

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: P834243

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-3HI-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834243
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-3HI-20-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

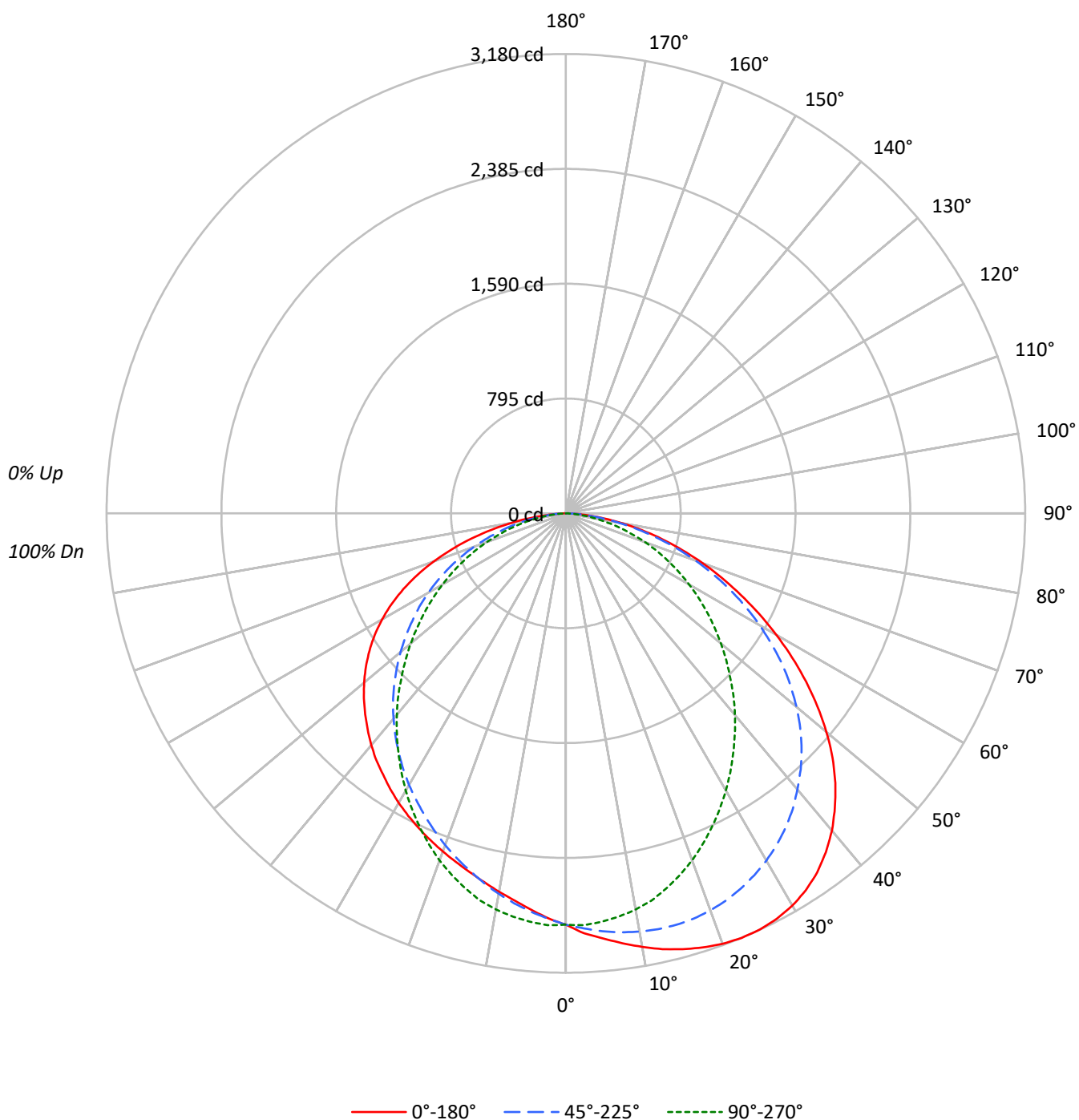
Lumens per Lamp: N/A
Luminaire Lumens: 8375.7 lumens
Efficiency: N/A
Efficacy: 63.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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: 28.75 FT

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

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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	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7662	7662	7662
5°	7977	7666	7439
10°	8326	7609	7267
15°	8701	7487	7163
20°	9081	7322	7133
25°	9437	7109	7144
30°	9745	6887	7190
35°	9967	6641	7250
40°	10068	6395	7357
45°	10040	6125	7478
50°	9862	5868	7632
55°	9525	5598	7790
60°	9061	5309	7908
65°	8508	4986	7898
70°	7918	4598	7663
75°	7190	4038	7066
80°	6172	3318	5960
85°	4709	2266	4094

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.1	3.2
10°-20°	779.9	9.3
20°-30°	1194.8	14.3
30°-40°	1458.0	17.4
40°-50°	1524.8	18.2
50°-60°	1380.0	16.5
60°-70°	1045.2	12.5
70°-80°	582.5	7.0
80°-90°	140.5	1.7
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°	2244.7	26.8
0°-40°	3702.7	44.2
0°-60°	6607.6	78.9
0°-90°	8375.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8375.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2847	2847	2847	2847	2847	
5°	2953	2904	2838	2768	2754	285
15°	3123	2950	2687	2562	2571	886
25°	3178	2866	2394	2310	2406	1466
35°	3034	2654	2022	2019	2207	1895
45°	2638	2308	1610	1680	1965	2030
55°	2030	1833	1193	1298	1660	1812
65°	1336	1257	783	890	1240	1325
75°	692	653	388	464	680	733
85°	152	134	73	98	133	183
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4
2.5°	2910.2	2896.6	2885.4	2889.7	2892.2	2883.5	2876.0	2877.3	2869.8	2884.1	2850.5
5°	2953.2	2940.7	2927.7	2932.7	2927.7	2914.6	2904.0	2900.9	2881.0	2889.1	2854.9
7.5°	3001.1	2987.4	2968.1	2973.7	2963.2	2938.9	2925.2	2917.1	2886.6	2887.2	2849.3
10°	3047.2	3035.3	3009.2	3012.9	2993.6	2961.3	2939.5	2928.3	2885.4	2879.1	2839.9
12.5°	3090.1	3073.9	3045.9	3047.8	3019.8	2976.8	2948.8	2932.7	2876.6	2858.0	2819.4
15°	3123.1	3107.5	3073.9	3073.3	3037.2	2981.2	2949.5	2927.1	2856.1	2826.9	2786.4
17.5°	3151.1	3136.8	3095.1	3093.9	3050.3	2979.3	2941.4	2913.4	2826.2	2790.1	2745.3
20°	3171.0	3156.7	3110.0	3105.7	3053.4	2970.0	2924.6	2889.1	2787.0	2744.1	2694.3
22.5°	3180.4	3166.0	3113.1	3106.9	3045.9	2951.3	2900.3	2858.6	2742.2	2686.2	2634.5
25°	3178.5	3164.8	3105.1	3098.8	3031.6	2923.3	2866.1	2818.1	2685.6	2619.6	2568.6
27.5°	3162.9	3152.4	3089.5	3081.4	3005.5	2885.4	2824.4	2771.5	2622.7	2549.3	2493.9
30°	3136.2	3128.1	3061.5	3054.0	2973.1	2843.7	2775.8	2714.8	2554.9	2472.1	2416.1
32.5°	3093.2	3085.8	3018.5	3011.7	2929.5	2790.1	2719.2	2656.3	2480.8	2389.3	2333.3
35°	3034.1	3029.7	2964.4	2956.9	2873.5	2729.1	2653.8	2584.7	2403.6	2300.3	2246.8
37.5°	2956.3	2956.3	2893.4	2885.4	2803.8	2654.5	2580.4	2506.9	2316.5	2207.0	2154.1
40°	2866.1	2874.2	2810.0	2802.0	2722.9	2574.2	2493.3	2416.1	2222.5	2108.6	2057.0
42.5°	2757.8	2765.2	2711.7	2704.2	2630.2	2481.4	2406.1	2322.1	2124.2	2008.4	1954.9
45°	2638.3	2648.2	2600.3	2594.7	2525.6	2380.0	2307.8	2222.5	2021.5	1903.9	1851.6
47.5°	2505.1	2518.1	2476.5	2473.3	2409.2	2276.0	2200.7	2114.2	1913.8	1794.9	1745.8
50°	2355.7	2374.4	2340.1	2340.1	2282.9	2150.3	2085.0	1998.5	1801.8	1682.9	1634.4
52.5°	2195.8	2219.4	2193.9	2194.5	2147.8	2029.0	1961.1	1876.5	1684.8	1567.8	1523.0
55°	2030.2	2053.2	2037.0	2039.5	2002.8	1894.5	1832.9	1748.9	1565.3	1451.4	1409.1
57.5°	1857.2	1882.1	1871.5	1876.5	1851.0	1753.9	1689.8	1616.3	1442.1	1329.4	1293.3
60°	1683.5	1707.2	1701.6	1708.4	1692.3	1608.2	1549.7	1473.8	1318.2	1209.9	1178.2
62.5°	1508.0	1529.8	1528.6	1536.0	1527.3	1457.6	1405.3	1340.6	1190.0	1090.4	1061.2
65°	1336.2	1354.9	1353.7	1361.8	1359.9	1303.9	1256.6	1197.5	1061.8	970.3	944.8
67.5°	1169.5	1185.0	1180.7	1190.0	1192.5	1147.7	1106.6	1053.7	939.8	850.8	829.0
70°	1006.4	1017.0	1011.4	1017.6	1023.2	989.6	954.7	908.1	809.7	731.3	713.2
72.5°	846.4	853.9	845.2	851.4	856.4	832.1	803.5	763.0	681.5	613.7	598.7
75°	691.5	702.0	684.0	690.2	694.0	669.7	652.9	619.9	549.6	497.3	487.3
77.5°	541.5	547.7	537.7	535.2	537.7	520.3	507.2	481.7	428.8	385.9	379.7
80°	398.3	402.1	392.1	389.6	391.5	379.0	369.1	350.4	313.1	280.7	278.2
82.5°	267.0	268.9	260.2	257.7	258.9	255.2	243.4	230.3	212.9	185.5	184.8
85°	152.5	152.5	146.3	143.8	145.0	138.8	134.4	127.6	120.7	102.1	103.3
87.5°	56.0	56.0	52.9	52.3	58.5	51.7	49.8	46.7	48.5	38.6	41.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4	2847.4
2.5°	2859.8	2853.6	2848.0	2828.7	2836.8	2816.9	2815.6	2808.2	2802.6	2792.0	2805.7
5°	2850.5	2838.1	2821.9	2798.8	2805.7	2782.0	2777.1	2768.3	2760.9	2747.2	2757.8
7.5°	2835.6	2815.0	2789.5	2760.3	2769.6	2740.3	2732.9	2723.5	2717.3	2701.1	2710.5
10°	2813.8	2784.5	2754.7	2719.2	2726.0	2694.3	2684.9	2675.0	2669.4	2655.1	2664.4
12.5°	2780.2	2744.7	2704.2	2665.7	2673.1	2643.2	2630.8	2620.2	2618.4	2606.5	2617.7
15°	2736.6	2687.4	2645.7	2604.7	2613.4	2578.5	2572.9	2562.3	2565.5	2557.4	2571.1
17.5°	2681.2	2624.6	2579.1	2535.0	2543.7	2514.4	2510.1	2505.1	2508.2	2506.9	2521.9
20°	2619.0	2556.7	2504.5	2460.9	2465.9	2442.8	2444.7	2443.5	2449.7	2456.5	2477.1
22.5°	2548.6	2478.3	2423.5	2378.7	2386.2	2366.3	2375.0	2377.5	2388.1	2403.6	2429.8
25°	2469.6	2394.3	2337.0	2294.7	2301.6	2288.5	2303.4	2309.7	2326.5	2352.6	2379.4
27.5°	2386.8	2307.2	2246.2	2205.7	2218.8	2205.7	2228.1	2240.6	2266.1	2294.7	2327.7
30°	2299.1	2216.3	2153.4	2117.3	2129.8	2118.0	2154.1	2170.9	2196.4	2235.6	2274.8
32.5°	2207.0	2119.8	2058.2	2030.2	2038.9	2037.0	2077.5	2096.2	2130.4	2175.2	2216.9
35°	2112.4	2021.5	1959.3	1935.6	1946.2	1948.7	1997.2	2019.0	2056.3	2110.5	2155.3
37.5°	2014.6	1921.9	1860.9	1841.6	1851.0	1860.3	1916.9	1938.7	1981.0	2040.2	2089.3
40°	1913.2	1820.5	1760.7	1745.2	1754.5	1764.4	1826.1	1855.9	1902.0	1966.1	2019.6
42.5°	1810.5	1717.8	1659.9	1648.7	1658.0	1677.3	1742.7	1770.7	1819.2	1890.2	1949.3
45°	1705.9	1609.5	1559.1	1550.3	1560.3	1582.7	1646.8	1680.4	1732.1	1809.9	1873.4
47.5°	1600.1	1506.2	1458.2	1452.6	1462.6	1487.5	1558.4	1588.9	1643.7	1726.5	1794.9
50°	1493.1	1401.6	1355.5	1353.7	1363.0	1389.8	1457.6	1493.7	1550.3	1643.1	1713.4
52.5°	1384.8	1297.0	1255.3	1255.3	1264.1	1291.4	1359.9	1397.2	1455.7	1553.5	1631.3
55°	1276.5	1193.1	1153.3	1156.4	1168.8	1192.5	1259.1	1298.3	1357.4	1458.9	1541.0
57.5°	1168.2	1089.2	1053.1	1057.4	1069.2	1092.9	1158.2	1202.4	1256.0	1361.1	1445.2
60°	1061.2	986.5	954.7	959.7	970.3	993.9	1061.8	1099.7	1153.3	1260.3	1344.3
62.5°	952.9	885.0	855.2	861.4	870.7	894.4	958.5	995.2	1048.1	1153.3	1237.9
65°	845.8	783.0	757.4	763.7	772.4	794.2	854.5	890.0	940.4	1043.1	1124.0
67.5°	740.0	682.8	661.6	667.8	674.7	695.2	745.0	783.6	830.9	928.6	1005.1
70°	635.5	584.4	565.7	572.0	578.2	596.9	640.4	675.9	719.5	809.1	880.0
72.5°	532.1	482.3	473.0	478.6	483.6	499.8	541.5	569.5	607.4	687.1	748.1
75°	431.3	388.4	382.1	387.7	392.1	404.5	439.4	463.7	495.4	564.5	614.3
77.5°	334.2	298.1	295.6	300.0	304.3	313.1	340.4	366.0	390.9	441.9	486.1
80°	243.4	214.1	214.1	218.5	217.2	227.8	247.1	267.6	285.7	322.4	354.8
82.5°	160.6	137.5	140.7	143.8	145.6	150.0	161.8	177.4	188.6	211.0	232.1
85°	89.0	73.4	76.6	79.0	77.8	82.8	89.0	98.3	103.9	114.5	125.7
87.5°	33.0	27.4	28.0	29.9	31.1	33.6	33.6	39.2	39.8	41.1	43.6
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):

	160°	170°	180°
0°	2847.4	2847.4	2847.4
2.5°	2779.5	2794.5	2805.7
5°	2731.6	2744.1	2754.0
7.5°	2684.9	2696.2	2704.9
10°	2640.8	2653.2	2659.4
12.5°	2595.3	2609.6	2614.6
15°	2550.5	2564.8	2571.1
17.5°	2504.5	2523.1	2530.0
20°	2461.5	2485.2	2490.8
22.5°	2417.9	2442.2	2449.1
25°	2370.6	2399.3	2406.1
27.5°	2320.2	2354.5	2361.3
30°	2269.8	2307.2	2314.0
32.5°	2215.7	2256.1	2262.4
35°	2159.0	2199.5	2207.0
37.5°	2096.2	2140.4	2155.3
40°	2030.8	2078.7	2094.3
42.5°	1962.4	2014.6	2030.8
45°	1888.9	1946.2	1964.9
47.5°	1814.9	1879.6	1895.8
50°	1734.6	1803.7	1823.0
52.5°	1650.6	1725.9	1745.2
55°	1563.4	1639.3	1660.5
57.5°	1468.8	1547.2	1569.6
60°	1369.9	1448.3	1469.4
62.5°	1268.4	1339.4	1359.9
65°	1155.1	1221.7	1240.4
67.5°	1035.0	1096.0	1111.6
70°	907.4	960.3	974.0
72.5°	774.2	811.0	829.0
75°	636.7	665.9	679.6
77.5°	498.5	519.1	530.3
80°	363.5	375.3	384.6
82.5°	237.7	242.7	249.6
85°	128.2	128.2	132.6
87.5°	43.6	41.7	43.6
90°	0.0	0.0	0.0

(END OF REPORT)