

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: P835344

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835344
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-4HI-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

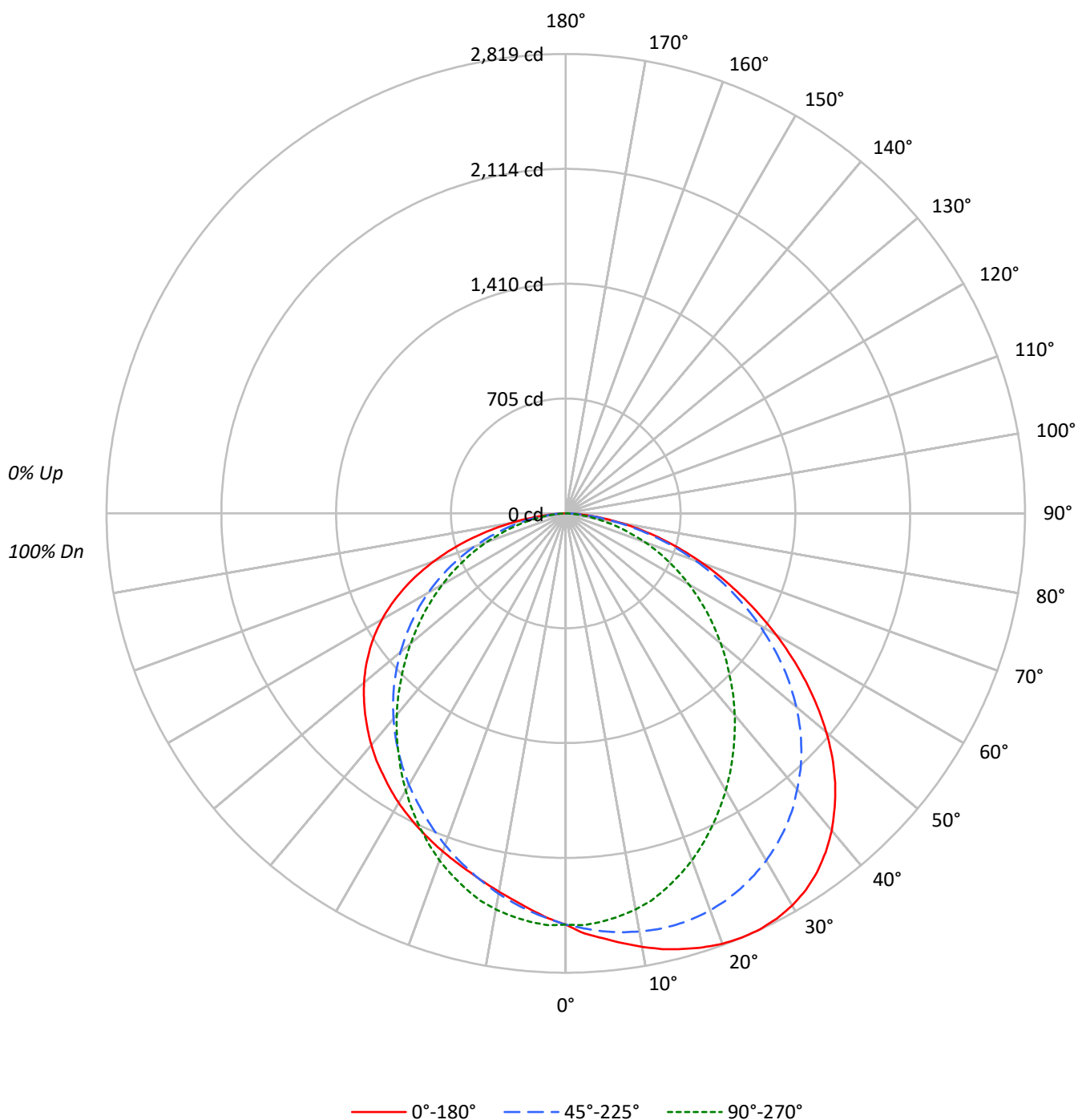
Lumens per Lamp: N/A
Luminaire Lumens: 7423.7 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

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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°	6791	6791	6791
5°	7071	6795	6594
10°	7380	6744	6441
15°	7712	6636	6349
20°	8049	6489	6322
25°	8365	6301	6332
30°	8637	6104	6373
35°	8835	5886	6426
40°	8924	5668	6521
45°	8899	5429	6627
50°	8741	5201	6764
55°	8442	4961	6905
60°	8031	4706	7009
65°	7542	4419	7000
70°	7018	4076	6792
75°	6372	3579	6263
80°	5472	2941	5283
85°	4174	2010	3628

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.4	3.2
10°-20°	691.2	9.3
20°-30°	1059.0	14.3
30°-40°	1292.3	17.4
40°-50°	1351.5	18.2
50°-60°	1223.2	16.5
60°-70°	926.4	12.5
70°-80°	516.3	7.0
80°-90°	124.5	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°	1989.6	26.8
0°-40°	3281.9	44.2
0°-60°	5856.6	78.9
0°-90°	7423.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7423.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2524	2524	2524	2524	2524	
5°	2618	2574	2516	2454	2441	252
15°	2768	2614	2382	2271	2279	785
25°	2817	2540	2122	2047	2133	1300
35°	2689	2352	1792	1790	1956	1679
45°	2338	2046	1426	1489	1742	1799
55°	1800	1625	1058	1151	1472	1606
65°	1184	1114	694	789	1099	1175
75°	613	579	344	411	602	650
85°	135	119	65	87	118	163
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°	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8
2.5°	2579.5	2567.3	2557.4	2561.3	2563.5	2555.8	2549.1	2550.2	2543.6	2556.3	2526.5
5°	2617.5	2606.5	2594.9	2599.3	2594.9	2583.3	2574.0	2571.2	2553.6	2560.7	2530.4
7.5°	2660.0	2647.9	2630.8	2635.8	2626.4	2604.9	2592.7	2585.6	2558.5	2559.1	2525.4
10°	2700.8	2690.4	2667.2	2670.5	2653.4	2624.7	2605.4	2595.5	2557.4	2551.9	2517.1
12.5°	2738.9	2724.6	2699.7	2701.4	2676.6	2638.5	2613.7	2599.3	2549.7	2533.1	2498.9
15°	2768.1	2754.4	2724.6	2724.0	2692.0	2642.4	2614.2	2594.4	2531.5	2505.6	2469.7
17.5°	2793.0	2780.3	2743.3	2742.2	2703.6	2640.7	2607.1	2582.2	2505.0	2473.0	2433.3
20°	2810.6	2797.9	2756.6	2752.7	2706.4	2632.4	2592.2	2560.7	2470.3	2432.2	2388.1
22.5°	2818.9	2806.2	2759.3	2753.8	2699.7	2615.9	2570.7	2533.7	2430.5	2380.9	2335.1
25°	2817.2	2805.1	2752.1	2746.6	2687.1	2591.1	2540.3	2497.8	2380.3	2321.9	2276.6
27.5°	2803.4	2794.1	2738.4	2731.2	2663.9	2557.4	2503.4	2456.5	2324.6	2259.5	2210.4
30°	2779.7	2772.6	2713.5	2706.9	2635.2	2520.5	2460.3	2406.3	2264.5	2191.1	2141.5
32.5°	2741.7	2735.0	2675.5	2669.4	2596.6	2473.0	2410.1	2354.4	2198.8	2117.8	2068.1
35°	2689.3	2685.4	2627.5	2620.9	2546.9	2419.0	2352.2	2291.0	2130.4	2038.9	1991.4
37.5°	2620.3	2620.3	2564.6	2557.4	2485.2	2352.8	2287.1	2222.0	2053.2	1956.1	1909.2
40°	2540.3	2547.5	2490.7	2483.5	2413.4	2281.6	2209.9	2141.5	1969.9	1869.0	1823.2
42.5°	2444.3	2451.0	2403.5	2396.9	2331.2	2199.4	2132.7	2058.2	1882.8	1780.2	1732.7
45°	2338.4	2347.2	2304.8	2299.8	2238.6	2109.5	2045.5	1969.9	1791.7	1687.5	1641.1
47.5°	2220.4	2231.9	2195.0	2192.2	2135.4	2017.4	1950.6	1873.9	1696.3	1590.9	1547.4
50°	2088.0	2104.5	2074.2	2074.2	2023.4	1905.9	1848.0	1771.3	1597.0	1491.6	1448.6
52.5°	1946.2	1967.2	1944.5	1945.1	1903.7	1798.4	1738.2	1663.2	1493.3	1389.6	1349.9
55°	1799.5	1819.9	1805.5	1807.7	1775.2	1679.2	1624.6	1550.1	1387.4	1286.4	1248.9
57.5°	1646.1	1668.2	1658.8	1663.2	1640.6	1554.5	1497.7	1432.6	1278.2	1178.3	1146.3
60°	1492.2	1513.2	1508.2	1514.3	1499.9	1425.4	1373.6	1306.3	1168.4	1072.4	1044.3
62.5°	1336.6	1355.9	1354.8	1361.5	1353.7	1291.9	1245.6	1188.2	1054.7	966.5	940.6
65°	1184.4	1200.9	1199.8	1207.0	1205.3	1155.7	1113.8	1061.4	941.1	860.0	837.4
67.5°	1036.5	1050.3	1046.5	1054.7	1056.9	1017.2	980.8	933.9	833.0	754.1	734.8
70°	892.0	901.4	896.4	901.9	906.9	877.1	846.2	804.8	717.7	648.2	632.2
72.5°	750.2	756.9	749.1	754.6	759.1	737.5	712.2	676.3	604.0	543.9	530.7
75°	612.9	622.3	606.3	611.8	615.1	593.6	578.7	549.4	487.1	440.8	431.9
77.5°	479.9	485.4	476.6	474.4	476.6	461.2	449.6	427.0	380.1	342.0	336.5
80°	353.1	356.4	347.5	345.3	347.0	336.0	327.1	310.6	277.5	248.8	246.6
82.5°	236.7	238.3	230.6	228.4	229.5	226.2	215.7	204.1	188.7	164.4	163.8
85°	135.2	135.2	129.6	127.4	128.5	123.0	119.2	113.1	107.0	90.5	91.6
87.5°	49.6	49.6	46.9	46.3	51.9	45.8	44.1	41.4	43.0	34.2	36.4
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°	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8	2523.8
2.5°	2534.8	2529.3	2524.3	2507.2	2514.4	2496.7	2495.6	2489.0	2484.0	2474.7	2486.8
5°	2526.5	2515.5	2501.1	2480.7	2486.8	2465.8	2461.4	2453.7	2447.1	2435.0	2444.3
7.5°	2513.3	2495.1	2472.5	2446.5	2454.8	2428.9	2422.3	2414.0	2408.5	2394.1	2402.4
10°	2494.0	2468.1	2441.6	2410.1	2416.2	2388.1	2379.8	2371.0	2366.0	2353.3	2361.6
12.5°	2464.2	2432.7	2396.9	2362.7	2369.3	2342.8	2331.8	2322.4	2320.8	2310.3	2320.2
15°	2425.6	2382.0	2345.0	2308.6	2316.3	2285.5	2280.5	2271.1	2273.9	2266.7	2278.8
17.5°	2376.5	2326.3	2286.0	2246.8	2254.6	2228.6	2224.8	2220.4	2223.1	2222.0	2235.3
20°	2321.3	2266.1	2219.8	2181.2	2185.6	2165.2	2166.9	2165.8	2171.3	2177.3	2195.5
22.5°	2259.0	2196.6	2148.1	2108.4	2115.0	2097.3	2105.1	2107.3	2116.7	2130.4	2153.6
25°	2188.9	2122.2	2071.4	2033.9	2040.0	2028.4	2041.6	2047.1	2062.0	2085.2	2108.9
27.5°	2115.6	2044.9	1990.9	1955.0	1966.6	1955.0	1974.9	1985.9	2008.5	2033.9	2063.1
30°	2037.8	1964.4	1908.7	1876.7	1887.7	1877.2	1909.2	1924.1	1946.7	1981.5	2016.3
32.5°	1956.1	1878.9	1824.3	1799.5	1807.2	1805.5	1841.4	1857.9	1888.3	1928.0	1965.0
35°	1872.3	1791.7	1736.6	1715.6	1725.0	1727.2	1770.2	1789.5	1822.6	1870.6	1910.3
37.5°	1785.7	1703.5	1649.4	1632.3	1640.6	1648.9	1699.1	1718.4	1755.9	1808.3	1851.9
40°	1695.8	1613.6	1560.6	1546.8	1555.1	1563.9	1618.5	1645.0	1685.8	1742.6	1790.1
42.5°	1604.7	1522.5	1471.2	1461.3	1469.6	1486.7	1544.6	1569.4	1612.5	1675.3	1727.7
45°	1512.1	1426.5	1381.9	1374.1	1383.0	1402.8	1459.6	1489.4	1535.2	1604.2	1660.4
47.5°	1418.3	1335.0	1292.5	1287.5	1296.4	1318.4	1381.3	1408.3	1456.9	1530.3	1590.9
50°	1323.4	1242.3	1201.5	1199.8	1208.1	1231.8	1291.9	1323.9	1374.1	1456.3	1518.7
52.5°	1227.4	1149.6	1112.7	1112.7	1120.4	1144.7	1205.3	1238.4	1290.3	1376.9	1445.9
55°	1131.4	1057.5	1022.2	1025.0	1036.0	1056.9	1116.0	1150.7	1203.1	1293.1	1365.9
57.5°	1035.4	965.4	933.4	937.2	947.7	968.7	1026.6	1065.8	1113.2	1206.4	1280.9
60°	940.6	874.4	846.2	850.6	860.0	881.0	941.1	974.8	1022.2	1117.1	1191.5
62.5°	844.6	784.4	758.0	763.5	771.7	792.7	849.5	882.1	929.0	1022.2	1097.2
65°	749.7	694.0	671.3	676.9	684.6	703.9	757.4	788.8	833.5	924.6	996.3
67.5°	655.9	605.2	586.4	591.9	598.0	616.2	660.3	694.5	736.4	823.1	890.9
70°	563.2	518.0	501.4	507.0	512.5	529.0	567.6	599.1	637.7	717.1	780.0
72.5°	471.7	427.5	419.2	424.2	428.6	443.0	479.9	504.8	538.4	609.0	663.1
75°	382.3	344.2	338.7	343.7	347.5	358.6	389.5	411.0	439.1	500.3	544.5
77.5°	296.2	264.2	262.0	265.9	269.8	277.5	301.7	324.4	346.4	391.7	430.8
80°	215.7	189.8	189.8	193.6	192.5	201.9	219.0	237.2	253.2	285.8	314.4
82.5°	142.3	121.9	124.7	127.4	129.1	132.9	143.4	157.2	167.1	187.0	205.8
85°	78.9	65.1	67.9	70.1	69.0	73.4	78.9	87.2	92.1	101.5	111.4
87.5°	29.2	24.3	24.8	26.5	27.6	29.8	29.8	34.8	35.3	36.4	38.6
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°	2523.8	2523.8	2523.8
2.5°	2463.6	2476.9	2486.8
5°	2421.2	2432.2	2441.0
7.5°	2379.8	2389.7	2397.4
10°	2340.6	2351.7	2357.2
12.5°	2300.4	2313.0	2317.5
15°	2260.6	2273.3	2278.8
17.5°	2219.8	2236.4	2242.4
20°	2181.7	2202.7	2207.7
22.5°	2143.1	2164.6	2170.7
25°	2101.2	2126.6	2132.7
27.5°	2056.5	2086.9	2092.9
30°	2011.8	2044.9	2051.0
32.5°	1963.8	1999.7	2005.2
35°	1913.6	1949.5	1956.1
37.5°	1857.9	1897.1	1910.3
40°	1800.0	1842.5	1856.3
42.5°	1739.3	1785.7	1800.0
45°	1674.2	1725.0	1741.5
47.5°	1608.6	1666.0	1680.3
50°	1537.4	1598.7	1615.8
52.5°	1463.0	1529.7	1546.8
55°	1385.7	1453.0	1471.8
57.5°	1301.9	1371.4	1391.2
60°	1214.2	1283.7	1302.4
62.5°	1124.2	1187.1	1205.3
65°	1023.8	1082.9	1099.4
67.5°	917.4	971.4	985.2
70°	804.3	851.2	863.3
72.5°	686.2	718.8	734.8
75°	564.3	590.3	602.4
77.5°	441.9	460.1	470.0
80°	322.2	332.6	340.9
82.5°	210.7	215.1	221.2
85°	113.6	113.6	117.5
87.5°	38.6	37.0	38.6
90°	0.0	0.0	0.0

(END OF REPORT)