

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: P834655

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834655
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

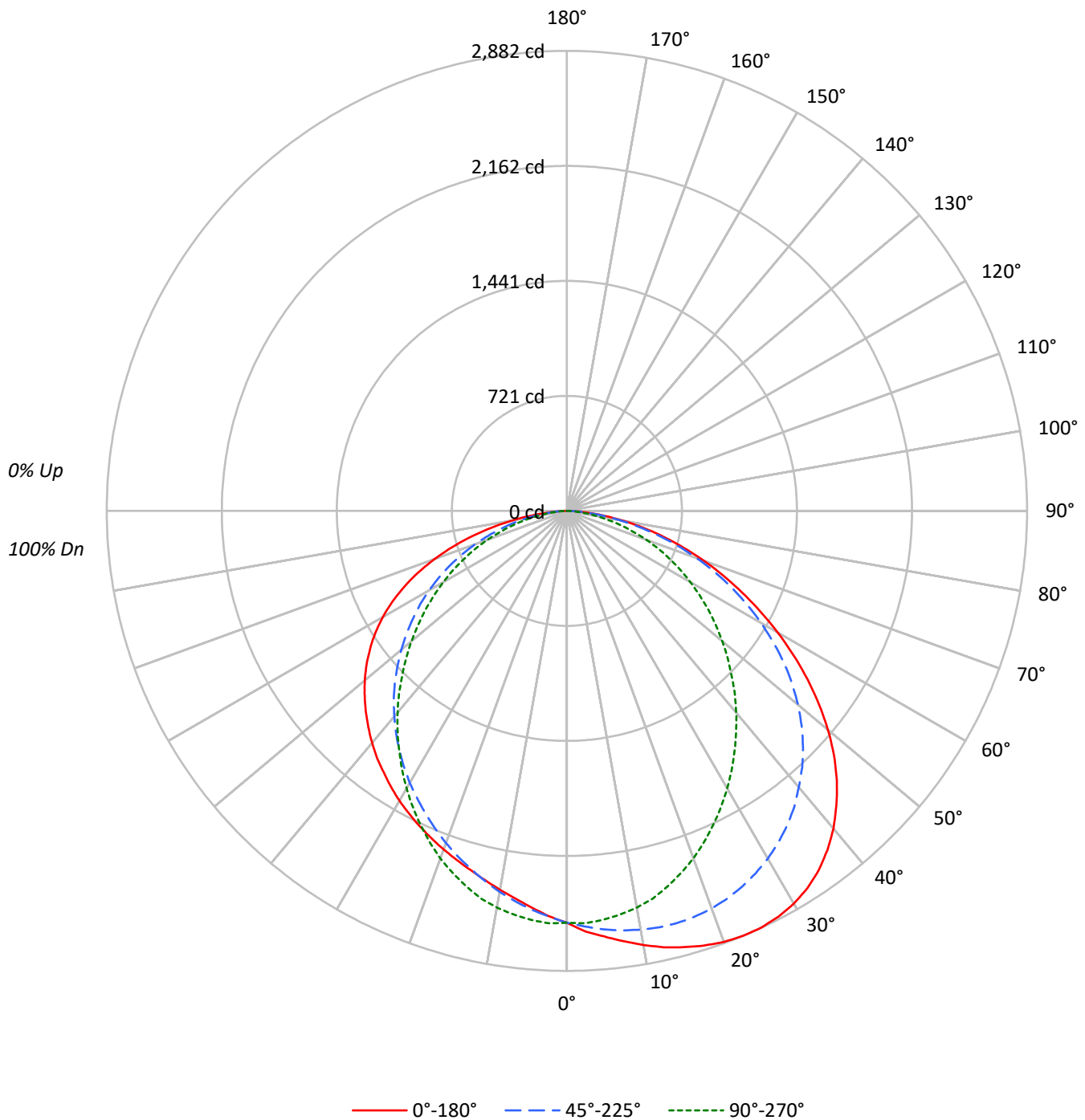
Lumens per Lamp: N/A
Luminaire Lumens: 7589.7 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	3472	3472	3472
5°	3614	3473	3371
10°	3772	3447	3293
15°	3942	3392	3245
20°	4114	3317	3232
25°	4276	3221	3237
30°	4415	3120	3258
35°	4516	3009	3285
40°	4562	2897	3333
45°	4549	2775	3388
50°	4468	2659	3458
55°	4316	2536	3530
60°	4105	2405	3583
65°	3855	2259	3578
70°	3587	2083	3472
75°	3257	1829	3202
80°	2796	1503	2700
85°	2133	1027	1854

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.7	3.2
10°-20°	706.7	9.3
20°-30°	1082.6	14.3
30°-40°	1321.2	17.4
40°-50°	1381.7	18.2
50°-60°	1250.5	16.5
60°-70°	947.1	12.5
70°-80°	527.8	7.0
80°-90°	127.3	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°	2034.0	26.8
0°-40°	3355.2	44.2
0°-60°	5987.5	78.9
0°-90°	7589.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7589.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2580	2580	2580	2580	2580	
5°	2676	2632	2572	2509	2496	258
15°	2830	2673	2435	2322	2330	803
25°	2880	2597	2170	2093	2180	1329
35°	2749	2405	1832	1830	2000	1717
45°	2391	2091	1458	1523	1780	1839
55°	1840	1661	1081	1176	1505	1642
65°	1211	1139	710	806	1124	1201
75°	627	592	352	420	616	665
85°	138	122	66	89	120	166
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°	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2
2.5°	2637.1	2624.7	2614.6	2618.5	2620.8	2612.9	2606.1	2607.3	2600.5	2613.5	2583.0
5°	2676.1	2664.8	2652.9	2657.4	2652.9	2641.1	2631.5	2628.7	2610.6	2618.0	2586.9
7.5°	2719.5	2707.1	2689.6	2694.7	2685.1	2663.1	2650.7	2643.3	2615.7	2616.3	2581.9
10°	2761.2	2750.5	2726.8	2730.2	2712.7	2683.4	2663.6	2653.5	2614.6	2608.9	2573.4
12.5°	2800.1	2785.5	2760.1	2761.8	2736.4	2697.5	2672.1	2657.4	2606.7	2589.8	2554.8
15°	2830.0	2815.9	2785.5	2784.9	2752.2	2701.4	2672.7	2652.4	2588.1	2561.6	2524.9
17.5°	2855.4	2842.4	2804.6	2803.5	2764.0	2699.7	2665.3	2640.0	2561.0	2528.3	2487.7
20°	2873.4	2860.5	2818.2	2814.2	2766.9	2691.3	2650.1	2618.0	2525.5	2486.6	2441.4
22.5°	2881.9	2868.9	2821.0	2815.4	2760.1	2674.4	2628.1	2590.3	2484.9	2434.1	2387.3
25°	2880.2	2867.8	2813.7	2808.0	2747.1	2649.0	2597.1	2553.7	2433.5	2373.8	2327.5
27.5°	2866.1	2856.5	2799.6	2792.2	2723.4	2614.6	2559.3	2511.4	2376.6	2310.0	2259.8
30°	2841.9	2834.5	2774.2	2767.4	2694.1	2576.8	2515.3	2460.1	2315.1	2240.1	2189.3
32.5°	2802.9	2796.2	2735.3	2729.1	2654.6	2528.3	2464.0	2407.0	2248.0	2165.1	2114.3
35°	2749.4	2745.4	2686.2	2679.4	2603.9	2473.0	2404.8	2342.2	2178.1	2084.4	2035.9
37.5°	2678.9	2678.9	2621.9	2614.6	2540.7	2405.3	2338.2	2271.7	2099.1	1999.9	1951.9
40°	2597.1	2604.4	2546.3	2539.0	2467.4	2332.6	2259.3	2189.3	2013.9	1910.7	1863.9
42.5°	2499.0	2505.7	2457.2	2450.5	2383.4	2248.6	2180.3	2104.2	1924.8	1819.9	1771.4
45°	2390.7	2399.7	2356.3	2351.2	2288.6	2156.6	2091.2	2013.9	1831.8	1725.2	1677.8
47.5°	2270.0	2281.8	2244.1	2241.2	2183.1	2062.5	1994.2	1915.8	1734.2	1626.5	1581.9
50°	2134.6	2151.6	2120.5	2120.5	2068.7	1948.5	1889.3	1810.9	1632.7	1525.0	1481.0
52.5°	1989.7	2011.1	1988.0	1988.6	1946.3	1838.6	1777.1	1700.4	1526.7	1420.6	1380.0
55°	1839.7	1860.5	1845.9	1848.1	1814.9	1716.7	1660.9	1584.8	1418.4	1315.2	1276.8
57.5°	1682.9	1705.5	1695.9	1700.4	1677.3	1589.3	1531.2	1464.6	1306.7	1204.6	1171.9
60°	1525.5	1547.0	1541.9	1548.1	1533.4	1457.3	1404.3	1335.5	1194.5	1096.4	1067.6
62.5°	1366.5	1386.2	1385.1	1391.9	1384.0	1320.8	1273.5	1214.8	1078.3	988.1	961.6
65°	1210.9	1227.8	1226.6	1234.0	1232.3	1181.5	1138.7	1085.1	962.1	879.2	856.1
67.5°	1059.7	1073.8	1069.9	1078.3	1080.6	1040.0	1002.7	954.8	851.6	771.0	751.2
70°	911.9	921.5	916.5	922.1	927.2	896.7	865.1	822.8	733.7	662.7	646.3
72.5°	767.0	773.8	765.9	771.5	776.0	754.0	728.1	691.4	617.6	556.1	542.5
75°	626.6	636.2	619.8	625.4	628.8	606.8	591.6	561.7	498.0	450.6	441.6
77.5°	490.7	496.3	487.3	485.0	487.3	471.5	459.6	436.5	388.6	349.7	344.0
80°	360.9	364.3	355.3	353.0	354.7	343.5	334.4	317.5	283.7	254.4	252.1
82.5°	241.9	243.6	235.7	233.5	234.6	231.2	220.5	208.7	192.9	168.1	167.5
85°	138.2	138.2	132.5	130.3	131.4	125.8	121.8	115.6	109.4	92.5	93.6
87.5°	50.8	50.8	47.9	47.4	53.0	46.8	45.1	42.3	44.0	35.0	37.2
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°	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2	2580.2
2.5°	2591.5	2585.8	2580.7	2563.3	2570.6	2552.5	2551.4	2544.6	2539.6	2530.0	2542.4
5°	2583.0	2571.7	2557.1	2536.2	2542.4	2521.0	2516.5	2508.6	2501.8	2489.4	2499.0
7.5°	2569.5	2550.9	2527.7	2501.2	2509.7	2483.2	2476.4	2467.9	2462.3	2447.6	2456.1
10°	2549.7	2523.2	2496.1	2464.0	2470.2	2441.4	2433.0	2424.0	2418.9	2405.9	2414.4
12.5°	2519.3	2487.1	2450.5	2415.5	2422.3	2395.2	2383.9	2374.3	2372.6	2361.9	2372.1
15°	2479.8	2435.2	2397.5	2360.2	2368.1	2336.5	2331.5	2321.9	2324.7	2317.4	2329.8
17.5°	2429.6	2378.3	2337.1	2297.1	2305.0	2278.5	2274.5	2270.0	2272.8	2271.7	2285.2
20°	2373.2	2316.8	2269.4	2230.0	2234.5	2213.6	2215.3	2214.2	2219.8	2226.0	2244.6
22.5°	2309.5	2245.7	2196.1	2155.5	2162.3	2144.2	2152.1	2154.4	2164.0	2178.1	2201.8
25°	2237.8	2169.6	2117.7	2079.4	2085.6	2073.7	2087.3	2092.9	2108.1	2131.8	2156.1
27.5°	2162.8	2090.7	2035.4	1998.7	2010.6	1998.7	2019.0	2030.3	2053.4	2079.4	2109.3
30°	2083.3	2008.3	1951.3	1918.6	1929.9	1919.2	1951.9	1967.1	1990.3	2025.8	2061.3
32.5°	1999.9	1920.9	1865.1	1839.7	1847.6	1845.9	1882.5	1899.5	1930.5	1971.1	2008.9
35°	1914.1	1831.8	1775.4	1754.0	1763.5	1765.8	1809.8	1829.5	1863.4	1912.4	1953.0
37.5°	1825.6	1741.6	1686.3	1668.8	1677.3	1685.7	1737.0	1756.8	1795.1	1848.7	1893.3
40°	1733.7	1649.6	1595.5	1581.4	1589.8	1598.9	1654.7	1681.8	1723.5	1781.6	1830.1
42.5°	1640.6	1556.6	1504.1	1494.0	1502.4	1519.9	1579.1	1604.5	1648.5	1712.8	1766.4
45°	1545.9	1458.4	1412.8	1404.9	1413.9	1434.2	1492.3	1522.7	1569.5	1640.0	1697.6
47.5°	1450.0	1364.8	1321.4	1316.3	1325.3	1347.9	1412.2	1439.8	1489.5	1564.5	1626.5
50°	1353.0	1270.1	1228.3	1226.6	1235.1	1259.4	1320.8	1353.5	1404.9	1488.9	1552.6
52.5°	1254.8	1175.3	1137.5	1137.5	1145.4	1170.2	1232.3	1266.1	1319.1	1407.7	1478.2
55°	1156.7	1081.1	1045.0	1047.9	1059.1	1080.6	1140.9	1176.4	1230.0	1322.0	1396.4
57.5°	1058.6	987.0	954.2	958.2	968.9	990.3	1049.6	1089.6	1138.1	1233.4	1309.5
60°	961.6	893.9	865.1	869.6	879.2	900.7	962.1	996.5	1045.0	1142.0	1218.2
62.5°	863.4	802.0	774.9	780.5	789.0	810.4	868.5	901.8	949.7	1045.0	1121.7
65°	766.4	709.5	686.4	692.0	699.9	719.6	774.3	806.5	852.2	945.2	1018.5
67.5°	670.6	618.7	599.5	605.1	611.3	630.0	675.1	710.0	752.9	841.4	910.8
70°	575.8	529.6	512.7	518.3	523.9	540.9	580.3	612.5	652.0	733.2	797.5
72.5°	482.2	437.1	428.6	433.7	438.2	452.9	490.7	516.0	550.4	622.6	677.9
75°	390.8	351.9	346.3	351.4	355.3	366.6	398.2	420.2	448.9	511.5	556.6
77.5°	302.9	270.1	267.9	271.8	275.8	283.7	308.5	331.6	354.2	400.4	440.5
80°	220.5	194.0	194.0	198.0	196.8	206.4	223.9	242.5	258.9	292.1	321.5
82.5°	145.5	124.6	127.5	130.3	132.0	135.9	146.6	160.7	170.9	191.2	210.4
85°	80.6	66.5	69.4	71.6	70.5	75.0	80.6	89.1	94.2	103.8	113.9
87.5°	29.9	24.8	25.4	27.1	28.2	30.5	30.5	35.5	36.1	37.2	39.5
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°	2580.2	2580.2	2580.2
2.5°	2518.7	2532.2	2542.4
5°	2475.3	2486.6	2495.6
7.5°	2433.0	2443.1	2451.0
10°	2392.9	2404.2	2409.9
12.5°	2351.8	2364.7	2369.3
15°	2311.2	2324.1	2329.8
17.5°	2269.4	2286.3	2292.6
20°	2230.5	2251.9	2257.0
22.5°	2191.0	2213.0	2219.2
25°	2148.2	2174.1	2180.3
27.5°	2102.5	2133.5	2139.7
30°	2056.8	2090.7	2096.9
32.5°	2007.7	2044.4	2050.0
35°	1956.4	1993.1	1999.9
37.5°	1899.5	1939.5	1953.0
40°	1840.2	1883.7	1897.8
42.5°	1778.2	1825.6	1840.2
45°	1711.7	1763.5	1780.5
47.5°	1644.5	1703.2	1717.9
50°	1571.8	1634.4	1651.9
52.5°	1495.7	1563.9	1581.4
55°	1416.7	1485.5	1504.7
57.5°	1331.0	1402.0	1422.3
60°	1241.3	1312.4	1331.5
62.5°	1149.4	1213.7	1232.3
65°	1046.7	1107.1	1124.0
67.5°	937.9	993.2	1007.3
70°	822.3	870.2	882.6
72.5°	701.6	734.9	751.2
75°	576.9	603.5	615.9
77.5°	451.7	470.4	480.5
80°	329.4	340.1	348.5
82.5°	215.4	219.9	226.2
85°	116.2	116.2	120.1
87.5°	39.5	37.8	39.5
90°	0.0	0.0	0.0

(END OF REPORT)