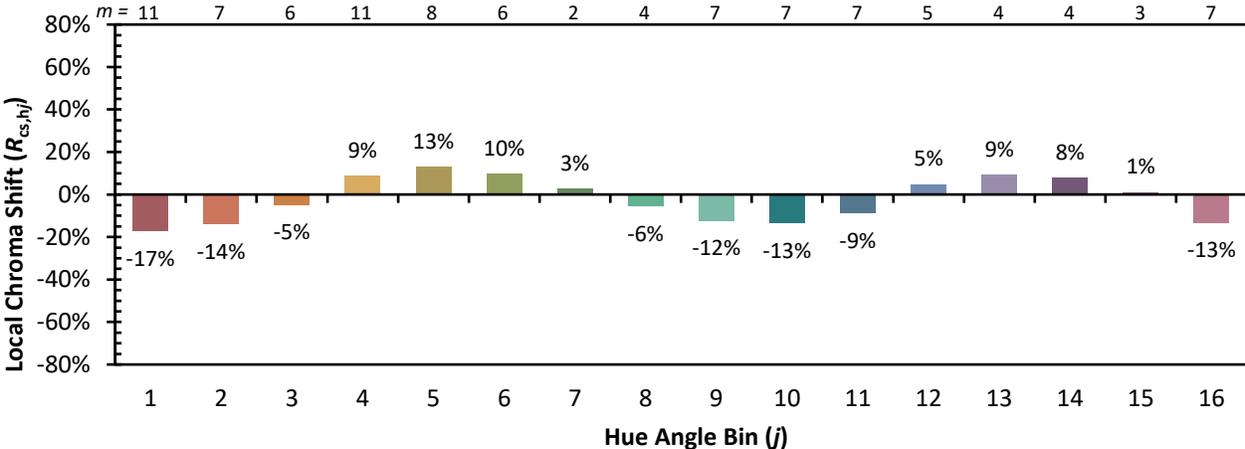


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 51 | CES31 = 63 | CES56 = 71 | CES81 = 70 |
| CES07 = 41 | CES32 = 61 | CES57 = 69 | CES82 = 94 |
| CES08 = 40 | CES33 = 65 | CES58 = 72 | CES83 = 88 |
| CES09 = 29 | CES34 = 77 | CES59 = 85 | CES84 = 90 |
| CES10 = 76 | CES35 = 88 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 89 | CES61 = 86 | CES86 = 60 |
| CES12 = 65 | CES37 = 85 | CES62 = 81 | CES87 = 78 |
| CES13 = 43 | CES38 = 69 | CES63 = 73 | CES88 = 75 |
| CES14 = 74 | CES39 = 93 | CES64 = 72 | CES89 = 66 |
| CES15 = 71 | CES40 = 89 | CES65 = 67 | CES90 = 72 |
| CES16 = 47 | CES41 = 83 | CES66 = 70 | CES91 = 95 |
| CES17 = 50 | CES42 = 87 | CES67 = 68 | CES92 = 59 |
| CES18 = 56 | CES43 = 77 | CES68 = 73 | CES93 = 76 |
| CES19 = 73 | CES44 = 99 | CES69 = 83 | CES94 = 48 |
| CES20 = 66 | CES45 = 83 | CES70 = 66 | CES95 = 70 |
| CES21 = 87 | CES46 = 77 | CES71 = 66 | CES96 = 76 |
| CES22 = 79 | CES47 = 74 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 62 | CES73 = 59 | CES98 = 73 |
| CES24 = 91 | CES49 = 77 | CES74 = 93 | CES99 = 60 |
| CES25 = 73 | CES50 = 85 | CES75 = 67 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)