

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: P1379561

Luminaire Tested: **VAL-T-SB3C-730-U-SL4-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: P1379561  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/18/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VAL-T-SB3C-730-U-SL4-HSS  
Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 3SQUARE 150W 70CRI  
3000K FIXTURE w/ TYPE IV SPILL CONTROL DISTRIBUTION OPTIC AND HOUSE SIDE  
SHIELD  
Light Source: (78) 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               |

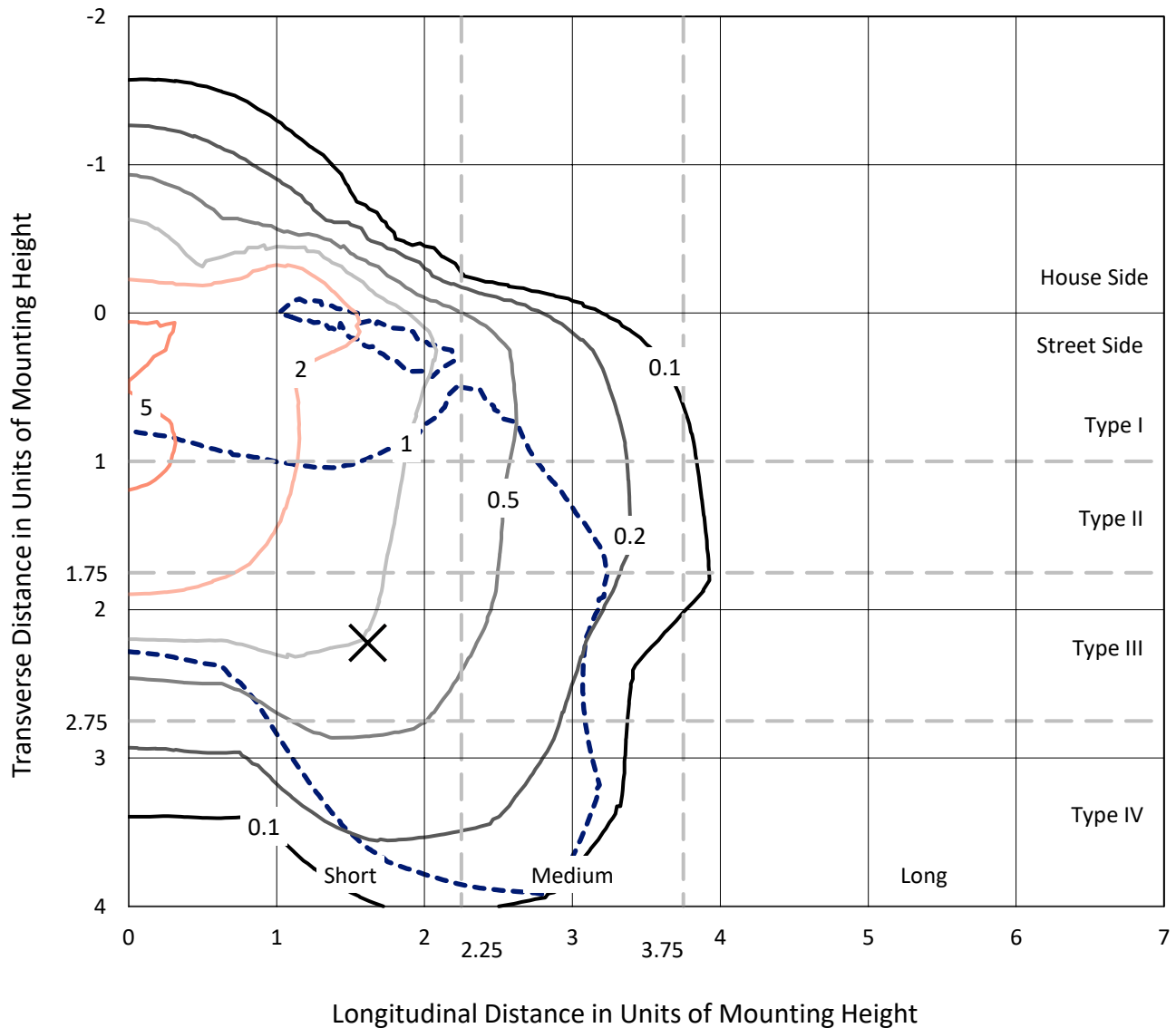
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13256.8 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3  
  
Input Watts (W): 150  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.98  
Total Harmonic Distortion (THDi): 6.3%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

REPORT NUMBER: P1379561  
 CATALOG NUMBER: VAL-T-SB3C-730-U-SL4-HSS

## Iso-Footcandle Lines of Horizontal Illumination

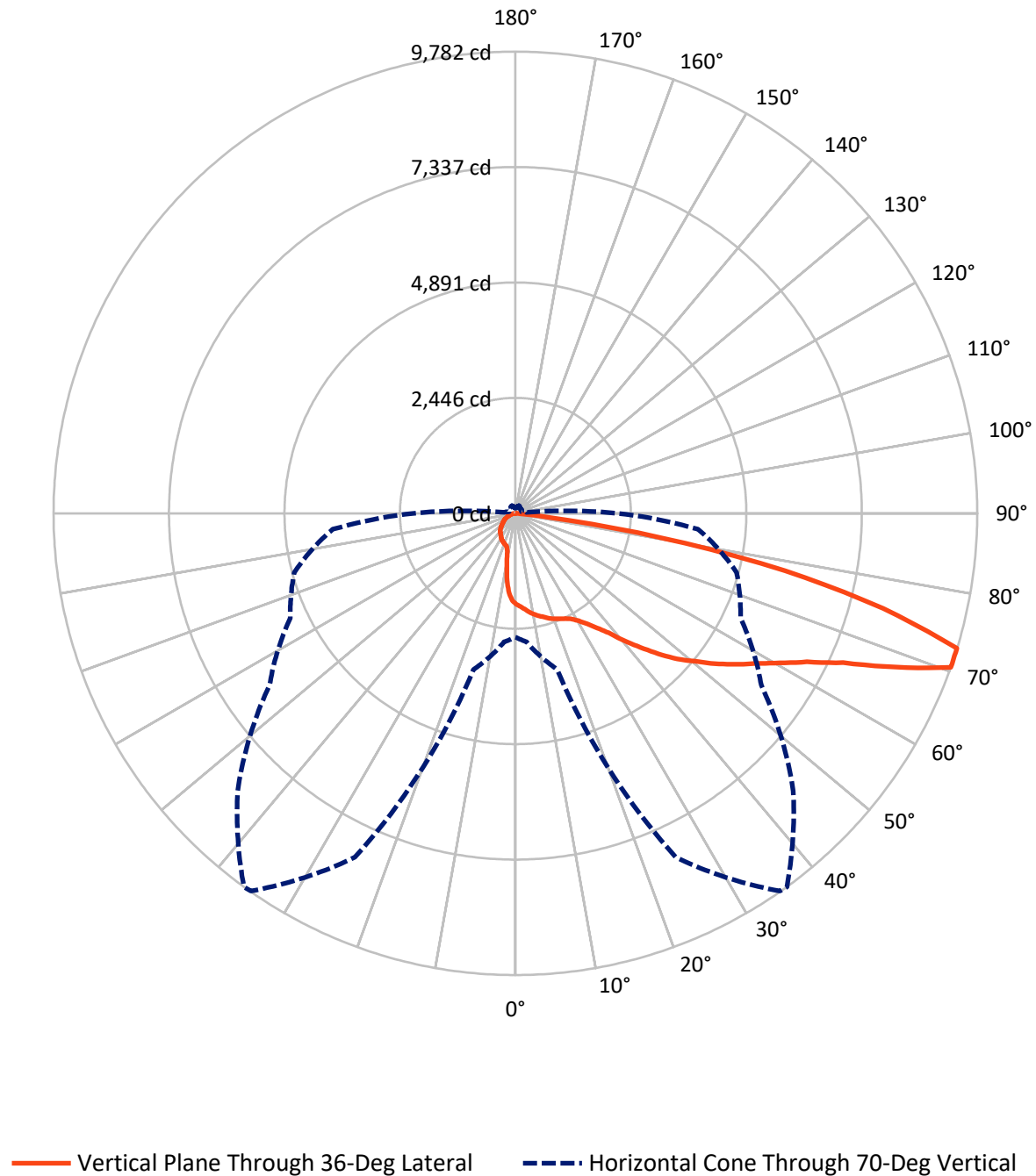
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.9 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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CATALOG NUMBER: VAL-T-SB3C-730-U-SL4-HSS

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1957.0   | 0.0    | 1957.0  |
|                    | % Fixture | 14.8     | 0.0    | 14.8    |
| <b>Street Side</b> | Lumens    | 11299.9  | 0.0    | 11299.9 |
|                    | % Fixture | 85.2     | 0.0    | 85.2    |
| <b>Total</b>       | Lumens    | 13256.8  | 0.0    | 13256.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 175.2   | 1.3       |
| 10°-20°   | 485.8   | 3.7       |
| 20°-30°   | 818.8   | 6.2       |
| 30°-40°   | 1307.8  | 9.9       |
| 40°-50°   | 2137.3  | 16.1      |
| 50°-60°   | 2883.7  | 21.8      |
| 60°-70°   | 3202.7  | 24.2      |
| 70°-80°   | 2120.3  | 16.0      |
| 80°-90°   | 125.3   | 0.9       |
| 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°    | 13256.8 | 100.0     |
| 0°-180°   | 13256.8 | 100.0     |

**Coefficient of Utilization**



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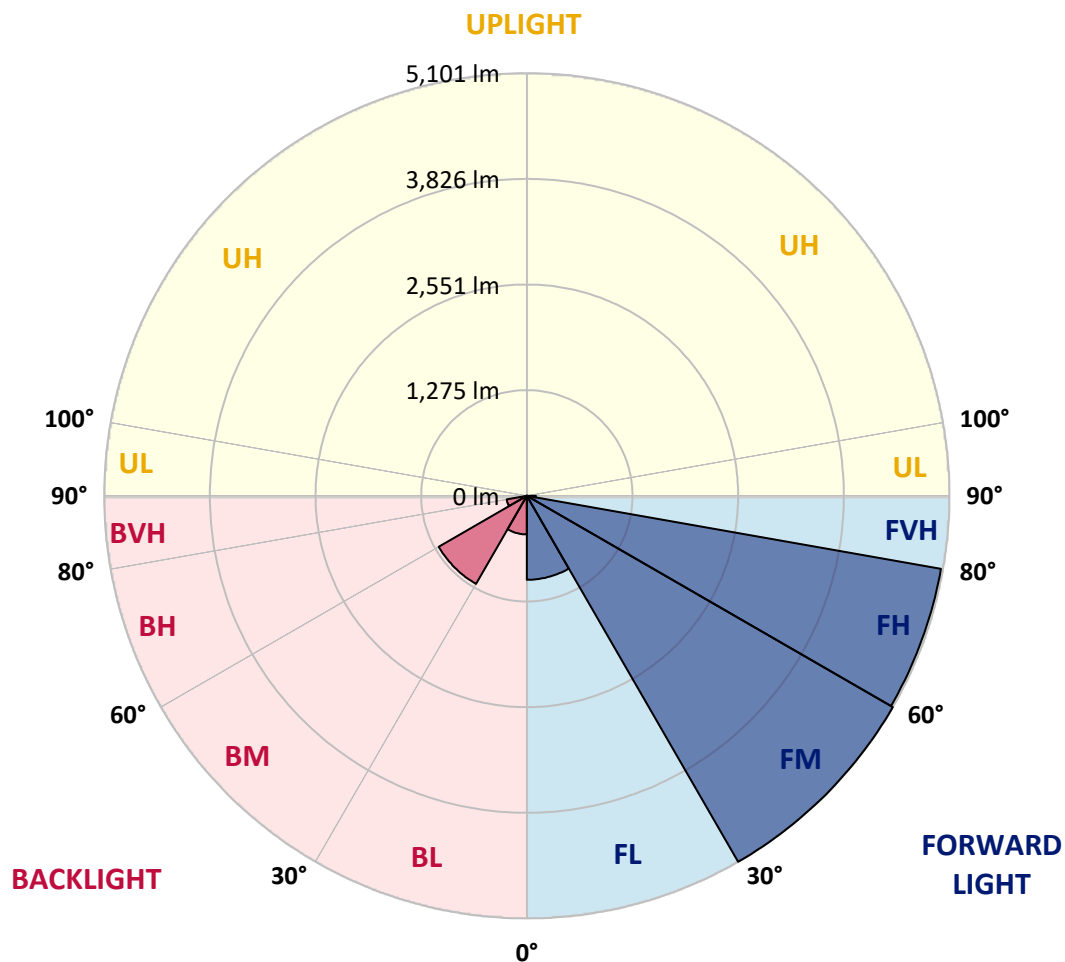
CATALOG NUMBER: VAL-T-SB3C-730-U-SL4-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1013.8 | 7.6       |                         |      |         |
| FM   | (30°-60°)   | 5101.2 | 38.5      |                         |      |         |
| FH   | (60°-80°)   | 5075.5 | 38.3      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 109.3  | 0.8       |                         |      | G2/225  |
| BL   | (0°-30°)    | 466.0  | 3.5       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1227.6 | 9.3       | B2/2500                 |      |         |
| BH   | (60°-80°)   | 247.4  | 1.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 16.0   | 0.1       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G3**

Type IV Short



REPORT NUMBER: P1379561

CATALOG NUMBER: VAL-T-SB3C-730-U-SL4-HSS

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 36°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 |
| 2.5°  | 1990.8 | 1972.7 | 1981.7 | 1986.3 | 1972.7 | 1977.2 | 1968.2 | 1963.6 | 1945.5 | 1959.1 | 1941.0 |
| 5°    | 2063.2 | 2058.6 | 2054.1 | 2054.1 | 2040.5 | 2036.0 | 2022.5 | 2013.4 | 1995.3 | 1981.7 | 1959.1 |
| 7.5°  | 2149.1 | 2122.0 | 2117.5 | 2126.5 | 2099.4 | 2112.9 | 2099.4 | 2085.8 | 2054.1 | 2017.9 | 1981.7 |
| 10°   | 2217.0 | 2203.4 | 2185.3 | 2180.8 | 2185.3 | 2176.3 | 2162.7 | 2149.1 | 2131.0 | 2085.8 | 2045.1 |
| 12.5° | 2293.9 | 2284.9 | 2266.8 | 2257.7 | 2226.1 | 2230.6 | 2230.6 | 2212.5 | 2185.3 | 2158.2 | 2112.9 |
| 15°   | 2379.9 | 2343.7 | 2334.6 | 2312.0 | 2293.9 | 2280.3 | 2284.9 | 2289.4 | 2257.7 | 2230.6 | 2185.3 |
| 17.5° | 2420.6 | 2411.6 | 2388.9 | 2361.8 | 2361.8 | 2343.7 | 2339.2 | 2339.2 | 2325.6 | 2316.5 | 2262.3 |
| 20°   | 2484.0 | 2474.9 | 2434.2 | 2411.6 | 2388.9 | 2384.4 | 2398.0 | 2398.0 | 2375.4 | 2370.8 | 2361.8 |
| 22.5° | 2579.0 | 2551.8 | 2497.5 | 2461.3 | 2434.2 | 2429.7 | 2447.8 | 2443.2 | 2443.2 | 2447.8 | 2465.9 |
| 25°   | 2669.5 | 2637.8 | 2579.0 | 2520.1 | 2461.3 | 2470.4 | 2493.0 | 2497.5 | 2479.4 | 2506.6 | 2574.4 |
| 27.5° | 2805.2 | 2800.7 | 2710.2 | 2592.5 | 2538.2 | 2533.7 | 2542.8 | 2533.7 | 2515.6 | 2547.3 | 2674.0 |
| 30°   | 3162.6 | 3121.9 | 2972.6 | 2755.4 | 2633.3 | 2642.3 | 2628.7 | 2574.4 | 2529.2 | 2565.4 | 2769.0 |
| 32.5° | 3511.0 | 3416.0 | 3262.2 | 3013.3 | 2787.1 | 2791.6 | 2696.6 | 2592.5 | 2542.8 | 2583.5 | 2864.0 |
| 35°   | 4017.8 | 3918.2 | 3687.5 | 3253.1 | 3022.4 | 2981.6 | 2787.1 | 2660.4 | 2569.9 | 2615.2 | 2972.6 |
| 37.5° | 4732.6 | 4587.8 | 4275.7 | 3728.2 | 3230.5 | 3212.4 | 2945.4 | 2719.2 | 2592.5 | 2610.6 | 3117.4 |
| 40°   | 5284.6 | 5144.4 | 4891.0 | 4230.4 | 3587.9 | 3551.7 | 3194.3 | 2832.3 | 2597.1 | 2633.3 | 3253.1 |
| 42.5° | 5764.2 | 5691.8 | 5352.5 | 4673.8 | 3958.9 | 3882.0 | 3434.1 | 2972.6 | 2692.1 | 2692.1 | 3479.3 |
| 45°   | 6406.7 | 6271.0 | 5886.4 | 5090.1 | 4329.9 | 4244.0 | 3750.8 | 3194.3 | 2809.7 | 2759.9 | 3714.6 |
| 47.5° | 6972.3 | 6859.1 | 6411.2 | 5483.7 | 4682.9 | 4610.5 | 4054.0 | 3434.1 | 2959.0 | 2882.1 | 3990.6 |
| 50°   | 7592.1 | 7474.5 | 6958.7 | 5954.2 | 5031.2 | 4927.2 | 4388.8 | 3655.8 | 3140.0 | 3072.1 | 4320.9 |
| 52.5° | 8021.9 | 7922.4 | 7406.6 | 6379.5 | 5366.1 | 5293.7 | 4660.2 | 3882.0 | 3352.7 | 3284.8 | 4637.6 |
| 55°   | 8307.0 | 8148.6 | 7646.4 | 6750.6 | 5737.1 | 5646.6 | 4904.6 | 4135.4 | 3592.5 | 3569.8 | 4909.1 |
| 57.5° | 8442.7 | 8284.4 | 7859.1 | 7076.3 | 6103.6 | 6004.0 | 5207.7 | 4411.4 | 3904.6 | 3922.7 | 5198.7 |
| 60°   | 8370.3 | 8252.7 | 7940.5 | 7384.0 | 6510.8 | 6429.3 | 5497.3 | 4728.1 | 4225.9 | 4302.8 | 5334.4 |
| 62.5° | 7836.4 | 7863.6 | 7949.5 | 7841.0 | 7031.1 | 6931.5 | 5918.0 | 5130.8 | 4664.8 | 4678.3 | 5320.8 |
| 65°   | 6062.8 | 6175.9 | 7162.3 | 8370.3 | 7759.5 | 7628.3 | 6497.2 | 5637.5 | 4963.4 | 4809.5 | 4967.9 |
| 67.5° | 3854.9 | 4094.7 | 5180.6 | 8664.4 | 8777.5 | 8696.1 | 7261.8 | 6053.8 | 5035.8 | 5004.1 | 4646.7 |
| 70°   | 2624.2 | 2732.8 | 3425.0 | 8040.0 | 9768.4 | 9782.0 | 8320.6 | 6356.9 | 5262.0 | 4850.3 | 3882.0 |
| 72.5° | 2063.2 | 2072.2 | 2420.6 | 7243.7 | 9727.7 | 9777.4 | 8243.6 | 6673.6 | 5103.6 | 4320.9 | 2959.0 |
| 75°   | 1384.5 | 1420.7 | 1651.4 | 5909.0 | 8080.8 | 8040.0 | 6732.5 | 5126.3 | 4655.7 | 3416.0 | 1918.4 |
| 77.5° | 389.1  | 402.7  | 687.7  | 3764.4 | 5664.7 | 5836.6 | 4886.5 | 1760.0 | 3239.5 | 1565.5 | 723.9  |
| 80°   | 117.6  | 126.7  | 280.5  | 1081.4 | 2710.2 | 3103.8 | 2542.8 | 529.4  | 782.7  | 371.0  | 144.8  |
| 82.5° | 49.8   | 54.3   | 167.4  | 248.8  | 619.9  | 669.6  | 597.2  | 140.3  | 244.3  | 117.6  | 49.8   |
| 85°   | 18.1   | 22.6   | 54.3   | 58.8   | 95.0   | 86.0   | 67.9   | 45.2   | 63.3   | 54.3   | 27.1   |
| 87.5° | 0.0    | 4.5    | 4.5    | 9.0    | 13.6   | 13.6   | 18.1   | 18.1   | 18.1   | 18.1   | 18.1   |
| 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: P1379561

CATALOG NUMBER: VAL-T-SB3C-730-U-SL4-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 | 1922.9 |
| 2.5°  | 1927.4 | 1922.9 | 1904.8 | 1882.2 | 1868.6 | 1864.1 | 1850.5 | 1823.4 | 1832.4 | 1836.9 | 1814.3 |
| 5°    | 1945.5 | 1913.9 | 1877.7 | 1832.4 | 1782.7 | 1741.9 | 1687.6 | 1646.9 | 1619.8 | 1615.2 | 1610.7 |
| 7.5°  | 1963.6 | 1936.5 | 1873.1 | 1773.6 | 1674.1 | 1570.0 | 1429.7 | 1330.2 | 1257.8 | 1221.6 | 1235.2 |
| 10°   | 2022.5 | 1977.2 | 1868.6 | 1714.8 | 1502.1 | 1275.9 | 1072.3 | 954.7  | 886.8  | 855.1  | 841.6  |
| 12.5° | 2081.3 | 2017.9 | 1868.6 | 1610.7 | 1248.8 | 963.7  | 800.8  | 764.6  | 764.6  | 773.7  | 769.2  |
| 15°   | 2158.2 | 2085.8 | 1882.2 | 1452.4 | 990.9  | 755.6  | 728.4  | 733.0  | 746.5  | 755.6  | 755.6  |
| 17.5° | 2244.2 | 2189.9 | 1882.2 | 1253.3 | 773.7  | 701.3  | 705.8  | 719.4  | 733.0  | 737.5  | 742.0  |
| 20°   | 2366.3 | 2289.4 | 1823.4 | 1022.5 | 678.7  | 678.7  | 687.7  | 696.8  | 714.9  | 723.9  | 728.4  |
| 22.5° | 2479.4 | 2393.5 | 1714.8 | 814.4  | 651.5  | 656.1  | 674.2  | 683.2  | 701.3  | 710.3  | 705.8  |
| 25°   | 2619.7 | 2538.2 | 1597.1 | 660.6  | 624.4  | 633.4  | 647.0  | 660.6  | 687.7  | 696.8  | 696.8  |
| 27.5° | 2773.5 | 2701.1 | 1506.7 | 647.0  | 597.2  | 610.8  | 633.4  | 651.5  | 674.2  | 683.2  | 683.2  |
| 30°   | 2940.9 | 2868.5 | 1452.4 | 696.8  | 583.7  | 579.1  | 606.3  | 619.9  | 647.0  | 669.6  | 674.2  |
| 32.5° | 3117.4 | 3004.3 | 1434.3 | 796.3  | 592.7  | 556.5  | 579.1  | 597.2  | 633.4  | 660.6  | 660.6  |
| 35°   | 3370.8 | 3207.9 | 1434.3 | 904.9  | 628.9  | 533.9  | 552.0  | 574.6  | 615.3  | 642.5  | 642.5  |
| 37.5° | 3682.9 | 3529.1 | 1574.5 | 981.8  | 660.6  | 515.8  | 524.8  | 547.5  | 579.1  | 615.3  | 619.9  |
| 40°   | 4054.0 | 3981.6 | 1945.5 | 1031.6 | 678.7  | 497.7  | 506.7  | 515.8  | 533.9  | 570.1  | 579.1  |
| 42.5° | 4452.1 | 4375.2 | 2474.9 | 1081.4 | 669.6  | 484.1  | 479.6  | 479.6  | 488.6  | 511.3  | 515.8  |
| 45°   | 4836.7 | 4728.1 | 2950.0 | 1063.3 | 628.9  | 457.0  | 447.9  | 434.4  | 434.4  | 452.5  | 452.5  |
| 47.5° | 5176.0 | 4981.5 | 3180.7 | 941.1  | 579.1  | 429.8  | 411.7  | 389.1  | 389.1  | 398.2  | 398.2  |
| 50°   | 5393.2 | 4972.4 | 3035.9 | 746.5  | 506.7  | 402.7  | 375.5  | 357.4  | 352.9  | 357.4  | 352.9  |
| 52.5° | 5424.9 | 4655.7 | 2497.5 | 579.1  | 438.9  | 371.0  | 339.3  | 330.3  | 325.8  | 325.8  | 325.8  |
| 55°   | 5212.2 | 4072.1 | 1755.5 | 443.4  | 384.6  | 334.8  | 312.2  | 307.7  | 303.1  | 298.6  | 294.1  |
| 57.5° | 4845.7 | 3226.0 | 1072.3 | 357.4  | 348.4  | 303.1  | 289.6  | 285.0  | 276.0  | 262.4  | 257.9  |
| 60°   | 4357.1 | 2375.4 | 565.6  | 303.1  | 303.1  | 266.9  | 266.9  | 266.9  | 244.3  | 226.2  | 217.2  |
| 62.5° | 3814.2 | 1601.7 | 316.7  | 257.9  | 253.4  | 239.8  | 244.3  | 239.8  | 217.2  | 185.5  | 181.0  |
| 65°   | 3207.9 | 909.4  | 212.7  | 212.7  | 217.2  | 208.1  | 217.2  | 212.7  | 181.0  | 149.3  | 140.3  |
| 67.5° | 2769.0 | 475.1  | 167.4  | 181.0  | 181.0  | 171.9  | 185.5  | 190.0  | 162.9  | 131.2  | 122.2  |
| 70°   | 2167.2 | 239.8  | 135.7  | 149.3  | 149.3  | 135.7  | 162.9  | 176.5  | 149.3  | 113.1  | 108.6  |
| 72.5° | 1529.3 | 149.3  | 113.1  | 117.6  | 113.1  | 104.1  | 140.3  | 158.4  | 131.2  | 95.0   | 90.5   |
| 75°   | 932.0  | 99.5   | 86.0   | 95.0   | 81.4   | 81.4   | 122.2  | 140.3  | 113.1  | 76.9   | 72.4   |
| 77.5° | 434.4  | 72.4   | 63.3   | 67.9   | 58.8   | 63.3   | 99.5   | 108.6  | 81.4   | 63.3   | 58.8   |
| 80°   | 108.6  | 49.8   | 49.8   | 45.2   | 45.2   | 49.8   | 72.4   | 67.9   | 58.8   | 54.3   | 49.8   |
| 82.5° | 45.2   | 36.2   | 31.7   | 31.7   | 31.7   | 36.2   | 45.2   | 45.2   | 49.8   | 45.2   | 45.2   |
| 85°   | 22.6   | 22.6   | 22.6   | 22.6   | 27.1   | 27.1   | 36.2   | 40.7   | 40.7   | 40.7   | 36.2   |
| 87.5° | 13.6   | 13.6   | 13.6   | 13.6   | 13.6   | 18.1   | 22.6   | 27.1   | 31.7   | 18.1   | 13.6   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

Test Date: 10/10/2024

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

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

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-730-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 3000K CCT 26 LEDS

### Spectral Parameters

CCT (K): 2985  
 CIE  $u'$ : 0.2504  
 CIE  $v'$ : 0.5243  
 Duv: 0.0019  
 CIE x: 0.4408  
 CIE y: 0.4101  
 CIE z: 0.1491  
 Peak Wavelength (nm): 595  
 Dominant Wavelength (nm): 582  
 Purity: 55.41818  
 R<sub>f</sub>: 73.8  
 R<sub>g</sub>: 94.4

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



### Test Conditions

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

REPORT NUMBER: SP1-2407-184-4

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

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**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 3000K 4-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | 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

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



### 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)