

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: P835278

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-6HI-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835278
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-LD4-6HI-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

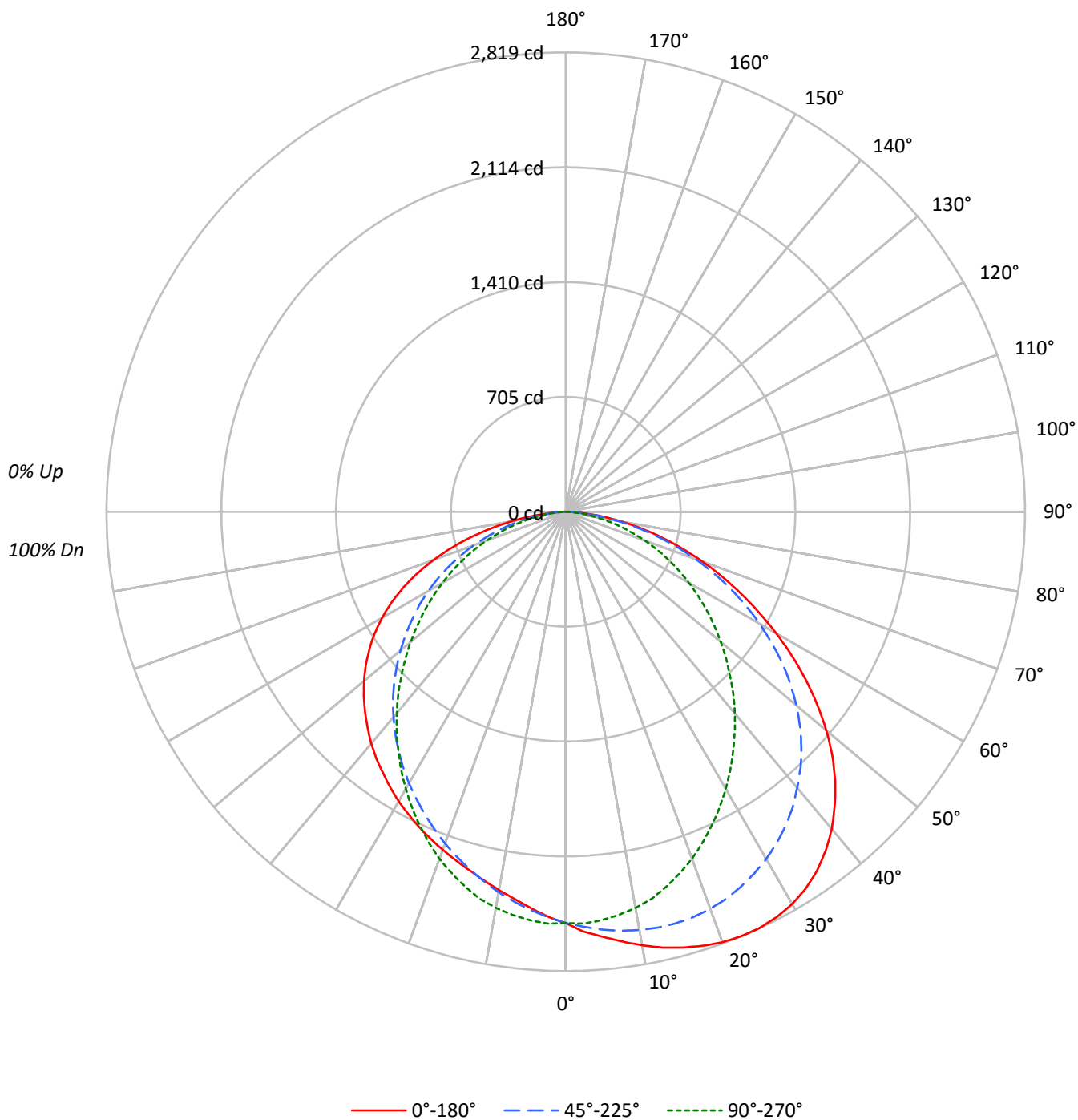
Lumens per Lamp: N/A
Luminaire Lumens: 7424.3 lumens
Efficiency: N/A
Efficacy: 56.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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



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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°	6792	6792	6792
5°	7071	6796	6594
10°	7380	6744	6441
15°	7712	6637	6349
20°	8049	6490	6322
25°	8365	6301	6333
30°	8638	6104	6374
35°	8835	5887	6427
40°	8924	5669	6521
45°	8900	5429	6628
50°	8742	5201	6765
55°	8443	4962	6906
60°	8031	4706	7010
65°	7542	4419	7001
70°	7019	4076	6793
75°	6372	3579	6263
80°	5472	2941	5283
85°	4174	2010	3628

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.4	3.2
10°-20°	691.3	9.3
20°-30°	1059.0	14.3
30°-40°	1292.4	17.4
40°-50°	1351.6	18.2
50°-60°	1223.3	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°	1989.7	26.8
0°-40°	3282.1	44.2
0°-60°	5857.0	78.9
0°-90°	7424.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7424.3	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°	2339	2046	1427	1490	1742	1799
55°	1800	1625	1058	1151	1472	1606
65°	1184	1114	694	789	1100	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°	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9
2.5°	2579.7	2567.5	2557.6	2561.5	2563.7	2555.9	2549.3	2550.4	2543.8	2556.5	2526.7
5°	2617.7	2606.7	2595.1	2599.5	2595.1	2583.5	2574.1	2571.4	2553.7	2560.9	2530.6
7.5°	2660.2	2648.1	2631.0	2635.9	2626.6	2605.0	2592.9	2585.7	2558.7	2559.3	2525.6
10°	2701.0	2690.6	2667.4	2670.7	2653.6	2624.9	2605.6	2595.7	2557.6	2552.1	2517.3
12.5°	2739.1	2724.8	2699.9	2701.6	2676.8	2638.7	2613.9	2599.5	2549.9	2533.3	2499.1
15°	2768.3	2754.5	2724.8	2724.2	2692.2	2642.6	2614.4	2594.6	2531.7	2505.7	2469.9
17.5°	2793.2	2780.5	2743.5	2742.4	2703.8	2640.9	2607.2	2582.4	2505.2	2473.2	2433.5
20°	2810.8	2798.1	2756.8	2752.9	2706.6	2632.6	2592.4	2560.9	2470.4	2432.4	2388.2
22.5°	2819.1	2806.4	2759.5	2754.0	2699.9	2616.1	2570.8	2533.9	2430.7	2381.1	2335.3
25°	2817.4	2805.3	2752.3	2746.8	2687.2	2591.3	2540.5	2498.0	2380.5	2322.0	2276.8
27.5°	2803.6	2794.3	2738.5	2731.4	2664.1	2557.6	2503.5	2456.6	2324.8	2259.7	2210.6
30°	2779.9	2772.8	2713.7	2707.1	2635.4	2520.6	2460.5	2406.4	2264.7	2191.3	2141.6
32.5°	2741.9	2735.2	2675.7	2669.6	2596.8	2473.2	2410.3	2354.6	2199.0	2117.9	2068.3
35°	2689.4	2685.6	2627.7	2621.0	2547.1	2419.1	2352.4	2291.1	2130.6	2039.0	1991.6
37.5°	2620.5	2620.5	2564.8	2557.6	2485.3	2352.9	2287.3	2222.2	2053.4	1956.3	1909.4
40°	2540.5	2547.7	2490.8	2483.7	2413.6	2281.8	2210.0	2141.6	1970.1	1869.1	1823.3
42.5°	2444.5	2451.1	2403.7	2397.1	2331.4	2199.6	2132.8	2058.3	1882.9	1780.3	1732.8
45°	2338.6	2347.4	2304.9	2300.0	2238.7	2109.6	2045.6	1970.1	1791.9	1687.6	1641.3
47.5°	2220.5	2232.1	2195.1	2192.4	2135.6	2017.5	1950.7	1874.1	1696.4	1591.1	1547.5
50°	2088.1	2104.7	2074.3	2074.3	2023.6	1906.1	1848.1	1771.5	1597.1	1491.7	1448.7
52.5°	1946.3	1967.3	1944.7	1945.2	1903.9	1798.5	1738.3	1663.3	1493.4	1389.7	1350.0
55°	1799.6	1820.0	1805.7	1807.9	1775.3	1679.3	1624.7	1550.2	1387.5	1286.5	1249.0
57.5°	1646.2	1668.3	1658.9	1663.3	1640.7	1554.6	1497.8	1432.7	1278.2	1178.4	1146.4
60°	1492.3	1513.3	1508.3	1514.4	1500.0	1425.5	1373.7	1306.4	1168.5	1072.5	1044.3
62.5°	1336.7	1356.0	1354.9	1361.6	1353.8	1292.0	1245.7	1188.3	1054.8	966.5	940.6
65°	1184.5	1201.0	1199.9	1207.1	1205.4	1155.8	1113.8	1061.4	941.2	860.1	837.5
67.5°	1036.6	1050.4	1046.5	1054.8	1057.0	1017.3	980.9	934.0	833.0	754.1	734.8
70°	892.1	901.4	896.5	902.0	907.0	877.2	846.3	804.9	717.7	648.2	632.2
72.5°	750.3	756.9	749.2	754.7	759.1	737.6	712.2	676.4	604.1	544.0	530.7
75°	612.9	622.3	606.3	611.8	615.1	593.6	578.7	549.5	487.1	440.8	432.0
77.5°	480.0	485.5	476.7	474.4	476.7	461.2	449.6	427.0	380.1	342.0	336.5
80°	353.1	356.4	347.6	345.4	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°	49.7	49.7	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°	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9	2523.9
2.5°	2535.0	2529.5	2524.5	2507.4	2514.6	2496.9	2495.8	2489.2	2484.2	2474.8	2487.0
5°	2526.7	2515.7	2501.3	2480.9	2487.0	2466.0	2461.6	2453.9	2447.3	2435.1	2444.5
7.5°	2513.5	2495.3	2472.6	2446.7	2455.0	2429.1	2422.4	2414.2	2408.6	2394.3	2402.6
10°	2494.2	2468.2	2441.7	2410.3	2416.4	2388.2	2380.0	2371.1	2366.2	2353.5	2361.8
12.5°	2464.4	2432.9	2397.1	2362.9	2369.5	2343.0	2332.0	2322.6	2320.9	2310.4	2320.4
15°	2425.7	2382.2	2345.2	2308.8	2316.5	2285.6	2280.7	2271.3	2274.0	2266.9	2279.0
17.5°	2376.6	2326.4	2286.2	2247.0	2254.7	2228.8	2224.9	2220.5	2223.3	2222.2	2235.4
20°	2321.5	2266.3	2220.0	2181.4	2185.8	2165.4	2167.0	2165.9	2171.4	2177.5	2195.7
22.5°	2259.1	2196.8	2148.2	2108.5	2115.1	2097.5	2105.2	2107.4	2116.8	2130.6	2153.8
25°	2189.1	2122.3	2071.6	2034.1	2040.1	2028.5	2041.8	2047.3	2062.2	2085.4	2109.1
27.5°	2115.7	2045.1	1991.0	1955.2	1966.7	1955.2	1975.0	1986.1	2008.7	2034.1	2063.3
30°	2037.9	1964.5	1908.8	1876.8	1887.9	1877.4	1909.4	1924.3	1946.9	1981.6	2016.4
32.5°	1956.3	1879.0	1824.4	1799.6	1807.3	1805.7	1841.5	1858.1	1888.4	1928.1	1965.1
35°	1872.4	1791.9	1736.7	1715.7	1725.1	1727.3	1770.3	1789.7	1822.8	1870.8	1910.5
37.5°	1785.8	1703.6	1649.5	1632.4	1640.7	1649.0	1699.2	1718.5	1756.0	1808.4	1852.0
40°	1695.9	1613.7	1560.7	1546.9	1555.2	1564.0	1618.6	1645.1	1685.9	1742.8	1790.2
42.5°	1604.8	1522.6	1471.3	1461.4	1469.7	1486.8	1544.7	1569.5	1612.6	1675.5	1727.9
45°	1512.2	1426.6	1382.0	1374.2	1383.1	1402.9	1459.8	1489.5	1535.3	1604.3	1660.6
47.5°	1418.4	1335.1	1292.6	1287.6	1296.5	1318.5	1381.4	1408.4	1457.0	1530.4	1591.1
50°	1323.5	1242.4	1201.6	1199.9	1208.2	1231.9	1292.0	1324.0	1374.2	1456.4	1518.8
52.5°	1227.5	1149.7	1112.7	1112.7	1120.5	1144.7	1205.4	1238.5	1290.4	1377.0	1446.0
55°	1131.5	1057.6	1022.3	1025.0	1036.1	1057.0	1116.1	1150.8	1203.2	1293.1	1366.0
57.5°	1035.5	965.4	933.4	937.3	947.8	968.8	1026.7	1065.8	1113.3	1206.5	1281.0
60°	940.6	874.4	846.3	850.7	860.1	881.0	941.2	974.8	1022.3	1117.2	1191.6
62.5°	844.6	784.5	758.0	763.5	771.8	792.8	849.6	882.1	929.0	1022.3	1097.3
65°	749.7	694.0	671.4	676.9	684.6	703.9	757.5	788.9	833.6	924.6	996.3
67.5°	655.9	605.2	586.4	592.0	598.0	616.2	660.4	694.6	736.5	823.1	891.0
70°	563.3	518.0	501.5	507.0	512.5	529.1	567.7	599.1	637.7	717.2	780.1
72.5°	471.7	427.6	419.3	424.2	428.7	443.0	480.0	504.8	538.4	609.1	663.1
75°	382.3	344.2	338.7	343.7	347.6	358.6	389.5	411.0	439.1	500.4	544.5
77.5°	296.3	264.3	262.0	265.9	269.8	277.5	301.8	324.4	346.5	391.7	430.9
80°	215.7	189.8	189.8	193.6	192.5	201.9	219.0	237.2	253.2	285.8	314.5
82.5°	142.3	121.9	124.7	127.4	129.1	133.0	143.4	157.2	167.2	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°	2523.9	2523.9	2523.9
2.5°	2463.8	2477.1	2487.0
5°	2421.3	2432.4	2441.2
7.5°	2380.0	2389.9	2397.6
10°	2340.8	2351.8	2357.3
12.5°	2300.5	2313.2	2317.6
15°	2260.8	2273.5	2279.0
17.5°	2220.0	2236.5	2242.6
20°	2181.9	2202.9	2207.8
22.5°	2143.3	2164.8	2170.9
25°	2101.4	2126.7	2132.8
27.5°	2056.7	2087.0	2093.1
30°	2012.0	2045.1	2051.2
32.5°	1964.0	1999.8	2005.4
35°	1913.8	1949.6	1956.3
37.5°	1858.1	1897.2	1910.5
40°	1800.1	1842.6	1856.4
42.5°	1739.5	1785.8	1800.1
45°	1674.4	1725.1	1741.7
47.5°	1608.7	1666.1	1680.4
50°	1537.5	1598.8	1615.9
52.5°	1463.1	1529.8	1546.9
55°	1385.8	1453.1	1471.9
57.5°	1302.0	1371.5	1391.3
60°	1214.3	1283.8	1302.5
62.5°	1124.3	1187.2	1205.4
65°	1023.9	1083.0	1099.5
67.5°	917.4	971.5	985.3
70°	804.4	851.2	863.4
72.5°	686.3	718.8	734.8
75°	564.4	590.3	602.4
77.5°	441.9	460.1	470.0
80°	322.2	332.7	340.9
82.5°	210.7	215.2	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)