

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: P837810

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-3STD-40-120-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: P837810
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-3STD-40-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

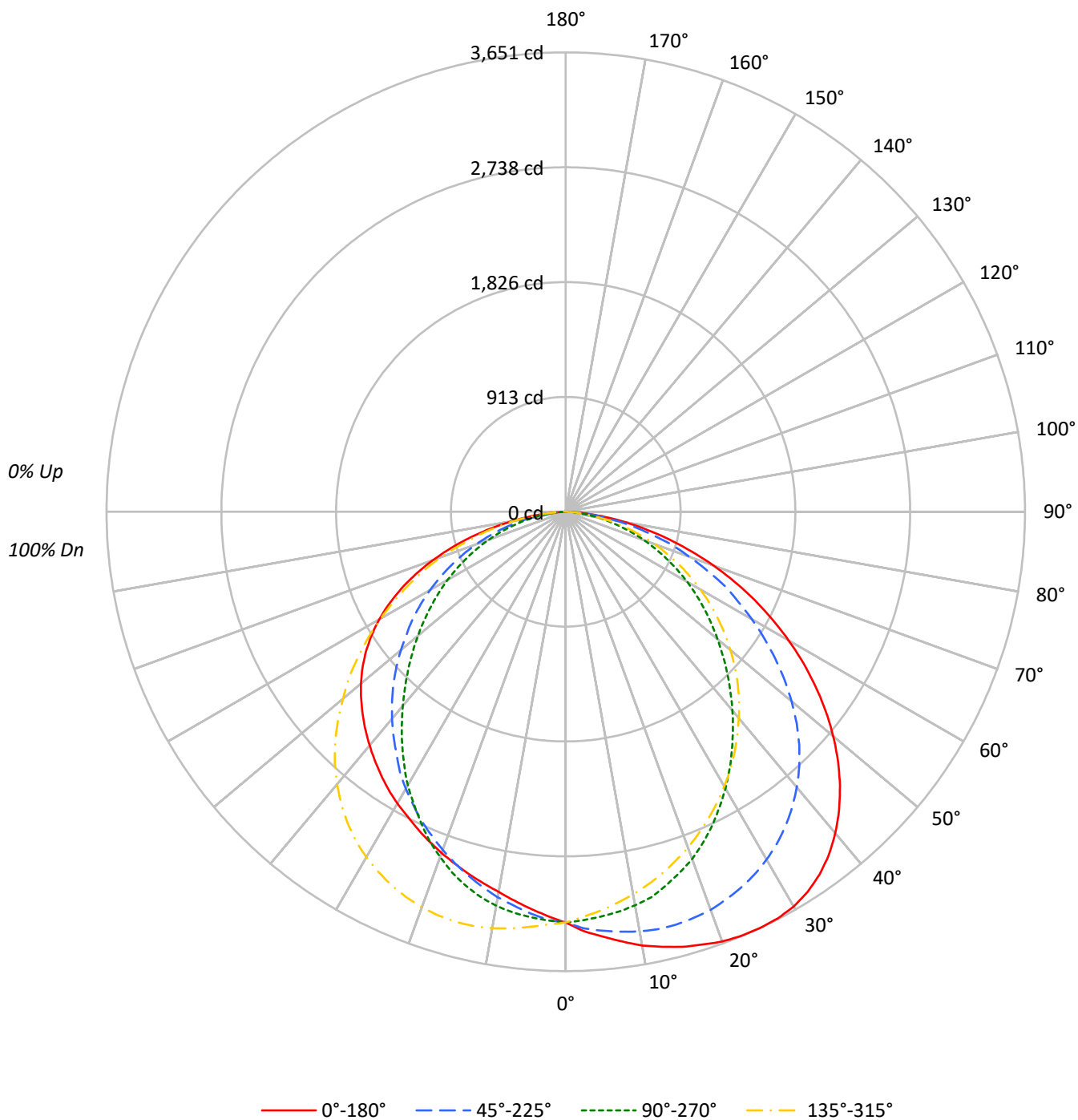
Lumens per Lamp: N/A
Luminaire Lumens: 9578.1 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8785	8785	8785	8785
5°	9156	8722	8558	8736
10°	9564	8677	8384	8690
15°	9973	8567	8302	8569
20°	10409	8411	8265	8363
25°	10840	8176	8264	8092
30°	11259	7892	8320	7804
35°	11558	7568	8403	7448
40°	11712	7242	8520	7078
45°	11734	6912	8686	6738
50°	11624	6596	8898	6421
55°	11383	6302	9097	6127
60°	11025	5996	9218	5841
65°	10532	5644	9169	5514
70°	9838	5231	8844	5135
75°	8852	4663	8116	4640
80°	7505	3907	6822	3966
85°	5221	2587	4326	2658

Classified

Scaled Data Report

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Peachtree City, GA 30269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.0	3.2
10°-20°	897.6	9.4
20°-30°	1375.6	14.4
30°-40°	1672.6	17.5
40°-50°	1738.8	18.2
50°-60°	1570.6	16.4
60°-70°	1194.1	12.5
70°-80°	665.7	7.0
80°-90°	153.3	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°	2583.1	27.0
0°-40°	4255.7	44.4
0°-60°	7565.1	79.0
0°-90°	9578.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9578.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3265	3265	3265	3265	3265	
5°	3390	3229	3168	3234	3390	327
15°	3580	3075	2980	3076	3580	1015
25°	3651	2754	2783	2726	3651	1686
35°	3518	2304	2558	2267	3518	2197
45°	3083	1816	2282	1771	3083	2374
55°	2426	1343	1939	1306	2426	2166
65°	1654	886	1440	866	1654	1634
75°	851	448	781	446	851	904
85°	169	84	140	86	169	213
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°	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7
2.5°	3337.0	3288.3	3289.0	3331.7	3298.9	3314.9	3269.2	3286.8	3281.4	3285.2	3247.9
5°	3389.6	3337.0	3336.3	3372.8	3336.3	3343.1	3285.2	3296.7	3279.9	3269.2	3228.9
7.5°	3445.2	3392.6	3387.3	3419.3	3371.3	3366.0	3302.0	3302.0	3271.5	3244.9	3206.8
10°	3500.0	3445.9	3439.1	3463.4	3404.0	3386.5	3308.8	3296.7	3256.3	3216.7	3175.6
12.5°	3541.1	3486.3	3480.9	3496.2	3429.2	3397.2	3308.8	3285.2	3225.8	3170.2	3138.3
15°	3579.9	3523.6	3509.1	3516.7	3439.8	3397.2	3298.2	3261.6	3185.5	3112.4	3075.1
17.5°	3607.4	3553.3	3538.8	3538.1	3445.2	3384.2	3275.3	3225.1	3133.7	3045.4	3008.0
20°	3634.8	3580.7	3562.4	3548.7	3443.6	3366.7	3241.8	3174.0	3067.4	2968.4	2937.2
22.5°	3648.5	3592.9	3573.1	3552.5	3433.7	3334.7	3200.7	3114.7	2992.8	2874.8	2848.9
25°	3650.8	3593.7	3572.3	3542.6	3413.9	3296.7	3147.4	3043.1	2906.8	2775.8	2753.7
27.5°	3644.7	3582.2	3560.9	3525.1	3384.2	3250.2	3084.2	2961.6	2815.4	2670.7	2647.1
30°	3623.4	3560.1	3539.6	3493.1	3342.3	3193.1	3014.9	2871.0	2714.1	2560.3	2539.7
32.5°	3580.7	3519.0	3502.3	3455.8	3296.7	3126.8	2934.2	2773.5	2602.1	2455.2	2424.7
35°	3518.3	3456.6	3445.9	3397.2	3232.7	3047.6	2845.8	2666.9	2483.3	2333.3	2303.6
37.5°	3436.8	3385.0	3369.0	3321.0	3157.3	2957.8	2744.5	2551.1	2362.3	2200.8	2182.5
40°	3334.0	3285.2	3273.0	3230.4	3069.7	2858.0	2634.9	2431.6	2237.4	2087.3	2061.5
42.5°	3216.7	3171.0	3164.1	3120.0	2961.6	2747.6	2516.1	2307.4	2107.1	1962.5	1936.6
45°	3083.4	3039.3	3037.7	2995.9	2843.5	2625.0	2391.2	2181.8	1980.0	1830.0	1816.2
47.5°	2936.5	2896.9	2896.9	2858.0	2711.8	2490.2	2262.5	2050.8	1852.0	1719.5	1695.2
50°	2776.5	2739.2	2727.8	2708.8	2566.4	2343.2	2126.9	1922.9	1725.6	1599.2	1575.6
52.5°	2605.9	2574.0	2581.6	2546.6	2408.7	2190.2	1989.9	1778.9	1598.4	1483.5	1459.8
55°	2426.2	2380.5	2387.4	2374.4	2244.2	2032.5	1836.0	1660.1	1473.6	1365.4	1343.3
57.5°	2239.7	2180.3	2204.6	2197.0	2069.1	1871.1	1695.2	1525.3	1349.4	1249.7	1228.3
60°	2048.5	1991.4	2016.5	2009.7	1889.4	1709.6	1549.7	1392.1	1226.1	1135.4	1114.1
62.5°	1852.0	1799.5	1822.3	1817.0	1706.6	1544.4	1405.0	1260.3	1101.9	1020.4	1000.6
65°	1654.0	1603.8	1624.3	1620.5	1518.5	1395.1	1256.5	1124.0	977.0	906.2	886.4
67.5°	1451.5	1405.0	1424.1	1424.1	1330.4	1212.4	1107.3	986.2	854.4	793.5	775.2
70°	1250.4	1207.0	1223.8	1222.3	1143.1	1047.1	956.5	848.3	730.3	680.0	664.8
72.5°	1047.9	1009.8	1025.0	1023.5	957.2	895.6	805.7	712.0	609.2	568.9	555.2
75°	851.4	815.6	830.1	828.5	774.5	716.6	656.4	578.8	490.4	462.2	448.5
77.5°	664.1	627.5	639.7	639.7	600.1	558.2	510.2	450.1	387.6	357.2	347.3
80°	484.3	466.8	460.7	461.5	434.8	407.4	383.0	325.2	279.5	258.9	252.1
82.5°	318.3	303.8	297.8	299.3	284.1	267.3	252.1	211.7	181.2	169.1	165.3
85°	169.1	158.4	153.1	156.9	153.8	144.7	137.1	109.7	90.6	86.1	83.8
87.5°	53.3	46.5	42.6	56.4	48.0	42.6	41.1	32.7	25.1	25.1	24.4
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°	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7
2.5°	3260.1	3260.1	3230.4	3223.5	3220.5	3224.3	3194.6	3189.3	3231.9	3217.5	3184.7
5°	3234.2	3232.7	3190.8	3183.2	3183.2	3178.6	3145.1	3137.5	3180.1	3168.0	3132.2
7.5°	3202.2	3197.7	3148.2	3142.8	3135.2	3132.2	3094.9	3089.5	3126.1	3118.5	3085.0
10°	3163.4	3158.8	3100.2	3096.4	3088.0	3081.9	3046.9	3043.1	3080.4	3068.2	3041.5
12.5°	3112.4	3104.0	3043.8	3040.0	3033.2	3030.9	2996.6	2995.1	3036.2	3024.0	2995.9
15°	3045.4	3038.5	2971.5	2973.0	2973.8	2973.8	2946.4	2944.8	2985.2	2979.9	2949.4
17.5°	2971.5	2962.3	2898.4	2902.9	2908.3	2914.4	2893.0	2896.9	2939.5	2932.6	2905.2
20°	2887.7	2878.6	2816.1	2829.1	2840.5	2852.7	2839.0	2849.6	2889.2	2886.2	2865.6
22.5°	2794.0	2784.9	2727.0	2746.8	2765.9	2788.7	2782.6	2794.8	2836.7	2835.9	2817.7
25°	2679.8	2682.1	2631.1	2655.4	2687.4	2719.4	2721.7	2741.5	2788.0	2783.4	2766.6
27.5°	2573.2	2576.3	2522.2	2563.3	2605.9	2647.1	2657.0	2684.4	2731.6	2727.8	2713.3
30°	2461.3	2465.1	2412.5	2468.9	2520.7	2570.9	2592.2	2629.6	2677.5	2677.5	2662.3
32.5°	2344.7	2351.6	2296.8	2372.2	2432.3	2491.0	2528.3	2567.1	2621.9	2620.4	2607.5
35°	2225.2	2232.8	2182.5	2278.5	2338.7	2410.2	2456.7	2508.5	2557.2	2558.0	2548.1
37.5°	2103.3	2112.5	2066.8	2171.9	2240.4	2324.9	2384.3	2436.1	2490.2	2493.2	2484.1
40°	1982.3	1992.2	1952.6	2053.8	2140.7	2235.1	2303.6	2364.5	2423.9	2425.5	2419.4
42.5°	1861.2	1871.8	1842.1	1941.1	2039.4	2140.7	2221.4	2290.7	2351.6	2355.4	2348.6
45°	1743.1	1752.3	1731.0	1839.1	1933.5	2043.9	2136.8	2215.3	2277.0	2282.3	2280.0
47.5°	1625.9	1634.2	1615.2	1714.2	1823.1	1940.4	2047.7	2134.6	2200.1	2206.1	2204.6
50°	1510.9	1517.7	1497.2	1600.7	1708.9	1833.8	1945.7	2046.2	2119.3	2125.4	2124.7
52.5°	1396.6	1403.5	1386.0	1494.9	1593.1	1724.9	1846.7	1955.6	2027.9	2037.1	2038.6
55°	1286.2	1289.3	1275.6	1379.9	1475.1	1612.9	1753.0	1858.9	1931.2	1938.9	1943.4
57.5°	1175.8	1176.6	1165.1	1264.9	1356.3	1497.2	1644.1	1755.3	1823.9	1831.5	1838.3
60°	1066.1	1065.4	1052.4	1149.1	1236.7	1376.1	1529.1	1639.6	1705.8	1712.7	1721.8
62.5°	957.2	955.0	943.5	1032.6	1114.9	1252.7	1406.5	1513.2	1576.4	1580.9	1593.1
65°	849.1	846.8	836.2	918.4	993.0	1124.8	1275.6	1376.8	1434.0	1440.0	1437.8
67.5°	742.5	737.9	729.5	803.4	871.2	993.0	1137.7	1234.4	1281.7	1287.0	1301.5
70°	635.9	630.5	611.5	689.9	749.3	858.2	993.0	1079.1	1118.7	1124.0	1121.7
72.5°	530.8	525.5	504.9	577.2	627.5	722.7	843.0	914.6	948.9	953.4	953.4
75°	428.7	425.7	412.7	467.6	509.5	587.1	689.2	748.6	775.2	780.6	779.0
77.5°	330.5	328.2	315.3	362.5	395.2	453.1	535.4	581.8	601.6	607.7	620.6
80°	236.8	236.1	215.5	262.0	276.4	325.2	385.3	421.1	431.8	440.2	449.3
82.5°	151.5	152.3	131.7	171.3	177.4	208.7	246.0	268.1	275.7	282.5	289.4
85°	73.9	76.9	65.5	90.6	91.4	107.4	123.4	131.7	134.8	140.1	146.2
87.5°	19.0	22.1	12.2	25.9	22.8	29.7	34.3	36.6	35.8	39.6	41.9
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°	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7
2.5°	3195.4	3219.7	3207.6	3247.2	3262.4	3238.0	3280.7	3281.4	3251.0	3286.8	3306.6
5°	3145.9	3171.0	3163.4	3204.5	3223.5	3202.2	3254.0	3263.9	3234.2	3274.6	3306.6
7.5°	3095.6	3125.3	3115.4	3157.3	3180.1	3163.4	3219.0	3235.0	3212.1	3256.3	3298.9
10°	3052.2	3077.3	3066.7	3110.8	3130.6	3116.9	3171.8	3201.5	3180.1	3234.2	3285.2
12.5°	3009.6	3030.1	3017.9	3054.5	3073.5	3056.0	3123.0	3150.4	3135.2	3191.6	3257.1
15°	2954.7	2977.6	2960.8	2993.6	3008.0	2992.8	3047.6	3094.9	3075.8	3137.5	3209.8
17.5°	2912.8	2925.8	2902.9	2928.8	2937.2	2916.7	2972.2	3018.7	3005.0	3072.0	3155.8
20°	2866.4	2877.1	2845.1	2859.5	2858.8	2832.9	2883.9	2929.6	2920.5	2994.3	3089.5
22.5°	2814.6	2819.9	2782.6	2785.7	2784.1	2741.5	2787.2	2833.6	2829.8	2904.5	3011.1
25°	2759.8	2760.5	2712.6	2711.0	2694.3	2644.0	2684.4	2736.9	2725.5	2806.2	2918.2
27.5°	2705.7	2698.1	2640.2	2626.5	2599.9	2539.7	2575.5	2622.7	2615.8	2695.0	2819.2
30°	2647.8	2637.9	2567.1	2542.0	2503.1	2433.8	2463.5	2507.7	2511.5	2580.8	2711.0
32.5°	2593.0	2567.9	2489.4	2452.9	2404.1	2323.4	2339.4	2384.3	2390.4	2460.5	2594.5
35°	2522.2	2505.4	2408.7	2346.3	2298.3	2210.0	2226.7	2257.9	2267.1	2335.6	2471.9
37.5°	2455.2	2428.5	2325.7	2249.6	2187.9	2095.0	2099.5	2131.5	2140.7	2210.0	2344.7
40°	2385.9	2347.8	2237.4	2148.3	2077.4	1980.0	1974.6	2008.1	2015.0	2082.8	2204.6
42.5°	2312.0	2266.3	2142.2	2044.7	1963.2	1864.2	1853.6	1882.5	1890.1	1956.4	2075.9
45°	2237.4	2182.5	2044.7	1938.1	1849.0	1747.7	1737.0	1759.1	1770.6	1833.0	1948.0
47.5°	2158.2	2094.2	1944.2	1825.4	1733.2	1632.0	1619.0	1641.1	1650.2	1711.9	1820.8
50°	2075.2	1997.5	1840.6	1709.6	1618.2	1518.5	1499.4	1525.3	1533.7	1591.6	1698.2
52.5°	1983.8	1897.7	1730.2	1593.1	1501.7	1406.5	1383.7	1408.8	1418.7	1475.1	1573.3
55°	1887.1	1794.2	1619.0	1485.7	1386.7	1293.8	1274.8	1284.7	1306.0	1359.3	1450.7
57.5°	1778.2	1686.0	1501.7	1366.2	1271.0	1181.9	1165.9	1175.0	1194.8	1246.6	1328.9
60°	1662.4	1564.9	1382.2	1246.6	1154.5	1069.9	1055.5	1063.9	1085.2	1132.4	1208.5
62.5°	1548.2	1438.5	1258.8	1124.0	1040.2	961.8	958.0	955.0	974.8	1020.4	1087.5
65°	1409.6	1304.5	1130.1	1002.2	926.0	855.2	840.0	846.8	865.9	907.7	977.8
67.5°	1261.1	1165.9	998.4	880.3	812.6	749.3	736.4	739.4	759.2	795.8	856.7
70°	1103.5	1019.7	863.6	757.7	700.6	641.2	632.8	633.6	652.6	684.6	737.9
72.5°	938.2	862.8	727.3	636.6	589.4	546.8	539.2	530.0	547.5	575.0	620.6
75°	769.9	703.7	591.7	517.8	480.5	444.7	437.9	428.7	446.3	469.9	505.7
77.5°	600.1	546.8	460.0	402.8	373.9	347.3	341.2	331.3	348.8	366.3	394.5
80°	434.1	395.2	343.4	283.3	273.4	255.9	249.8	239.1	255.9	267.3	288.6
82.5°	280.2	254.4	224.7	182.8	181.2	168.3	165.3	153.1	168.3	175.2	191.1
85°	141.6	129.5	121.8	92.9	96.0	87.6	86.8	73.9	86.1	89.1	98.2
87.5°	40.4	42.6	38.1	22.8	28.9	27.4	27.4	19.8	27.4	27.4	31.2
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: P837810

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-3STD-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7	3264.7
2.5°	3267.7	3280.7	3283.7	3282.9	3291.3	3337.0	3321.8	3337.0
5°	3275.3	3304.3	3311.9	3322.5	3336.3	3388.0	3371.3	3389.6
7.5°	3279.9	3323.3	3340.1	3360.6	3382.7	3440.6	3426.9	3445.2
10°	3279.9	3336.3	3360.6	3394.9	3424.6	3491.6	3478.7	3500.0
12.5°	3266.2	3338.5	3372.8	3420.8	3458.9	3531.2	3525.9	3541.1
15°	3238.0	3327.1	3374.3	3436.0	3483.2	3564.0	3561.7	3579.9
17.5°	3199.9	3307.3	3364.4	3442.1	3501.5	3592.1	3597.5	3607.4
20°	3152.0	3270.0	3344.6	3439.8	3514.5	3614.2	3621.1	3634.8
22.5°	3088.8	3225.1	3314.9	3429.9	3516.0	3623.4	3635.5	3648.5
25°	3014.1	3171.0	3276.1	3410.9	3508.4	3622.6	3639.3	3650.8
27.5°	2928.8	3100.9	3226.6	3380.4	3487.0	3610.4	3631.0	3644.7
30°	2829.8	3026.3	3170.2	3340.8	3458.1	3587.6	3609.6	3623.4
32.5°	2727.8	2944.1	3103.2	3289.8	3416.2	3551.0	3570.0	3580.7
35°	2616.6	2844.3	3022.5	3224.3	3362.1	3492.4	3506.8	3518.3
37.5°	2495.5	2736.2	2930.4	3150.4	3286.0	3410.9	3423.8	3436.8
40°	2370.6	2622.7	2826.8	3059.8	3195.4	3311.1	3324.8	3334.0
42.5°	2245.0	2497.1	2716.4	2953.2	3088.0	3199.2	3207.6	3216.7
45°	2117.8	2366.8	2592.2	2835.2	2968.4	3072.8	3075.8	3083.4
47.5°	1988.4	2232.0	2455.9	2700.4	2832.1	2927.3	2930.4	2936.5
50°	1858.1	2097.2	2310.5	2554.9	2683.6	2784.1	2770.4	2776.5
52.5°	1730.2	1955.6	2173.4	2398.1	2525.2	2614.3	2618.1	2605.9
55°	1604.5	1817.0	2017.3	2233.6	2354.6	2423.9	2421.7	2426.2
57.5°	1477.4	1676.9	1860.4	2058.4	2176.4	2241.9	2255.6	2239.7
60°	1347.9	1535.2	1699.7	1878.7	1992.9	2047.7	2063.7	2048.5
62.5°	1219.2	1391.3	1540.6	1696.7	1802.5	1870.3	1868.8	1852.0
65°	1090.5	1246.6	1379.9	1512.4	1604.5	1672.3	1669.3	1654.0
67.5°	971.7	1100.4	1220.0	1327.3	1407.3	1453.8	1469.7	1451.5
70°	840.7	951.9	1057.0	1143.1	1209.3	1251.2	1266.4	1250.4
72.5°	709.7	804.2	878.0	961.0	1012.1	1047.1	1063.1	1047.9
75°	580.3	658.0	718.1	782.9	818.6	848.3	866.6	851.4
77.5°	454.6	514.8	562.8	610.0	651.1	658.0	674.0	664.1
80°	335.1	378.5	413.5	444.7	474.4	477.5	490.4	484.3
82.5°	223.1	252.1	261.2	293.9	313.0	309.9	322.9	318.3
85°	118.0	135.6	151.5	161.4	172.1	162.2	173.6	169.1
87.5°	39.6	41.9	36.6	51.8	57.1	48.7	55.6	53.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)