

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: P637496

Luminaire Tested: GWS-SA4C-830-U-SLR-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P637496
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-41)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4C-830-U-SLR-W
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14600.7 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

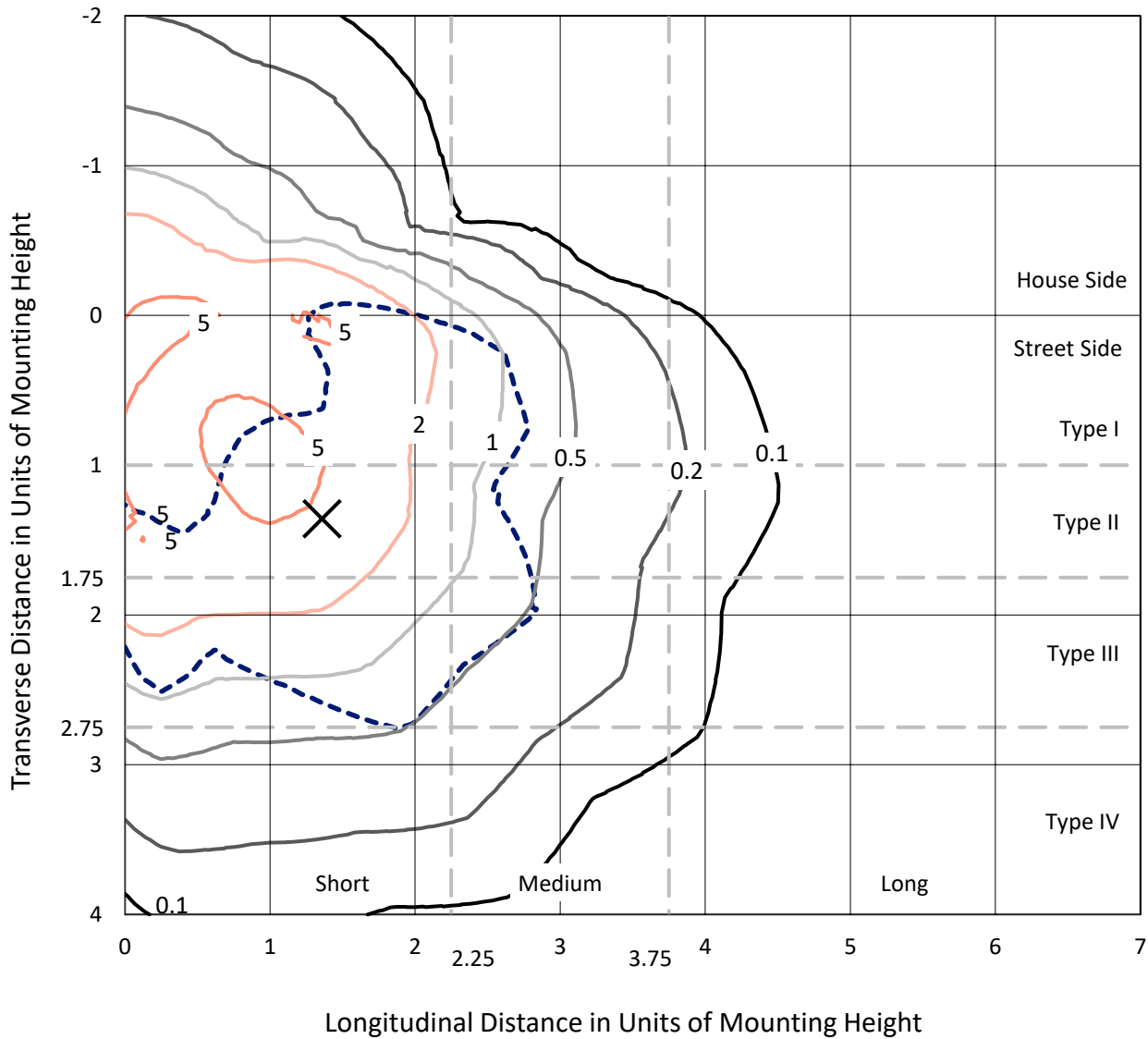
Input Watts (W): 128.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

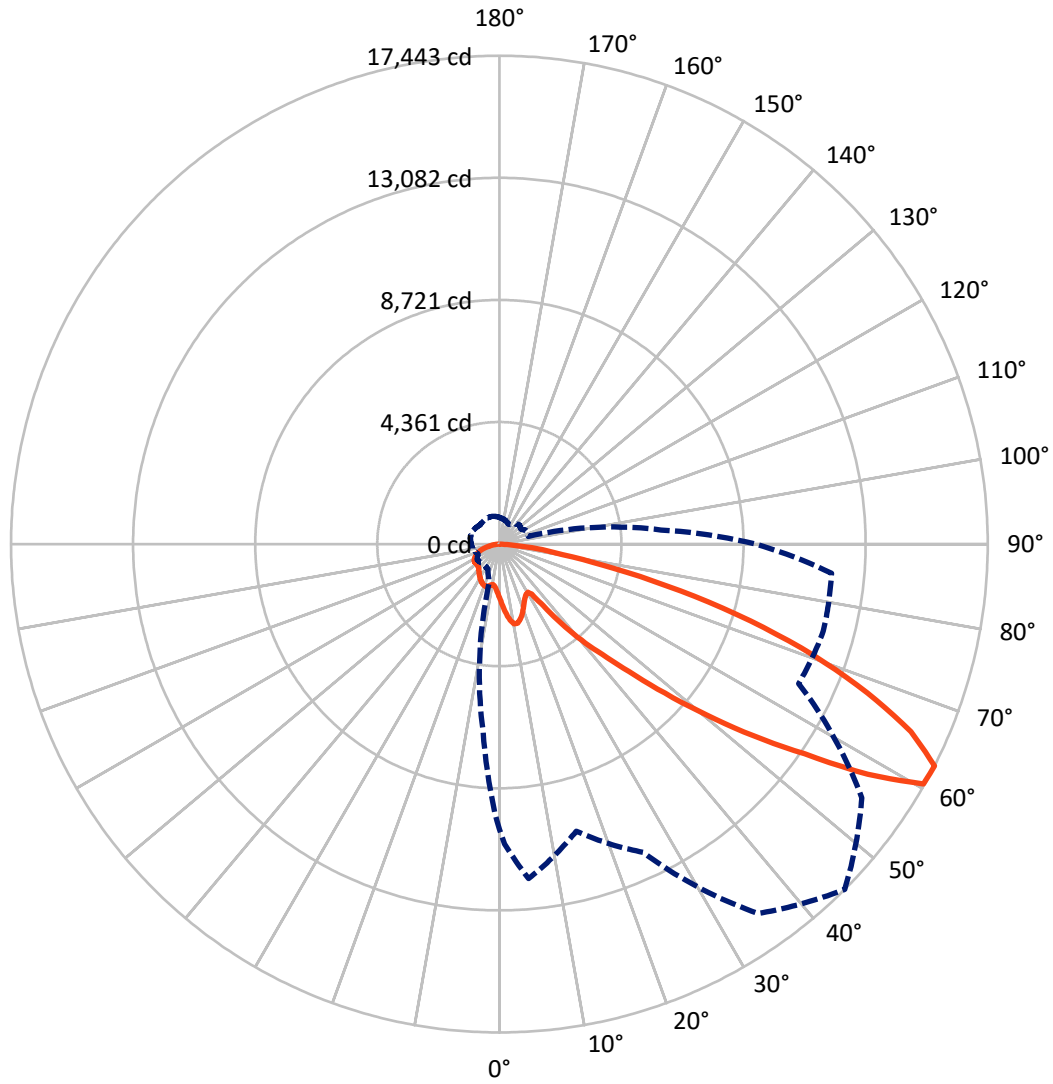
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.9 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3484.0	0.0	3484.0
	% Fixture	23.9	0.0	23.9
Street Side	Lumens	11116.7	0.0	11116.7
	% Fixture	76.1	0.0	76.1
Total	Lumens	14600.7	0.0	14600.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.3	1.3
10°-20°	593.3	4.1
20°-30°	921.5	6.3
30°-40°	1251.1	8.6
40°-50°	1982.9	13.6
50°-60°	3497.9	24.0
60°-70°	3892.0	26.7
70°-80°	1973.9	13.5
80°-90°	298.9	2.0
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°	14600.7	100.0
0°-180°	14600.7	100.0

Coefficient of Utilization



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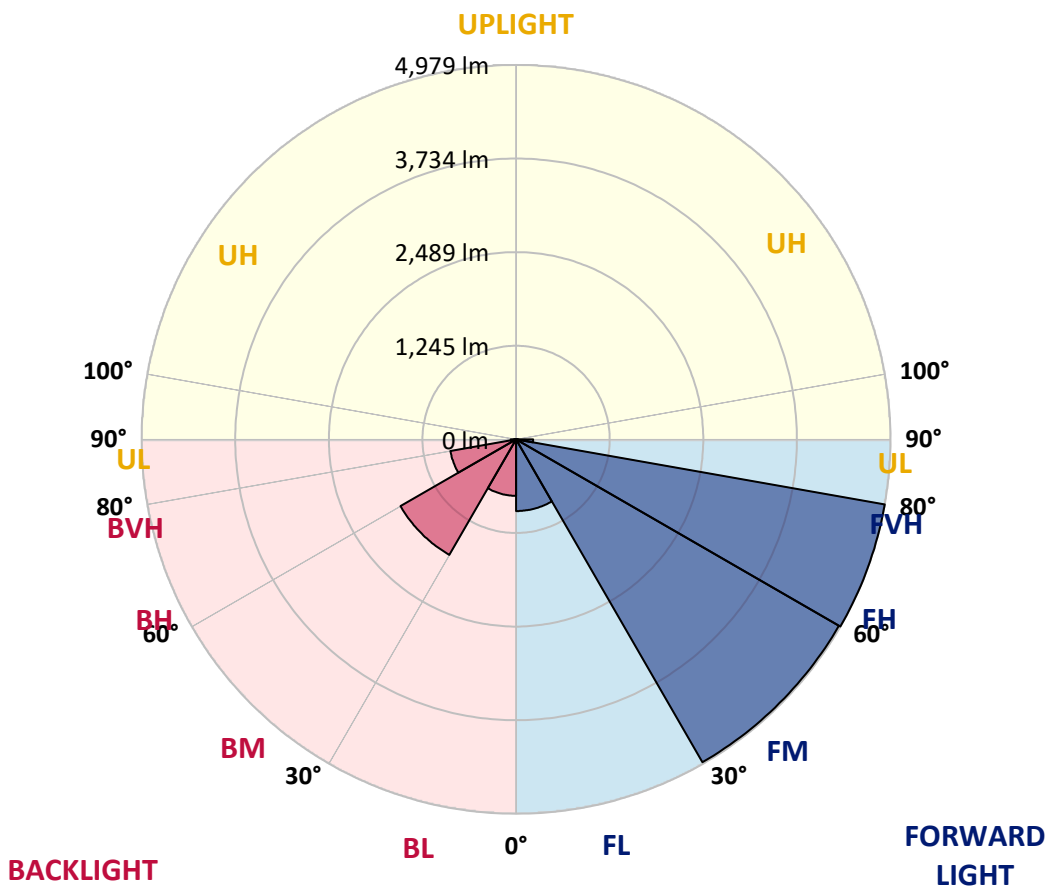
CATALOG NUMBER: GWS-SA4C-830-U-SLR-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	953.3	6.5			
FM (30°-60°)	4957.6	34.0			
FH (60°-80°)	4979.0	34.1			G2/5000
FVH (80°-90°)	226.9	1.6			G3/500
BL (0°-30°)	750.7	5.1	B2/1000		
BM (30°-60°)	1774.4	12.2	B2/2500		
BH (60°-80°)	886.8	6.1	B2/1000		G2/1000
BVH (80°-90°)	72.0	0.5			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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8
2.5°	2082.6	2081.5	2102.5	2134.6	2164.4	2177.7	2199.8	2197.6	2179.9	2156.7	2148.9
5°	2246.2	2250.6	2287.1	2357.9	2436.4	2469.5	2483.9	2478.4	2446.3	2405.4	2333.6
7.5°	2394.4	2402.1	2458.5	2564.6	2661.9	2706.1	2741.5	2734.8	2688.4	2612.1	2506.0
10°	2502.7	2511.5	2579.0	2703.9	2812.2	2850.9	2896.2	2898.4	2857.5	2754.7	2646.4
12.5°	2611.0	2619.9	2682.9	2796.7	2867.5	2868.6	2895.1	2909.5	2911.7	2864.2	2755.8
15°	2723.8	2731.5	2789.0	2853.1	2849.8	2787.9	2787.9	2815.5	2876.3	2910.6	2835.4
17.5°	2819.9	2829.9	2874.1	2853.1	2754.7	2643.1	2629.8	2665.2	2771.3	2902.8	2895.1
20°	2899.5	2907.3	2931.6	2792.3	2613.2	2467.3	2441.9	2482.8	2626.5	2855.3	2940.4
22.5°	2975.8	2980.2	2967.0	2712.7	2460.7	2293.8	2262.8	2305.9	2460.7	2771.3	2979.1
25°	3066.5	3062.0	2999.0	2629.8	2321.4	2156.7	2124.6	2173.3	2334.7	2659.7	3021.1
27.5°	3171.5	3154.9	3026.7	2540.3	2214.2	2055.0	2032.9	2084.8	2235.2	2556.8	3054.3
30°	3261.0	3228.9	3031.1	2460.7	2158.9	2011.9	1998.6	2047.2	2186.5	2487.2	3096.3
32.5°	3360.5	3316.3	3056.5	2439.7	2189.8	2115.8	2133.5	2136.8	2199.8	2467.3	3159.3
35°	3503.1	3445.6	3126.1	2500.5	2508.2	2633.1	2697.2	2611.0	2399.9	2511.5	3278.7
37.5°	3718.7	3645.7	3267.6	2763.6	3165.9	3445.6	3600.4	3403.6	3007.9	2678.4	3458.9
40°	3980.6	3887.8	3448.9	3250.0	3780.6	4228.3	4503.5	4215.0	3633.5	3095.2	3712.0
42.5°	4346.5	4249.3	3800.5	3727.5	4349.8	5016.4	5375.7	4945.7	4185.1	3633.5	4117.7
45°	4984.4	4890.4	4444.9	4206.1	5016.4	5987.0	6491.1	5893.0	4745.6	4174.1	4876.0
47.5°	6162.7	6052.2	5402.2	4736.7	5777.0	7247.2	7952.4	7081.4	5328.2	4793.1	6149.5
50°	7577.7	7471.6	6603.8	5364.6	6617.1	8594.7	9575.2	8477.5	5999.1	5545.9	7671.7
52.5°	9280.0	9260.2	8318.3	6158.3	7491.5	10031.7	11375.9	10024.0	6734.3	6559.6	9396.1
55°	10814.4	11008.9	10496.0	7368.8	8621.2	11836.9	13227.5	11710.9	7731.3	8235.4	11415.7
57.5°	11641.2	12164.1	12952.3	9838.3	10263.9	13994.7	15512.4	13770.3	9444.8	11025.5	13288.3
60°	11095.2	11687.7	13115.9	11697.6	11893.3	15723.6	17398.3	15501.4	11127.2	12962.2	13182.2
62.5°	10186.5	10718.2	11988.3	10612.1	12145.3	16103.8	17442.5	15803.2	11796.0	11979.5	11907.6
65°	9108.7	9644.8	10990.1	9263.5	11343.9	15200.7	16155.8	14915.5	10594.4	10823.2	10849.8
67.5°	7677.2	8172.4	9542.0	8236.5	10340.2	13875.3	14180.4	13650.9	9756.5	10121.3	9739.9
70°	5736.1	6182.6	7392.0	6693.4	8716.3	12148.6	11902.1	11980.6	8815.8	9178.3	8135.9
72.5°	3919.8	4255.9	5292.8	5259.6	6674.6	9725.5	9381.7	10125.7	7363.2	7844.1	6202.5
75°	2741.5	3003.4	3825.9	4155.3	5045.2	7208.5	6681.2	7578.8	5750.4	6436.9	4525.6
77.5°	1682.5	1856.0	2416.5	3078.6	3245.5	4933.5	4149.8	5702.9	4038.1	4694.7	3018.9
80°	841.2	925.2	1174.0	1935.6	2152.3	2907.3	2291.5	3310.7	2732.6	2907.3	1670.3
82.5°	254.2	280.8	343.8	735.1	1115.4	1673.6	1354.1	1923.4	1492.3	1363.0	657.7
85°	67.4	76.3	95.1	217.8	391.3	600.2	457.6	931.9	715.2	503.0	247.6
87.5°	5.5	5.5	4.4	4.4	2.2	0.0	0.0	66.3	133.8	76.3	43.1
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°	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8
2.5°	2110.3	2105.8	2060.5	2027.4	1988.7	1951.1	1912.4	1878.1	1839.4	1800.7	1789.7
5°	2280.5	2249.5	2153.4	2072.7	1993.1	1923.4	1862.6	1799.6	1748.8	1699.0	1680.2
7.5°	2430.8	2376.7	2237.4	2114.7	2004.1	1917.9	1828.4	1736.6	1664.8	1594.0	1576.3
10°	2566.8	2494.9	2319.2	2164.4	2041.7	1943.3	1838.3	1715.6	1611.7	1525.5	1502.3
12.5°	2667.4	2588.9	2389.9	2212.0	2072.7	1962.1	1858.2	1749.9	1640.5	1528.8	1503.4
15°	2747.0	2665.2	2448.5	2248.4	2073.8	1931.2	1830.6	1793.0	1758.7	1649.3	1602.9
17.5°	2811.1	2724.9	2499.4	2270.5	2043.9	1837.2	1749.9	1805.2	1892.5	1824.0	1736.6
20°	2869.7	2782.4	2538.1	2286.0	1977.6	1707.9	1659.2	1776.4	1908.0	1905.8	1827.3
22.5°	2933.8	2848.7	2594.4	2294.9	1884.8	1576.3	1605.1	1734.4	1841.6	1873.7	1825.1
25°	3015.6	2940.4	2672.9	2314.8	1779.7	1485.7	1565.3	1680.2	1769.8	1777.5	1748.8
27.5°	3110.7	3054.3	2790.1	2361.2	1678.0	1439.3	1518.9	1604.0	1685.8	1689.1	1654.8
30°	3214.6	3177.0	2898.4	2399.9	1601.8	1424.9	1459.2	1527.7	1579.7	1588.5	1558.7
32.5°	3347.2	3314.1	2994.6	2374.5	1556.4	1421.6	1403.9	1439.3	1482.4	1482.4	1459.2
35°	3529.6	3483.2	3096.3	2277.2	1501.2	1408.3	1345.3	1355.3	1374.0	1377.4	1364.1
37.5°	3788.3	3712.0	3199.1	2084.8	1410.5	1360.8	1277.9	1265.7	1272.3	1281.2	1277.9
40°	4108.9	3984.0	3349.4	1853.8	1302.2	1269.0	1208.2	1185.0	1179.5	1197.2	1203.8
42.5°	4512.3	4321.1	3510.8	1638.2	1203.8	1164.0	1126.4	1106.5	1097.7	1127.5	1145.2
45°	5156.8	4841.8	3665.6	1424.9	1148.5	1074.5	1049.0	1034.7	1039.1	1074.5	1096.6
47.5°	6270.0	5636.6	3812.6	1290.0	1144.1	1010.4	979.4	982.7	994.9	1032.5	1059.0
50°	7678.3	6701.1	3911.0	1233.7	1157.4	971.7	930.8	948.5	967.2	1003.7	1034.7
52.5°	9112.0	7692.7	3793.8	1202.7	1156.3	972.8	885.4	938.5	947.3	983.8	1017.0
55°	10098.1	7803.2	3277.6	1155.2	1138.6	1017.0	850.1	934.1	939.6	972.8	1002.6
57.5°	10473.9	7425.1	2499.4	1168.4	1085.5	1051.3	834.6	903.1	942.9	971.7	1002.6
60°	10019.6	6712.1	1518.9	1202.7	1000.4	1049.0	844.5	846.8	915.3	963.9	994.9
62.5°	9162.9	5796.9	1066.7	1105.4	938.5	990.5	867.8	780.4	866.7	925.2	952.9
65°	8181.3	4720.2	813.6	951.8	908.7	899.8	875.5	721.8	800.3	857.8	882.1
67.5°	7158.7	3668.9	661.0	709.7	821.3	813.6	800.3	669.9	721.8	762.7	790.4
70°	5870.9	2566.8	558.2	532.8	704.2	729.6	699.7	604.7	621.2	663.3	685.4
72.5°	4294.6	1599.6	458.8	440.0	566.0	637.8	622.4	532.8	540.6	580.3	598.0
75°	3088.6	915.3	368.1	362.6	432.2	546.1	515.1	458.8	467.6	497.4	509.6
77.5°	1963.2	509.6	284.1	291.8	309.5	407.9	440.0	392.4	392.4	410.1	420.1
80°	1051.3	291.8	207.8	211.1	216.7	311.7	347.1	304.0	304.0	291.8	304.0
82.5°	428.9	168.0	142.6	132.7	144.8	213.3	243.2	193.4	202.3	182.4	186.8
85°	141.5	84.0	70.7	69.6	68.5	94.0	117.2	96.2	115.0	73.0	76.3
87.5°	18.8	15.5	8.8	6.6	7.7	3.3	6.6	7.7	7.7	5.5	5.5
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°	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8
2.5°	1781.9	1773.1	1741.0	1748.8	1743.3	1734.4	1743.3	1726.7	1739.9	1744.4	1772.0
5°	1665.9	1644.9	1613.9	1598.4	1595.1	1586.3	1587.4	1579.7	1581.9	1600.7	1631.6
7.5°	1562.0	1542.1	1517.7	1506.7	1496.7	1486.8	1485.7	1484.6	1493.4	1510.0	1539.9
10°	1486.8	1475.7	1465.8	1470.2	1465.8	1461.4	1453.6	1453.6	1468.0	1497.9	1534.3
12.5°	1486.8	1484.6	1486.8	1500.1	1499.0	1500.1	1490.1	1495.6	1535.4	1586.3	1638.2
15°	1566.4	1548.7	1548.7	1555.3	1553.1	1553.1	1553.1	1576.3	1667.0	1745.5	1800.7
17.5°	1663.7	1611.7	1589.6	1586.3	1585.2	1585.2	1589.6	1639.3	1780.8	1863.7	1895.8
20°	1731.1	1632.7	1596.2	1581.9	1583.0	1585.2	1598.4	1667.0	1822.8	1864.9	1857.1
22.5°	1743.3	1616.1	1571.9	1550.9	1554.2	1556.4	1576.3	1649.3	1765.4	1772.0	1756.5
25°	1686.9	1569.7	1522.2	1505.6	1510.0	1508.9	1526.6	1579.7	1662.6	1660.3	1651.5
27.5°	1602.9	1495.6	1460.3	1449.2	1457.0	1448.1	1453.6	1494.5	1558.7	1556.4	1553.1
30°	1516.6	1423.8	1391.7	1386.2	1396.2	1382.9	1384.0	1418.3	1462.5	1460.3	1459.2
32.5°	1430.4	1351.9	1323.2	1323.2	1333.1	1318.8	1321.0	1350.8	1380.7	1371.8	1371.8
35°	1348.6	1293.3	1270.1	1265.7	1273.5	1263.5	1267.9	1295.6	1306.6	1294.5	1286.7
37.5°	1276.8	1252.4	1229.2	1213.8	1214.9	1216.0	1229.2	1250.2	1243.6	1225.9	1216.0
40°	1210.4	1210.4	1188.3	1159.6	1156.3	1164.0	1186.1	1209.3	1190.5	1170.6	1158.5
42.5°	1162.9	1172.9	1151.9	1123.1	1116.5	1129.7	1154.1	1170.6	1148.5	1126.4	1109.8
45°	1118.7	1143.0	1128.6	1096.6	1087.7	1103.2	1134.2	1140.8	1111.0	1089.9	1077.8
47.5°	1087.7	1120.9	1111.0	1080.0	1066.7	1088.8	1120.9	1119.8	1082.2	1060.1	1050.2
50°	1065.6	1107.6	1106.5	1080.0	1065.6	1093.3	1122.0	1107.6	1066.7	1043.5	1033.6
52.5°	1047.9	1106.5	1114.3	1098.8	1088.8	1113.2	1130.9	1103.2	1055.7	1031.4	1023.6
55°	1040.2	1111.0	1116.5	1102.1	1093.3	1115.4	1130.9	1112.1	1055.7	1033.6	1026.9
57.5°	1042.4	1105.4	1106.5	1086.6	1071.2	1098.8	1123.1	1117.6	1067.8	1042.4	1034.7
60°	1029.2	1075.6	1077.8	1046.8	1029.2	1062.3	1105.4	1102.1	1062.3	1035.8	1021.4
62.5°	984.9	1025.8	1026.9	998.2	972.8	1020.3	1067.8	1066.7	1030.3	1003.7	987.1
65°	910.9	954.0	965.0	937.4	917.5	968.4	1018.1	1015.9	979.4	955.1	938.5
67.5°	819.1	865.5	886.6	867.8	860.0	906.4	952.9	951.8	921.9	898.7	884.3
70°	707.5	746.2	781.5	781.5	776.0	829.1	878.8	874.4	846.8	829.1	818.0
72.5°	614.6	644.5	655.5	666.6	683.2	738.4	780.4	783.7	763.8	755.0	763.8
75°	522.9	541.7	551.6	542.8	571.5	629.0	684.3	689.8	668.8	654.4	657.7
77.5°	430.0	451.0	461.0	441.1	438.9	511.8	579.2	591.4	573.7	551.6	558.2
80°	310.6	338.3	354.8	341.6	337.2	369.2	462.1	475.3	458.8	441.1	451.0
82.5°	190.1	205.6	210.0	223.3	250.9	264.2	297.4	341.6	329.4	313.9	341.6
85°	75.2	89.5	99.5	112.8	131.5	155.9	183.5	218.9	199.0	192.3	226.6
87.5°	4.4	1.1	0.0	2.2	18.8	36.5	78.5	108.3	90.6	97.3	117.2
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: P637496
 CATALOG NUMBER: GWS-SA4C-830-U-SLR-W

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8	1937.8
2.5°	1794.1	1822.8	1861.5	1893.6	1934.5	1973.2	2013.0	2052.8	2073.8	2082.6
5°	1667.0	1720.0	1781.9	1850.5	1930.1	2014.1	2099.2	2186.5	2241.8	2246.2
7.5°	1590.7	1667.0	1752.1	1838.3	1936.7	2052.8	2187.6	2322.5	2378.9	2394.4
10°	1615.0	1700.1	1767.6	1848.3	1956.6	2101.4	2260.6	2418.7	2483.9	2502.7
12.5°	1712.3	1728.9	1749.9	1824.0	1956.6	2143.4	2335.8	2523.7	2593.3	2611.0
15°	1793.0	1713.4	1675.8	1754.3	1930.1	2179.9	2415.4	2623.2	2707.2	2723.8
17.5°	1799.6	1662.6	1580.8	1651.5	1883.6	2205.3	2491.6	2733.7	2804.5	2819.9
20°	1732.2	1608.4	1502.3	1545.4	1820.6	2216.4	2546.9	2814.4	2884.1	2899.5
22.5°	1655.9	1564.2	1449.2	1447.0	1744.4	2228.5	2613.2	2890.7	2965.9	2975.8
25°	1584.1	1503.4	1406.1	1375.1	1655.9	2251.8	2702.8	3005.7	3063.1	3066.5
27.5°	1500.1	1438.2	1371.8	1342.0	1578.5	2296.0	2835.4	3142.7	3177.0	3171.5
30°	1423.8	1377.4	1347.5	1338.7	1529.9	2329.1	2961.4	3277.6	3279.8	3261.0
32.5°	1343.1	1325.4	1325.4	1354.1	1490.1	2321.4	3064.2	3409.1	3388.1	3360.5
35°	1271.2	1274.6	1297.8	1365.2	1423.8	2244.0	3162.6	3573.8	3542.9	3503.1
37.5°	1202.7	1228.1	1261.3	1326.5	1336.5	2129.0	3277.6	3807.1	3768.4	3718.7
40°	1144.1	1182.8	1221.5	1253.6	1243.6	1965.4	3437.9	4081.2	4038.1	3980.6
42.5°	1097.7	1135.3	1178.4	1181.7	1185.0	1795.2	3608.1	4417.3	4409.5	4346.5
45°	1067.8	1092.2	1133.1	1127.5	1181.7	1607.3	3765.1	4930.2	5031.9	4984.4
47.5°	1047.9	1066.7	1071.2	1094.4	1210.4	1439.3	3967.4	5933.9	6216.9	6162.7
50°	1036.9	1055.7	1005.9	1096.6	1214.9	1330.9	4247.0	7194.1	7649.5	7577.7
52.5°	1035.8	1031.4	956.2	1119.8	1190.5	1264.6	4393.0	8113.8	9124.2	9280.0
55°	1038.0	982.7	930.8	1126.4	1141.9	1240.3	3904.4	8556.0	10485.0	10814.4
57.5°	1018.1	929.7	945.1	1099.9	1050.2	1305.5	2886.3	8397.9	11028.8	11641.2
60°	980.5	878.8	971.7	1028.0	956.2	1193.9	1987.6	7692.7	10465.1	11095.2
62.5°	926.3	843.4	968.4	935.2	921.9	977.2	1366.3	6705.5	9570.8	10186.5
65°	865.5	814.7	916.4	845.7	853.4	751.7	966.1	5591.2	8502.9	9108.7
67.5°	800.3	797.0	840.1	752.8	720.7	595.8	704.2	4481.4	7131.1	7677.2
70°	726.3	750.6	763.8	668.8	584.8	467.6	522.9	3133.9	5260.7	5736.1
72.5°	652.2	654.4	673.2	581.5	437.7	374.7	392.4	1898.0	3573.8	3919.8
75°	577.0	556.0	573.7	473.1	326.1	307.3	302.9	1172.9	2468.4	2741.5
77.5°	496.3	473.1	449.9	355.9	262.0	237.7	232.1	657.7	1514.4	1682.5
80°	403.5	372.5	336.0	260.9	191.2	170.2	169.1	320.6	755.0	841.2
82.5°	313.9	255.4	245.4	162.5	118.3	103.9	110.5	122.7	227.7	254.2
85°	220.0	185.7	130.4	65.2	53.1	43.1	42.0	36.5	60.8	67.4
87.5°	122.7	80.7	42.0	7.7	8.8	9.9	7.7	5.5	5.5	5.5
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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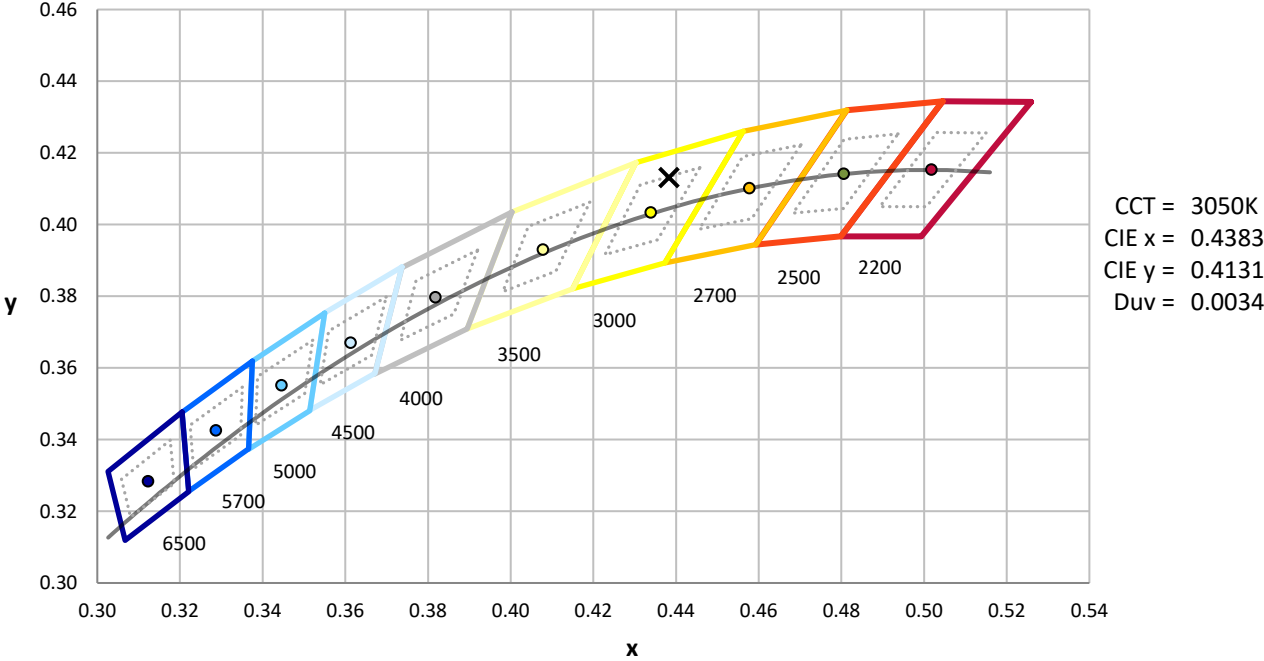
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	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

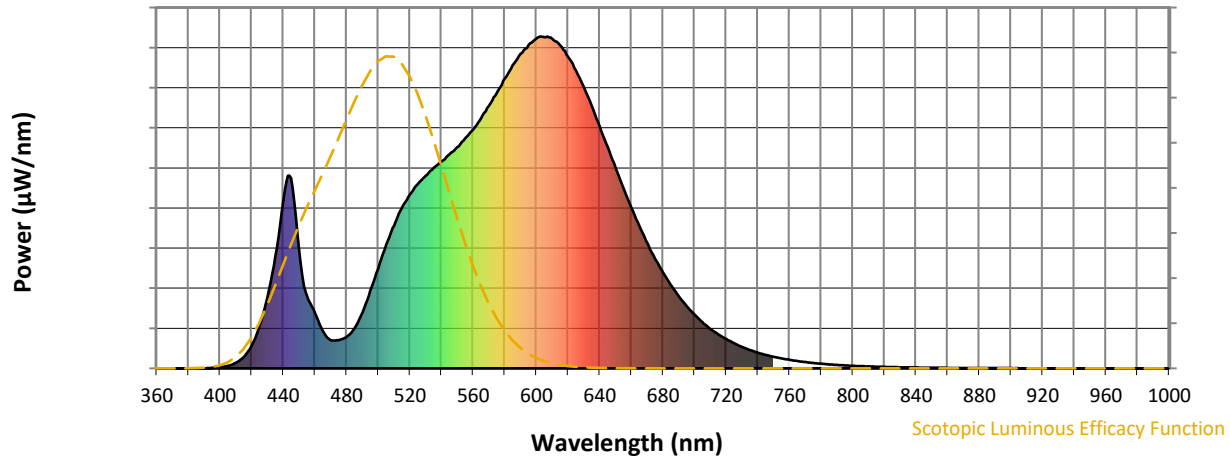


Photopic Lumens: NR

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

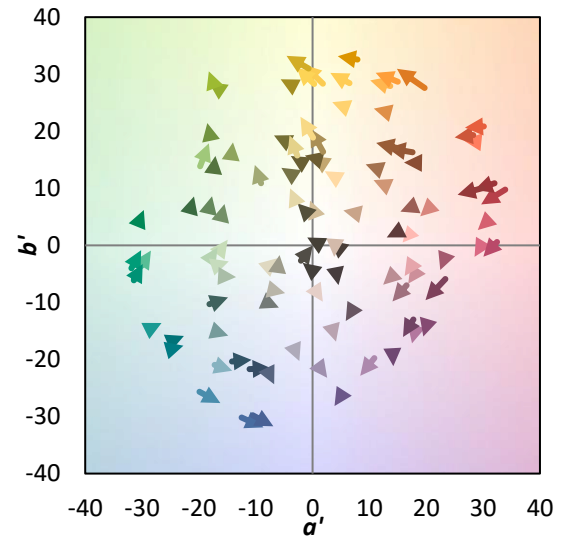
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	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)