

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P642269

Luminaire Tested: GWS-SA6C-750-U-SL3-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P642269
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-33)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA6C-750-U-SL3-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (96) 5000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24324 lumens
Efficiency: N/A
Efficacy: 128.6 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

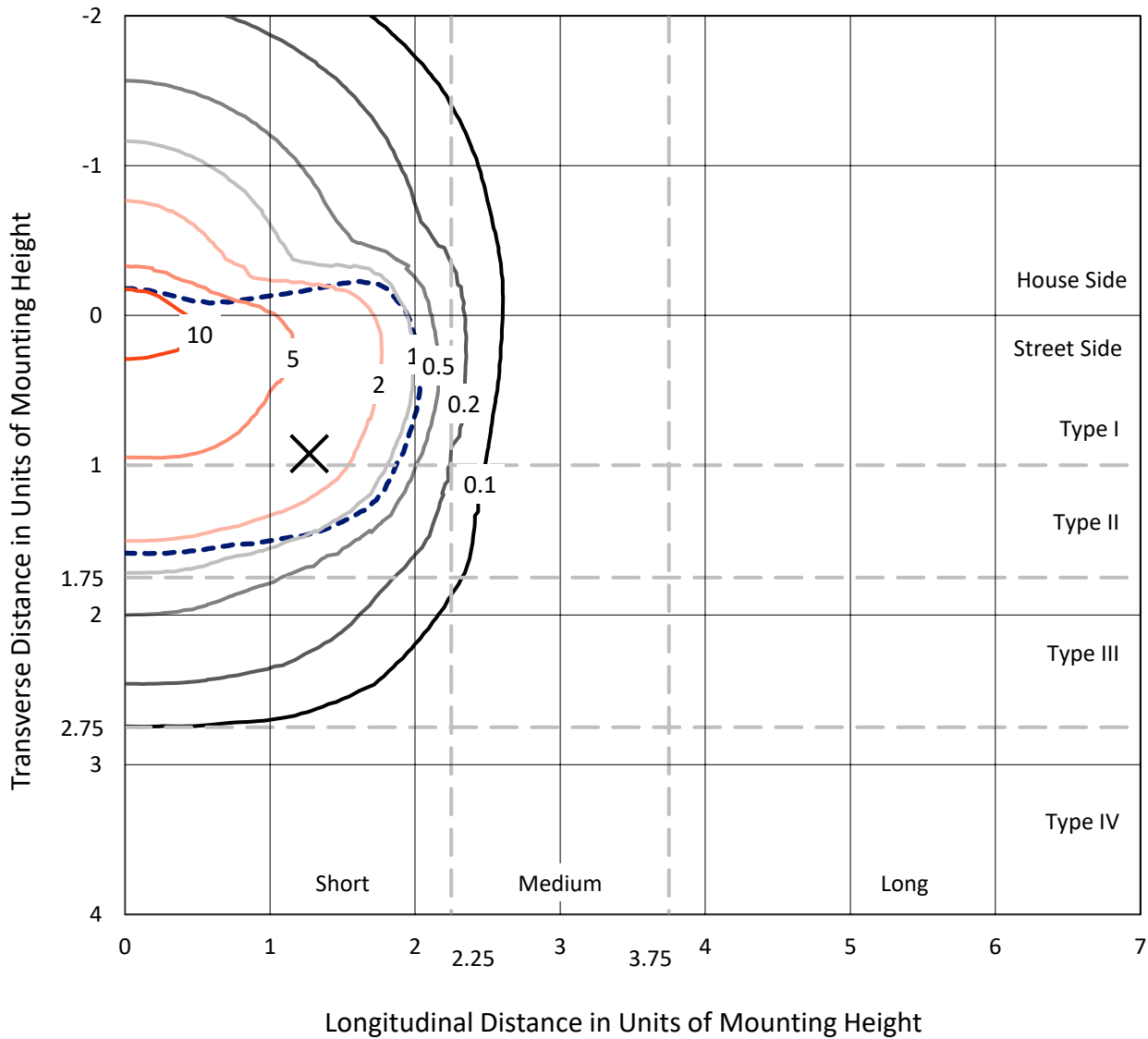
Input Watts (W): 189.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P642269
 CATALOG NUMBER: GWS-SA6C-750-U-SL3-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

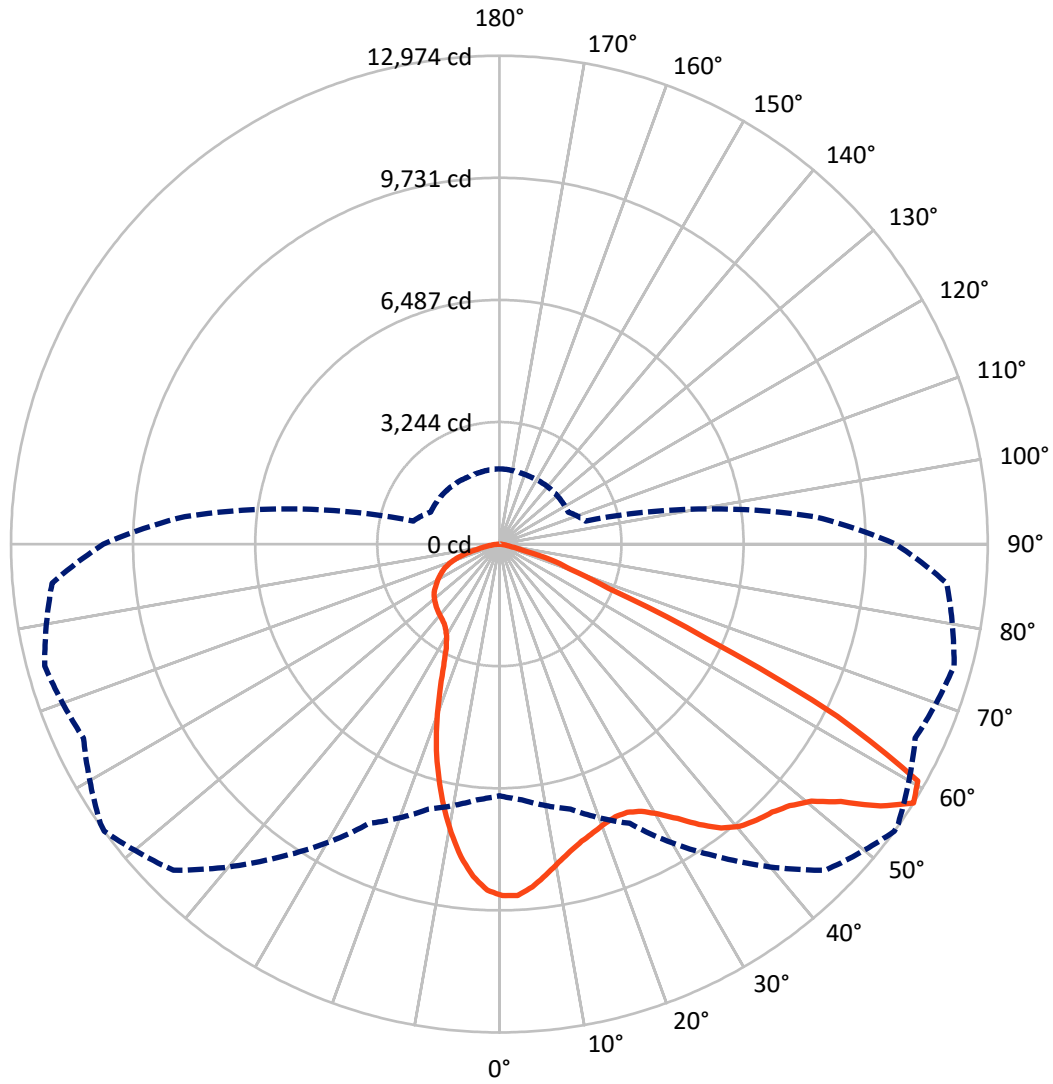
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.9 fc
 Type II - Short - N/A

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CATALOG NUMBER: GWS-SA6C-750-U-SL3-W-GRSWH

Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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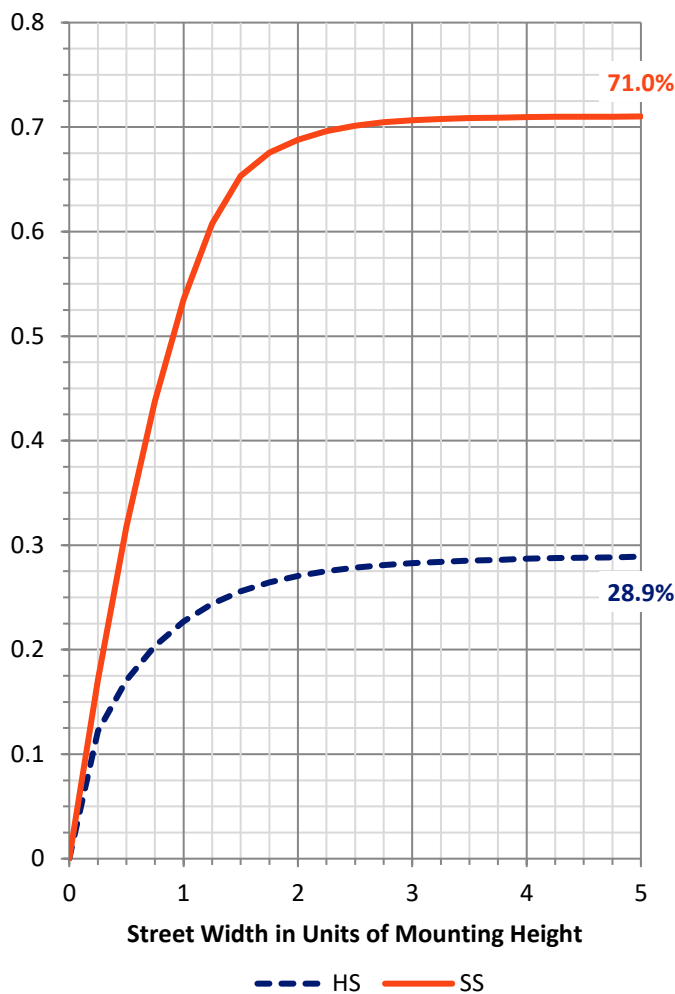
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 7071.3 | 0.0 | 7071.3 |
| | % Fixture | 29.1 | 0.0 | 29.1 |
| Street Side | Lumens | 17252.7 | 0.0 | 17252.7 |
| | % Fixture | 70.9 | 0.0 | 70.9 |
| Total | Lumens | 24324.0 | 0.0 | 24324.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 820.8 | 3.4 |
| 10°-20° | 1958.6 | 8.1 |
| 20°-30° | 2710.5 | 11.1 |
| 30°-40° | 3766.2 | 15.5 |
| 40°-50° | 4974.0 | 20.4 |
| 50°-60° | 5910.9 | 24.3 |
| 60°-70° | 3274.7 | 13.5 |
| 70°-80° | 815.5 | 3.4 |
| 80°-90° | 92.7 | 0.4 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 24324.0 | 100.0 |
| 0°-180° | 24324.0 | 100.0 |

Coefficient of Utilization



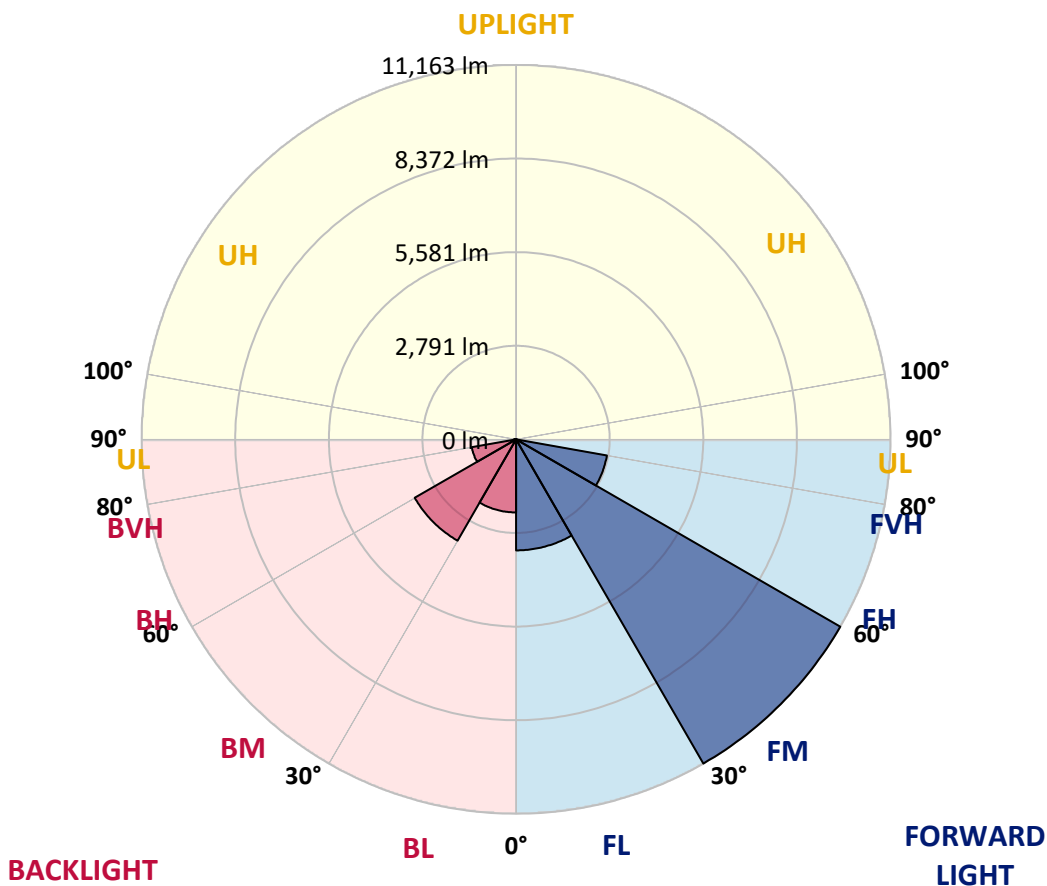
REPORT NUMBER: P642269

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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 3310.9 | 13.6 | | | |
| FM (30°-60°) | 11162.7 | 45.9 | | | |
| FH (60°-80°) | 2750.2 | 11.3 | | | G2/5000 |
| FVH (80°-90°) | 29.0 | 0.1 | | | G1/100 |
| BL (0°-30°) | 2179.1 | 9.0 | B3/2500 | | |
| BM (30°-60°) | 3488.4 | 14.3 | B3/5000 | | |
| BH (60°-80°) | 1340.1 | 5.5 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 63.7 | 0.3 | | | 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 Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 54° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 |
| 2.5° | 9163.6 | 9182.4 | 9194.9 | 9238.6 | 9276.1 | 9309.4 | 9344.8 | 9344.8 | 9342.7 | 9336.5 | 9324.0 |
| 5° | 8801.3 | 8822.2 | 8851.3 | 8911.7 | 8992.9 | 9051.2 | 9147.0 | 9155.3 | 9196.9 | 9213.6 | 9205.3 |
| 7.5° | 8380.7 | 8387.0 | 8424.5 | 8503.6 | 8632.7 | 8736.8 | 8874.2 | 8890.9 | 8990.8 | 9049.1 | 9038.7 |
| 10° | 7920.6 | 7899.8 | 7966.4 | 8083.0 | 8251.6 | 8426.5 | 8603.5 | 8618.1 | 8778.4 | 8888.8 | 8880.5 |
| 12.5° | 7500.0 | 7502.1 | 7568.7 | 7710.3 | 7920.6 | 8137.1 | 8374.5 | 8407.8 | 8605.6 | 8747.2 | 8732.6 |
| 15° | 7148.1 | 7156.4 | 7237.6 | 7398.0 | 7637.4 | 7895.6 | 8191.3 | 8222.5 | 8472.4 | 8659.7 | 8618.1 |
| 17.5° | 6867.0 | 6875.3 | 6946.1 | 7129.4 | 7385.5 | 7697.8 | 8058.0 | 8089.2 | 8399.5 | 8622.3 | 8536.9 |
| 20° | 6673.4 | 6669.2 | 6737.9 | 6912.8 | 7177.2 | 7516.6 | 7941.4 | 7987.2 | 8376.6 | 8636.8 | 8482.8 |
| 22.5° | 6594.2 | 6592.2 | 6642.1 | 6785.8 | 7033.6 | 7377.1 | 7870.6 | 7933.1 | 8401.6 | 8701.4 | 8449.4 |
| 25° | 6633.8 | 6625.5 | 6669.2 | 6775.4 | 6973.2 | 7323.0 | 7891.4 | 7958.1 | 8507.7 | 8834.7 | 8455.7 |
| 27.5° | 6756.6 | 6746.2 | 6783.7 | 6879.5 | 7029.4 | 7379.2 | 8037.2 | 8114.2 | 8732.6 | 9078.3 | 8539.0 |
| 30° | 6944.0 | 6937.8 | 6975.3 | 7066.9 | 7198.1 | 7566.6 | 8316.2 | 8403.6 | 9080.3 | 9457.2 | 8720.1 |
| 32.5° | 7162.7 | 7152.3 | 7218.9 | 7325.1 | 7477.1 | 7908.1 | 8691.0 | 8805.5 | 9492.6 | 9944.4 | 9024.1 |
| 35° | 7408.4 | 7400.0 | 7491.7 | 7645.7 | 7864.4 | 8382.8 | 9144.9 | 9269.8 | 9913.2 | 10496.2 | 9428.1 |
| 37.5° | 7647.8 | 7647.8 | 7824.8 | 8053.8 | 8328.7 | 8899.2 | 9571.7 | 9650.9 | 10204.7 | 10985.5 | 9861.2 |
| 40° | 7860.2 | 7872.7 | 8139.2 | 8482.8 | 8832.6 | 9365.6 | 9852.8 | 9919.5 | 10333.8 | 11322.8 | 10238.0 |
| 42.5° | 8095.5 | 8105.9 | 8416.1 | 8865.9 | 9282.3 | 9742.5 | 10023.6 | 10056.9 | 10358.8 | 11491.5 | 10504.6 |
| 45° | 8282.9 | 8297.5 | 8682.7 | 9163.6 | 9673.8 | 10025.7 | 10158.9 | 10188.1 | 10394.2 | 11583.1 | 10698.2 |
| 47.5° | 8380.7 | 8401.6 | 8843.0 | 9403.1 | 9938.2 | 10279.7 | 10381.7 | 10394.2 | 10539.9 | 11743.4 | 10931.4 |
| 50° | 8364.1 | 8405.7 | 8903.4 | 9521.8 | 10133.9 | 10535.8 | 10739.8 | 10760.7 | 10837.7 | 11978.7 | 11204.2 |
| 52.5° | 8511.9 | 8530.7 | 9032.5 | 9663.4 | 10412.9 | 11008.4 | 11362.4 | 11391.6 | 11356.2 | 12155.7 | 11366.6 |
| 55° | 8266.2 | 8355.8 | 8872.1 | 9642.5 | 10837.7 | 11739.3 | 12284.8 | 12270.2 | 11826.7 | 12353.5 | 11637.3 |
| 57.5° | 6685.9 | 6817.0 | 7289.7 | 8185.0 | 10138.1 | 12251.5 | 12974.0 | 12938.6 | 12191.1 | 12505.5 | 11930.8 |
| 60° | 4628.7 | 4649.5 | 5076.3 | 5711.4 | 7824.8 | 10823.1 | 12772.0 | 12849.1 | 12257.7 | 12314.0 | 11387.4 |
| 62.5° | 3702.1 | 3695.9 | 3735.4 | 3752.1 | 4976.4 | 7608.3 | 10081.9 | 10363.0 | 10183.9 | 9594.6 | 8070.5 |
| 65° | 3160.7 | 3183.6 | 3300.2 | 3239.9 | 3248.2 | 4285.1 | 6023.7 | 6063.3 | 5938.4 | 5726.0 | 4268.5 |
| 67.5° | 2473.6 | 2513.2 | 2719.3 | 2954.6 | 2879.6 | 2758.9 | 3125.3 | 3106.6 | 2448.6 | 1894.8 | 1565.8 |
| 70° | 1549.1 | 1574.1 | 1794.8 | 2319.5 | 2506.9 | 2265.4 | 2009.3 | 2001.0 | 1311.8 | 1078.6 | 1182.7 |
| 72.5° | 903.7 | 907.8 | 970.3 | 1293.0 | 1663.7 | 1549.1 | 1478.3 | 1424.2 | 843.3 | 859.9 | 943.2 |
| 75° | 497.6 | 497.6 | 495.6 | 558.0 | 655.9 | 580.9 | 562.2 | 547.6 | 564.3 | 639.2 | 701.7 |
| 77.5° | 104.1 | 106.2 | 112.4 | 147.8 | 191.6 | 233.2 | 293.6 | 295.7 | 368.5 | 426.8 | 476.8 |
| 80° | 47.9 | 50.0 | 62.5 | 79.1 | 102.0 | 135.3 | 179.1 | 181.1 | 222.8 | 268.6 | 301.9 |
| 82.5° | 25.0 | 27.1 | 33.3 | 41.6 | 54.1 | 70.8 | 99.9 | 99.9 | 133.3 | 158.2 | 179.1 |
| 85° | 8.3 | 8.3 | 12.5 | 16.7 | 22.9 | 29.2 | 39.6 | 39.6 | 58.3 | 77.0 | 89.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 4.2 | 8.3 | 8.3 | 10.4 | 12.5 | 20.8 |
| 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: P642269

CATALOG NUMBER: GWS-SA6C-750-U-SL3-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 | 9338.5 |
| 2.5° | 9296.9 | 9232.3 | 9234.4 | 9246.9 | 9207.4 | 9147.0 | 9107.4 | 9057.4 | 9026.2 | 9020.0 | 9042.9 |
| 5° | 9163.6 | 9088.7 | 9036.6 | 8982.5 | 8870.0 | 8736.8 | 8632.7 | 8547.3 | 8491.1 | 8470.3 | 8445.3 |
| 7.5° | 8980.4 | 8882.5 | 8751.4 | 8599.4 | 8395.3 | 8157.9 | 7991.4 | 7835.2 | 7726.9 | 7695.7 | 7681.1 |
| 10° | 8797.2 | 8655.6 | 8422.4 | 8139.2 | 7799.8 | 7479.2 | 7177.2 | 6946.1 | 6762.9 | 6658.8 | 6692.1 |
| 12.5° | 8607.7 | 8432.8 | 8068.4 | 7633.2 | 7160.6 | 6677.5 | 6281.9 | 5898.8 | 5603.1 | 5455.3 | 5411.6 |
| 15° | 8441.1 | 8203.8 | 7695.7 | 7106.4 | 6477.6 | 5869.6 | 5297.0 | 4722.4 | 4347.6 | 4143.5 | 4087.3 |
| 17.5° | 8299.5 | 7991.4 | 7302.2 | 6569.2 | 5817.6 | 4951.4 | 4247.6 | 3714.6 | 3458.5 | 3346.0 | 3337.7 |
| 20° | 8160.0 | 7783.2 | 6912.8 | 5990.4 | 5055.5 | 4085.2 | 3456.4 | 3206.5 | 3114.9 | 3075.4 | 3073.3 |
| 22.5° | 8035.1 | 7564.5 | 6502.6 | 5411.6 | 4297.6 | 3433.5 | 3087.9 | 2979.6 | 2954.6 | 2954.6 | 2950.4 |
| 25° | 7928.9 | 7345.9 | 6082.0 | 4797.3 | 3612.6 | 3056.6 | 2896.3 | 2850.5 | 2860.9 | 2879.6 | 2881.7 |
| 27.5° | 7885.2 | 7175.2 | 5676.0 | 4166.4 | 3139.9 | 2838.0 | 2765.1 | 2758.9 | 2788.0 | 2817.2 | 2821.3 |
| 30° | 7931.0 | 7058.6 | 5259.6 | 3562.6 | 2856.7 | 2704.7 | 2671.4 | 2683.9 | 2719.3 | 2748.5 | 2748.5 |
| 32.5° | 8072.6 | 7000.3 | 4834.8 | 3121.2 | 2692.2 | 2611.0 | 2600.6 | 2613.1 | 2640.2 | 2656.8 | 2658.9 |
| 35° | 8312.0 | 7023.2 | 4395.5 | 2823.4 | 2586.1 | 2542.3 | 2540.2 | 2548.6 | 2559.0 | 2569.4 | 2571.5 |
| 37.5° | 8613.9 | 7125.2 | 3924.9 | 2650.6 | 2517.3 | 2492.4 | 2488.2 | 2486.1 | 2488.2 | 2488.2 | 2490.3 |
| 40° | 8909.6 | 7279.3 | 3504.3 | 2548.6 | 2469.5 | 2448.6 | 2438.2 | 2423.6 | 2421.6 | 2417.4 | 2415.3 |
| 42.5° | 9128.2 | 7398.0 | 3169.1 | 2475.7 | 2425.7 | 2400.7 | 2388.2 | 2365.3 | 2363.3 | 2361.2 | 2359.1 |
| 45° | 9292.7 | 7497.9 | 2890.1 | 2404.9 | 2379.9 | 2357.0 | 2329.9 | 2309.1 | 2313.3 | 2317.5 | 2317.5 |
| 47.5° | 9478.0 | 7585.3 | 2686.0 | 2338.3 | 2323.7 | 2300.8 | 2267.5 | 2252.9 | 2267.5 | 2282.1 | 2282.1 |
| 50° | 9702.9 | 7708.2 | 2519.4 | 2271.6 | 2265.4 | 2238.3 | 2209.2 | 2202.9 | 2219.6 | 2240.4 | 2240.4 |
| 52.5° | 9867.4 | 7814.4 | 2400.7 | 2205.0 | 2205.0 | 2169.6 | 2144.6 | 2142.6 | 2161.3 | 2182.1 | 2184.2 |
| 55° | 10175.6 | 8062.2 | 2359.1 | 2128.0 | 2119.6 | 2092.6 | 2073.8 | 2059.3 | 2082.2 | 2100.9 | 2100.9 |
| 57.5° | 10523.3 | 8391.1 | 2369.5 | 2017.6 | 2007.2 | 1998.9 | 1984.3 | 1967.7 | 1973.9 | 1994.7 | 1996.8 |
| 60° | 9786.2 | 7754.0 | 2255.0 | 1907.3 | 1901.0 | 1896.9 | 1878.1 | 1849.0 | 1857.3 | 1874.0 | 1876.0 |
| 62.5° | 6835.8 | 5153.4 | 1824.0 | 1769.8 | 1790.7 | 1788.6 | 1763.6 | 1730.3 | 1732.4 | 1755.3 | 1755.3 |
| 65° | 3548.0 | 2788.0 | 1601.2 | 1644.9 | 1676.1 | 1663.7 | 1622.0 | 1592.9 | 1588.7 | 1617.8 | 1611.6 |
| 67.5° | 1530.4 | 1522.1 | 1457.5 | 1513.7 | 1547.1 | 1520.0 | 1476.3 | 1428.4 | 1432.5 | 1442.9 | 1434.6 |
| 70° | 1232.6 | 1270.1 | 1297.2 | 1357.6 | 1384.6 | 1334.7 | 1286.8 | 1259.7 | 1236.8 | 1234.7 | 1220.2 |
| 72.5° | 984.9 | 1036.9 | 1097.3 | 1159.8 | 1168.1 | 1118.1 | 1057.7 | 1032.8 | 997.4 | 995.3 | 980.7 |
| 75° | 741.3 | 785.0 | 832.9 | 882.8 | 882.8 | 835.0 | 795.4 | 782.9 | 741.3 | 728.8 | 716.3 |
| 77.5° | 506.0 | 533.0 | 570.5 | 583.0 | 595.5 | 576.8 | 537.2 | 516.4 | 468.5 | 456.0 | 439.3 |
| 80° | 318.6 | 337.3 | 360.2 | 368.5 | 381.0 | 358.1 | 326.9 | 304.0 | 270.7 | 260.3 | 251.9 |
| 82.5° | 191.6 | 204.1 | 218.6 | 222.8 | 233.2 | 216.5 | 187.4 | 170.7 | 152.0 | 143.7 | 137.4 |
| 85° | 97.9 | 104.1 | 112.4 | 114.5 | 112.4 | 95.8 | 85.4 | 77.0 | 64.5 | 62.5 | 58.3 |
| 87.5° | 25.0 | 29.2 | 31.2 | 29.2 | 27.1 | 20.8 | 14.6 | 10.4 | 4.2 | 4.2 | 2.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

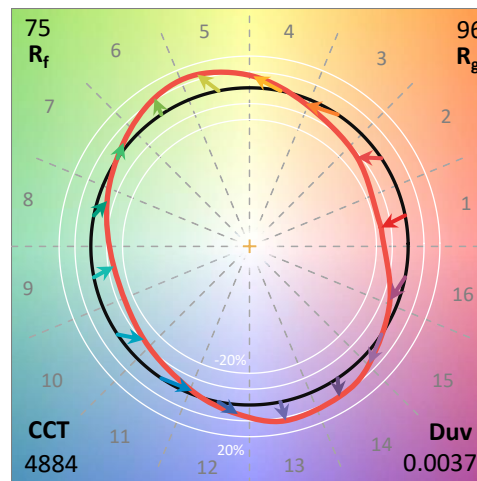
Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-4-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-750-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 4884 | CRI (Ra): | 73.5 | R9: | -28.4 |
| CIE u': | 0.2101 | R1: | 70.5 | R10: | 48.6 |
| CIE v': | 0.4904 | R2: | 77.7 | R11: | 73.2 |
| Duv: | 0.0037 | R3: | 84.6 | R12: | 50.7 |
| CIE x: | 0.3493 | R4: | 74.7 | R13: | 71.2 |
| CIE y: | 0.3624 | R5: | 71.9 | R14: | 91.4 |
| CIE z: | 0.2884 | R6: | 70.7 | | |
| Peak Wavelength (nm): | 444 | R7: | 81.2 | | |
| Dominant Wavelength (nm): | 571 | R8: | 56.9 | | |
| Purity: | 13.7 | | | | |
| Rf: | 74.9 | | | | |
| Rg: | 96.3 | | | | |



Test Conditions

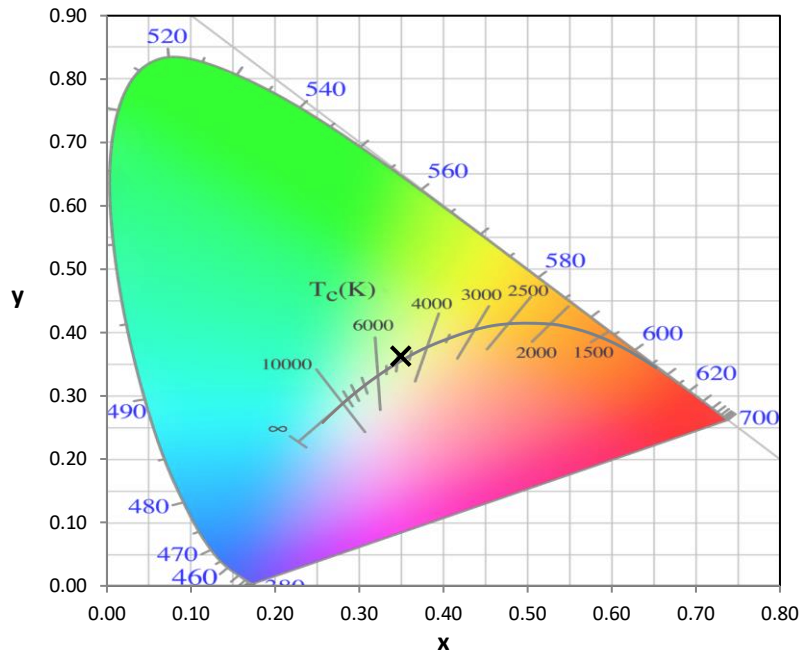
Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

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| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

REPORT NUMBER: SP1-1908-441-4-R4

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13493.5 S/P: 1.77

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5378.9 M/P: 0.71

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

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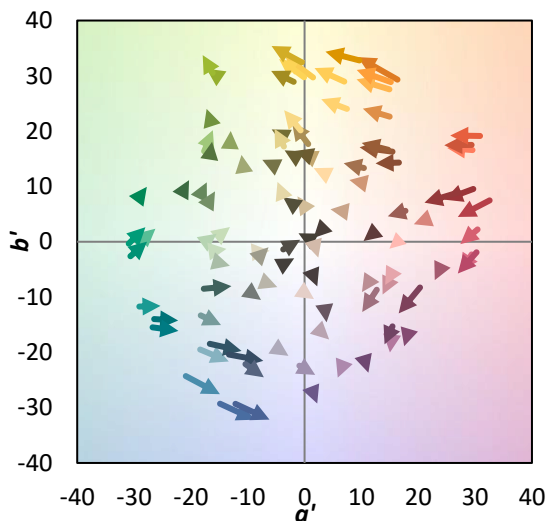
TM-30-18

Summary

$R_f = 74.9$
 $R_g = 96.3$
 CIE $R_a = 73.5$
 $R_g = -28.4$



Color Vector Graphics



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

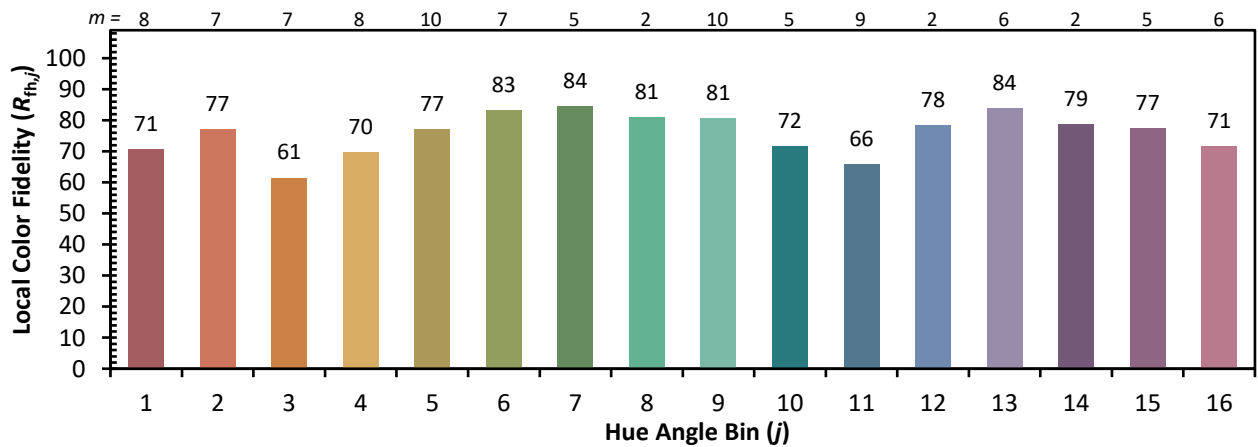
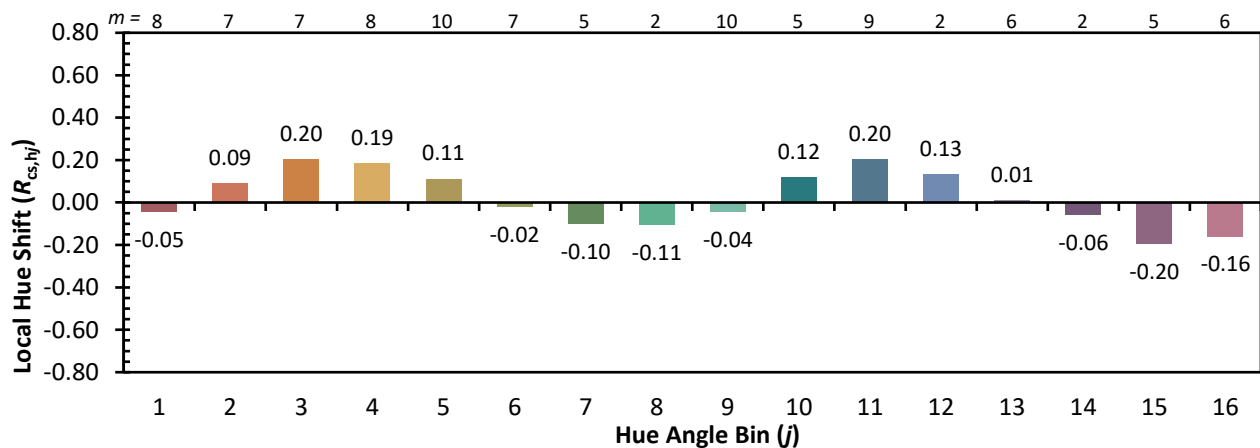
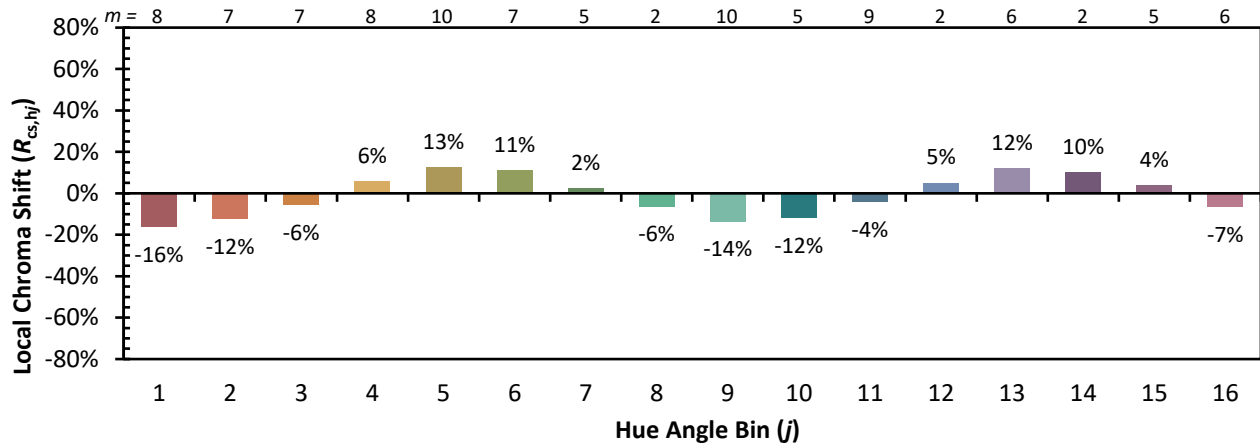
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)