

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: P861212

Luminaire Tested: **8APVTLD-SL3C3 LO 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: P861212
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 LO POWER 5000K 277V
Description: LOW POWER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

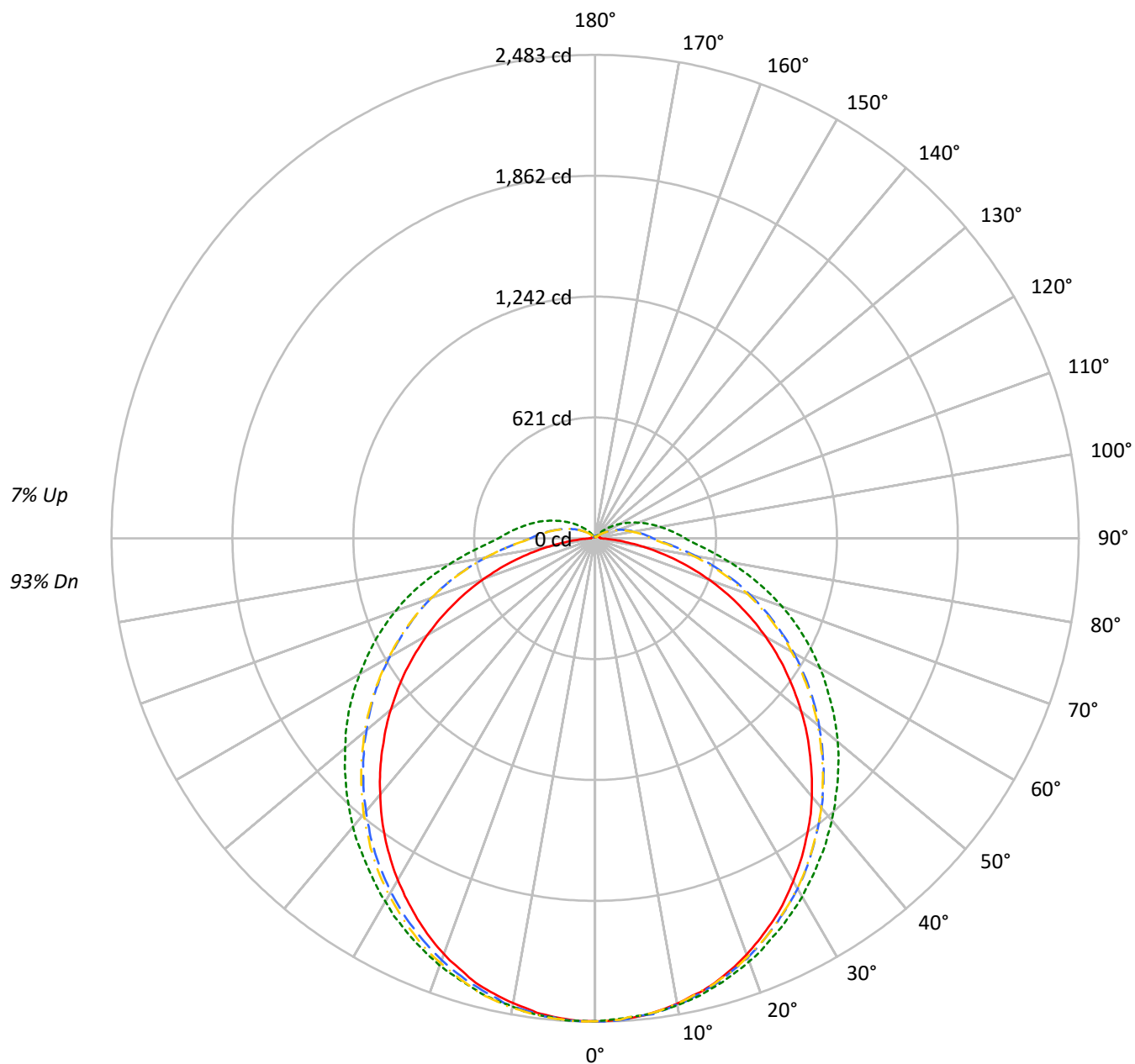
Lumens per Lamp: N/A
Luminaire Lumens: 8426.7 lumens
Efficiency: N/A
Efficacy: 140.4 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 8' x H: 0.08')
CIE Type: Direct

Input Watts (W): 60
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

TEST NUMBER: P861212

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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10014	10014	10014	10014
5°	9990	9769	9988	9797
10°	9930	9563	9920	9587
15°	9862	9335	9854	9384
20°	9735	9108	9722	9192
25°	9597	8875	9566	8983
30°	9424	8659	9387	8775
35°	9236	8429	9198	8580
40°	9043	8237	8967	8426
45°	8807	8044	8743	8258
50°	8568	7865	8494	8111
55°	8297	7678	8238	8005
60°	8010	7509	7893	7863
65°	7642	7318	7482	7759
70°	7155	7130	6968	7619
75°	6458	6924	6247	7472
80°	5505	6731	5195	7277
85°	4279	6713	3807	7296



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.6	2.8
10°-20°	670.9	8.0
20°-30°	1014.6	12.0
30°-40°	1226.5	14.6
40°-50°	1290.8	15.3
50°-60°	1212.6	14.4
60°-70°	1011.3	12.0
70°-80°	721.3	8.6
80°-90°	422.4	5.0
90°-100°	262.9	3.1
100°-110°	172.8	2.1
110°-120°	101.5	1.2
120°-130°	51.6	0.6
130°-140°	19.8	0.2
140°-150°	6.2	0.1
150°-160°	3.6	0.0
160°-170°	2.3	0.0
170°-180°	0.8	0.0
0°-30°	1920.2	22.8
0°-40°	3146.7	37.3
0°-60°	5650.1	67.1
0°-90°	7805.2	92.6
90°-120°	537.2	6.4
90°-150°	614.8	7.3
90°-180°	621.0	7.4
0°-180°	8426.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2481	2481	2481	2481	2481	
5°	2468	2464	2467	2471	2468	234
15°	2366	2384	2365	2396	2366	667
25°	2165	2225	2158	2252	2165	997
35°	1888	2010	1880	2046	1888	1182
45°	1559	1762	1548	1808	1559	1203
55°	1196	1480	1188	1544	1196	1070
65°	818	1177	801	1248	818	809
75°	430	858	416	926	430	456
85°	103	559	92	608	103	115
90°	31	463	23	497	31	19
95°	26	399	21	430	26	21
105°	22	286	18	316	22	24
115°	18	189	15	212	18	18
125°	14	110	12	127	14	13
135°	11	49	8	60	11	8
145°	8	8	6	14	8	5
155°	7	7	6	10	7	3
165°	7	6	9	8	7	2
175°	9	6	10	7	9	1
180°	9	9	9	9	9	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8
1°	2481.0	2477.3	2482.9	2477.7	2477.5	2482.9	2480.2	2477.1	2480.8	2479.8	2481.7
2°	2478.7	2477.5	2481.5	2475.0	2472.9	2477.3	2477.3	2475.0	2480.8	2476.8	2481.9
3°	2477.5	2479.6	2479.0	2474.5	2471.4	2480.2	2476.8	2474.3	2477.0	2476.0	2481.0
4°	2472.8	2475.8	2474.7	2469.5	2467.4	2471.4	2465.7	2467.6	2471.6	2470.7	2473.3
5°	2467.8	2472.8	2466.5	2465.3	2463.6	2465.9	2464.6	2462.1	2467.2	2466.8	2470.3
6°	2462.5	2464.9	2462.3	2462.1	2460.9	2462.8	2458.8	2456.0	2460.9	2462.5	2469.7
7°	2453.7	2456.4	2461.9	2456.7	2455.4	2455.2	2454.6	2447.6	2455.0	2457.9	2458.8
8°	2445.3	2450.1	2451.6	2448.5	2449.9	2448.9	2447.4	2440.1	2443.0	2448.7	2453.5
9°	2437.5	2441.7	2442.2	2438.6	2443.0	2443.0	2435.0	2433.7	2433.8	2440.1	2446.4
10°	2427.2	2428.9	2430.6	2432.5	2435.9	2436.3	2425.1	2426.2	2424.7	2431.7	2440.3
11°	2415.2	2420.5	2424.7	2423.0	2427.0	2423.0	2416.7	2413.8	2414.0	2420.5	2433.3
12°	2401.4	2403.9	2410.8	2411.3	2418.6	2412.7	2404.5	2402.2	2402.2	2407.9	2417.1
13°	2394.0	2394.0	2398.6	2399.9	2408.5	2404.3	2389.2	2386.5	2390.4	2391.5	2404.7
14°	2379.3	2381.8	2384.6	2389.2	2394.4	2390.5	2379.9	2374.0	2377.8	2378.7	2393.8
15°	2366.5	2365.0	2373.0	2376.8	2383.5	2376.2	2368.6	2360.6	2364.6	2367.3	2379.5
16°	2348.2	2351.8	2360.4	2362.3	2371.3	2363.7	2352.0	2339.6	2346.5	2351.4	2368.6
17°	2330.8	2334.3	2340.6	2348.2	2356.6	2352.0	2341.0	2325.5	2326.3	2336.4	2352.0
18°	2313.9	2320.2	2324.4	2331.4	2342.5	2337.7	2323.4	2308.0	2308.9	2318.4	2337.7
19°	2294.2	2299.6	2309.5	2320.7	2329.1	2321.7	2305.7	2285.8	2292.5	2300.1	2321.9
20°	2275.0	2279.2	2292.7	2303.6	2313.3	2305.5	2288.5	2269.4	2271.9	2278.6	2304.9
21°	2254.4	2256.1	2271.5	2285.1	2298.0	2286.8	2269.2	2249.6	2251.5	2259.9	2286.4
22°	2231.8	2236.8	2253.8	2270.0	2281.3	2271.5	2250.5	2231.1	2229.4	2241.4	2268.3
23°	2209.5	2215.4	2231.8	2249.4	2260.8	2252.6	2232.0	2209.9	2205.9	2219.3	2249.2
24°	2187.6	2196.0	2210.5	2230.3	2241.4	2231.5	2213.3	2186.6	2182.4	2196.4	2229.2
25°	2165.3	2172.9	2190.3	2214.1	2225.0	2212.2	2189.3	2162.8	2158.2	2174.8	2208.2
26°	2141.6	2147.7	2168.3	2192.2	2206.7	2194.3	2166.6	2139.7	2131.7	2150.8	2189.1
27°	2116.6	2122.9	2148.3	2170.8	2184.9	2176.3	2145.3	2112.3	2105.8	2124.1	2166.6
28°	2088.8	2099.9	2125.0	2149.4	2165.9	2154.0	2123.3	2087.5	2080.6	2099.5	2143.7
29°	2061.5	2074.9	2102.0	2130.8	2146.8	2131.9	2098.5	2062.1	2052.6	2075.1	2120.6
30°	2034.1	2044.2	2078.1	2108.8	2126.0	2108.8	2075.4	2036.7	2026.2	2047.2	2097.6
31°	2005.8	2018.4	2054.7	2087.1	2100.8	2087.5	2052.2	2007.0	1999.3	2020.3	2072.0
32°	1978.4	1991.1	2029.1	2062.5	2079.1	2065.1	2025.9	1979.1	1970.0	1994.2	2047.4
33°	1950.5	1963.3	2003.0	2038.8	2058.1	2038.1	1998.6	1954.1	1939.3	1965.4	2023.2
34°	1919.4	1933.5	1974.4	2016.1	2033.7	2015.0	1972.4	1921.7	1910.3	1937.7	1997.2
35°	1888.1	1905.2	1946.7	1991.9	2010.0	1989.6	1945.7	1891.6	1880.3	1908.2	1971.5
36°	1857.7	1877.5	1919.0	1966.7	1990.2	1967.7	1917.3	1862.9	1848.5	1878.8	1943.3
37°	1828.3	1849.5	1891.7	1941.7	1966.3	1941.4	1888.3	1835.0	1817.6	1849.4	1917.9
38°	1798.0	1815.3	1864.8	1916.2	1938.1	1914.6	1863.0	1799.5	1783.9	1820.0	1886.4
39°	1763.2	1785.7	1836.5	1890.2	1915.0	1891.0	1835.4	1766.6	1750.8	1790.7	1860.2
40°	1731.2	1754.5	1807.3	1866.9	1891.1	1865.0	1806.3	1736.7	1716.7	1760.2	1830.2
41°	1695.7	1722.3	1779.8	1841.4	1864.1	1838.8	1774.4	1705.8	1684.7	1729.7	1802.1
42°	1662.4	1688.7	1747.4	1813.4	1840.3	1811.6	1743.2	1672.7	1651.0	1696.0	1775.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1558.9	1590.9	1660.0	1734.5	1761.5	1729.1	1650.8	1570.5	1547.6	1599.0	1683.9
46°	1524.2	1556.0	1626.7	1706.1	1734.3	1701.5	1621.0	1537.1	1510.9	1565.7	1655.6
47°	1489.8	1522.0	1594.8	1678.8	1707.4	1672.9	1586.7	1502.7	1478.5	1530.0	1624.2
48°	1454.5	1487.6	1566.1	1650.3	1681.7	1646.4	1554.9	1467.4	1441.9	1496.6	1598.3
49°	1418.5	1453.7	1533.2	1622.4	1654.5	1616.6	1522.5	1431.1	1406.8	1460.7	1563.4
50°	1381.4	1417.6	1501.0	1592.2	1625.7	1587.1	1492.4	1397.2	1369.4	1426.4	1531.9
51°	1345.3	1379.9	1471.9	1561.6	1597.4	1559.4	1460.7	1362.1	1332.7	1390.9	1503.9
52°	1307.8	1347.5	1439.9	1534.2	1567.5	1527.9	1426.4	1325.5	1296.9	1358.9	1471.8
53°	1270.7	1312.2	1407.7	1506.8	1539.7	1499.0	1396.4	1290.4	1259.3	1322.7	1441.1
54°	1233.5	1277.1	1375.4	1475.5	1509.7	1468.8	1362.1	1254.2	1222.7	1287.5	1410.7
55°	1196.5	1241.2	1342.6	1443.0	1480.5	1440.2	1329.9	1218.5	1188.0	1251.8	1379.3
56°	1161.9	1204.5	1310.5	1412.8	1448.3	1407.0	1296.6	1183.5	1147.9	1216.8	1346.1
57°	1123.5	1168.3	1276.1	1384.9	1420.4	1378.4	1264.0	1147.1	1110.3	1182.1	1314.6
58°	1085.9	1132.8	1243.7	1351.7	1391.5	1347.3	1230.3	1111.7	1071.5	1144.0	1283.5
59°	1048.2	1095.2	1211.2	1322.1	1363.7	1316.4	1198.1	1074.5	1033.6	1109.6	1250.0
60°	1010.1	1057.5	1177.7	1291.5	1332.9	1283.3	1164.2	1035.7	995.4	1075.1	1218.1
61°	971.3	1021.0	1145.5	1258.6	1301.2	1253.3	1133.1	1000.2	956.8	1038.6	1185.4
62°	934.5	984.9	1113.6	1228.7	1272.1	1222.7	1099.6	962.9	919.5	1001.9	1152.4
63°	895.5	949.2	1077.6	1193.9	1240.6	1188.6	1063.7	927.2	879.3	968.3	1120.6
64°	855.9	913.4	1044.7	1163.6	1210.6	1158.4	1030.5	891.1	839.2	932.1	1087.8
65°	818.0	876.2	1012.1	1133.6	1177.0	1124.0	997.8	855.0	800.9	895.5	1054.6
66°	779.0	841.3	979.7	1102.0	1146.8	1094.0	965.2	817.3	763.2	860.9	1024.4
67°	740.7	804.8	944.6	1071.6	1114.6	1061.7	930.6	783.0	725.3	825.8	992.9
68°	701.5	769.3	910.8	1036.9	1084.6	1028.9	897.3	747.1	685.8	789.6	959.8
69°	663.1	733.5	879.1	1005.0	1051.1	996.8	863.8	711.7	647.9	754.0	926.7
70°	623.6	698.1	846.2	970.8	1019.1	963.9	829.4	676.3	607.3	719.9	894.2
71°	583.6	663.3	812.5	939.5	987.6	931.1	795.8	640.5	568.1	684.5	860.4
72°	545.1	627.5	781.7	907.1	955.2	899.3	762.7	605.8	530.9	649.4	829.2
73°	506.2	592.1	748.5	871.1	922.0	867.3	730.0	569.5	492.8	614.4	795.2
74°	468.6	558.4	715.5	837.6	889.1	835.5	697.3	538.1	453.8	580.4	763.6
75°	430.2	523.8	682.3	804.4	858.2	804.2	664.5	502.0	416.1	545.3	729.3
76°	393.3	490.6	650.8	774.4	824.1	769.9	632.0	467.6	379.0	512.5	697.4
77°	356.4	458.4	618.7	744.5	793.8	741.1	601.5	434.9	342.1	478.9	665.3
78°	320.1	426.3	586.5	712.9	760.9	705.5	567.2	403.4	305.8	446.2	632.5
79°	284.7	394.8	555.0	681.6	731.8	678.6	538.9	372.3	270.6	414.4	601.0
80°	250.8	364.2	525.2	649.4	700.1	645.4	507.5	341.7	236.7	382.5	569.4
81°	217.5	335.1	495.0	620.7	669.7	617.9	479.8	312.7	204.1	353.3	540.7
82°	186.1	306.6	466.2	590.4	639.3	588.6	450.5	284.1	172.1	322.3	510.5
83°	156.3	279.4	438.5	562.3	611.2	561.1	423.5	257.6	142.0	295.5	482.9
84°	128.6	252.8	412.6	534.3	586.2	532.9	398.0	232.8	115.0	268.6	456.5
85°	103.4	228.4	388.5	509.5	559.1	508.9	374.9	210.2	92.0	243.4	431.7
86°	80.5	205.2	364.8	485.3	536.2	485.9	352.5	188.9	71.0	221.1	408.5
87°	60.5	184.9	341.8	461.4	512.6	463.9	331.4	169.6	52.1	201.3	385.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	30.7	143.7	296.8	412.3	463.4	416.0	287.5	129.3	23.3	155.4	333.5
91°	29.3	136.1	286.6	399.2	448.5	401.4	275.3	121.4	22.4	146.2	320.8
92°	28.6	128.3	276.1	387.4	437.1	390.9	268.0	114.5	21.9	138.2	309.6
93°	27.9	121.1	266.2	376.5	422.5	377.3	257.8	107.1	21.4	130.0	297.9
94°	27.2	114.4	256.4	364.7	410.9	366.8	247.9	101.1	21.4	121.8	287.3
95°	26.5	107.8	247.0	354.2	398.9	354.1	238.2	94.6	21.0	114.0	275.5
96°	26.3	100.8	237.9	343.3	385.7	343.8	230.0	88.9	19.6	107.2	265.2
97°	25.3	95.3	228.8	331.8	374.9	330.9	219.6	83.5	19.4	100.2	254.2
98°	24.9	89.8	219.4	322.1	361.8	321.3	211.5	78.2	18.9	94.0	244.5
99°	24.4	84.3	210.9	312.5	350.8	311.1	202.7	73.5	18.7	87.8	234.6
100°	24.0	79.5	201.9	301.8	338.6	301.0	193.8	69.1	18.0	81.9	224.3
101°	23.7	75.2	193.9	291.5	328.4	290.1	185.6	64.1	18.0	76.3	215.6
102°	23.7	70.8	185.7	280.3	315.8	279.8	177.9	60.1	18.0	71.9	205.2
103°	23.3	66.5	177.6	270.8	307.3	269.5	171.2	55.9	17.9	67.2	196.9
104°	22.8	62.4	169.9	260.5	294.5	258.6	163.2	51.7	17.9	62.6	188.6
105°	22.4	58.5	162.6	250.6	285.6	249.5	155.9	48.0	17.8	58.2	179.8
106°	21.9	54.3	155.2	240.5	273.9	239.3	148.2	44.6	17.8	54.0	171.9
107°	21.2	51.0	148.1	231.9	264.8	231.1	141.3	41.1	17.7	50.0	163.4
108°	20.7	47.5	140.7	222.1	253.5	221.1	133.9	37.9	17.5	45.9	155.5
109°	20.5	43.9	134.2	213.0	244.9	213.6	127.4	34.8	17.3	42.4	148.8
110°	20.3	40.6	127.5	204.3	233.5	204.3	120.3	31.7	16.6	38.6	140.2
111°	19.8	37.4	121.1	195.7	225.5	195.7	114.4	29.2	16.4	35.3	133.8
112°	19.1	34.6	114.7	187.7	215.1	186.7	108.1	26.0	16.4	32.2	126.0
113°	18.9	31.6	108.6	178.9	206.6	178.0	102.1	23.4	15.9	28.6	119.2
114°	18.7	29.3	102.9	170.5	197.4	168.8	96.2	20.9	15.7	26.0	113.1
115°	18.2	26.8	96.9	162.3	189.2	161.5	90.5	19.3	15.2	23.1	106.3
116°	17.7	24.5	91.4	154.8	180.0	152.4	84.6	17.9	14.8	21.0	99.9
117°	17.3	22.4	86.0	146.9	171.2	145.5	79.6	15.6	15.0	18.5	94.2
118°	17.1	21.0	80.8	139.5	163.4	137.6	74.9	14.9	14.7	16.6	87.9
119°	16.6	19.6	76.1	132.4	155.4	130.5	69.7	14.0	14.3	14.8	82.3
120°	16.4	18.9	70.9	125.2	148.2	123.3	64.9	14.0	14.0	14.1	76.3
121°	16.1	18.2	66.2	118.9	139.1	116.4	59.7	14.2	13.7	13.8	71.3
122°	15.7	18.0	61.4	111.6	132.9	109.8	55.2	13.8	13.4	13.8	66.6
123°	15.2	17.5	57.0	105.2	124.4	103.2	50.7	13.8	12.9	13.4	60.8
124°	14.5	17.1	52.3	98.8	117.8	96.3	46.0	12.7	12.0	13.2	56.1
125°	13.8	17.1	47.7	92.5	109.5	90.3	41.7	12.4	11.8	12.8	51.7
126°	13.6	16.6	43.5	86.3	103.8	83.7	37.4	12.0	11.5	12.4	46.3
127°	13.1	16.2	39.2	80.5	96.0	77.8	33.3	11.5	10.8	12.0	41.7
128°	12.9	15.7	35.2	75.3	90.5	72.5	30.0	11.0	10.5	11.7	37.2
129°	12.4	15.3	31.5	69.3	83.0	66.6	25.8	10.8	10.1	11.4	33.0
130°	12.2	14.9	28.0	63.7	77.9	61.1	22.8	10.6	9.7	11.1	29.0
131°	11.8	14.4	24.5	58.5	71.1	55.7	19.3	10.3	9.4	10.7	24.8
132°	11.5	14.0	21.3	53.1	66.3	50.2	16.3	10.1	9.0	10.5	22.2



TEST NUMBER: P861212

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
135°	10.8	12.9	14.1	38.7	48.8	35.9	10.2	9.4	7.8	9.9	11.9
136°	10.6	12.5	13.2	34.1	43.8	31.3	9.5	8.7	7.7	9.7	10.7
137°	10.1	12.5	12.5	29.9	38.3	26.9	9.1	8.5	7.7	8.8	10.7
138°	9.9	11.8	12.5	26.0	34.0	23.0	8.6	8.0	7.6	8.3	9.0
139°	9.7	11.8	12.1	22.0	28.7	19.2	7.9	7.6	7.6	8.1	8.4
140°	9.5	11.3	11.6	18.5	24.9	15.7	7.7	7.4	7.5	7.6	8.3
141°	9.2	10.6	11.6	15.3	20.3	12.5	7.4	6.9	7.4	7.4	8.1
142°	8.9	10.4	11.1	13.0	16.3	10.3	7.0	6.7	7.4	7.2	8.0
143°	8.7	9.9	10.9	11.6	12.6	8.7	6.9	6.9	7.1	7.4	7.8
144°	8.4	9.9	10.4	11.4	10.2	8.2	6.8	6.7	6.5	7.2	7.7
145°	8.1	9.9	10.0	10.9	7.9	7.7	6.7	6.9	6.4	7.2	7.6
146°	7.8	9.5	9.7	10.7	7.5	7.5	6.6	6.4	6.3	7.2	7.4
147°	7.7	8.8	9.5	10.5	7.4	7.4	6.5	6.4	6.2	7.2	7.4
148°	7.6	8.8	9.3	10.3	7.3	7.3	6.5	6.4	6.2	7.2	7.6
149°	7.4	8.3	8.8	10.2	7.2	7.1	6.1	6.4	6.3	7.2	7.4
150°	7.3	8.3	9.0	10.0	7.1	7.0	5.8	6.4	6.3	7.2	7.4
151°	7.1	8.1	8.9	9.5	7.0	6.9	5.8	6.4	6.3	7.2	7.3
152°	7.1	7.6	8.7	9.5	6.8	6.8	5.9	6.4	6.4	7.2	7.2
153°	6.9	7.7	8.5	9.0	6.7	6.7	6.0	6.4	6.4	7.2	7.1
154°	6.9	7.7	8.3	8.8	6.7	6.6	6.0	6.4	6.4	7.2	7.0
155°	6.9	7.7	8.1	8.8	6.7	6.4	6.1	6.4	6.5	7.2	7.0
156°	6.9	7.8	8.1	8.6	6.6	6.5	6.2	6.4	6.5	7.2	6.9
157°	6.9	7.8	8.1	8.5	6.6	6.5	6.2	6.4	6.5	7.2	6.8
158°	6.9	7.8	8.1	8.4	6.6	6.5	6.3	6.4	6.6	7.2	6.7
159°	6.9	8.1	8.1	8.4	6.5	6.6	6.4	6.4	6.6	7.2	6.6
160°	7.0	8.1	8.1	8.3	6.5	6.6	6.4	6.4	6.7	7.2	6.5
161°	7.0	8.1	8.1	8.2	6.5	6.6	6.5	6.7	6.7	7.6	7.4
162°	7.1	8.1	8.1	8.1	6.4	6.6	6.6	7.3	7.4	7.8	8.3
163°	7.2	8.2	8.1	8.1	6.4	6.7	6.7	7.6	8.3	8.5	8.6
164°	7.2	8.2	8.1	7.7	6.4	6.7	6.8	7.8	8.8	8.8	9.0
165°	7.3	8.2	8.1	7.7	6.3	6.7	6.9	8.0	9.2	8.8	9.3
166°	7.5	8.2	8.1	7.6	6.3	6.7	6.9	8.5	9.5	9.0	9.3
167°	7.6	8.2	8.1	7.5	6.2	6.8	7.0	8.7	9.9	9.0	10.0
168°	7.8	8.3	8.1	7.5	6.2	6.8	7.1	8.7	10.6	9.0	10.4
169°	8.0	8.3	8.1	7.4	6.2	6.8	7.2	8.7	10.6	9.1	10.4
170°	8.1	8.3	8.1	7.3	6.1	6.9	7.4	8.7	10.5	9.1	10.7
171°	8.3	8.8	8.1	7.3	6.2	6.9	7.4	8.6	10.5	9.1	10.7
172°	8.5	9.5	8.1	7.4	6.3	6.9	7.5	8.6	10.5	9.1	11.1
173°	8.8	9.9	8.1	7.4	6.4	6.9	7.6	8.6	10.5	9.1	11.8
174°	9.0	11.1	8.1	7.4	6.5	7.0	7.7	8.6	10.4	9.2	11.6
175°	9.2	10.9	8.1	7.4	6.5	7.0	7.8	8.5	10.4	9.2	11.6
176°	9.4	11.1	8.1	7.4	6.5	7.2	7.9	8.5	10.4	9.2	11.4
177°	9.2	11.3	8.1	7.4	6.5	7.5	7.9	8.5	10.4	9.2	11.6

TEST NUMBER: P861212
CATALOG NUMBER: 8APVTLD-SL3C3 LO POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
180°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2



TEST NUMBER: P861212

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2480.8	2480.8	2480.8	2480.8	2480.8	2480.8
1°	2478.7	2480.2	2483.8	2482.3	2480.8	2481.0
2°	2478.9	2479.8	2483.1	2482.1	2481.0	2478.7
3°	2476.0	2480.2	2483.4	2482.3	2479.6	2477.5
4°	2474.3	2479.6	2481.3	2476.6	2473.9	2472.8
5°	2471.0	2470.8	2481.3	2475.4	2470.8	2467.8
6°	2466.3	2468.6	2475.8	2472.4	2467.8	2462.5
7°	2463.8	2465.7	2469.7	2464.7	2459.8	2453.7
8°	2455.0	2460.4	2467.4	2461.7	2452.0	2445.3
9°	2449.7	2453.7	2459.0	2454.3	2443.6	2437.5
10°	2444.5	2442.0	2451.4	2450.1	2433.8	2427.2
11°	2436.3	2435.2	2441.9	2442.0	2423.5	2415.2
12°	2427.0	2429.8	2433.1	2431.4	2414.2	2401.4
13°	2416.7	2419.2	2425.1	2422.4	2400.1	2394.0
14°	2407.3	2411.0	2413.4	2413.2	2386.7	2379.3
15°	2395.9	2396.1	2404.5	2398.9	2374.1	2366.5
16°	2382.2	2384.1	2392.8	2382.3	2359.6	2348.2
17°	2370.3	2372.2	2379.5	2367.7	2345.0	2330.8
18°	2356.2	2359.5	2366.3	2351.8	2326.6	2313.9
19°	2339.8	2348.0	2352.8	2336.4	2306.4	2294.2
20°	2326.8	2334.7	2336.6	2321.3	2286.2	2275.0
21°	2308.0	2317.3	2322.8	2306.0	2267.9	2254.4
22°	2290.0	2303.8	2304.5	2287.2	2246.7	2231.8
23°	2271.7	2285.6	2291.2	2270.0	2225.2	2209.5
24°	2255.7	2270.6	2271.1	2248.6	2203.6	2187.6
25°	2232.8	2252.1	2250.4	2227.7	2181.1	2165.3
26°	2215.3	2233.8	2232.2	2207.8	2158.4	2141.6
27°	2197.5	2214.7	2215.6	2184.5	2135.9	2116.6
28°	2179.0	2198.5	2194.3	2161.8	2108.2	2088.8
29°	2161.7	2175.4	2172.5	2139.1	2082.3	2061.5
30°	2139.5	2154.4	2150.6	2116.1	2057.3	2034.1
31°	2117.6	2135.5	2130.9	2091.5	2030.0	2005.8
32°	2096.0	2113.6	2110.3	2067.8	1999.1	1978.4
33°	2072.8	2090.3	2088.6	2043.4	1975.7	1950.5
34°	2050.3	2068.4	2066.5	2016.3	1947.5	1919.4
35°	2025.3	2046.1	2042.4	1989.0	1915.4	1888.1
36°	2001.8	2023.9	2017.8	1963.5	1888.8	1857.7
37°	1975.7	2002.0	1993.2	1932.0	1857.9	1828.3
38°	1952.0	1982.2	1967.9	1906.2	1827.3	1798.0
39°	1928.2	1959.3	1944.6	1877.6	1798.4	1763.2
40°	1904.6	1934.5	1918.5	1848.3	1767.8	1731.2
41°	1878.1	1909.5	1892.5	1818.6	1734.9	1695.7
42°	1853.9	1884.6	1868.0	1789.4	1703.5	1662.4



TEST NUMBER: P861212

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1774.1	1808.2	1788.9	1698.0	1606.1	1558.9
46°	1744.0	1780.3	1762.0	1668.2	1572.0	1524.2
47°	1717.8	1756.9	1734.4	1638.2	1537.2	1489.8
48°	1691.5	1730.0	1705.9	1605.0	1503.4	1454.5
49°	1666.4	1700.4	1675.6	1574.0	1469.9	1418.5
50°	1635.7	1676.5	1648.5	1543.5	1434.7	1381.4
51°	1610.8	1648.1	1618.6	1514.0	1400.0	1345.3
52°	1580.8	1625.1	1588.6	1482.1	1364.2	1307.8
53°	1552.0	1597.4	1561.2	1448.8	1329.1	1270.7
54°	1522.7	1569.0	1533.1	1417.2	1295.8	1233.5
55°	1495.5	1543.6	1503.5	1387.4	1258.7	1196.5
56°	1464.3	1513.0	1471.3	1353.1	1224.8	1161.9
57°	1435.0	1483.5	1440.7	1320.2	1189.4	1123.5
58°	1405.8	1457.1	1409.8	1287.2	1153.6	1085.9
59°	1376.4	1424.8	1379.0	1257.0	1119.0	1048.2
60°	1346.1	1395.8	1349.1	1223.0	1082.8	1010.1
61°	1312.7	1364.9	1316.6	1190.7	1045.1	971.3
62°	1283.3	1335.1	1288.1	1158.5	1010.2	934.5
63°	1254.6	1306.3	1256.9	1126.9	972.9	895.5
64°	1223.6	1277.0	1227.9	1092.1	936.9	855.9
65°	1189.3	1247.9	1195.2	1060.0	901.0	818.0
66°	1159.8	1214.8	1162.0	1026.6	865.1	779.0
67°	1127.2	1184.2	1131.8	994.1	828.2	740.7
68°	1096.8	1153.5	1096.8	961.3	791.4	701.5
69°	1063.5	1121.6	1066.9	928.0	756.1	663.1
70°	1031.0	1089.0	1035.9	893.8	722.2	623.6
71°	997.6	1058.3	1002.7	859.7	685.6	583.6
72°	967.2	1028.2	971.3	826.7	651.0	545.1
73°	933.3	993.7	937.2	793.1	615.5	506.2
74°	902.3	962.7	907.5	761.1	580.2	468.6
75°	870.7	926.1	873.7	727.8	546.7	430.2
76°	839.0	893.7	843.0	695.8	513.6	393.3
77°	809.0	857.5	811.1	664.0	479.8	356.4
78°	776.7	823.7	779.1	631.8	446.4	320.1
79°	746.6	790.6	748.1	600.4	414.7	284.7
80°	714.2	756.9	716.9	570.2	383.2	250.8
81°	683.8	725.8	686.3	540.7	352.8	217.5
82°	653.2	693.4	654.6	511.9	323.7	186.1
83°	626.6	664.2	625.8	484.1	295.4	156.3
84°	598.3	635.3	597.1	456.7	269.0	128.6
85°	571.5	607.7	568.6	431.5	243.7	103.4
86°	548.3	580.3	544.1	407.0	220.4	80.5
87°	525.6	556.4	519.3	383.2	197.1	60.5



TEST NUMBER: P861212

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	468.9	496.7	459.7	328.2	151.7	30.7
91°	452.4	482.9	445.3	316.1	142.3	29.3
92°	440.5	468.2	432.7	304.2	134.5	28.6
93°	425.9	455.4	418.7	293.6	126.3	27.9
94°	413.2	441.9	406.3	282.0	119.1	27.2
95°	399.2	429.6	393.6	271.1	112.0	26.5
96°	386.8	417.0	380.3	261.4	105.1	26.3
97°	373.2	405.2	368.3	251.1	98.3	25.3
98°	361.5	393.5	356.7	241.8	91.9	24.9
99°	348.2	381.1	344.9	232.4	86.4	24.4
100°	337.7	369.4	334.3	222.4	80.9	24.0
101°	324.4	358.4	322.5	212.6	76.5	23.7
102°	313.5	347.5	311.3	203.9	71.9	23.7
103°	301.8	336.1	300.1	195.0	67.0	23.3
104°	291.4	326.1	288.8	186.8	62.7	22.8
105°	280.0	316.5	278.3	178.5	58.8	22.4
106°	269.2	306.0	267.9	170.0	54.4	21.9
107°	258.4	295.4	258.5	162.0	50.5	21.2
108°	247.5	284.7	248.7	153.9	47.1	20.7
109°	238.0	273.2	239.3	146.6	43.7	20.5
110°	229.0	262.7	229.4	139.3	40.4	20.3
111°	217.7	251.8	219.3	131.9	37.0	19.8
112°	208.8	241.3	209.6	125.0	34.4	19.1
113°	199.6	231.4	200.3	118.5	31.7	18.9
114°	190.7	221.9	191.6	111.9	29.0	18.7
115°	182.0	212.1	182.1	105.6	26.6	18.2
116°	173.3	202.6	173.7	99.5	24.3	17.7
117°	164.9	193.9	165.0	93.7	22.3	17.3
118°	156.7	184.7	157.6	88.1	21.1	17.1
119°	148.2	175.9	149.3	82.6	20.2	16.6
120°	140.6	166.9	141.5	77.9	20.0	16.4
121°	132.5	158.9	134.0	72.5	19.3	16.1
122°	125.5	150.9	126.2	67.4	18.8	15.7
123°	117.9	142.6	119.3	62.3	18.8	15.2
124°	110.4	134.4	111.7	57.3	18.6	14.5
125°	104.3	127.1	105.5	52.7	17.9	13.8
126°	96.8	118.9	98.4	48.0	17.7	13.6
127°	90.4	112.3	91.6	43.5	17.5	13.1
128°	84.0	104.7	85.4	39.3	16.8	12.9
129°	77.2	98.1	78.7	35.1	16.5	12.4
130°	71.8	91.2	73.2	31.1	16.3	12.2
131°	65.9	84.3	67.1	27.5	15.6	11.8
132°	59.7	78.1	61.4	24.2	15.2	11.5



TEST NUMBER: P861212

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
135°	43.5	59.9	45.2	16.0	14.0	10.8
136°	38.4	54.1	39.9	14.9	13.6	10.6
137°	33.0	48.7	35.4	14.2	12.9	10.1
138°	28.6	43.4	30.6	13.7	12.6	9.9
139°	23.9	38.2	26.6	13.4	12.2	9.7
140°	19.7	33.2	22.4	13.0	11.7	9.5
141°	15.9	28.6	18.7	12.6	11.5	9.2
142°	11.9	24.3	15.4	12.2	11.3	8.9
143°	9.8	20.2	13.6	11.9	11.0	8.7
144°	8.8	16.4	12.8	11.6	10.1	8.4
145°	8.1	13.6	12.4	11.4	10.3	8.1
146°	7.9	12.2	12.2	10.7	10.1	7.8
147°	7.7	11.9	11.9	10.5	9.8	7.7
148°	7.4	11.5	11.4	10.2	9.5	7.6
149°	7.0	11.2	11.2	9.8	9.2	7.4
150°	7.2	10.8	11.2	9.5	9.0	7.3
151°	7.0	10.5	10.7	9.5	8.8	7.1
152°	6.7	10.3	10.3	9.3	8.6	7.1
153°	6.7	10.1	10.3	9.3	8.4	6.9
154°	6.8	9.8	10.1	9.2	8.4	6.9
155°	6.8	9.6	10.0	9.2	8.5	6.9
156°	6.8	9.1	9.9	9.2	8.5	6.9
157°	6.8	9.1	9.7	9.2	8.5	6.9
158°	6.8	8.9	9.6	9.1	8.5	6.9
159°	6.9	9.1	9.3	9.1	8.5	6.9
160°	6.9	8.7	9.1	9.1	8.6	7.0
161°	6.9	8.9	8.9	9.0	8.6	7.0
162°	6.9	8.6	9.1	9.0	8.6	7.1
163°	7.4	8.6	9.0	9.0	8.6	7.2
164°	7.2	8.4	9.0	9.0	8.7	7.2
165°	7.4	8.2	8.9	8.9	8.7	7.3
166°	7.7	7.9	8.8	8.9	8.7	7.5
167°	8.1	7.9	8.7	8.9	8.7	7.6
168°	8.3	8.2	8.6	8.9	9.0	7.8
169°	8.3	7.7	8.4	8.8	9.4	8.0
170°	8.3	7.5	8.2	8.8	9.4	8.1
171°	8.3	7.5	8.1	8.8	9.7	8.3
172°	8.2	7.7	8.1	8.7	10.1	8.5
173°	8.2	7.2	8.0	8.7	10.1	8.8
174°	8.2	7.2	8.0	8.7	10.1	9.0
175°	8.2	7.0	7.9	8.7	10.3	9.2
176°	8.1	7.0	7.9	8.6	10.3	9.4
177°	8.1	7.0	7.9	8.6	10.3	9.2



TEST NUMBER: P861212
CATALOG NUMBER: 8APVTLD-SL3C3 LO POWER 5000K 277V

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
180°	9.2	9.2	9.2	9.2	9.2	9.2



Report Generated By 670246072 / DESKTOP-50001EG





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







43°	1627.1	1656.0	1719.8	1787.6	1810.2	1784.6	1713.5	1639.8	1617.6	1662.5	1744.3
44°	1592.9	1624.0	1688.1	1759.8	1786.8	1757.0	1683.9	1604.0	1582.6	1633.6	1713.8



88°	45.4	168.0	323.2	442.3	495.7	447.0	314.8	152.3	37.5	184.0	365.0
89°	35.2	153.9	309.7	425.5	476.0	428.1	299.3	138.9	27.6	167.9	347.1



133°	11.3	13.6	18.3	48.0	59.9	45.4	13.9	9.9	8.5	10.3	17.8
134°	10.8	13.2	15.8	43.4	54.9	40.1	11.2	9.6	7.8	10.1	14.4



178°	9.2	11.3	8.1	7.4	6.8	7.2	7.9	8.5	10.4	9.2	11.4
179°	9.2	11.3	8.1	7.4	7.0	7.2	7.9	8.5	10.4	9.2	11.4





43°	1825.9	1858.9	1841.5	1758.3	1671.3	1627.1
44°	1801.9	1834.2	1814.3	1729.3	1639.0	1592.9



88°	504.6	533.5	496.6	361.3	179.7	45.4
89°	484.7	514.8	478.1	344.4	163.8	35.2



133°	54.5	72.0	55.5	20.9	14.7	11.3
134°	48.5	65.8	50.2	17.9	14.5	10.8



178°	8.1	7.0	7.9	8.6	10.3	9.2
179°	8.1	7.0	7.9	8.6	10.3	9.2



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.

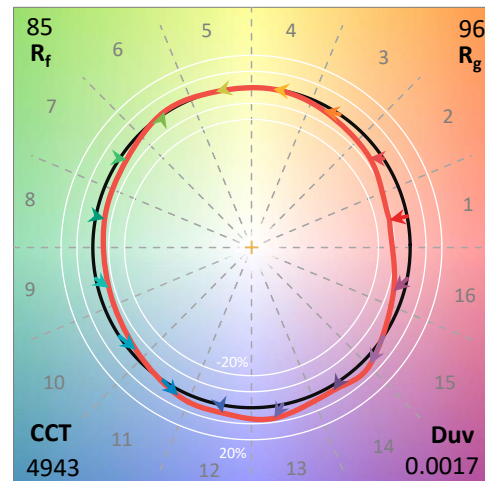
Test Information

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

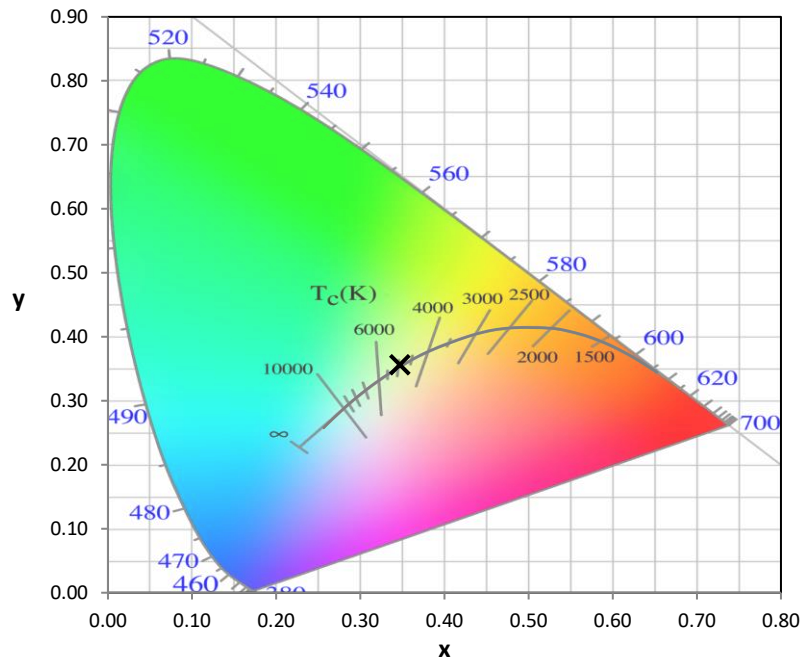
Stabilization Time: 70M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.0/52%
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2210-820-18

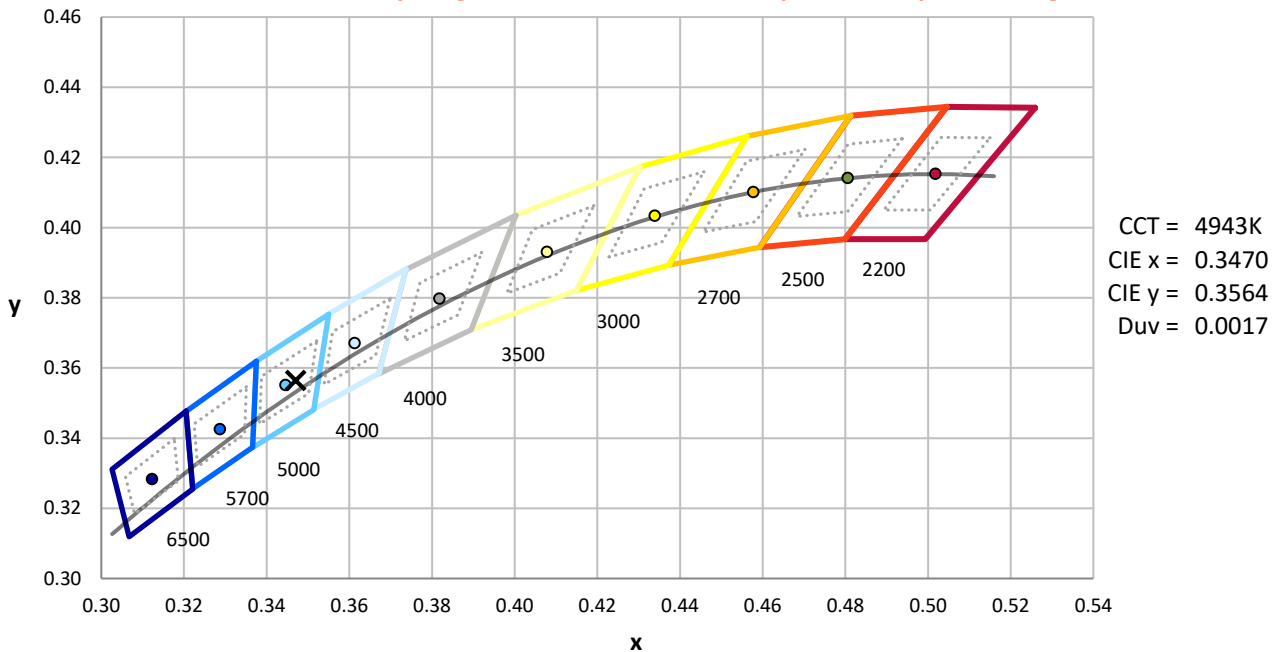
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	8/8/2022	2/8/2023
Power Meter	XITRON 2801 IN0071	11/29/2021	11/29/2022
AC Power Source	CHROMA 61603 IN0063	11/29/2021	11/29/2022
DC Power Source	AGILENT E3634A IN0208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



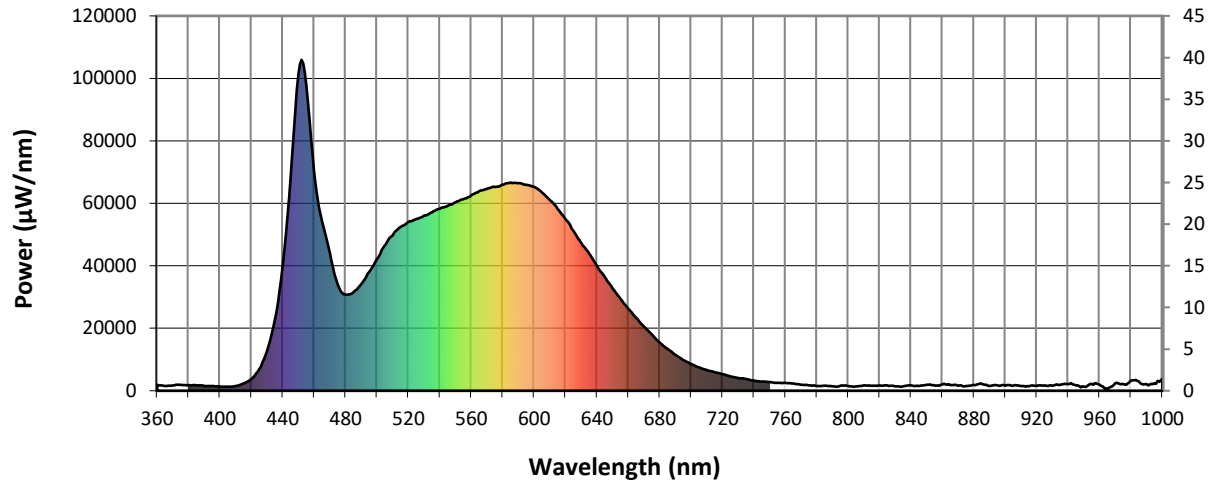
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2210-820-18

Photopic Flux vs. Wavelength

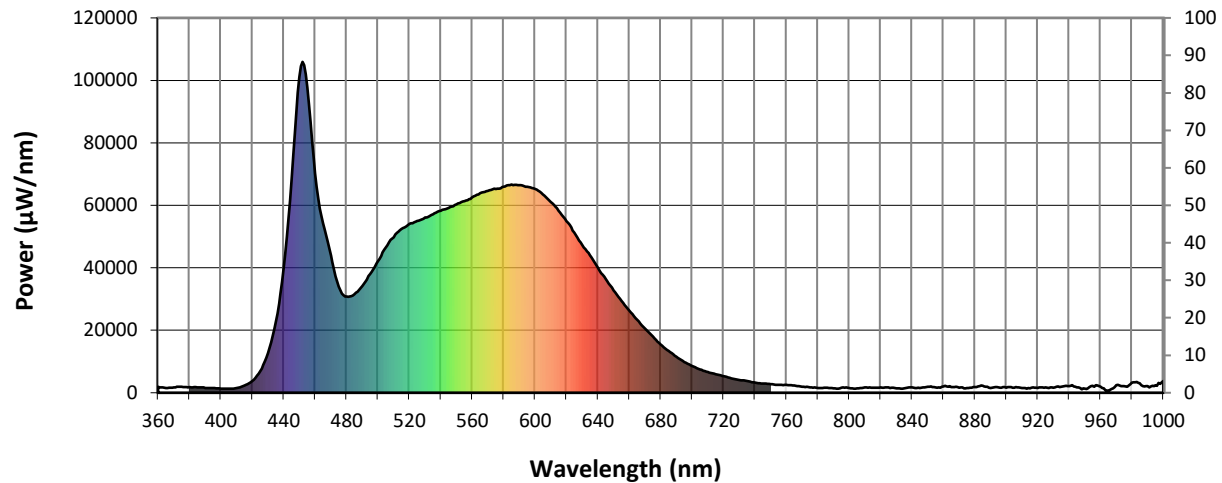


#####

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



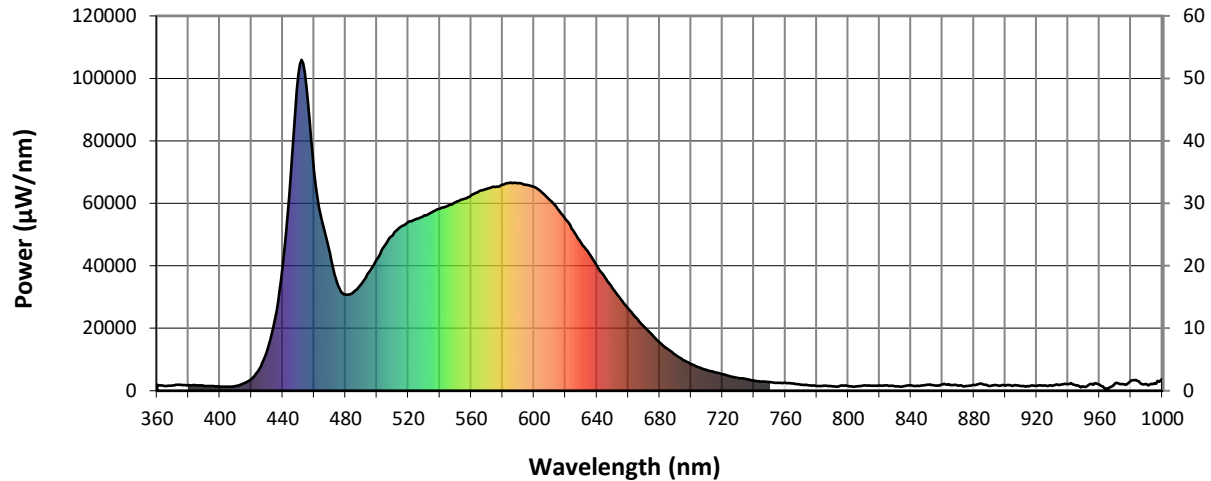
Scotopic Lumens: 8348.9

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			

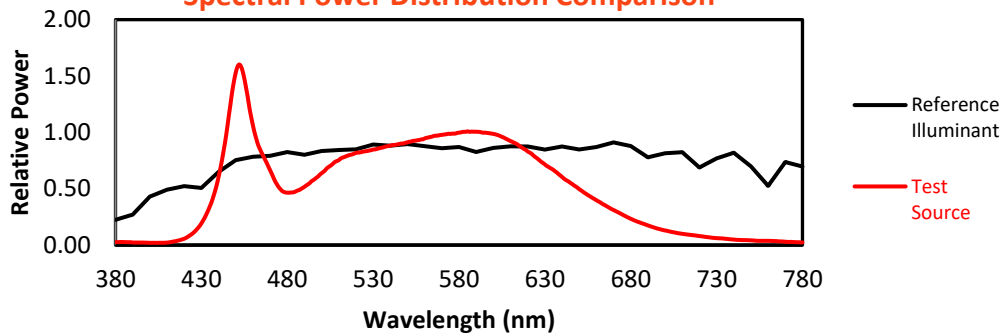
REPORT NUMBER: SP1-2210-820-18

TM-30-18

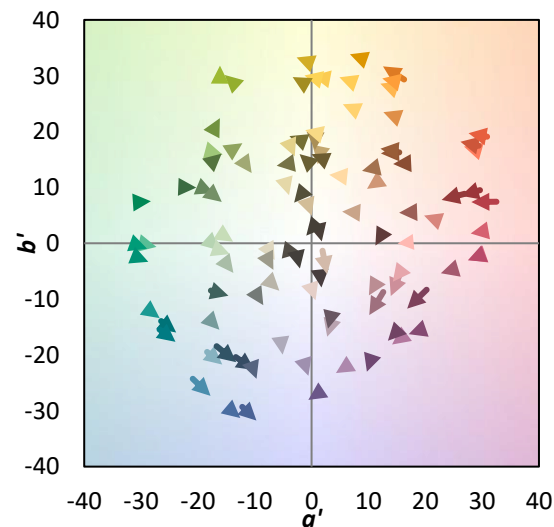
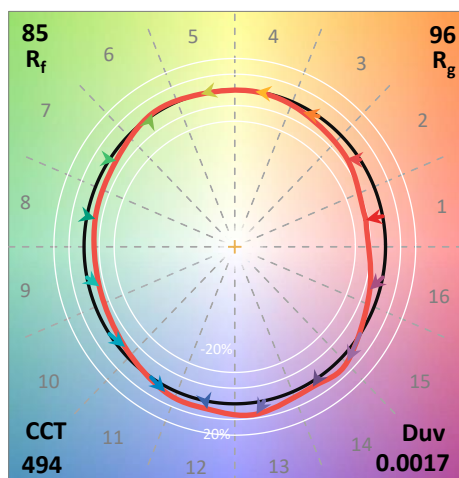
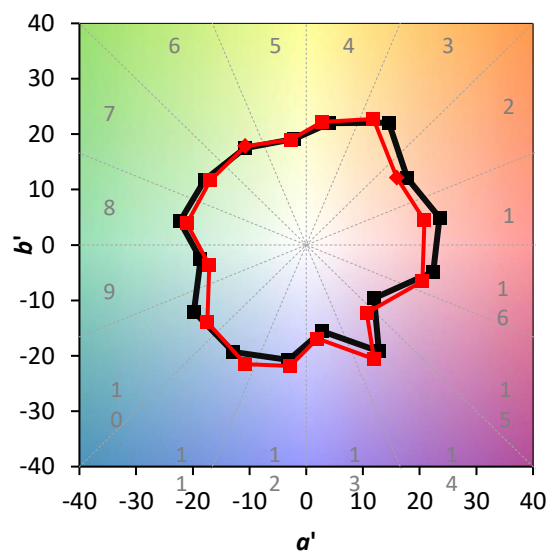
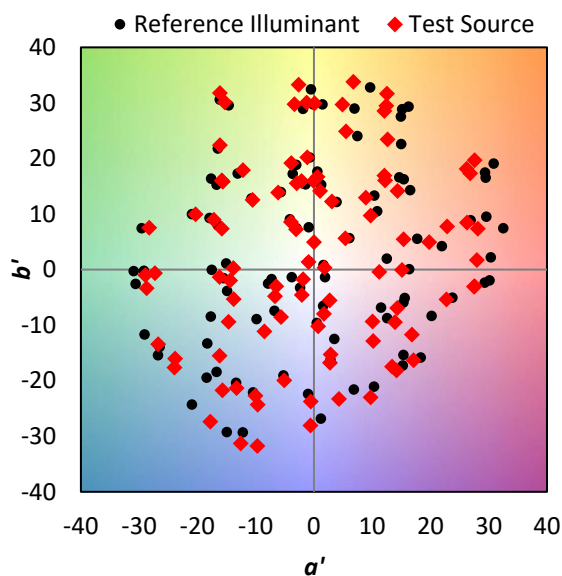
Summary

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

Spectral Power Distribution Comparison



Color Vector Graphics

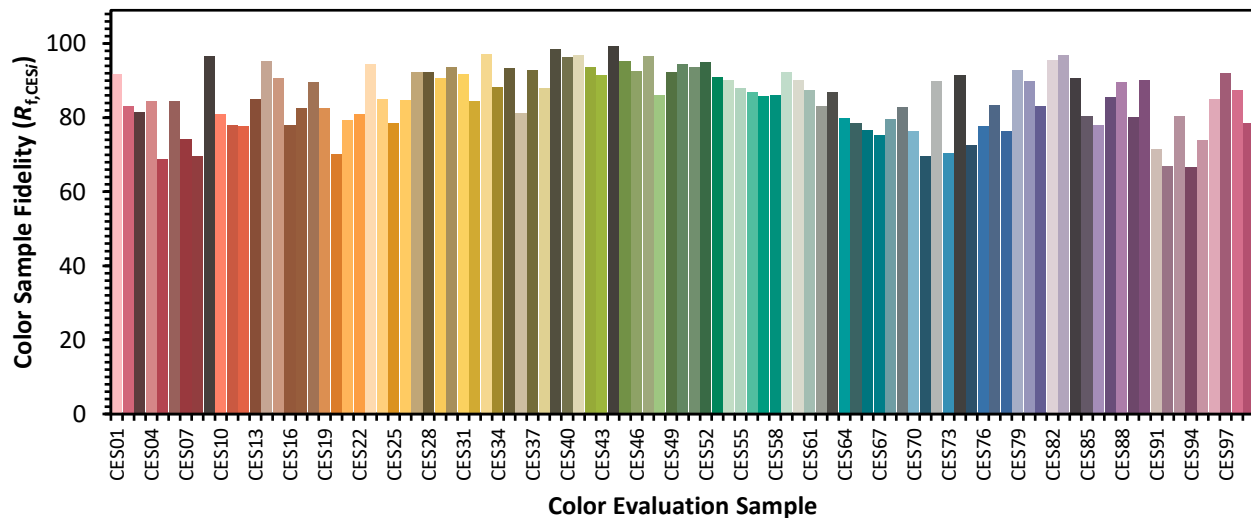


REPORT NUMBER: SP1-2210-820-18

TM-30-18

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

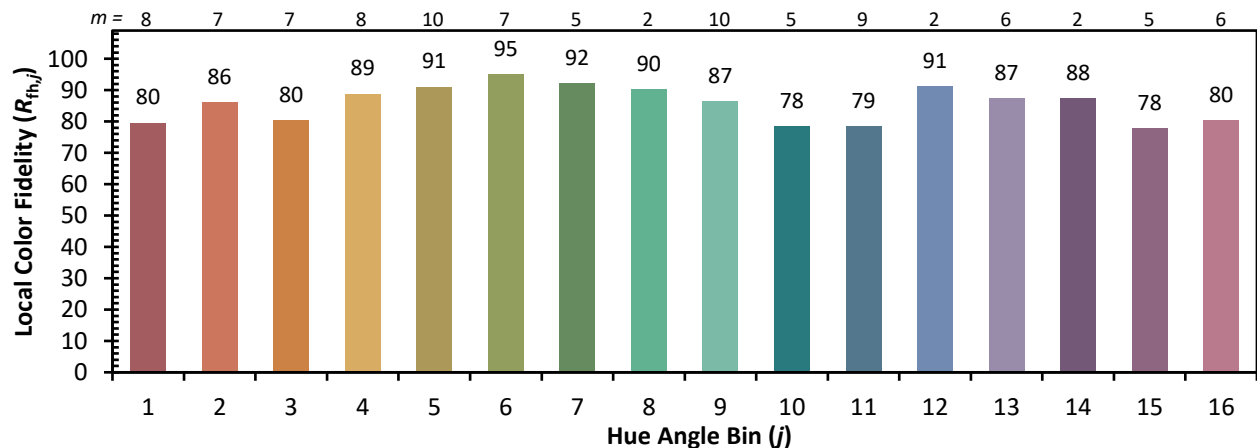
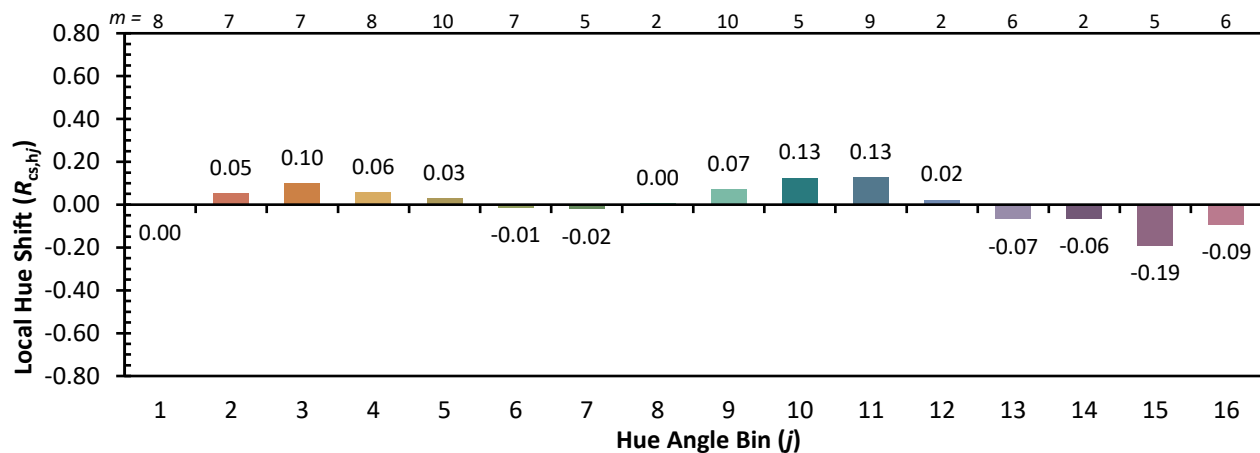
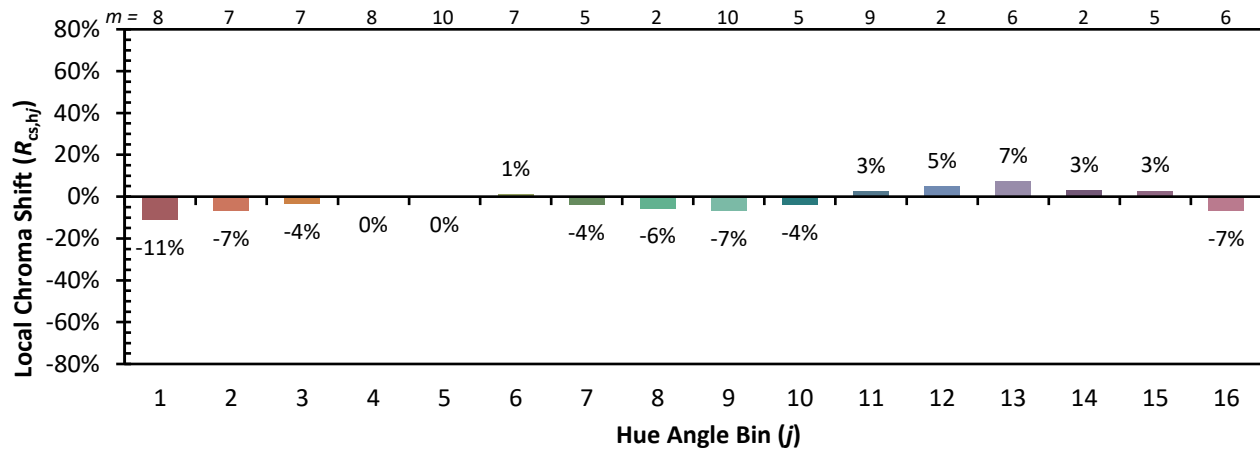
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CES02 = 60	CES27 = 92	CES52 = 95	CES77 = 83
CES03 = 31	CES28 = 92	CES53 = 91	CES78 = 76
CES04 = 69	CES29 = 91	CES54 = 90	CES79 = 93
CES05 = 47	CES30 = 93	CES55 = 88	CES80 = 90
CES06 = 50	CES31 = 92	CES56 = 87	CES81 = 83
CES07 = 40	CES32 = 84	CES57 = 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

TM-30-18

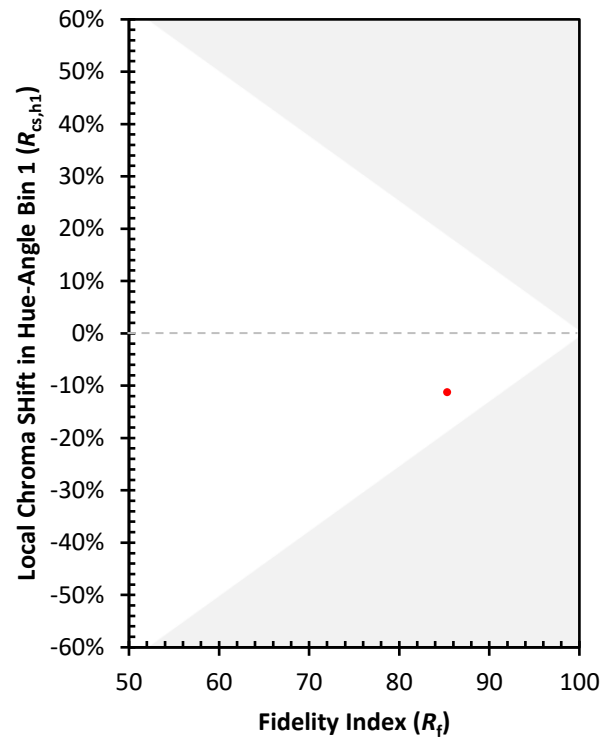
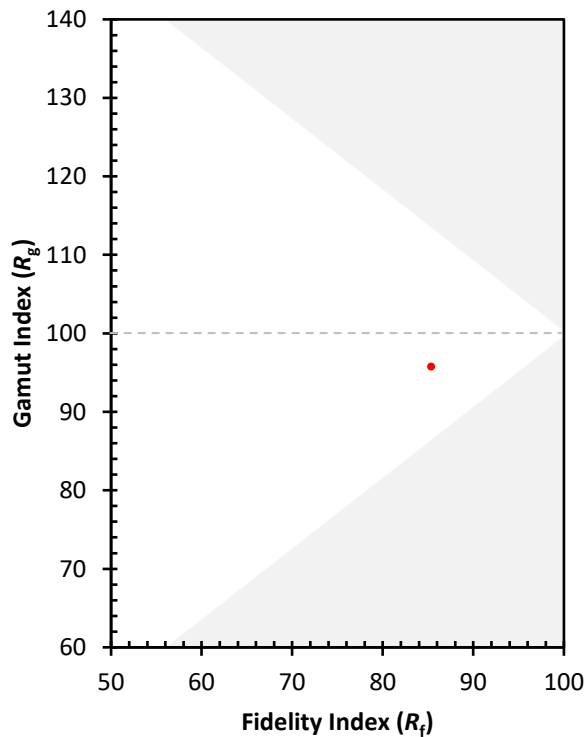
Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-2210-820-18

TM-30-18

Measure Comparisons



(END OF REPORT)