

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: P835326

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4HI-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835326
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-LD4-4HI-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

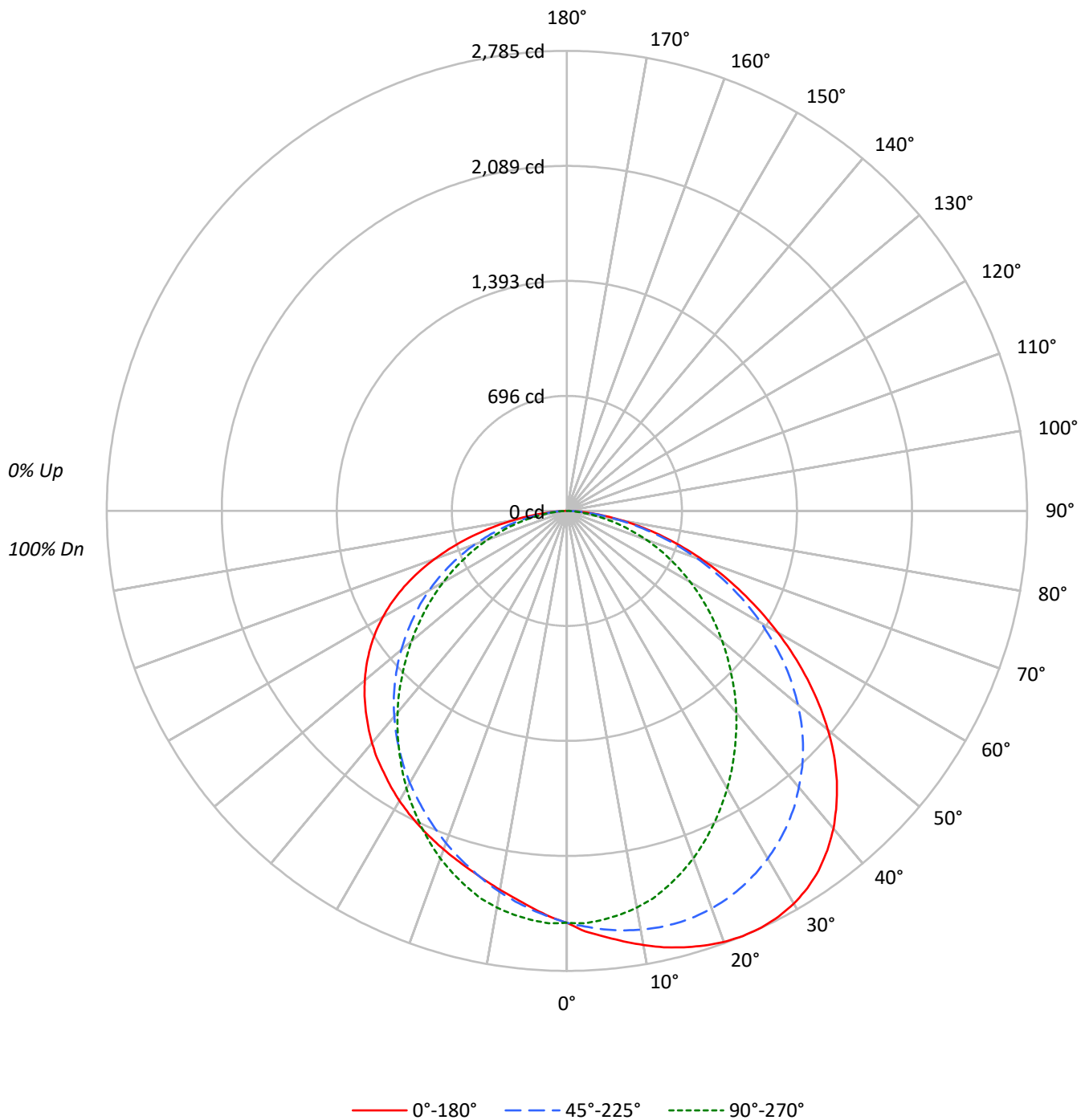
Lumens per Lamp: N/A
Luminaire Lumens: 7335.4 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 88
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°	6710	6710	6710
5°	6987	6714	6515
10°	7292	6664	6364
15°	7620	6557	6273
20°	7953	6412	6247
25°	8265	6226	6257
30°	8534	6031	6297
35°	8729	5816	6349
40°	8818	5600	6443
45°	8793	5364	6549
50°	8637	5139	6684
55°	8342	4902	6823
60°	7935	4649	6926
65°	7452	4366	6917
70°	6935	4027	6711
75°	6297	3536	6188
80°	5405	2906	5221
85°	4122	1985	3585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.5	3.2
10°-20°	683.0	9.3
20°-30°	1046.4	14.3
30°-40°	1276.9	17.4
40°-50°	1335.4	18.2
50°-60°	1208.6	16.5
60°-70°	915.3	12.5
70°-80°	510.1	7.0
80°-90°	123.0	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°	1965.9	26.8
0°-40°	3242.8	44.2
0°-60°	5786.9	78.9
0°-90°	7335.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7335.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2494	2494	2494	2494	2494	
5°	2586	2543	2486	2424	2412	249
15°	2735	2583	2354	2244	2252	776
25°	2784	2510	2097	2023	2107	1284
35°	2657	2324	1770	1768	1933	1659
45°	2311	2021	1410	1472	1721	1778
55°	1778	1605	1045	1137	1454	1587
65°	1170	1100	686	780	1086	1161
75°	606	572	340	406	595	642
85°	134	118	64	86	116	161
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°	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7
2.5°	2548.8	2536.8	2527.0	2530.8	2533.0	2525.3	2518.8	2519.9	2513.3	2525.9	2496.4
5°	2586.4	2575.5	2564.0	2568.4	2564.0	2552.6	2543.3	2540.6	2523.2	2530.2	2500.3
7.5°	2628.4	2616.4	2599.5	2604.4	2595.1	2573.8	2561.9	2554.8	2528.1	2528.6	2495.4
10°	2668.7	2658.3	2635.4	2638.7	2621.8	2593.5	2574.4	2564.6	2527.0	2521.5	2487.2
12.5°	2706.3	2692.1	2667.6	2669.2	2644.7	2607.1	2582.6	2568.4	2519.3	2503.0	2469.2
15°	2735.2	2721.6	2692.1	2691.6	2660.0	2610.9	2583.1	2563.5	2501.4	2475.7	2440.3
17.5°	2759.7	2747.2	2710.7	2709.6	2671.4	2609.3	2576.0	2551.5	2475.2	2443.6	2404.3
20°	2777.2	2764.6	2723.7	2719.9	2674.1	2601.1	2561.3	2530.2	2440.8	2403.2	2359.6
22.5°	2785.3	2772.8	2726.5	2721.0	2667.6	2584.7	2540.1	2503.5	2401.6	2352.5	2307.3
25°	2783.7	2771.7	2719.4	2713.9	2655.1	2560.2	2510.1	2468.1	2352.0	2294.2	2249.5
27.5°	2770.1	2760.8	2705.8	2698.7	2632.2	2527.0	2473.6	2427.2	2296.9	2232.6	2184.1
30°	2746.6	2739.6	2681.2	2674.7	2603.8	2490.5	2431.0	2377.6	2237.5	2165.0	2116.0
32.5°	2709.0	2702.5	2643.6	2637.6	2565.7	2443.6	2381.4	2326.4	2172.7	2092.5	2043.5
35°	2657.2	2653.4	2596.2	2589.7	2516.6	2390.2	2324.2	2263.7	2105.1	2014.6	1967.7
37.5°	2589.1	2589.1	2534.1	2527.0	2455.6	2324.7	2259.9	2195.6	2028.8	1932.8	1886.5
40°	2510.1	2517.2	2461.0	2453.9	2384.7	2254.4	2183.6	2116.0	1946.5	1846.7	1801.5
42.5°	2415.2	2421.8	2374.9	2368.4	2303.5	2173.2	2107.3	2033.7	1860.3	1759.0	1712.1
45°	2310.6	2319.3	2277.3	2272.4	2211.9	2084.4	2021.1	1946.5	1770.4	1667.4	1621.6
47.5°	2193.9	2205.4	2168.9	2166.1	2110.0	1993.3	1927.4	1851.6	1676.1	1572.0	1528.9
50°	2063.1	2079.5	2049.5	2049.5	1999.3	1883.2	1826.0	1750.2	1578.0	1473.9	1431.4
52.5°	1923.0	1943.7	1921.4	1921.9	1881.1	1776.9	1717.5	1643.4	1475.5	1373.0	1333.8
55°	1778.0	1798.2	1784.0	1786.2	1754.1	1659.2	1605.2	1531.7	1370.9	1271.1	1234.1
57.5°	1626.5	1648.3	1639.0	1643.4	1621.1	1536.0	1479.9	1415.6	1262.9	1164.3	1132.7
60°	1474.4	1495.1	1490.2	1496.2	1482.1	1408.5	1357.2	1290.7	1154.5	1059.6	1031.8
62.5°	1320.7	1339.8	1338.7	1345.2	1337.6	1276.6	1230.8	1174.1	1042.2	955.0	929.4
65°	1170.3	1186.6	1185.5	1192.6	1191.0	1141.9	1100.5	1048.7	929.9	849.8	827.4
67.5°	1024.2	1037.8	1034.0	1042.2	1044.4	1005.1	969.1	922.8	823.1	745.1	726.0
70°	881.4	890.7	885.7	891.2	896.1	866.7	836.1	795.3	709.1	640.5	624.7
72.5°	741.3	747.8	740.2	745.7	750.0	728.8	703.7	668.3	596.9	537.4	524.4
75°	605.6	614.8	599.0	604.5	607.8	586.5	571.8	542.9	481.3	435.5	426.8
77.5°	474.2	479.7	470.9	468.8	470.9	455.7	444.2	421.9	375.6	337.9	332.5
80°	348.8	352.1	343.4	341.2	342.9	332.0	323.2	306.9	274.2	245.8	243.6
82.5°	233.8	235.5	227.8	225.7	226.8	223.5	213.1	201.7	186.4	162.4	161.9
85°	133.5	133.5	128.1	125.9	127.0	121.6	117.7	111.7	105.7	89.4	90.5
87.5°	49.1	49.1	46.3	45.8	51.2	45.2	43.6	40.9	42.5	33.8	36.0
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7	2493.7
2.5°	2504.6	2499.2	2494.3	2477.4	2484.5	2467.0	2465.9	2459.4	2454.5	2445.2	2457.2
5°	2496.4	2485.5	2471.4	2451.2	2457.2	2436.5	2432.1	2424.5	2418.0	2406.0	2415.2
7.5°	2483.4	2465.4	2443.0	2417.4	2425.6	2400.0	2393.4	2385.3	2379.8	2365.6	2373.8
10°	2464.3	2438.7	2412.5	2381.4	2387.4	2359.6	2351.5	2342.7	2337.8	2325.3	2333.5
12.5°	2434.9	2403.8	2368.4	2334.6	2341.1	2314.9	2304.0	2294.8	2293.1	2282.8	2292.6
15°	2396.7	2353.6	2317.1	2281.1	2288.8	2258.2	2253.3	2244.1	2246.8	2239.7	2251.7
17.5°	2348.2	2298.6	2258.8	2220.1	2227.7	2202.1	2198.3	2193.9	2196.7	2195.6	2208.6
20°	2293.7	2239.2	2193.4	2155.2	2159.6	2139.4	2141.1	2140.0	2145.4	2151.4	2169.4
22.5°	2232.1	2170.5	2122.5	2083.3	2089.8	2072.4	2080.0	2082.2	2091.5	2105.1	2128.0
25°	2162.9	2096.9	2046.8	2009.7	2015.7	2004.2	2017.3	2022.8	2037.5	2060.4	2083.8
27.5°	2090.4	2020.6	1967.2	1931.7	1943.2	1931.7	1951.4	1962.3	1984.6	2009.7	2038.6
30°	2013.5	1941.0	1886.0	1854.3	1865.2	1854.9	1886.5	1901.2	1923.6	1957.9	1992.3
32.5°	1932.8	1856.5	1802.6	1778.0	1785.7	1784.0	1819.5	1835.8	1865.8	1905.0	1941.6
35°	1850.0	1770.4	1715.9	1695.2	1704.5	1706.6	1749.1	1768.2	1800.9	1848.4	1887.6
37.5°	1764.4	1683.2	1629.8	1612.9	1621.1	1629.2	1678.8	1697.9	1735.0	1786.8	1829.8
40°	1675.6	1594.3	1542.0	1528.4	1536.6	1545.3	1599.3	1625.4	1665.8	1721.9	1768.8
42.5°	1585.6	1504.4	1453.7	1443.9	1452.1	1469.0	1526.2	1550.7	1593.3	1655.4	1707.2
45°	1494.1	1409.6	1365.4	1357.8	1366.5	1386.1	1442.3	1471.7	1516.9	1585.1	1640.7
47.5°	1401.4	1319.1	1277.1	1272.2	1280.9	1302.7	1364.9	1391.6	1439.5	1512.0	1572.0
50°	1307.6	1227.5	1187.2	1185.5	1193.7	1217.2	1276.6	1308.2	1357.8	1439.0	1500.6
52.5°	1212.8	1135.9	1099.4	1099.4	1107.0	1131.0	1191.0	1223.7	1274.9	1360.5	1428.6
55°	1118.0	1044.9	1010.0	1012.8	1023.7	1044.4	1102.7	1137.0	1188.8	1277.7	1349.6
57.5°	1023.1	953.9	922.3	926.1	936.4	957.2	1014.4	1053.1	1100.0	1192.1	1265.7
60°	929.4	863.9	836.1	840.5	849.8	870.5	929.9	963.1	1010.0	1103.8	1177.4
62.5°	834.5	775.1	748.9	754.4	762.6	783.3	839.4	871.6	917.9	1010.0	1084.2
65°	740.8	685.7	663.4	668.8	676.4	695.5	748.4	779.5	823.6	913.5	984.4
67.5°	648.1	597.9	579.4	584.9	590.9	608.8	652.5	686.3	727.7	813.3	880.3
70°	556.5	511.8	495.5	500.9	506.4	522.7	560.9	592.0	630.1	708.6	770.7
72.5°	466.0	422.4	414.3	419.2	423.5	437.7	474.2	498.7	532.0	601.8	655.2
75°	377.7	340.1	334.7	339.6	343.4	354.3	384.8	406.1	433.9	494.4	538.0
77.5°	292.7	261.1	258.9	262.7	266.5	274.2	298.2	320.5	342.3	387.0	425.7
80°	213.1	187.5	187.5	191.3	190.2	199.5	216.4	234.4	250.2	282.3	310.7
82.5°	140.6	120.5	123.2	125.9	127.5	131.4	141.7	155.3	165.2	184.8	203.3
85°	77.9	64.3	67.0	69.2	68.1	72.5	77.9	86.1	91.0	100.3	110.1
87.5°	28.9	24.0	24.5	26.2	27.3	29.4	29.4	34.3	34.9	36.0	38.2
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°	2493.7	2493.7	2493.7
2.5°	2434.3	2447.4	2457.2
5°	2392.3	2403.2	2412.0
7.5°	2351.5	2361.3	2368.9
10°	2312.8	2323.7	2329.1
12.5°	2273.0	2285.5	2289.9
15°	2233.7	2246.3	2251.7
17.5°	2193.4	2209.7	2215.7
20°	2155.8	2176.5	2181.4
22.5°	2117.6	2138.9	2144.9
25°	2076.2	2101.3	2107.3
27.5°	2032.0	2062.0	2068.0
30°	1987.9	2020.6	2026.6
32.5°	1940.5	1975.9	1981.4
35°	1890.9	1926.3	1932.8
37.5°	1835.8	1874.5	1887.6
40°	1778.6	1820.6	1834.2
42.5°	1718.6	1764.4	1778.6
45°	1654.3	1704.5	1720.8
47.5°	1589.4	1646.1	1660.3
50°	1519.1	1579.6	1596.5
52.5°	1445.5	1511.5	1528.4
55°	1369.2	1435.7	1454.3
57.5°	1286.4	1355.1	1374.7
60°	1199.7	1268.4	1286.9
62.5°	1110.9	1173.0	1191.0
65°	1011.7	1070.0	1086.3
67.5°	906.5	959.9	973.5
70°	794.7	841.1	853.0
72.5°	678.1	710.2	726.0
75°	557.6	583.2	595.2
77.5°	436.6	454.6	464.4
80°	318.3	328.7	336.9
82.5°	208.2	212.6	218.6
85°	112.3	112.3	116.1
87.5°	38.2	36.5	38.2
90°	0.0	0.0	0.0

(END OF REPORT)