

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: P834277

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-3LO-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834277
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-LD4-3LO-40-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

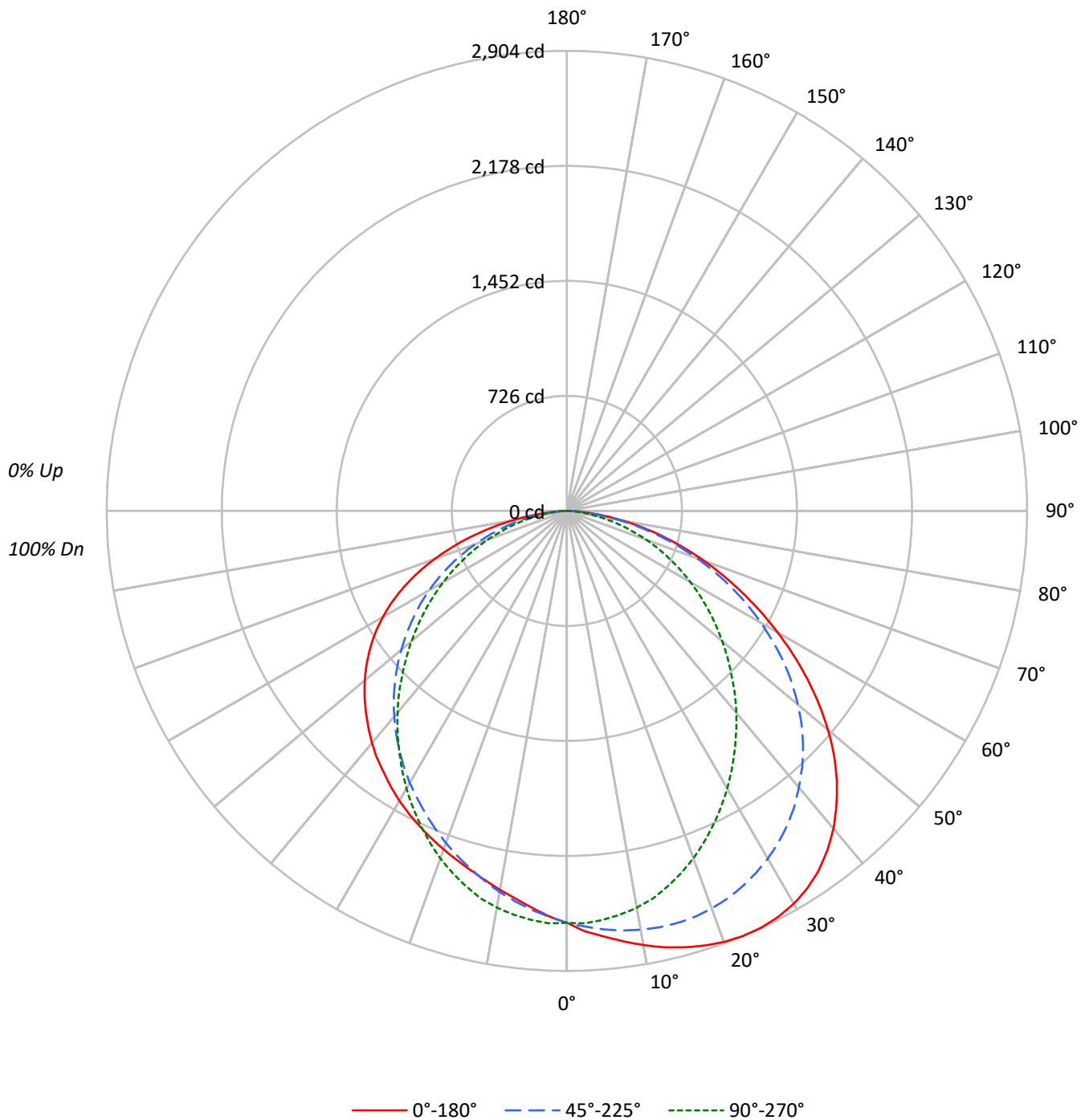
Lumens per Lamp: N/A
Luminaire Lumens: 7648.9 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	6997	6997	6997
5°	7285	7001	6794
10°	7604	6948	6636
15°	7946	6837	6541
20°	8293	6686	6514
25°	8619	6492	6524
30°	8899	6289	6566
35°	9102	6065	6621
40°	9194	5840	6719
45°	9169	5593	6828
50°	9006	5359	6970
55°	8698	5112	7114
60°	8274	4849	7222
65°	7770	4553	7213
70°	7231	4199	6998
75°	6566	3688	6454
80°	5638	3030	5444
85°	4301	2072	3739

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.6	3.2
10°-20°	712.2	9.3
20°-30°	1091.1	14.3
30°-40°	1331.5	17.4
40°-50°	1392.5	18.2
50°-60°	1260.3	16.5
60°-70°	954.5	12.5
70°-80°	531.9	7.0
80°-90°	128.3	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°	2049.9	26.8
0°-40°	3381.4	44.2
0°-60°	6034.2	78.9
0°-90°	7648.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7648.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2600	2600	2600	2600	2600	
5°	2697	2652	2592	2528	2515	260
15°	2852	2694	2454	2340	2348	809
25°	2903	2617	2186	2109	2197	1339
35°	2771	2424	1846	1844	2015	1730
45°	2409	2108	1470	1535	1794	1854
55°	1854	1674	1090	1186	1516	1654
65°	1220	1148	715	813	1133	1210
75°	632	596	355	423	621	670
85°	139	123	67	90	121	168
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°	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3
2.5°	2657.7	2645.2	2635.0	2639.0	2641.2	2633.3	2626.4	2627.6	2620.8	2633.8	2603.1
5°	2696.9	2685.6	2673.6	2678.2	2673.6	2661.7	2652.0	2649.2	2631.0	2638.4	2607.1
7.5°	2740.7	2728.2	2710.6	2715.7	2706.0	2683.9	2671.3	2664.0	2636.1	2636.7	2602.0
10°	2782.7	2771.9	2748.1	2751.5	2733.9	2704.3	2684.4	2674.2	2635.0	2629.3	2593.5
12.5°	2822.0	2807.2	2781.6	2783.3	2757.7	2718.5	2692.9	2678.2	2627.0	2610.0	2574.7
15°	2852.1	2837.9	2807.2	2806.6	2773.7	2722.5	2693.5	2673.1	2608.3	2581.5	2544.6
17.5°	2877.7	2864.6	2826.5	2825.4	2785.6	2720.8	2686.1	2660.5	2581.0	2548.0	2507.1
20°	2895.9	2882.8	2840.2	2836.2	2788.4	2712.3	2670.8	2638.4	2545.2	2506.0	2460.5
22.5°	2904.4	2891.3	2843.0	2837.3	2781.6	2695.2	2648.6	2610.5	2504.2	2453.1	2405.9
25°	2902.7	2890.2	2835.6	2829.9	2768.5	2669.6	2617.4	2573.6	2452.5	2392.3	2345.7
27.5°	2888.5	2878.8	2821.4	2814.0	2744.7	2635.0	2579.3	2531.0	2395.1	2328.1	2277.5
30°	2864.0	2856.6	2795.8	2789.0	2715.1	2596.9	2534.9	2479.2	2333.2	2257.6	2206.4
32.5°	2824.8	2818.0	2756.6	2750.4	2675.3	2548.0	2483.2	2425.8	2265.5	2182.0	2130.8
35°	2770.8	2766.8	2707.2	2700.3	2624.2	2492.3	2423.5	2360.4	2195.1	2100.7	2051.8
37.5°	2699.8	2699.8	2642.4	2635.0	2560.5	2424.1	2356.5	2289.4	2115.5	2015.4	1967.1
40°	2617.4	2624.7	2566.2	2558.8	2486.6	2350.8	2276.9	2206.4	2029.7	1925.6	1878.5
42.5°	2518.5	2525.3	2476.4	2469.6	2401.9	2266.1	2197.3	2120.6	1939.9	1834.1	1785.3
45°	2409.3	2418.4	2374.7	2369.5	2306.5	2173.5	2107.5	2029.7	1846.1	1738.6	1690.9
47.5°	2287.7	2299.6	2261.6	2258.7	2200.2	2078.5	2009.8	1930.8	1747.7	1639.2	1594.3
50°	2151.3	2168.3	2137.1	2137.1	2084.8	1963.7	1904.0	1825.0	1645.4	1536.9	1492.5
52.5°	2005.2	2026.8	2003.5	2004.1	1961.5	1852.9	1790.9	1713.6	1538.6	1431.7	1390.8
55°	1854.0	1875.1	1860.3	1862.6	1829.0	1730.1	1673.9	1597.1	1429.5	1325.4	1286.8
57.5°	1696.0	1718.8	1709.1	1713.6	1690.3	1601.7	1543.1	1476.1	1316.9	1214.0	1181.1
60°	1537.4	1559.0	1553.9	1560.2	1545.4	1468.7	1415.2	1345.9	1203.8	1104.9	1075.9
62.5°	1377.2	1397.1	1395.9	1402.7	1394.8	1331.1	1283.4	1224.3	1086.7	995.8	969.1
65°	1220.3	1237.3	1236.2	1243.6	1241.9	1190.7	1147.5	1093.5	969.6	886.1	862.8
67.5°	1068.0	1082.2	1078.2	1086.7	1089.0	1048.1	1010.6	962.3	858.2	777.0	757.1
70°	919.1	928.7	923.6	929.3	934.4	903.7	871.9	829.3	739.5	667.8	651.4
72.5°	773.0	779.8	771.8	777.5	782.1	759.9	733.8	696.8	622.4	560.4	546.8
75°	631.5	641.1	624.6	630.3	633.7	611.6	596.2	566.1	501.9	454.1	445.0
77.5°	494.5	500.2	491.1	488.8	491.1	475.2	463.2	439.9	391.6	352.4	346.7
80°	363.8	367.2	358.1	355.8	357.5	346.1	337.0	320.0	285.9	256.3	254.1
82.5°	243.8	245.5	237.6	235.3	236.4	233.0	222.2	210.3	194.4	169.4	168.8
85°	139.3	139.3	133.6	131.3	132.4	126.7	122.8	116.5	110.3	93.2	94.3
87.5°	51.2	51.2	48.3	47.7	53.4	47.2	45.5	42.6	44.3	35.2	37.5
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°	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3	2600.3
2.5°	2611.7	2606.0	2600.9	2583.2	2590.6	2572.5	2571.3	2564.5	2559.4	2549.7	2562.2
5°	2603.1	2591.8	2577.0	2556.0	2562.2	2540.6	2536.1	2528.1	2521.3	2508.8	2518.5
7.5°	2589.5	2570.7	2547.4	2520.7	2529.3	2502.5	2495.7	2487.2	2481.5	2466.7	2475.3
10°	2569.6	2542.9	2515.6	2483.2	2489.5	2460.5	2452.0	2442.9	2437.7	2424.7	2433.2
12.5°	2538.9	2506.5	2469.6	2434.3	2441.2	2413.9	2402.5	2392.8	2391.1	2380.3	2390.6
15°	2499.1	2454.2	2416.1	2378.6	2386.6	2354.8	2349.6	2340.0	2342.8	2335.4	2347.9
17.5°	2448.5	2396.8	2355.3	2315.0	2322.9	2296.2	2292.2	2287.7	2290.5	2289.4	2303.0
20°	2391.7	2334.9	2287.1	2247.3	2251.9	2230.9	2232.6	2231.4	2237.1	2243.4	2262.1
22.5°	2327.5	2263.3	2213.2	2172.3	2179.1	2160.9	2168.9	2171.2	2180.8	2195.1	2218.9
25°	2255.3	2186.5	2134.2	2095.6	2101.8	2089.9	2103.5	2109.2	2124.6	2148.4	2172.9
27.5°	2179.7	2107.0	2051.3	2014.3	2026.2	2014.3	2034.8	2046.1	2069.4	2095.6	2125.7
30°	2099.6	2024.0	1966.6	1933.6	1945.0	1934.2	1967.1	1982.5	2005.8	2041.6	2077.4
32.5°	2015.4	1935.9	1879.6	1854.0	1862.0	1860.3	1897.2	1914.3	1945.5	1986.5	2024.5
35°	1929.1	1846.1	1789.2	1767.6	1777.3	1779.6	1823.9	1843.8	1877.9	1927.3	1968.3
37.5°	1839.8	1755.1	1699.4	1681.8	1690.3	1698.9	1750.6	1770.5	1809.1	1863.1	1908.0
40°	1747.2	1662.5	1607.9	1593.7	1602.2	1611.3	1667.6	1694.9	1736.9	1795.5	1844.4
42.5°	1653.4	1568.7	1515.8	1505.6	1514.1	1531.8	1591.4	1617.0	1661.4	1726.1	1780.1
45°	1557.9	1469.8	1423.8	1415.8	1424.9	1445.4	1503.9	1534.6	1581.8	1652.8	1710.8
47.5°	1461.3	1375.5	1331.7	1326.6	1335.7	1358.4	1423.2	1451.1	1501.1	1576.7	1639.2
50°	1363.5	1280.0	1237.9	1236.2	1244.7	1269.2	1331.1	1364.1	1415.8	1500.5	1564.7
52.5°	1264.6	1184.5	1146.4	1146.4	1154.4	1179.4	1241.9	1276.0	1329.4	1418.7	1489.7
55°	1165.7	1089.6	1053.2	1056.0	1067.4	1089.0	1149.8	1185.6	1239.6	1332.3	1407.3
57.5°	1066.8	994.7	961.7	965.7	976.5	998.1	1057.7	1098.1	1147.0	1243.0	1319.8
60°	969.1	900.9	871.9	876.4	886.1	907.7	969.6	1004.3	1053.2	1151.0	1227.7
62.5°	870.2	808.2	780.9	786.6	795.2	816.8	875.3	908.8	957.1	1053.2	1130.5
65°	772.4	715.0	691.7	697.4	705.3	725.2	780.4	812.8	858.8	952.6	1026.5
67.5°	675.8	623.5	604.2	609.9	616.1	634.9	680.3	715.6	758.8	848.0	917.9
70°	580.3	533.7	516.6	522.3	528.0	545.1	584.9	617.3	657.0	738.9	803.7
72.5°	486.0	440.5	432.0	437.1	441.6	456.4	494.5	520.1	554.7	627.5	683.2
75°	393.9	354.7	349.0	354.1	358.1	369.4	401.3	423.4	452.4	515.5	561.0
77.5°	305.2	272.3	270.0	274.0	277.9	285.9	310.9	334.2	356.9	403.5	443.9
80°	222.2	195.5	195.5	199.5	198.4	208.0	225.6	244.4	260.9	294.4	324.0
82.5°	146.6	125.6	128.5	131.3	133.0	137.0	147.8	162.0	172.2	192.7	212.0
85°	81.3	67.1	69.9	72.2	71.0	75.6	81.3	89.8	94.9	104.6	114.8
87.5°	30.1	25.0	25.6	27.3	28.4	30.7	30.7	35.8	36.4	37.5	39.8
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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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2600.3	2600.3	2600.3
2.5°	2538.3	2552.0	2562.2
5°	2494.6	2506.0	2515.0
7.5°	2452.0	2462.2	2470.1
10°	2411.6	2423.0	2428.7
12.5°	2370.1	2383.2	2387.7
15°	2329.2	2342.3	2347.9
17.5°	2287.1	2304.2	2310.4
20°	2247.9	2269.5	2274.6
22.5°	2208.1	2230.3	2236.5
25°	2164.9	2191.1	2197.3
27.5°	2118.9	2150.2	2156.4
30°	2072.9	2107.0	2113.2
32.5°	2023.4	2060.3	2066.0
35°	1971.7	2008.6	2015.4
37.5°	1914.3	1954.6	1968.3
40°	1854.6	1898.4	1912.6
42.5°	1792.1	1839.8	1854.6
45°	1725.0	1777.3	1794.3
47.5°	1657.4	1716.5	1731.3
50°	1584.1	1647.1	1664.8
52.5°	1507.3	1576.1	1593.7
55°	1427.7	1497.1	1516.4
57.5°	1341.4	1413.0	1433.4
60°	1251.0	1322.6	1341.9
62.5°	1158.3	1223.1	1241.9
65°	1054.9	1115.7	1132.8
67.5°	945.2	1000.9	1015.1
70°	828.7	877.0	889.5
72.5°	707.1	740.6	757.1
75°	581.4	608.2	620.7
77.5°	455.3	474.0	484.3
80°	331.9	342.7	351.3
82.5°	217.1	221.7	227.9
85°	117.1	117.1	121.1
87.5°	39.8	38.1	39.8
90°	0.0	0.0	0.0

(END OF REPORT)