

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: P834249

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-2HI-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834249
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-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

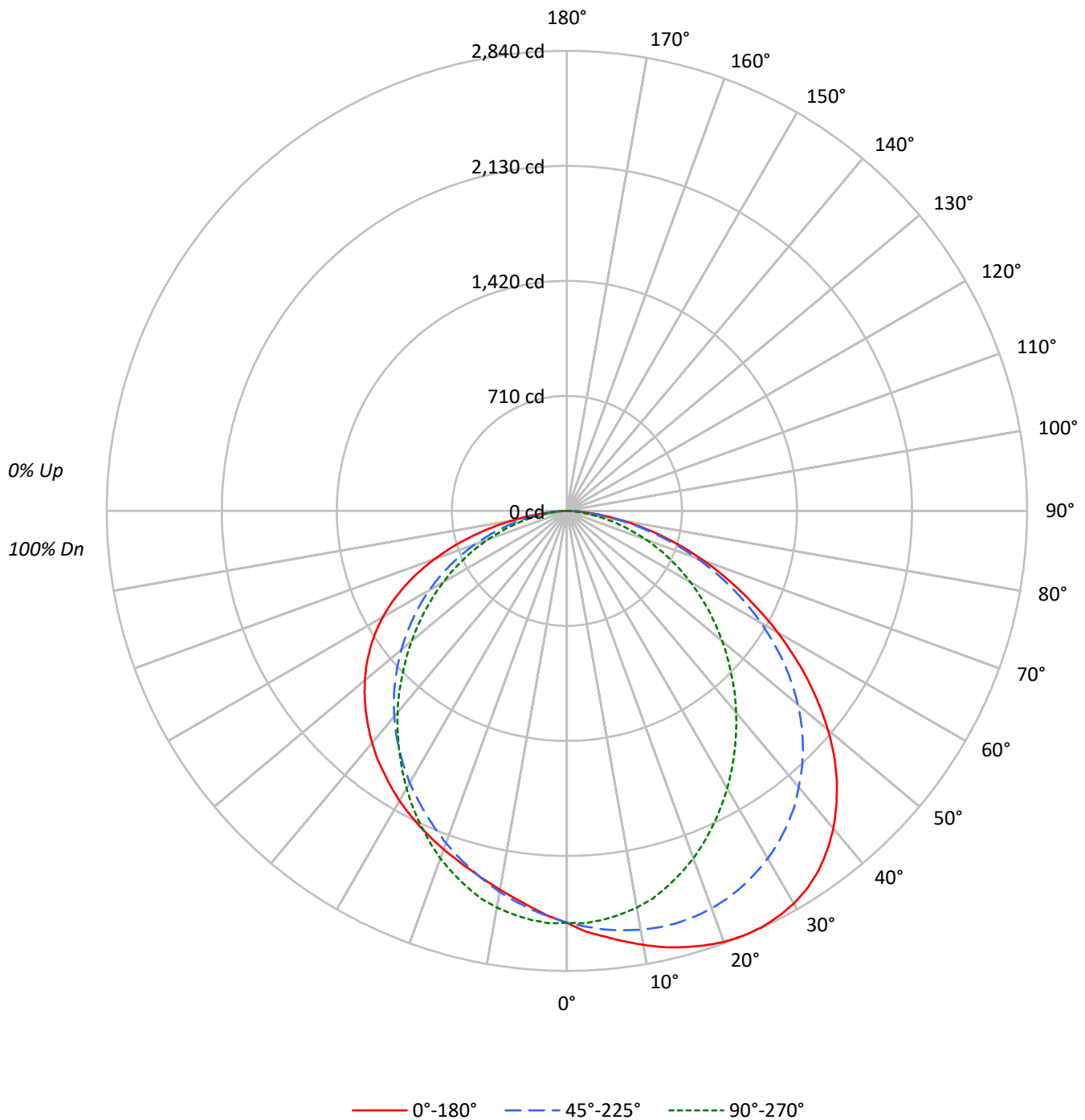
Lumens per Lamp: N/A
Luminaire Lumens: 7478.3 lumens
Efficiency: N/A
Efficacy: 85.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6841	6841	6841
5°	7123	6845	6642
10°	7434	6794	6488
15°	7768	6685	6395
20°	8108	6537	6369
25°	8426	6347	6379
30°	8701	6149	6420
35°	8899	5929	6473
40°	8989	5710	6569
45°	8965	5469	6676
50°	8805	5239	6814
55°	8504	4998	6956
60°	8090	4740	7061
65°	7597	4451	7052
70°	7070	4105	6843
75°	6419	3606	6309
80°	5511	2963	5322
85°	4202	2025	3656

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.1	3.2
10°-20°	696.3	9.3
20°-30°	1066.7	14.3
30°-40°	1301.8	17.4
40°-50°	1361.4	18.2
50°-60°	1232.2	16.5
60°-70°	933.2	12.5
70°-80°	520.1	7.0
80°-90°	125.4	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°	2004.2	26.8
0°-40°	3306.0	44.2
0°-60°	5899.6	78.9
0°-90°	7478.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7478.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2542	2542	2542	2542	2542	
5°	2637	2593	2534	2472	2459	254
15°	2788	2633	2400	2288	2296	791
25°	2838	2559	2138	2062	2148	1309
35°	2709	2370	1805	1803	1970	1692
45°	2356	2060	1437	1500	1754	1812
55°	1813	1636	1065	1159	1483	1617
65°	1193	1122	699	795	1108	1183
75°	617	583	347	414	607	655
85°	136	120	66	88	118	164
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°	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3
2.5°	2598.4	2586.2	2576.2	2580.1	2582.3	2574.5	2567.9	2569.0	2562.3	2575.1	2545.1
5°	2636.8	2625.6	2614.0	2618.4	2614.0	2602.3	2592.9	2590.1	2572.3	2579.5	2549.0
7.5°	2679.6	2667.3	2650.1	2655.1	2645.7	2624.0	2611.8	2604.5	2577.3	2577.9	2544.0
10°	2720.7	2710.1	2686.8	2690.1	2672.9	2644.0	2624.5	2614.5	2576.2	2570.6	2535.6
12.5°	2759.0	2744.6	2719.6	2721.2	2696.2	2657.9	2632.9	2618.4	2568.4	2551.7	2517.3
15°	2788.5	2774.6	2744.6	2744.0	2711.8	2661.8	2633.4	2613.4	2550.1	2524.0	2487.8
17.5°	2813.5	2800.7	2763.5	2762.3	2723.5	2660.1	2626.2	2601.2	2523.4	2491.2	2451.2
20°	2831.3	2818.5	2776.8	2772.9	2726.2	2651.8	2611.2	2579.5	2488.4	2450.0	2405.6
22.5°	2839.6	2826.8	2779.6	2774.0	2719.6	2635.1	2589.5	2552.3	2448.4	2398.4	2352.2
25°	2837.9	2825.7	2772.4	2766.8	2706.8	2610.1	2559.0	2516.2	2397.8	2338.9	2293.3
27.5°	2824.0	2814.6	2758.5	2751.2	2683.4	2576.2	2521.7	2474.5	2341.7	2276.1	2226.7
30°	2800.1	2792.9	2733.5	2726.8	2654.5	2539.0	2478.4	2423.9	2281.1	2207.2	2157.2
32.5°	2761.8	2755.1	2695.1	2689.0	2615.6	2491.2	2427.8	2371.7	2215.0	2133.3	2083.3
35°	2709.0	2705.1	2646.8	2640.1	2565.6	2436.7	2369.5	2307.8	2146.1	2053.8	2006.1
37.5°	2639.5	2639.5	2583.4	2576.2	2503.4	2370.0	2303.9	2238.3	2068.3	1970.5	1923.3
40°	2559.0	2566.2	2509.0	2501.7	2431.2	2298.3	2226.1	2157.2	1984.4	1882.7	1836.6
42.5°	2462.3	2468.9	2421.2	2414.5	2348.4	2215.5	2148.3	2073.3	1896.6	1793.2	1745.4
45°	2355.6	2364.5	2321.7	2316.7	2255.0	2125.0	2060.5	1984.4	1804.9	1699.9	1653.2
47.5°	2236.7	2248.3	2211.1	2208.3	2151.1	2032.2	1964.9	1887.7	1708.8	1602.6	1558.7
50°	2103.3	2120.0	2089.4	2089.4	2038.3	1919.9	1861.6	1784.3	1608.7	1502.6	1459.2
52.5°	1960.5	1981.6	1958.8	1959.4	1917.7	1811.6	1751.0	1675.4	1504.3	1399.8	1359.8
55°	1812.7	1833.2	1818.8	1821.0	1788.2	1691.5	1636.5	1561.5	1397.6	1295.9	1258.1
57.5°	1658.2	1680.4	1671.0	1675.4	1652.6	1565.9	1508.7	1443.1	1287.5	1187.0	1154.7
60°	1503.1	1524.3	1519.3	1525.4	1510.9	1435.9	1383.7	1315.9	1177.0	1080.3	1051.9
62.5°	1346.4	1365.9	1364.8	1371.4	1363.7	1301.4	1254.8	1197.0	1062.5	973.6	947.5
65°	1193.1	1209.7	1208.6	1215.9	1214.2	1164.2	1121.9	1069.2	948.0	866.3	843.5
67.5°	1044.1	1058.0	1054.1	1062.5	1064.7	1024.7	988.0	940.8	839.1	759.6	740.2
70°	898.6	908.0	903.0	908.6	913.6	883.6	852.4	810.8	723.0	652.9	636.8
72.5°	755.7	762.4	754.6	760.2	764.6	743.0	717.4	681.3	608.5	547.9	534.6
75°	617.4	626.8	610.7	616.3	619.6	597.9	582.9	553.5	490.7	444.0	435.1
77.5°	483.5	489.0	480.1	477.9	480.1	464.6	452.9	430.1	382.9	344.5	339.0
80°	355.6	359.0	350.1	347.9	349.5	338.4	329.5	312.9	279.5	250.6	248.4
82.5°	238.4	240.1	232.3	230.1	231.2	227.8	217.3	205.6	190.0	165.6	165.0
85°	136.1	136.1	130.6	128.4	129.5	123.9	120.0	113.9	107.8	91.1	92.2
87.5°	50.0	50.0	47.2	46.7	52.2	46.1	44.5	41.7	43.3	34.5	36.7
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°	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3	2542.3
2.5°	2553.4	2547.9	2542.9	2525.6	2532.8	2515.1	2514.0	2507.3	2502.3	2492.8	2505.1
5°	2545.1	2534.0	2519.5	2499.0	2505.1	2483.9	2479.5	2471.7	2465.1	2452.8	2462.3
7.5°	2531.7	2513.4	2490.6	2464.5	2472.8	2446.7	2440.0	2431.7	2426.2	2411.7	2420.0
10°	2512.3	2486.2	2459.5	2427.8	2433.9	2405.6	2397.3	2388.4	2383.4	2370.6	2378.9
12.5°	2482.3	2450.6	2414.5	2380.0	2386.7	2360.0	2348.9	2339.5	2337.8	2327.2	2337.2
15°	2443.4	2399.5	2362.3	2325.6	2333.4	2302.2	2297.2	2287.8	2290.6	2283.3	2295.6
17.5°	2393.9	2343.4	2302.8	2263.3	2271.1	2245.0	2241.1	2236.7	2239.4	2238.3	2251.7
20°	2338.4	2282.8	2236.1	2197.2	2201.7	2181.1	2182.8	2181.7	2187.2	2193.3	2211.7
22.5°	2275.6	2212.8	2163.9	2123.9	2130.5	2112.7	2120.5	2122.7	2132.2	2146.1	2169.4
25°	2205.0	2137.8	2086.6	2048.8	2055.0	2043.3	2056.6	2062.2	2077.2	2100.5	2124.4
27.5°	2131.1	2060.0	2005.5	1969.4	1981.0	1969.4	1989.4	2000.5	2023.3	2048.8	2078.3
30°	2052.7	1978.8	1922.7	1890.5	1901.6	1891.0	1923.3	1938.3	1961.0	1996.0	2031.1
32.5°	1970.5	1892.7	1837.7	1812.7	1820.4	1818.8	1854.9	1871.6	1902.1	1942.1	1979.4
35°	1886.0	1804.9	1749.3	1728.2	1737.7	1739.9	1783.2	1802.7	1836.0	1884.4	1924.4
37.5°	1798.8	1716.0	1661.5	1644.3	1652.6	1661.0	1711.5	1731.0	1768.8	1821.6	1865.5
40°	1708.2	1625.4	1572.1	1558.2	1566.5	1575.4	1630.4	1657.1	1698.2	1755.4	1803.2
42.5°	1616.5	1533.7	1482.0	1472.0	1480.4	1497.6	1555.9	1580.9	1624.3	1687.6	1740.4
45°	1523.2	1437.0	1392.0	1384.2	1393.1	1413.1	1470.4	1500.4	1546.5	1616.0	1672.6
47.5°	1428.7	1344.8	1302.0	1297.0	1305.9	1328.1	1391.5	1418.7	1467.6	1541.5	1602.6
50°	1333.1	1251.4	1210.3	1208.6	1217.0	1240.9	1301.4	1333.7	1384.2	1467.0	1529.8
52.5°	1236.4	1158.1	1120.8	1120.8	1128.6	1153.1	1214.2	1247.5	1299.8	1387.0	1456.5
55°	1139.7	1065.3	1029.7	1032.5	1043.6	1064.7	1124.2	1159.2	1212.0	1302.5	1375.9
57.5°	1043.0	972.5	940.2	944.1	954.7	975.8	1034.1	1073.6	1121.4	1215.3	1290.3
60°	947.5	880.8	852.4	856.9	866.3	887.4	948.0	981.9	1029.7	1125.3	1200.3
62.5°	850.8	790.2	763.5	769.1	777.4	798.5	855.8	888.6	935.8	1029.7	1105.3
65°	755.2	699.1	676.3	681.8	689.6	709.1	763.0	794.6	839.7	931.3	1003.6
67.5°	660.7	609.6	590.7	596.3	602.4	620.7	665.2	699.6	741.8	829.1	897.4
70°	567.4	521.8	505.1	510.7	516.2	532.9	571.8	603.5	642.4	722.4	785.7
72.5°	475.1	430.7	422.3	427.3	431.8	446.2	483.5	508.5	542.4	613.5	667.9
75°	385.1	346.8	341.2	346.2	350.1	361.2	392.3	414.0	442.3	504.0	548.5
77.5°	298.4	266.2	264.0	267.8	271.7	279.5	304.0	326.7	349.0	394.5	434.0
80°	217.3	191.2	191.2	195.0	193.9	203.4	220.6	238.9	255.1	287.8	316.7
82.5°	143.4	122.8	125.6	128.4	130.0	133.9	144.5	158.4	168.4	188.4	207.3
85°	79.5	65.6	68.4	70.6	69.5	73.9	79.5	87.8	92.8	102.2	112.2
87.5°	29.5	24.5	25.0	26.7	27.8	30.0	30.0	35.0	35.6	36.7	38.9
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°	2542.3	2542.3	2542.3
2.5°	2481.7	2495.1	2505.1
5°	2438.9	2450.0	2458.9
7.5°	2397.3	2407.3	2415.0
10°	2357.8	2368.9	2374.5
12.5°	2317.2	2330.0	2334.5
15°	2277.2	2290.0	2295.6
17.5°	2236.1	2252.8	2258.9
20°	2197.8	2218.9	2223.9
22.5°	2158.9	2180.5	2186.7
25°	2116.6	2142.2	2148.3
27.5°	2071.6	2102.2	2108.3
30°	2026.6	2060.0	2066.1
32.5°	1978.3	2014.4	2019.9
35°	1927.7	1963.8	1970.5
37.5°	1871.6	1911.0	1924.4
40°	1813.2	1856.0	1869.9
42.5°	1752.1	1798.8	1813.2
45°	1686.5	1737.7	1754.3
47.5°	1620.4	1678.2	1692.6
50°	1548.7	1610.4	1627.6
52.5°	1473.7	1540.9	1558.2
55°	1395.9	1463.7	1482.6
57.5°	1311.4	1381.5	1401.5
60°	1223.1	1293.1	1312.0
62.5°	1132.5	1195.9	1214.2
65°	1031.4	1090.8	1107.5
67.5°	924.1	978.6	992.5
70°	810.2	857.4	869.7
72.5°	691.3	724.1	740.2
75°	568.5	594.6	606.8
77.5°	445.1	463.4	473.5
80°	324.5	335.1	343.4
82.5°	212.3	216.7	222.8
85°	114.5	114.5	118.4
87.5°	38.9	37.2	38.9
90°	0.0	0.0	0.0

(END OF REPORT)