

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: P1386817

Luminaire Tested: **VAL-T-SB5C-722-U-T2R-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: P1386817  
 Test Lab: INNOVATION CENTER(G1)  
 Issue Date: 02/18/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: VAL-T-SB5C-722-U-T2R-HSS  
 Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 55 SQUARE 252W 70CRI  
 2200K FIXTURE w/ TYPE II ROADWAY DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD  
 Light Source: (130) 2200K 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               |

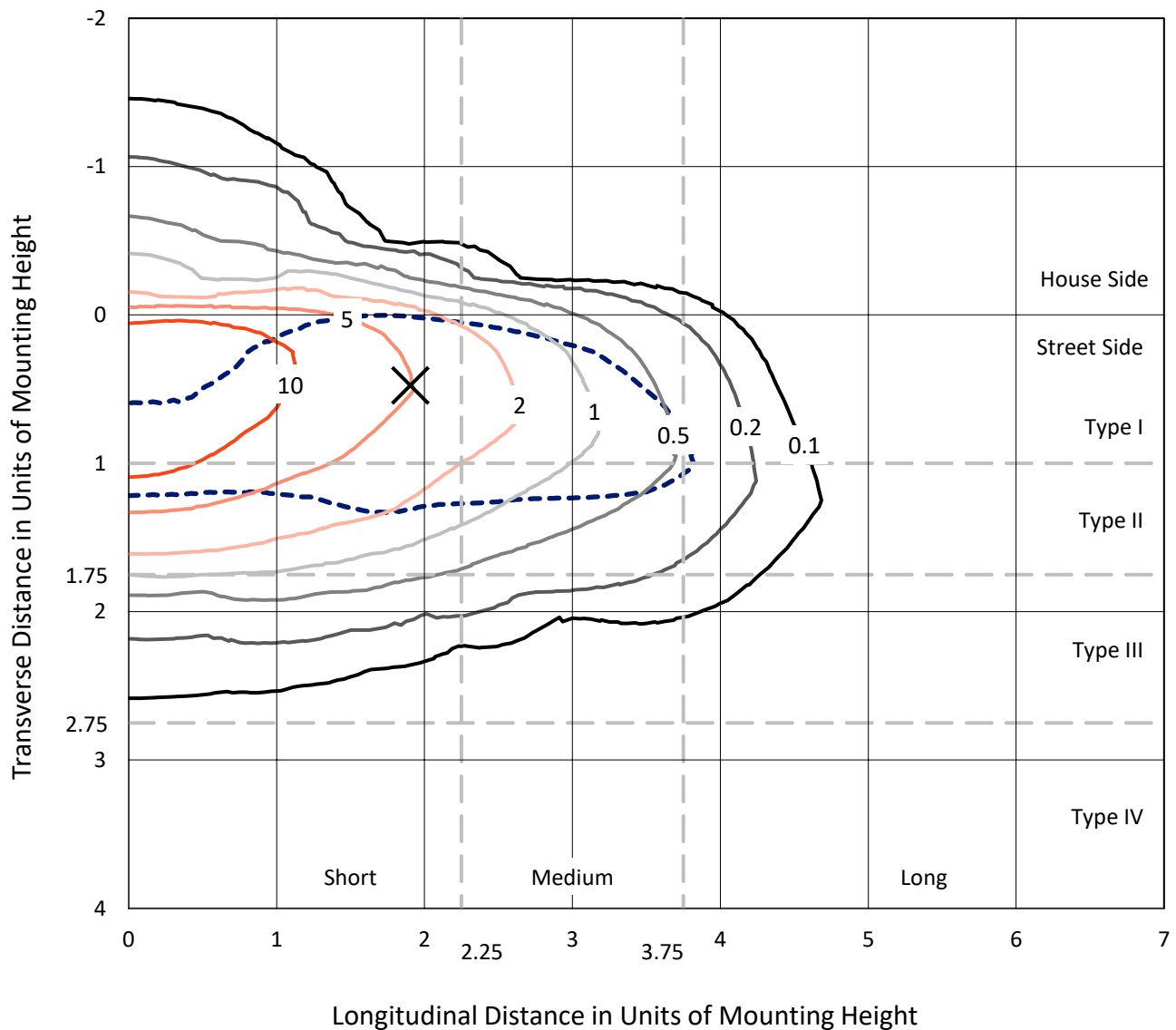
**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 25172.5 lumens  
 Efficiency: N/A  
 Efficacy: 99.9 lumens/watt  
 Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
 IES Classification: Type II - Short  
 BUG Rating: B1 - U0 - G3  
  
 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

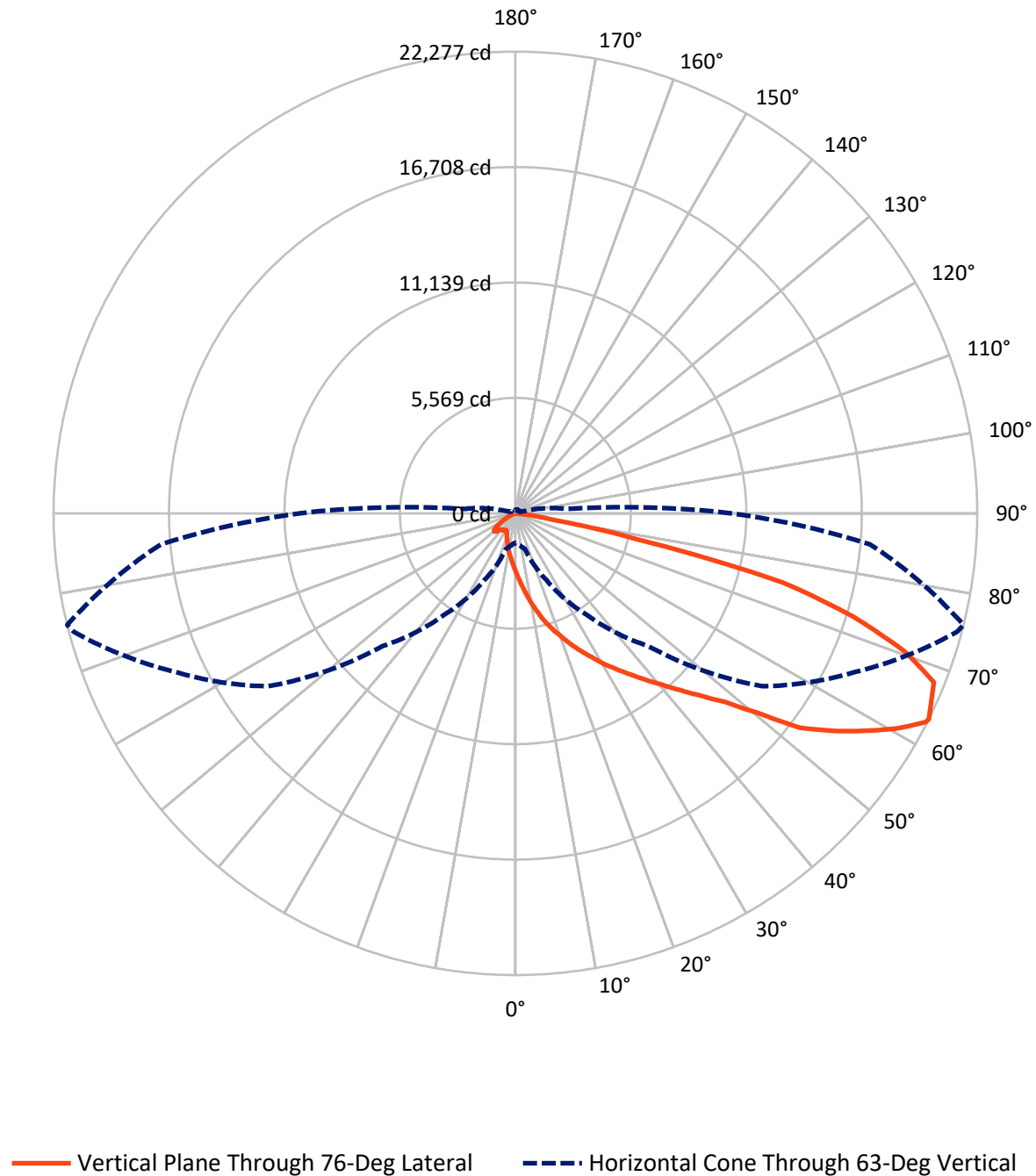
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 17.8 fc  
 Type II - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1813.9   | 0.0    | 1813.9  |
|                    | % Fixture | 7.2      | 0.0    | 7.2     |
| <b>Street Side</b> | Lumens    | 23358.6  | 0.0    | 23358.6 |
|                    | % Fixture | 92.8     | 0.0    | 92.8    |
| <b>Total</b>       | Lumens    | 25172.5  | 0.0    | 25172.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 293.6   | 1.2       |
| 10°-20°   | 1050.4  | 4.2       |
| 20°-30°   | 2048.0  | 8.1       |
| 30°-40°   | 3597.2  | 14.3      |
| 40°-50°   | 5263.2  | 20.9      |
| 50°-60°   | 6107.3  | 24.3      |
| 60°-70°   | 4813.3  | 19.1      |
| 70°-80°   | 1913.1  | 7.6       |
| 80°-90°   | 86.3    | 0.3       |
| 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°    | 25172.5 | 100.0     |
| 0°-180°   | 25172.5 | 100.0     |

**Coefficient of Utilization**



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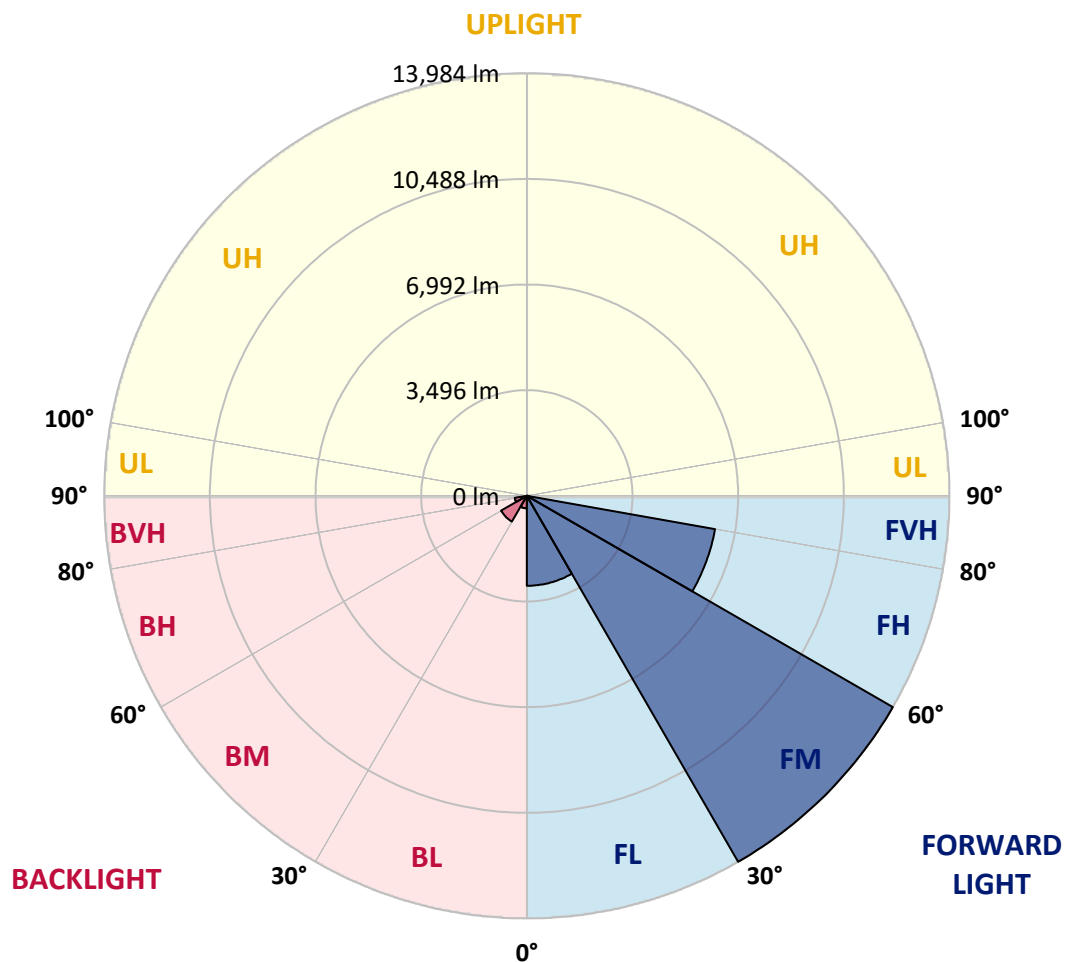
CATALOG NUMBER: VAL-T-SB5C-722-U-T2R-HSS

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 2976.7  | 11.8      |                         |      |         |
| FM   | (30°-60°)   | 13983.7 | 55.6      |                         |      |         |
| FH   | (60°-80°)   | 6322.8  | 25.1      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 75.5    | 0.3       |                         |      | G1/100  |
| BL   | (0°-30°)    | 415.4   | 1.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 984.0   | 3.9       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 403.7   | 1.6       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 10.8    | 0.0       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G3**

Type II Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 76°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  | 2814.1  |
| 2.5°  | 4034.0  | 4013.2  | 4013.2  | 3937.0  | 3826.1  | 3708.3  | 3541.9  | 3354.8  | 3167.6  | 3160.7  | 2952.7  |
| 5°    | 5004.4  | 4976.7  | 4942.0  | 4851.9  | 4706.4  | 4512.3  | 4290.5  | 3964.7  | 3576.6  | 3562.7  | 3153.7  |
| 7.5°  | 5635.2  | 5642.1  | 5593.6  | 5552.0  | 5454.9  | 5247.0  | 4962.8  | 4560.8  | 4054.8  | 3992.4  | 3417.1  |
| 10°   | 6203.5  | 6168.9  | 6161.9  | 6155.0  | 6085.7  | 5884.7  | 5614.4  | 5143.0  | 4526.1  | 4463.8  | 3708.3  |
| 12.5° | 6557.0  | 6543.2  | 6591.7  | 6633.3  | 6619.4  | 6536.2  | 6224.3  | 5753.0  | 5025.2  | 4949.0  | 3999.4  |
| 15°   | 6667.9  | 6681.8  | 6799.6  | 6931.3  | 7042.2  | 7069.9  | 6806.5  | 6321.4  | 5496.5  | 5448.0  | 4332.1  |
| 17.5° | 6584.7  | 6605.5  | 6771.9  | 7007.6  | 7277.9  | 7485.8  | 7368.0  | 6855.1  | 6002.5  | 5912.4  | 4630.1  |
| 20°   | 6619.4  | 6640.2  | 6792.7  | 7014.5  | 7368.0  | 7721.5  | 7825.4  | 7423.4  | 6453.1  | 6356.0  | 4976.7  |
| 22.5° | 7201.6  | 7229.4  | 7264.0  | 7264.0  | 7506.6  | 7887.8  | 8123.5  | 7957.1  | 6966.0  | 6868.9  | 5357.9  |
| 25°   | 8477.0  | 8456.2  | 8269.1  | 7964.1  | 7971.0  | 8137.4  | 8393.8  | 8400.7  | 7485.8  | 7368.0  | 5704.5  |
| 27.5° | 9745.4  | 9800.9  | 9558.3  | 9107.7  | 8754.2  | 8594.8  | 8705.7  | 8795.8  | 7984.9  | 7867.0  | 6092.6  |
| 30°   | 10916.8 | 10882.2 | 10625.7 | 10161.3 | 9717.7  | 9350.3  | 9114.7  | 9163.2  | 8518.6  | 8428.5  | 6480.8  |
| 32.5° | 11838.7 | 11852.5 | 11561.4 | 11048.5 | 10563.3 | 10244.5 | 9759.3  | 9558.3  | 9038.4  | 8969.1  | 6896.7  |
| 35°   | 12615.0 | 12573.4 | 12219.9 | 11720.8 | 11270.3 | 11062.4 | 10549.5 | 9988.0  | 9634.5  | 9544.4  | 7333.3  |
| 37.5° | 13356.6 | 13328.9 | 12892.2 | 12226.8 | 11817.9 | 11720.8 | 11429.7 | 10556.4 | 10251.4 | 10182.1 | 7887.8  |
| 40°   | 13855.7 | 13828.0 | 13453.7 | 12802.1 | 12310.0 | 12226.8 | 12213.0 | 11263.4 | 10916.8 | 10868.3 | 8456.2  |
| 42.5° | 13973.5 | 13938.9 | 13675.5 | 13190.3 | 12753.6 | 12663.5 | 12961.6 | 12032.8 | 11748.6 | 11665.4 | 9121.6  |
| 45°   | 13737.9 | 13772.5 | 13592.3 | 13301.2 | 13093.2 | 12989.3 | 13578.4 | 12871.4 | 12601.1 | 12552.6 | 9835.5  |
| 47.5° | 13058.6 | 13072.5 | 13058.6 | 13148.7 | 13190.3 | 13377.4 | 14146.8 | 13779.4 | 13592.3 | 13599.2 | 10750.5 |
| 50°   | 11824.8 | 11804.0 | 12018.9 | 12517.9 | 13010.1 | 13654.7 | 14881.5 | 14964.7 | 15144.9 | 15103.3 | 12115.9 |
| 52.5° | 9412.7  | 9447.4  | 10376.2 | 11291.1 | 12490.2 | 13627.0 | 15436.0 | 16448.0 | 17182.7 | 17182.7 | 13592.3 |
| 55°   | 7589.8  | 7617.5  | 8227.5  | 9773.1  | 11436.7 | 13328.9 | 15741.0 | 17210.4 | 18527.4 | 18520.5 | 14645.9 |
| 57.5° | 6203.5  | 6252.0  | 6737.2  | 7957.1  | 9863.3  | 12469.4 | 15865.8 | 17806.5 | 19684.9 | 19809.7 | 15727.1 |
| 60°   | 3472.6  | 3742.9  | 4706.4  | 6307.5  | 8123.5  | 11131.7 | 15671.7 | 18312.5 | 20946.4 | 21092.0 | 16829.2 |
| 62.5° | 1573.4  | 1608.1  | 2044.7  | 3895.4  | 6328.3  | 9426.6  | 14770.6 | 18187.8 | 22083.2 | 22194.1 | 17189.7 |
| 63°   | 1427.8  | 1483.3  | 1774.4  | 3562.7  | 5967.9  | 9045.4  | 14541.9 | 18097.7 | 22062.4 | 22277.2 | 17161.9 |
| 65°   | 1122.9  | 1157.5  | 1233.8  | 2301.2  | 3999.4  | 7423.4  | 13003.1 | 16614.4 | 21771.2 | 22027.7 | 16552.0 |
| 67.5° | 921.9   | 921.9   | 984.2   | 1434.8  | 2211.1  | 5108.4  | 9641.5  | 14507.2 | 21466.3 | 21764.3 | 15775.7 |
| 70°   | 783.2   | 783.2   | 824.8   | 1012.0  | 1316.9  | 2467.5  | 6938.2  | 12414.0 | 19650.3 | 19892.9 | 13730.9 |
| 72.5° | 568.4   | 596.1   | 658.5   | 790.2   | 908.0   | 1393.2  | 3562.7  | 9530.6  | 16815.4 | 17030.2 | 11519.8 |
| 75°   | 464.4   | 478.3   | 533.7   | 603.0   | 623.8   | 838.7   | 1254.6  | 7097.7  | 13231.9 | 13315.0 | 7991.8  |
| 77.5° | 242.6   | 263.4   | 436.7   | 492.1   | 478.3   | 512.9   | 610.0   | 3867.7  | 6432.3  | 5995.6  | 2592.3  |
| 80°   | 104.0   | 104.0   | 311.9   | 318.8   | 339.6   | 242.6   | 291.1   | 887.2   | 1843.7  | 1719.0  | 526.8   |
| 82.5° | 27.7    | 34.7    | 249.5   | 221.8   | 228.7   | 110.9   | 124.8   | 284.2   | 471.3   | 443.6   | 152.5   |
| 85°   | 13.9    | 20.8    | 62.4    | 55.5    | 69.3    | 41.6    | 55.5    | 110.9   | 83.2    | 83.2    | 62.4    |
| 87.5° | 0.0     | 0.0     | 6.9     | 6.9     | 6.9     | 13.9    | 20.8    | 34.7    | 41.6    | 41.6    | 41.6    |
| 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: P1386817

CATALOG NUMBER: VAL-T-SB5C-722-U-T2R-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2814.1  | 2814.1 | 2814.1 | 2814.1 | 2814.1 | 2814.1 | 2814.1 | 2814.1 | 2814.1 | 2814.1 | 2814.1 |
| 2.5°  | 2841.8  | 2724.0 | 2509.1 | 2315.1 | 2121.0 | 1940.8 | 1795.2 | 1725.9 | 1628.9 | 1642.7 | 1628.9 |
| 5°    | 2918.1  | 2682.4 | 2231.9 | 1829.9 | 1531.8 | 1296.2 | 1143.7 | 1060.5 | 991.2  | 977.3  | 991.2  |
| 7.5°  | 3035.9  | 2668.6 | 1996.2 | 1462.5 | 1122.9 | 970.4  | 908.0  | 880.3  | 859.5  | 852.6  | 859.5  |
| 10°   | 3188.4  | 2675.5 | 1781.3 | 1185.3 | 949.6  | 880.3  | 838.7  | 811.0  | 790.2  | 790.2  | 783.2  |
| 12.5° | 3354.8  | 2682.4 | 1566.5 | 1005.0 | 866.4  | 817.9  | 776.3  | 748.6  | 727.8  | 720.9  | 720.9  |
| 15°   | 3514.2  | 2682.4 | 1386.3 | 901.1  | 811.0  | 762.4  | 727.8  | 693.1  | 672.3  | 658.5  | 665.4  |
| 17.5° | 3673.6  | 2668.6 | 1213.0 | 838.7  | 762.4  | 713.9  | 672.3  | 637.7  | 616.9  | 603.0  | 603.0  |
| 20°   | 3853.8  | 2654.7 | 1060.5 | 783.2  | 713.9  | 665.4  | 616.9  | 589.2  | 568.4  | 554.5  | 554.5  |
| 22.5° | 4041.0  | 2627.0 | 942.7  | 727.8  | 658.5  | 610.0  | 568.4  | 533.7  | 512.9  | 499.1  | 499.1  |
| 25°   | 4221.2  | 2599.2 | 838.7  | 679.3  | 616.9  | 561.4  | 519.8  | 485.2  | 457.5  | 450.5  | 450.5  |
| 27.5° | 4415.2  | 2564.6 | 762.4  | 630.7  | 568.4  | 519.8  | 471.3  | 436.7  | 415.9  | 408.9  | 408.9  |
| 30°   | 4650.9  | 2585.4 | 734.7  | 582.2  | 526.8  | 478.3  | 436.7  | 402.0  | 381.2  | 381.2  | 381.2  |
| 32.5° | 4872.7  | 2599.2 | 769.4  | 561.4  | 485.2  | 436.7  | 395.1  | 367.4  | 353.5  | 353.5  | 353.5  |
| 35°   | 5122.2  | 2627.0 | 804.0  | 582.2  | 457.5  | 402.0  | 367.4  | 346.6  | 325.8  | 325.8  | 325.8  |
| 37.5° | 5413.4  | 2633.9 | 831.8  | 610.0  | 450.5  | 374.3  | 353.5  | 325.8  | 311.9  | 311.9  | 311.9  |
| 40°   | 5912.4  | 2744.8 | 831.8  | 630.7  | 450.5  | 346.6  | 318.8  | 298.0  | 284.2  | 284.2  | 284.2  |
| 42.5° | 6529.3  | 3091.4 | 817.9  | 637.7  | 457.5  | 339.6  | 298.0  | 284.2  | 270.3  | 270.3  | 270.3  |
| 45°   | 7180.8  | 3493.4 | 908.0  | 603.0  | 457.5  | 339.6  | 277.3  | 277.3  | 256.5  | 256.5  | 256.5  |
| 47.5° | 7943.3  | 3895.4 | 998.1  | 547.6  | 464.4  | 339.6  | 270.3  | 249.5  | 242.6  | 242.6  | 242.6  |
| 50°   | 8934.5  | 4158.8 | 1025.8 | 485.2  | 450.5  | 339.6  | 256.5  | 242.6  | 228.7  | 235.7  | 235.7  |
| 52.5° | 9703.8  | 4151.9 | 991.2  | 422.8  | 422.8  | 332.7  | 242.6  | 235.7  | 228.7  | 228.7  | 228.7  |
| 55°   | 10341.5 | 4041.0 | 811.0  | 360.4  | 374.3  | 284.2  | 235.7  | 235.7  | 221.8  | 221.8  | 221.8  |
| 57.5° | 10840.6 | 3694.4 | 582.2  | 305.0  | 311.9  | 235.7  | 228.7  | 228.7  | 221.8  | 214.9  | 214.9  |
| 60°   | 11069.3 | 3133.0 | 402.0  | 263.4  | 256.5  | 214.9  | 214.9  | 214.9  | 207.9  | 201.0  | 201.0  |
| 62.5° | 10660.4 | 2564.6 | 291.1  | 228.7  | 207.9  | 194.1  | 201.0  | 201.0  | 187.1  | 173.3  | 166.4  |
| 63°   | 10431.6 | 2446.8 | 277.3  | 221.8  | 201.0  | 194.1  | 201.0  | 201.0  | 187.1  | 166.4  | 159.4  |
| 65°   | 9676.1  | 1975.4 | 242.6  | 201.0  | 180.2  | 173.3  | 187.1  | 180.2  | 159.4  | 124.8  | 124.8  |
| 67.5° | 8657.2  | 1310.0 | 207.9  | 180.2  | 159.4  | 152.5  | 159.4  | 159.4  | 138.6  | 110.9  | 104.0  |
| 70°   | 7381.8  | 824.8  | 173.3  | 145.6  | 131.7  | 117.8  | 124.8  | 138.6  | 117.8  | 90.1   | 83.2   |
| 72.5° | 6058.0  | 575.3  | 138.6  | 117.8  | 104.0  | 83.2   | 104.0  | 117.8  | 97.0   | 69.3   | 69.3   |
| 75°   | 4082.5  | 367.4  | 110.9  | 90.1   | 76.2   | 69.3   | 83.2   | 90.1   | 76.2   | 48.5   | 48.5   |
| 77.5° | 1289.2  | 187.1  | 90.1   | 69.3   | 55.5   | 48.5   | 55.5   | 62.4   | 41.6   | 27.7   | 27.7   |
| 80°   | 284.2   | 110.9  | 62.4   | 48.5   | 41.6   | 34.7   | 34.7   | 20.8   | 13.9   | 13.9   | 6.9    |
| 82.5° | 104.0   | 69.3   | 48.5   | 34.7   | 27.7   | 20.8   | 13.9   | 13.9   | 6.9    | 0.0    | 0.0    |
| 85°   | 55.5    | 41.6   | 27.7   | 20.8   | 20.8   | 13.9   | 13.9   | 6.9    | 0.0    | 0.0    | 0.0    |
| 87.5° | 34.7    | 27.7   | 20.8   | 20.8   | 13.9   | 13.9   | 6.9    | 6.9    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-2  
 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-722-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 2200K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 2160     | CRI (Ra): | 71.9 |      |       |
| CIE u':                   | 0.2927   | R1:       | 68.7 | R9:  | -17.8 |
| CIE v':                   | 0.5388   | R2:       | 82.6 | R10: | 60.5  |
| Duv:                      | 0.0015   | R3:       | 95.5 | R11: | 60.2  |
| CIE x:                    | 0.5130   | R4:       | 66.4 | R12: | 48.2  |
| CIE y:                    | 0.4197   | R5:       | 65.4 | R13: | 70.7  |
| CIE z:                    | 0.0674   | R6:       | 75.9 | R14: | 96.8  |
| Peak Wavelength (nm):     | 609      | R7:       | 77.2 | R15: | 61.8  |
| Dominant Wavelength (nm): | 587      | R8:       | 43.5 |      |       |
| Purity:                   | 79.96089 |           |      |      |       |
| Rf:                       | 70.6     |           |      |      |       |
| Rg:                       | 97.6     |           |      |      |       |



### Test Conditions

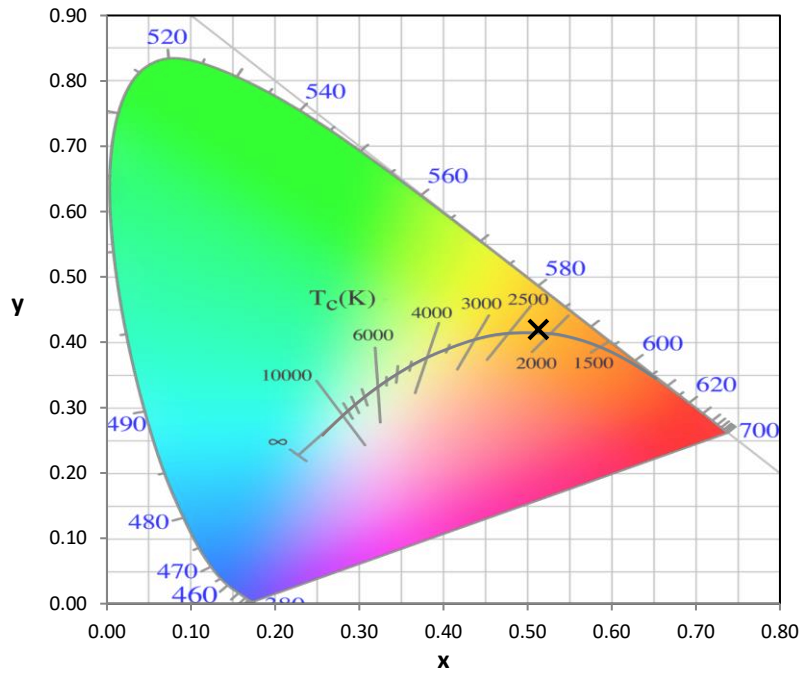
Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

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

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**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 2200K 7-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 27                                   | NR                             | 620               | 966                                  | NR                             | 750               | 46                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 42                                   | NR                             | 625               | 930                                  | NR                             | 755               | 39                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 67                                   | NR                             | 630               | 888                                  | NR                             | 760               | 34                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 101                                  | NR                             | 635               | 835                                  | NR                             | 765               | 30                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 139                                  | NR                             | 640               | 778                                  | NR                             | 770               | 26                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 183                                  | NR                             | 645               | 717                                  | NR                             | 775               | 22                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 224                                  | NR                             | 650               | 656                                  | NR                             | 780               | 19                                   | NR                             | 910               | 1                                    | NR                             |
| 395               | 0                                    | NR                             | 525               | 262                                  | NR                             | 655               | 595                                  | NR                             | 785               | 17                                   | NR                             | 915               | 1                                    | NR                             |
| 400               | 1                                    | NR                             | 530               | 299                                  | NR                             | 660               | 536                                  | NR                             | 790               | 15                                   | NR                             | 920               | 1                                    | NR                             |
| 405               | 3                                    | NR                             | 535               | 332                                  | NR                             | 665               | 480                                  | NR                             | 795               | 13                                   | NR                             | 925               | 1                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 365                                  | NR                             | 670               | 425                                  | NR                             | 800               | 11                                   | NR                             | 930               | 1                                    | NR                             |
| 415               | 17                                   | NR                             | 545               | 400                                  | NR                             | 675               | 376                                  | NR                             | 805               | 10                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 36                                   | NR                             | 550               | 437                                  | NR                             | 680               | 332                                  | NR                             | 810               | 8                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 67                                   | NR                             | 555               | 479                                  | NR                             | 685               | 291                                  | NR                             | 815               | 8                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 105                                  | NR                             | 560               | 525                                  | NR                             | 690               | 255                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 141                                  | NR                             | 565               | 579                                  | NR                             | 695               | 221                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 169                                  | NR                             | 570               | 639                                  | NR                             | 700               | 192                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 173                                  | NR                             | 575               | 703                                  | NR                             | 705               | 167                                  | NR                             | 835               | 4                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 136                                  | NR                             | 580               | 769                                  | NR                             | 710               | 144                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 80                                   | NR                             | 585               | 832                                  | NR                             | 715               | 125                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 45                                   | NR                             | 590               | 890                                  | NR                             | 720               | 109                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 32                                   | NR                             | 595               | 937                                  | NR                             | 725               | 94                                   | NR                             | 855               | 3                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 23                                   | NR                             | 600               | 972                                  | NR                             | 730               | 81                                   | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 18                                   | NR                             | 605               | 992                                  | NR                             | 735               | 70                                   | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 18                                   | NR                             | 610               | 998                                  | NR                             | 740               | 61                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 20                                   | NR                             | 615               | 990                                  | NR                             | 745               | 53                                   | NR                             | 875               | 2                                    | NR                             |                   |                                      |                                |

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 0.8

| $\lambda$<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               | 27                                   | NR                             | 620               | 966                                  | NR                             | 750               | 46                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 42                                   | NR                             | 625               | 930                                  | NR                             | 755               | 39                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 67                                   | NR                             | 630               | 888                                  | NR                             | 760               | 34                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 101                                  | NR                             | 635               | 835                                  | NR                             | 765               | 30                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 139                                  | NR                             | 640               | 778                                  | NR                             | 770               | 26                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 183                                  | NR                             | 645               | 717                                  | NR                             | 775               | 22                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 224                                  | NR                             | 650               | 656                                  | NR                             | 780               | 19                                   | NR                             | 910               | 1                                    | NR                             |
| 395               | 0                                    | NR                             | 525               | 262                                  | NR                             | 655               | 595                                  | NR                             | 785               | 17                                   | NR                             | 915               | 1                                    | NR                             |
| 400               | 1                                    | NR                             | 530               | 299                                  | NR                             | 660               | 536                                  | NR                             | 790               | 15                                   | NR                             | 920               | 1                                    | NR                             |
| 405               | 3                                    | NR                             | 535               | 332                                  | NR                             | 665               | 480                                  | NR                             | 795               | 13                                   | NR                             | 925               | 1                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 365                                  | NR                             | 670               | 425                                  | NR                             | 800               | 11                                   | NR                             | 930               | 1                                    | NR                             |
| 415               | 17                                   | NR                             | 545               | 400                                  | NR                             | 675               | 376                                  | NR                             | 805               | 10                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 36                                   | NR                             | 550               | 437                                  | NR                             | 680               | 332                                  | NR                             | 810               | 8                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 67                                   | NR                             | 555               | 479                                  | NR                             | 685               | 291                                  | NR                             | 815               | 8                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 105                                  | NR                             | 560               | 525                                  | NR                             | 690               | 255                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 141                                  | NR                             | 565               | 579                                  | NR                             | 695               | 221                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 169                                  | NR                             | 570               | 639                                  | NR                             | 700               | 192                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 173                                  | NR                             | 575               | 703                                  | NR                             | 705               | 167                                  | NR                             | 835               | 4                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 136                                  | NR                             | 580               | 769                                  | NR                             | 710               | 144                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 80                                   | NR                             | 585               | 832                                  | NR                             | 715               | 125                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 45                                   | NR                             | 590               | 890                                  | NR                             | 720               | 109                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 32                                   | NR                             | 595               | 937                                  | NR                             | 725               | 94                                   | NR                             | 855               | 3                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 23                                   | NR                             | 600               | 972                                  | NR                             | 730               | 81                                   | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 18                                   | NR                             | 605               | 992                                  | NR                             | 735               | 70                                   | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 18                                   | NR                             | 610               | 998                                  | NR                             | 740               | 61                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 20                                   | NR                             | 615               | 990                                  | NR                             | 745               | 53                                   | NR                             | 875               | 2                                    | NR                             |                   |                                      |                                |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.21

| $\lambda$<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               | 27                                     | NR                             | 620               | 966                                    | NR                             | 750               | 46                                     | NR                             | 880               | 1                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 42                                     | NR                             | 625               | 930                                    | NR                             | 755               | 39                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 67                                     | NR                             | 630               | 888                                    | NR                             | 760               | 34                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 101                                    | NR                             | 635               | 835                                    | NR                             | 765               | 30                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 139                                    | NR                             | 640               | 778                                    | NR                             | 770               | 26                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 183                                    | NR                             | 645               | 717                                    | NR                             | 775               | 22                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 224                                    | NR                             | 650               | 656                                    | NR                             | 780               | 19                                     | NR                             | 910               | 1                                      | NR                             |
| 395               | 0                                      | NR                             | 525               | 262                                    | NR                             | 655               | 595                                    | NR                             | 785               | 17                                     | NR                             | 915               | 1                                      | NR                             |
| 400               | 1                                      | NR                             | 530               | 299                                    | NR                             | 660               | 536                                    | NR                             | 790               | 15                                     | NR                             | 920               | 1                                      | NR                             |
| 405               | 3                                      | NR                             | 535               | 332                                    | NR                             | 665               | 480                                    | NR                             | 795               | 13                                     | NR                             | 925               | 1                                      | NR                             |
| 410               | 7                                      | NR                             | 540               | 365                                    | NR                             | 670               | 425                                    | NR                             | 800               | 11                                     | NR                             | 930               | 1                                      | NR                             |
| 415               | 17                                     | NR                             | 545               | 400                                    | NR                             | 675               | 376                                    | NR                             | 805               | 10                                     | NR                             | 935               | 0                                      | NR                             |
| 420               | 36                                     | NR                             | 550               | 437                                    | NR                             | 680               | 332                                    | NR                             | 810               | 8                                      | NR                             | 940               | 0                                      | NR                             |
| 425               | 67                                     | NR                             | 555               | 479                                    | NR                             | 685               | 291                                    | NR                             | 815               | 8                                      | NR                             | 945               | 0                                      | NR                             |
| 430               | 105                                    | NR                             | 560               | 525                                    | NR                             | 690               | 255                                    | NR                             | 820               | 7                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 141                                    | NR                             | 565               | 579                                    | NR                             | 695               | 221                                    | NR                             | 825               | 6                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 169                                    | NR                             | 570               | 639                                    | NR                             | 700               | 192                                    | NR                             | 830               | 5                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 173                                    | NR                             | 575               | 703                                    | NR                             | 705               | 167                                    | NR                             | 835               | 4                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 136                                    | NR                             | 580               | 769                                    | NR                             | 710               | 144                                    | NR                             | 840               | 4                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 80                                     | NR                             | 585               | 832                                    | NR                             | 715               | 125                                    | NR                             | 845               | 3                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 45                                     | NR                             | 590               | 890                                    | NR                             | 720               | 109                                    | NR                             | 850               | 3                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 32                                     | NR                             | 595               | 937                                    | NR                             | 725               | 94                                     | NR                             | 855               | 3                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 23                                     | NR                             | 600               | 972                                    | NR                             | 730               | 81                                     | NR                             | 860               | 2                                      | NR                             | 990               | 0                                      | NR                             |
| 475               | 18                                     | NR                             | 605               | 992                                    | NR                             | 735               | 70                                     | NR                             | 865               | 2                                      | NR                             | 995               | 0                                      | NR                             |
| 480               | 18                                     | NR                             | 610               | 998                                    | NR                             | 740               | 61                                     | NR                             | 870               | 2                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 20                                     | NR                             | 615               | 990                                    | NR                             | 745               | 53                                     | NR                             | 875               | 2                                      | NR                             |                   |                                        |                                |

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TM-30-18

### Summary

$R_f = 70.6$   
 $R_g = 97.6$   
 $CIE R_a = 71.9$   
 $R_g = -17.8$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**


(END OF REPORT)