

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: P834673

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834673
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-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

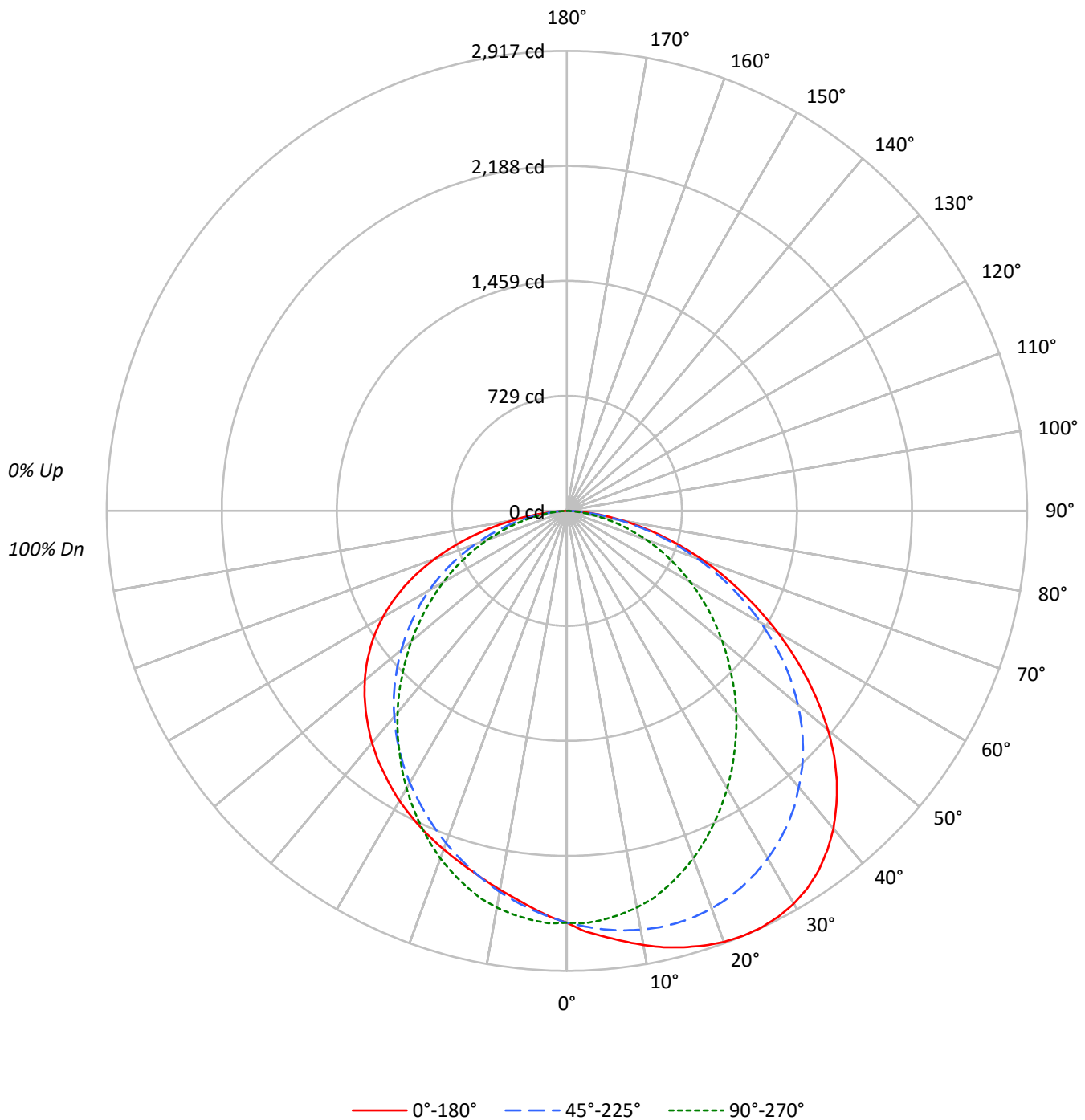
Lumens per Lamp: N/A
Luminaire Lumens: 7682.2 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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°	3514	3514	3514
5°	3658	3516	3412
10°	3819	3489	3333
15°	3990	3433	3285
20°	4165	3358	3271
25°	4328	3260	3276
30°	4469	3158	3297
35°	4571	3045	3325
40°	4617	2933	3374
45°	4604	2809	3429
50°	4523	2691	3500
55°	4368	2567	3573
60°	4155	2435	3627
65°	3902	2286	3622
70°	3631	2109	3515
75°	3297	1852	3241
80°	2830	1522	2734
85°	2160	1041	1877

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.7	3.2
10°-20°	715.3	9.3
20°-30°	1095.8	14.3
30°-40°	1337.3	17.4
40°-50°	1398.6	18.2
50°-60°	1265.8	16.5
60°-70°	958.6	12.5
70°-80°	534.2	7.0
80°-90°	128.9	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°	2058.8	26.8
0°-40°	3396.2	44.2
0°-60°	6060.5	78.9
0°-90°	7682.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7682.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2612	2612	2612	2612	2612	
5°	2709	2664	2603	2539	2526	261
15°	2864	2705	2465	2350	2358	812
25°	2915	2629	2196	2118	2207	1345
35°	2783	2434	1854	1852	2024	1738
45°	2420	2117	1476	1541	1802	1862
55°	1862	1681	1094	1191	1523	1662
65°	1226	1152	718	816	1138	1216
75°	634	599	356	425	623	673
85°	140	123	67	90	122	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°	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6
2.5°	2669.3	2656.7	2646.5	2650.5	2652.7	2644.8	2637.9	2639.0	2632.2	2645.3	2614.5
5°	2708.7	2697.3	2685.3	2689.9	2685.3	2673.3	2663.6	2660.7	2642.5	2649.9	2618.5
7.5°	2752.6	2740.1	2722.4	2727.5	2717.8	2695.6	2683.0	2675.6	2647.6	2648.2	2613.4
10°	2794.9	2784.0	2760.1	2763.5	2745.8	2716.1	2696.1	2685.9	2646.5	2640.8	2604.8
12.5°	2834.3	2819.4	2793.7	2795.5	2769.8	2730.4	2704.7	2689.9	2638.5	2621.3	2586.0
15°	2864.5	2850.3	2819.4	2818.9	2785.8	2734.4	2705.3	2684.7	2619.6	2592.8	2555.7
17.5°	2890.2	2877.1	2838.8	2837.7	2797.7	2732.7	2697.8	2672.2	2592.2	2559.1	2518.0
20°	2908.5	2895.4	2852.5	2848.5	2800.6	2724.1	2682.4	2649.9	2556.3	2516.9	2471.2
22.5°	2917.1	2903.9	2855.4	2849.7	2793.7	2707.0	2660.2	2621.9	2515.2	2463.8	2416.4
25°	2915.3	2902.8	2848.0	2842.3	2780.6	2681.3	2628.8	2584.8	2463.2	2402.7	2355.9
27.5°	2901.1	2891.4	2833.7	2826.3	2756.6	2646.5	2590.5	2542.0	2405.6	2338.2	2287.4
30°	2876.5	2869.1	2808.0	2801.2	2727.0	2608.2	2546.0	2490.1	2343.3	2267.4	2216.0
32.5°	2837.1	2830.3	2768.6	2762.3	2687.0	2559.1	2494.0	2436.4	2275.4	2191.5	2140.1
35°	2782.9	2778.9	2719.0	2712.1	2635.6	2503.2	2434.1	2370.7	2204.6	2109.9	2060.8
37.5°	2711.5	2711.5	2653.9	2646.5	2571.7	2434.7	2366.7	2299.4	2124.7	2024.2	1975.7
40°	2628.8	2636.2	2577.4	2570.0	2497.5	2361.0	2286.8	2216.0	2038.5	1934.0	1886.7
42.5°	2529.4	2536.3	2487.2	2480.3	2412.4	2276.0	2206.9	2129.8	1948.3	1842.1	1793.0
45°	2419.8	2429.0	2385.0	2379.9	2316.5	2182.9	2116.7	2038.5	1854.1	1746.2	1698.3
47.5°	2297.7	2309.7	2271.4	2268.6	2209.8	2087.6	2018.5	1939.2	1755.4	1646.3	1601.2
50°	2160.7	2177.8	2146.4	2146.4	2093.9	1972.3	1912.4	1833.0	1652.6	1543.6	1499.1
52.5°	2014.0	2035.7	2012.3	2012.8	1970.0	1861.0	1798.8	1721.1	1545.3	1438.0	1396.9
55°	1862.1	1883.2	1868.4	1870.7	1837.0	1737.7	1681.2	1604.1	1435.7	1331.2	1292.4
57.5°	1703.4	1726.3	1716.5	1721.1	1697.7	1608.7	1549.9	1482.5	1322.7	1219.3	1186.2
60°	1544.2	1565.8	1560.7	1567.0	1552.1	1475.1	1421.4	1351.8	1209.1	1109.7	1080.6
62.5°	1383.2	1403.2	1402.0	1408.9	1400.9	1336.9	1289.0	1229.6	1091.5	1000.1	973.3
65°	1225.6	1242.7	1241.6	1249.0	1247.3	1195.9	1152.5	1098.3	973.9	890.0	866.6
67.5°	1072.6	1086.9	1082.9	1091.5	1093.8	1052.6	1015.0	966.5	862.0	780.4	760.4
70°	923.1	932.8	927.6	933.3	938.5	907.7	875.7	832.9	742.7	670.8	654.2
72.5°	776.4	783.2	775.2	780.9	785.5	763.2	737.0	699.9	625.1	562.9	549.2
75°	634.2	643.9	627.4	633.1	636.5	614.2	598.8	568.6	504.1	456.1	447.0
77.5°	496.6	502.3	493.2	490.9	493.2	477.2	465.2	441.8	393.3	353.9	348.2
80°	365.3	368.8	359.6	357.4	359.1	347.6	338.5	321.4	287.1	257.5	255.2
82.5°	244.9	246.6	238.6	236.3	237.5	234.0	223.2	211.2	195.2	170.1	169.5
85°	139.9	139.9	134.2	131.9	133.0	127.3	123.3	117.0	110.7	93.6	94.8
87.5°	51.4	51.4	48.5	48.0	53.7	47.4	45.7	42.8	44.5	35.4	37.7
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°	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6	2611.6
2.5°	2623.1	2617.4	2612.2	2594.5	2601.9	2583.7	2582.5	2575.7	2570.5	2560.8	2573.4
5°	2614.5	2603.1	2588.2	2567.1	2573.4	2551.7	2547.1	2539.1	2532.3	2519.7	2529.4
7.5°	2600.8	2582.0	2558.6	2531.7	2540.3	2513.5	2506.6	2498.0	2492.3	2477.5	2486.1
10°	2580.8	2554.0	2526.6	2494.0	2500.3	2471.2	2462.7	2453.5	2448.4	2435.3	2443.8
12.5°	2550.0	2517.5	2480.3	2445.0	2451.8	2424.4	2413.0	2403.3	2401.6	2390.7	2401.0
15°	2510.0	2464.9	2426.7	2389.0	2397.0	2365.0	2359.9	2350.2	2353.0	2345.6	2358.2
17.5°	2459.2	2407.3	2365.6	2325.1	2333.1	2306.2	2302.2	2297.7	2300.5	2299.4	2313.1
20°	2402.1	2345.1	2297.1	2257.1	2261.7	2240.6	2242.3	2241.2	2246.9	2253.2	2272.0
22.5°	2337.6	2273.1	2222.9	2181.8	2188.6	2170.4	2178.4	2180.7	2190.4	2204.6	2228.6
25°	2265.1	2196.1	2143.5	2104.7	2111.0	2099.0	2112.7	2118.4	2133.8	2157.8	2182.4
27.5°	2189.2	2116.1	2060.2	2023.1	2035.1	2023.1	2043.6	2055.1	2078.5	2104.7	2135.0
30°	2108.7	2032.8	1975.1	1942.0	1953.5	1942.6	1975.7	1991.1	2014.5	2050.5	2086.5
32.5°	2024.2	1944.3	1887.8	1862.1	1870.1	1868.4	1905.5	1922.6	1954.0	1995.1	2033.4
35°	1937.5	1854.1	1797.0	1775.3	1785.1	1787.3	1831.9	1851.8	1886.1	1935.8	1976.9
37.5°	1847.8	1762.8	1706.8	1689.1	1697.7	1706.3	1758.2	1778.2	1817.0	1871.3	1916.3
40°	1754.8	1669.7	1614.9	1600.7	1609.2	1618.4	1674.9	1702.3	1744.5	1803.3	1852.4
42.5°	1660.6	1575.5	1522.5	1512.2	1520.7	1538.4	1598.4	1624.1	1668.6	1733.7	1787.9
45°	1564.7	1476.2	1430.0	1422.0	1431.1	1451.7	1510.5	1541.3	1588.7	1660.0	1718.3
47.5°	1467.7	1381.5	1337.5	1332.4	1341.5	1364.3	1429.4	1457.4	1507.6	1583.5	1646.3
50°	1369.5	1285.6	1243.3	1241.6	1250.2	1274.7	1336.9	1370.0	1422.0	1507.0	1571.6
52.5°	1270.1	1189.7	1151.4	1151.4	1159.4	1184.5	1247.3	1281.6	1335.2	1424.8	1496.2
55°	1170.8	1094.3	1057.8	1060.6	1072.1	1093.8	1154.8	1190.8	1245.0	1338.1	1413.4
57.5°	1071.5	999.0	965.9	969.9	980.7	1002.4	1062.4	1102.9	1152.0	1248.5	1325.5
60°	973.3	904.8	875.7	880.3	890.0	911.6	973.9	1008.7	1057.8	1156.0	1233.0
62.5°	874.0	811.8	784.3	790.1	798.6	820.3	879.1	912.8	961.3	1057.8	1135.4
65°	775.8	718.1	694.7	700.4	708.4	728.4	783.8	816.3	862.6	956.7	1031.0
67.5°	678.7	626.2	606.8	612.5	618.8	637.6	683.3	718.7	762.1	851.7	921.9
70°	582.8	536.0	518.9	524.6	530.3	547.4	587.4	619.9	659.9	742.1	807.2
72.5°	488.1	442.4	433.8	439.0	443.6	458.4	496.6	522.3	557.2	630.2	686.2
75°	395.6	356.2	350.5	355.6	359.6	371.1	403.0	425.3	454.4	517.8	563.4
77.5°	306.5	273.4	271.2	275.2	279.1	287.1	312.3	335.7	358.5	405.3	445.8
80°	223.2	196.4	196.4	200.4	199.2	208.9	226.6	245.5	262.0	295.7	325.4
82.5°	147.3	126.2	129.0	131.9	133.6	137.6	148.4	162.7	173.0	193.5	212.9
85°	81.6	67.4	70.2	72.5	71.4	75.9	81.6	90.2	95.3	105.0	115.3
87.5°	30.3	25.1	25.7	27.4	28.5	30.8	30.8	36.0	36.5	37.7	40.0
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°	2611.6	2611.6	2611.6
2.5°	2549.4	2563.1	2573.4
5°	2505.5	2516.9	2526.0
7.5°	2462.7	2472.9	2480.9
10°	2422.1	2433.5	2439.2
12.5°	2380.5	2393.6	2398.1
15°	2339.3	2352.5	2358.2
17.5°	2297.1	2314.2	2320.5
20°	2257.7	2279.4	2284.5
22.5°	2217.8	2240.0	2246.3
25°	2174.4	2200.6	2206.9
27.5°	2128.1	2159.5	2165.8
30°	2081.9	2116.1	2122.4
32.5°	2032.2	2069.3	2075.0
35°	1980.3	2017.4	2024.2
37.5°	1922.6	1963.2	1976.9
40°	1862.7	1906.6	1920.9
42.5°	1799.9	1847.8	1862.7
45°	1732.5	1785.1	1802.2
47.5°	1664.6	1724.0	1738.8
50°	1591.0	1654.3	1672.0
52.5°	1513.9	1583.0	1600.7
55°	1434.0	1503.6	1523.0
57.5°	1347.2	1419.1	1439.7
60°	1256.4	1328.4	1347.8
62.5°	1163.4	1228.5	1247.3
65°	1059.5	1120.6	1137.7
67.5°	949.3	1005.3	1019.5
70°	832.3	880.8	893.4
72.5°	710.1	743.8	760.4
75°	584.0	610.8	623.4
77.5°	457.3	476.1	486.4
80°	333.4	344.2	352.8
82.5°	218.1	222.6	228.9
85°	117.6	117.6	121.6
87.5°	40.0	38.2	40.0
90°	0.0	0.0	0.0

(END OF REPORT)