

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: P635514

Luminaire Tested: GWS-SA3D-830-U-SLR-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P635514
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-43)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3D-830-U-SLR-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (48) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10937.7 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G2

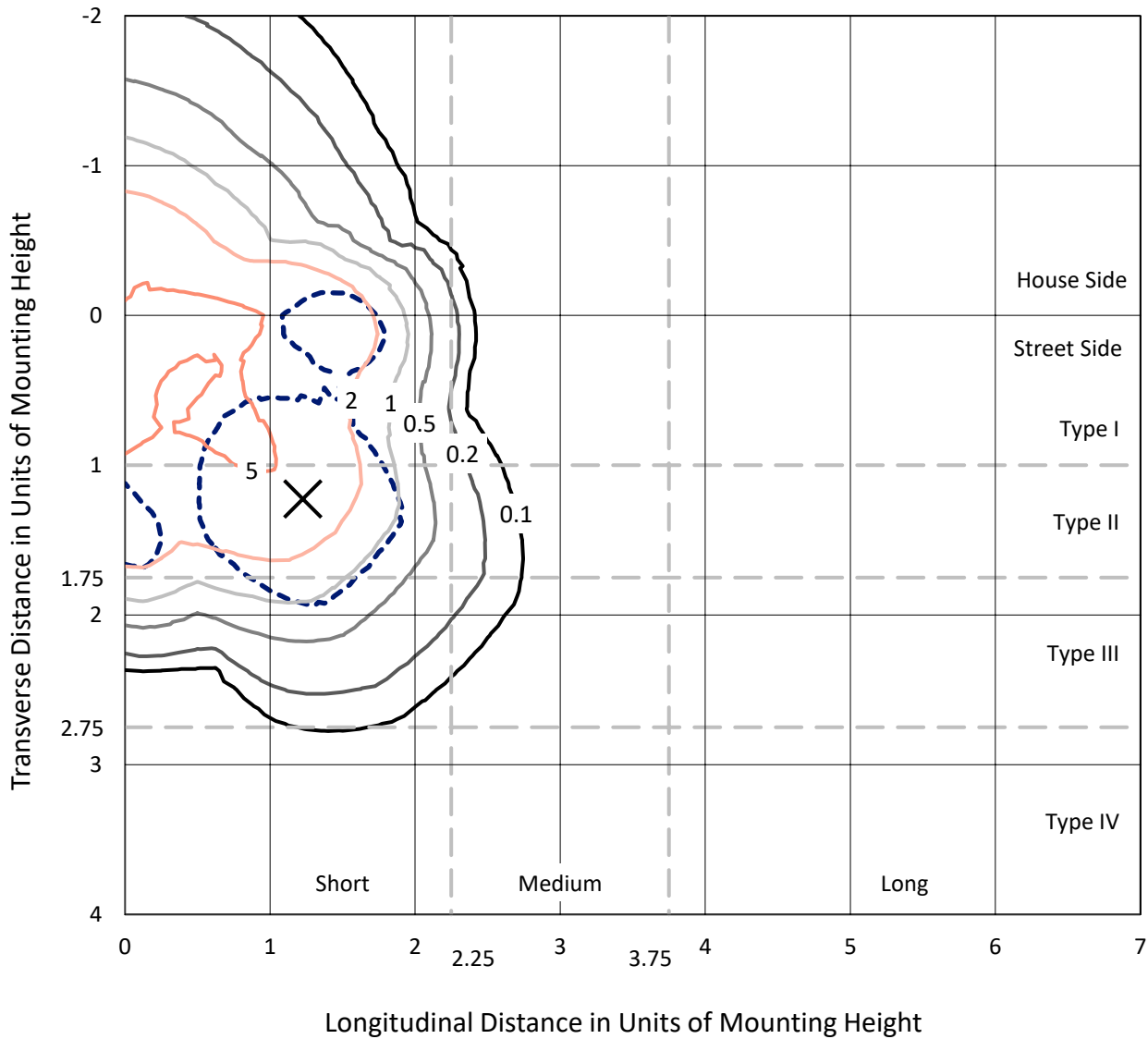
Input Watts (W): 120.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

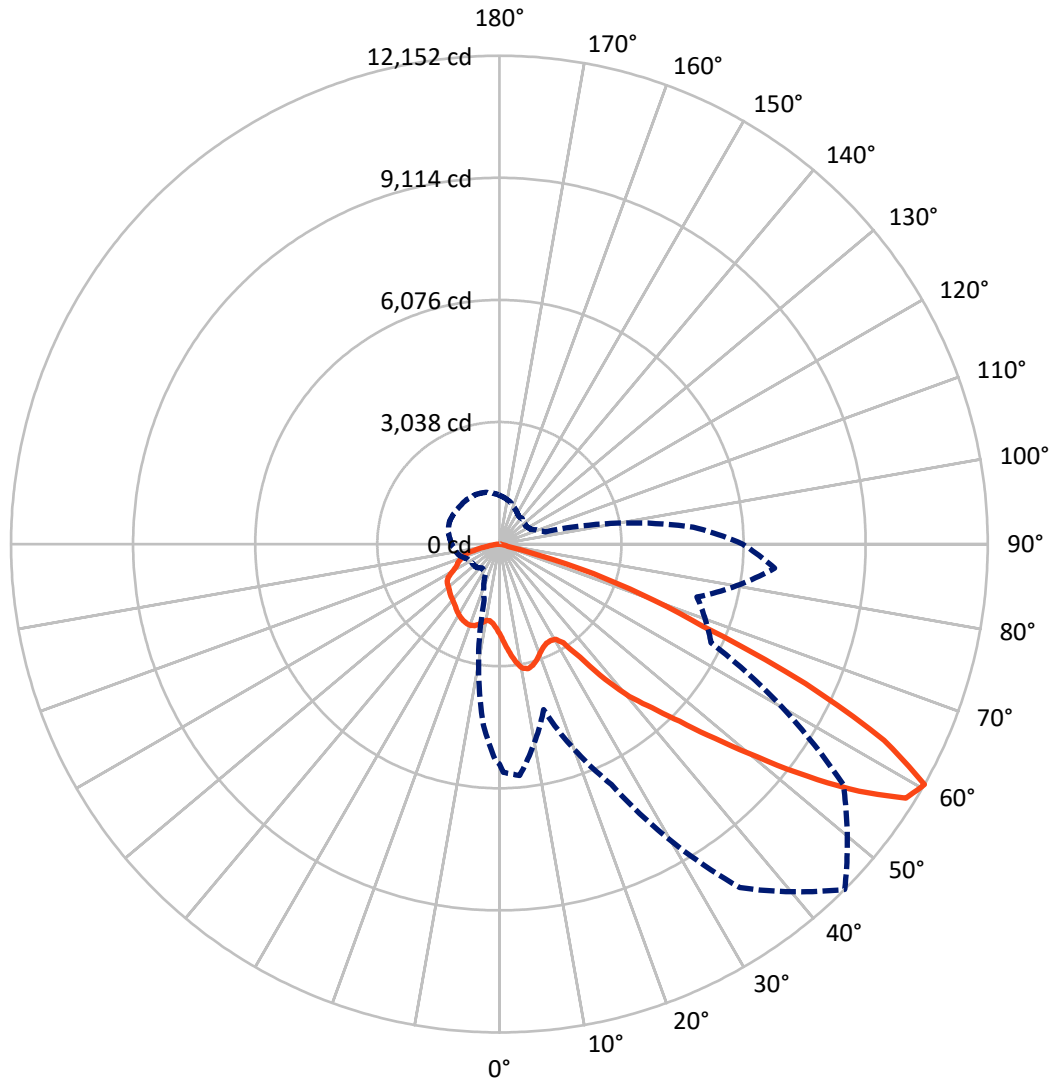
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.5 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3834.1	0.0	3834.1
	% Fixture	35.1	0.0	35.1
Street Side	Lumens	7103.6	0.0	7103.6
	% Fixture	64.9	0.0	64.9
Total	Lumens	10937.7	0.0	10937.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.2	2.0
10°-20°	692.7	6.3
20°-30°	1125.3	10.3
30°-40°	1587.0	14.5
40°-50°	2193.2	20.1
50°-60°	2823.3	25.8
60°-70°	1788.9	16.4
70°-80°	459.0	4.2
80°-90°	49.1	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°	10937.7	100.0
0°-180°	10937.7	100.0

Coefficient of Utilization



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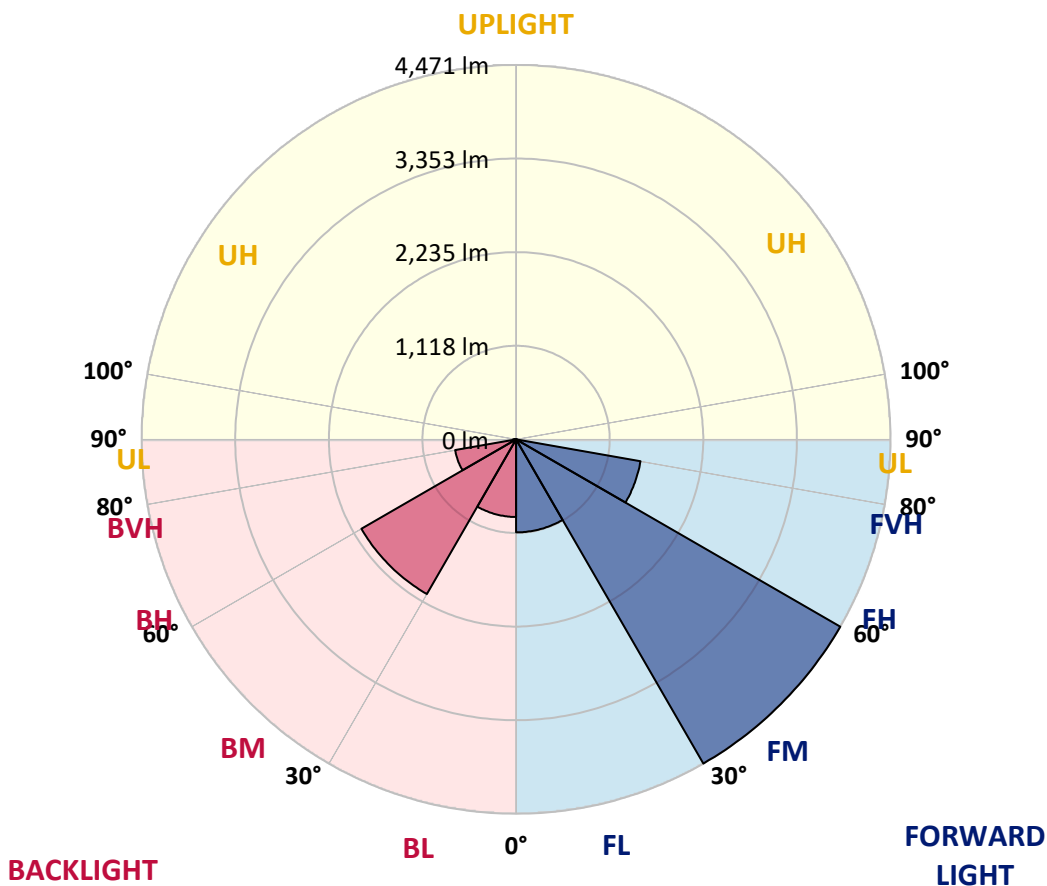
CATALOG NUMBER: GWS-SA3D-830-U-SLR-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1110.6	10.2			
FM (30°-60°)	4470.7	40.9			
FH (60°-80°)	1509.0	13.8			G1/1800
FVH (80°-90°)	13.3	0.1			G1/100
BL (0°-30°)	926.7	8.5	B2/1000		
BM (30°-60°)	2132.8	19.5	B2/2500		
BH (60°-80°)	738.9	6.8	B2/1000		G2/1000
BVH (80°-90°)	35.8	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9
2.5°	2350.2	2366.2	2376.2	2395.2	2429.3	2448.4	2469.4	2446.4	2452.4	2449.4	2412.3
5°	2489.5	2508.5	2534.6	2590.7	2653.8	2688.9	2722.0	2717.0	2685.9	2633.8	2596.7
7.5°	2619.7	2641.8	2686.9	2778.1	2871.3	2925.4	2965.5	2939.4	2913.4	2831.2	2738.0
10°	2722.0	2735.0	2796.1	2918.4	3026.6	3087.8	3136.9	3130.9	3094.8	3002.6	2877.3
12.5°	2818.2	2827.2	2893.3	3015.6	3112.8	3139.9	3180.0	3193.0	3181.0	3111.8	2988.5
15°	2921.4	2938.4	2999.6	3092.8	3136.9	3108.8	3122.8	3158.9	3193.0	3193.0	3079.7
17.5°	3017.6	3032.6	3094.8	3134.9	3092.8	3018.6	3022.6	3068.7	3149.9	3235.1	3162.9
20°	3102.8	3116.8	3178.0	3139.9	3006.6	2898.4	2895.3	2951.5	3082.8	3262.1	3252.1
22.5°	3196.0	3216.0	3267.2	3143.9	2926.4	2789.1	2788.1	2846.2	3023.6	3289.2	3354.4
25°	3328.3	3359.4	3385.4	3179.0	2883.3	2718.0	2731.0	2786.1	3004.6	3333.3	3505.7
27.5°	3524.7	3549.8	3547.8	3252.1	2881.3	2688.9	2716.0	2780.1	3038.7	3411.5	3665.0
30°	3737.2	3750.2	3729.2	3354.4	2927.4	2706.9	2747.0	2823.2	3124.8	3540.8	3899.5
32.5°	3972.7	3988.7	3948.7	3507.7	3034.7	2840.2	2928.4	2965.5	3246.1	3727.2	4148.1
35°	4243.3	4274.4	4191.2	3710.1	3350.3	3326.3	3454.6	3406.5	3503.7	3947.7	4413.7
37.5°	4527.9	4528.9	4409.7	4009.8	3969.7	4010.8	4267.4	4117.0	4049.9	4193.2	4684.3
40°	4769.5	4763.4	4580.0	4413.7	4508.9	4672.2	4981.9	4751.4	4575.0	4522.9	4908.8
42.5°	5011.0	4988.9	4803.5	4670.2	4880.7	5216.4	5566.2	5283.6	4911.8	4822.6	5130.2
45°	5319.7	5312.6	5089.2	4772.5	5216.4	5825.8	6289.8	5831.8	5111.2	4997.0	5499.1
47.5°	5817.7	5783.7	5367.8	4764.4	5531.1	6637.5	7223.8	6522.3	5250.5	5001.0	6094.4
50°	6304.8	6262.7	5700.5	4763.4	5855.8	7479.4	8326.2	7361.1	5392.8	5025.0	6699.7
52.5°	6796.9	6796.9	6246.7	4876.7	6196.6	8419.5	9600.0	8406.4	5635.3	5339.7	7444.3
55°	7089.5	7167.7	6861.0	5068.1	6595.5	9525.9	10859.8	9534.9	6010.2	5907.9	8131.8
57.5°	6717.7	6864.0	6819.9	4934.8	6831.0	10338.7	11928.1	10390.8	6195.6	5975.1	8028.6
60°	5474.0	5677.4	5778.7	4261.3	6598.5	10432.9	12151.6	10446.9	5812.7	5088.2	6877.1
62.5°	3639.0	3806.3	3960.7	3044.7	5712.5	9385.6	10747.6	9388.6	4854.6	3797.3	4764.4
65°	1784.9	1909.2	2075.5	1799.9	4462.8	7842.2	8379.4	7586.6	3511.7	2125.7	2430.3
67.5°	467.0	502.1	525.2	698.5	3197.0	5634.3	5465.0	5549.2	2255.9	694.5	635.4
70°	242.5	244.5	243.5	288.6	2160.7	3580.8	3766.3	3484.6	1574.5	290.6	250.5
72.5°	173.4	174.4	171.4	194.4	1043.3	2051.5	2125.7	2102.6	824.8	172.4	171.4
75°	113.2	114.3	112.2	114.3	157.3	233.5	215.5	226.5	137.3	109.2	109.2
77.5°	67.1	68.1	67.1	69.2	67.1	67.1	62.1	62.1	59.1	59.1	60.1
80°	45.1	45.1	44.1	46.1	42.1	42.1	40.1	39.1	36.1	35.1	35.1
82.5°	27.1	28.1	27.1	27.1	25.1	25.1	23.1	22.0	19.0	19.0	18.0
85°	14.0	14.0	13.0	13.0	11.0	10.0	8.0	8.0	6.0	5.0	5.0
87.5°	2.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9
2.5°	2402.3	2382.2	2352.2	2323.1	2296.0	2268.0	2235.9	2202.8	2174.8	2145.7	2130.7
5°	2547.6	2506.5	2428.3	2359.2	2297.0	2245.9	2190.8	2143.7	2099.6	2063.5	2045.5
7.5°	2678.9	2614.7	2496.5	2387.2	2303.0	2232.9	2156.7	2086.6	2027.4	1983.3	1966.3
10°	2800.1	2724.0	2568.6	2430.3	2332.1	2253.9	2160.7	2065.5	1987.4	1929.2	1915.2
12.5°	2898.4	2811.2	2625.8	2465.4	2349.1	2265.0	2182.8	2100.6	2023.4	1948.3	1936.2
15°	2985.5	2882.3	2668.8	2487.5	2343.1	2235.9	2166.7	2156.7	2156.7	2071.5	2047.5
17.5°	3060.7	2947.5	2703.9	2497.5	2305.1	2149.7	2107.6	2194.8	2293.0	2231.9	2177.8
20°	3146.9	3009.6	2733.0	2497.5	2234.9	2040.5	2036.5	2184.8	2330.1	2331.1	2274.0
22.5°	3234.1	3081.8	2767.1	2488.5	2138.7	1914.2	1988.4	2144.7	2274.0	2329.1	2290.0
25°	3375.4	3182.0	2821.2	2481.4	2026.4	1828.0	1945.3	2091.6	2200.8	2259.0	2233.9
27.5°	3554.8	3314.3	2903.4	2492.5	1915.2	1776.9	1899.2	2022.4	2121.6	2172.8	2154.7
30°	3755.2	3466.6	2991.6	2511.5	1835.0	1750.8	1844.0	1943.3	2031.5	2082.6	2074.5
32.5°	4010.8	3632.0	3067.7	2485.4	1789.9	1737.8	1785.9	1857.1	1942.3	1974.3	1981.3
35°	4316.5	3814.4	3125.9	2383.2	1748.8	1723.8	1722.8	1766.9	1827.0	1878.1	1883.1
37.5°	4598.1	4027.8	3190.0	2207.8	1674.7	1688.7	1648.6	1674.7	1733.8	1784.9	1805.0
40°	4876.7	4244.3	3279.2	1984.3	1577.5	1610.5	1563.4	1581.5	1628.6	1695.7	1727.8
42.5°	5147.3	4439.7	3373.4	1755.8	1480.2	1501.3	1466.2	1484.3	1533.4	1617.5	1653.6
45°	5441.9	4704.3	3446.6	1540.4	1396.1	1387.0	1359.0	1385.0	1459.2	1551.4	1594.5
47.5°	5999.1	5121.2	3494.7	1397.1	1351.0	1285.8	1253.7	1309.9	1394.1	1487.3	1539.4
50°	6679.6	5724.5	3480.6	1305.9	1311.9	1181.6	1170.6	1244.7	1334.9	1432.1	1489.3
52.5°	7218.8	6316.8	3321.3	1218.7	1235.7	1115.4	1083.4	1191.6	1277.8	1377.0	1436.1
55°	7630.7	6516.3	2832.2	1115.4	1111.4	1067.3	1000.2	1136.5	1220.7	1312.9	1377.0
57.5°	7295.0	6072.3	2099.6	973.1	949.1	972.1	907.0	1043.3	1150.5	1241.7	1298.8
60°	6054.3	4841.6	1169.6	861.9	793.7	849.9	839.8	945.1	1074.4	1170.6	1219.7
62.5°	4110.0	3224.1	693.5	681.5	643.4	723.6	776.7	845.9	973.1	1051.3	1097.4
65°	2048.5	1566.4	461.0	510.1	515.1	595.3	695.5	771.7	877.9	958.1	1004.2
67.5°	594.3	487.1	350.8	389.9	444.0	508.1	588.3	678.5	781.7	876.9	931.0
70°	256.6	259.6	278.6	324.7	377.8	444.0	524.1	612.3	699.5	772.7	813.8
72.5°	181.4	188.4	209.5	256.6	306.7	369.8	450.0	535.2	598.3	672.5	715.6
75°	116.3	121.3	138.3	174.4	211.5	272.6	348.8	426.9	492.1	545.2	586.3
77.5°	64.1	65.1	79.2	100.2	125.3	164.4	220.5	281.6	329.7	359.8	396.9
80°	37.1	37.1	44.1	57.1	72.2	96.2	127.3	157.3	186.4	205.5	223.5
82.5°	20.0	20.0	23.1	31.1	39.1	53.1	71.2	86.2	104.2	114.3	126.3
85°	6.0	6.0	8.0	11.0	14.0	20.0	28.1	36.1	44.1	51.1	58.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9
2.5°	2127.7	2113.6	2105.6	2095.6	2098.6	2089.6	2084.6	2087.6	2069.5	2087.6	2105.6
5°	2038.5	2018.4	2002.4	1989.4	1983.3	1971.3	1964.3	1964.3	1953.3	1971.3	1993.4
7.5°	1960.3	1944.3	1936.2	1928.2	1919.2	1908.2	1896.2	1892.1	1885.1	1904.2	1923.2
10°	1908.2	1910.2	1915.2	1926.2	1924.2	1917.2	1899.2	1889.1	1889.1	1911.2	1940.3
12.5°	1932.2	1953.3	1965.3	1985.4	1989.4	1983.3	1965.3	1957.3	1977.3	2010.4	2058.5
15°	2025.4	2039.5	2049.5	2065.5	2064.5	2059.5	2045.5	2051.5	2117.6	2181.8	2224.9
17.5°	2126.7	2110.6	2108.6	2118.6	2121.6	2115.6	2107.6	2134.7	2243.9	2304.0	2326.1
20°	2199.8	2144.7	2132.7	2136.7	2144.7	2141.7	2141.7	2185.8	2299.0	2327.1	2299.0
22.5°	2221.9	2143.7	2125.7	2126.7	2137.7	2138.7	2143.7	2189.8	2255.9	2256.9	2213.9
25°	2186.8	2111.6	2098.6	2100.6	2113.6	2112.6	2114.6	2140.7	2169.8	2157.7	2125.7
27.5°	2120.6	2055.5	2051.5	2062.5	2079.6	2070.5	2064.5	2071.5	2085.6	2070.5	2042.5
30°	2045.5	1990.4	1992.4	2013.4	2031.5	2016.4	2001.4	2005.4	2006.4	1990.4	1958.3
32.5°	1966.3	1925.2	1932.2	1954.3	1975.3	1959.3	1943.3	1941.3	1922.2	1903.2	1872.1
35°	1887.1	1871.1	1880.1	1898.2	1916.2	1903.2	1893.1	1887.1	1846.0	1818.0	1791.9
37.5°	1815.0	1827.0	1843.0	1854.1	1860.1	1859.1	1853.1	1839.0	1784.9	1751.8	1717.8
40°	1750.8	1787.9	1805.0	1810.0	1819.0	1817.0	1816.0	1795.9	1724.8	1689.7	1650.6
42.5°	1692.7	1744.8	1773.9	1778.9	1783.9	1784.9	1781.9	1752.8	1671.7	1630.6	1593.5
45°	1636.6	1704.7	1741.8	1736.8	1743.8	1743.8	1746.8	1708.7	1619.5	1577.5	1538.4
47.5°	1587.5	1667.7	1701.7	1695.7	1699.7	1702.7	1705.7	1661.6	1562.4	1522.3	1482.2
50°	1542.4	1627.6	1656.6	1658.6	1658.6	1665.7	1664.6	1621.6	1514.3	1471.2	1431.1
52.5°	1494.3	1586.5	1617.5	1630.6	1634.6	1637.6	1623.6	1573.4	1465.2	1413.1	1376.0
55°	1438.2	1544.4	1572.4	1589.5	1597.5	1595.5	1576.5	1525.3	1415.1	1363.0	1320.9
57.5°	1353.0	1454.2	1494.3	1502.3	1515.3	1507.3	1485.3	1442.2	1334.9	1282.8	1239.7
60°	1259.8	1332.9	1365.0	1372.0	1362.0	1365.0	1362.0	1320.9	1227.7	1186.6	1142.5
62.5°	1137.5	1202.6	1236.7	1245.7	1228.7	1239.7	1235.7	1184.6	1091.4	1048.3	1009.2
65°	1045.3	1116.4	1156.5	1161.5	1156.5	1161.5	1147.5	1085.4	997.2	953.1	913.0
67.5°	973.1	1046.3	1088.4	1102.4	1097.4	1096.4	1074.4	1002.2	911.0	862.9	811.8
70°	848.9	913.0	967.1	1001.2	1001.2	982.2	940.1	872.9	799.8	758.7	718.6
72.5°	751.6	832.8	885.9	921.0	928.0	917.0	857.9	786.7	702.5	661.4	619.4
75°	619.4	698.5	755.7	801.8	810.8	798.8	730.6	660.4	582.3	542.2	500.1
77.5°	413.9	461.0	507.1	549.2	540.2	548.2	502.1	449.0	400.9	370.8	351.8
80°	233.5	264.6	278.6	301.7	301.7	301.7	271.6	246.5	219.5	202.4	183.4
82.5°	132.3	152.3	158.3	177.4	182.4	183.4	163.4	147.3	130.3	121.3	108.2
85°	61.1	72.2	73.2	84.2	88.2	96.2	87.2	76.2	66.1	62.1	54.1
87.5°	2.0	6.0	8.0	15.0	20.0	23.1	25.1	25.1	21.0	19.0	16.0
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: P635514

CATALOG NUMBER: GWS-SA3D-830-U-SLR-W-GRSWH

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9	2246.9
2.5°	2127.7	2151.7	2179.8	2199.8	2235.9	2266.0	2297.0	2331.1	2356.2	2350.2
5°	2020.4	2060.5	2111.6	2158.7	2225.9	2294.0	2369.2	2446.4	2491.5	2489.5
7.5°	1960.3	2017.4	2079.6	2142.7	2221.9	2320.1	2435.3	2555.6	2616.7	2619.7
10°	1992.4	2053.5	2095.6	2148.7	2231.9	2355.2	2493.5	2637.8	2707.9	2722.0
12.5°	2093.6	2088.6	2085.6	2123.7	2223.9	2380.2	2549.6	2722.0	2801.1	2818.2
15°	2189.8	2086.6	2024.4	2050.5	2187.8	2396.3	2604.7	2814.2	2903.4	2921.4
17.5°	2207.8	2051.5	1936.2	1954.3	2130.7	2401.3	2657.8	2904.4	3000.6	3017.6
20°	2157.7	2006.4	1872.1	1847.0	2058.5	2388.2	2690.9	2979.5	3084.8	3102.8
22.5°	2094.6	1966.3	1824.0	1758.9	1970.3	2375.2	2728.0	3058.7	3180.0	3196.0
25°	2028.4	1915.2	1778.9	1679.7	1870.1	2367.2	2790.1	3162.9	3309.3	3328.3
27.5°	1958.3	1853.1	1739.8	1641.6	1777.9	2377.2	2878.3	3331.3	3497.7	3524.7
30°	1883.1	1790.9	1714.8	1628.6	1714.8	2386.2	2975.5	3503.7	3699.1	3737.2
32.5°	1805.0	1733.8	1688.7	1634.6	1675.7	2365.2	3060.7	3697.1	3939.6	3972.7
35°	1726.8	1675.7	1655.6	1645.6	1623.6	2288.0	3129.9	3892.5	4214.2	4243.3
37.5°	1653.6	1615.5	1609.5	1620.6	1543.4	2161.7	3210.0	4141.1	4483.8	4527.9
40°	1585.5	1550.4	1549.4	1547.4	1455.2	1989.4	3318.3	4393.6	4749.4	4769.5
42.5°	1522.3	1478.2	1486.3	1462.2	1383.0	1803.0	3420.5	4609.1	4997.0	5011.0
45°	1466.2	1408.1	1417.1	1387.0	1349.0	1607.5	3510.7	4863.7	5310.6	5319.7
47.5°	1412.1	1350.0	1324.9	1322.9	1342.9	1427.1	3598.9	5353.7	5801.7	5817.7
50°	1362.0	1294.8	1223.7	1267.8	1305.9	1291.8	3709.1	5878.9	6308.8	6304.8
52.5°	1313.9	1225.7	1124.5	1209.7	1209.7	1191.6	3678.1	6197.6	6727.7	6796.9
55°	1258.8	1114.4	1021.2	1112.4	1068.3	1101.4	3127.9	6301.8	6991.3	7089.5
57.5°	1149.5	977.1	896.0	945.1	878.9	1021.2	2246.9	5784.7	6543.3	6717.7
60°	1044.3	875.9	822.8	813.8	727.6	832.8	1456.2	4528.9	5385.8	5474.0
62.5°	921.0	788.7	743.6	674.5	585.3	606.3	881.9	2980.5	3618.9	3639.0
65°	827.8	714.6	628.4	546.2	479.0	440.0	521.1	1437.1	1809.0	1784.9
67.5°	710.6	612.3	530.2	471.0	415.9	366.8	346.8	426.9	483.1	467.0
70°	632.4	538.2	459.0	402.9	351.8	302.7	267.6	251.6	246.5	242.5
72.5°	545.2	463.0	380.8	326.7	278.6	233.5	201.4	182.4	177.4	173.4
75°	435.0	357.8	282.6	231.5	189.4	157.3	136.3	120.3	117.3	113.2
77.5°	287.6	229.5	168.4	137.3	112.2	95.2	81.2	71.2	69.2	67.1
80°	158.3	132.3	103.2	83.2	67.1	58.1	53.1	47.1	46.1	45.1
82.5°	94.2	79.2	59.1	47.1	39.1	35.1	32.1	29.1	28.1	27.1
85°	47.1	37.1	26.1	22.0	20.0	18.0	18.0	15.0	14.0	14.0
87.5°	12.0	10.0	6.0	5.0	5.0	5.0	4.0	3.0	3.0	2.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2408-195-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/07/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **GALN-SB1A-830-U-5WQ**
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

Spectral Parameters

CCT (K): 3050
 CIE u': 0.2476
 CIE v': 0.5251
 Duv: 0.0034
 CIE x: 0.4383
 CIE y: 0.4131
 CIE z: 0.1487
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 581
 Purity: 55.55201
 Rf: 81.5
 Rg: 99.2

CRI (Ra):	81.0		
R1:	79.6	R9:	7.1
R2:	85.6	R10:	67.0
R3:	92.0	R11:	82.7
R4:	82.6	R12:	63.2
R5:	78.9	R13:	80.3
R6:	81.7	R14:	95.0
R7:	85.2	R15:	71.7
R8:	62.0		



Test Conditions

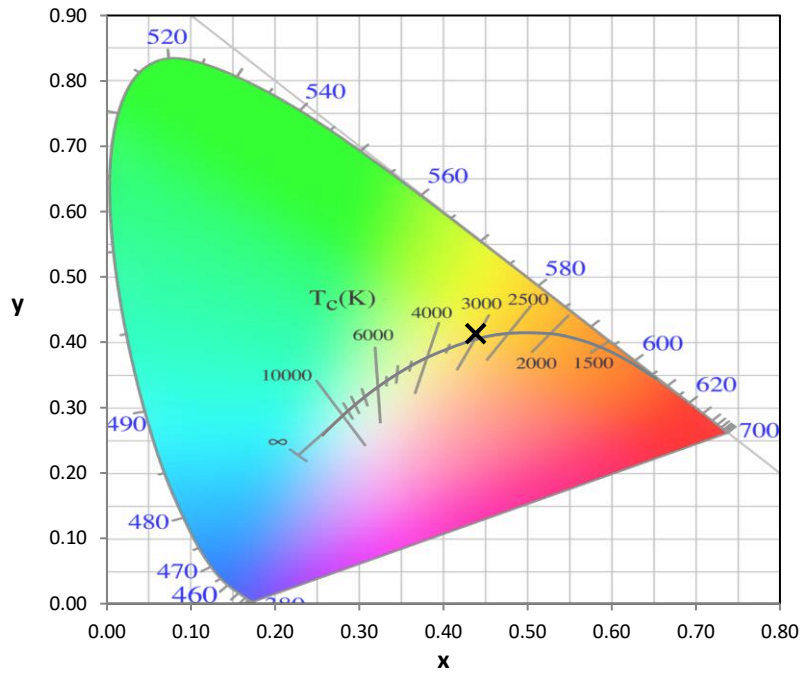
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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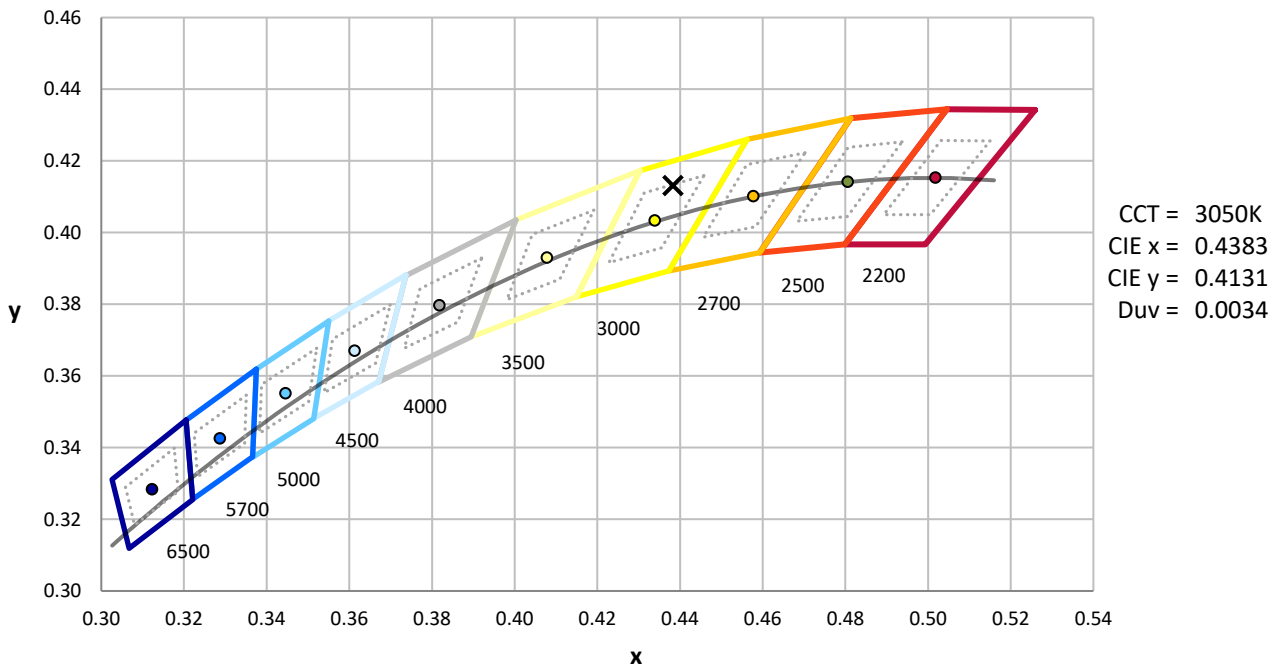
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



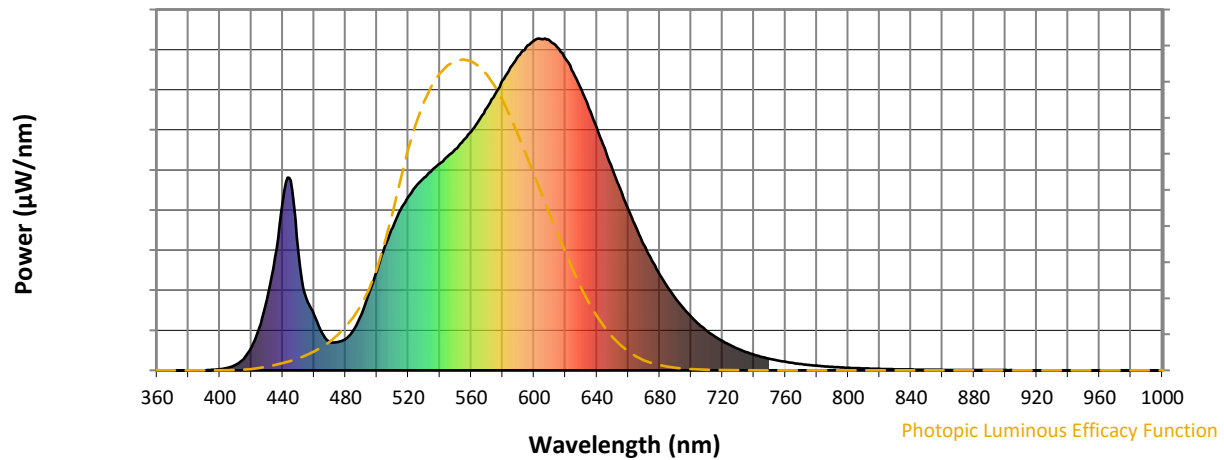
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

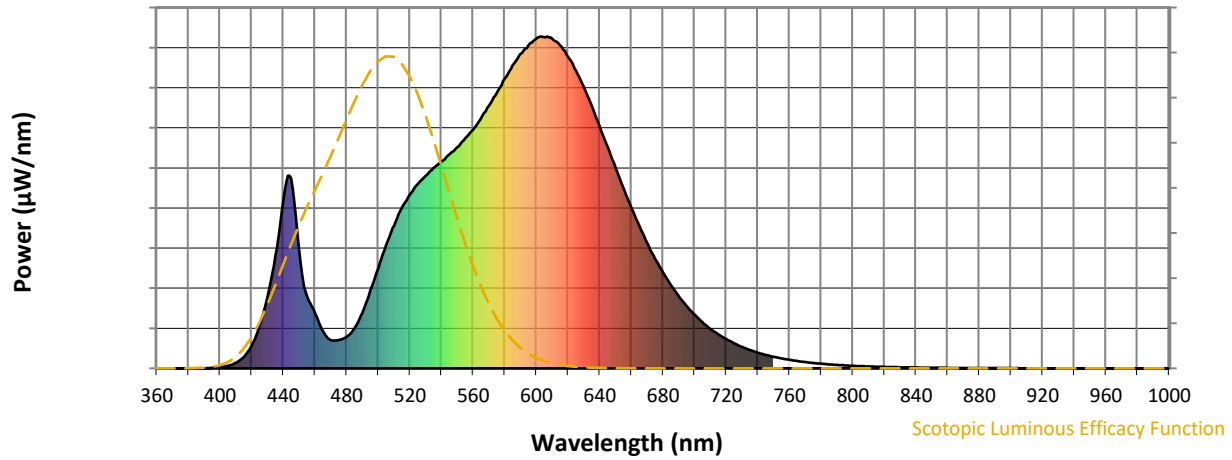


Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength



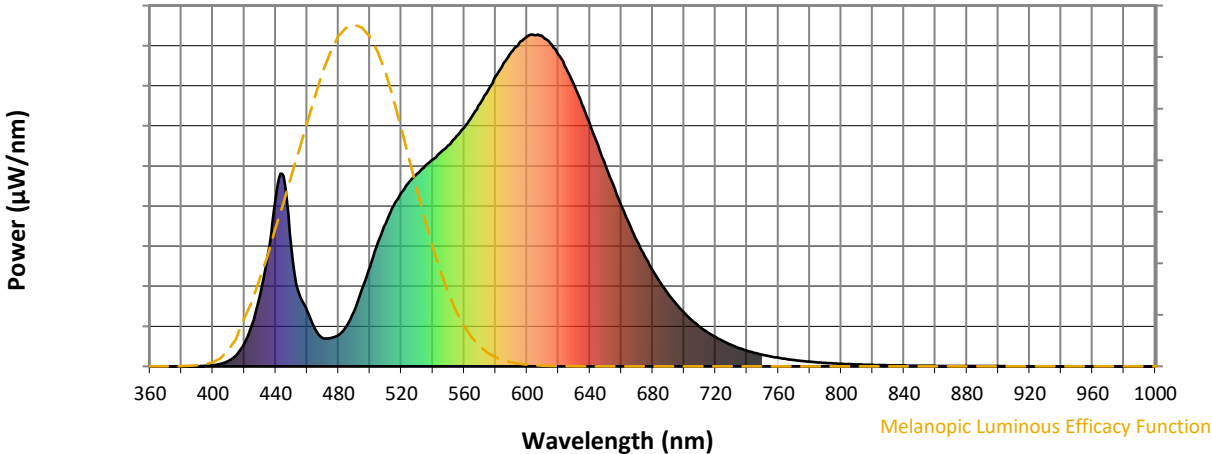
Scotopic Lumens: NR

S/P: 1.27

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

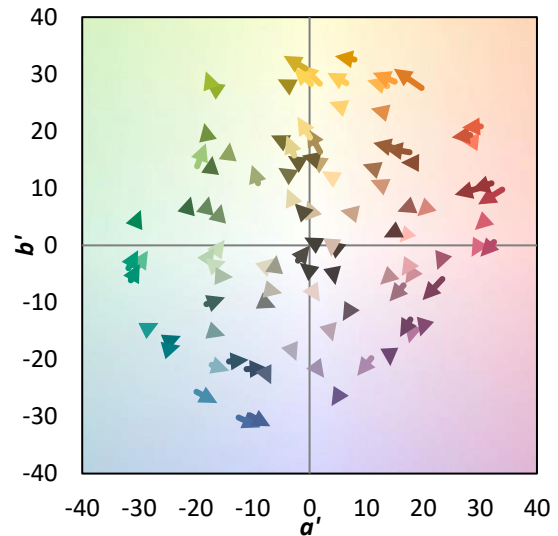
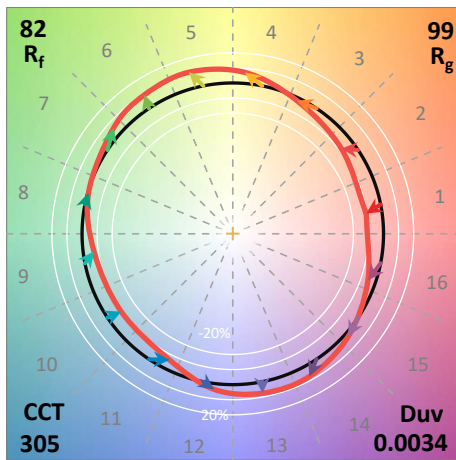
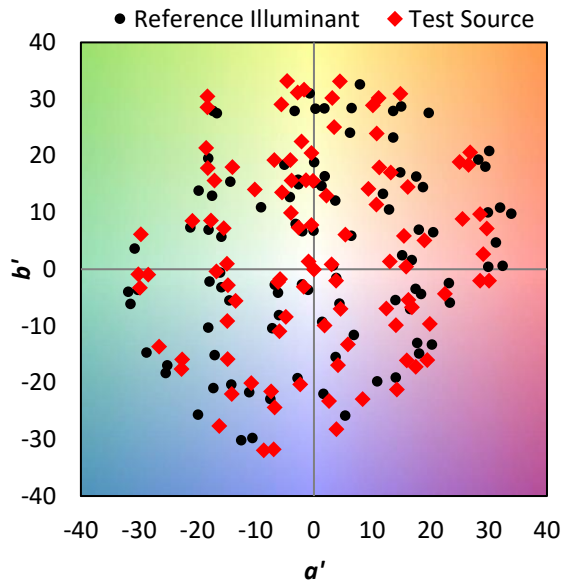
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

Summary

$R_f = 81.5$
 $R_g = 99.2$
 $CIE R_a = 81.0$
 $R_9 = 7.1$

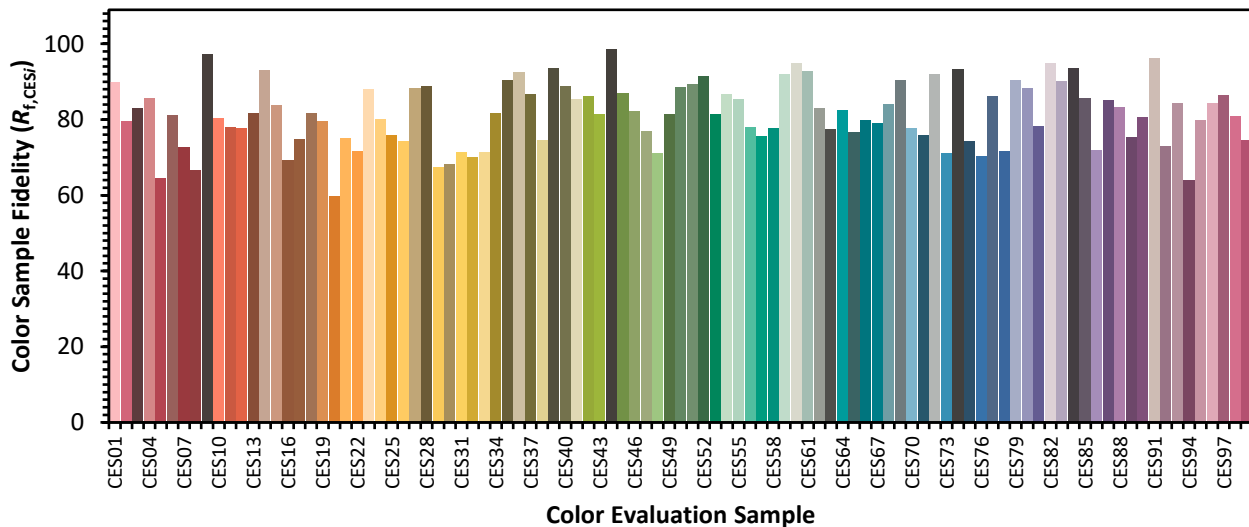


Color Vector Graphics

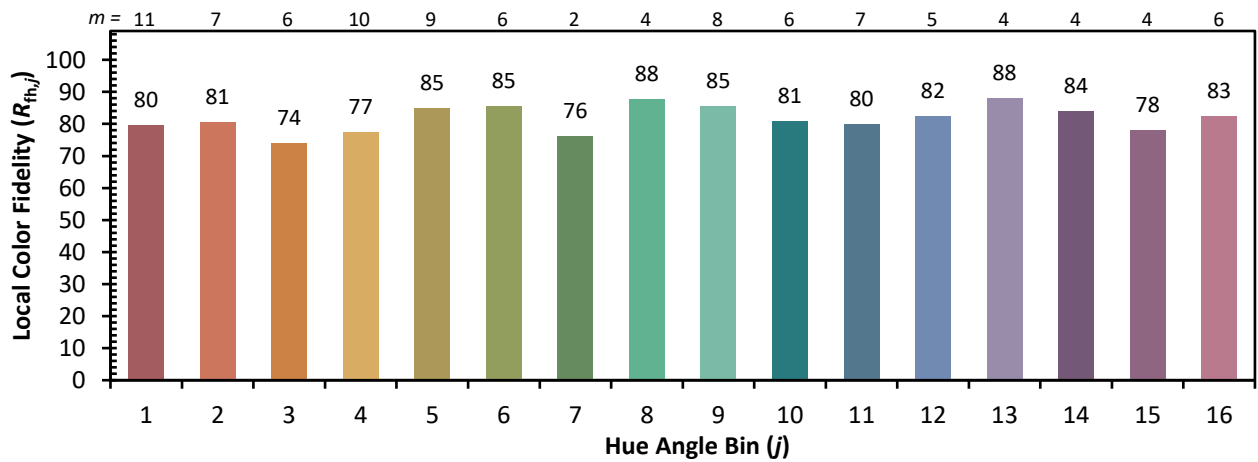
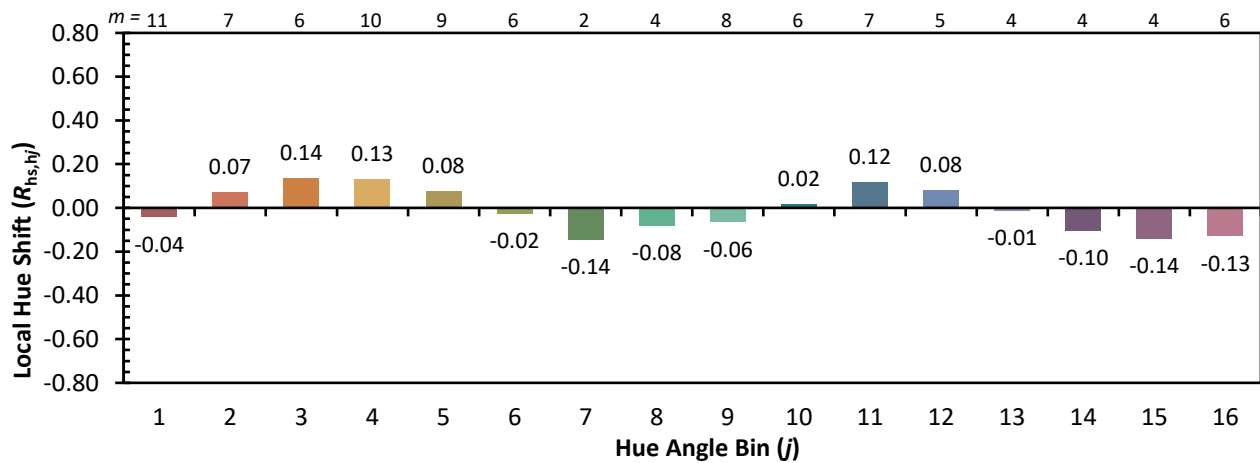
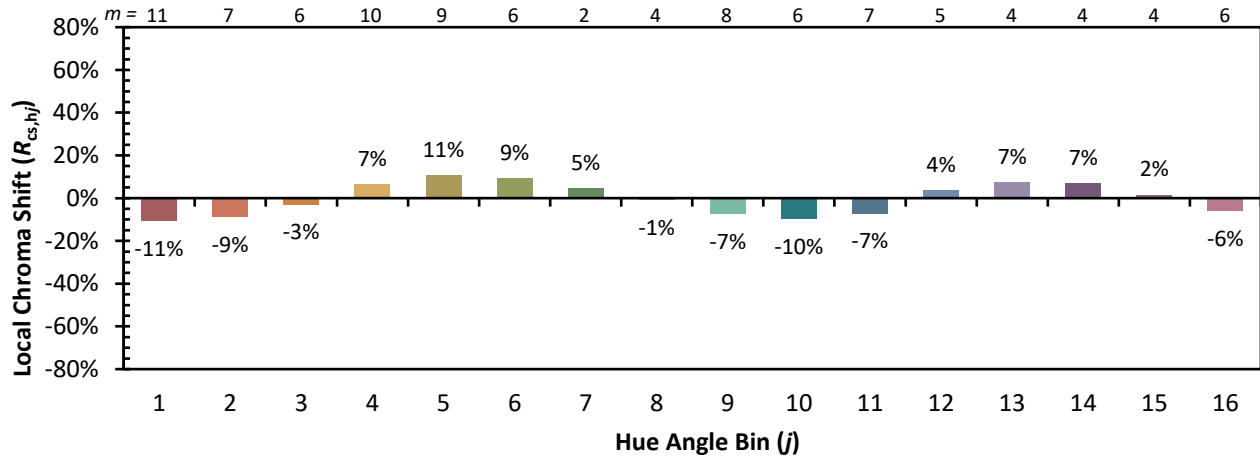


Individual Sample Fidelity Index ($R_{f,i}$)

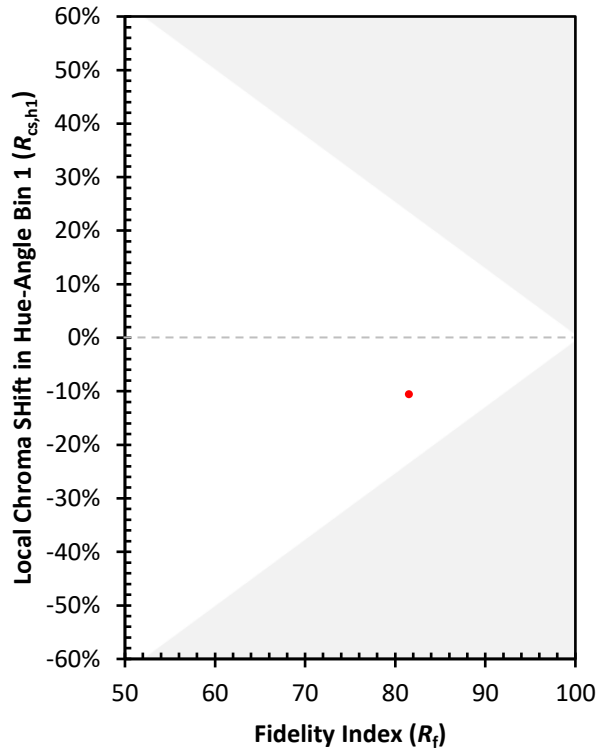
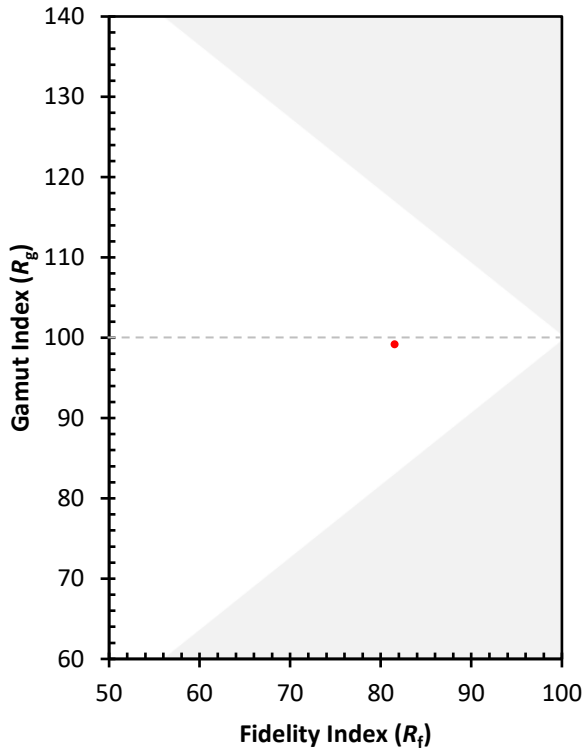
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
CES25 = 72	CES50 = 89	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)