

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: P1380341

Luminaire Tested: **VAL-T-SB6C-730-U-T2-HSS**

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.

**Test Information**

Test Method: LM-79-08  
 Report Number: P1380341  
 Test Lab: INNOVATION CENTER(G3)  
 Issue Date: 02/18/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: VAL-T-SB6C-730-U-T2-HSS  
 Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 65 SQUARE 300W 70CRI  
 3000K FIXTURE w/ TYPE II DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD  
 Light Source: (156) 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               |

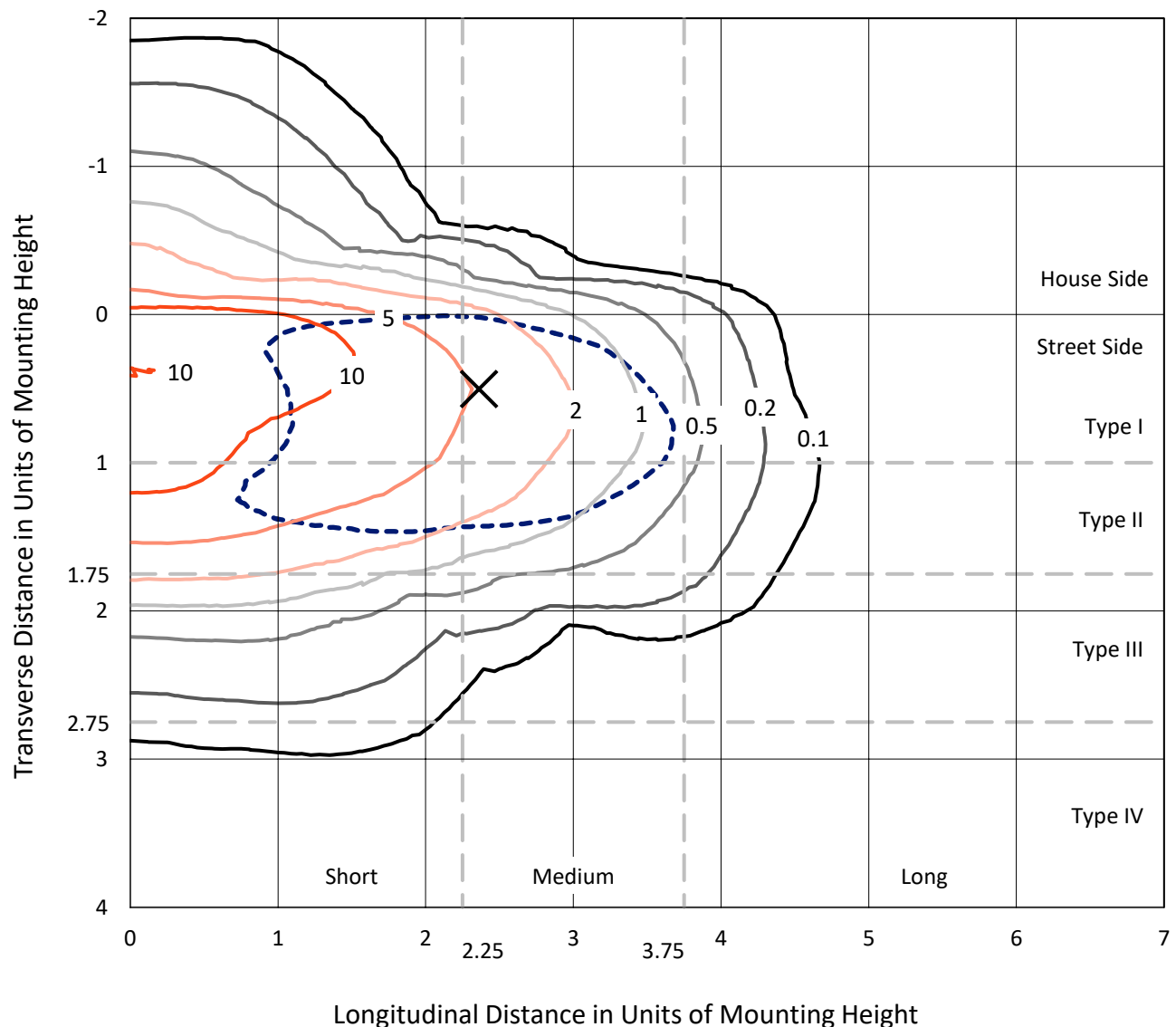
**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 33663.9 lumens  
 Efficiency: N/A  
 Efficacy: 112.2 lumens/watt  
 Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
 IES Classification: Type II - Medium  
 BUG Rating: B2 - U0 - G4  
  
 Input Watts (W): 300  
 Input Voltage (V): 120  
 Input Current (A<sub>in</sub>): NR  
 Voltage Rise (V): NR  
 Power Factor: 0.98  
 Total Harmonic Distortion (THDi): 6.3%  
 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

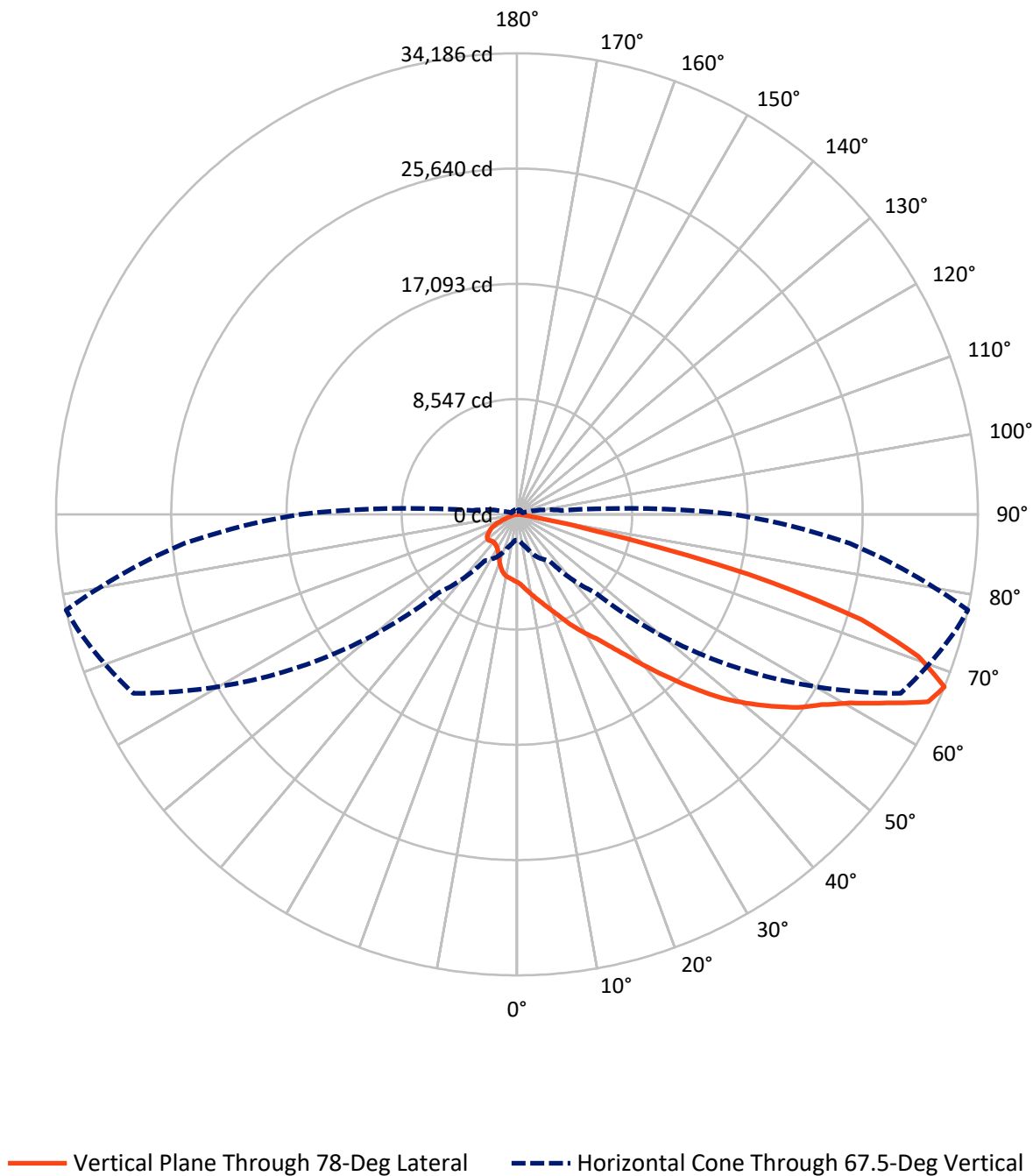
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 17 fc  
 Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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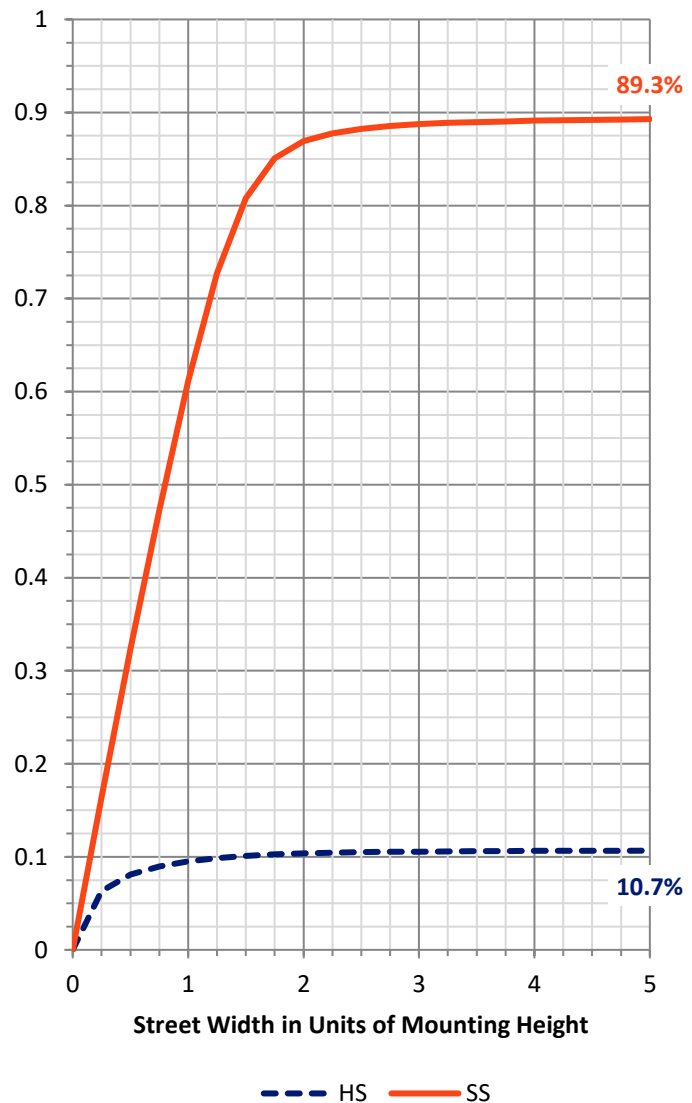
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3612.5   | 0.0    | 3612.5  |
|                    | % Fixture | 10.7     | 0.0    | 10.7    |
| <b>Street Side</b> | Lumens    | 30051.4  | 0.0    | 30051.4 |
|                    | % Fixture | 89.3     | 0.0    | 89.3    |
| <b>Total</b>       | Lumens    | 33663.9  | 0.0    | 33663.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 454.1   | 1.3       |
| 10°-20°   | 1236.1  | 3.7       |
| 20°-30°   | 2033.8  | 6.0       |
| 30°-40°   | 3552.3  | 10.6      |
| 40°-50°   | 6044.0  | 18.0      |
| 50°-60°   | 8717.3  | 25.9      |
| 60°-70°   | 8413.8  | 25.0      |
| 70°-80°   | 3090.7  | 9.2       |
| 80°-90°   | 121.8   | 0.4       |
| 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°    | 33663.9 | 100.0     |
| 0°-180°   | 33663.9 | 100.0     |

**Coefficient of Utilization**



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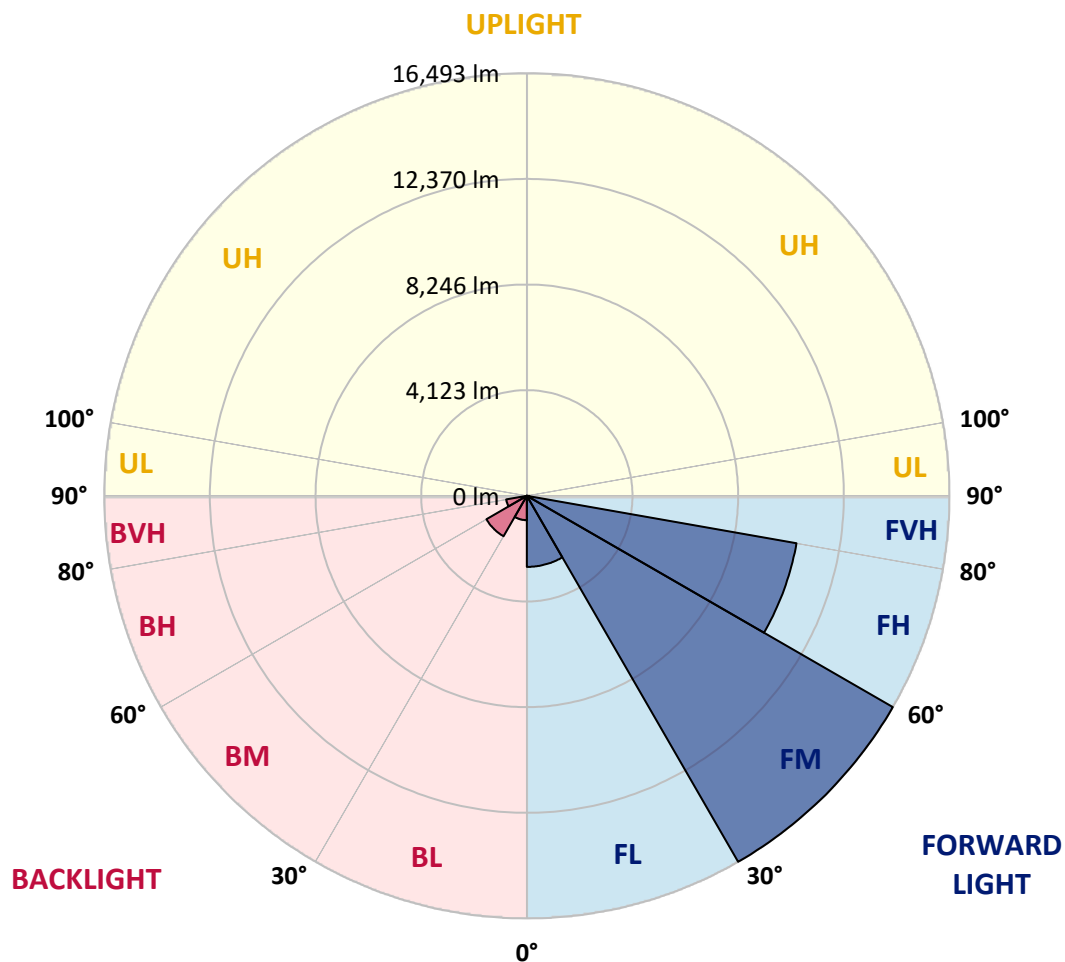
CATALOG NUMBER: VAL-T-SB6C-730-U-T2-HSS

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 2773.8  | 8.2       |                         |      |          |
| FM   | (30°-60°)   | 16492.9 | 49.0      |                         |      |          |
| FH   | (60°-80°)   | 10685.7 | 31.7      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 98.9    | 0.3       |                         |      | G1/100   |
| BL   | (0°-30°)    | 950.2   | 2.8       | B2/1000                 |      |          |
| BM   | (30°-60°)   | 1820.6  | 5.4       | B2/2500                 |      |          |
| BH   | (60°-80°)   | 818.9   | 2.4       | B2/1000                 |      | G2/1000  |
| BVH  | (80°-90°)   | 22.9    | 0.1       |                         |      | G1/100   |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B2-U0-G4**

Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 78°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  | 5038.7  |
| 2.5°  | 5576.6  | 5567.1  | 5586.0  | 5548.3  | 5557.7  | 5510.5  | 5406.7  | 5340.7  | 5255.7  | 5199.1  | 5133.1  |
| 5°    | 5982.3  | 5991.7  | 5972.9  | 5982.3  | 5954.0  | 5887.9  | 5831.3  | 5661.5  | 5520.0  | 5463.3  | 5321.8  |
| 7.5°  | 6114.4  | 6133.3  | 6133.3  | 6180.5  | 6208.8  | 6237.1  | 6189.9  | 6010.6  | 5821.9  | 5746.4  | 5510.5  |
| 10°   | 6114.4  | 6114.4  | 6180.5  | 6246.5  | 6378.6  | 6473.0  | 6463.5  | 6397.5  | 6161.6  | 6048.4  | 5784.2  |
| 12.5° | 5944.6  | 5935.1  | 6020.1  | 6208.8  | 6388.0  | 6605.1  | 6765.5  | 6708.9  | 6491.8  | 6406.9  | 6020.1  |
| 15°   | 5472.8  | 5482.2  | 5642.6  | 5925.7  | 6284.3  | 6652.2  | 6925.9  | 7048.6  | 6897.6  | 6765.5  | 6378.6  |
| 17.5° | 4850.0  | 4887.8  | 5076.5  | 5472.8  | 6010.6  | 6605.1  | 7124.0  | 7416.6  | 7322.2  | 7199.5  | 6727.7  |
| 20°   | 4623.5  | 4633.0  | 4736.8  | 5019.9  | 5633.2  | 6425.8  | 7180.7  | 7812.9  | 7888.3  | 7690.2  | 7105.2  |
| 22.5° | 4972.7  | 5010.4  | 4972.7  | 4991.5  | 5378.4  | 6208.8  | 7237.3  | 8162.0  | 8435.6  | 8246.9  | 7558.1  |
| 25°   | 5614.3  | 5576.6  | 5472.8  | 5387.9  | 5453.9  | 6048.4  | 7265.6  | 8605.5  | 9124.4  | 8964.0  | 8152.5  |
| 27.5° | 6340.9  | 6255.9  | 6171.0  | 5972.9  | 5840.8  | 6142.7  | 7359.9  | 8869.7  | 9766.1  | 9643.4  | 8690.4  |
| 30°   | 7463.7  | 7444.9  | 7190.1  | 6737.2  | 6406.9  | 6510.7  | 7510.9  | 9143.3  | 10502.1 | 10351.1 | 9237.7  |
| 32.5° | 8784.7  | 8737.6  | 8407.3  | 7794.0  | 7209.0  | 7029.7  | 7812.9  | 9407.5  | 11323.0 | 11058.8 | 9945.3  |
| 35°   | 10105.8 | 10096.3 | 9898.2  | 9001.8  | 8209.2  | 7737.4  | 8350.7  | 9813.2  | 12276.0 | 12087.3 | 10709.7 |
| 37.5° | 11162.6 | 11228.6 | 11351.3 | 10152.9 | 9388.6  | 8671.5  | 9067.8  | 10464.3 | 13474.3 | 13342.2 | 11672.1 |
| 40°   | 12040.1 | 12153.3 | 12313.7 | 11304.1 | 10483.2 | 9794.4  | 10039.7 | 11530.6 | 14918.0 | 14899.2 | 12823.3 |
| 42.5° | 12795.0 | 12974.2 | 12842.1 | 12266.6 | 11511.7 | 10936.1 | 11106.0 | 12757.2 | 16484.4 | 16569.3 | 14144.3 |
| 45°   | 13681.9 | 13795.2 | 13804.6 | 13200.7 | 12502.5 | 12106.2 | 12389.2 | 14153.7 | 18296.0 | 18399.8 | 15550.2 |
| 47.5° | 14653.8 | 14616.1 | 14682.1 | 14238.6 | 13606.4 | 13247.9 | 13757.4 | 15635.1 | 19947.3 | 20315.3 | 16984.5 |
| 50°   | 15427.6 | 15559.7 | 15663.5 | 15418.1 | 14833.1 | 14521.7 | 15106.7 | 17163.7 | 21579.7 | 22004.3 | 18343.2 |
| 52.5° | 15512.5 | 15588.0 | 16116.4 | 16352.3 | 16324.0 | 15823.9 | 16503.2 | 18588.6 | 22976.2 | 23636.7 | 19447.2 |
| 55°   | 14285.8 | 14814.2 | 15682.3 | 16493.8 | 17560.1 | 17645.0 | 17833.7 | 19947.3 | 24202.9 | 25278.5 | 20390.8 |
| 57.5° | 11738.2 | 12134.5 | 13653.6 | 15588.0 | 17635.5 | 19400.0 | 20136.0 | 21419.3 | 25457.8 | 26637.3 | 21485.4 |
| 60°   | 7992.1  | 7831.7  | 9605.7  | 13342.2 | 16503.2 | 20088.9 | 23231.0 | 23985.8 | 26797.7 | 28382.9 | 22664.8 |
| 62.5° | 4340.5  | 4453.7  | 5548.3  | 8596.0  | 13181.8 | 19107.5 | 25882.4 | 28505.6 | 29213.3 | 30789.1 | 24033.0 |
| 65°   | 2783.6  | 2887.4  | 3566.7  | 4897.2  | 7718.5  | 14918.0 | 25372.9 | 32374.3 | 32317.7 | 33506.6 | 25118.1 |
| 67.5° | 1906.0  | 1953.2  | 2500.5  | 3472.4  | 4217.8  | 8218.6  | 19730.3 | 31402.4 | 33619.8 | 34186.0 | 24759.6 |
| 70°   | 1283.3  | 1330.4  | 1773.9  | 2566.5  | 3028.9  | 3604.5  | 11757.0 | 25910.7 | 31242.0 | 31600.5 | 21910.0 |
| 72.5° | 811.5   | 858.7   | 1075.7  | 1717.3  | 2283.5  | 2038.1  | 5397.3  | 18069.6 | 25995.7 | 26722.2 | 18739.5 |
| 75°   | 462.4   | 490.7   | 669.9   | 1188.9  | 1443.7  | 1339.9  | 1453.1  | 11313.5 | 17456.3 | 17767.6 | 12474.1 |
| 77.5° | 235.9   | 254.8   | 424.6   | 764.3   | 924.7   | 745.4   | 773.7   | 4925.5  | 6095.5  | 5869.1  | 3425.2  |
| 80°   | 113.2   | 132.1   | 264.2   | 462.4   | 603.9   | 424.6   | 452.9   | 1113.4  | 1462.6  | 1245.5  | 802.0   |
| 82.5° | 56.6    | 56.6    | 169.8   | 188.7   | 330.3   | 254.8   | 198.2   | 386.9   | 547.3   | 556.7   | 368.0   |
| 85°   | 37.7    | 28.3    | 47.2    | 66.1    | 75.5    | 103.8   | 113.2   | 160.4   | 179.3   | 188.7   | 141.5   |
| 87.5° | 0.0     | 0.0     | 9.4     | 9.4     | 18.9    | 28.3    | 47.2    | 66.1    | 66.1    | 75.5    | 66.1    |
| 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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**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 5038.7  | 5038.7 | 5038.7 | 5038.7 | 5038.7 | 5038.7 | 5038.7 | 5038.7 | 5038.7 | 5038.7 | 5038.7 |
| 2.5°  | 5095.3  | 5067.0 | 4887.8 | 4736.8 | 4604.7 | 4510.3 | 4387.7 | 4359.3 | 4283.9 | 4236.7 | 4246.1 |
| 5°    | 5180.3  | 5048.2 | 4717.9 | 4434.8 | 4123.5 | 3812.1 | 3538.4 | 3444.1 | 3255.4 | 3189.3 | 3208.2 |
| 7.5°  | 5284.1  | 5123.6 | 4585.8 | 4029.1 | 3491.3 | 3094.9 | 2708.1 | 2472.2 | 2283.5 | 2208.0 | 2198.5 |
| 10°   | 5482.2  | 5208.6 | 4425.4 | 3623.4 | 2877.9 | 2340.1 | 2000.4 | 1868.3 | 1802.2 | 1783.4 | 1783.4 |
| 12.5° | 5689.8  | 5302.9 | 4208.4 | 3132.7 | 2274.0 | 1858.9 | 1726.8 | 1689.0 | 1670.1 | 1660.7 | 1660.7 |
| 15°   | 5897.4  | 5369.0 | 3897.0 | 2538.2 | 1849.4 | 1679.6 | 1623.0 | 1604.1 | 1575.8 | 1566.3 | 1585.2 |
| 17.5° | 6189.9  | 5416.2 | 3538.4 | 2075.9 | 1660.7 | 1575.8 | 1519.2 | 1500.3 | 1472.0 | 1462.6 | 1472.0 |
| 20°   | 6444.7  | 5491.6 | 3123.3 | 1773.9 | 1547.5 | 1481.4 | 1405.9 | 1368.2 | 1358.8 | 1349.3 | 1349.3 |
| 22.5° | 6746.6  | 5576.6 | 2642.0 | 1604.1 | 1453.1 | 1358.8 | 1273.8 | 1245.5 | 1226.7 | 1226.7 | 1226.7 |
| 25°   | 7171.2  | 5642.6 | 2255.2 | 1528.6 | 1349.3 | 1236.1 | 1151.2 | 1122.9 | 1113.4 | 1104.0 | 1113.4 |
| 27.5° | 7529.8  | 5642.6 | 2000.4 | 1481.4 | 1264.4 | 1132.3 | 1056.8 | 1037.9 | 1019.1 | 1000.2 | 1009.6 |
| 30°   | 7869.5  | 5520.0 | 1811.7 | 1443.7 | 1207.8 | 1047.4 | 990.8  | 953.0  | 934.1  | 905.8  | 905.8  |
| 32.5° | 8256.3  | 5406.7 | 1736.2 | 1405.9 | 1151.2 | 981.3  | 924.7  | 896.4  | 877.5  | 849.2  | 849.2  |
| 35°   | 8671.5  | 5208.6 | 1726.8 | 1377.6 | 1094.6 | 934.1  | 877.5  | 858.7  | 830.4  | 811.5  | 811.5  |
| 37.5° | 9256.5  | 5085.9 | 1707.9 | 1339.9 | 1047.4 | 887.0  | 830.4  | 820.9  | 802.0  | 783.2  | 792.6  |
| 40°   | 10039.7 | 5076.5 | 1670.1 | 1311.6 | 1009.6 | 839.8  | 792.6  | 773.7  | 773.7  | 754.9  | 754.9  |
| 42.5° | 10794.6 | 5114.2 | 1670.1 | 1255.0 | 971.9  | 792.6  | 754.9  | 745.4  | 726.6  | 698.3  | 698.3  |
| 45°   | 11719.3 | 5255.7 | 1689.0 | 1198.3 | 934.1  | 764.3  | 726.6  | 707.7  | 688.8  | 669.9  | 669.9  |
| 47.5° | 12577.9 | 5435.0 | 1707.9 | 1141.7 | 896.4  | 736.0  | 707.7  | 698.3  | 669.9  | 651.1  | 660.5  |
| 50°   | 13304.5 | 5652.1 | 1660.7 | 1085.1 | 839.8  | 726.6  | 688.8  | 679.4  | 641.6  | 632.2  | 641.6  |
| 52.5° | 13955.6 | 5784.2 | 1519.2 | 1028.5 | 783.2  | 707.7  | 669.9  | 660.5  | 622.8  | 613.3  | 603.9  |
| 55°   | 14455.7 | 5831.3 | 1358.8 | 943.6  | 736.0  | 679.4  | 641.6  | 622.8  | 594.5  | 575.6  | 566.1  |
| 57.5° | 14946.3 | 5642.6 | 1151.2 | 830.4  | 679.4  | 632.2  | 603.9  | 585.0  | 547.3  | 509.5  | 500.1  |
| 60°   | 15512.5 | 5406.7 | 962.5  | 688.8  | 613.3  | 585.0  | 556.7  | 537.8  | 490.7  | 424.6  | 424.6  |
| 62.5° | 16173.0 | 5293.5 | 764.3  | 566.1  | 537.8  | 509.5  | 509.5  | 490.7  | 415.2  | 349.1  | 339.7  |
| 65°   | 16663.6 | 4614.1 | 585.0  | 471.8  | 462.4  | 434.0  | 443.5  | 434.0  | 349.1  | 264.2  | 254.8  |
| 67.5° | 16078.6 | 3302.5 | 452.9  | 396.3  | 386.9  | 349.1  | 377.4  | 368.0  | 301.9  | 226.5  | 207.6  |
| 70°   | 13729.1 | 2151.4 | 368.0  | 330.3  | 311.4  | 264.2  | 311.4  | 320.8  | 254.8  | 179.3  | 169.8  |
| 72.5° | 11681.5 | 1377.6 | 292.5  | 264.2  | 217.0  | 188.7  | 245.3  | 273.6  | 207.6  | 141.5  | 132.1  |
| 75°   | 8086.5  | 868.1  | 217.0  | 198.2  | 151.0  | 132.1  | 198.2  | 217.0  | 169.8  | 94.4   | 94.4   |
| 77.5° | 2670.3  | 434.0  | 160.4  | 132.1  | 103.8  | 94.4   | 151.0  | 160.4  | 113.2  | 66.1   | 56.6   |
| 80°   | 509.5   | 207.6  | 113.2  | 84.9   | 75.5   | 56.6   | 94.4   | 84.9   | 47.2   | 37.7   | 37.7   |
| 82.5° | 245.3   | 122.7  | 84.9   | 66.1   | 37.7   | 37.7   | 28.3   | 37.7   | 37.7   | 28.3   | 28.3   |
| 85°   | 113.2   | 75.5   | 56.6   | 37.7   | 28.3   | 18.9   | 18.9   | 28.3   | 28.3   | 28.3   | 18.9   |
| 87.5° | 66.1    | 56.6   | 37.7   | 28.3   | 18.9   | 18.9   | 18.9   | 18.9   | 18.9   | 18.9   | 9.4    |
| 90°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

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:  $4\pi$   
 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  
 R<sub>f</sub>: 73.8  
 R<sub>g</sub>: 94.4

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



### Test Conditions

Stabilization Time: 36M  
 Operation Time: 1H 36M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-4

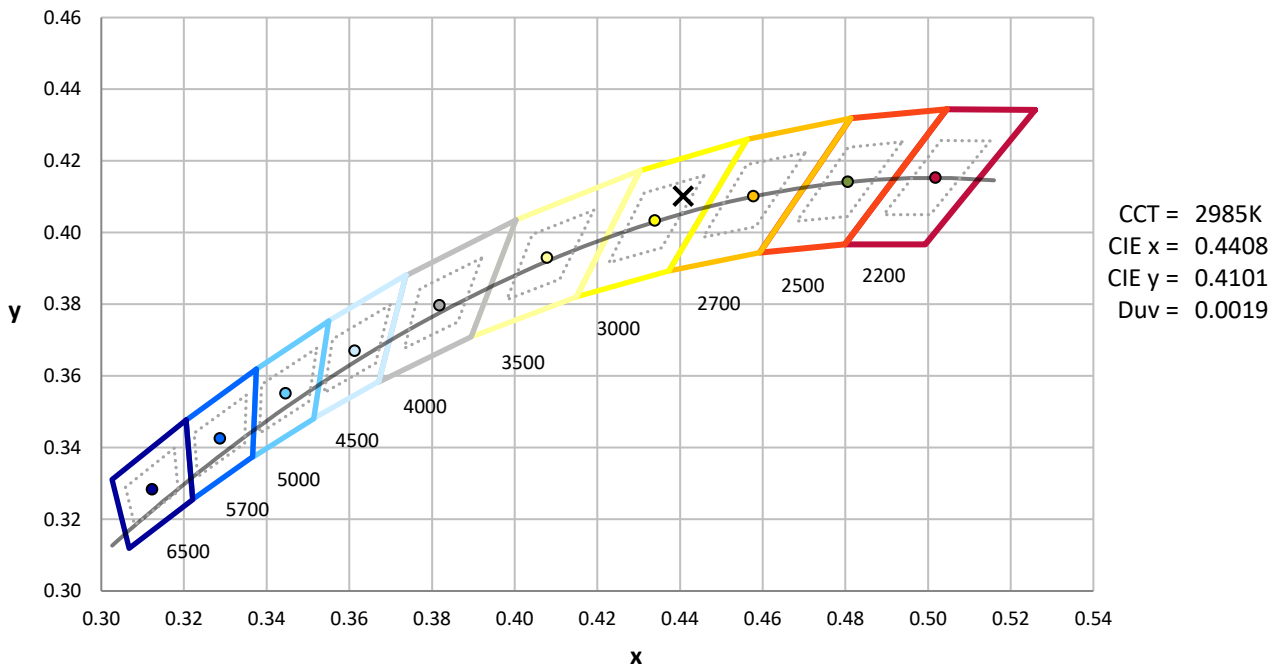
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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

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

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 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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TM-30-18

### Summary

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



### 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)