

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: P632371

Luminaire Tested: GWS-SA2C-750-U-SL3-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P632371
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-31)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2C-750-U-SL3-W
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS
Light Source: (32) 5000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9276.3 lumens
Efficiency: N/A
Efficacy: 146.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G2

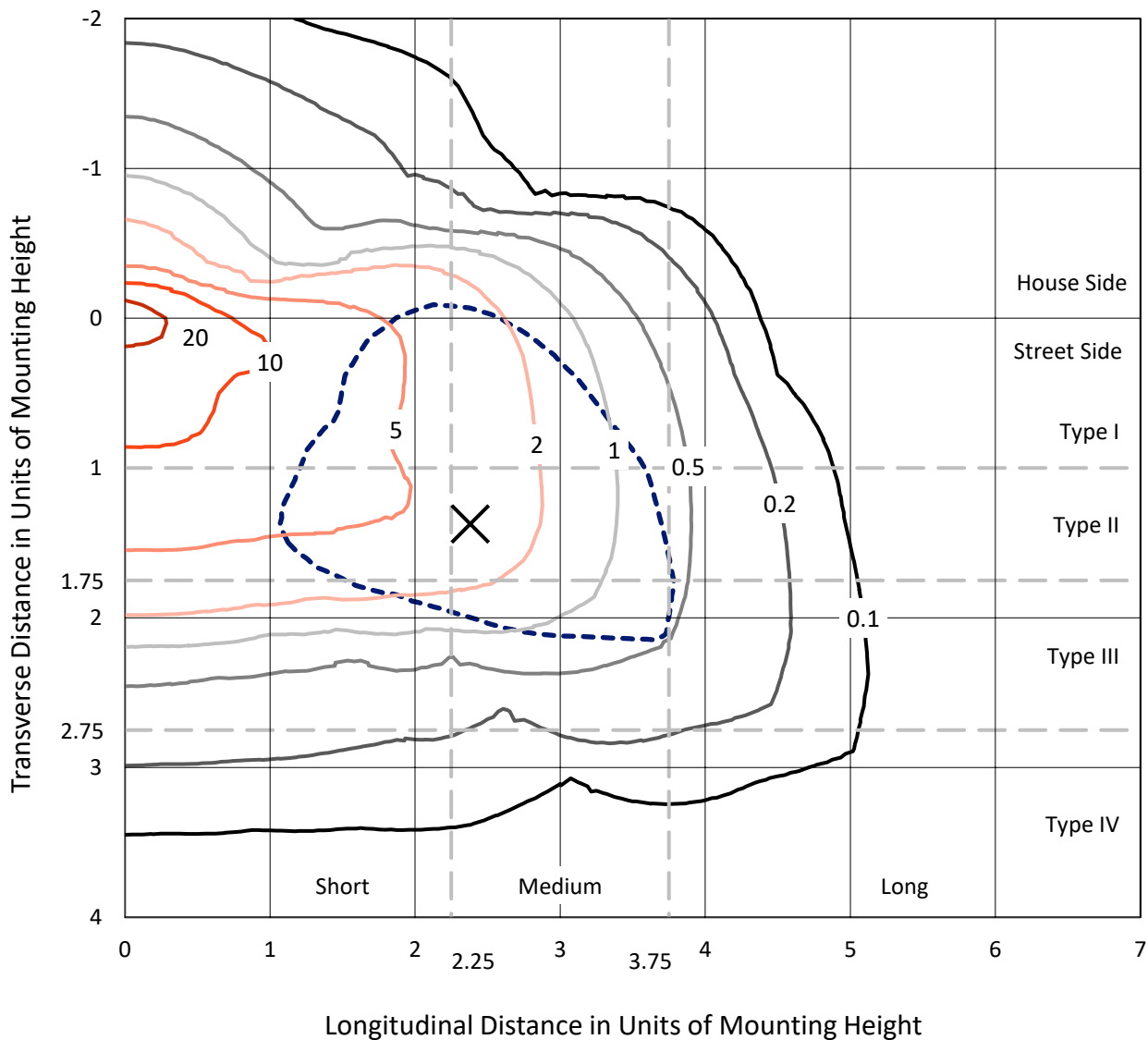
Input Watts (W): 63.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P632371
 CATALOG NUMBER: GWS-SA2C-750-U-SL3-W

Iso-Footcandle Lines of Horizontal Illumination

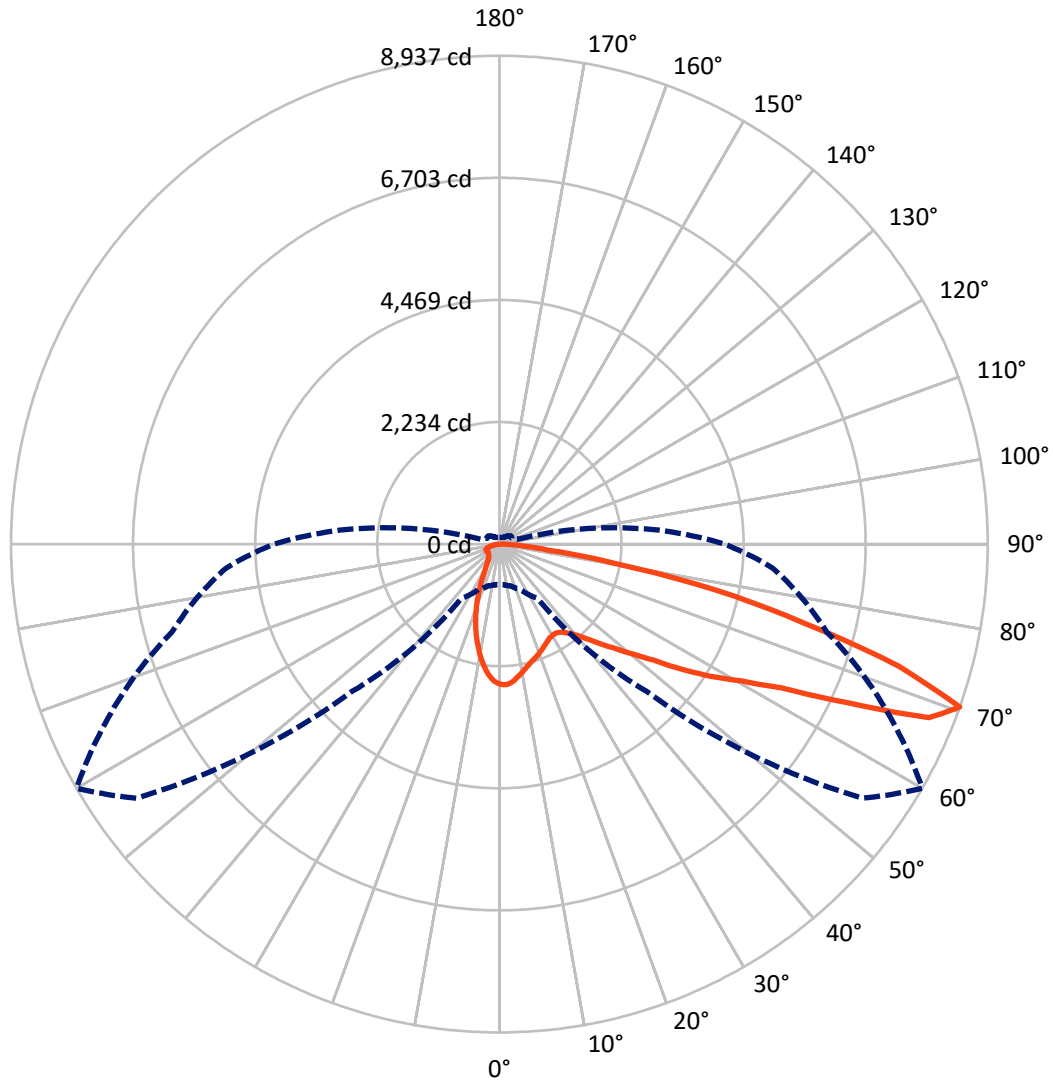
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 25.7 fc
 Type III - Medium - N/A

REPORT NUMBER: P632371
CATALOG NUMBER: GWS-SA2C-750-U-SL3-W

Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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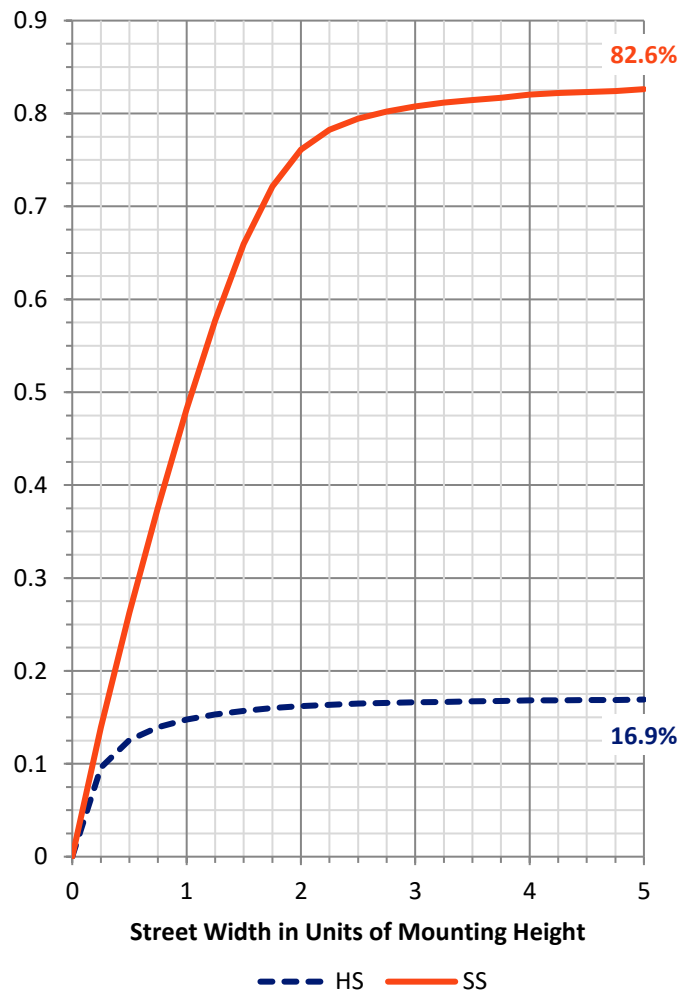
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1586.5 | 0.0 | 1586.5 |
| | % Fixture | 17.1 | 0.0 | 17.1 |
| Street Side | Lumens | 7689.8 | 0.0 | 7689.8 |
| | % Fixture | 82.9 | 0.0 | 82.9 |
| Total | Lumens | 9276.3 | 0.0 | 9276.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 221.3 | 2.4 |
| 10°-20° | 495.7 | 5.3 |
| 20°-30° | 634.8 | 6.8 |
| 30°-40° | 834.3 | 9.0 |
| 40°-50° | 1210.4 | 13.0 |
| 50°-60° | 1888.5 | 20.4 |
| 60°-70° | 2472.4 | 26.7 |
| 70°-80° | 1367.2 | 14.7 |
| 80°-90° | 151.7 | 1.6 |
| 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° | 9276.3 | 100.0 |
| 0°-180° | 9276.3 | 100.0 |

Coefficient of Utilization



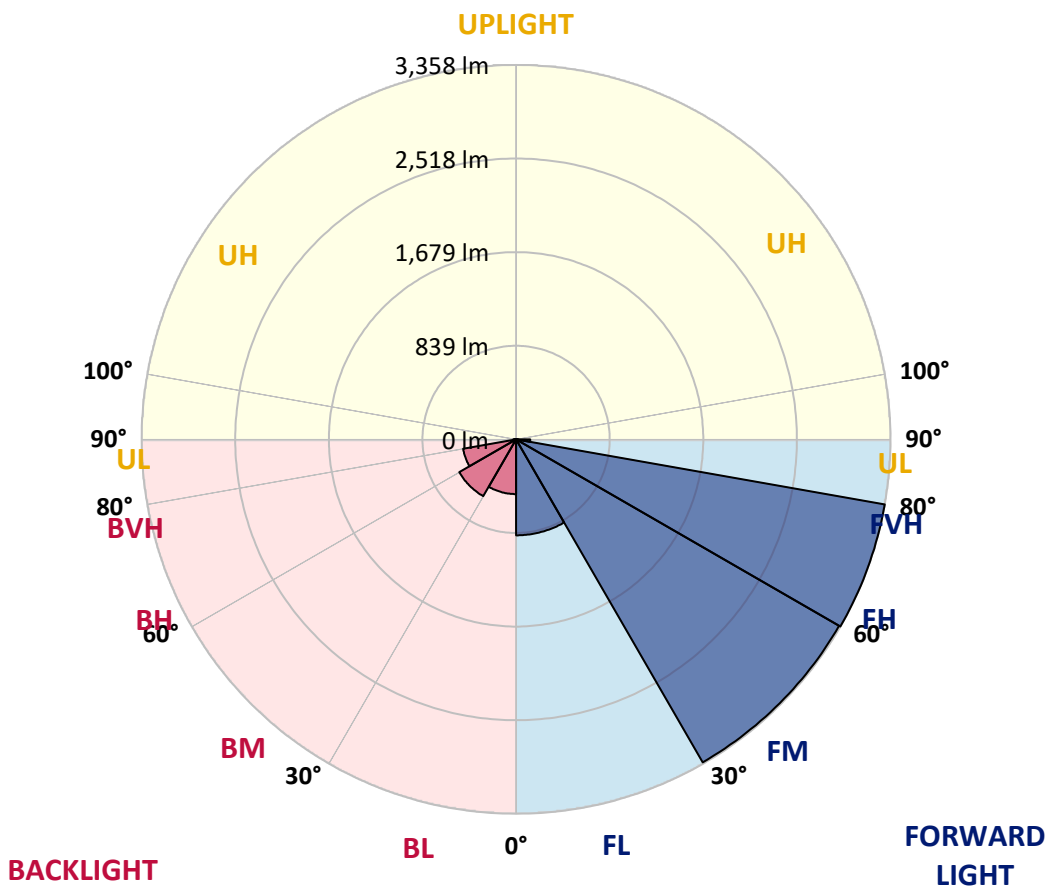
REPORT NUMBER: P632371

CATALOG NUMBER: GWS-SA2C-750-U-SL3-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 860.9 | 9.3 | | | |
| FM (30°-60°) | 3345.0 | 36.1 | | | |
| FH (60°-80°) | 3357.5 | 36.2 | | | G2/5000 |
| FVH (80°-90°) | 126.4 | 1.4 | | | G2/225 |
| BL (0°-30°) | 490.8 | 5.3 | B1/500 | | |
| BM (30°-60°) | 588.2 | 6.3 | B1/1000 | | |
| BH (60°-80°) | 482.1 | 5.2 | B1/500 | | G1/500 |
| BVH (80°-90°) | 25.3 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2
 Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 60° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 |
| 2.5° | 2530.9 | 2533.6 | 2541.1 | 2551.9 | 2562.8 | 2568.2 | 2581.8 | 2577.7 | 2575.0 | 2569.6 | 2562.8 |
| 5° | 2418.9 | 2424.3 | 2431.1 | 2452.2 | 2475.9 | 2494.9 | 2525.5 | 2528.9 | 2530.2 | 2532.9 | 2522.1 |
| 7.5° | 2276.4 | 2277.7 | 2294.0 | 2321.9 | 2353.1 | 2385.7 | 2436.6 | 2450.8 | 2463.0 | 2476.6 | 2467.8 |
| 10° | 2118.9 | 2122.3 | 2134.5 | 2174.6 | 2228.2 | 2276.4 | 2344.9 | 2368.7 | 2394.5 | 2424.3 | 2412.1 |
| 12.5° | 1990.0 | 1990.6 | 2010.3 | 2053.1 | 2111.5 | 2176.6 | 2262.1 | 2290.6 | 2324.6 | 2371.4 | 2360.5 |
| 15° | 1887.5 | 1887.5 | 1905.8 | 1942.5 | 2009.7 | 2086.3 | 2188.2 | 2224.8 | 2271.0 | 2334.1 | 2315.1 |
| 17.5° | 1806.0 | 1806.7 | 1818.3 | 1856.9 | 1916.7 | 2001.5 | 2122.3 | 2171.9 | 2222.8 | 2306.2 | 2277.7 |
| 20° | 1763.3 | 1759.9 | 1761.9 | 1785.7 | 1836.6 | 1918.7 | 2056.5 | 2114.2 | 2182.7 | 2287.2 | 2243.8 |
| 22.5° | 1761.2 | 1755.1 | 1746.3 | 1748.4 | 1778.2 | 1846.1 | 1985.9 | 2055.8 | 2142.0 | 2271.6 | 2209.2 |
| 25° | 1795.9 | 1789.1 | 1773.5 | 1755.8 | 1753.1 | 1793.8 | 1919.4 | 1998.8 | 2099.9 | 2264.8 | 2175.9 |
| 27.5° | 1854.2 | 1849.5 | 1829.1 | 1802.6 | 1774.8 | 1773.5 | 1869.2 | 1952.0 | 2069.4 | 2271.6 | 2152.2 |
| 30° | 1931.6 | 1923.5 | 1910.6 | 1876.6 | 1834.5 | 1791.1 | 1849.5 | 1926.9 | 2049.0 | 2293.4 | 2142.0 |
| 32.5° | 2019.2 | 2014.4 | 2002.2 | 1968.3 | 1923.5 | 1854.2 | 1865.1 | 1932.3 | 2049.0 | 2331.4 | 2144.0 |
| 35° | 2112.1 | 2111.5 | 2111.5 | 2089.1 | 2039.5 | 1953.3 | 1926.9 | 1978.4 | 2080.2 | 2392.4 | 2165.8 |
| 37.5° | 2202.4 | 2201.7 | 2223.4 | 2231.6 | 2175.3 | 2082.3 | 2032.1 | 2070.7 | 2148.8 | 2482.7 | 2219.4 |
| 40° | 2275.7 | 2278.4 | 2325.9 | 2366.7 | 2335.4 | 2249.2 | 2178.7 | 2198.3 | 2260.1 | 2611.0 | 2313.0 |
| 42.5° | 2349.7 | 2357.2 | 2428.4 | 2500.4 | 2512.6 | 2437.9 | 2366.7 | 2378.2 | 2419.6 | 2780.7 | 2452.8 |
| 45° | 2430.5 | 2433.8 | 2533.6 | 2634.1 | 2693.1 | 2649.0 | 2590.6 | 2606.2 | 2615.7 | 2990.4 | 2661.2 |
| 47.5° | 2508.5 | 2517.3 | 2646.3 | 2784.1 | 2896.0 | 2892.0 | 2859.4 | 2854.6 | 2856.7 | 3245.6 | 2907.6 |
| 50° | 2615.1 | 2628.0 | 2779.3 | 2945.6 | 3109.8 | 3185.2 | 3194.7 | 3158.7 | 3143.8 | 3529.3 | 3214.4 |
| 52.5° | 2817.3 | 2817.3 | 2953.1 | 3116.6 | 3337.2 | 3523.9 | 3587.6 | 3528.6 | 3481.1 | 3829.3 | 3540.1 |
| 55° | 3070.5 | 3081.3 | 3189.2 | 3321.6 | 3601.2 | 3880.2 | 4096.0 | 4030.8 | 3896.5 | 4155.7 | 3881.5 |
| 57.5° | 3183.1 | 3196.7 | 3367.7 | 3573.4 | 3946.7 | 4285.4 | 4584.7 | 4561.6 | 4365.4 | 4495.1 | 4235.8 |
| 60° | 2979.5 | 3008.0 | 3243.5 | 3588.3 | 4259.6 | 4939.0 | 5150.0 | 5082.8 | 4802.5 | 4851.4 | 4620.0 |
| 62.5° | 2485.4 | 2516.6 | 2778.0 | 3259.2 | 4216.1 | 5645.5 | 6041.2 | 5793.4 | 5348.2 | 5301.4 | 5131.7 |
| 65° | 1483.0 | 1481.6 | 1795.9 | 2433.8 | 3680.6 | 5841.6 | 7451.5 | 6989.3 | 6191.2 | 5919.0 | 5658.4 |
| 67.5° | 942.7 | 940.7 | 1006.5 | 1289.5 | 2449.5 | 5361.1 | 8358.3 | 8478.4 | 7336.2 | 6373.1 | 5701.8 |
| 70° | 743.9 | 743.2 | 790.7 | 919.6 | 1211.5 | 3815.0 | 8105.8 | 8937.2 | 8027.8 | 6200.0 | 5020.4 |
| 72.5° | 542.3 | 543.6 | 616.9 | 770.3 | 934.6 | 1915.3 | 6563.8 | 7647.0 | 7383.7 | 5473.1 | 4075.6 |
| 75° | 389.6 | 391.6 | 435.7 | 589.8 | 862.0 | 1047.2 | 4364.8 | 5750.0 | 5617.7 | 4387.2 | 2803.7 |
| 77.5° | 247.7 | 250.4 | 289.1 | 413.3 | 696.4 | 845.7 | 2646.3 | 4059.4 | 3737.6 | 2471.9 | 997.0 |
| 80° | 151.4 | 160.2 | 192.8 | 308.1 | 556.5 | 634.6 | 1322.8 | 2138.6 | 1871.9 | 678.0 | 335.3 |
| 82.5° | 78.1 | 84.8 | 116.1 | 190.7 | 383.5 | 557.2 | 748.6 | 898.6 | 579.6 | 283.7 | 178.5 |
| 85° | 24.4 | 28.5 | 40.7 | 77.4 | 182.6 | 345.5 | 495.5 | 446.6 | 266.1 | 133.7 | 82.8 |
| 87.5° | 6.1 | 6.1 | 6.8 | 6.8 | 7.5 | 15.6 | 95.7 | 101.1 | 70.6 | 42.1 | 33.9 |
| 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: P632371
 CATALOG NUMBER: GWS-SA2C-750-U-SL3-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 | 2566.9 |
| 2.5° | 2549.2 | 2532.9 | 2526.1 | 2525.5 | 2508.5 | 2484.1 | 2467.8 | 2456.2 | 2449.5 | 2448.1 | 2448.1 |
| 5° | 2503.8 | 2482.7 | 2454.9 | 2433.8 | 2388.4 | 2342.2 | 2303.5 | 2281.8 | 2256.7 | 2253.3 | 2252.6 |
| 7.5° | 2443.3 | 2412.8 | 2359.9 | 2300.8 | 2221.4 | 2144.7 | 2079.6 | 2035.4 | 1991.3 | 1983.2 | 1980.5 |
| 10° | 2378.2 | 2336.8 | 2246.5 | 2142.7 | 2023.9 | 1909.2 | 1809.4 | 1731.4 | 1679.8 | 1643.2 | 1636.4 |
| 12.5° | 2313.7 | 2258.7 | 2126.4 | 1971.6 | 1808.8 | 1652.0 | 1502.0 | 1374.4 | 1282.1 | 1228.5 | 1219.0 |
| 15° | 2253.3 | 2176.6 | 1995.4 | 1797.9 | 1586.1 | 1371.7 | 1159.2 | 993.6 | 864.0 | 817.8 | 807.0 |
| 17.5° | 2198.3 | 2102.6 | 1868.5 | 1618.0 | 1354.0 | 1073.7 | 832.1 | 684.8 | 608.8 | 585.7 | 580.3 |
| 20° | 2143.4 | 2026.6 | 1739.5 | 1428.7 | 1107.7 | 793.4 | 608.1 | 538.9 | 510.4 | 501.6 | 498.9 |
| 22.5° | 2084.3 | 1943.1 | 1599.0 | 1242.0 | 858.6 | 593.9 | 497.5 | 467.0 | 458.1 | 458.8 | 458.1 |
| 25° | 2025.3 | 1858.3 | 1451.8 | 1039.1 | 639.3 | 481.9 | 434.4 | 422.8 | 424.9 | 431.0 | 432.3 |
| 27.5° | 1976.4 | 1783.0 | 1307.2 | 816.5 | 499.5 | 414.7 | 392.3 | 391.6 | 399.1 | 407.2 | 408.6 |
| 30° | 1941.1 | 1715.8 | 1164.7 | 627.8 | 411.3 | 368.5 | 359.7 | 363.8 | 372.6 | 378.7 | 380.8 |
| 32.5° | 1916.0 | 1658.1 | 1012.6 | 493.4 | 360.4 | 336.0 | 331.9 | 336.0 | 341.4 | 347.5 | 348.9 |
| 35° | 1907.2 | 1616.0 | 863.3 | 402.5 | 325.8 | 312.2 | 309.5 | 311.5 | 314.2 | 317.6 | 319.0 |
| 37.5° | 1926.9 | 1595.0 | 707.2 | 350.2 | 304.7 | 296.6 | 292.5 | 291.2 | 291.8 | 293.2 | 293.9 |
| 40° | 1985.2 | 1604.5 | 579.6 | 319.7 | 291.2 | 283.7 | 276.9 | 274.2 | 273.5 | 274.9 | 274.2 |
| 42.5° | 2085.7 | 1644.5 | 487.3 | 302.0 | 280.3 | 269.4 | 262.0 | 259.3 | 259.3 | 262.7 | 262.7 |
| 45° | 2232.9 | 1723.2 | 420.8 | 289.1 | 270.8 | 257.2 | 249.1 | 247.7 | 250.4 | 255.9 | 256.6 |
| 47.5° | 2448.8 | 1838.6 | 380.8 | 279.6 | 262.0 | 246.4 | 238.2 | 237.5 | 243.0 | 251.8 | 252.5 |
| 50° | 2704.6 | 2004.9 | 359.0 | 272.8 | 255.9 | 237.5 | 229.4 | 230.1 | 236.2 | 245.7 | 247.7 |
| 52.5° | 3012.8 | 2231.6 | 360.4 | 270.1 | 252.5 | 232.1 | 224.0 | 222.6 | 228.7 | 238.2 | 240.3 |
| 55° | 3331.1 | 2507.1 | 386.9 | 270.8 | 247.7 | 229.4 | 218.5 | 213.8 | 219.2 | 226.0 | 226.7 |
| 57.5° | 3681.3 | 2818.0 | 452.7 | 269.4 | 241.6 | 226.7 | 213.8 | 202.9 | 206.3 | 210.4 | 212.4 |
| 60° | 4076.3 | 3183.8 | 594.5 | 272.2 | 238.9 | 220.6 | 204.3 | 190.0 | 189.4 | 192.1 | 192.8 |
| 62.5° | 4604.4 | 3681.3 | 754.0 | 276.9 | 245.0 | 213.1 | 190.0 | 175.1 | 172.4 | 173.7 | 174.4 |
| 65° | 5008.2 | 3918.9 | 703.8 | 272.8 | 257.9 | 207.7 | 176.5 | 160.9 | 155.4 | 154.1 | 154.1 |
| 67.5° | 4843.9 | 3604.6 | 490.0 | 262.0 | 264.0 | 208.4 | 165.6 | 145.9 | 139.1 | 135.7 | 135.1 |
| 70° | 4121.8 | 2927.9 | 340.7 | 251.1 | 257.2 | 207.0 | 154.1 | 133.7 | 124.9 | 120.1 | 119.5 |
| 72.5° | 3256.4 | 2235.7 | 275.6 | 229.4 | 233.5 | 186.6 | 137.1 | 120.1 | 112.7 | 106.6 | 106.6 |
| 75° | 2095.8 | 1364.2 | 230.1 | 204.3 | 190.7 | 145.2 | 118.8 | 107.2 | 99.8 | 93.7 | 93.7 |
| 77.5° | 705.2 | 506.3 | 178.5 | 173.1 | 142.5 | 109.3 | 99.8 | 92.3 | 86.2 | 80.8 | 80.1 |
| 80° | 286.4 | 240.3 | 131.0 | 131.0 | 99.8 | 83.5 | 78.1 | 74.7 | 70.6 | 63.8 | 63.8 |
| 82.5° | 166.3 | 145.9 | 91.6 | 79.4 | 66.5 | 57.7 | 54.3 | 50.9 | 50.9 | 46.2 | 46.2 |
| 85° | 80.1 | 80.8 | 55.0 | 48.9 | 38.0 | 33.3 | 31.9 | 29.9 | 29.2 | 26.5 | 25.8 |
| 87.5° | 43.4 | 44.1 | 27.8 | 21.7 | 14.9 | 12.9 | 10.9 | 10.2 | 9.5 | 8.8 | 8.8 |
| 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
 CIE u': 0.2101
 CIE v': 0.4904
 Duv: 0.0037
 CIE x: 0.3493
 CIE y: 0.3624
 CIE z: 0.2884
 Peak Wavelength (nm): 444
 Dominant Wavelength (nm): 571
 Purity: 13.7
 Rf: 74.9
 Rg: 96.3

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.5 | | |
| R1: | 70.5 | R9: | -28.4 |
| R2: | 77.7 | R10: | 48.6 |
| R3: | 84.6 | R11: | 73.2 |
| R4: | 74.7 | R12: | 50.7 |
| R5: | 71.9 | R13: | 71.2 |
| R6: | 70.7 | R14: | 91.4 |
| R7: | 81.2 | | |
| R8: | 56.9 | | |



Test Conditions

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

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

| 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 |

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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 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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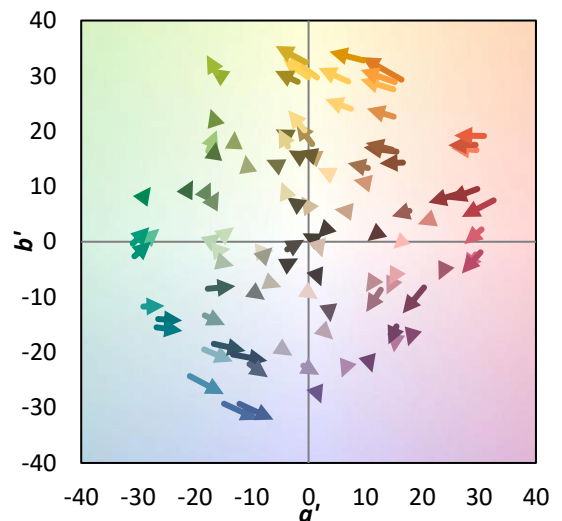
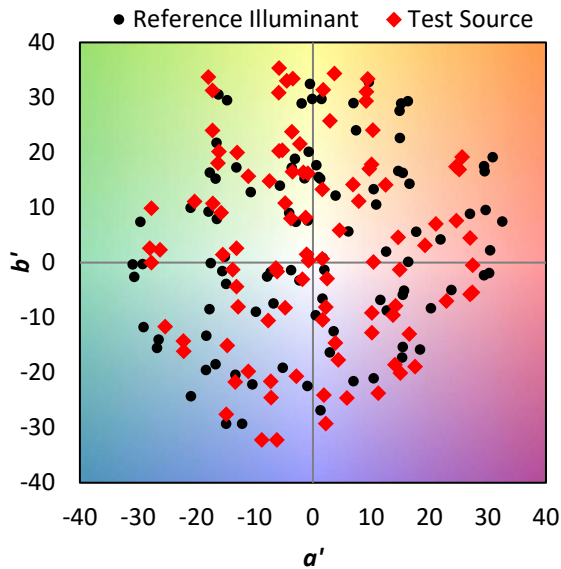
TM-30-18

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)