

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: P834529

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834529
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-3LO-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

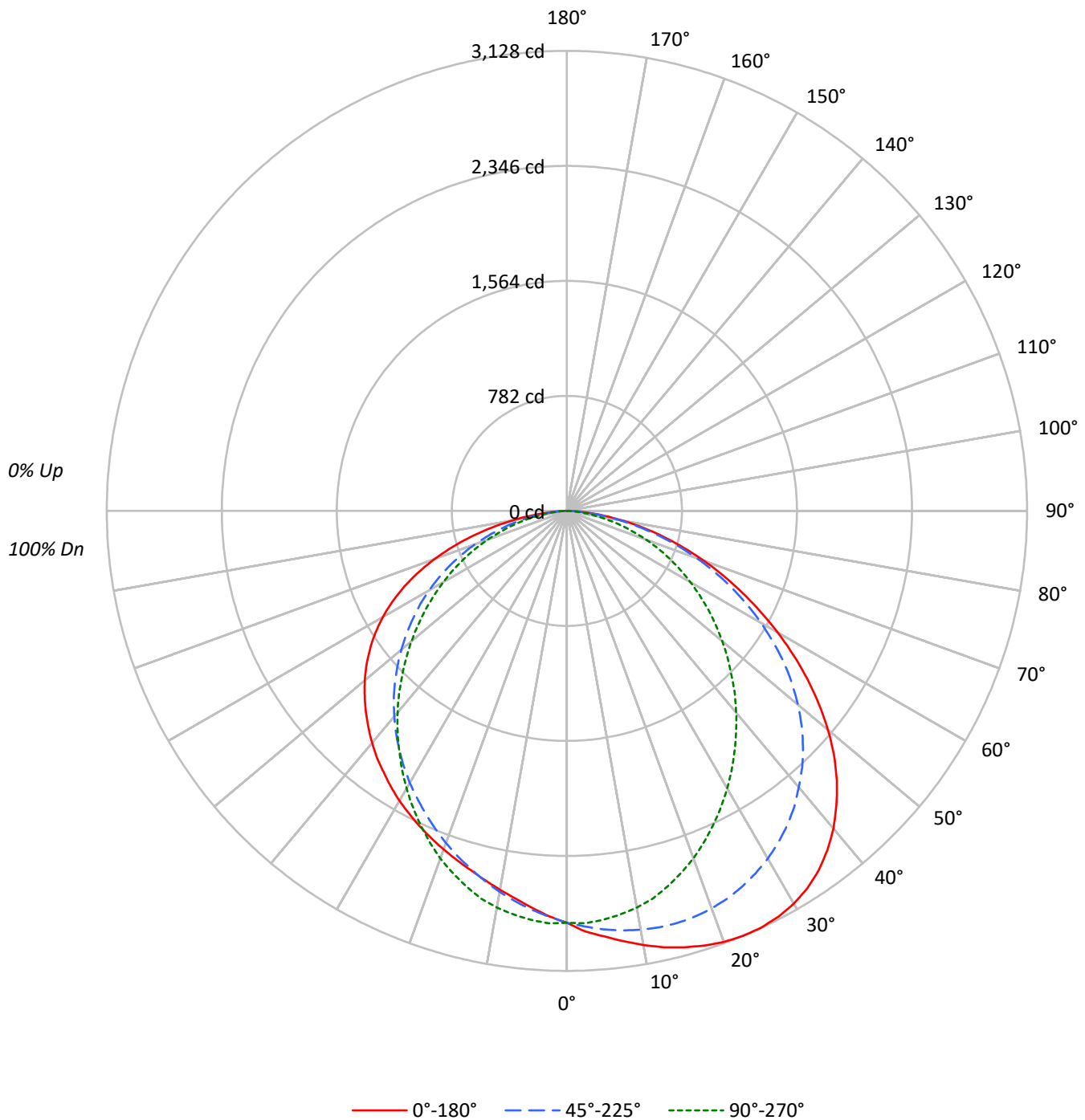
Lumens per Lamp: N/A
Luminaire Lumens: 8237.6 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: 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°	3768	3768	3768
5°	3923	3770	3658
10°	4095	3742	3574
15°	4279	3682	3522
20°	4465	3601	3508
25°	4641	3496	3513
30°	4792	3387	3536
35°	4902	3266	3565
40°	4951	3145	3618
45°	4937	3012	3677
50°	4850	2885	3753
55°	4684	2753	3831
60°	4456	2611	3889
65°	4184	2451	3884
70°	3894	2261	3769
75°	3536	1986	3475
80°	3036	1632	2931
85°	2316	1115	2013

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.6	3.2
10°-20°	767.0	9.3
20°-30°	1175.1	14.3
30°-40°	1434.0	17.4
40°-50°	1499.7	18.2
50°-60°	1357.3	16.5
60°-70°	1027.9	12.5
70°-80°	572.9	7.0
80°-90°	138.2	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°	2207.7	26.8
0°-40°	3641.7	44.2
0°-60°	6498.6	78.9
0°-90°	8237.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8237.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2800	2800	2800	2800	2800	
5°	2904	2856	2791	2723	2709	280
15°	3072	2901	2643	2520	2529	871
25°	3126	2819	2355	2272	2366	1442
35°	2984	2610	1988	1986	2171	1863
45°	2595	2270	1583	1653	1932	1996
55°	1997	1803	1173	1277	1633	1782
65°	1314	1236	770	875	1220	1304
75°	680	642	382	456	668	721
85°	150	132	72	97	130	180
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°	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4
2.5°	2862.3	2848.8	2837.8	2842.1	2844.5	2835.9	2828.6	2829.8	2822.5	2836.6	2803.5
5°	2904.5	2892.3	2879.4	2884.3	2879.4	2866.5	2856.1	2853.1	2833.5	2841.5	2807.8
7.5°	2951.6	2938.2	2919.2	2924.7	2914.3	2890.4	2877.0	2869.0	2839.0	2839.6	2802.3
10°	2996.9	2985.3	2959.6	2963.3	2944.3	2912.5	2891.0	2880.0	2837.8	2831.7	2793.1
12.5°	3039.2	3023.2	2995.7	2997.5	2970.0	2927.8	2900.2	2884.3	2829.2	2810.8	2772.9
15°	3071.6	3056.3	3023.2	3022.6	2987.1	2932.0	2900.8	2878.8	2809.0	2780.2	2740.5
17.5°	3099.2	3085.1	3044.1	3042.8	3000.0	2930.2	2892.9	2865.3	2779.6	2744.1	2700.1
20°	3118.7	3104.7	3058.8	3054.5	3003.0	2921.0	2876.3	2841.5	2741.1	2698.8	2649.9
22.5°	3127.9	3113.8	3061.8	3055.7	2995.7	2902.7	2852.5	2811.5	2697.0	2641.9	2591.1
25°	3126.1	3112.6	3053.9	3047.7	2981.6	2875.1	2818.8	2771.7	2641.3	2576.4	2526.2
27.5°	3110.8	3100.4	3038.6	3030.6	2955.9	2837.8	2777.8	2725.8	2579.5	2507.2	2452.8
30°	3084.5	3076.5	3011.0	3003.7	2924.1	2796.8	2730.0	2670.1	2512.7	2431.3	2376.2
32.5°	3042.2	3034.9	2968.8	2962.0	2881.2	2744.1	2674.3	2612.5	2439.9	2349.9	2294.8
35°	2984.1	2979.8	2915.5	2908.2	2826.1	2684.1	2610.1	2542.1	2364.0	2262.4	2209.7
37.5°	2907.6	2907.6	2845.7	2837.8	2757.6	2610.7	2537.8	2465.6	2278.3	2170.6	2118.5
40°	2818.8	2826.8	2763.7	2755.8	2678.0	2531.7	2452.1	2376.2	2185.9	2073.9	2023.0
42.5°	2712.3	2719.6	2667.0	2659.7	2586.8	2440.5	2366.4	2283.8	2089.2	1975.3	1922.7
45°	2594.8	2604.6	2557.4	2551.9	2484.0	2340.7	2269.7	2185.9	1988.2	1872.5	1821.1
47.5°	2463.8	2476.6	2435.6	2432.6	2369.5	2238.5	2164.4	2079.4	1882.3	1765.3	1717.0
50°	2316.9	2335.2	2301.6	2301.6	2245.2	2114.9	2050.6	1965.5	1772.1	1655.2	1607.4
52.5°	2159.6	2182.8	2157.7	2158.3	2112.4	1995.5	1928.8	1845.5	1657.0	1541.9	1497.9
55°	1996.7	2019.4	2003.5	2005.9	1969.8	1863.3	1802.7	1720.1	1539.5	1427.5	1385.8
57.5°	1826.6	1851.0	1840.6	1845.5	1820.4	1724.9	1661.9	1589.7	1418.3	1307.5	1272.0
60°	1655.8	1679.0	1673.5	1680.3	1664.3	1581.7	1524.2	1449.5	1296.5	1190.0	1158.7
62.5°	1483.2	1504.6	1503.4	1510.7	1502.1	1433.6	1382.2	1318.5	1170.4	1072.4	1043.7
65°	1314.2	1332.6	1331.4	1339.3	1337.5	1282.4	1235.9	1177.7	1044.3	954.3	929.2
67.5°	1150.2	1165.5	1161.2	1170.4	1172.8	1128.7	1088.3	1036.3	924.3	836.8	815.3
70°	989.8	1000.2	994.7	1000.8	1006.3	973.3	939.0	893.1	796.4	719.2	701.5
72.5°	832.5	839.8	831.3	837.4	842.3	818.4	790.2	750.5	670.3	603.5	588.9
75°	680.1	690.5	672.7	678.8	682.5	658.6	642.1	609.7	540.5	489.1	479.3
77.5°	532.5	538.7	528.9	526.4	528.9	511.7	498.9	473.8	421.7	379.5	373.4
80°	391.8	395.4	385.6	383.2	385.0	372.8	363.0	344.6	307.9	276.1	273.6
82.5°	262.6	264.4	255.9	253.4	254.6	251.0	239.3	226.5	209.3	182.4	181.8
85°	150.0	150.0	143.8	141.4	142.6	136.5	132.2	125.5	118.8	100.4	101.6
87.5°	55.1	55.1	52.0	51.4	57.5	50.8	49.0	45.9	47.7	38.0	40.4
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°	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4	2800.4
2.5°	2812.7	2806.6	2801.1	2782.1	2790.0	2770.4	2769.2	2761.9	2756.4	2746.0	2759.4
5°	2803.5	2791.3	2775.3	2752.7	2759.4	2736.2	2731.3	2722.7	2715.4	2701.9	2712.3
7.5°	2788.8	2768.6	2743.5	2714.7	2723.9	2695.2	2687.8	2678.6	2672.5	2656.6	2665.8
10°	2767.4	2738.6	2709.2	2674.3	2681.1	2649.9	2640.7	2630.9	2625.4	2611.3	2620.5
12.5°	2734.3	2699.4	2659.7	2621.7	2629.0	2599.7	2587.4	2577.0	2575.2	2563.5	2574.6
15°	2691.5	2643.1	2602.1	2561.7	2570.3	2536.0	2530.5	2520.1	2523.1	2515.2	2528.7
17.5°	2637.0	2581.3	2536.6	2493.2	2501.7	2473.0	2468.7	2463.8	2466.8	2465.6	2480.3
20°	2575.8	2514.6	2463.2	2420.3	2425.2	2402.6	2404.4	2403.2	2409.3	2416.0	2436.2
22.5°	2506.6	2437.5	2383.6	2339.5	2346.9	2327.3	2335.8	2338.3	2348.7	2364.0	2389.7
25°	2428.9	2354.8	2298.5	2256.9	2263.6	2250.8	2265.4	2271.6	2288.1	2313.8	2340.1
27.5°	2347.5	2269.1	2209.1	2169.3	2182.2	2169.3	2191.4	2203.6	2228.7	2256.9	2289.3
30°	2261.2	2179.8	2117.9	2082.4	2094.7	2083.0	2118.5	2135.1	2160.2	2198.7	2237.3
32.5°	2170.6	2084.9	2024.3	1996.7	2005.3	2003.5	2043.2	2061.6	2095.3	2139.4	2180.4
35°	2077.5	1988.2	1926.9	1903.7	1914.1	1916.5	1964.3	1985.7	2022.4	2075.7	2119.8
37.5°	1981.4	1890.2	1830.2	1811.3	1820.4	1829.6	1885.3	1906.7	1948.4	2006.5	2054.9
40°	1881.6	1790.4	1731.7	1716.4	1725.6	1735.4	1796.0	1825.3	1870.6	1933.7	1986.3
42.5°	1780.7	1689.4	1632.5	1621.5	1630.7	1649.7	1713.9	1741.5	1789.2	1859.0	1917.2
45°	1677.8	1582.9	1533.4	1524.8	1534.6	1556.6	1619.7	1652.7	1703.5	1780.0	1842.5
47.5°	1573.8	1481.3	1434.2	1428.7	1438.5	1463.0	1532.7	1562.7	1616.6	1698.0	1765.3
50°	1468.5	1378.5	1333.2	1331.4	1340.5	1366.9	1433.6	1469.1	1524.8	1616.0	1685.2
52.5°	1362.0	1275.7	1234.6	1234.6	1243.2	1270.1	1337.5	1374.2	1431.7	1527.8	1604.4
55°	1255.5	1173.4	1134.3	1137.3	1149.6	1172.8	1238.3	1276.9	1335.0	1434.8	1515.6
57.5°	1148.9	1071.2	1035.7	1040.0	1051.6	1074.9	1139.2	1182.6	1235.3	1338.7	1421.3
60°	1043.7	970.2	939.0	943.9	954.3	977.6	1044.3	1081.6	1134.3	1239.5	1322.2
62.5°	937.2	870.4	841.0	847.2	856.4	879.6	942.7	978.8	1030.8	1134.3	1217.5
65°	831.9	770.0	744.9	751.1	759.6	781.1	840.4	875.3	924.9	1025.9	1105.5
67.5°	727.8	671.5	650.7	656.8	663.5	683.7	732.7	770.7	817.2	913.3	988.6
70°	625.0	574.8	556.4	562.5	568.7	587.0	629.9	664.8	707.6	795.8	865.5
72.5°	523.4	474.4	465.2	470.7	475.6	491.5	532.5	560.1	597.4	675.8	735.8
75°	424.2	382.0	375.8	381.3	385.6	397.9	432.2	456.0	487.2	555.2	604.2
77.5°	328.7	293.2	290.8	295.0	299.3	307.9	334.8	359.9	384.4	434.6	478.1
80°	239.3	210.6	210.6	214.9	213.6	224.0	243.0	263.2	281.0	317.1	348.9
82.5°	157.9	135.3	138.3	141.4	143.2	147.5	159.2	174.5	185.5	207.5	228.3
85°	87.5	72.2	75.3	77.7	76.5	81.4	87.5	96.7	102.2	112.6	123.6
87.5°	32.4	26.9	27.5	29.4	30.6	33.1	33.1	38.6	39.2	40.4	42.8
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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TEST NUMBER: P834529

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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2800.4	2800.4	2800.4
2.5°	2733.7	2748.4	2759.4
5°	2686.6	2698.8	2708.6
7.5°	2640.7	2651.7	2660.3
10°	2597.2	2609.5	2615.6
12.5°	2552.5	2566.6	2571.5
15°	2508.5	2522.5	2528.7
17.5°	2463.2	2481.5	2488.3
20°	2420.9	2444.2	2449.7
22.5°	2378.1	2401.9	2408.7
25°	2331.6	2359.7	2366.4
27.5°	2282.0	2315.6	2322.4
30°	2232.4	2269.1	2275.9
32.5°	2179.1	2218.9	2225.0
35°	2123.4	2163.2	2170.6
37.5°	2061.6	2105.1	2119.8
40°	1997.3	2044.5	2059.8
42.5°	1930.0	1981.4	1997.3
45°	1857.8	1914.1	1932.5
47.5°	1784.9	1848.6	1864.5
50°	1706.0	1773.9	1792.9
52.5°	1623.3	1697.4	1716.4
55°	1537.6	1612.3	1633.1
57.5°	1444.6	1521.7	1543.8
60°	1347.3	1424.4	1445.2
62.5°	1247.5	1317.3	1337.5
65°	1136.1	1201.6	1220.0
67.5°	1018.0	1077.9	1093.2
70°	892.5	944.5	958.0
72.5°	761.5	797.6	815.3
75°	626.2	655.0	668.4
77.5°	490.3	510.5	521.5
80°	357.5	369.1	378.3
82.5°	233.8	238.7	245.5
85°	126.1	126.1	130.4
87.5°	42.8	41.0	42.8
90°	0.0	0.0	0.0

(END OF REPORT)