

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: P835311

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835311
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-5HI-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

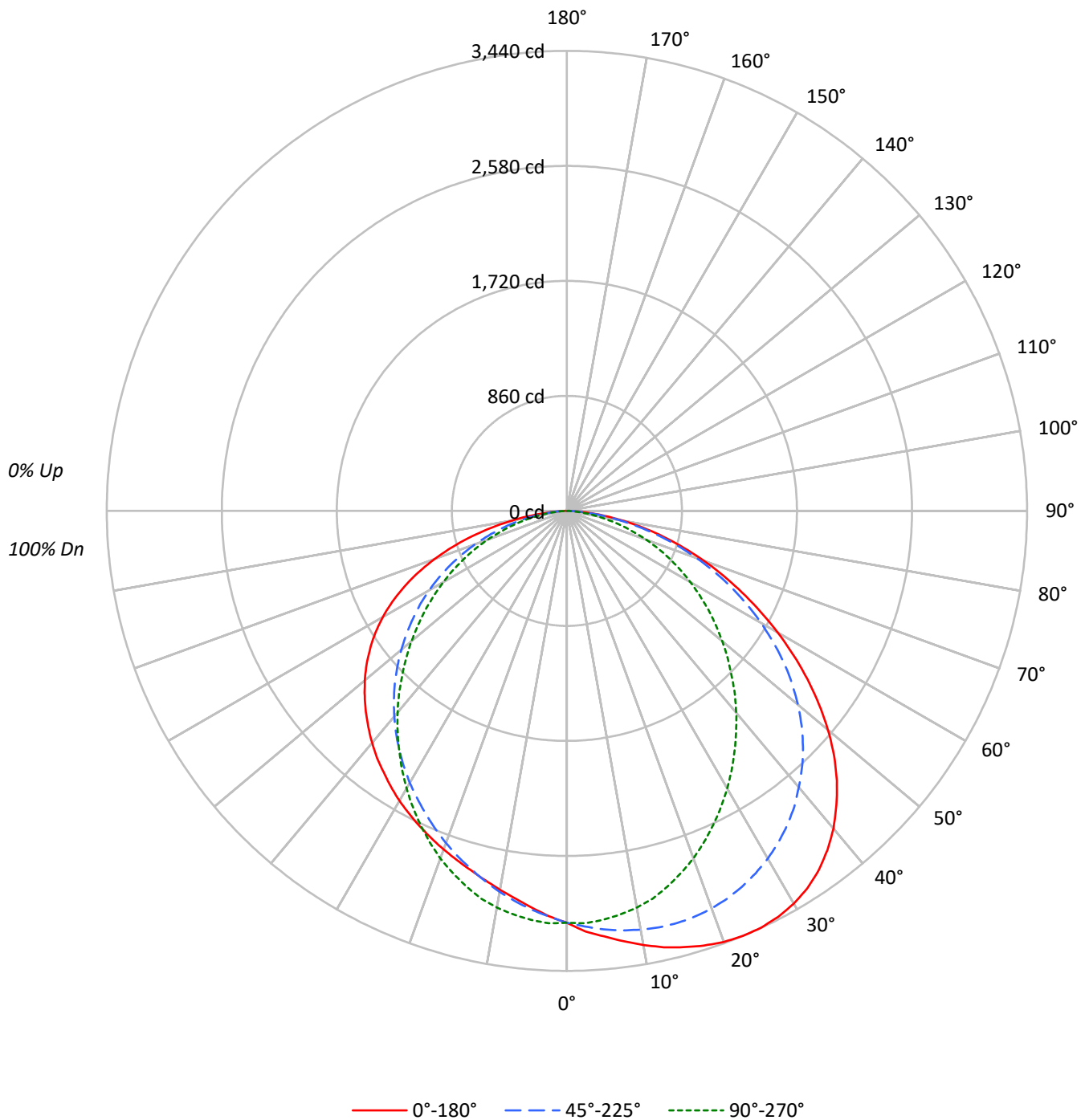
Lumens per Lamp: N/A
Luminaire Lumens: 9059.1 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 110
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

1121 Highway 74 South

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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°	8287	8287	8287
5°	8628	8292	8046
10°	9006	8229	7860
15°	9411	8098	7747
20°	9822	7919	7715
25°	10207	7689	7727
30°	10540	7448	7777
35°	10781	7182	7841
40°	10889	6917	7957
45°	10859	6625	8088
50°	10667	6347	8254
55°	10302	6054	8426
60°	9800	5743	8554
65°	9203	5392	8543
70°	8564	4973	8289
75°	7776	4368	7643
80°	6676	3589	6447
85°	5091	2452	4428

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.1	3.2
10°-20°	843.5	9.3
20°-30°	1292.2	14.3
30°-40°	1577.0	17.4
40°-50°	1649.2	18.2
50°-60°	1492.6	16.5
60°-70°	1130.4	12.5
70°-80°	630.0	7.0
80°-90°	152.0	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°	2427.8	26.8
0°-40°	4004.8	44.2
0°-60°	7146.7	78.9
0°-90°	9059.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9059.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3080	3080	3080	3080	3080	
5°	3194	3141	3070	2994	2979	308
15°	3378	3190	2907	2771	2781	958
25°	3438	3100	2590	2498	2602	1586
35°	3282	2870	2186	2184	2387	2049
45°	2854	2496	1741	1818	2125	2195
55°	2196	1982	1290	1404	1796	1959
65°	1445	1359	847	963	1342	1434
75°	748	706	420	502	735	793
85°	165	145	79	106	143	198
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°	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7
2.5°	3147.7	3132.9	3120.8	3125.5	3128.2	3118.8	3110.7	3112.0	3103.9	3119.4	3083.1
5°	3194.2	3180.7	3166.6	3171.9	3166.6	3152.4	3141.0	3137.6	3116.1	3124.8	3087.8
7.5°	3246.0	3231.2	3210.3	3216.4	3204.9	3178.7	3163.9	3155.1	3122.1	3122.8	3081.7
10°	3295.8	3283.0	3254.7	3258.8	3237.9	3202.9	3179.3	3167.2	3120.8	3114.0	3071.6
12.5°	3342.2	3324.7	3294.5	3296.5	3266.2	3219.7	3189.4	3171.9	3111.4	3091.2	3049.4
15°	3377.9	3361.1	3324.7	3324.1	3285.0	3224.4	3190.1	3165.9	3089.1	3057.5	3013.7
17.5°	3408.2	3392.7	3347.6	3346.3	3299.2	3222.4	3181.4	3151.1	3056.8	3017.8	2969.3
20°	3429.8	3414.3	3363.8	3359.1	3302.5	3212.3	3163.2	3124.8	3014.4	2968.0	2914.1
22.5°	3439.9	3424.4	3367.2	3360.4	3294.5	3192.1	3136.9	3091.8	2965.9	2905.4	2849.5
25°	3437.8	3423.0	3358.4	3351.7	3279.0	3161.8	3099.9	3048.1	2904.7	2833.3	2778.1
27.5°	3421.0	3409.6	3341.6	3332.8	3250.7	3120.8	3054.8	2997.6	2836.7	2757.3	2697.4
30°	3392.1	3383.3	3311.3	3303.2	3215.7	3075.7	3002.3	2936.3	2763.3	2673.8	2613.2
32.5°	3345.6	3337.5	3264.8	3257.4	3168.6	3017.8	2941.0	2873.1	2683.2	2584.3	2523.7
35°	3281.7	3276.9	3206.3	3198.2	3108.0	2951.8	2870.4	2795.6	2599.7	2488.0	2430.1
37.5°	3197.5	3197.5	3129.5	3120.8	3032.6	2871.0	2790.9	2711.5	2505.5	2387.0	2329.8
40°	3099.9	3108.7	3039.3	3030.6	2945.1	2784.2	2696.7	2613.2	2403.9	2280.7	2224.8
42.5°	2982.8	2990.9	2933.0	2924.9	2844.8	2683.9	2602.4	2511.6	2297.5	2172.3	2114.4
45°	2853.5	2864.3	2812.5	2806.4	2731.7	2574.2	2496.1	2403.9	2186.4	2059.2	2002.7
47.5°	2709.5	2723.6	2678.5	2675.1	2605.8	2461.8	2380.3	2286.7	2070.0	1941.4	1888.2
50°	2547.9	2568.1	2531.1	2531.1	2469.2	2325.8	2255.1	2161.5	1948.8	1820.2	1767.7
52.5°	2374.9	2400.5	2372.9	2373.6	2323.1	2194.5	2121.1	2029.6	1822.2	1695.7	1647.2
55°	2195.9	2220.8	2203.3	2205.9	2166.2	2049.1	1982.5	1891.6	1693.0	1569.8	1524.0
57.5°	2008.7	2035.6	2024.2	2029.6	2002.0	1897.0	1827.6	1748.2	1559.7	1437.9	1398.8
60°	1820.9	1846.5	1840.4	1847.8	1830.3	1739.4	1676.2	1594.0	1425.8	1308.6	1274.3
62.5°	1631.1	1654.6	1653.3	1661.4	1651.9	1576.5	1520.0	1450.0	1287.1	1179.4	1147.7
65°	1445.3	1465.5	1464.1	1472.9	1470.9	1410.3	1359.1	1295.2	1148.4	1049.5	1021.9
67.5°	1264.9	1281.7	1277.0	1287.1	1289.8	1241.3	1196.9	1139.7	1016.5	920.2	896.7
70°	1088.5	1099.9	1093.9	1100.6	1106.7	1070.3	1032.6	982.1	875.8	791.0	771.4
72.5°	915.5	923.6	914.2	920.9	926.3	900.0	869.1	825.3	737.1	663.7	647.6
75°	747.9	759.3	739.8	746.5	750.6	724.3	706.1	670.5	594.4	537.9	527.1
77.5°	585.7	592.4	581.6	578.9	581.6	562.8	548.6	521.0	463.8	417.4	410.6
80°	430.8	434.9	424.1	421.4	423.4	410.0	399.2	379.0	338.6	303.6	300.9
82.5°	288.8	290.8	281.4	278.7	280.0	276.0	263.2	249.1	230.2	200.6	199.9
85°	164.9	164.9	158.2	155.5	156.8	150.1	145.4	138.0	130.6	110.4	111.7
87.5°	60.6	60.6	57.2	56.5	63.3	55.9	53.9	50.5	52.5	41.7	44.4
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7	3079.7
2.5°	3093.2	3086.4	3080.4	3059.5	3068.3	3046.7	3045.4	3037.3	3031.2	3019.8	3034.6
5°	3083.1	3069.6	3052.1	3027.2	3034.6	3009.0	3003.6	2994.2	2986.1	2971.3	2982.8
7.5°	3066.9	3044.7	3017.1	2985.5	2995.6	2963.9	2955.9	2945.8	2939.0	2921.5	2931.6
10°	3043.4	3011.7	2979.4	2941.0	2948.4	2914.1	2904.0	2893.2	2887.2	2871.7	2881.8
12.5°	3007.0	2968.6	2924.9	2883.2	2891.2	2858.9	2845.5	2834.0	2832.0	2819.2	2831.3
15°	2959.9	2906.7	2861.6	2817.2	2826.6	2788.9	2782.8	2771.4	2774.8	2766.0	2780.8
17.5°	2900.0	2838.7	2789.6	2741.8	2751.2	2719.6	2714.9	2709.5	2712.8	2711.5	2727.6
20°	2832.7	2765.3	2708.8	2661.7	2667.1	2642.2	2644.2	2642.8	2649.6	2657.0	2679.2
22.5°	2756.6	2680.5	2621.3	2572.8	2580.9	2559.4	2568.8	2571.5	2582.9	2599.7	2628.0
25°	2671.1	2589.7	2527.7	2481.9	2489.4	2475.2	2491.4	2498.1	2516.3	2544.5	2573.5
27.5°	2581.6	2495.4	2429.4	2385.7	2399.8	2385.7	2409.9	2423.4	2451.0	2481.9	2517.6
30°	2486.7	2397.1	2329.1	2290.1	2303.6	2290.8	2329.8	2348.0	2375.6	2418.0	2460.4
32.5°	2387.0	2292.8	2226.1	2195.9	2205.3	2203.3	2247.0	2267.2	2304.2	2352.7	2397.8
35°	2284.7	2186.4	2119.1	2093.5	2105.0	2107.7	2160.2	2183.7	2224.1	2282.7	2331.2
37.5°	2179.0	2078.7	2012.8	1991.9	2002.0	2012.1	2073.3	2096.9	2142.7	2206.6	2259.8
40°	2069.3	1969.0	1904.4	1887.5	1897.6	1908.4	1975.1	2007.4	2057.2	2126.5	2184.4
42.5°	1958.2	1857.9	1795.3	1783.2	1793.3	1814.2	1884.9	1915.1	1967.7	2044.4	2108.3
45°	1845.1	1740.8	1686.3	1676.8	1687.6	1711.8	1781.2	1817.5	1873.4	1957.6	2026.2
47.5°	1730.7	1629.1	1577.2	1571.2	1581.9	1608.9	1685.6	1718.6	1777.8	1867.3	1941.4
50°	1614.9	1516.0	1466.1	1464.1	1474.2	1503.2	1576.5	1615.6	1676.8	1777.1	1853.2
52.5°	1497.8	1402.9	1357.8	1357.8	1367.2	1396.8	1470.9	1511.2	1574.5	1680.2	1764.4
55°	1380.7	1290.5	1247.4	1250.7	1264.2	1289.8	1361.8	1404.2	1468.2	1577.9	1666.7
57.5°	1263.5	1178.0	1139.0	1143.7	1156.5	1182.1	1252.8	1300.5	1358.4	1472.2	1563.1
60°	1147.7	1067.0	1032.6	1038.0	1049.5	1075.0	1148.4	1189.5	1247.4	1363.2	1454.0
62.5°	1030.6	957.2	924.9	931.7	941.8	967.3	1036.7	1076.4	1133.6	1247.4	1338.9
65°	914.8	846.8	819.2	826.0	835.4	859.0	924.3	962.6	1017.1	1128.2	1215.7
67.5°	800.4	738.5	715.6	722.3	729.7	751.9	805.8	847.5	898.7	1004.4	1087.2
70°	687.3	632.1	611.9	618.6	625.4	645.6	692.7	731.1	778.2	875.1	951.9
72.5°	575.6	521.7	511.6	517.7	523.0	540.5	585.7	615.9	657.0	743.2	809.1
75°	466.5	420.1	413.3	419.4	424.1	437.6	475.3	501.5	535.8	610.6	664.4
77.5°	361.5	322.4	319.8	324.5	329.2	338.6	368.2	395.8	422.7	477.9	525.7
80°	263.2	231.6	231.6	236.3	234.9	246.4	267.2	289.5	309.0	348.7	383.7
82.5°	173.7	148.8	152.1	155.5	157.5	162.2	175.0	191.9	204.0	228.2	251.1
85°	96.3	79.4	82.8	85.5	84.1	89.5	96.3	106.4	112.4	123.9	136.0
87.5°	35.7	29.6	30.3	32.3	33.7	36.4	36.4	42.4	43.1	44.4	47.1
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):

	160°	170°	180°
0°	3079.7	3079.7	3079.7
2.5°	3006.3	3022.5	3034.6
5°	2954.5	2968.0	2978.7
7.5°	2904.0	2916.1	2925.6
10°	2856.2	2869.7	2876.4
12.5°	2807.1	2822.6	2828.0
15°	2758.6	2774.1	2780.8
17.5°	2708.8	2729.0	2736.4
20°	2662.4	2687.9	2694.0
22.5°	2615.2	2641.5	2648.9
25°	2564.1	2595.0	2602.4
27.5°	2509.5	2546.6	2554.0
30°	2455.0	2495.4	2502.8
32.5°	2396.5	2440.2	2446.9
35°	2335.2	2379.0	2387.0
37.5°	2267.2	2315.0	2331.2
40°	2196.5	2248.4	2265.2
42.5°	2122.5	2179.0	2196.5
45°	2043.0	2105.0	2125.2
47.5°	1962.9	2032.9	2050.4
50°	1876.1	1950.8	1971.7
52.5°	1785.2	1866.7	1887.5
55°	1691.0	1773.1	1796.0
57.5°	1588.7	1673.5	1697.7
60°	1481.6	1566.4	1589.3
62.5°	1371.9	1448.6	1470.9
65°	1249.4	1321.4	1341.6
67.5°	1119.5	1185.4	1202.3
70°	981.5	1038.7	1053.5
72.5°	837.4	877.1	896.7
75°	688.6	720.3	735.1
77.5°	539.2	561.4	573.5
80°	393.1	405.9	416.0
82.5°	257.1	262.5	269.9
85°	138.7	138.7	143.4
87.5°	47.1	45.1	47.1
90°	0.0	0.0	0.0

(END OF REPORT)