

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: P835167

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835167
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-LD4-5HI-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

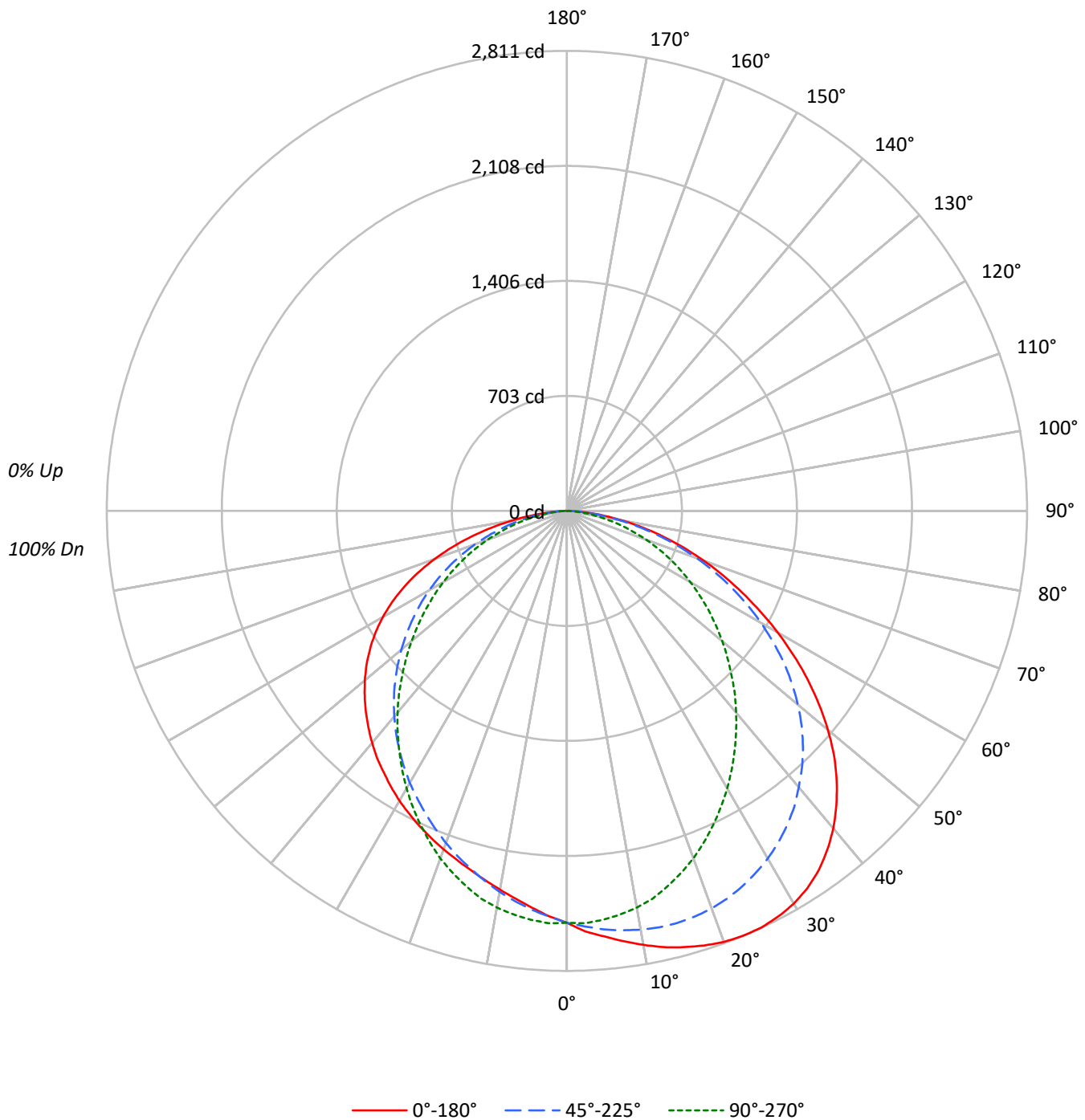
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7401.9 lumens
Efficiency: N/A
Efficacy: 67.3 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): 110
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

TEST NUMBER: P835167
CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835167

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD

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°	6772	6772	6772
5°	7050	6775	6574
10°	7358	6724	6422
15°	7689	6617	6330
20°	8025	6470	6304
25°	8340	6282	6314
30°	8612	6086	6354
35°	8809	5869	6407
40°	8898	5651	6502
45°	8873	5413	6608
50°	8715	5185	6744
55°	8418	4947	6885
60°	8007	4692	6989
65°	7519	4406	6980
70°	6998	4064	6773
75°	6354	3568	6245
80°	5455	2932	5267
85°	4162	2004	3619

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835167

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.7	3.2
10°-20°	689.2	9.3
20°-30°	1055.9	14.3
30°-40°	1288.5	17.4
40°-50°	1347.5	18.2
50°-60°	1219.6	16.5
60°-70°	923.6	12.5
70°-80°	514.7	7.0
80°-90°	124.2	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°	1983.7	26.8
0°-40°	3272.2	44.2
0°-60°	5839.4	78.9
0°-90°	7401.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7401.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2516	2516	2516	2516	2516	
5°	2610	2566	2508	2446	2434	252
15°	2760	2607	2375	2264	2272	783
25°	2809	2533	2116	2041	2126	1296
35°	2681	2345	1786	1784	1950	1674
45°	2332	2040	1422	1485	1736	1794
55°	1794	1620	1054	1147	1468	1601
65°	1181	1110	692	786	1096	1171
75°	611	577	343	410	601	648
85°	135	119	65	87	117	162
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835167

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4
2.5°	2571.9	2559.8	2549.9	2553.8	2556.0	2548.3	2541.7	2542.8	2536.2	2548.8	2519.1
5°	2609.9	2598.9	2587.3	2591.7	2587.3	2575.8	2566.4	2563.7	2546.1	2553.2	2523.0
7.5°	2652.2	2640.1	2623.1	2628.0	2618.7	2597.2	2585.1	2578.0	2551.0	2551.6	2518.0
10°	2692.9	2682.5	2659.4	2662.7	2645.6	2617.0	2597.8	2587.9	2549.9	2544.4	2509.8
12.5°	2730.9	2716.6	2691.8	2693.5	2668.7	2630.8	2606.0	2591.7	2542.2	2525.7	2491.6
15°	2760.0	2746.3	2716.6	2716.0	2684.1	2634.6	2606.6	2586.8	2524.1	2498.2	2462.4
17.5°	2784.8	2772.1	2735.3	2734.2	2695.7	2633.0	2599.4	2574.7	2497.7	2465.7	2426.1
20°	2802.4	2789.7	2748.5	2744.6	2698.4	2624.7	2584.6	2553.2	2463.0	2425.0	2381.0
22.5°	2810.6	2798.0	2751.2	2745.7	2691.8	2608.2	2563.1	2526.3	2423.4	2373.9	2328.2
25°	2809.0	2796.9	2744.1	2738.6	2679.2	2583.5	2532.9	2490.5	2373.3	2315.0	2269.9
27.5°	2795.2	2785.9	2730.3	2723.2	2656.1	2549.9	2496.0	2449.2	2317.8	2252.9	2203.9
30°	2771.6	2764.4	2705.6	2699.0	2627.5	2513.1	2453.1	2399.2	2257.8	2184.7	2135.2
32.5°	2733.6	2727.0	2667.6	2661.6	2589.0	2465.7	2403.0	2347.5	2192.4	2111.5	2062.0
35°	2681.4	2677.5	2619.8	2613.2	2539.5	2411.8	2345.3	2284.2	2124.2	2032.9	1985.6
37.5°	2612.6	2612.6	2557.1	2549.9	2477.8	2345.8	2280.4	2215.5	2047.2	1950.4	1903.6
40°	2532.9	2540.0	2483.3	2476.2	2406.3	2274.9	2203.4	2135.2	1964.1	1863.5	1817.8
42.5°	2437.1	2443.7	2396.4	2389.8	2324.4	2192.9	2126.4	2052.1	1877.2	1774.9	1727.6
45°	2331.5	2340.3	2298.0	2293.0	2232.0	2103.3	2039.5	1964.1	1786.5	1682.5	1636.3
47.5°	2213.8	2225.4	2188.5	2185.8	2129.1	2011.4	1944.9	1868.4	1691.3	1586.3	1542.8
50°	2081.8	2098.3	2068.1	2068.1	2017.5	1900.3	1842.6	1766.1	1592.3	1487.3	1444.4
52.5°	1940.5	1961.4	1938.8	1939.4	1898.1	1793.1	1733.1	1658.3	1488.9	1385.5	1345.9
55°	1794.2	1814.5	1800.2	1802.4	1770.0	1674.3	1619.8	1545.6	1383.3	1282.7	1245.2
57.5°	1641.3	1663.3	1653.9	1658.3	1635.8	1550.0	1493.3	1428.4	1274.4	1174.8	1142.9
60°	1487.8	1508.7	1503.8	1509.8	1495.5	1421.3	1369.6	1302.5	1164.9	1069.2	1041.2
62.5°	1332.7	1352.0	1350.9	1357.5	1349.8	1288.2	1241.9	1184.7	1051.6	963.6	937.8
65°	1180.9	1197.4	1196.3	1203.4	1201.8	1152.3	1110.5	1058.2	938.3	857.5	834.9
67.5°	1033.5	1047.2	1043.4	1051.6	1053.8	1014.2	977.9	931.2	830.5	751.9	732.6
70°	889.4	898.7	893.8	899.3	904.2	874.5	843.7	802.5	715.6	646.3	630.3
72.5°	748.0	754.6	746.9	752.4	756.8	735.4	710.1	674.3	602.3	542.3	529.1
75°	611.1	620.4	604.5	610.0	613.3	591.8	577.0	547.8	485.7	439.5	430.7
77.5°	478.5	484.0	475.2	473.0	475.2	459.8	448.3	425.7	379.0	341.0	335.5
80°	352.0	355.3	346.5	344.3	346.0	335.0	326.2	309.7	276.7	248.1	245.9
82.5°	236.0	237.6	229.9	227.7	228.8	225.5	215.1	203.5	188.1	163.9	163.4
85°	134.8	134.8	129.3	127.1	128.2	122.7	118.8	112.8	106.7	90.2	91.3
87.5°	49.5	49.5	46.8	46.2	51.7	45.7	44.0	41.3	42.9	34.1	36.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835167

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4	2516.4
2.5°	2527.4	2521.9	2516.9	2499.9	2507.0	2489.4	2488.3	2481.7	2476.7	2467.4	2479.5
5°	2519.1	2508.1	2493.8	2473.4	2479.5	2458.6	2454.2	2446.5	2439.9	2427.8	2437.1
7.5°	2505.9	2487.7	2465.2	2439.3	2447.6	2421.7	2415.1	2406.9	2401.4	2387.1	2395.3
10°	2486.6	2460.8	2434.4	2403.0	2409.1	2381.0	2372.8	2364.0	2359.0	2346.4	2354.6
12.5°	2456.9	2425.6	2389.8	2355.7	2362.3	2335.9	2324.9	2315.6	2313.9	2303.5	2313.4
15°	2418.4	2375.0	2338.1	2301.8	2309.5	2278.7	2273.8	2264.4	2267.2	2260.0	2272.1
17.5°	2369.5	2319.4	2279.3	2240.2	2247.9	2222.1	2218.2	2213.8	2216.6	2215.5	2228.7
20°	2314.5	2259.5	2213.3	2174.8	2179.2	2158.8	2160.5	2159.4	2164.9	2170.9	2189.1
22.5°	2252.3	2190.2	2141.8	2102.2	2108.8	2091.2	2098.9	2101.1	2110.4	2124.2	2147.3
25°	2182.5	2115.9	2065.3	2027.9	2034.0	2022.4	2035.6	2041.1	2056.0	2079.1	2102.7
27.5°	2109.3	2038.9	1985.0	1949.3	1960.8	1949.3	1969.1	1980.1	2002.6	2027.9	2057.1
30°	2031.8	1958.6	1903.1	1871.2	1882.2	1871.7	1903.6	1918.5	1941.0	1975.7	2010.3
32.5°	1950.4	1873.4	1818.9	1794.2	1801.9	1800.2	1836.0	1852.5	1882.7	1922.3	1959.2
35°	1866.8	1786.5	1731.5	1710.6	1719.9	1722.1	1765.0	1784.3	1817.3	1865.1	1904.7
37.5°	1780.4	1698.5	1644.6	1627.5	1635.8	1644.0	1694.1	1713.3	1750.7	1803.0	1846.4
40°	1690.8	1608.8	1556.0	1542.3	1550.5	1559.3	1613.8	1640.2	1680.9	1737.5	1784.8
42.5°	1600.0	1518.1	1466.9	1457.0	1465.3	1482.3	1540.1	1564.8	1607.7	1670.4	1722.7
45°	1507.6	1422.4	1377.8	1370.1	1378.9	1398.7	1455.4	1485.1	1530.7	1599.5	1655.6
47.5°	1414.1	1331.1	1288.7	1283.8	1292.6	1314.6	1377.3	1404.2	1452.6	1525.8	1586.3
50°	1319.5	1238.6	1197.9	1196.3	1204.5	1228.2	1288.2	1320.1	1370.1	1452.1	1514.2
52.5°	1223.8	1146.2	1109.4	1109.4	1117.1	1141.3	1201.8	1234.8	1286.5	1372.9	1441.6
55°	1128.1	1054.4	1019.2	1021.9	1032.9	1053.8	1112.7	1147.3	1199.6	1289.3	1361.9
57.5°	1032.4	962.5	930.6	934.5	944.9	965.8	1023.6	1062.6	1109.9	1202.9	1277.2
60°	937.8	871.8	843.7	848.1	857.5	878.4	938.3	971.9	1019.2	1113.8	1188.0
62.5°	842.1	782.1	755.7	761.2	769.5	790.4	847.0	879.5	926.2	1019.2	1094.0
65°	747.5	691.9	669.4	674.9	682.6	701.8	755.2	786.5	831.1	921.8	993.3
67.5°	654.0	603.4	584.7	590.2	596.2	614.4	658.4	692.5	734.3	820.6	888.3
70°	561.6	516.5	500.0	505.5	511.0	527.5	566.0	597.3	635.8	715.0	777.7
72.5°	470.3	426.3	418.0	423.0	427.4	441.7	478.5	503.3	536.8	607.2	661.1
75°	381.2	343.2	337.7	342.7	346.5	357.5	388.3	409.8	437.8	498.9	542.9
77.5°	295.4	263.5	261.3	265.1	269.0	276.7	300.9	323.4	345.4	390.5	429.6
80°	215.1	189.2	189.2	193.1	192.0	201.3	218.4	236.5	252.5	284.9	313.5
82.5°	141.9	121.6	124.3	127.1	128.7	132.6	143.0	156.8	166.7	186.5	205.2
85°	78.7	64.9	67.7	69.9	68.8	73.2	78.7	86.9	91.9	101.2	111.1
87.5°	29.2	24.2	24.8	26.4	27.5	29.7	29.7	34.7	35.2	36.3	38.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835167

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-5HI-20-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2516.4	2516.4	2516.4
2.5°	2456.4	2469.6	2479.5
5°	2414.0	2425.0	2433.8
7.5°	2372.8	2382.7	2390.4
10°	2333.7	2344.7	2350.2
12.5°	2293.6	2306.2	2310.6
15°	2254.0	2266.6	2272.1
17.5°	2213.3	2229.8	2235.8
20°	2175.3	2196.2	2201.2
22.5°	2136.8	2158.3	2164.3
25°	2095.0	2120.3	2126.4
27.5°	2050.5	2080.7	2086.8
30°	2005.9	2038.9	2045.0
32.5°	1958.1	1993.8	1999.3
35°	1908.0	1943.8	1950.4
37.5°	1852.5	1891.5	1904.7
40°	1794.7	1837.1	1850.8
42.5°	1734.2	1780.4	1794.7
45°	1669.3	1719.9	1736.4
47.5°	1603.9	1661.1	1675.4
50°	1532.9	1594.0	1611.0
52.5°	1458.7	1525.2	1542.3
55°	1381.7	1448.8	1467.5
57.5°	1298.1	1367.4	1387.2
60°	1210.6	1279.9	1298.6
62.5°	1120.9	1183.6	1201.8
65°	1020.8	1079.7	1096.2
67.5°	914.7	968.6	982.3
70°	801.9	848.7	860.8
72.5°	684.2	716.7	732.6
75°	562.7	588.5	600.6
77.5°	440.6	458.7	468.6
80°	321.2	331.7	339.9
82.5°	210.1	214.5	220.6
85°	113.3	113.3	117.2
87.5°	38.5	36.9	38.5
90°	0.0	0.0	0.0

(END OF REPORT)