

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: P1379942

Luminaire Tested: **VAL-T-SB2D-730-U-T2**

Issue Date: 02/18/2026

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

**Test Information**

Test Method: LM-79-08  
Report Number: P1379942  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/18/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VAL-T-SB2D-730-U-T2  
Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 2SQUARE 147W 70CRI  
3000K FIXTURE w/ TYPE II DISTRIBUTION OPTIC  
Light Source: (52) 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: 18489.7 lumens  
Efficiency: N/A  
Efficacy: 125.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 147  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.98  
Total Harmonic Distortion (THDi): 3.1%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

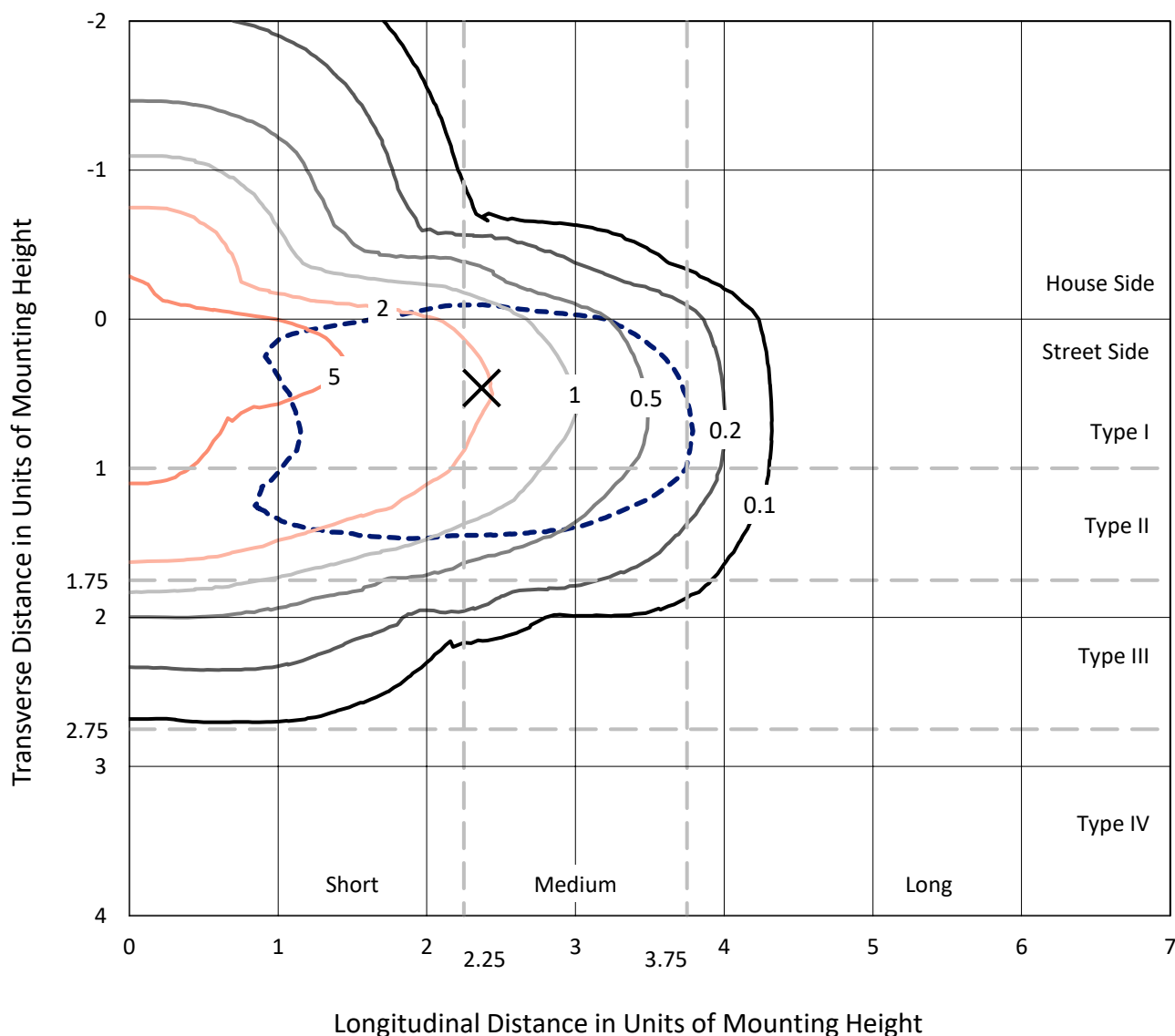
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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

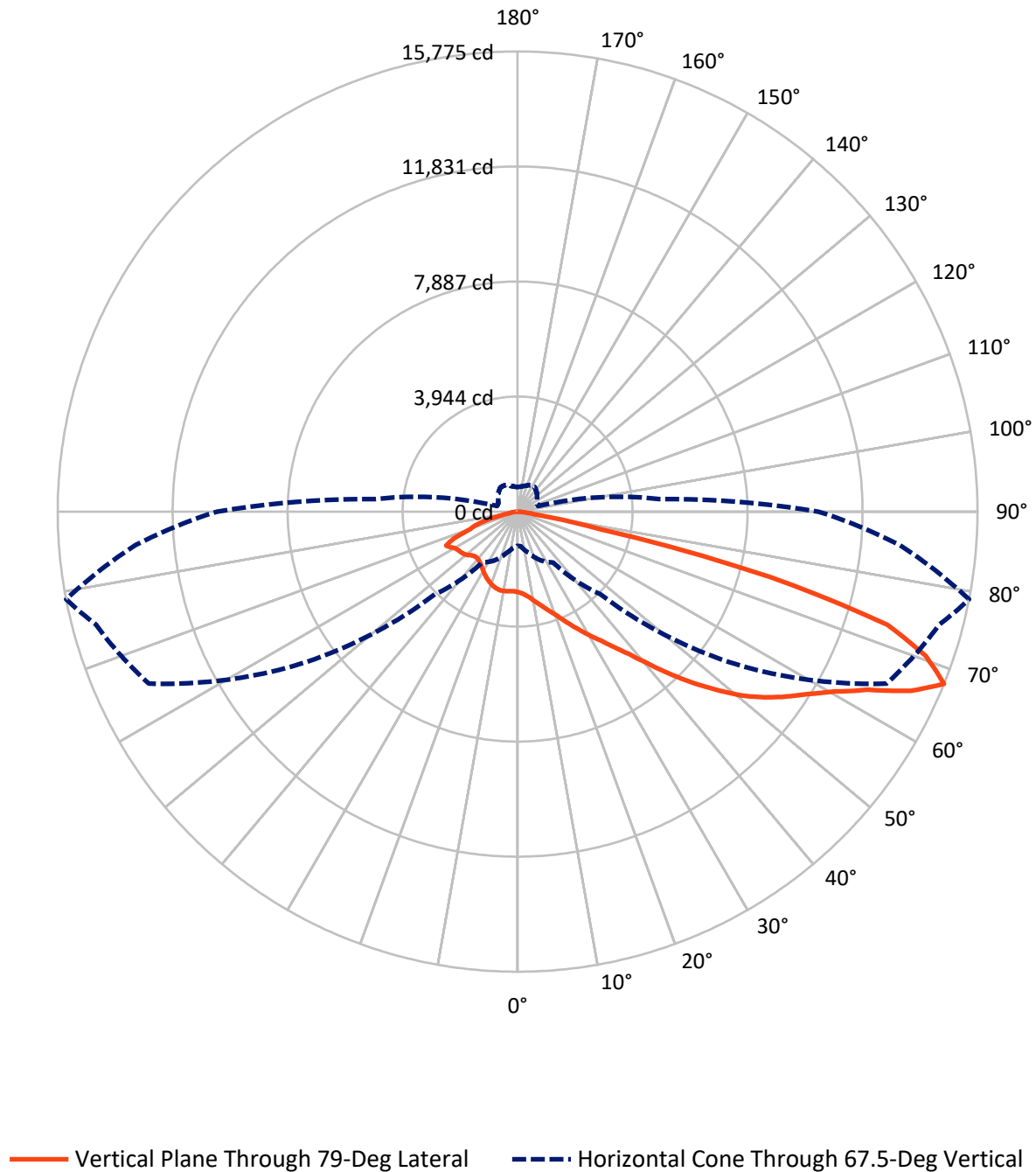
--- 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.2 fc  
 Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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CATALOG NUMBER: VAL-T-SB2D-730-U-T2

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 4236.4   | 0.0    | 4236.4  |
|                    | % Fixture | 22.9     | 0.0    | 22.9    |
| <b>Street Side</b> | Lumens    | 14253.3  | 0.0    | 14253.3 |
|                    | % Fixture | 77.1     | 0.0    | 77.1    |
| <b>Total</b>       | Lumens    | 18489.7  | 0.0    | 18489.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 263.5   | 1.4       |
| 10°-20°   | 793.4   | 4.3       |
| 20°-30°   | 1340.4  | 7.2       |
| 30°-40°   | 2067.9  | 11.2      |
| 40°-50°   | 3158.0  | 17.1      |
| 50°-60°   | 4366.4  | 23.6      |
| 60°-70°   | 4412.6  | 23.9      |
| 70°-80°   | 1941.4  | 10.5      |
| 80°-90°   | 146.2   | 0.8       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 18489.7 | 100.0     |
| 0°-180°   | 18489.7 | 100.0     |



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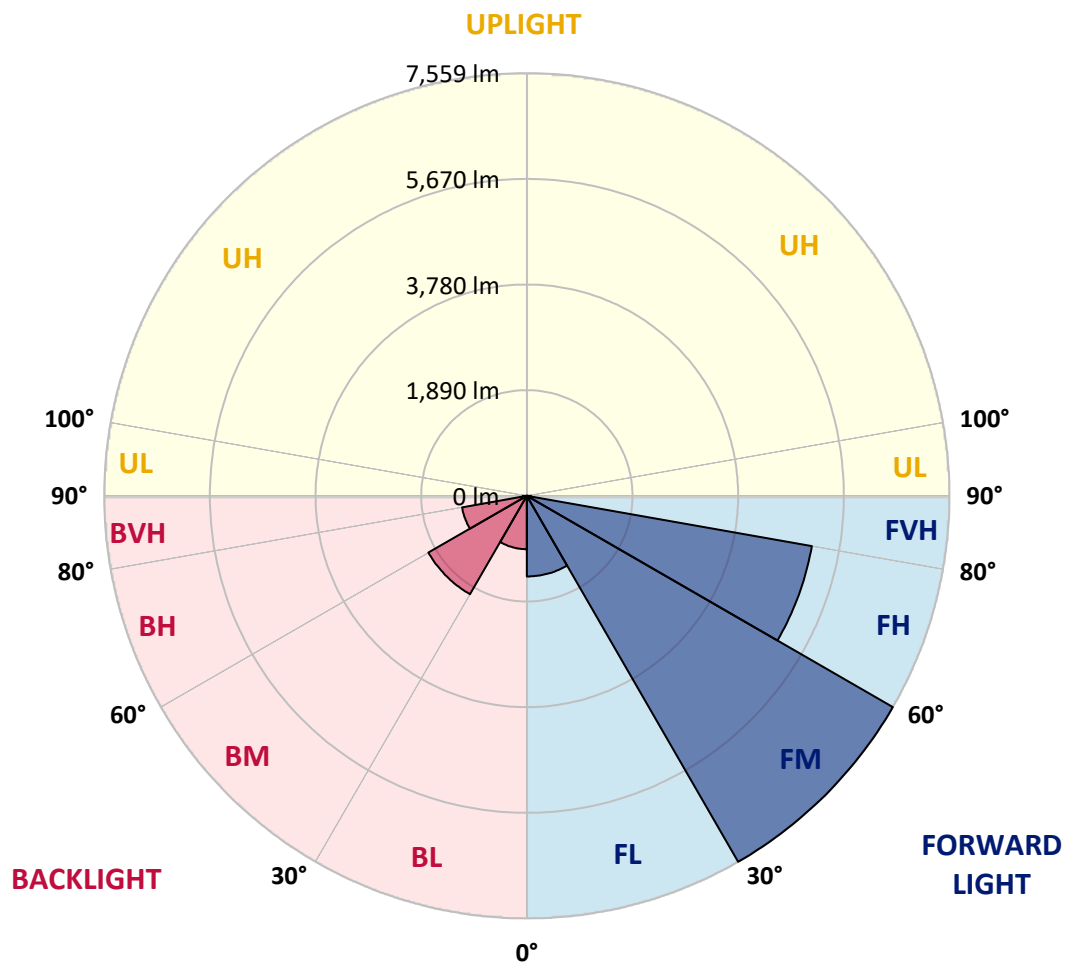
CATALOG NUMBER: VAL-T-SB2D-730-U-T2

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1442.5 | 7.8       |                         |      |         |
| FM   | (30°-60°)   | 7559.5 | 40.9      |                         |      |         |
| FH   | (60°-80°)   | 5177.2 | 28.0      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 74.1   | 0.4       |                         |      | G1/100  |
| BL   | (0°-30°)    | 954.7  | 5.2       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 2032.8 | 11.0      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 1176.8 | 6.4       | B3/2500                 |      | G3/2500 |
| BVH  | (80°-90°)   | 72.2   | 0.4       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**

Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°     | 65°     | 75°     | 79°     | 85°     |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0°    | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8  | 2757.8  | 2757.8  | 2757.8  | 2757.8  |
| 2.5°  | 2885.8 | 2931.2 | 2931.2 | 2910.5 | 2902.3 | 2898.1 | 2869.3  | 2836.2  | 2823.8  | 2803.2  | 2790.8  |
| 5°    | 3063.3 | 3063.3 | 3071.5 | 3050.9 | 3063.3 | 3046.8 | 3005.5  | 2964.2  | 2914.7  | 2877.5  | 2861.0  |
| 7.5°  | 3079.8 | 3112.8 | 3133.5 | 3133.5 | 3158.2 | 3162.4 | 3141.7  | 3096.3  | 3034.4  | 2976.6  | 2947.7  |
| 10°   | 3096.3 | 3125.2 | 3125.2 | 3158.2 | 3211.9 | 3253.2 | 3265.6  | 3249.1  | 3150.0  | 3108.7  | 3050.9  |
| 12.5° | 3059.2 | 3092.2 | 3104.6 | 3170.6 | 3244.9 | 3323.4 | 3381.2  | 3389.4  | 3327.5  | 3253.2  | 3166.5  |
| 15°   | 2931.2 | 2960.1 | 3009.6 | 3108.7 | 3240.8 | 3360.5 | 3472.0  | 3533.9  | 3463.7  | 3410.1  | 3290.3  |
| 17.5° | 2757.8 | 2774.3 | 2856.9 | 2984.8 | 3166.5 | 3368.8 | 3562.8  | 3682.5  | 3666.0  | 3595.9  | 3455.5  |
| 20°   | 2741.3 | 2757.8 | 2782.6 | 2877.5 | 3088.1 | 3339.9 | 3620.6  | 3851.8  | 3897.2  | 3789.9  | 3616.5  |
| 22.5° | 2881.6 | 2898.1 | 2898.1 | 2910.5 | 3042.6 | 3315.1 | 3678.4  | 4033.5  | 4136.7  | 4045.8  | 3822.9  |
| 25°   | 3075.7 | 3108.7 | 3071.5 | 3042.6 | 3088.1 | 3331.6 | 3711.4  | 4239.9  | 4442.2  | 4330.7  | 4054.1  |
| 27.5° | 3352.3 | 3348.1 | 3315.1 | 3228.4 | 3216.0 | 3381.2 | 3802.3  | 4400.9  | 4735.3  | 4619.7  | 4293.6  |
| 30°   | 3736.2 | 3756.9 | 3682.5 | 3500.9 | 3418.3 | 3492.6 | 3926.1  | 4533.0  | 5044.9  | 4950.0  | 4520.6  |
| 32.5° | 4169.7 | 4161.4 | 4070.6 | 3897.2 | 3694.9 | 3674.3 | 4041.7  | 4673.4  | 5400.0  | 5280.2  | 4805.5  |
| 35°   | 4636.2 | 4628.0 | 4599.1 | 4301.8 | 4037.6 | 3926.1 | 4227.5  | 4834.4  | 5812.8  | 5713.7  | 5139.9  |
| 37.5° | 5057.3 | 5094.5 | 5181.2 | 4702.3 | 4421.5 | 4256.4 | 4466.9  | 5102.7  | 6341.2  | 6196.8  | 5544.5  |
| 40°   | 5416.5 | 5482.5 | 5565.1 | 5131.6 | 4780.7 | 4640.3 | 4784.8  | 5540.3  | 6906.8  | 6820.1  | 6031.6  |
| 42.5° | 5746.8 | 5792.2 | 5783.9 | 5519.7 | 5218.3 | 5061.4 | 5185.3  | 5994.5  | 7637.6  | 7575.6  | 6630.2  |
| 45°   | 6151.3 | 6200.9 | 6180.2 | 5928.4 | 5627.0 | 5486.7 | 5709.6  | 6527.0  | 8331.1  | 8339.4  | 7195.8  |
| 47.5° | 6547.7 | 6597.2 | 6584.8 | 6353.6 | 6064.6 | 5949.0 | 6254.6  | 7154.5  | 9000.0  | 9111.4  | 7811.0  |
| 50°   | 6919.2 | 6964.6 | 6989.4 | 6844.9 | 6593.1 | 6469.2 | 6787.1  | 7744.9  | 9648.1  | 9899.9  | 8397.2  |
| 52.5° | 7022.4 | 7080.2 | 7249.5 | 7303.2 | 7191.7 | 7043.1 | 7274.3  | 8310.5  | 10205.4 | 10581.1 | 8962.8  |
| 55°   | 6683.9 | 6783.0 | 7146.3 | 7418.8 | 7749.0 | 7765.6 | 7782.1  | 8859.6  | 10692.6 | 11196.3 | 9478.8  |
| 57.5° | 6093.5 | 6110.1 | 6535.3 | 7088.5 | 7872.9 | 8574.7 | 8657.3  | 9499.5  | 11167.4 | 11794.9 | 9990.8  |
| 60°   | 4784.8 | 4698.1 | 5387.6 | 6324.7 | 7427.0 | 8896.7 | 10052.7 | 10490.3 | 11757.7 | 12517.4 | 10605.9 |
| 62.5° | 2563.7 | 2572.0 | 3141.7 | 4305.9 | 6151.3 | 8583.0 | 11249.9 | 11968.3 | 12620.6 | 13454.5 | 11518.3 |
| 65°   | 1610.1 | 1672.0 | 1994.0 | 2510.1 | 3723.8 | 6820.1 | 11324.2 | 13933.4 | 13987.1 | 14816.9 | 12661.9 |
| 67.5° | 1176.6 | 1193.1 | 1465.6 | 1841.3 | 2134.4 | 4000.4 | 9115.5  | 13958.2 | 14973.8 | 15774.7 | 13149.0 |
| 70°   | 875.2  | 883.5  | 1077.5 | 1387.1 | 1556.4 | 1874.3 | 5808.7  | 12079.7 | 14461.8 | 14858.2 | 11931.1 |
| 72.5° | 639.9  | 644.0  | 747.2  | 1019.7 | 1226.1 | 1114.7 | 2728.9  | 8702.7  | 12558.6 | 13264.6 | 10733.9 |
| 75°   | 450.0  | 458.3  | 532.6  | 706.0  | 825.7  | 776.1  | 1040.4  | 5441.3  | 9016.5  | 8938.0  | 7497.2  |
| 77.5° | 338.5  | 342.7  | 392.2  | 499.5  | 561.5  | 507.8  | 586.2   | 2543.1  | 3220.2  | 2906.4  | 2365.6  |
| 80°   | 247.7  | 260.1  | 284.9  | 313.8  | 375.7  | 326.1  | 330.3   | 714.2   | 776.1   | 681.2   | 611.0   |
| 82.5° | 132.1  | 148.6  | 189.9  | 189.9  | 218.8  | 194.0  | 173.4   | 317.9   | 334.4   | 313.8   | 272.5   |
| 85°   | 41.3   | 41.3   | 45.4   | 57.8   | 86.7   | 86.7   | 86.7    | 107.3   | 111.5   | 111.5   | 95.0    |
| 87.5° | 8.3    | 8.3    | 8.3    | 8.3    | 12.4   | 16.5   | 24.8    | 33.0    | 37.2    | 41.3    | 41.3    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

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CATALOG NUMBER: VAL-T-SB2D-730-U-T2

**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2757.8  | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 | 2757.8 |
| 2.5°  | 2782.6  | 2753.7 | 2724.8 | 2675.2 | 2650.4 | 2613.3 | 2580.3 | 2563.7 | 2551.4 | 2547.2 | 2547.2 |
| 5°    | 2836.2  | 2790.8 | 2700.0 | 2613.3 | 2534.8 | 2464.7 | 2411.0 | 2369.7 | 2344.9 | 2324.3 | 2324.3 |
| 7.5°  | 2889.9  | 2828.0 | 2691.7 | 2539.0 | 2427.5 | 2340.8 | 2266.5 | 2241.7 | 2233.5 | 2212.8 | 2200.4 |
| 10°   | 2980.7  | 2881.6 | 2679.3 | 2460.5 | 2303.7 | 2229.3 | 2196.3 | 2188.1 | 2192.2 | 2196.3 | 2196.3 |
| 12.5° | 3050.9  | 2943.6 | 2646.3 | 2361.5 | 2208.7 | 2167.4 | 2171.5 | 2192.2 | 2225.2 | 2221.1 | 2212.8 |
| 15°   | 3150.0  | 2989.0 | 2580.3 | 2245.9 | 2134.4 | 2134.4 | 2175.7 | 2221.1 | 2254.1 | 2274.8 | 2262.4 |
| 17.5° | 3265.6  | 3042.6 | 2481.2 | 2138.5 | 2072.5 | 2109.6 | 2196.3 | 2241.7 | 2299.5 | 2311.9 | 2303.7 |
| 20°   | 3410.1  | 3088.1 | 2369.7 | 2035.3 | 2031.2 | 2109.6 | 2183.9 | 2250.0 | 2295.4 | 2307.8 | 2316.0 |
| 22.5° | 3550.4  | 3129.3 | 2225.2 | 1961.0 | 1985.8 | 2084.9 | 2155.0 | 2225.2 | 2245.9 | 2258.2 | 2262.4 |
| 25°   | 3694.9  | 3170.6 | 2093.1 | 1903.2 | 1952.7 | 2051.8 | 2109.6 | 2138.5 | 2142.6 | 2134.4 | 2134.4 |
| 27.5° | 3851.8  | 3174.8 | 1961.0 | 1857.8 | 1915.6 | 2002.3 | 2035.3 | 2043.6 | 2027.1 | 1969.3 | 1952.7 |
| 30°   | 4017.0  | 3133.5 | 1853.7 | 1816.5 | 1874.3 | 1944.5 | 1969.3 | 1944.5 | 1886.7 | 1804.1 | 1795.9 |
| 32.5° | 4153.2  | 3071.5 | 1775.2 | 1767.0 | 1828.9 | 1890.8 | 1890.8 | 1845.4 | 1758.7 | 1676.1 | 1672.0 |
| 35°   | 4359.6  | 2984.8 | 1696.8 | 1733.9 | 1787.6 | 1816.5 | 1824.8 | 1758.7 | 1663.8 | 1585.3 | 1577.1 |
| 37.5° | 4561.9  | 2910.5 | 1663.8 | 1692.7 | 1742.2 | 1767.0 | 1742.2 | 1676.1 | 1614.2 | 1548.2 | 1548.2 |
| 40°   | 4875.7  | 2865.1 | 1622.5 | 1663.8 | 1705.0 | 1709.2 | 1663.8 | 1614.2 | 1622.5 | 1585.3 | 1581.2 |
| 42.5° | 5218.3  | 2861.0 | 1606.0 | 1634.9 | 1663.8 | 1655.5 | 1589.4 | 1589.4 | 1601.8 | 1531.6 | 1515.1 |
| 45°   | 5610.5  | 2918.8 | 1606.0 | 1593.6 | 1610.1 | 1585.3 | 1548.2 | 1539.9 | 1511.0 | 1407.8 | 1403.7 |
| 47.5° | 6019.2  | 3059.2 | 1614.2 | 1535.8 | 1531.6 | 1523.4 | 1506.9 | 1478.0 | 1391.3 | 1304.6 | 1292.2 |
| 50°   | 6341.2  | 3253.2 | 1639.0 | 1461.5 | 1444.9 | 1473.8 | 1444.9 | 1395.4 | 1296.3 | 1213.8 | 1201.4 |
| 52.5° | 6725.2  | 3447.2 | 1622.5 | 1370.6 | 1350.0 | 1424.3 | 1395.4 | 1325.2 | 1250.9 | 1201.4 | 1189.0 |
| 55°   | 7129.8  | 3649.5 | 1556.4 | 1246.8 | 1263.3 | 1362.4 | 1354.1 | 1275.7 | 1184.9 | 1118.8 | 1110.5 |
| 57.5° | 7534.4  | 3905.5 | 1444.9 | 1139.4 | 1201.4 | 1325.2 | 1292.2 | 1197.2 | 1135.3 | 1089.9 | 1081.6 |
| 60°   | 8153.6  | 4272.9 | 1283.9 | 1028.0 | 1139.4 | 1246.8 | 1193.1 | 1164.2 | 1098.2 | 1061.0 | 1040.4 |
| 62.5° | 8954.5  | 4883.9 | 1073.4 | 924.8  | 1052.7 | 1151.8 | 1147.7 | 1114.7 | 1056.9 | 1015.6 | 1003.2 |
| 65°   | 10094.0 | 5466.0 | 879.4  | 825.7  | 941.3  | 1036.2 | 1085.8 | 1056.9 | 999.1  | 953.7  | 949.5  |
| 67.5° | 10312.8 | 4883.9 | 730.7  | 722.5  | 817.4  | 924.8  | 1019.7 | 999.1  | 908.3  | 850.5  | 842.2  |
| 70°   | 8975.2  | 3488.5 | 615.1  | 623.4  | 714.2  | 809.2  | 912.4  | 862.8  | 788.5  | 755.5  | 751.4  |
| 72.5° | 7967.8  | 2997.2 | 516.1  | 532.6  | 598.6  | 685.3  | 747.2  | 763.8  | 710.1  | 681.2  | 668.8  |
| 75°   | 5742.6  | 2245.9 | 417.0  | 437.6  | 483.0  | 532.6  | 648.2  | 677.1  | 627.5  | 598.6  | 578.0  |
| 77.5° | 2130.3  | 937.2  | 309.6  | 330.3  | 363.3  | 433.5  | 524.3  | 586.2  | 549.1  | 569.7  | 511.9  |
| 80°   | 511.9   | 330.3  | 227.1  | 222.9  | 256.0  | 326.1  | 417.0  | 462.4  | 425.2  | 404.6  | 350.9  |
| 82.5° | 222.9   | 161.0  | 148.6  | 148.6  | 156.9  | 214.7  | 276.6  | 326.1  | 317.9  | 264.2  | 251.8  |
| 85°   | 82.6    | 70.2   | 70.2   | 74.3   | 74.3   | 99.1   | 148.6  | 173.4  | 156.9  | 136.2  | 132.1  |
| 87.5° | 37.2    | 37.2   | 28.9   | 24.8   | 20.6   | 20.6   | 24.8   | 16.5   | 12.4   | 8.3    | 8.3    |
| 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           |

REPORT NUMBER: SP1-2407-184-4

**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

REPORT NUMBER: SP1-2407-184-4

### 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               | 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)