

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: P834691

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-40-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834691
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-3LO-40-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

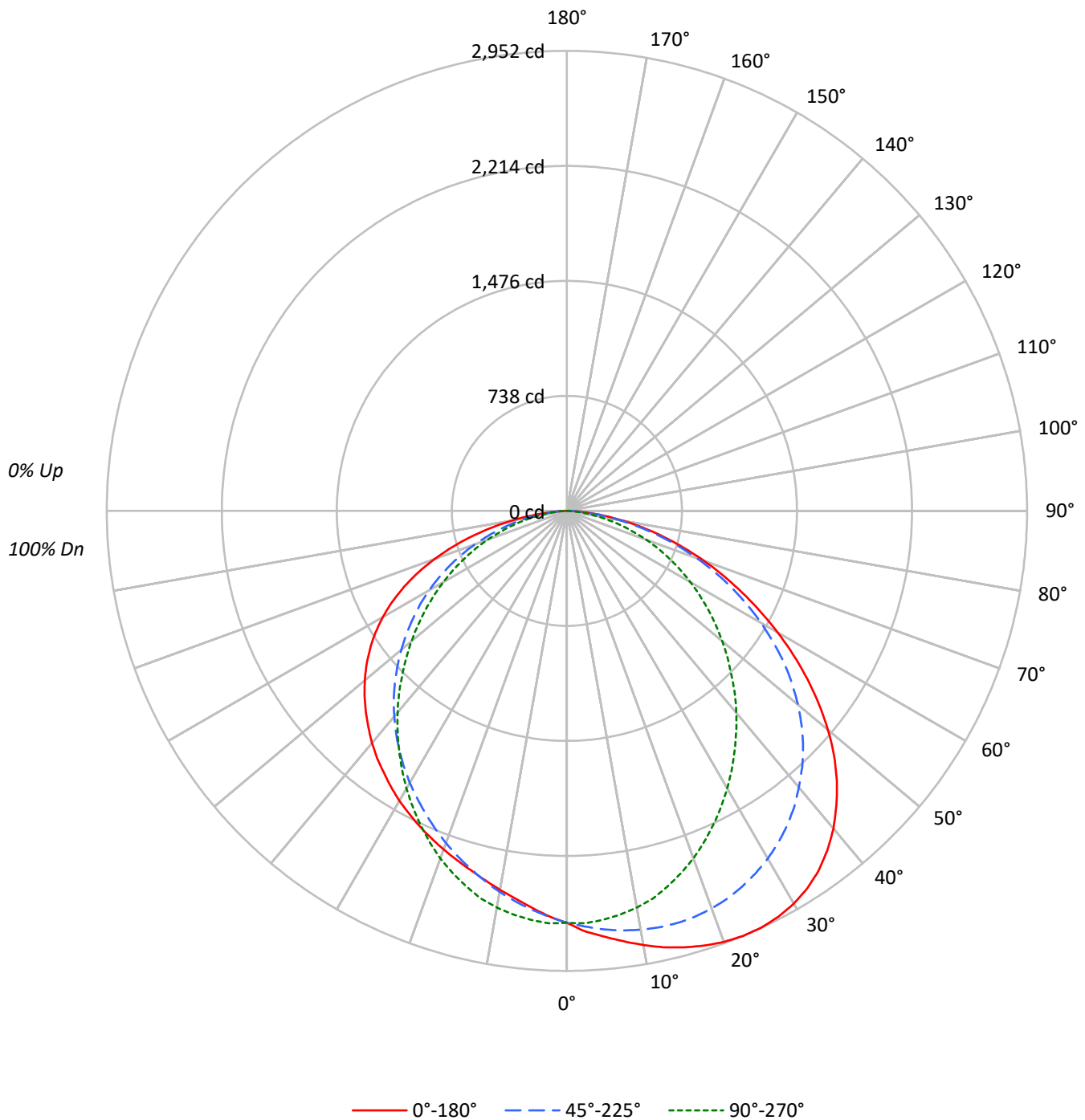
Lumens per Lamp: N/A
Luminaire Lumens: 7774.8 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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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°	3556	3556	3556
5°	3702	3558	3453
10°	3865	3531	3373
15°	4038	3475	3324
20°	4215	3398	3311
25°	4380	3299	3316
30°	4523	3196	3337
35°	4626	3082	3365
40°	4673	2968	3415
45°	4660	2843	3471
50°	4577	2723	3542
55°	4421	2598	3616
60°	4205	2464	3670
65°	3949	2314	3666
70°	3675	2134	3557
75°	3337	1874	3280
80°	2865	1540	2766
85°	2184	1053	1900

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.7	3.2
10°-20°	723.9	9.3
20°-30°	1109.0	14.3
30°-40°	1353.4	17.4
40°-50°	1415.4	18.2
50°-60°	1281.0	16.5
60°-70°	970.2	12.5
70°-80°	540.7	7.0
80°-90°	130.4	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°	2083.6	26.8
0°-40°	3437.1	44.2
0°-60°	6133.5	78.9
0°-90°	7774.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7774.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2643	2643	2643	2643	2643	
5°	2741	2696	2634	2570	2556	264
15°	2899	2738	2495	2378	2387	822
25°	2950	2660	2222	2144	2234	1361
35°	2816	2463	1876	1874	2049	1759
45°	2449	2142	1494	1560	1824	1884
55°	1885	1701	1108	1205	1541	1682
65°	1240	1166	727	826	1151	1230
75°	642	606	360	430	631	681
85°	142	125	68	91	123	170
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°	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1
2.5°	2701.5	2688.8	2678.4	2682.4	2684.7	2676.6	2669.7	2670.8	2663.9	2677.2	2646.0
5°	2741.3	2729.8	2717.6	2722.3	2717.6	2705.5	2695.7	2692.8	2674.3	2681.8	2650.0
7.5°	2785.8	2773.1	2755.2	2760.4	2750.6	2728.0	2715.3	2707.8	2679.5	2680.1	2644.8
10°	2828.6	2817.6	2793.3	2796.8	2778.9	2748.8	2728.6	2718.2	2678.4	2672.6	2636.2
12.5°	2868.4	2853.4	2827.4	2829.1	2803.1	2763.3	2737.3	2722.3	2670.3	2652.9	2617.1
15°	2899.0	2884.6	2853.4	2852.8	2819.3	2767.3	2737.9	2717.1	2651.2	2624.0	2586.5
17.5°	2925.0	2911.8	2873.0	2871.9	2831.5	2765.6	2730.3	2704.3	2623.5	2590.0	2548.4
20°	2943.5	2930.2	2886.9	2882.9	2834.3	2756.9	2714.7	2681.8	2587.1	2547.2	2501.0
22.5°	2952.2	2938.9	2889.8	2884.0	2827.4	2739.6	2692.2	2653.5	2545.5	2493.5	2445.5
25°	2950.5	2937.8	2882.3	2876.5	2814.1	2713.6	2660.4	2616.0	2492.9	2431.7	2384.3
27.5°	2936.0	2926.2	2867.8	2860.3	2789.9	2678.4	2621.7	2572.6	2434.6	2366.4	2315.0
30°	2911.2	2903.7	2841.8	2834.9	2759.8	2639.6	2576.7	2520.1	2371.6	2294.7	2242.7
32.5°	2871.3	2864.4	2802.0	2795.6	2719.4	2590.0	2524.1	2465.7	2302.8	2217.9	2165.9
35°	2816.4	2812.4	2751.7	2744.8	2667.4	2533.3	2463.4	2399.3	2231.2	2135.3	2085.6
37.5°	2744.2	2744.2	2685.9	2678.4	2602.7	2464.0	2395.3	2327.1	2150.3	2048.6	1999.5
40°	2660.4	2668.0	2608.4	2600.9	2527.6	2389.5	2314.4	2242.7	2063.1	1957.3	1909.4
42.5°	2559.9	2566.9	2517.2	2510.2	2441.5	2303.4	2233.5	2155.5	1971.8	1864.3	1814.6
45°	2449.0	2458.2	2413.8	2408.6	2344.4	2209.2	2142.2	2063.1	1876.5	1767.3	1718.7
47.5°	2325.4	2337.5	2298.8	2295.9	2236.4	2112.8	2042.8	1962.5	1776.5	1666.2	1620.5
50°	2186.7	2204.0	2172.3	2172.3	2119.1	1996.1	1935.4	1855.1	1672.5	1562.2	1517.1
52.5°	2038.2	2060.2	2036.5	2037.1	1993.7	1883.4	1820.4	1741.9	1563.9	1455.3	1413.7
55°	1884.6	1905.9	1890.9	1893.2	1859.1	1758.6	1701.4	1623.4	1453.0	1347.3	1308.0
57.5°	1723.9	1747.1	1737.2	1741.9	1718.2	1628.0	1568.5	1500.4	1338.6	1234.0	1200.5
60°	1562.8	1584.7	1579.5	1585.9	1570.8	1492.9	1438.5	1368.1	1223.6	1123.1	1093.6
62.5°	1399.8	1420.1	1418.9	1425.8	1417.7	1353.0	1304.5	1244.4	1104.6	1012.2	985.0
65°	1240.4	1257.7	1256.6	1264.1	1262.3	1210.3	1166.4	1111.6	985.6	900.7	877.0
67.5°	1085.6	1100.0	1096.0	1104.6	1106.9	1065.3	1027.2	978.1	872.4	789.8	769.5
70°	934.2	944.0	938.8	944.6	949.8	918.6	886.2	842.9	751.6	678.8	662.1
72.5°	785.7	792.6	784.6	790.3	795.0	772.4	745.8	708.3	632.6	569.6	555.8
75°	641.9	651.7	634.9	640.7	644.2	621.6	606.0	575.4	510.1	461.6	452.4
77.5°	502.6	508.4	499.2	496.8	499.2	483.0	470.8	447.2	398.1	358.2	352.4
80°	369.7	373.2	364.0	361.7	363.4	351.8	342.6	325.3	290.6	260.6	258.2
82.5°	247.8	249.6	241.5	239.2	240.3	236.9	225.9	213.8	197.6	172.2	171.6
85°	141.5	141.5	135.8	133.5	134.6	128.8	124.8	118.4	112.1	94.7	95.9
87.5°	52.0	52.0	49.1	48.5	54.3	48.0	46.2	43.3	45.1	35.8	38.1
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°	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1	2643.1
2.5°	2654.7	2648.9	2643.7	2625.8	2633.3	2614.8	2613.6	2606.7	2601.5	2591.7	2604.4
5°	2646.0	2634.4	2619.4	2598.0	2604.4	2582.4	2577.8	2569.7	2562.8	2550.1	2559.9
7.5°	2632.1	2613.1	2589.4	2562.2	2570.9	2543.7	2536.8	2528.1	2522.4	2507.3	2516.0
10°	2611.9	2584.8	2557.0	2524.1	2530.5	2501.0	2492.3	2483.1	2477.9	2464.6	2473.3
12.5°	2580.7	2547.8	2510.2	2474.4	2481.3	2453.6	2442.1	2432.2	2430.5	2419.5	2429.9
15°	2540.3	2494.6	2455.9	2417.8	2425.9	2393.5	2388.3	2378.5	2381.4	2373.9	2386.6
17.5°	2488.9	2436.3	2394.1	2353.1	2361.2	2334.0	2330.0	2325.4	2328.2	2327.1	2341.0
20°	2431.1	2373.3	2324.8	2284.3	2289.0	2267.6	2269.3	2268.2	2273.9	2280.3	2299.4
22.5°	2365.8	2300.5	2249.7	2208.1	2215.0	2196.5	2204.6	2206.9	2216.7	2231.2	2255.5
25°	2292.4	2222.5	2169.4	2130.1	2136.4	2124.3	2138.2	2144.0	2159.6	2183.8	2208.7
27.5°	2215.6	2141.6	2085.0	2047.5	2059.6	2047.5	2068.3	2079.8	2103.5	2130.1	2160.7
30°	2134.1	2057.3	1998.9	1965.4	1977.0	1966.0	1999.5	2015.1	2038.8	2075.2	2111.6
32.5°	2048.6	1967.7	1910.6	1884.6	1892.6	1890.9	1928.5	1945.8	1977.6	2019.2	2057.9
35°	1960.8	1876.5	1818.7	1796.7	1806.6	1808.9	1853.9	1874.2	1908.8	1959.1	2000.7
37.5°	1870.1	1784.0	1727.4	1709.5	1718.2	1726.8	1779.4	1799.6	1838.9	1893.8	1939.4
40°	1775.9	1689.9	1634.4	1620.0	1628.6	1637.9	1695.1	1722.8	1765.5	1825.0	1874.7
42.5°	1680.6	1594.5	1540.8	1530.4	1539.1	1557.0	1617.6	1643.6	1688.7	1754.6	1809.4
45°	1583.6	1494.0	1447.2	1439.1	1448.4	1469.2	1528.7	1559.9	1607.8	1680.0	1739.0
47.5°	1485.3	1398.1	1353.6	1348.4	1357.7	1380.8	1446.6	1474.9	1525.8	1602.6	1666.2
50°	1386.0	1301.0	1258.3	1256.6	1265.2	1290.1	1353.0	1386.5	1439.1	1525.2	1590.5
52.5°	1285.4	1204.0	1165.3	1165.3	1173.4	1198.8	1262.3	1297.0	1351.3	1442.0	1514.2
55°	1184.9	1107.5	1070.5	1073.4	1085.0	1106.9	1168.7	1205.1	1260.0	1354.2	1430.5
57.5°	1084.4	1011.0	977.5	981.6	992.5	1014.5	1075.2	1116.2	1165.9	1263.5	1341.5
60°	985.0	915.7	886.2	890.9	900.7	922.6	985.6	1020.8	1070.5	1169.9	1247.9
62.5°	884.5	821.5	793.8	799.6	808.2	830.2	889.7	923.8	972.9	1070.5	1149.1
65°	785.1	726.8	703.1	708.9	717.0	737.2	793.2	826.2	872.9	968.3	1043.4
67.5°	686.9	633.8	614.1	619.9	626.3	645.3	691.5	727.4	771.3	862.0	933.0
70°	589.9	542.5	525.2	530.9	536.7	554.0	594.5	627.4	667.9	751.0	816.9
72.5°	494.0	447.7	439.1	444.3	448.9	463.9	502.6	528.6	563.9	637.8	694.4
75°	400.4	360.5	354.7	359.9	364.0	375.5	407.9	430.4	459.9	524.0	570.2
77.5°	310.2	276.7	274.4	278.5	282.5	290.6	316.0	339.7	362.8	410.2	451.2
80°	225.9	198.7	198.7	202.8	201.6	211.4	229.4	248.4	265.2	299.3	329.3
82.5°	149.1	127.7	130.6	133.5	135.2	139.2	150.2	164.7	175.1	195.9	215.5
85°	82.6	68.2	71.1	73.4	72.2	76.8	82.6	91.3	96.5	106.3	116.7
87.5°	30.6	25.4	26.0	27.7	28.9	31.2	31.2	36.4	37.0	38.1	40.4
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):

	160°	170°	180°
0°	2643.1	2643.1	2643.1
2.5°	2580.1	2594.0	2604.4
5°	2535.7	2547.2	2556.5
7.5°	2492.3	2502.7	2510.8
10°	2451.3	2462.9	2468.6
12.5°	2409.1	2422.4	2427.0
15°	2367.5	2380.8	2386.6
17.5°	2324.8	2342.1	2348.5
20°	2284.9	2306.9	2312.1
22.5°	2244.5	2267.0	2273.4
25°	2200.6	2227.1	2233.5
27.5°	2153.8	2185.5	2191.9
30°	2107.0	2141.6	2148.0
32.5°	2056.7	2094.3	2100.0
35°	2004.1	2041.7	2048.6
37.5°	1945.8	1986.8	2000.7
40°	1885.1	1929.6	1944.1
42.5°	1821.6	1870.1	1885.1
45°	1753.4	1806.6	1823.9
47.5°	1684.7	1744.7	1759.8
50°	1610.1	1674.3	1692.2
52.5°	1532.1	1602.0	1620.0
55°	1451.3	1521.7	1541.4
57.5°	1363.4	1436.2	1457.0
60°	1271.6	1344.4	1364.0
62.5°	1177.4	1243.3	1262.3
65°	1072.3	1134.1	1151.4
67.5°	960.8	1017.4	1031.8
70°	842.3	891.4	904.1
72.5°	718.7	752.8	769.5
75°	591.0	618.2	630.9
77.5°	462.8	481.8	492.2
80°	337.4	348.4	357.0
82.5°	220.7	225.3	231.7
85°	119.0	119.0	123.1
87.5°	40.4	38.7	40.4
90°	0.0	0.0	0.0

(END OF REPORT)