

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P861218

Luminaire Tested: **8APVTLD-SL3C3 MID POWER 5000K 277V**

Issue Date: 1/11/2023

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P861218
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (NTCLR22090026)
Test Lab: INNOVATION CENTER
Issue Date: 1/11/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 8APVTLD-SL3C3 MID POWER 5000K 277V
Description: MID POWER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

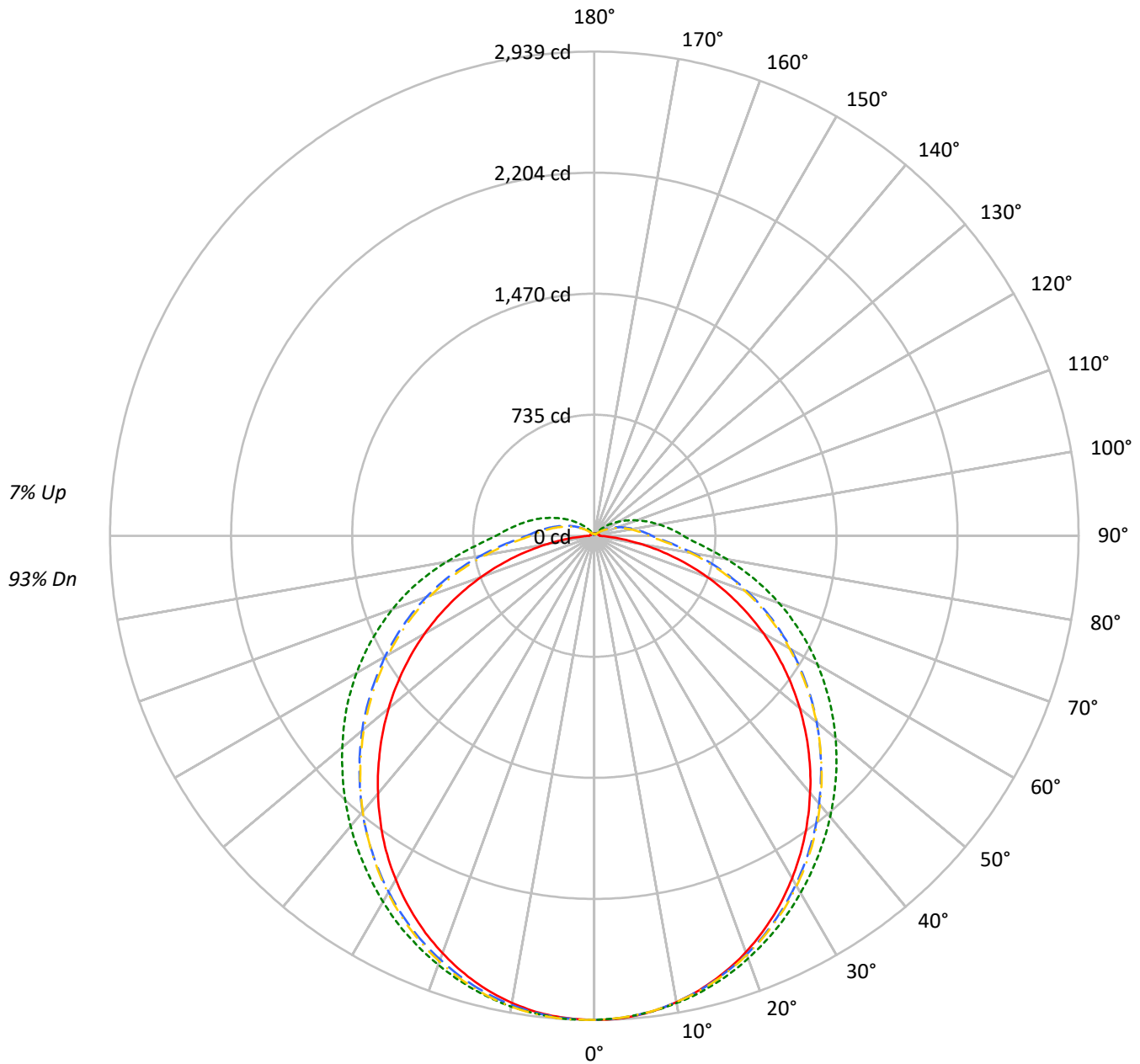
Lumens per Lamp: N/A
Luminaire Lumens: 9976.9 lumens
Efficiency: N/A
Efficacy: 127.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.28 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 8' x H: 0.08')
CIE Type: Direct

Input Watts (W): 78
Input Voltage (V): 277
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93		
1	105	100	95	91	102	97	92	88	91	88	84	86	83	80	81	79	77	74		
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	66	63	60		
3	86	75	67	60	83	73	65	59	69	62	57	65	59	55	62	57	53	50		
4	79	66	57	50	76	65	56	49	61	54	48	58	51	46	55	49	45	42		
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37		
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32		
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28		
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25		
9	54	40	32	26	52	39	31	26	38	30	25	36	29	25	34	29	24	22		
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	11860	11860	11860	11860
5°	11837	11581	11840	11627
10°	11760	11307	11781	11394
15°	11649	11034	11677	11152
20°	11510	10748	11534	10911
25°	11330	10474	11366	10678
30°	11123	10197	11164	10447
35°	10892	9937	10937	10219
40°	10644	9698	10666	10020
45°	10383	9469	10391	9833
50°	10091	9245	10111	9658
55°	9772	9029	9794	9524
60°	9405	8813	9434	9387
65°	8938	8580	8968	9252
70°	8335	8338	8384	9121
75°	7494	8075	7535	8967
80°	6317	7843	6378	8739
85°	4776	7809	4809	8743



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.9	2.8
10°-20°	794.4	8.0
20°-30°	1201.4	12.0
30°-40°	1451.9	14.6
40°-50°	1527.6	15.3
50°-60°	1434.8	14.4
60°-70°	1196.3	12.0
70°-80°	853.2	8.6
80°-90°	499.8	5.0
90°-100°	311.8	3.1
100°-110°	204.9	2.1
110°-120°	120.8	1.2
120°-130°	61.7	0.6
130°-140°	24.0	0.2
140°-150°	7.9	0.1
150°-160°	4.5	0.0
160°-170°	2.9	0.0
170°-180°	1.0	0.0
0°-30°	2273.7	22.8
0°-40°	3725.6	37.3
0°-60°	6688.1	67.0
0°-90°	9237.4	92.6
90°-120°	637.5	6.4
90°-150°	731.1	7.3
90°-180°	740.0	7.4
0°-180°	9976.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2938	2938	2938	2938	2938	
5°	2924	2921	2925	2932	2924	278
15°	2795	2817	2802	2847	2795	788
25°	2556	2626	2564	2677	2556	1177
35°	2226	2370	2236	2437	2226	1392
45°	1838	2073	1839	2153	1838	1417
55°	1409	1741	1412	1837	1409	1259
65°	957	1380	960	1488	957	946
75°	499	1001	502	1111	499	529
85°	115	650	116	728	115	130
90°	37	542	31	598	37	22
95°	32	467	26	514	32	25
105°	26	333	23	378	26	28
115°	22	220	20	256	22	22
125°	17	128	16	154	17	15
135°	13	56	11	73	13	10
145°	10	11	9	17	10	7
155°	9	8	9	12	9	4
165°	10	8	12	10	10	3
175°	12	9	14	9	12	1
180°	12	12	12	12	12	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1
1°	2938.1	2938.1	2937.9	2937.0	2936.4	2936.2	2936.8	2936.6	2937.3	2938.1	2938.1
2°	2937.7	2937.2	2935.6	2934.5	2934.5	2933.3	2934.1	2934.5	2935.4	2937.0	2937.0
3°	2934.3	2933.5	2931.6	2930.4	2931.2	2929.3	2931.0	2931.8	2933.1	2934.9	2935.2
4°	2929.7	2928.9	2927.0	2925.1	2926.8	2924.5	2925.8	2927.2	2929.7	2930.8	2932.7
5°	2923.9	2922.2	2921.6	2919.1	2920.7	2918.4	2920.3	2921.2	2924.7	2926.2	2928.7
6°	2916.6	2914.7	2914.5	2912.2	2914.5	2911.5	2913.6	2914.3	2918.6	2919.9	2923.2
7°	2908.0	2905.7	2906.5	2904.4	2907.6	2904.4	2905.9	2905.9	2910.7	2912.8	2917.0
8°	2897.7	2895.4	2897.1	2895.0	2899.4	2895.7	2896.9	2895.9	2901.3	2904.0	2909.7
9°	2886.7	2883.9	2885.8	2886.2	2890.0	2886.2	2886.0	2884.8	2890.8	2894.2	2901.1
10°	2874.5	2871.6	2873.7	2875.4	2880.2	2875.6	2874.7	2873.1	2879.5	2883.1	2891.7
11°	2861.2	2858.4	2860.9	2863.3	2869.7	2864.3	2861.8	2859.7	2866.0	2870.8	2880.6
12°	2846.7	2844.2	2846.9	2851.5	2858.4	2852.6	2849.2	2845.7	2851.8	2857.4	2869.1
13°	2831.1	2829.0	2833.1	2837.9	2846.1	2839.4	2835.0	2830.0	2836.3	2843.2	2855.9
14°	2813.5	2811.8	2817.3	2824.1	2832.1	2824.8	2819.6	2813.1	2820.4	2828.5	2842.3
15°	2795.3	2794.9	2799.9	2810.1	2817.2	2810.3	2804.1	2794.1	2802.0	2811.4	2827.3
16°	2776.5	2776.5	2781.7	2793.8	2801.4	2794.3	2786.9	2774.2	2782.5	2791.8	2811.4
17°	2757.0	2757.5	2763.1	2776.9	2785.1	2777.5	2767.9	2754.1	2762.5	2772.7	2794.5
18°	2735.5	2737.4	2743.7	2758.5	2767.7	2759.1	2747.9	2732.6	2740.9	2752.4	2776.1
19°	2713.3	2715.6	2724.4	2740.9	2749.5	2739.1	2728.0	2710.6	2718.4	2731.1	2756.6
20°	2689.7	2691.8	2703.7	2720.7	2729.9	2720.0	2707.5	2687.2	2695.4	2708.8	2736.6
21°	2664.9	2668.6	2681.6	2701.2	2710.0	2699.5	2685.8	2663.4	2671.1	2685.5	2716.7
22°	2638.9	2643.1	2658.2	2680.7	2690.1	2678.6	2663.4	2639.6	2645.8	2661.5	2695.6
23°	2612.2	2617.4	2634.5	2658.0	2668.8	2657.3	2640.4	2615.9	2619.7	2636.8	2673.0
24°	2584.6	2590.4	2609.4	2635.6	2647.9	2634.8	2616.3	2590.0	2592.3	2610.9	2650.4
25°	2556.3	2563.2	2584.2	2613.0	2625.8	2612.2	2591.3	2563.5	2564.3	2584.2	2626.6
26°	2527.1	2535.4	2557.2	2589.2	2603.4	2588.1	2565.8	2534.8	2534.8	2557.4	2602.1
27°	2496.8	2506.0	2530.4	2564.7	2579.1	2563.7	2540.3	2506.8	2505.5	2529.0	2576.6
28°	2465.0	2475.7	2502.4	2539.6	2554.7	2538.4	2512.0	2476.3	2474.0	2499.9	2550.9
29°	2433.6	2444.7	2474.0	2513.5	2529.6	2512.7	2483.8	2445.6	2442.6	2470.0	2523.5
30°	2400.8	2412.9	2445.1	2486.3	2503.5	2486.7	2455.2	2415.0	2409.6	2438.9	2496.3
31°	2367.2	2380.5	2415.2	2459.1	2478.0	2459.6	2425.7	2382.4	2376.6	2408.6	2467.7
32°	2332.9	2347.1	2385.1	2431.7	2451.6	2431.8	2395.2	2349.4	2342.7	2376.8	2439.7
33°	2298.2	2313.4	2353.4	2403.5	2424.8	2402.9	2364.2	2315.5	2307.8	2343.9	2409.2
34°	2262.0	2279.4	2322.6	2374.5	2397.0	2374.5	2333.3	2281.2	2272.4	2311.8	2379.7
35°	2226.5	2244.2	2290.4	2346.2	2369.5	2346.2	2301.3	2245.7	2235.7	2277.9	2348.6
36°	2189.7	2209.1	2257.6	2316.3	2341.7	2316.1	2268.1	2209.9	2197.8	2243.4	2318.2
37°	2152.2	2172.7	2226.2	2286.7	2314.0	2286.7	2235.4	2173.4	2159.3	2208.5	2286.2
38°	2114.6	2136.3	2191.8	2257.8	2285.2	2257.2	2201.4	2135.1	2120.7	2173.1	2253.8
39°	2075.9	2098.9	2157.7	2228.3	2256.8	2226.5	2166.5	2096.6	2082.6	2136.6	2221.6
40°	2037.7	2060.7	2122.3	2198.0	2226.5	2195.5	2131.1	2058.2	2041.9	2099.8	2187.6
41°	1999.8	2023.2	2087.9	2166.0	2196.4	2165.0	2095.4	2020.1	2002.6	2063.6	2154.7
42°	1959.7	1984.6	2052.5	2134.3	2166.3	2133.2	2059.2	1981.4	1962.2	2025.1	2120.7



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CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1837.8	1867.8	1944.7	2038.5	2073.4	2036.2	1948.8	1860.9	1839.2	1909.0	2016.2
46°	1796.3	1828.4	1909.0	2005.1	2042.1	2002.8	1911.6	1820.8	1798.2	1869.2	1981.4
47°	1754.0	1787.3	1872.7	1971.0	2008.8	1969.1	1873.4	1780.2	1756.4	1830.1	1945.9
48°	1711.8	1746.5	1836.3	1938.0	1976.8	1935.9	1836.0	1739.0	1714.8	1790.9	1910.5
49°	1669.0	1704.9	1799.3	1904.0	1944.4	1901.9	1797.7	1697.0	1672.2	1750.0	1874.2
50°	1626.9	1663.9	1761.8	1870.5	1910.9	1866.7	1759.5	1654.7	1630.1	1709.6	1839.1
51°	1583.2	1622.5	1724.6	1835.4	1878.1	1832.9	1721.1	1613.7	1587.4	1668.4	1803.0
52°	1540.2	1580.0	1686.8	1801.5	1844.2	1797.5	1681.8	1570.8	1543.7	1626.9	1765.7
53°	1497.0	1538.4	1649.2	1766.7	1809.9	1761.9	1642.8	1528.6	1500.4	1585.5	1729.0
54°	1453.1	1495.9	1611.3	1730.5	1775.3	1726.1	1603.7	1486.1	1456.4	1544.6	1691.5
55°	1409.2	1453.5	1572.6	1695.7	1741.1	1690.1	1564.5	1442.9	1412.4	1502.4	1653.8
56°	1365.1	1411.3	1533.9	1659.5	1705.8	1654.4	1524.8	1400.0	1368.2	1460.1	1616.8
57°	1320.8	1368.5	1495.3	1623.1	1670.4	1617.9	1485.6	1356.9	1323.9	1418.5	1579.0
58°	1276.3	1325.2	1457.0	1585.3	1636.5	1581.0	1446.0	1313.7	1278.9	1375.9	1541.3
59°	1231.4	1282.7	1418.5	1548.4	1600.2	1543.7	1407.2	1269.8	1234.3	1333.9	1502.5
60°	1186.0	1240.5	1379.8	1511.0	1564.3	1506.1	1367.5	1227.3	1189.7	1292.0	1465.3
61°	1139.9	1197.1	1340.8	1472.6	1528.7	1468.8	1327.8	1183.0	1143.7	1249.6	1427.8
62°	1094.1	1154.9	1302.0	1436.4	1491.5	1430.9	1288.3	1139.0	1097.6	1207.7	1389.3
63°	1048.4	1112.4	1263.1	1398.3	1455.5	1393.0	1249.4	1095.7	1051.9	1165.8	1351.6
64°	1003.2	1069.6	1224.9	1362.3	1418.2	1355.5	1209.8	1052.9	1006.3	1122.7	1313.8
65°	956.7	1027.4	1186.1	1325.9	1380.0	1316.7	1169.7	1009.7	959.9	1080.6	1274.8
66°	910.4	984.4	1146.6	1287.5	1344.2	1279.2	1130.2	966.9	913.9	1039.3	1237.5
67°	864.4	942.0	1106.5	1250.4	1305.2	1241.1	1089.9	924.3	867.8	996.7	1199.0
68°	818.4	899.1	1066.2	1211.6	1268.8	1202.9	1050.4	881.6	822.2	954.4	1160.3
69°	772.9	856.9	1027.4	1174.0	1230.7	1164.7	1009.9	838.8	775.7	911.9	1121.5
70°	726.5	815.4	988.0	1134.8	1191.7	1126.6	969.7	797.2	730.7	870.3	1083.1
71°	680.4	773.1	949.2	1095.5	1153.7	1087.6	930.5	754.6	683.7	828.5	1043.8
72°	635.2	732.2	910.2	1055.9	1116.0	1050.0	891.7	713.3	638.7	787.3	1005.7
73°	589.3	690.8	872.1	1016.1	1077.5	1011.0	853.1	672.0	592.1	747.1	966.9
74°	544.0	651.8	834.0	977.3	1039.1	972.7	814.4	630.9	547.0	706.1	928.3
75°	499.2	611.4	795.7	938.2	1000.9	935.4	776.2	590.4	501.9	665.9	889.8
76°	455.5	572.2	756.9	900.4	962.4	897.7	738.1	550.4	457.6	627.0	851.2
77°	412.0	533.0	719.2	863.7	925.6	860.7	701.1	512.4	414.6	588.8	813.1
78°	369.2	494.7	680.8	827.0	888.1	823.3	663.1	473.7	371.8	550.9	774.8
79°	327.7	457.8	645.0	790.8	851.3	786.7	627.1	438.0	329.8	513.0	737.1
80°	287.8	422.5	609.1	754.7	815.8	751.4	591.9	401.4	290.6	476.2	701.9
81°	248.5	387.7	573.9	719.4	779.3	715.3	556.3	366.3	252.4	440.1	664.9
82°	211.2	354.6	540.3	684.8	746.4	681.6	523.6	332.6	215.2	404.8	629.8
83°	176.2	323.4	507.4	651.8	711.6	649.0	490.2	300.3	179.4	371.1	595.9
84°	144.5	292.6	477.0	620.2	680.6	617.9	460.7	270.1	146.6	338.2	564.1
85°	115.4	265.3	450.2	590.1	650.4	588.6	432.2	242.2	116.2	307.7	533.0
86°	90.6	239.9	425.2	563.9	622.8	560.8	406.0	216.6	89.6	279.0	502.7
87°	69.4	218.2	400.8	539.2	596.6	535.8	381.9	194.9	68.4	253.9	474.2



TEST NUMBER: P861218

CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	37.0	172.3	350.5	483.6	542.1	482.5	332.4	148.5	31.1	197.6	410.2
91°	35.1	163.2	338.5	469.7	526.0	466.8	319.1	139.5	28.9	185.9	394.3
92°	34.2	154.2	326.5	455.7	511.0	453.5	307.8	131.1	28.0	175.5	380.1
93°	33.2	145.5	314.8	441.6	496.3	439.0	296.7	123.0	27.2	165.8	366.3
94°	32.4	137.6	303.3	428.6	480.6	425.1	285.6	115.4	26.8	156.2	352.7
95°	31.8	129.4	291.5	415.3	467.1	412.1	274.4	108.2	25.9	146.9	339.6
96°	31.1	122.0	280.7	403.3	452.4	397.9	263.7	101.2	25.3	138.4	326.3
97°	30.5	114.8	269.7	390.3	439.2	385.3	254.1	94.8	25.1	129.9	313.4
98°	29.7	108.4	259.7	377.9	424.5	372.6	244.0	88.6	25.0	122.2	301.5
99°	29.3	101.8	249.3	365.5	410.8	360.4	234.0	82.9	24.8	114.2	289.4
100°	28.9	95.8	238.8	353.2	396.8	348.2	223.5	77.2	24.7	107.3	277.7
101°	28.4	89.9	228.7	341.2	384.3	335.8	213.9	72.4	24.5	100.4	266.6
102°	28.0	84.9	219.1	329.1	370.3	322.9	204.6	67.1	24.1	94.1	255.9
103°	27.6	79.5	209.6	316.6	358.5	311.4	196.1	62.4	23.3	87.8	245.4
104°	27.0	74.5	200.4	304.9	344.7	299.1	187.0	58.2	23.0	82.2	234.6
105°	26.4	70.1	191.8	293.7	333.1	288.5	178.8	54.2	22.6	76.8	224.2
106°	25.9	65.6	183.0	282.0	320.4	277.3	170.0	49.9	22.6	71.3	214.3
107°	25.3	61.6	174.9	271.1	308.2	267.3	161.8	46.1	22.0	66.4	204.2
108°	24.7	57.3	166.6	260.6	296.6	256.8	152.9	42.3	21.6	62.0	194.7
109°	24.3	53.2	158.7	249.7	285.1	246.6	145.1	39.2	21.5	57.5	185.3
110°	23.9	49.3	150.9	239.2	273.2	236.0	137.4	35.3	21.4	52.9	176.2
111°	23.5	45.6	143.2	229.3	262.9	225.8	130.3	32.3	21.3	48.7	167.6
112°	23.0	41.9	135.9	218.9	251.7	215.1	123.3	29.4	21.2	44.6	159.1
113°	23.0	38.6	128.5	209.1	241.2	205.2	116.3	26.4	21.0	40.4	150.9
114°	22.4	35.6	121.5	199.6	230.5	195.0	109.3	24.0	20.8	36.9	142.7
115°	22.0	32.3	114.4	190.0	219.9	185.2	102.8	21.9	20.1	33.4	134.8
116°	21.6	29.8	108.0	180.8	210.3	175.3	96.3	20.0	19.3	29.9	127.0
117°	21.2	27.4	101.8	171.9	199.5	167.0	90.3	19.2	19.3	26.8	119.7
118°	20.7	25.1	95.2	163.4	190.6	158.5	84.1	18.6	18.5	24.1	112.1
119°	20.3	23.4	89.2	154.8	180.9	150.3	78.2	18.1	18.3	21.4	105.0
120°	19.9	22.8	83.2	146.7	171.7	142.1	72.4	17.9	17.9	19.1	98.5
121°	19.3	22.4	77.4	138.4	162.4	133.9	66.5	17.5	17.9	18.0	91.8
122°	18.7	22.0	71.7	130.3	154.3	126.0	61.8	17.3	17.7	17.6	85.4
123°	18.1	21.2	66.3	122.9	144.9	117.9	56.2	16.5	16.8	17.2	78.5
124°	17.2	21.2	61.3	115.1	136.9	110.6	51.3	16.2	16.2	16.6	72.8
125°	17.0	20.7	56.0	107.8	127.7	103.0	46.4	15.9	15.8	16.4	66.7
126°	16.4	19.9	50.9	100.3	120.4	95.8	41.4	15.4	15.3	15.8	61.2
127°	16.0	19.7	46.0	93.5	112.3	88.7	37.1	15.2	14.7	15.4	55.9
128°	15.6	19.3	41.5	86.6	104.7	81.8	33.1	14.8	14.2	15.1	50.2
129°	15.1	18.7	36.9	79.9	97.1	74.8	28.3	14.6	13.7	14.9	45.0
130°	15.1	18.3	32.5	73.3	90.2	68.7	24.8	14.6	13.1	14.7	40.1
131°	14.5	18.0	28.7	67.1	82.1	62.6	21.2	13.5	12.7	14.5	34.8
132°	14.1	17.4	24.8	61.1	76.1	56.6	18.0	13.1	12.2	13.5	30.4



TEST NUMBER: P861218

CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
135°	12.9	15.8	16.7	44.0	56.2	40.0	12.6	11.9	11.4	12.7	18.2
136°	12.7	15.4	16.3	39.0	50.0	34.8	12.2	11.9	10.2	12.5	14.6
137°	12.2	15.1	15.5	34.1	44.3	30.2	11.8	12.1	9.8	12.2	12.8
138°	12.0	14.7	15.3	29.5	38.5	25.7	11.4	11.9	9.5	11.9	12.2
139°	11.8	14.3	14.5	24.7	33.1	21.3	10.9	10.8	9.4	11.6	11.6
140°	11.6	13.7	14.4	20.7	28.0	17.5	10.5	10.2	8.9	11.4	11.4
141°	11.0	13.5	14.2	17.1	23.1	13.9	10.1	10.0	8.8	11.0	11.1
142°	10.9	13.1	13.8	14.6	18.5	11.5	9.7	9.6	8.7	10.7	10.3
143°	10.7	12.6	13.2	13.8	14.4	11.1	9.7	9.2	8.6	10.3	9.7
144°	10.5	12.4	12.8	13.6	11.7	10.7	9.6	8.8	8.6	10.0	9.3
145°	10.4	12.2	12.6	13.6	10.6	10.5	9.5	8.8	8.7	9.8	9.1
146°	10.2	11.6	12.3	13.2	10.0	10.2	9.5	8.7	8.7	9.7	8.5
147°	10.0	11.2	11.9	12.8	9.8	9.8	9.4	8.6	8.7	9.5	8.3
148°	9.8	10.8	11.6	12.6	9.4	9.6	9.3	8.5	8.7	9.4	8.4
149°	9.5	10.8	11.2	12.4	9.2	9.4	8.7	8.5	8.7	9.4	8.4
150°	9.5	10.6	10.9	12.2	8.8	9.2	8.4	8.5	8.7	9.4	8.5
151°	9.3	10.2	11.1	11.9	8.8	9.0	8.4	8.6	8.7	9.4	8.5
152°	9.1	10.0	10.9	11.7	9.0	8.9	8.3	8.6	8.7	9.3	8.5
153°	8.9	9.8	10.7	11.5	8.8	8.7	8.3	8.6	8.7	9.3	8.6
154°	8.9	9.8	10.5	11.4	8.0	8.6	8.3	8.7	8.7	9.3	8.6
155°	8.8	9.8	10.7	11.2	8.0	8.4	8.3	8.7	8.7	9.3	8.7
156°	8.8	9.8	10.7	11.1	8.0	8.0	8.3	8.8	8.7	9.3	8.7
157°	8.8	9.8	10.7	10.9	7.9	8.2	8.2	8.8	8.7	9.3	8.8
158°	8.7	9.8	10.6	10.7	7.9	8.2	8.2	8.9	9.0	9.3	8.8
159°	8.9	9.8	10.6	10.5	7.9	8.2	8.2	8.9	9.3	9.3	8.8
160°	9.0	9.8	10.6	10.4	7.9	8.2	8.2	9.0	9.6	9.3	8.9
161°	9.2	9.8	10.6	10.2	8.0	8.2	8.2	9.0	9.9	9.7	8.9
162°	9.3	9.8	10.6	10.1	8.0	8.2	8.6	9.1	10.2	10.1	9.9
163°	9.4	9.8	10.6	9.9	8.0	8.2	8.8	9.8	10.6	10.8	10.5
164°	9.7	9.8	10.6	9.9	8.1	8.2	8.8	10.2	11.2	11.0	10.9
165°	9.8	9.8	10.6	9.8	8.1	8.2	8.9	10.4	12.0	11.2	11.1
166°	10.4	9.8	10.6	9.7	8.2	8.2	9.3	10.8	12.6	11.8	11.2
167°	11.4	10.0	10.6	9.7	8.2	8.2	9.1	11.2	13.1	11.8	11.8
168°	11.6	10.6	10.6	9.6	8.2	8.2	9.2	11.0	13.3	11.8	12.6
169°	11.8	11.6	10.5	9.5	8.3	8.2	9.3	11.2	13.5	11.8	12.8
170°	11.6	11.8	10.5	9.5	8.3	8.2	9.4	11.2	13.7	11.8	12.8
171°	12.0	11.8	10.5	9.5	8.3	8.2	9.5	11.4	13.9	11.9	12.8
172°	11.9	12.0	10.5	9.4	8.4	8.2	9.6	11.4	14.1	11.9	12.7
173°	11.9	12.4	10.5	9.4	8.4	8.2	9.7	11.5	14.0	11.9	12.7
174°	11.9	12.7	10.5	9.3	8.4	8.6	10.1	11.6	14.0	11.9	12.7
175°	11.8	12.5	10.5	9.3	8.6	8.4	9.9	11.7	14.0	11.9	12.7
176°	11.8	12.5	10.5	9.2	9.0	9.0	9.9	11.8	13.9	12.0	12.6
177°	11.8	12.5	11.1	9.1	9.2	9.2	9.9	11.9	13.9	12.0	12.6

TEST NUMBER: P861218
CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
180°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0



TEST NUMBER: P861218

CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2938.1	2938.1	2938.1	2938.1	2938.1	2938.1
1°	2937.9	2938.5	2938.9	2938.5	2938.5	2938.1
2°	2937.9	2938.7	2939.3	2938.9	2938.3	2937.7
3°	2936.8	2938.9	2939.3	2938.9	2935.2	2934.3
4°	2933.7	2936.6	2937.5	2937.2	2931.0	2929.7
5°	2930.4	2932.2	2934.3	2934.1	2925.5	2923.9
6°	2925.7	2927.6	2930.4	2930.3	2918.6	2916.6
7°	2919.5	2921.8	2924.9	2925.3	2910.5	2908.0
8°	2913.6	2916.4	2918.6	2918.9	2901.7	2897.7
9°	2906.3	2909.5	2911.3	2910.5	2891.0	2886.7
10°	2898.0	2902.5	2902.6	2901.5	2878.9	2874.5
11°	2888.8	2893.8	2893.3	2891.7	2865.8	2861.2
12°	2878.7	2883.1	2883.7	2880.4	2852.2	2846.7
13°	2867.8	2872.4	2873.1	2867.6	2836.5	2831.1
14°	2855.5	2860.1	2861.6	2853.8	2820.6	2813.5
15°	2843.4	2847.4	2849.5	2839.4	2803.5	2795.3
16°	2829.4	2833.1	2835.6	2823.3	2784.9	2776.5
17°	2815.2	2819.3	2821.8	2806.6	2766.4	2757.0
18°	2799.1	2803.5	2805.3	2788.6	2747.0	2735.5
19°	2782.3	2788.2	2788.6	2769.4	2725.7	2713.3
20°	2764.2	2771.3	2770.2	2749.7	2703.3	2689.7
21°	2744.5	2753.7	2751.4	2730.1	2680.1	2664.9
22°	2724.9	2735.5	2732.4	2708.5	2655.6	2638.9
23°	2704.4	2715.9	2712.7	2685.1	2630.2	2612.2
24°	2684.1	2696.6	2691.6	2661.5	2604.8	2584.6
25°	2663.0	2677.0	2669.5	2637.7	2577.5	2556.3
26°	2642.1	2657.5	2647.5	2612.6	2549.9	2527.1
27°	2619.1	2635.0	2623.3	2586.7	2520.6	2496.8
28°	2595.4	2612.6	2600.3	2559.5	2491.3	2465.0
29°	2571.4	2588.7	2575.0	2532.1	2460.6	2433.6
30°	2547.2	2564.9	2551.3	2503.3	2430.1	2400.8
31°	2522.3	2540.3	2526.0	2474.4	2398.5	2367.2
32°	2495.9	2514.7	2500.3	2445.3	2365.3	2332.9
33°	2469.6	2488.8	2473.8	2414.6	2332.4	2298.2
34°	2443.2	2463.7	2447.9	2383.3	2298.6	2262.0
35°	2415.4	2436.8	2419.6	2352.3	2263.9	2226.5
36°	2386.8	2410.8	2391.8	2319.1	2228.8	2189.7
37°	2357.8	2383.5	2363.8	2286.9	2193.4	2152.2
38°	2329.5	2357.1	2334.5	2253.8	2156.8	2114.6
39°	2300.5	2329.3	2304.9	2220.4	2120.5	2075.9
40°	2271.0	2300.5	2275.2	2185.3	2083.0	2037.7
41°	2242.6	2272.4	2244.9	2151.4	2045.4	1999.8
42°	2212.7	2242.6	2214.1	2115.7	2007.6	1959.7



TEST NUMBER: P861218

CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	2121.5	2153.1	2118.8	2008.6	1891.7	1837.8
46°	2089.9	2121.9	2086.2	1972.2	1852.1	1796.3
47°	2058.0	2090.2	2054.8	1935.4	1812.8	1754.0
48°	2026.2	2059.8	2020.8	1898.1	1772.9	1711.8
49°	1993.6	2027.8	1988.1	1861.4	1732.3	1669.0
50°	1961.0	1996.3	1954.1	1824.2	1691.6	1626.9
51°	1928.3	1964.5	1919.6	1786.5	1649.9	1583.2
52°	1894.2	1932.1	1885.8	1748.9	1609.3	1540.2
53°	1860.9	1901.3	1851.6	1710.8	1567.7	1497.0
54°	1826.8	1868.6	1816.4	1672.8	1526.2	1453.1
55°	1792.4	1836.6	1780.7	1635.2	1484.2	1409.2
56°	1757.2	1803.1	1744.5	1596.7	1442.3	1365.1
57°	1722.8	1769.9	1709.5	1558.6	1399.7	1320.8
58°	1687.0	1734.9	1672.0	1519.4	1357.9	1276.3
59°	1651.5	1700.6	1636.8	1480.8	1315.0	1231.4
60°	1615.7	1666.2	1599.9	1442.5	1272.1	1186.0
61°	1579.1	1630.3	1564.4	1403.9	1229.0	1139.9
62°	1542.4	1595.6	1527.2	1365.1	1186.2	1094.1
63°	1506.1	1559.8	1490.4	1326.4	1142.9	1048.4
64°	1469.1	1524.1	1453.1	1287.3	1100.3	1003.2
65°	1432.7	1488.0	1415.9	1248.6	1056.7	956.7
66°	1396.3	1450.9	1378.7	1210.2	1014.0	910.4
67°	1358.6	1415.2	1341.1	1171.5	971.6	864.4
68°	1321.4	1377.0	1303.4	1132.5	929.2	818.4
69°	1283.7	1341.3	1265.7	1092.5	886.3	772.9
70°	1246.2	1303.7	1228.4	1053.7	844.7	726.5
71°	1207.3	1266.1	1190.6	1014.1	802.1	680.4
72°	1169.2	1228.7	1152.9	975.2	760.9	635.2
73°	1130.8	1190.3	1115.0	935.2	719.2	589.3
74°	1092.4	1152.1	1076.6	896.5	677.6	544.0
75°	1055.7	1111.4	1039.2	857.1	636.7	499.2
76°	1018.3	1071.2	1001.6	818.8	597.0	455.5
77°	981.7	1029.8	963.9	780.0	557.3	412.0
78°	944.3	987.9	926.9	741.7	518.1	369.2
79°	906.4	948.7	887.5	704.9	479.4	327.7
80°	869.4	909.0	851.6	668.8	441.9	287.8
81°	833.5	870.0	814.6	633.9	405.6	248.5
82°	797.3	832.3	778.1	599.6	371.3	211.2
83°	762.9	795.6	742.9	566.8	338.2	176.2
84°	730.0	762.0	708.6	534.5	306.8	144.5
85°	697.6	728.2	675.8	503.9	277.3	115.4
86°	666.8	698.5	645.5	475.2	251.0	90.6
87°	637.8	668.6	616.7	448.8	226.1	69.4



TEST NUMBER: P861218

CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	568.4	597.5	547.2	384.3	171.4	37.0
91°	549.6	577.9	527.5	369.3	161.1	35.1
92°	533.2	561.2	511.4	355.4	151.6	34.2
93°	517.6	545.1	496.1	342.0	143.0	33.2
94°	501.8	529.7	480.3	328.3	134.2	32.4
95°	486.0	514.1	465.5	315.5	126.2	31.8
96°	470.1	499.6	450.6	304.0	118.6	31.1
97°	455.2	484.9	436.2	293.2	110.8	30.5
98°	440.1	469.9	422.6	281.9	103.5	29.7
99°	424.7	457.2	409.1	270.1	97.1	29.3
100°	410.7	443.1	394.7	259.3	91.2	28.9
101°	396.6	429.2	380.8	248.2	85.2	28.4
102°	381.7	416.7	367.0	238.0	79.6	28.0
103°	369.1	403.6	353.5	227.8	74.8	27.6
104°	354.4	390.5	341.1	217.4	69.7	27.0
105°	341.7	378.3	329.5	207.6	65.0	26.4
106°	328.2	366.0	318.4	197.8	60.8	25.9
107°	315.2	353.3	307.2	188.5	56.8	25.3
108°	302.5	340.6	294.7	179.3	52.8	24.7
109°	290.7	327.9	282.7	170.7	49.0	24.3
110°	278.5	314.7	271.4	162.3	45.1	23.9
111°	267.0	302.3	259.8	153.9	41.7	23.5
112°	255.8	290.0	248.7	145.8	38.5	23.0
113°	245.1	278.1	237.4	138.0	35.4	23.0
114°	234.1	266.6	226.9	130.4	32.5	22.4
115°	223.5	255.7	216.8	123.5	29.9	22.0
116°	213.1	244.3	206.8	116.1	27.3	21.6
117°	203.2	233.0	196.6	109.2	25.4	21.2
118°	192.6	222.5	186.6	102.5	24.2	20.7
119°	183.3	211.9	177.4	96.1	24.2	20.3
120°	174.0	202.0	168.1	89.8	23.7	19.9
121°	164.2	191.7	159.4	83.7	23.1	19.3
122°	155.8	182.0	150.7	77.9	22.7	18.7
123°	146.6	172.4	141.8	71.8	22.3	18.1
124°	138.1	163.0	133.4	66.2	21.9	17.2
125°	129.8	154.0	125.5	61.2	21.4	17.0
126°	121.2	145.0	117.5	55.6	21.2	16.4
127°	113.8	136.0	109.4	50.6	20.4	16.0
128°	105.5	127.6	101.9	45.7	20.0	15.6
129°	98.0	119.1	94.3	40.9	19.8	15.1
130°	90.5	111.2	86.8	36.2	19.1	15.1
131°	83.1	102.8	79.9	32.5	18.5	14.5
132°	76.3	95.0	72.9	28.2	18.1	14.1



TEST NUMBER: P861218

CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
135°	56.3	73.0	54.3	18.7	16.7	12.9
136°	50.2	66.1	48.6	17.9	16.5	12.7
137°	44.3	60.0	42.8	17.1	15.8	12.2
138°	38.4	53.8	37.6	16.7	15.4	12.0
139°	32.8	47.5	32.6	16.3	15.0	11.8
140°	27.5	41.5	27.7	15.8	14.4	11.6
141°	22.5	36.1	23.1	15.6	14.0	11.0
142°	17.8	30.7	19.2	15.0	13.7	10.9
143°	13.8	25.6	16.2	14.6	13.3	10.7
144°	11.9	20.8	15.6	14.2	13.1	10.5
145°	11.5	17.1	15.0	13.6	12.5	10.4
146°	11.3	15.1	14.7	13.4	12.3	10.2
147°	11.1	14.5	14.7	12.8	11.5	10.0
148°	10.3	14.3	14.3	12.5	11.7	9.8
149°	9.9	14.1	14.1	12.1	11.4	9.5
150°	9.7	13.7	13.7	11.9	11.0	9.5
151°	9.5	13.3	13.3	11.5	11.0	9.3
152°	8.8	13.1	12.7	11.3	10.4	9.1
153°	8.9	12.5	12.5	11.1	10.4	8.9
154°	8.6	12.5	12.5	11.1	10.4	8.9
155°	8.5	11.9	11.9	11.1	10.4	8.8
156°	8.4	11.7	11.9	11.1	10.4	8.8
157°	8.3	11.5	11.5	11.1	10.5	8.8
158°	8.2	11.3	11.3	11.1	10.5	8.7
159°	8.1	11.2	11.1	11.2	10.5	8.9
160°	8.0	11.0	11.3	11.2	10.5	9.0
161°	8.2	11.0	11.1	11.2	10.5	9.2
162°	8.4	10.8	10.8	11.2	10.6	9.3
163°	8.8	10.7	10.7	11.2	10.6	9.4
164°	9.1	10.6	10.6	11.2	11.2	9.7
165°	9.5	10.5	10.5	11.2	11.3	9.8
166°	9.5	10.4	10.5	11.2	11.7	10.4
167°	9.7	10.2	10.4	11.3	11.5	11.4
168°	10.3	10.0	10.4	11.3	11.7	11.6
169°	10.1	10.0	10.3	11.3	12.0	11.8
170°	10.5	9.8	10.3	11.3	12.2	11.6
171°	10.5	9.6	10.2	11.3	12.4	12.0
172°	10.6	9.6	10.2	11.4	12.7	11.9
173°	10.6	9.5	10.1	11.4	12.9	11.9
174°	10.7	9.4	10.1	11.4	13.3	11.9
175°	10.8	9.2	10.0	11.4	13.3	11.8
176°	10.8	9.1	10.0	11.5	13.3	11.8
177°	10.9	9.0	10.0	11.7	13.7	11.8



TEST NUMBER: P861218
CATALOG NUMBER: 8APVTLD-SL3C3 MID POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
180°	12.0	12.0	12.0	12.0	12.0	12.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°







43°	1919.3	1946.9	2016.2	2102.1	2135.5	2100.8	2023.0	1941.5	1921.2	1986.2	2085.8
44°	1878.5	1908.2	1981.2	2070.1	2104.6	2068.6	1986.2	1901.8	1880.4	1948.0	2051.1



88°	51.8	198.9	380.8	518.5	576.3	516.1	363.1	176.1	51.2	232.5	449.1
89°	41.7	182.9	363.5	499.2	557.0	496.8	346.1	160.1	38.8	213.6	428.3



133°	13.5	17.0	21.5	55.2	68.6	50.8	15.2	12.7	11.8	13.1	26.2
134°	13.3	16.6	18.3	49.7	62.6	45.3	13.0	12.5	11.8	12.9	21.9



178°	12.0	12.5	10.9	9.1	9.2	9.0	9.9	11.9	13.5	12.0	12.6
179°	12.0	12.5	10.9	9.1	9.2	9.0	9.9	11.9	13.5	12.0	12.6





43°	2182.3	2213.5	2183.2	2080.9	1969.1	1919.3
44°	2152.2	2182.3	2151.2	2045.2	1930.4	1878.5



88°	612.4	642.0	590.7	424.8	205.1	51.8
89°	587.6	618.9	567.5	403.9	185.6	41.7



133°	69.1	87.5	66.4	24.5	17.9	13.5
134°	62.8	80.4	60.6	21.2	17.1	13.3



178°	10.9	9.0	10.0	11.9	13.5	12.0
179°	10.9	9.0	10.0	12.1	13.5	12.0



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

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

METALUX

Report Number: SP1-2210-820-18

Test Date: 11/11/2022

Luminaire Tested: 4APVTLD-SL3C3

Data in this report applies to families of products including 4APVTLD-SL3C3.

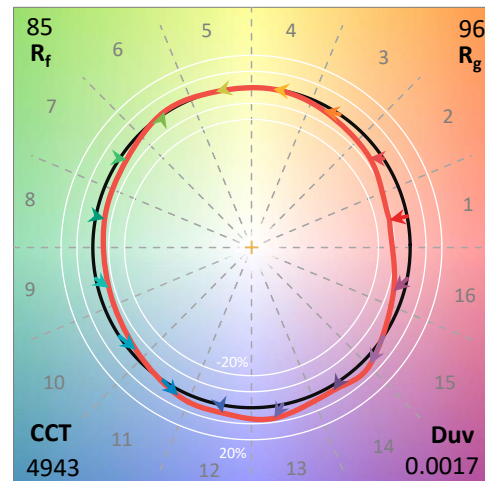
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2210-820-18
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/11/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: METALUX
 Catalog Number: **4APVTLD-SL3C3**
 Description: METALUX

0.1699(@277V) [AT MAX POWER AND 5000K]

Spectral Parameters

CCT (K):	4943	CRI (Ra):	85.1		
CIE u':	0.2108	R1:	83.6	R9:	16.8
CIE v':	0.4873	R2:	91.2	R10:	78.4
Duv:	0.0017	R3:	95.3	R11:	82.6
CIE x:	0.3470	R4:	83.2	R12:	60.5
CIE y:	0.3564	R5:	83.4	R13:	86.0
CIE z:	0.2966	R6:	86.5	R14:	97.8
Peak Wavelength (nm):	452	R7:	88.0		
Dominant Wavelength (nm):	571	R8:	69.5		
Purity:	11.1				
Rf:	85.4				
Rg:	95.7				



Test Conditions

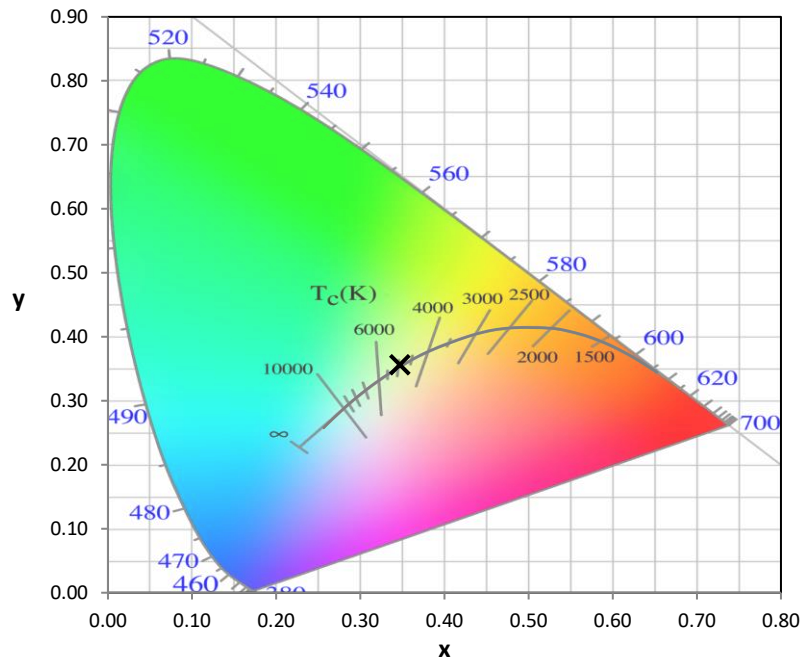
Stabilization Time: 70M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.0/52%
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2210-820-18

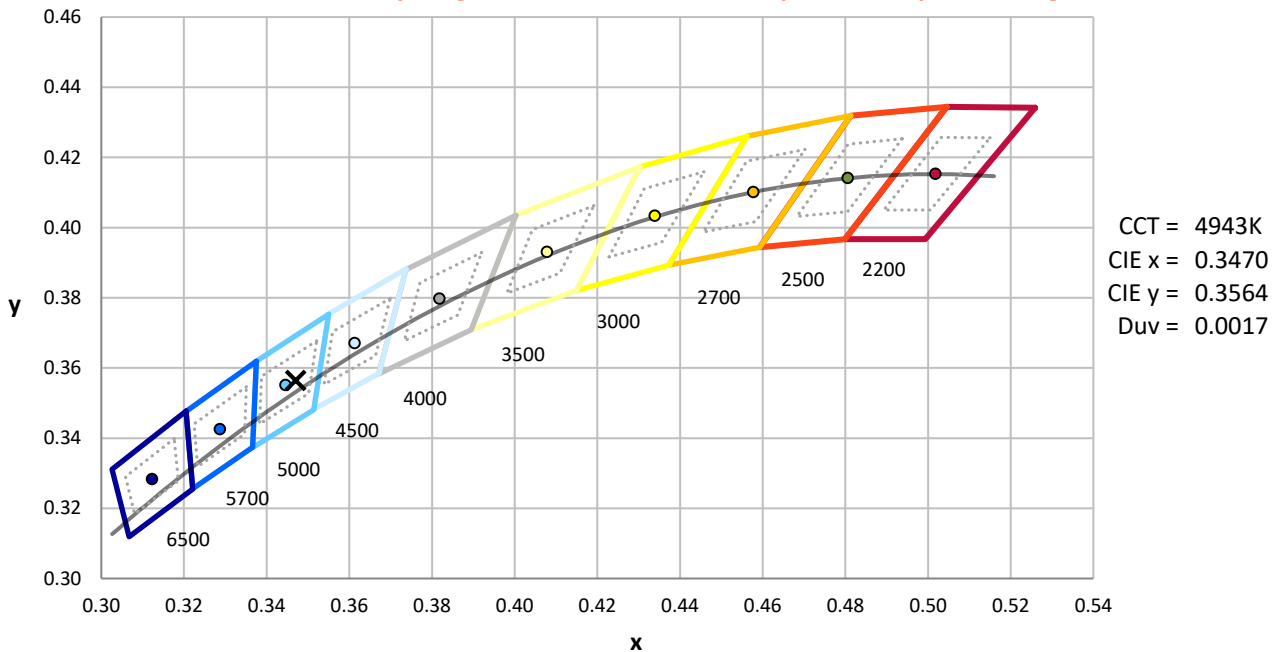
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	8/8/2022	2/8/2023
Power Meter	XITRON 2801 IN0071	11/29/2021	11/29/2022
AC Power Source	CHROMA 61603 IN0063	11/29/2021	11/29/2022
DC Power Source	AGILENT E3634A IN0208	11/29/2021	11/29/2022
Sphere Thermometer	ONSET IN0085	11/29/2021	11/29/2022
Room Thermometer	ONSET IN0046	11/29/2021	11/29/2022

REPORT NUMBER: SP1-2210-820-18

CIE 1931 Chromaticity Diagram



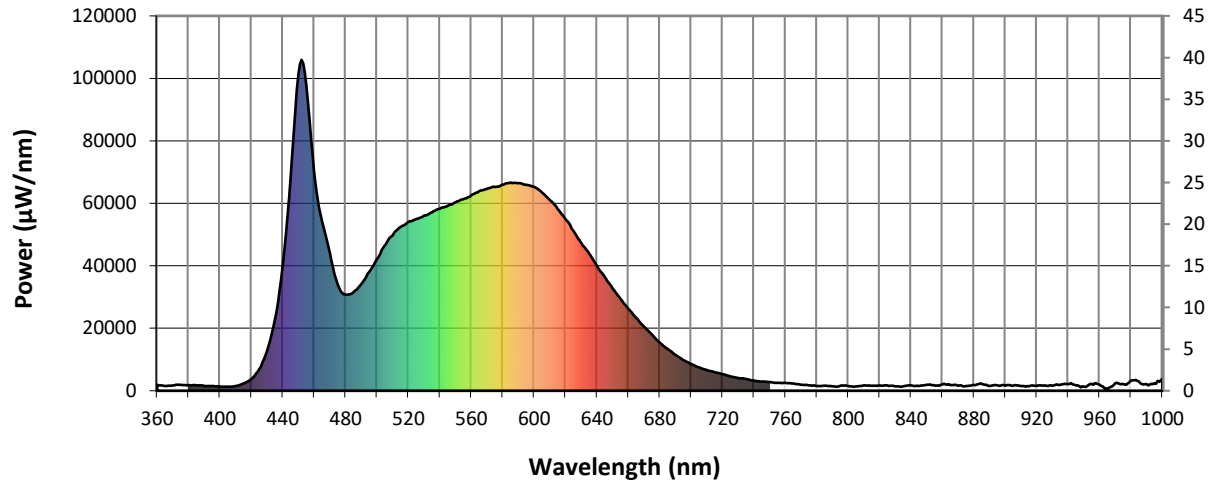
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2210-820-18

Photopic Flux vs. Wavelength

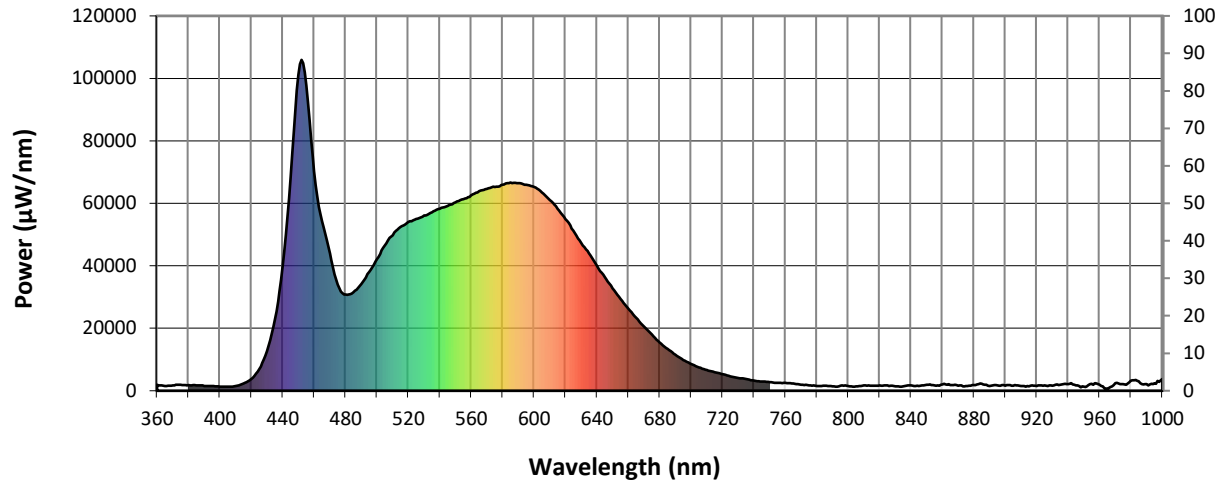


#####

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	1893	NR	490	34177	NR	620	54916	NR	750	2782	NR	880	1820	NR
365	1545	NR	495	38010	NR	625	51257	NR	755	2500	NR	885	2271	NR
370	1699	NR	500	42146	NR	630	47308	NR	760	2486	NR	890	1534	NR
375	1869	NR	505	46431	NR	635	44039	NR	765	2313	NR	895	1734	NR
380	1777	NR	510	49788	NR	640	39981	NR	770	1952	NR	900	1568	NR
385	1753	NR	515	52380	NR	645	36389	NR	775	1752	NR	905	1643	NR
390	1511	NR	520	54014	NR	650	32774	NR	780	1548	NR	910	1551	NR
395	1483	NR	525	54953	NR	655	29367	NR	785	1620	NR	915	1428	NR
400	1318	NR	530	56065	NR	660	26307	NR	790	1393	NR	920	1468	NR
405	1342	NR	535	57107	NR	665	23364	NR	795	1627	NR	925	1750	NR
410	1469	NR	540	58306	NR	670	20576	NR	800	1553	NR	930	1641	NR
415	2297	NR	545	59230	NR	675	17969	NR	805	1356	NR	935	1881	NR
420	3731	NR	550	60272	NR	680	15411	NR	810	1669	NR	940	2088	NR
425	6912	NR	555	61298	NR	685	13354	NR	815	1647	NR	945	1721	NR
430	12723	NR	560	62528	NR	690	11535	NR	820	1702	NR	950	1281	NR
435	22892	NR	565	63874	NR	695	9837	NR	825	1689	NR	955	2199	NR
440	39880	NR	570	64630	NR	700	8571	NR	830	1456	NR	960	1889	NR
445	68496	NR	575	65183	NR	705	7495	NR	835	1385	NR	965	707	NR
450	101099	NR	580	65979	NR	710	6588	NR	840	1748	NR	970	2458	NR
455	97717	NR	585	66701	NR	715	5938	NR	845	1548	NR	975	2097	NR
460	70276	NR	590	66508	NR	720	5289	NR	850	1920	NR	980	3285	NR
465	54311	NR	595	65934	NR	725	4630	NR	855	1663	NR	985	3054	NR
470	43940	NR	600	65218	NR	730	4073	NR	860	2052	NR	990	2145	NR
475	34008	NR	605	63482	NR	735	3717	NR	865	1849	NR	995	2463	NR
480	30758	NR	610	61041	NR	740	3235	NR	870	1628	NR	1000	3802	NR
485	31504	NR	615	58238	NR	745	2924	NR	875	1526	NR			

REPORT NUMBER: SP1-2210-820-18

Scotopic Flux vs. Wavelength



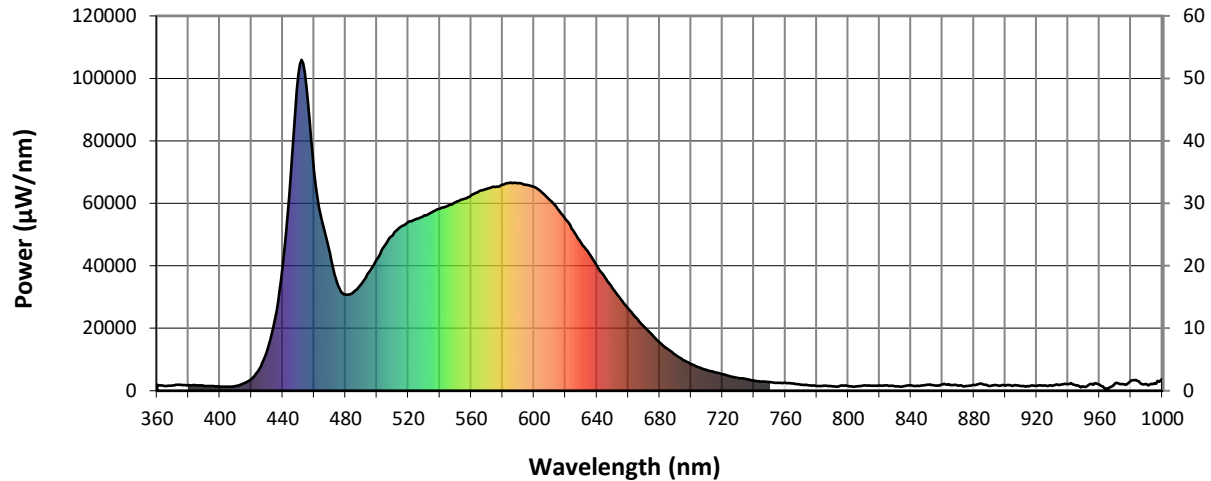
Scotopic Lumens: 8348.9

S/P: 1.99

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	1893	NR	490	34177	NR	620	54916	NR	750	2782	NR	880	1820	NR
365	1545	NR	495	38010	NR	625	51257	NR	755	2500	NR	885	2271	NR
370	1699	NR	500	42146	NR	630	47308	NR	760	2486	NR	890	1534	NR
375	1869	NR	505	46431	NR	635	44039	NR	765	2313	NR	895	1734	NR
380	1777	NR	510	49788	NR	640	39981	NR	770	1952	NR	900	1568	NR
385	1753	NR	515	52380	NR	645	36389	NR	775	1752	NR	905	1643	NR
390	1511	NR	520	54014	NR	650	32774	NR	780	1548	NR	910	1551	NR
395	1483	NR	525	54953	NR	655	29367	NR	785	1620	NR	915	1428	NR
400	1318	NR	530	56065	NR	660	26307	NR	790	1393	NR	920	1468	NR
405	1342	NR	535	57107	NR	665	23364	NR	795	1627	NR	925	1750	NR
410	1469	NR	540	58306	NR	670	20576	NR	800	1553	NR	930	1641	NR
415	2297	NR	545	59230	NR	675	17969	NR	805	1356	NR	935	1881	NR
420	3731	NR	550	60272	NR	680	15411	NR	810	1669	NR	940	2088	NR
425	6912	NR	555	61298	NR	685	13354	NR	815	1647	NR	945	1721	NR
430	12723	NR	560	62528	NR	690	11535	NR	820	1702	NR	950	1281	NR
435	22892	NR	565	63874	NR	695	9837	NR	825	1689	NR	955	2199	NR
440	39880	NR	570	64630	NR	700	8571	NR	830	1456	NR	960	1889	NR
445	68496	NR	575	65183	NR	705	7495	NR	835	1385	NR	965	707	NR
450	101099	NR	580	65979	NR	710	6588	NR	840	1748	NR	970	2458	NR
455	97717	NR	585	66701	NR	715	5938	NR	845	1548	NR	975	2097	NR
460	70276	NR	590	66508	NR	720	5289	NR	850	1920	NR	980	3285	NR
465	54311	NR	595	65934	NR	725	4630	NR	855	1663	NR	985	3054	NR
470	43940	NR	600	65218	NR	730	4073	NR	860	2052	NR	990	2145	NR
475	34008	NR	605	63482	NR	735	3717	NR	865	1849	NR	995	2463	NR
480	30758	NR	610	61041	NR	740	3235	NR	870	1628	NR	1000	3802	NR
485	31504	NR	615	58238	NR	745	2924	NR	875	1526	NR			

REPORT NUMBER: SP1-2210-820-18

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3536.5 S/P: 0.84

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	1893	NR	490	34177	NR	620	54916	NR	750	2782	NR	880	1820	NR
365	1545	NR	495	38010	NR	625	51257	NR	755	2500	NR	885	2271	NR
370	1699	NR	500	42146	NR	630	47308	NR	760	2486	NR	890	1534	NR
375	1869	NR	505	46431	NR	635	44039	NR	765	2313	NR	895	1734	NR
380	1777	NR	510	49788	NR	640	39981	NR	770	1952	NR	900	1568	NR
385	1753	NR	515	52380	NR	645	36389	NR	775	1752	NR	905	1643	NR
390	1511	NR	520	54014	NR	650	32774	NR	780	1548	NR	910	1551	NR
395	1483	NR	525	54953	NR	655	29367	NR	785	1620	NR	915	1428	NR
400	1318	NR	530	56065	NR	660	26307	NR	790	1393	NR	920	1468	NR
405	1342	NR	535	57107	NR	665	23364	NR	795	1627	NR	925	1750	NR
410	1469	NR	540	58306	NR	670	20576	NR	800	1553	NR	930	1641	NR
415	2297	NR	545	59230	NR	675	17969	NR	805	1356	NR	935	1881	NR
420	3731	NR	550	60272	NR	680	15411	NR	810	1669	NR	940	2088	NR
425	6912	NR	555	61298	NR	685	13354	NR	815	1647	NR	945	1721	NR
430	12723	NR	560	62528	NR	690	11535	NR	820	1702	NR	950	1281	NR
435	22892	NR	565	63874	NR	695	9837	NR	825	1689	NR	955	2199	NR
440	39880	NR	570	64630	NR	700	8571	NR	830	1456	NR	960	1889	NR
445	68496	NR	575	65183	NR	705	7495	NR	835	1385	NR	965	707	NR
450	101099	NR	580	65979	NR	710	6588	NR	840	1748	NR	970	2458	NR
455	97717	NR	585	66701	NR	715	5938	NR	845	1548	NR	975	2097	NR
460	70276	NR	590	66508	NR	720	5289	NR	850	1920	NR	980	3285	NR
465	54311	NR	595	65934	NR	725	4630	NR	855	1663	NR	985	3054	NR
470	43940	NR	600	65218	NR	730	4073	NR	860	2052	NR	990	2145	NR
475	34008	NR	605	63482	NR	735	3717	NR	865	1849	NR	995	2463	NR
480	30758	NR	610	61041	NR	740	3235	NR	870	1628	NR	1000	3802	NR
485	31504	NR	615	58238	NR	745	2924	NR	875	1526	NR			

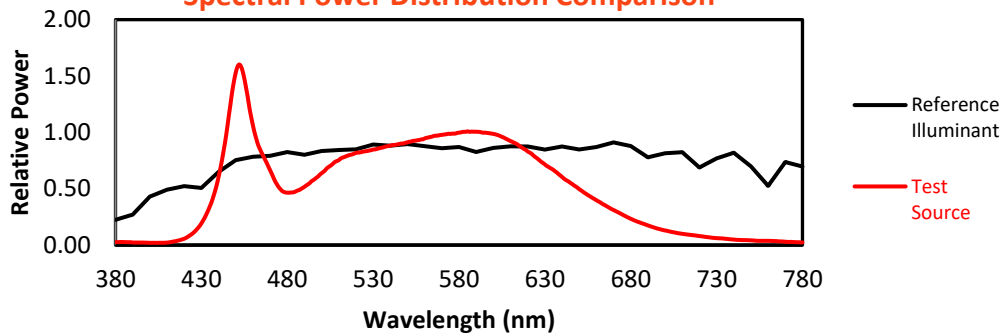
REPORT NUMBER: SP1-2210-820-18

TM-30-18

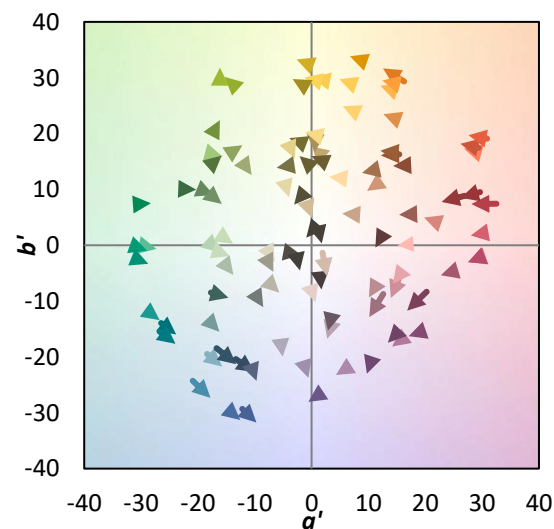
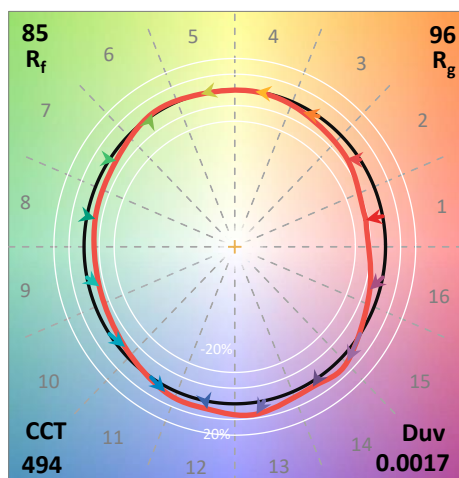
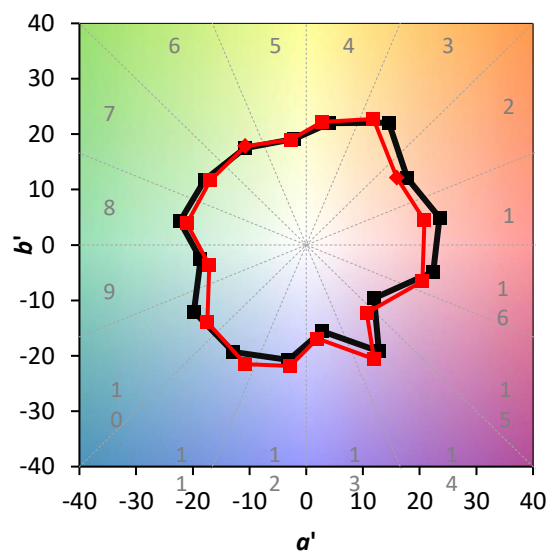
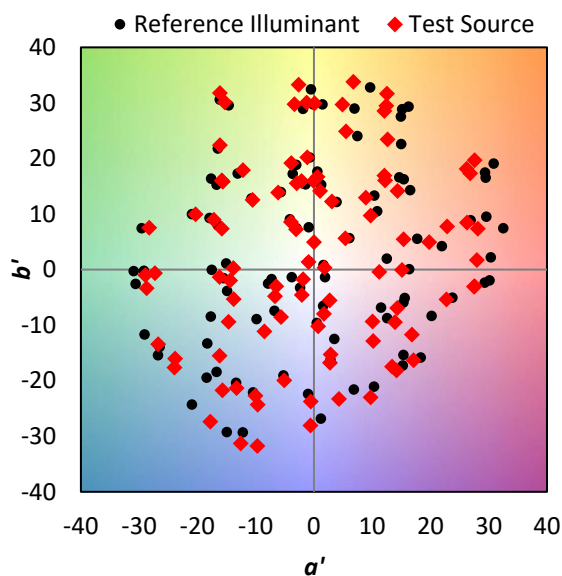
Summary

$R_f = 85.4$
 $R_g = 95.7$
 CIE $R_a = 85.1$
 $R_g = 16.8$

Spectral Power Distribution Comparison



Color Vector Graphics

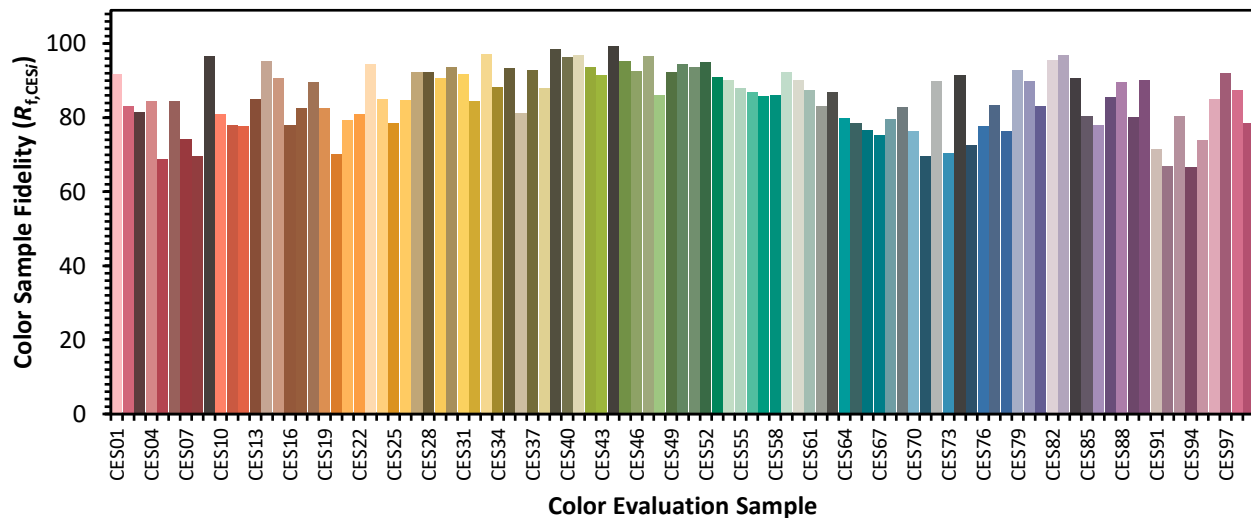


REPORT NUMBER: SP1-2210-820-18

TM-30-18

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

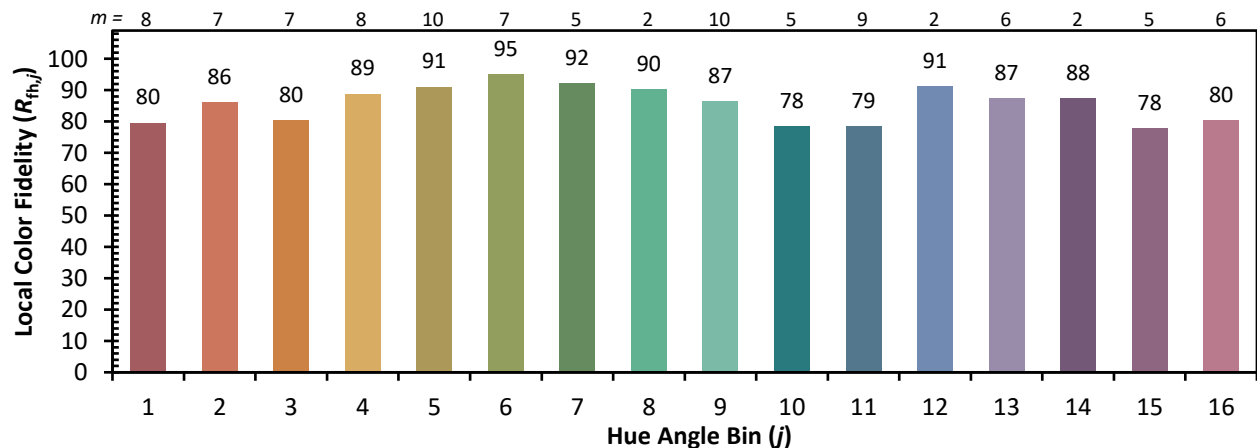
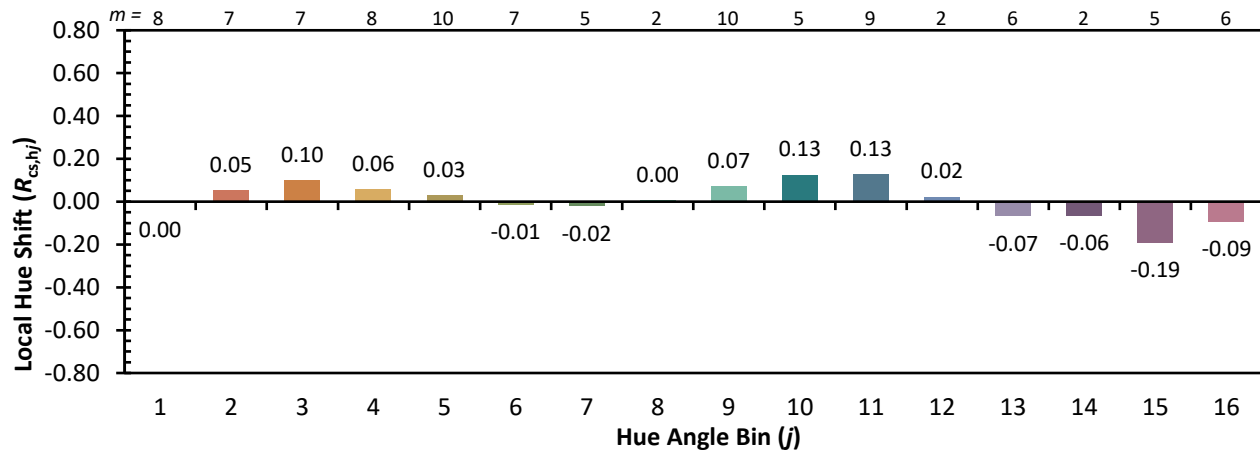
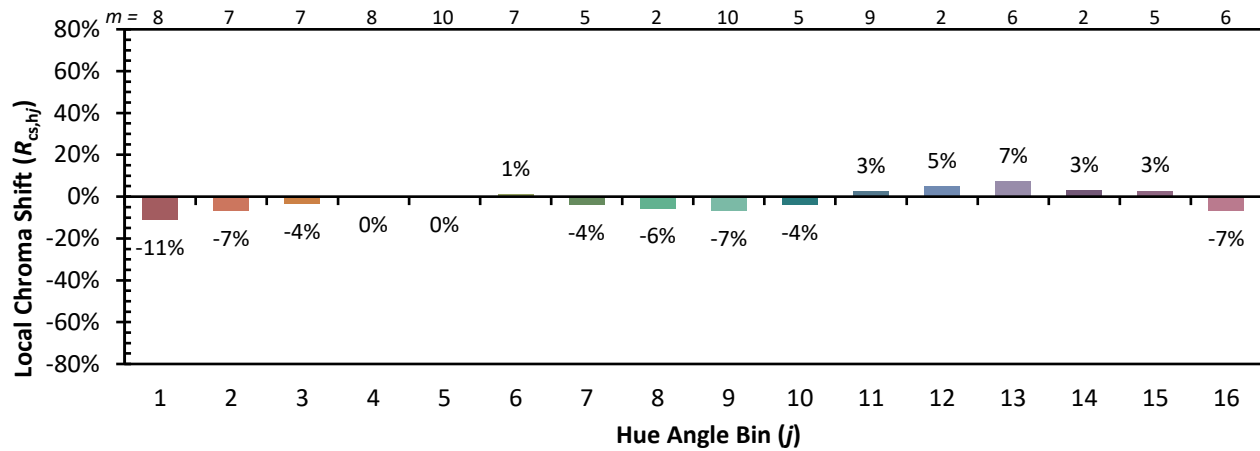
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CES03 = 31	CES28 = 92	CES53 = 91	CES78 = 76
CES04 = 69	CES29 = 91	CES54 = 90	CES79 = 93
CES05 = 47	CES30 = 93	CES55 = 88	CES80 = 90
CES06 = 50	CES31 = 92	CES56 = 87	CES81 = 83
CES07 = 40	CES32 = 84	CES57 = 86	CES82 = 96
CES08 = 39	CES33 = 97	CES58 = 86	CES83 = 97
CES09 = 29	CES34 = 88	CES59 = 92	CES84 = 91
CES10 = 73	CES35 = 93	CES60 = 90	CES85 = 80
CES11 = 56	CES36 = 81	CES61 = 87	CES86 = 78
CES12 = 62	CES37 = 93	CES62 = 83	CES87 = 86
CES13 = 42	CES38 = 88	CES63 = 87	CES88 = 90
CES14 = 74	CES39 = 98	CES64 = 80	CES89 = 80
CES15 = 71	CES40 = 96	CES65 = 78	CES90 = 90
CES16 = 46	CES41 = 97	CES66 = 77	CES91 = 71
CES17 = 49	CES42 = 93	CES67 = 75	CES92 = 67
CES18 = 56	CES43 = 92	CES68 = 79	CES93 = 80
CES19 = 70	CES44 = 99	CES69 = 83	CES94 = 66
CES20 = 64	CES45 = 95	CES70 = 76	CES95 = 74
CES21 = 85	CES46 = 93	CES71 = 70	CES96 = 85
CES22 = 77	CES47 = 97	CES72 = 90	CES97 = 92
CES23 = 91	CES48 = 86	CES73 = 70	CES98 = 87
CES24 = 90	CES49 = 92	CES74 = 91	CES99 = 78
CES25 = 71	CES50 = 94	CES75 = 73	



REPORT NUMBER: SP1-2210-820-18

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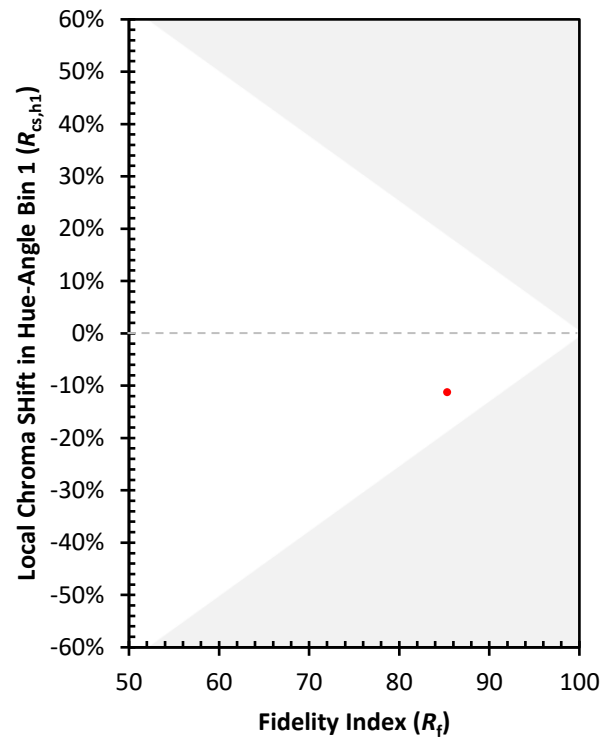
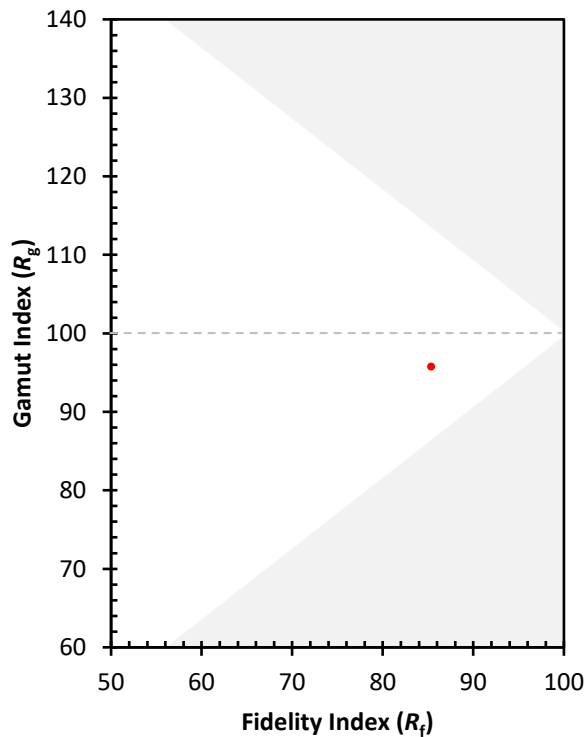
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)