

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: P838241

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-3LO-50-120-EDD-90**

Issue Date: 5/21/2024

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

**Test Information**

Test Method: LM-79-08
Report Number: P838241
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-3LO-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

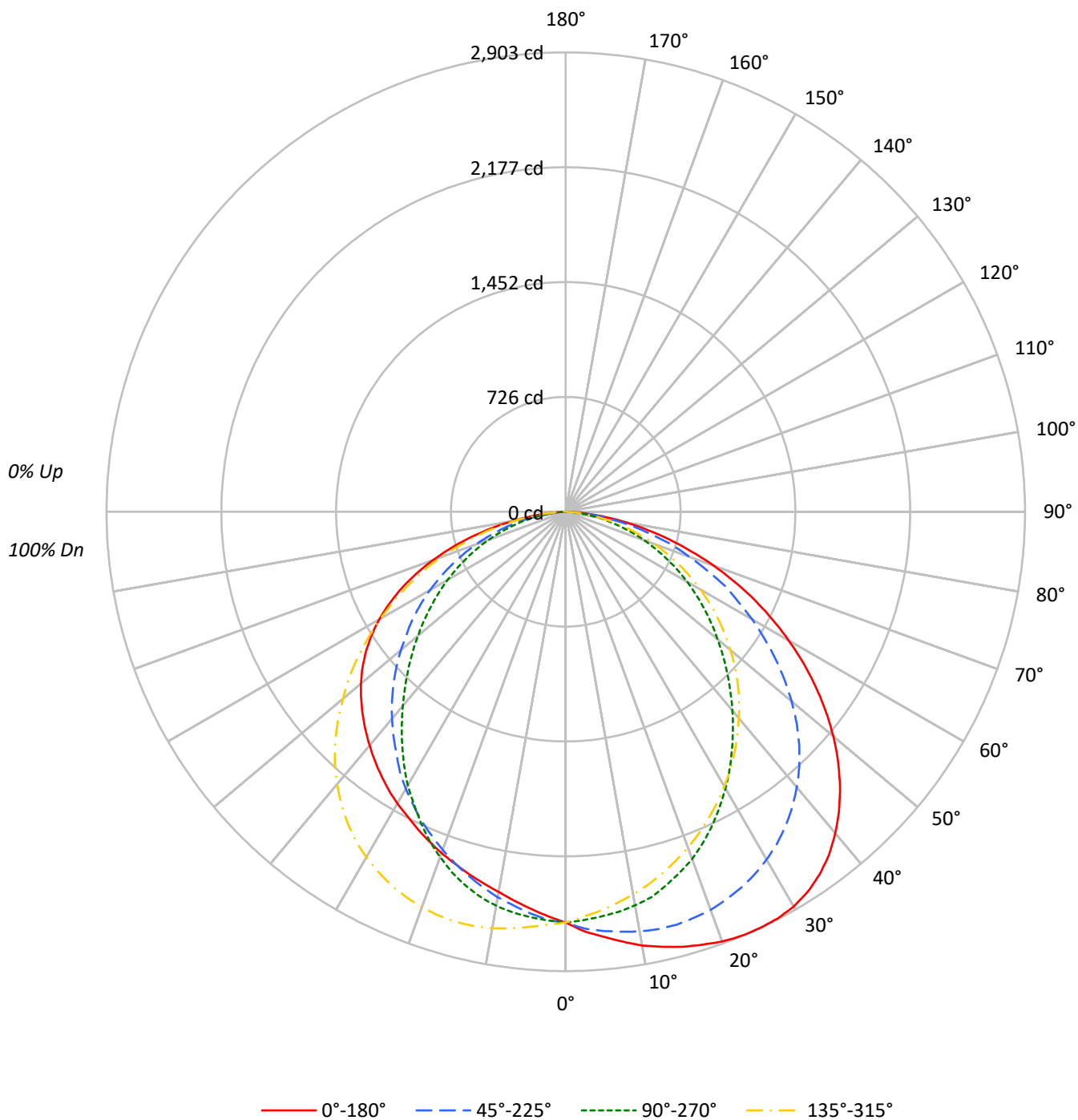
Lumens per Lamp: N/A
Luminaire Lumens: 7616.4 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
Input Voltage (V): 120
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	3493	3493	3493	3493
5°	3640	3468	3402	3474
10°	3802	3450	3333	3455
15°	3965	3406	3301	3407
20°	4138	3344	3286	3325
25°	4310	3251	3286	3218
30°	4476	3138	3308	3103
35°	4595	3009	3341	2961
40°	4656	2879	3388	2814
45°	4665	2748	3453	2679
50°	4622	2623	3538	2553
55°	4526	2506	3617	2436
60°	4383	2384	3665	2322
65°	4188	2244	3646	2192
70°	3912	2080	3516	2042
75°	3519	1854	3227	1845
80°	2984	1553	2712	1577
85°	2075	1028	1720	1056

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.5	3.2
10°-20°	713.7	9.4
20°-30°	1093.8	14.4
30°-40°	1330.0	17.5
40°-50°	1382.6	18.2
50°-60°	1248.9	16.4
60°-70°	949.5	12.5
70°-80°	529.3	7.0
80°-90°	121.9	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2054.0	27.0
0°-40°	3384.1	44.4
0°-60°	6015.6	79.0
0°-90°	7616.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7616.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2596	2596	2596	2596	2596	
5°	2695	2568	2519	2572	2695	260
15°	2847	2445	2370	2446	2847	807
25°	2903	2190	2213	2167	2903	1341
35°	2798	1832	2034	1803	2798	1747
45°	2452	1444	1815	1408	2452	1888
55°	1929	1068	1542	1038	1929	1722
65°	1315	705	1145	688	1315	1300
75°	677	357	621	355	677	719
85°	134	67	111	68	134	169
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0
2.5°	2653.5	2614.8	2615.4	2649.3	2623.3	2636.0	2599.7	2613.6	2609.3	2612.4	2582.7
5°	2695.3	2653.5	2652.9	2682.0	2652.9	2658.4	2612.4	2621.5	2608.1	2599.7	2567.6
7.5°	2739.5	2697.8	2693.5	2718.9	2680.8	2676.6	2625.7	2625.7	2601.5	2580.3	2550.0
10°	2783.1	2740.1	2734.7	2754.1	2706.8	2692.9	2631.1	2621.5	2589.4	2557.9	2525.2
12.5°	2815.8	2772.2	2768.0	2780.1	2726.8	2701.4	2631.1	2612.4	2565.1	2520.9	2495.5
15°	2846.7	2801.9	2790.4	2796.5	2735.3	2701.4	2622.7	2593.6	2533.0	2474.9	2445.2
17.5°	2868.5	2825.5	2814.0	2813.4	2739.5	2691.1	2604.5	2564.5	2491.9	2421.6	2391.9
20°	2890.3	2847.3	2832.8	2821.9	2738.3	2677.2	2577.9	2524.0	2439.2	2360.5	2335.6
22.5°	2901.2	2857.0	2841.3	2824.9	2730.5	2651.7	2545.2	2476.7	2379.8	2286.0	2265.4
25°	2903.0	2857.6	2840.7	2817.0	2714.7	2621.5	2502.8	2419.8	2311.4	2207.3	2189.7
27.5°	2898.2	2848.5	2831.6	2803.1	2691.1	2584.5	2452.5	2355.0	2238.7	2123.7	2104.9
30°	2881.2	2831.0	2814.6	2777.7	2657.8	2539.1	2397.4	2282.9	2158.2	2035.9	2019.5
32.5°	2847.3	2798.3	2785.0	2748.0	2621.5	2486.4	2333.2	2205.4	2069.2	1952.3	1928.1
35°	2797.7	2748.6	2740.1	2701.4	2570.6	2423.4	2263.0	2120.7	1974.7	1855.4	1831.8
37.5°	2732.9	2691.7	2679.0	2640.8	2510.6	2352.0	2182.4	2028.6	1878.4	1750.1	1735.5
40°	2651.1	2612.4	2602.7	2568.8	2441.0	2272.7	2095.2	1933.5	1779.1	1659.8	1639.2
42.5°	2557.9	2521.5	2516.1	2481.0	2355.0	2184.8	2000.8	1834.8	1675.6	1560.5	1539.9
45°	2451.9	2416.8	2415.6	2382.3	2261.1	2087.4	1901.4	1734.9	1574.4	1455.2	1444.3
47.5°	2335.0	2303.5	2303.5	2272.7	2156.4	1980.2	1799.1	1630.8	1472.7	1367.3	1348.0
50°	2207.9	2178.2	2169.1	2154.0	2040.7	1863.3	1691.3	1529.0	1372.2	1271.7	1252.9
52.5°	2072.2	2046.8	2052.8	2025.0	1915.4	1741.6	1582.3	1414.6	1271.1	1179.6	1160.9
55°	1929.3	1893.0	1898.4	1888.1	1784.6	1616.2	1460.0	1320.1	1171.8	1085.8	1068.2
57.5°	1780.9	1733.7	1753.1	1747.0	1645.3	1487.9	1348.0	1212.9	1073.0	993.7	976.8
60°	1628.9	1583.5	1603.5	1598.1	1502.4	1359.5	1232.3	1107.0	974.9	902.9	885.9
62.5°	1472.7	1430.9	1449.1	1444.9	1357.1	1228.1	1117.3	1002.2	876.2	811.4	795.7
65°	1315.3	1275.3	1291.7	1288.6	1207.5	1109.4	999.2	893.8	776.9	720.6	704.9
67.5°	1154.2	1117.3	1132.4	1132.4	1057.9	964.0	880.5	784.2	679.4	631.0	616.5
70°	994.3	959.8	973.1	971.9	908.9	832.6	760.6	674.6	580.7	540.8	528.7
72.5°	833.2	803.0	815.1	813.9	761.2	712.1	640.7	566.2	484.4	452.4	441.5
75°	677.0	648.6	660.1	658.8	615.9	569.8	522.0	460.2	390.0	367.6	356.7
77.5°	528.0	499.0	508.7	508.7	477.2	443.9	405.7	357.9	308.2	284.0	276.1
80°	385.1	371.2	366.4	367.0	345.8	324.0	304.6	258.6	222.2	205.9	200.4
82.5°	253.1	241.6	236.8	238.0	225.9	212.6	200.4	168.3	144.1	134.4	131.4
85°	134.4	126.0	121.7	124.7	122.3	115.1	109.0	87.2	72.1	68.4	66.6
87.5°	42.4	36.9	33.9	44.8	38.2	33.9	32.7	26.0	20.0	20.0	19.4
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0
2.5°	2592.4	2592.4	2568.8	2563.3	2560.9	2563.9	2540.3	2536.1	2570.0	2558.5	2532.4
5°	2571.8	2570.6	2537.3	2531.2	2531.2	2527.6	2500.9	2494.9	2528.8	2519.1	2490.7
7.5°	2546.4	2542.7	2503.4	2499.1	2493.1	2490.7	2461.0	2456.7	2485.8	2479.8	2453.1
10°	2515.5	2511.8	2465.2	2462.2	2455.5	2450.7	2422.8	2419.8	2449.5	2439.8	2418.6
12.5°	2474.9	2468.2	2420.4	2417.4	2411.9	2410.1	2382.9	2381.7	2414.4	2404.7	2382.3
15°	2421.6	2416.2	2362.9	2364.1	2364.7	2364.7	2342.9	2341.7	2373.8	2369.5	2345.3
17.5°	2362.9	2355.6	2304.7	2308.4	2312.6	2317.5	2300.5	2303.5	2337.4	2332.0	2310.2
20°	2296.3	2289.0	2239.3	2249.6	2258.7	2268.4	2257.5	2266.0	2297.5	2295.1	2278.7
22.5°	2221.8	2214.5	2168.5	2184.2	2199.4	2217.5	2212.7	2222.4	2255.7	2255.1	2240.6
25°	2131.0	2132.8	2092.2	2111.6	2137.0	2162.4	2164.3	2180.0	2216.9	2213.3	2200.0
27.5°	2046.2	2048.6	2005.6	2038.3	2072.2	2104.9	2112.8	2134.6	2172.1	2169.1	2157.6
30°	1957.2	1960.2	1918.4	1963.2	2004.4	2044.4	2061.3	2091.0	2129.1	2129.1	2117.0
32.5°	1864.5	1870.0	1826.4	1886.3	1934.1	1980.8	2010.4	2041.3	2084.9	2083.7	2073.4
35°	1769.4	1775.5	1735.5	1811.8	1859.7	1916.6	1953.5	1994.7	2033.5	2034.1	2026.2
37.5°	1672.5	1679.8	1643.5	1727.0	1781.5	1848.8	1896.0	1937.2	1980.2	1982.6	1975.3
40°	1576.3	1584.1	1552.6	1633.2	1702.2	1777.3	1831.8	1880.3	1927.5	1928.7	1923.9
42.5°	1480.0	1488.5	1464.8	1543.6	1621.7	1702.2	1766.4	1821.5	1870.0	1873.0	1867.5
45°	1386.1	1393.4	1376.4	1462.4	1537.5	1625.3	1699.2	1761.6	1810.6	1814.9	1813.0
47.5°	1292.9	1299.5	1284.4	1363.1	1449.7	1543.0	1628.3	1697.4	1749.5	1754.3	1753.1
50°	1201.4	1206.9	1190.5	1272.9	1358.9	1458.2	1547.2	1627.1	1685.3	1690.1	1689.5
52.5°	1110.6	1116.0	1102.1	1188.7	1266.8	1371.6	1468.5	1555.1	1612.6	1619.9	1621.1
55°	1022.8	1025.2	1014.3	1097.3	1173.0	1282.6	1394.0	1478.2	1535.7	1541.7	1545.4
57.5°	935.0	935.6	926.5	1005.8	1078.5	1190.5	1307.4	1395.8	1450.3	1456.4	1461.8
60°	847.8	847.2	836.9	913.8	983.4	1094.2	1216.0	1303.8	1356.4	1361.9	1369.2
62.5°	761.2	759.4	750.3	821.1	886.5	996.1	1118.5	1203.2	1253.5	1257.1	1266.8
65°	675.2	673.4	664.9	730.3	789.6	894.4	1014.3	1094.8	1140.3	1145.1	1143.3
67.5°	590.4	586.8	580.1	638.9	692.8	789.6	904.7	981.6	1019.2	1023.4	1034.9
70°	505.6	501.4	486.3	548.6	595.9	682.5	789.6	858.1	889.6	893.8	892.0
72.5°	422.1	417.8	401.5	459.0	499.0	574.7	670.4	727.3	754.5	758.2	758.2
75°	340.9	338.5	328.2	371.8	405.1	466.9	548.0	595.3	616.5	620.7	619.5
77.5°	262.8	261.0	250.7	288.2	314.3	360.3	425.7	462.6	478.4	483.2	493.5
80°	188.3	187.7	171.4	208.3	219.8	258.6	306.4	334.9	343.4	350.0	357.3
82.5°	120.5	121.1	104.8	136.3	141.1	165.9	195.6	213.2	219.2	224.7	230.1
85°	58.7	61.2	52.1	72.1	72.7	85.4	98.1	104.8	107.2	111.4	116.3
87.5°	15.1	17.6	9.7	20.6	18.2	23.6	27.3	29.1	28.5	31.5	33.3
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0
2.5°	2540.9	2560.3	2550.6	2582.1	2594.2	2574.8	2608.7	2609.3	2585.1	2613.6	2629.3
5°	2501.6	2521.5	2515.5	2548.2	2563.3	2546.4	2587.5	2595.4	2571.8	2603.9	2629.3
7.5°	2461.6	2485.2	2477.3	2510.6	2528.8	2515.5	2559.7	2572.4	2554.2	2589.4	2623.3
10°	2427.1	2447.1	2438.6	2473.7	2489.4	2478.5	2522.1	2545.8	2528.8	2571.8	2612.4
12.5°	2393.2	2409.5	2399.8	2428.9	2444.0	2430.1	2483.4	2505.2	2493.1	2537.9	2590.0
15°	2349.6	2367.7	2354.4	2380.4	2391.9	2379.8	2423.4	2461.0	2445.8	2494.9	2552.4
17.5°	2316.3	2326.5	2308.4	2329.0	2335.6	2319.3	2363.5	2400.4	2389.5	2442.8	2509.4
20°	2279.3	2287.8	2262.4	2273.9	2273.3	2252.7	2293.2	2329.6	2322.3	2381.0	2456.7
22.5°	2238.1	2242.4	2212.7	2215.1	2213.9	2180.0	2216.3	2253.3	2250.2	2309.6	2394.4
25°	2194.5	2195.1	2157.0	2155.8	2142.5	2102.5	2134.6	2176.4	2167.3	2231.5	2320.5
27.5°	2151.5	2145.5	2099.5	2088.6	2067.4	2019.5	2048.0	2085.5	2080.1	2143.1	2241.8
30°	2105.5	2097.6	2041.3	2021.3	1990.5	1935.4	1959.0	1994.1	1997.1	2052.2	2155.8
32.5°	2061.9	2041.9	1979.6	1950.5	1911.7	1847.6	1860.3	1896.0	1900.8	1956.6	2063.1
35°	2005.6	1992.3	1915.4	1865.7	1827.6	1757.3	1770.6	1795.5	1802.7	1857.2	1965.6
37.5°	1952.3	1931.1	1849.4	1788.8	1739.8	1665.9	1669.5	1695.0	1702.2	1757.3	1864.5
40°	1897.2	1866.9	1779.1	1708.3	1652.0	1574.4	1570.2	1596.9	1602.3	1656.2	1753.1
42.5°	1838.5	1802.1	1703.4	1625.9	1561.1	1482.4	1473.9	1496.9	1503.0	1555.7	1650.7
45°	1779.1	1735.5	1625.9	1541.1	1470.3	1389.8	1381.3	1398.8	1407.9	1457.6	1549.0
47.5°	1716.1	1665.3	1546.0	1451.5	1378.2	1297.7	1287.4	1305.0	1312.2	1361.3	1447.9
50°	1650.1	1588.4	1463.6	1359.5	1286.8	1207.5	1192.3	1212.9	1219.6	1265.6	1350.4
52.5°	1577.5	1509.0	1375.8	1266.8	1194.2	1118.5	1100.3	1120.3	1128.2	1173.0	1251.1
55°	1500.6	1426.7	1287.4	1181.4	1102.7	1028.8	1013.7	1021.6	1038.5	1080.9	1153.6
57.5°	1414.0	1340.7	1194.2	1086.4	1010.7	939.8	927.1	934.4	950.1	991.3	1056.7
60°	1321.9	1244.4	1099.1	991.3	918.0	850.8	839.3	846.0	862.9	900.5	961.0
62.5°	1231.1	1143.9	1001.0	893.8	827.2	764.8	761.8	759.4	775.1	811.4	864.7
65°	1120.9	1037.3	898.6	796.9	736.4	680.0	667.9	673.4	688.5	721.8	777.5
67.5°	1002.8	927.1	793.9	700.0	646.1	595.9	585.6	588.0	603.7	632.8	681.3
70°	877.5	810.8	686.7	602.5	557.1	509.9	503.2	503.8	519.0	544.4	586.8
72.5°	746.0	686.1	578.3	506.2	468.7	434.8	428.7	421.5	435.4	457.2	493.5
75°	612.2	559.5	470.5	411.8	382.1	353.6	348.2	340.9	354.9	373.6	402.1
77.5°	477.2	434.8	365.8	320.3	297.3	276.1	271.3	263.4	277.3	291.3	313.7
80°	345.2	314.3	273.1	225.3	217.4	203.5	198.6	190.1	203.5	212.6	229.5
82.5°	222.8	202.3	178.6	145.3	144.1	133.8	131.4	121.7	133.8	139.3	152.0
85°	112.6	102.9	96.9	73.9	76.3	69.6	69.0	58.7	68.4	70.9	78.1
87.5°	32.1	33.9	30.3	18.2	23.0	21.8	21.8	15.7	21.8	21.8	24.8
90°	0.0	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



TEST NUMBER: P838241

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-3LO-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0	2596.0
2.5°	2598.4	2608.7	2611.2	2610.6	2617.2	2653.5	2641.4	2653.5
5°	2604.5	2627.5	2633.6	2642.0	2652.9	2694.1	2680.8	2695.3
7.5°	2608.1	2642.6	2656.0	2672.3	2689.9	2735.9	2725.0	2739.5
10°	2608.1	2652.9	2672.3	2699.6	2723.2	2776.5	2766.2	2783.1
12.5°	2597.2	2654.8	2682.0	2720.2	2750.4	2808.0	2803.7	2815.8
15°	2574.8	2645.7	2683.2	2732.3	2769.8	2834.0	2832.2	2846.7
17.5°	2544.5	2629.9	2675.3	2737.1	2784.3	2856.4	2860.6	2868.5
20°	2506.4	2600.3	2659.6	2735.3	2794.6	2874.0	2879.4	2890.3
22.5°	2456.1	2564.5	2636.0	2727.4	2795.9	2881.2	2890.9	2901.2
25°	2396.8	2521.5	2605.1	2712.3	2789.8	2880.6	2894.0	2903.0
27.5°	2329.0	2465.8	2565.7	2688.1	2772.8	2870.9	2887.3	2898.2
30°	2250.2	2406.5	2520.9	2656.6	2749.8	2852.8	2870.3	2881.2
32.5°	2169.1	2341.1	2467.6	2616.0	2716.5	2823.7	2838.8	2847.3
35°	2080.7	2261.8	2403.5	2563.9	2673.5	2777.1	2788.6	2797.7
37.5°	1984.4	2175.8	2330.2	2505.2	2613.0	2712.3	2722.6	2732.9
40°	1885.1	2085.5	2247.8	2433.1	2540.9	2633.0	2643.9	2651.1
42.5°	1785.2	1985.6	2160.0	2348.3	2455.5	2543.9	2550.6	2557.9
45°	1684.1	1882.1	2061.3	2254.5	2360.5	2443.4	2445.8	2451.9
47.5°	1581.1	1774.9	1952.9	2147.3	2252.1	2327.8	2330.2	2335.0
50°	1477.6	1667.7	1837.3	2031.6	2134.0	2213.9	2203.0	2207.9
52.5°	1375.8	1555.1	1728.3	1906.9	2008.0	2078.9	2081.9	2072.2
55°	1275.9	1444.9	1604.1	1776.1	1872.4	1927.5	1925.7	1929.3
57.5°	1174.8	1333.4	1479.4	1636.8	1730.7	1782.8	1793.7	1780.9
60°	1071.8	1220.8	1351.6	1493.9	1584.7	1628.3	1641.1	1628.9
62.5°	969.5	1106.4	1225.0	1349.2	1433.4	1487.2	1486.0	1472.7
65°	867.2	991.3	1097.3	1202.6	1275.9	1329.8	1327.4	1315.3
67.5°	772.7	875.0	970.1	1055.5	1119.1	1156.0	1168.7	1154.2
70°	668.5	756.9	840.5	908.9	961.6	994.9	1007.0	994.3
72.5°	564.4	639.5	698.2	764.2	804.8	832.6	845.4	833.2
75°	461.4	523.2	571.0	622.5	651.0	674.6	689.1	677.0
77.5°	361.5	409.4	447.5	485.1	517.8	523.2	535.9	528.0
80°	266.4	301.0	328.8	353.6	377.3	379.7	390.0	385.1
82.5°	177.4	200.4	207.7	233.7	248.9	246.5	256.8	253.1
85°	93.9	107.8	120.5	128.4	136.9	129.0	138.1	134.4
87.5°	31.5	33.3	29.1	41.2	45.4	38.8	44.2	42.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)