

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: P834188

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834188
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-LD4-3STD-20-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

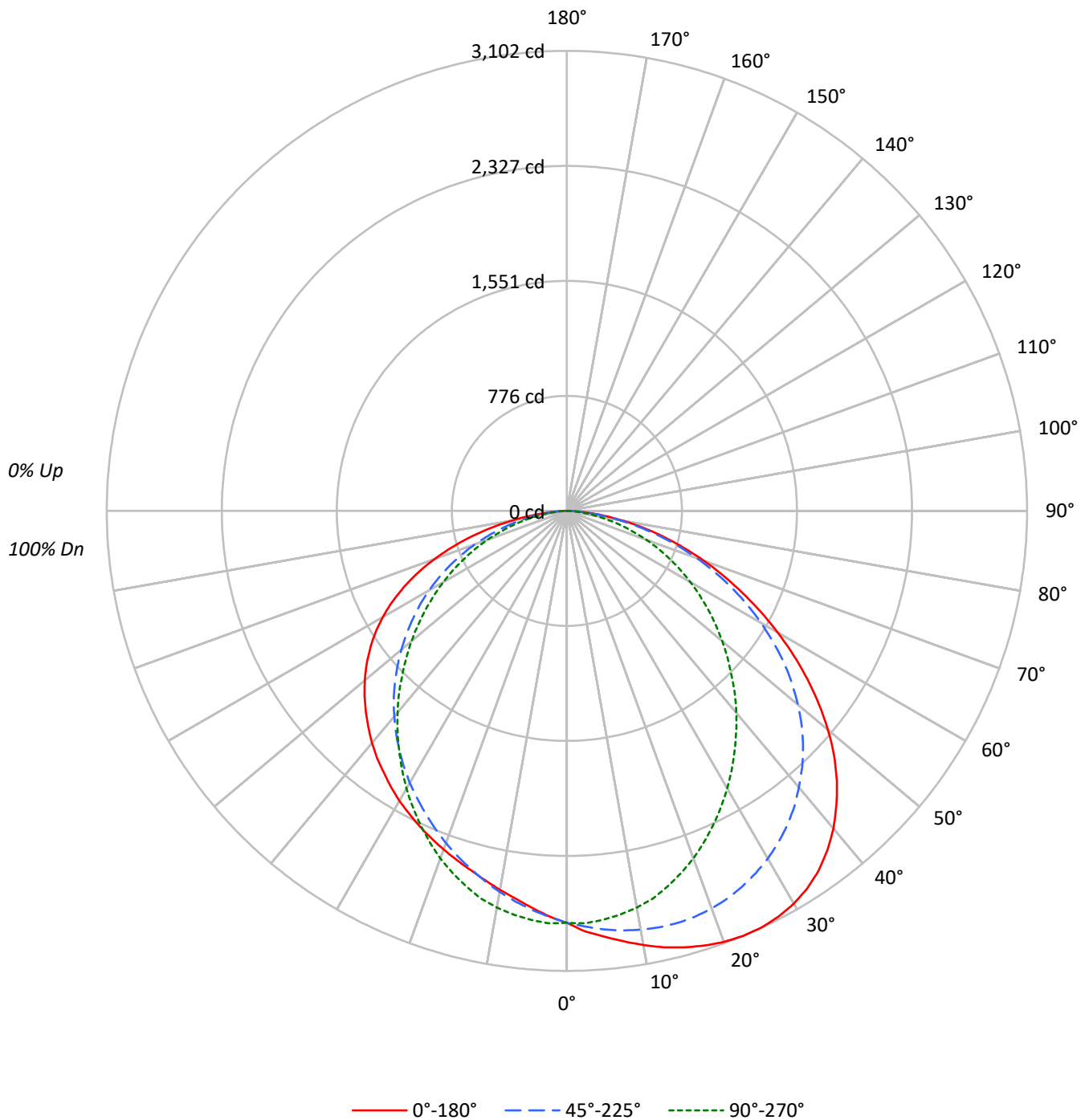
Lumens per Lamp: N/A
Luminaire Lumens: 8169.9 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: 28.75 FT

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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°	7474	7474	7474
5°	7782	7478	7257
10°	8122	7422	7088
15°	8487	7303	6987
20°	8858	7142	6958
25°	9206	6934	6969
30°	9505	6718	7014
35°	9723	6478	7072
40°	9821	6238	7176
45°	9794	5974	7294
50°	9620	5724	7444
55°	9291	5460	7599
60°	8838	5179	7714
65°	8299	4863	7704
70°	7724	4485	7475
75°	7013	3938	6892
80°	6020	3236	5814
85°	4591	2211	3992

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.4	3.2
10°-20°	760.7	9.3
20°-30°	1165.4	14.3
30°-40°	1422.2	17.4
40°-50°	1487.3	18.2
50°-60°	1346.1	16.5
60°-70°	1019.5	12.5
70°-80°	568.1	7.0
80°-90°	137.0	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°	2189.5	26.8
0°-40°	3611.8	44.2
0°-60°	6445.3	78.9
0°-90°	8169.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8169.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2777	2777	2777	2777	2777	
5°	2881	2833	2768	2700	2686	278
15°	3046	2877	2621	2499	2508	864
25°	3100	2796	2336	2253	2347	1430
35°	2960	2589	1972	1969	2153	1848
45°	2574	2251	1570	1639	1917	1980
55°	1980	1788	1164	1266	1620	1767
65°	1303	1226	764	868	1210	1293
75°	674	637	379	452	663	715
85°	149	131	72	96	129	179
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°	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4
2.5°	2838.8	2825.4	2814.5	2818.7	2821.2	2812.7	2805.4	2806.6	2799.3	2813.3	2780.5
5°	2880.7	2868.5	2855.8	2860.6	2855.8	2843.0	2832.7	2829.7	2810.2	2818.1	2784.7
7.5°	2927.4	2914.0	2895.2	2900.7	2890.4	2866.7	2853.3	2845.4	2815.7	2816.3	2779.3
10°	2972.3	2960.8	2935.3	2938.9	2920.1	2888.5	2867.3	2856.4	2814.5	2808.4	2770.2
12.5°	3014.2	2998.4	2971.1	2972.9	2945.6	2903.7	2876.4	2860.6	2806.0	2787.8	2750.1
15°	3046.4	3031.2	2998.4	2997.8	2962.6	2908.0	2877.0	2855.2	2785.9	2757.4	2718.0
17.5°	3073.7	3059.7	3019.1	3017.9	2975.4	2906.2	2869.1	2841.8	2756.8	2721.6	2677.9
20°	3093.1	3079.2	3033.6	3029.4	2978.4	2897.0	2852.7	2818.1	2718.6	2676.7	2628.1
22.5°	3102.2	3088.3	3036.7	3030.6	2971.1	2878.8	2829.0	2788.4	2674.8	2620.2	2569.8
25°	3100.4	3087.1	3028.8	3022.7	2957.1	2851.5	2795.7	2748.9	2619.6	2555.3	2505.5
27.5°	3085.2	3074.9	3013.6	3005.7	2931.6	2814.5	2755.0	2703.4	2558.3	2486.6	2432.6
30°	3059.1	3051.2	2986.3	2979.0	2900.1	2773.8	2707.6	2648.1	2492.1	2411.4	2356.7
32.5°	3017.2	3010.0	2944.4	2937.7	2857.6	2721.6	2652.4	2591.1	2419.9	2330.6	2276.0
35°	2959.6	2955.3	2891.6	2884.3	2802.9	2662.1	2588.6	2521.3	2344.6	2243.8	2191.6
37.5°	2883.7	2883.7	2822.4	2814.5	2735.0	2589.2	2517.0	2445.4	2259.6	2152.7	2101.1
40°	2795.7	2803.6	2741.0	2733.1	2656.0	2510.9	2432.0	2356.7	2167.9	2056.8	2006.4
42.5°	2690.0	2697.3	2645.1	2637.8	2565.6	2420.5	2347.0	2265.1	2072.0	1959.1	1906.9
45°	2573.5	2583.2	2536.4	2531.0	2463.6	2321.5	2251.1	2167.9	1971.8	1857.1	1806.1
47.5°	2443.5	2456.3	2415.6	2412.6	2350.1	2220.1	2146.7	2062.3	1866.8	1750.9	1702.9
50°	2297.8	2316.1	2282.7	2282.7	2226.8	2097.5	2033.8	1949.4	1757.5	1641.6	1594.2
52.5°	2141.8	2164.9	2140.0	2140.6	2095.1	1979.1	1912.9	1830.4	1643.4	1529.3	1485.6
55°	1980.3	2002.8	1987.0	1989.4	1953.6	1848.0	1787.9	1705.9	1526.8	1415.7	1374.5
57.5°	1811.6	1835.8	1825.5	1830.4	1805.5	1710.8	1648.3	1576.6	1406.6	1296.7	1261.5
60°	1642.2	1665.3	1659.8	1666.5	1650.7	1568.7	1511.7	1437.6	1285.8	1180.2	1149.2
62.5°	1471.0	1492.2	1491.0	1498.3	1489.8	1421.8	1370.8	1307.7	1160.8	1063.6	1035.1
65°	1303.4	1321.6	1320.4	1328.3	1326.5	1271.9	1225.7	1168.0	1035.7	946.5	921.6
67.5°	1140.7	1155.9	1151.7	1160.8	1163.2	1119.5	1079.4	1027.8	916.7	829.9	808.6
70°	981.7	992.0	986.5	992.6	998.1	965.3	931.3	885.7	789.8	713.3	695.7
72.5°	825.6	832.9	824.4	830.5	835.4	811.7	783.8	744.3	664.8	598.6	584.0
75°	674.5	684.8	667.2	673.3	676.9	653.2	636.8	604.7	536.1	485.1	475.4
77.5°	528.2	534.2	524.5	522.1	524.5	507.5	494.8	469.9	418.3	376.4	370.3
80°	388.5	392.2	382.5	380.0	381.9	369.7	360.0	341.8	305.4	273.8	271.4
82.5°	260.4	262.3	253.8	251.3	252.6	248.9	237.4	224.6	207.6	180.9	180.3
85°	148.7	148.7	142.7	140.2	141.5	135.4	131.1	124.5	117.8	99.6	100.8
87.5°	54.6	54.6	51.6	51.0	57.1	50.4	48.6	45.5	47.4	37.6	40.1
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°	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4	2777.4
2.5°	2789.6	2783.5	2778.1	2759.2	2767.1	2747.7	2746.5	2739.2	2733.7	2723.4	2736.8
5°	2780.5	2768.3	2752.6	2730.1	2736.8	2713.7	2708.8	2700.3	2693.1	2679.7	2690.0
7.5°	2765.9	2745.9	2721.0	2692.5	2701.6	2673.0	2665.7	2656.6	2650.6	2634.8	2643.9
10°	2744.7	2716.1	2687.0	2652.4	2659.1	2628.1	2619.0	2609.3	2603.8	2589.9	2599.0
12.5°	2711.9	2677.3	2637.8	2600.2	2607.5	2578.3	2566.2	2555.9	2554.0	2542.5	2553.4
15°	2669.4	2621.4	2580.7	2540.7	2549.2	2515.2	2509.7	2499.4	2502.4	2494.5	2507.9
17.5°	2615.4	2560.1	2515.8	2472.7	2481.2	2452.7	2448.4	2443.5	2446.6	2445.4	2459.9
20°	2554.6	2493.9	2442.9	2400.4	2405.3	2382.8	2384.7	2383.4	2389.5	2396.2	2416.2
22.5°	2486.0	2417.4	2364.0	2320.3	2327.6	2308.2	2316.7	2319.1	2329.4	2344.6	2370.1
25°	2408.9	2335.5	2279.6	2238.3	2245.0	2232.3	2246.8	2252.9	2269.3	2294.8	2320.9
27.5°	2328.2	2250.5	2191.0	2151.5	2164.3	2151.5	2173.4	2185.5	2210.4	2238.3	2270.5
30°	2242.6	2161.9	2100.5	2065.3	2077.5	2065.9	2101.1	2117.5	2142.4	2180.7	2218.9
32.5°	2152.7	2067.8	2007.7	1980.3	1988.8	1987.0	2026.5	2044.7	2078.1	2121.8	2162.5
35°	2060.5	1971.8	1911.1	1888.1	1898.4	1900.8	1948.2	1969.4	2005.8	2058.6	2102.4
37.5°	1965.2	1874.7	1815.2	1796.4	1805.5	1814.6	1869.8	1891.1	1932.4	1990.0	2038.0
40°	1866.2	1775.7	1717.5	1702.3	1711.4	1721.1	1781.2	1810.3	1855.3	1917.8	1970.0
42.5°	1766.0	1675.6	1619.1	1608.2	1617.3	1636.1	1699.9	1727.2	1774.5	1843.7	1901.4
45°	1664.0	1569.9	1520.8	1512.3	1522.0	1543.8	1606.4	1639.1	1689.5	1765.4	1827.3
47.5°	1560.8	1469.2	1422.4	1417.0	1426.7	1451.0	1520.2	1549.9	1603.3	1684.1	1750.9
50°	1456.4	1367.2	1322.2	1320.4	1329.5	1355.6	1421.8	1457.0	1512.3	1602.7	1671.3
52.5°	1350.8	1265.2	1224.5	1224.5	1233.0	1259.7	1326.5	1362.9	1420.0	1515.3	1591.2
55°	1245.1	1163.8	1124.9	1128.0	1140.1	1163.2	1228.1	1266.4	1324.1	1423.0	1503.2
57.5°	1139.5	1062.4	1027.2	1031.4	1043.0	1066.1	1129.8	1172.9	1225.1	1327.7	1409.7
60°	1035.1	962.2	931.3	936.1	946.5	969.5	1035.7	1072.7	1124.9	1229.4	1311.3
62.5°	929.5	863.3	834.1	840.2	849.3	872.4	934.9	970.7	1022.3	1124.9	1207.5
65°	825.0	763.7	738.8	744.9	753.4	774.6	833.5	868.1	917.3	1017.5	1096.4
67.5°	721.8	666.0	645.3	651.4	658.1	678.1	726.7	764.3	810.5	905.8	980.5
70°	619.8	570.1	551.8	557.9	564.0	582.2	624.7	659.3	701.8	789.2	858.4
72.5°	519.1	470.5	461.4	466.9	471.7	487.5	528.2	555.5	592.5	670.2	729.7
75°	420.7	378.8	372.8	378.2	382.5	394.6	428.6	452.3	483.2	550.6	599.2
77.5°	326.0	290.8	288.4	292.6	296.9	305.4	332.1	357.0	381.3	431.0	474.1
80°	237.4	208.8	208.8	213.1	211.9	222.2	241.0	261.0	278.7	314.5	346.0
82.5°	156.6	134.2	137.2	140.2	142.1	146.3	157.8	173.0	183.9	205.8	226.4
85°	86.8	71.6	74.7	77.1	75.9	80.7	86.8	95.9	101.4	111.7	122.6
87.5°	32.2	26.7	27.3	29.1	30.4	32.8	32.8	38.2	38.9	40.1	42.5
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):

	160°	170°	180°
0°	2777.4	2777.4	2777.4
2.5°	2711.3	2725.8	2736.8
5°	2664.5	2676.7	2686.4
7.5°	2619.0	2629.9	2638.4
10°	2575.9	2588.0	2594.1
12.5°	2531.6	2545.5	2550.4
15°	2487.9	2501.8	2507.9
17.5°	2442.9	2461.2	2467.8
20°	2401.0	2424.1	2429.6
22.5°	2358.6	2382.2	2388.9
25°	2312.4	2340.3	2347.0
27.5°	2263.2	2296.6	2303.3
30°	2214.1	2250.5	2257.2
32.5°	2161.2	2200.7	2206.8
35°	2106.0	2145.5	2152.7
37.5°	2044.7	2087.8	2102.4
40°	1980.9	2027.7	2042.9
42.5°	1914.2	1965.2	1980.9
45°	1842.5	1898.4	1916.6
47.5°	1770.3	1833.4	1849.2
50°	1692.0	1759.4	1778.2
52.5°	1610.0	1683.5	1702.3
55°	1525.0	1599.1	1619.7
57.5°	1432.7	1509.2	1531.1
60°	1336.2	1412.7	1433.3
62.5°	1237.3	1306.5	1326.5
65°	1126.8	1191.7	1209.9
67.5°	1009.6	1069.1	1084.3
70°	885.1	936.7	950.1
72.5°	755.2	791.0	808.6
75°	621.1	649.6	662.9
77.5°	486.3	506.3	517.2
80°	354.5	366.1	375.2
82.5°	231.9	236.8	243.4
85°	125.1	125.1	129.3
87.5°	42.5	40.7	42.5
90°	0.0	0.0	0.0

(END OF REPORT)