

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: P834195

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-2HI-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834195
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-LD4-2HI-27-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

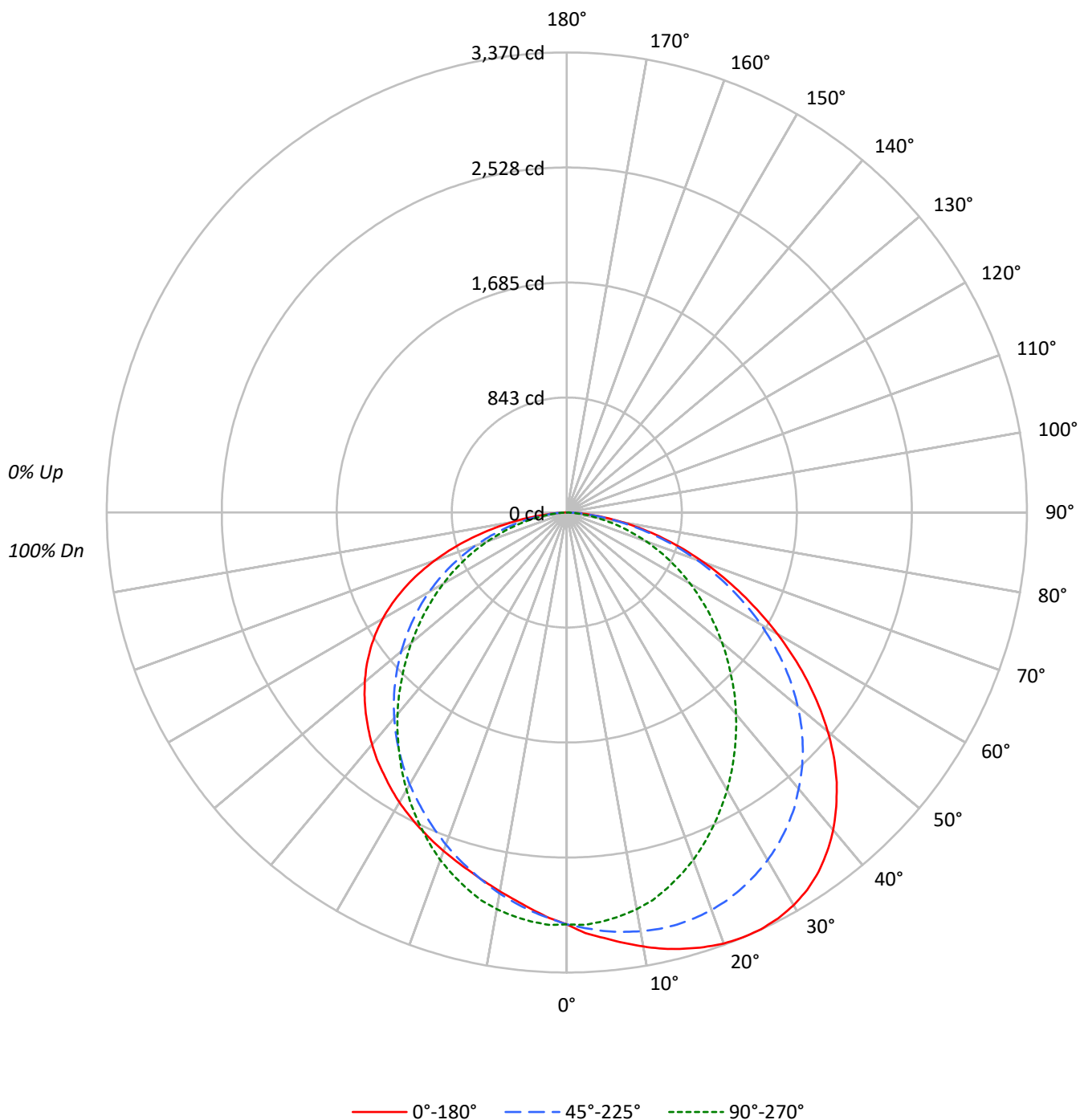
Lumens per Lamp: N/A
Luminaire Lumens: 8874.2 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 88
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	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	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°
0°	8118	8118	8118
5°	8452	8123	7882
10°	8822	8062	7699
15°	9219	7933	7589
20°	9621	7757	7557
25°	9999	7532	7569
30°	10325	7297	7618
35°	10561	7036	7681
40°	10667	6776	7795
45°	10638	6490	7923
50°	10449	6217	8086
55°	10092	5931	8254
60°	9600	5625	8379
65°	9015	5282	8368
70°	8390	4872	8120
75°	7617	4278	7487
80°	6540	3515	6315
85°	4989	2402	4338



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	286.1	3.2
10°-20°	826.3	9.3
20°-30°	1265.9	14.3
30°-40°	1544.8	17.4
40°-50°	1615.6	18.2
50°-60°	1462.2	16.5
60°-70°	1107.4	12.5
70°-80°	617.1	7.0
80°-90°	148.8	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°	2378.3	26.8
0°-40°	3923.1	44.2
0°-60°	7000.8	78.9
0°-90°	8874.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8874.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3017	3017	3017	3017	3017	
5°	3129	3077	3007	2933	2918	302
15°	3309	3125	2847	2715	2724	938
25°	3368	3037	2537	2447	2549	1554
35°	3215	2812	2142	2139	2338	2007
45°	2795	2445	1705	1780	2082	2151
55°	2151	1942	1264	1376	1759	1919
65°	1416	1331	830	943	1314	1404
75°	733	692	412	491	720	777
85°	162	142	78	104	140	194
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°	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9
2.5°	3083.5	3069.0	3057.1	3061.7	3064.3	3055.1	3047.2	3048.5	3040.6	3055.8	3020.2
5°	3129.0	3115.8	3101.9	3107.2	3101.9	3088.1	3076.9	3073.6	3052.5	3061.0	3024.8
7.5°	3179.7	3165.2	3144.8	3150.7	3139.5	3113.8	3099.3	3090.7	3058.4	3059.1	3018.8
10°	3228.5	3216.0	3188.3	3192.3	3171.8	3137.5	3114.5	3102.6	3057.1	3050.5	3008.9
12.5°	3274.0	3256.9	3227.2	3229.2	3199.5	3154.0	3124.3	3107.2	3047.8	3028.1	2987.2
15°	3309.0	3292.5	3256.9	3256.2	3218.0	3158.6	3125.0	3101.3	3026.1	2995.1	2952.2
17.5°	3338.7	3323.5	3279.3	3278.0	3231.8	3156.7	3116.4	3086.8	2994.4	2956.2	2908.7
20°	3359.8	3344.6	3295.1	3290.5	3235.1	3146.8	3098.6	3061.0	2952.9	2907.4	2854.6
22.5°	3369.6	3354.5	3298.4	3291.8	3227.2	3127.0	3072.9	3028.7	2905.4	2846.1	2791.3
25°	3367.7	3353.2	3289.9	3283.3	3212.0	3097.3	3036.6	2985.9	2845.4	2775.5	2721.4
27.5°	3351.2	3340.0	3273.4	3264.8	3184.3	3057.1	2992.5	2936.4	2778.8	2701.0	2642.3
30°	3322.8	3314.3	3243.7	3235.8	3150.1	3012.9	2941.0	2876.4	2706.9	2619.2	2559.9
32.5°	3277.3	3269.4	3198.2	3190.9	3103.9	2956.2	2881.0	2814.4	2628.5	2531.5	2472.2
35°	3214.7	3210.1	3140.8	3132.9	3044.6	2891.6	2811.8	2738.6	2546.7	2437.2	2380.5
37.5°	3132.3	3132.3	3065.7	3057.1	2970.7	2812.4	2734.0	2656.2	2454.4	2338.3	2282.3
40°	3036.6	3045.2	2977.3	2968.7	2885.0	2727.4	2641.6	2559.9	2354.8	2234.1	2179.4
42.5°	2921.9	2929.8	2873.1	2865.2	2786.7	2629.1	2549.3	2460.3	2250.6	2128.0	2071.2
45°	2795.3	2805.8	2755.1	2749.1	2675.9	2521.6	2445.1	2354.8	2141.8	2017.2	1961.8
47.5°	2654.2	2668.0	2623.8	2620.5	2552.6	2411.5	2331.7	2240.1	2027.7	1901.8	1849.7
50°	2495.9	2515.7	2479.4	2479.4	2418.8	2278.3	2209.1	2117.4	1909.0	1783.1	1731.6
52.5°	2326.4	2351.5	2324.5	2325.1	2275.7	2149.7	2077.8	1988.2	1785.1	1661.1	1613.6
55°	2151.0	2175.4	2158.3	2160.9	2122.0	2007.3	1942.0	1853.0	1658.4	1537.8	1492.9
57.5°	1967.7	1994.1	1982.9	1988.2	1961.1	1858.3	1790.3	1712.5	1527.9	1408.5	1370.3
60°	1783.7	1808.8	1802.9	1810.1	1793.0	1703.9	1642.0	1561.5	1396.7	1281.9	1248.3
62.5°	1597.8	1620.9	1619.5	1627.5	1618.2	1544.4	1489.0	1420.4	1260.8	1155.3	1124.3
65°	1415.8	1435.6	1434.2	1442.8	1440.8	1381.5	1331.4	1268.7	1125.0	1028.0	1001.0
67.5°	1239.1	1255.5	1250.9	1260.8	1263.5	1216.0	1172.5	1116.4	995.7	901.4	878.4
70°	1066.3	1077.5	1071.6	1078.2	1084.1	1048.5	1011.6	962.1	857.9	774.8	755.7
72.5°	896.8	904.7	895.5	902.1	907.4	881.6	851.3	808.5	722.1	650.2	634.4
75°	732.6	743.8	724.7	731.3	735.3	709.5	691.7	656.8	582.3	526.9	516.3
77.5°	573.7	580.3	569.7	567.1	569.7	551.3	537.4	510.4	454.3	408.8	402.2
80°	422.0	426.0	415.4	412.8	414.8	401.6	391.0	371.3	331.7	297.4	294.8
82.5°	282.9	284.9	275.6	273.0	274.3	270.4	257.8	244.0	225.5	196.5	195.8
85°	161.6	161.6	155.0	152.3	153.6	147.1	142.4	135.2	127.9	108.1	109.5
87.5°	59.3	59.3	56.1	55.4	62.0	54.7	52.8	49.5	51.4	40.9	43.5
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°	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9	3016.9
2.5°	3030.0	3023.5	3017.5	2997.1	3005.6	2984.5	2983.2	2975.3	2969.4	2958.2	2972.7
5°	3020.2	3007.0	2989.8	2965.4	2972.7	2947.6	2942.3	2933.1	2925.2	2910.7	2921.9
7.5°	3004.3	2982.6	2955.5	2924.5	2934.4	2903.4	2895.5	2885.6	2879.0	2861.9	2871.8
10°	2981.2	2950.3	2918.6	2881.0	2888.3	2854.6	2844.7	2834.2	2828.3	2813.1	2823.0
12.5°	2945.6	2908.1	2865.2	2824.3	2832.2	2800.6	2787.4	2776.2	2774.2	2761.7	2773.5
15°	2899.5	2847.4	2803.2	2759.7	2768.9	2732.0	2726.1	2714.8	2718.1	2709.6	2724.1
17.5°	2840.8	2780.8	2732.6	2685.8	2695.1	2664.1	2659.4	2654.2	2657.5	2656.2	2672.0
20°	2774.8	2708.9	2653.5	2607.4	2612.6	2588.2	2590.2	2588.9	2595.5	2602.7	2624.5
22.5°	2700.3	2625.8	2567.8	2520.3	2528.2	2507.1	2516.4	2519.0	2530.2	2546.7	2574.4
25°	2616.6	2536.8	2476.1	2431.3	2438.5	2424.7	2440.5	2447.1	2464.9	2492.6	2521.0
27.5°	2528.9	2444.5	2379.9	2337.0	2350.8	2337.0	2360.7	2373.9	2401.0	2431.3	2466.2
30°	2435.9	2348.2	2281.6	2243.4	2256.5	2244.0	2282.3	2300.1	2327.1	2368.6	2410.2
32.5°	2338.3	2246.0	2180.7	2151.0	2160.3	2158.3	2201.2	2220.9	2257.2	2304.7	2348.9
35°	2238.1	2141.8	2075.9	2050.8	2062.0	2064.7	2116.1	2139.2	2178.7	2236.1	2283.6
37.5°	2134.5	2036.3	1971.7	1951.2	1961.1	1971.0	2031.0	2054.1	2098.9	2161.6	2213.7
40°	2027.1	1928.8	1865.5	1849.0	1858.9	1869.5	1934.7	1966.4	2015.2	2083.1	2139.8
42.5°	1918.3	1820.0	1758.7	1746.8	1756.7	1777.1	1846.4	1876.1	1927.5	2002.7	2065.3
45°	1807.5	1705.3	1651.9	1642.6	1653.2	1676.9	1744.8	1780.4	1835.2	1917.6	1984.9
47.5°	1695.4	1595.8	1545.0	1539.1	1549.6	1576.0	1651.2	1683.5	1741.5	1829.2	1901.8
50°	1582.0	1485.0	1436.2	1434.2	1444.1	1472.5	1544.4	1582.6	1642.6	1740.9	1815.4
52.5°	1467.2	1374.2	1330.1	1330.1	1339.3	1368.3	1440.8	1480.4	1542.4	1645.9	1728.3
55°	1352.5	1264.1	1221.9	1225.2	1238.4	1263.5	1334.0	1375.6	1438.2	1545.7	1632.7
57.5°	1237.7	1154.0	1115.7	1120.4	1132.9	1157.9	1227.2	1274.0	1330.7	1442.2	1531.2
60°	1124.3	1045.2	1011.6	1016.8	1028.0	1053.1	1125.0	1165.2	1221.9	1335.3	1424.4
62.5°	1009.6	937.7	906.0	912.6	922.5	947.6	1015.5	1054.4	1110.5	1221.9	1311.6
65°	896.2	829.6	802.5	809.1	818.3	841.4	905.4	943.0	996.4	1105.2	1190.9
67.5°	784.1	723.4	701.0	707.6	714.8	736.6	789.3	830.2	880.3	983.9	1065.0
70°	673.3	619.2	599.4	606.0	612.6	632.4	678.5	716.1	762.3	857.2	932.4
72.5°	563.8	511.1	501.2	507.1	512.4	529.5	573.7	603.4	643.6	728.0	792.6
75°	457.0	411.5	404.9	410.8	415.4	428.6	465.6	491.3	524.9	598.1	650.8
77.5°	354.1	315.9	313.2	317.8	322.5	331.7	360.7	387.7	414.1	468.2	515.0
80°	257.8	226.8	226.8	231.5	230.1	241.3	261.8	283.6	302.7	341.6	375.9
82.5°	170.1	145.7	149.0	152.3	154.3	158.9	171.4	187.9	199.8	223.5	246.0
85°	94.3	77.8	81.1	83.7	82.4	87.7	94.3	104.2	110.1	121.3	133.2
87.5°	34.9	29.0	29.7	31.7	33.0	35.6	35.6	41.5	42.2	43.5	46.2
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°	3016.9	3016.9	3016.9
2.5°	2945.0	2960.8	2972.7
5°	2894.2	2907.4	2917.9
7.5°	2844.7	2856.6	2865.8
10°	2797.9	2811.1	2817.7
12.5°	2749.8	2765.0	2770.2
15°	2702.3	2717.5	2724.1
17.5°	2653.5	2673.3	2680.6
20°	2608.0	2633.1	2639.0
22.5°	2561.9	2587.6	2594.8
25°	2511.7	2542.1	2549.3
27.5°	2458.3	2494.6	2501.8
30°	2404.9	2444.5	2451.7
32.5°	2347.5	2390.4	2397.0
35°	2287.5	2330.4	2338.3
37.5°	2220.9	2267.8	2283.6
40°	2151.7	2202.5	2219.0
42.5°	2079.2	2134.5	2151.7
45°	2001.3	2062.0	2081.8
47.5°	1922.9	1991.5	2008.6
50°	1837.8	1911.0	1931.4
52.5°	1748.8	1828.6	1849.0
55°	1656.5	1736.9	1759.3
57.5°	1556.2	1639.3	1663.1
60°	1451.4	1534.5	1556.9
62.5°	1343.9	1419.1	1440.8
65°	1223.9	1294.4	1314.2
67.5°	1096.6	1161.2	1177.7
70°	961.4	1017.5	1032.0
72.5°	820.3	859.2	878.4
75°	674.6	705.6	720.1
77.5°	528.2	550.0	561.8
80°	385.1	397.6	407.5
82.5°	251.9	257.2	264.4
85°	135.8	135.8	140.5
87.5°	46.2	44.2	46.2
90°	0.0	0.0	0.0

(END OF REPORT)