

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: P835328

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5STD-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835328
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-LD4-5STD-35-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

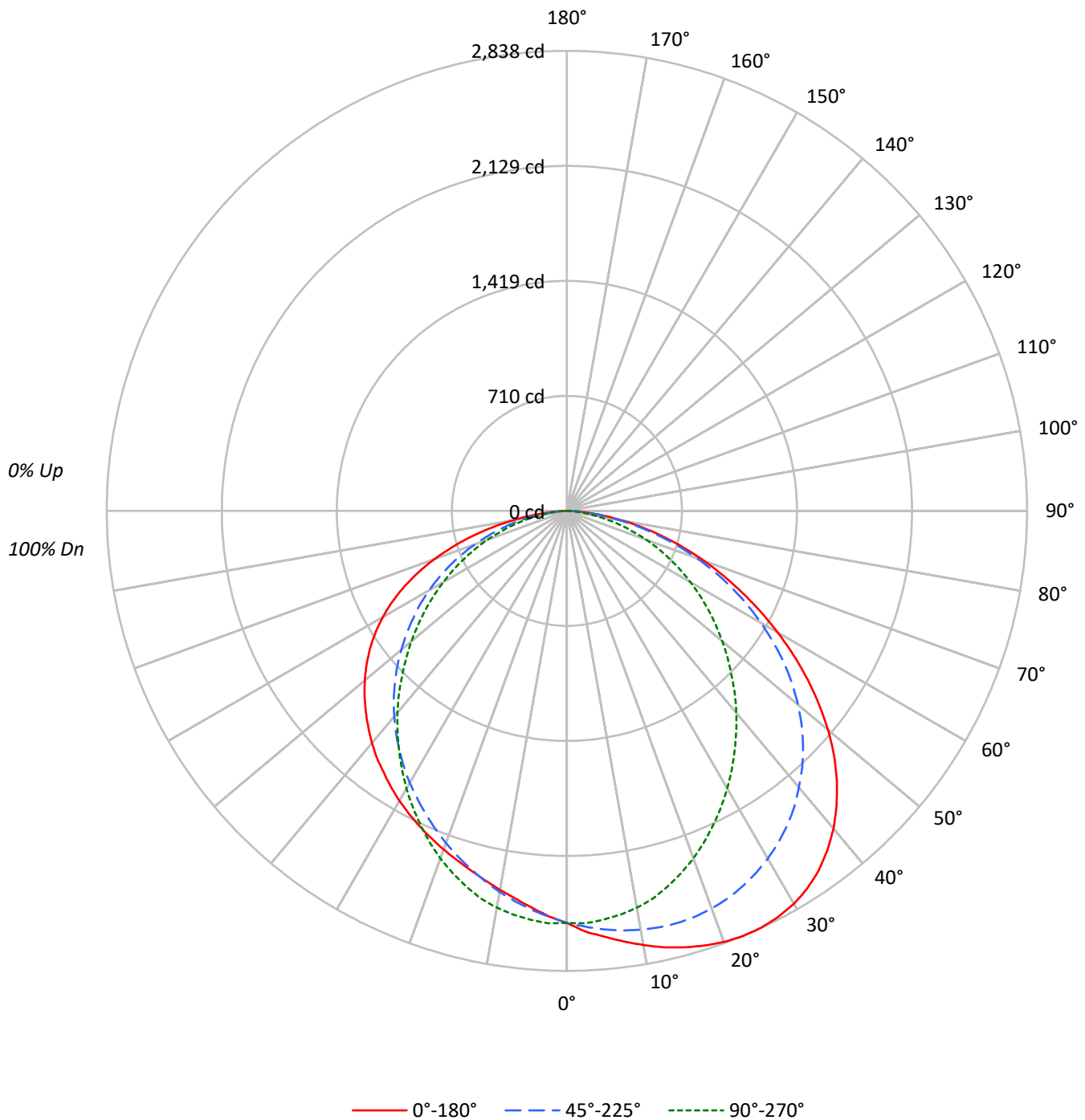
Lumens per Lamp: N/A
Luminaire Lumens: 7475.5 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 83.2
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°	6839	6839	6839
5°	7120	6842	6640
10°	7432	6791	6486
15°	7765	6682	6393
20°	8105	6535	6366
25°	8423	6345	6376
30°	8698	6146	6417
35°	8896	5927	6471
40°	8986	5708	6566
45°	8961	5467	6674
50°	8802	5237	6811
55°	8501	4996	6953
60°	8087	4738	7058
65°	7594	4450	7049
70°	7067	4104	6840
75°	6416	3604	6307
80°	5509	2961	5320
85°	4202	2022	3653

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.0	3.2
10°-20°	696.0	9.3
20°-30°	1066.3	14.3
30°-40°	1301.3	17.4
40°-50°	1360.9	18.2
50°-60°	1231.7	16.5
60°-70°	932.8	12.5
70°-80°	519.9	7.0
80°-90°	125.4	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°	2003.4	26.8
0°-40°	3304.8	44.2
0°-60°	5897.4	78.9
0°-90°	7475.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7475.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2541	2541	2541	2541	2541	
5°	2636	2592	2533	2471	2458	254
15°	2787	2632	2399	2287	2295	791
25°	2837	2558	2137	2061	2148	1309
35°	2708	2369	1804	1802	1970	1691
45°	2355	2060	1436	1500	1754	1812
55°	1812	1636	1065	1159	1482	1617
65°	1193	1122	699	794	1107	1183
75°	617	583	347	414	607	655
85°	136	120	66	88	118	164
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°	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4
2.5°	2597.5	2585.2	2575.2	2579.1	2581.4	2573.6	2566.9	2568.0	2561.4	2574.1	2544.1
5°	2635.8	2624.7	2613.0	2617.5	2613.0	2601.4	2591.9	2589.1	2571.4	2578.6	2548.0
7.5°	2678.6	2666.3	2649.1	2654.1	2644.7	2623.0	2610.8	2603.6	2576.4	2576.9	2543.0
10°	2719.7	2709.1	2685.8	2689.1	2671.9	2643.0	2623.6	2613.6	2575.2	2569.7	2534.7
12.5°	2758.0	2743.6	2718.6	2720.2	2695.2	2656.9	2631.9	2617.5	2567.5	2550.8	2516.4
15°	2787.4	2773.6	2743.6	2743.0	2710.8	2660.8	2632.5	2612.5	2549.1	2523.0	2486.9
17.5°	2812.4	2799.7	2762.4	2761.3	2722.4	2659.1	2625.2	2600.2	2522.5	2490.3	2450.3
20°	2830.2	2817.4	2775.8	2771.9	2725.2	2650.8	2610.2	2578.6	2487.5	2449.1	2404.7
22.5°	2838.5	2825.8	2778.6	2773.0	2718.6	2634.1	2588.6	2551.4	2447.5	2397.5	2351.4
25°	2836.9	2824.7	2771.3	2765.8	2705.8	2609.1	2558.0	2515.3	2396.9	2338.0	2292.5
27.5°	2823.0	2813.5	2757.4	2750.2	2682.5	2575.2	2520.8	2473.6	2340.8	2275.3	2225.8
30°	2799.1	2791.9	2732.4	2725.8	2653.6	2538.0	2477.5	2423.0	2280.3	2206.4	2156.4
32.5°	2760.8	2754.1	2694.1	2688.0	2614.7	2490.3	2426.9	2370.8	2214.2	2132.5	2082.5
35°	2708.0	2704.1	2645.8	2639.1	2564.7	2435.8	2368.6	2306.9	2145.3	2053.1	2005.3
37.5°	2638.6	2638.6	2582.5	2575.2	2502.5	2369.2	2303.1	2237.5	2067.5	1969.8	1922.5
40°	2558.0	2565.2	2508.0	2500.8	2430.3	2297.5	2225.3	2156.4	1983.6	1882.0	1835.9
42.5°	2461.4	2468.0	2420.3	2413.6	2347.5	2214.7	2147.5	2072.5	1895.9	1792.6	1744.8
45°	2354.7	2363.6	2320.8	2315.8	2254.2	2124.2	2059.7	1983.6	1804.2	1699.2	1652.6
47.5°	2235.8	2247.5	2210.3	2207.5	2150.3	2031.4	1964.2	1887.0	1708.1	1602.0	1558.1
50°	2102.5	2119.2	2088.6	2088.6	2037.5	1919.2	1860.9	1783.7	1608.1	1502.0	1458.7
52.5°	1959.8	1980.9	1958.1	1958.7	1917.0	1810.9	1750.3	1674.8	1503.7	1399.3	1359.3
55°	1812.0	1832.6	1818.1	1820.3	1787.6	1690.9	1635.9	1560.9	1397.1	1295.4	1257.6
57.5°	1657.6	1679.8	1670.4	1674.8	1652.0	1565.4	1508.2	1442.6	1287.1	1186.5	1154.3
60°	1502.6	1523.7	1518.7	1524.8	1510.4	1435.4	1383.2	1315.4	1176.5	1079.9	1051.5
62.5°	1345.9	1365.4	1364.3	1370.9	1363.2	1301.0	1254.3	1196.5	1062.1	973.2	947.1
65°	1192.6	1209.3	1208.2	1215.4	1213.7	1163.7	1121.5	1068.8	947.7	866.0	843.2
67.5°	1043.8	1057.6	1053.8	1062.1	1064.3	1024.3	987.7	940.4	838.8	759.4	739.9
70°	898.2	907.7	902.7	908.2	913.2	883.2	852.1	810.5	722.7	652.7	636.6
72.5°	755.5	762.1	754.4	759.9	764.4	742.7	717.1	681.0	608.3	547.7	534.4
75°	617.1	626.6	610.5	616.0	619.4	597.7	582.7	553.3	490.5	443.8	434.9
77.5°	483.3	488.8	479.9	477.7	479.9	464.4	452.7	429.9	382.7	344.4	338.8
80°	355.5	358.8	350.0	347.7	349.4	338.3	329.4	312.7	279.4	250.5	248.3
82.5°	238.3	240.0	232.2	230.0	231.1	227.8	217.2	205.5	190.0	165.5	165.0
85°	136.1	136.1	130.5	128.3	129.4	123.9	120.0	113.9	107.8	91.1	92.2
87.5°	50.0	50.0	47.2	46.7	52.2	46.1	44.4	41.7	43.3	34.4	36.7
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°	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4	2541.4
2.5°	2552.5	2546.9	2541.9	2524.7	2531.9	2514.1	2513.0	2506.4	2501.4	2491.9	2504.1
5°	2544.1	2533.0	2518.6	2498.0	2504.1	2483.0	2478.6	2470.8	2464.1	2451.9	2461.4
7.5°	2530.8	2512.5	2489.7	2463.6	2471.9	2445.8	2439.1	2430.8	2425.3	2410.8	2419.2
10°	2511.4	2485.3	2458.6	2426.9	2433.0	2404.7	2396.4	2387.5	2382.5	2369.7	2378.0
12.5°	2481.4	2449.7	2413.6	2379.2	2385.8	2359.2	2348.0	2338.6	2336.9	2326.4	2336.4
15°	2442.5	2398.6	2361.4	2324.7	2332.5	2301.4	2296.4	2286.9	2289.7	2282.5	2294.7
17.5°	2393.0	2342.5	2301.9	2262.5	2270.3	2244.2	2240.3	2235.8	2238.6	2237.5	2250.8
20°	2337.5	2281.9	2235.3	2196.4	2200.8	2180.3	2182.0	2180.8	2186.4	2192.5	2210.8
22.5°	2274.7	2212.0	2163.1	2123.1	2129.7	2112.0	2119.7	2122.0	2131.4	2145.3	2168.6
25°	2204.2	2137.0	2085.9	2048.1	2054.2	2042.5	2055.9	2061.4	2076.4	2099.7	2123.6
27.5°	2130.3	2059.2	2004.8	1968.6	1980.3	1968.6	1988.6	1999.8	2022.5	2048.1	2077.5
30°	2052.0	1978.1	1922.0	1889.8	1900.9	1890.3	1922.5	1937.5	1960.3	1995.3	2030.3
32.5°	1969.8	1892.0	1837.0	1812.0	1819.8	1818.1	1854.2	1870.9	1901.4	1941.4	1978.6
35°	1885.3	1804.2	1748.7	1727.6	1737.0	1739.2	1782.6	1802.0	1835.3	1883.7	1923.7
37.5°	1798.1	1715.3	1660.9	1643.7	1652.0	1660.4	1710.9	1730.3	1768.1	1820.9	1864.8
40°	1707.6	1624.8	1571.5	1557.6	1565.9	1574.8	1629.8	1656.5	1697.6	1754.8	1802.6
42.5°	1615.9	1533.1	1481.5	1471.5	1479.8	1497.0	1555.4	1580.4	1623.7	1687.0	1739.8
45°	1522.6	1436.5	1391.5	1383.7	1392.6	1412.6	1469.8	1499.8	1545.9	1615.4	1672.0
47.5°	1428.2	1344.3	1301.5	1296.5	1305.4	1327.6	1390.9	1418.2	1467.0	1540.9	1602.0
50°	1332.6	1251.0	1209.9	1208.2	1216.5	1240.4	1301.0	1333.2	1383.7	1466.5	1529.3
52.5°	1236.0	1157.6	1120.4	1120.4	1128.2	1152.6	1213.7	1247.1	1299.3	1386.5	1455.9
55°	1139.3	1064.9	1029.3	1032.1	1043.2	1064.3	1123.8	1158.7	1211.5	1302.1	1375.4
57.5°	1042.7	972.1	939.9	943.8	954.3	975.4	1033.8	1073.2	1121.0	1214.9	1289.8
60°	947.1	880.4	852.1	856.6	866.0	887.1	947.7	981.5	1029.3	1124.9	1199.9
62.5°	850.5	789.9	763.2	768.8	777.1	798.2	855.5	888.2	935.4	1029.3	1104.9
65°	754.9	698.8	676.0	681.6	689.4	708.8	762.7	794.3	839.3	931.0	1003.2
67.5°	660.5	609.4	590.5	596.0	602.1	620.5	664.9	699.4	741.6	828.8	897.1
70°	567.2	521.6	504.9	510.5	516.0	532.7	571.6	603.3	642.1	722.1	785.5
72.5°	474.9	430.5	422.2	427.2	431.6	446.1	483.3	508.3	542.2	613.3	667.7
75°	385.0	346.6	341.1	346.1	350.0	361.1	392.2	413.8	442.2	503.8	548.3
77.5°	298.3	266.1	263.9	267.7	271.6	279.4	303.9	326.6	348.8	394.4	433.8
80°	217.2	191.1	191.1	195.0	193.9	203.3	220.5	238.9	255.0	287.7	316.6
82.5°	143.3	122.8	125.5	128.3	130.0	133.9	144.4	158.3	168.3	188.3	207.2
85°	79.4	65.5	68.3	70.5	69.4	73.9	79.4	87.8	92.8	102.2	112.2
87.5°	29.4	24.4	25.0	26.7	27.8	30.0	30.0	35.0	35.6	36.7	38.9
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°	2541.4	2541.4	2541.4
2.5°	2480.8	2494.1	2504.1
5°	2438.0	2449.1	2458.0
7.5°	2396.4	2406.4	2414.2
10°	2356.9	2368.0	2373.6
12.5°	2316.4	2329.2	2333.6
15°	2276.4	2289.2	2294.7
17.5°	2235.3	2251.9	2258.1
20°	2197.0	2218.1	2223.1
22.5°	2158.1	2179.7	2185.8
25°	2115.9	2141.4	2147.5
27.5°	2070.9	2101.4	2107.5
30°	2025.9	2059.2	2065.3
32.5°	1977.5	2013.6	2019.2
35°	1927.0	1963.1	1969.8
37.5°	1870.9	1910.3	1923.7
40°	1812.6	1855.3	1869.2
42.5°	1751.5	1798.1	1812.6
45°	1685.9	1737.0	1753.7
47.5°	1619.8	1677.6	1692.0
50°	1548.1	1609.8	1627.0
52.5°	1473.2	1540.4	1557.6
55°	1395.4	1463.2	1482.0
57.5°	1311.0	1380.9	1400.9
60°	1222.6	1292.6	1311.5
62.5°	1132.1	1195.4	1213.7
65°	1031.0	1090.4	1107.1
67.5°	923.8	978.2	992.1
70°	809.9	857.1	869.3
72.5°	691.0	723.8	739.9
75°	568.3	594.4	606.6
77.5°	444.9	463.3	473.3
80°	324.4	335.0	343.3
82.5°	212.2	216.6	222.8
85°	114.4	114.4	118.3
87.5°	38.9	37.2	38.9
90°	0.0	0.0	0.0

(END OF REPORT)