

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: P834196

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-3LO-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834196
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-3LO-27-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

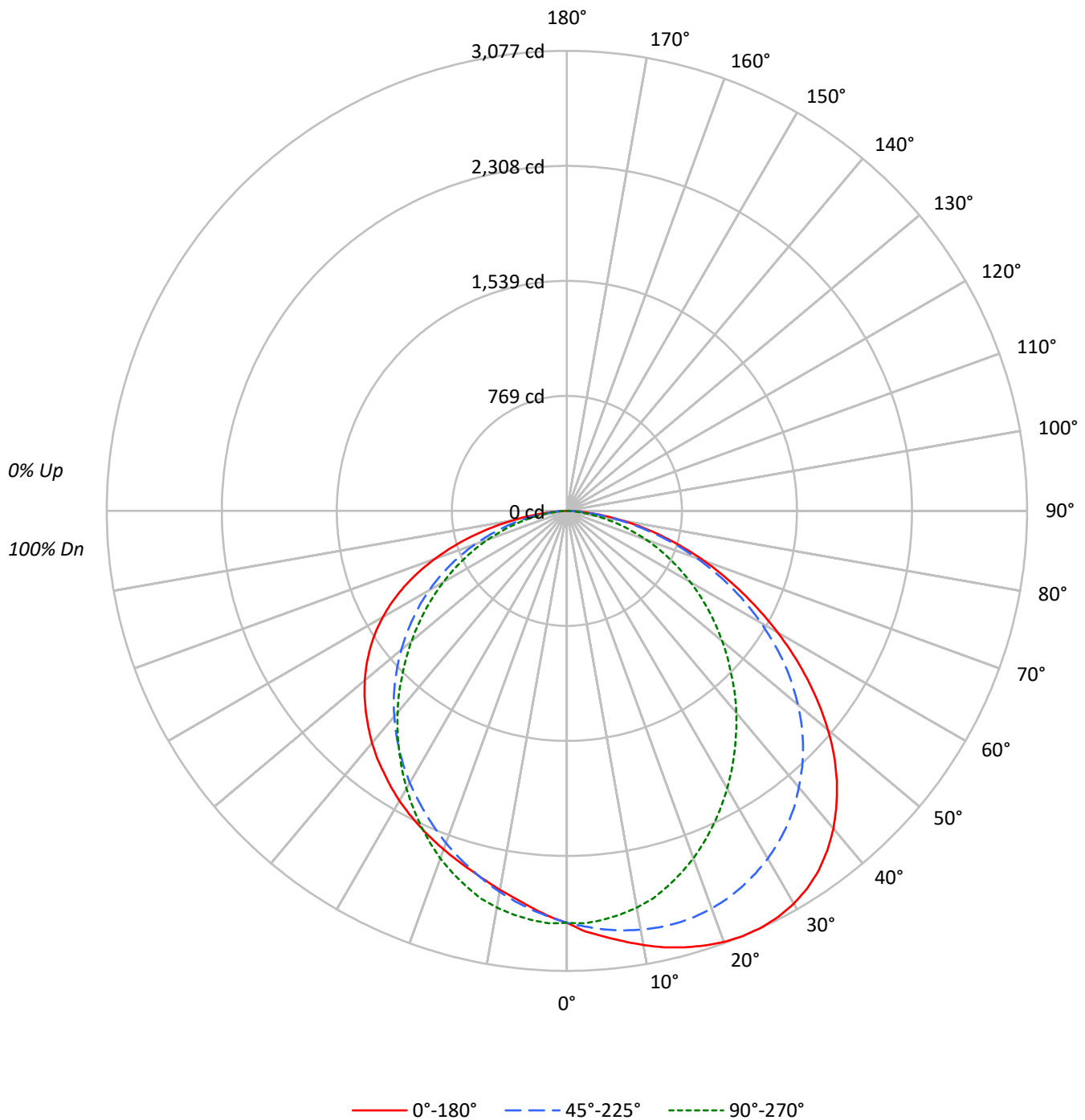
Lumens per Lamp: N/A
Luminaire Lumens: 8104.2 lumens
Efficiency: N/A
Efficacy: 115.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7414	7414	7414
5°	7719	7418	7198
10°	8056	7362	7031
15°	8419	7244	6930
20°	8786	7084	6901
25°	9132	6879	6913
30°	9429	6663	6957
35°	9644	6426	7015
40°	9741	6187	7118
45°	9715	5926	7235
50°	9542	5678	7384
55°	9216	5416	7538
60°	8767	5137	7652
65°	8232	4824	7642
70°	7662	4449	7415
75°	6956	3907	6837
80°	5972	3211	5768
85°	4554	2195	3961

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.3	3.2
10°-20°	754.6	9.3
20°-30°	1156.0	14.3
30°-40°	1410.8	17.4
40°-50°	1475.4	18.2
50°-60°	1335.3	16.5
60°-70°	1011.3	12.5
70°-80°	563.6	7.0
80°-90°	135.9	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°	2171.9	26.8
0°-40°	3582.7	44.2
0°-60°	6393.4	78.9
0°-90°	8104.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8104.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2755	2755	2755	2755	2755	
5°	2858	2810	2746	2679	2665	276
15°	3022	2854	2600	2479	2488	857
25°	3076	2773	2317	2235	2328	1419
35°	2936	2568	1956	1954	2135	1833
45°	2553	2233	1557	1626	1901	1964
55°	1964	1774	1154	1256	1607	1753
65°	1293	1216	758	861	1200	1283
75°	669	632	376	449	658	710
85°	148	130	71	95	128	178
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°	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1
2.5°	2815.9	2802.7	2791.8	2796.0	2798.4	2790.0	2782.8	2784.0	2776.8	2790.6	2758.1
5°	2857.5	2845.4	2832.8	2837.6	2832.8	2820.1	2809.9	2806.9	2787.6	2795.4	2762.3
7.5°	2903.8	2890.6	2871.9	2877.3	2867.1	2843.6	2830.4	2822.5	2793.0	2793.6	2756.9
10°	2948.4	2936.9	2911.7	2915.3	2896.6	2865.3	2844.2	2833.4	2791.8	2785.8	2747.9
12.5°	2989.9	2974.3	2947.2	2949.0	2921.9	2880.3	2853.2	2837.6	2783.4	2765.3	2728.0
15°	3021.9	3006.8	2974.3	2973.7	2938.8	2884.6	2853.8	2832.2	2763.5	2735.2	2696.1
17.5°	3049.0	3035.1	2994.8	2993.6	2951.4	2882.7	2846.0	2818.9	2734.6	2699.7	2656.3
20°	3068.2	3054.4	3009.2	3005.0	2954.4	2873.7	2829.8	2795.4	2696.7	2655.1	2606.9
22.5°	3077.3	3063.4	3012.2	3006.2	2947.2	2855.6	2806.3	2765.9	2653.3	2599.1	2549.1
25°	3075.5	3062.2	3004.4	2998.4	2933.3	2828.5	2773.1	2726.8	2598.5	2534.7	2485.3
27.5°	3060.4	3050.2	2989.3	2981.5	2908.0	2791.8	2732.8	2681.6	2537.7	2466.6	2413.0
30°	3034.5	3026.7	2962.2	2955.0	2876.7	2751.5	2685.8	2626.8	2472.0	2392.0	2337.8
32.5°	2993.0	2985.7	2920.7	2914.1	2834.6	2699.7	2631.0	2570.2	2400.4	2311.9	2257.7
35°	2935.7	2931.5	2868.3	2861.1	2780.4	2640.7	2567.8	2501.0	2325.7	2225.7	2174.0
37.5°	2860.5	2860.5	2799.6	2791.8	2712.9	2568.4	2496.7	2425.7	2241.4	2135.4	2084.2
40°	2773.1	2781.0	2718.9	2711.1	2634.6	2490.7	2412.4	2337.8	2150.5	2040.3	1990.3
42.5°	2668.4	2675.6	2623.8	2616.6	2544.9	2401.0	2328.1	2246.8	2055.3	1943.3	1891.5
45°	2552.7	2562.4	2516.0	2510.6	2443.7	2302.8	2233.0	2150.5	1956.0	1842.1	1791.6
47.5°	2423.9	2436.5	2396.2	2393.2	2331.1	2202.3	2129.4	2045.7	1851.8	1736.8	1689.2
50°	2279.3	2297.4	2264.3	2264.3	2208.9	2080.6	2017.4	1933.7	1743.4	1628.4	1581.4
52.5°	2124.6	2147.5	2122.8	2123.4	2078.2	1963.2	1897.5	1815.6	1630.2	1517.0	1473.6
55°	1964.4	1986.7	1971.0	1973.4	1937.9	1833.1	1773.5	1692.2	1514.5	1404.3	1363.4
57.5°	1797.0	1821.1	1810.8	1815.6	1791.0	1697.0	1635.0	1563.9	1395.3	1286.3	1251.4
60°	1629.0	1651.8	1646.4	1653.0	1637.4	1556.1	1499.5	1426.0	1275.5	1170.7	1140.0
62.5°	1459.1	1480.2	1479.0	1486.2	1477.8	1410.4	1359.8	1297.1	1151.4	1055.1	1026.8
65°	1292.9	1311.0	1309.8	1317.6	1315.8	1261.6	1215.8	1158.6	1027.4	938.8	914.1
67.5°	1131.5	1146.6	1142.4	1151.4	1153.8	1110.5	1070.7	1019.5	909.3	823.2	802.1
70°	973.8	984.0	978.6	984.6	990.0	957.5	923.8	878.6	783.5	707.6	690.1
72.5°	819.0	826.2	817.8	823.8	828.6	805.1	777.4	738.3	659.4	593.8	579.3
75°	669.0	679.3	661.8	667.8	671.5	648.0	631.7	599.8	531.7	481.2	471.5
77.5°	523.9	529.9	520.3	517.9	520.3	503.4	490.8	466.1	414.9	373.4	367.3
80°	385.4	389.0	379.4	377.0	378.8	366.7	357.1	339.0	302.9	271.6	269.2
82.5°	258.3	260.2	251.7	249.3	250.5	246.9	235.5	222.8	206.0	179.5	178.9
85°	147.5	147.5	141.5	139.1	140.3	134.3	130.1	123.5	116.8	98.8	100.0
87.5°	54.2	54.2	51.2	50.6	56.6	50.0	48.2	45.2	47.0	37.3	39.7
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°	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1	2755.1
2.5°	2767.1	2761.1	2755.7	2737.0	2744.8	2725.6	2724.4	2717.1	2711.7	2701.5	2714.7
5°	2758.1	2746.0	2730.4	2708.1	2714.7	2691.8	2687.0	2678.6	2671.4	2658.1	2668.4
7.5°	2743.6	2723.8	2699.1	2670.8	2679.8	2651.5	2644.3	2635.2	2629.2	2613.6	2622.6
10°	2722.6	2694.3	2665.4	2631.0	2637.7	2606.9	2597.9	2588.3	2582.9	2569.0	2578.0
12.5°	2690.0	2655.7	2616.6	2579.2	2586.5	2557.6	2545.5	2535.3	2533.5	2522.0	2532.9
15°	2647.9	2600.3	2560.0	2520.2	2528.7	2494.9	2489.5	2479.3	2482.3	2474.5	2487.7
17.5°	2594.3	2539.5	2495.5	2452.8	2461.2	2432.9	2428.7	2423.9	2426.9	2425.7	2440.1
20°	2534.1	2473.9	2423.3	2381.1	2385.9	2363.6	2365.5	2364.3	2370.3	2376.9	2396.8
22.5°	2466.0	2398.0	2345.0	2301.6	2308.8	2289.6	2298.0	2300.4	2310.7	2325.7	2351.0
25°	2389.5	2316.7	2261.3	2220.3	2226.9	2214.3	2228.8	2234.8	2251.0	2276.3	2302.2
27.5°	2309.5	2232.4	2173.4	2134.2	2146.9	2134.2	2155.9	2167.9	2192.6	2220.3	2252.2
30°	2224.5	2144.4	2083.6	2048.7	2060.7	2049.3	2084.2	2100.5	2125.2	2163.1	2201.1
32.5°	2135.4	2051.1	1991.5	1964.4	1972.8	1971.0	2010.2	2028.2	2061.3	2104.7	2145.0
35°	2043.9	1956.0	1895.7	1872.9	1883.1	1885.5	1932.5	1953.5	1989.7	2042.1	2085.4
37.5°	1949.3	1859.6	1800.6	1781.9	1791.0	1800.0	1854.8	1875.9	1916.8	1974.0	2021.6
40°	1851.2	1761.4	1703.6	1688.6	1697.6	1707.2	1766.9	1795.8	1840.3	1902.4	1954.2
42.5°	1751.8	1662.1	1606.1	1595.2	1604.3	1622.9	1686.2	1713.3	1760.2	1828.9	1886.1
45°	1650.6	1557.3	1508.5	1500.1	1509.7	1531.4	1593.4	1625.9	1675.9	1751.2	1812.6
47.5°	1548.3	1457.3	1411.0	1405.5	1415.2	1439.3	1507.9	1537.4	1590.4	1670.5	1736.8
50°	1444.7	1356.2	1311.6	1309.8	1318.8	1344.7	1410.4	1445.3	1500.1	1589.8	1657.9
52.5°	1339.9	1255.0	1214.6	1214.6	1223.1	1249.6	1315.8	1351.9	1408.6	1503.1	1578.4
55°	1235.1	1154.4	1115.9	1118.9	1130.9	1153.8	1218.3	1256.2	1313.4	1411.6	1491.1
57.5°	1130.3	1053.9	1018.9	1023.1	1034.6	1057.5	1120.7	1163.5	1215.2	1317.0	1398.3
60°	1026.8	954.5	923.8	928.6	938.8	961.7	1027.4	1064.1	1115.9	1219.5	1300.8
62.5°	922.0	856.3	827.4	833.4	842.5	865.4	927.4	962.9	1014.1	1115.9	1197.8
65°	818.4	757.6	732.9	738.9	747.3	768.4	826.8	861.2	909.9	1009.3	1087.6
67.5°	716.0	660.6	640.1	646.2	652.8	672.7	720.8	758.2	803.9	898.5	972.6
70°	614.8	565.5	547.4	553.4	559.4	577.5	619.7	654.0	696.1	782.9	851.5
72.5°	514.9	466.7	457.7	463.1	467.9	483.6	523.9	551.0	587.8	664.8	723.8
75°	417.3	375.8	369.8	375.2	379.4	391.4	425.2	448.6	479.4	546.2	594.4
77.5°	323.4	288.5	286.0	290.3	294.5	302.9	329.4	354.1	378.2	427.6	470.3
80°	235.5	207.2	207.2	211.4	210.2	220.4	239.1	258.9	276.4	311.9	343.3
82.5°	155.4	133.1	136.1	139.1	140.9	145.1	156.6	171.6	182.5	204.1	224.6
85°	86.1	71.1	74.1	76.5	75.3	80.1	86.1	95.1	100.6	110.8	121.6
87.5°	31.9	26.5	27.1	28.9	30.1	32.5	32.5	37.9	38.5	39.7	42.2
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):

	160°	170°	180°
0°	2755.1	2755.1	2755.1
2.5°	2689.4	2703.9	2714.7
5°	2643.1	2655.1	2664.8
7.5°	2597.9	2608.7	2617.2
10°	2555.1	2567.2	2573.2
12.5°	2511.2	2525.0	2529.9
15°	2467.8	2481.7	2487.7
17.5°	2423.3	2441.3	2448.0
20°	2381.7	2404.6	2410.0
22.5°	2339.6	2363.0	2369.7
25°	2293.8	2321.5	2328.1
27.5°	2245.0	2278.1	2284.8
30°	2196.2	2232.4	2239.0
32.5°	2143.8	2183.0	2189.0
35°	2089.0	2128.2	2135.4
37.5°	2028.2	2071.0	2085.4
40°	1965.0	2011.4	2026.4
42.5°	1898.7	1949.3	1965.0
45°	1827.7	1883.1	1901.2
47.5°	1756.0	1818.7	1834.3
50°	1678.3	1745.2	1763.9
52.5°	1597.0	1669.9	1688.6
55°	1512.7	1586.2	1606.7
57.5°	1421.2	1497.1	1518.8
60°	1325.4	1401.3	1421.8
62.5°	1227.3	1295.9	1315.8
65°	1117.7	1182.1	1200.2
67.5°	1001.5	1060.5	1075.5
70°	878.0	929.2	942.4
72.5°	749.1	784.7	802.1
75°	616.1	644.4	657.6
77.5°	482.4	502.2	513.1
80°	351.7	363.1	372.2
82.5°	230.0	234.9	241.5
85°	124.1	124.1	128.3
87.5°	42.2	40.3	42.2
90°	0.0	0.0	0.0

(END OF REPORT)