

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: P835308

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835308
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-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

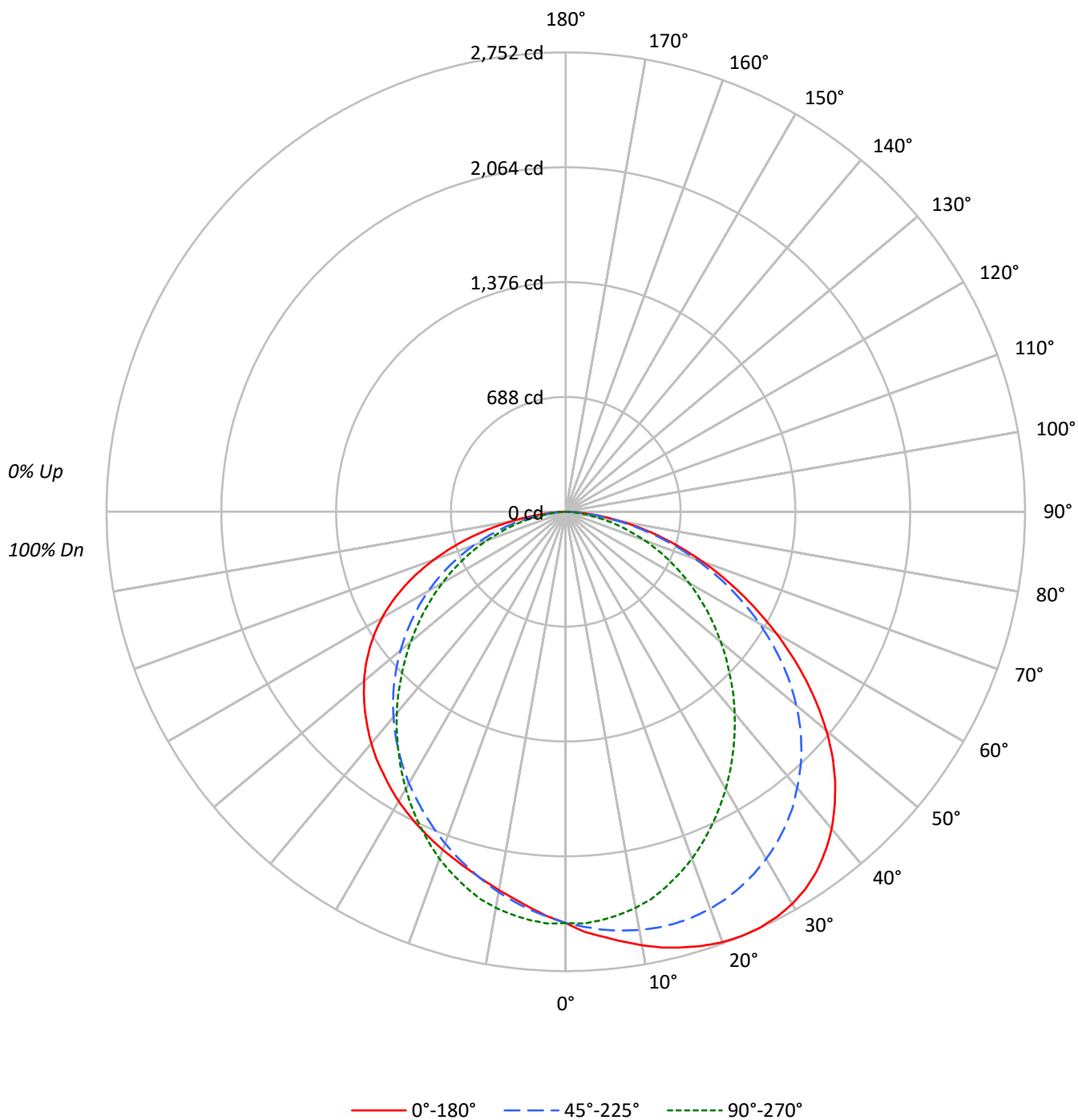
Lumens per Lamp: N/A
Luminaire Lumens: 7247.0 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P835308

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835308

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90

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°	6630	6630	6630
5°	6902	6633	6437
10°	7204	6583	6287
15°	7528	6478	6198
20°	7857	6335	6172
25°	8166	6151	6182
30°	8432	5959	6221
35°	8624	5746	6273
40°	8711	5533	6366
45°	8687	5300	6470
50°	8533	5077	6603
55°	8241	4843	6740
60°	7840	4594	6843
65°	7362	4313	6833
70°	6851	3979	6631
75°	6221	3493	6115
80°	5340	2870	5157
85°	4072	1961	3541

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835308

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.7	3.2
10°-20°	674.8	9.3
20°-30°	1033.8	14.3
30°-40°	1261.6	17.4
40°-50°	1319.3	18.2
50°-60°	1194.1	16.5
60°-70°	904.3	12.5
70°-80°	504.0	7.0
80°-90°	121.6	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°	1942.2	26.8
0°-40°	3203.8	44.2
0°-60°	5717.1	78.9
0°-90°	7247.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7247.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2464	2464	2464	2464	2464	
5°	2555	2513	2456	2395	2383	246
15°	2702	2552	2325	2217	2225	766
25°	2750	2480	2072	1998	2082	1269
35°	2625	2296	1749	1747	1910	1639
45°	2283	1997	1393	1454	1700	1756
55°	1757	1586	1032	1123	1437	1567
65°	1156	1087	677	770	1073	1147
75°	598	565	336	401	588	635
85°	132	116	64	85	115	159
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835308

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7
2.5°	2518.1	2506.2	2496.5	2500.3	2502.4	2494.9	2488.4	2489.5	2483.1	2495.4	2466.4
5°	2555.2	2544.5	2533.1	2537.5	2533.1	2521.8	2512.7	2510.0	2492.8	2499.8	2470.1
7.5°	2596.7	2584.8	2568.1	2573.0	2563.8	2542.8	2531.0	2524.0	2497.6	2498.1	2465.3
10°	2636.5	2626.3	2603.7	2606.9	2590.2	2562.2	2543.4	2533.7	2496.5	2491.1	2457.2
12.5°	2673.7	2659.7	2635.5	2637.1	2612.8	2575.7	2551.5	2537.5	2489.0	2472.8	2439.4
15°	2702.2	2688.8	2659.7	2659.2	2627.9	2579.5	2552.0	2532.6	2471.2	2445.9	2410.9
17.5°	2726.5	2714.1	2678.0	2676.9	2639.2	2577.8	2545.0	2520.8	2445.4	2414.1	2375.4
20°	2743.7	2731.3	2690.9	2687.2	2641.9	2569.8	2530.5	2499.8	2411.4	2374.3	2331.2
22.5°	2751.8	2739.4	2693.6	2688.2	2635.5	2553.6	2509.5	2473.4	2372.7	2324.2	2279.5
25°	2750.2	2738.3	2686.6	2681.2	2623.1	2529.4	2479.8	2438.4	2323.7	2266.6	2222.4
27.5°	2736.7	2727.5	2673.2	2666.2	2600.5	2496.5	2443.8	2398.0	2269.3	2205.7	2157.8
30°	2713.5	2706.5	2648.9	2642.5	2572.5	2460.4	2401.7	2349.0	2210.6	2139.0	2090.5
32.5°	2676.4	2669.9	2611.8	2605.8	2534.8	2414.1	2352.7	2298.4	2146.5	2067.3	2018.9
35°	2625.2	2621.5	2564.9	2558.5	2486.3	2361.4	2296.2	2236.4	2079.7	1990.3	1944.0
37.5°	2557.9	2557.9	2503.5	2496.5	2426.0	2296.7	2232.7	2169.1	2004.3	1909.6	1863.8
40°	2479.8	2486.8	2431.4	2424.4	2356.0	2227.3	2157.3	2090.5	1923.0	1824.5	1779.8
42.5°	2386.1	2392.6	2346.3	2339.8	2275.7	2147.0	2081.9	2009.2	1837.9	1737.8	1691.5
45°	2282.7	2291.4	2249.9	2245.0	2185.3	2059.3	1996.8	1923.0	1749.1	1647.3	1602.1
47.5°	2167.5	2178.8	2142.7	2140.0	2084.6	1969.3	1904.2	1829.3	1655.9	1553.1	1510.5
50°	2038.3	2054.4	2024.8	2024.8	1975.2	1860.5	1804.0	1729.2	1559.0	1456.1	1414.1
52.5°	1899.9	1920.3	1898.2	1898.8	1858.4	1755.5	1696.8	1623.6	1457.7	1356.5	1317.7
55°	1756.6	1776.5	1762.5	1764.7	1732.9	1639.2	1585.9	1513.2	1354.3	1255.8	1219.2
57.5°	1606.9	1628.5	1619.3	1623.6	1601.5	1517.5	1462.1	1398.5	1247.7	1150.3	1119.0
60°	1456.7	1477.1	1472.3	1478.2	1464.2	1391.5	1340.9	1275.2	1140.6	1046.9	1019.4
62.5°	1304.8	1323.7	1322.6	1329.0	1321.5	1261.2	1216.0	1159.9	1029.6	943.5	918.2
65°	1156.2	1172.3	1171.3	1178.3	1176.6	1128.2	1087.2	1036.1	918.7	839.5	817.5
67.5°	1011.9	1025.3	1021.6	1029.6	1031.8	993.0	957.5	911.7	813.1	736.1	717.3
70°	870.8	879.9	875.1	880.5	885.3	856.2	826.1	785.7	700.6	632.7	617.1
72.5°	732.4	738.8	731.3	736.7	741.0	720.0	695.2	660.2	589.7	531.0	518.0
75°	598.3	607.4	591.8	597.2	600.4	579.4	564.9	536.4	475.5	430.3	421.7
77.5°	468.5	473.9	465.3	463.1	465.3	450.2	438.9	416.8	371.0	333.9	328.5
80°	344.6	347.9	339.3	337.1	338.7	328.0	319.3	303.2	270.9	242.9	240.7
82.5°	231.0	232.6	225.1	222.9	224.0	220.8	210.6	199.2	184.2	160.5	159.9
85°	131.9	131.9	126.5	124.4	125.5	120.1	116.3	110.4	104.5	88.3	89.4
87.5°	48.5	48.5	45.8	45.2	50.6	44.7	43.1	40.4	42.0	33.4	35.5
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: P835308

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7	2463.7
2.5°	2474.4	2469.1	2464.2	2447.5	2454.5	2437.3	2436.2	2429.8	2424.9	2415.7	2427.6
5°	2466.4	2455.6	2441.6	2421.7	2427.6	2407.1	2402.8	2395.3	2388.8	2377.0	2386.1
7.5°	2453.4	2435.7	2413.6	2388.3	2396.4	2371.1	2364.6	2356.5	2351.1	2337.1	2345.2
10°	2434.6	2409.3	2383.4	2352.7	2358.7	2331.2	2323.1	2314.5	2309.7	2297.3	2305.4
12.5°	2405.5	2374.8	2339.8	2306.4	2312.9	2287.0	2276.3	2267.1	2265.5	2255.3	2265.0
15°	2367.8	2325.3	2289.2	2253.7	2261.2	2231.0	2226.2	2217.0	2219.7	2212.7	2224.6
17.5°	2319.9	2270.9	2231.6	2193.3	2200.9	2175.6	2171.8	2167.5	2170.2	2169.1	2182.0
20°	2266.0	2212.2	2167.0	2129.3	2133.6	2113.6	2115.3	2114.2	2119.6	2125.5	2143.3
22.5°	2205.2	2144.3	2097.0	2058.2	2064.6	2047.4	2054.9	2057.1	2066.3	2079.7	2102.3
25°	2136.8	2071.6	2022.1	1985.5	1991.4	1980.1	1993.0	1998.4	2012.9	2035.6	2058.7
27.5°	2065.2	1996.3	1943.5	1908.5	1919.8	1908.5	1927.9	1938.6	1960.7	1985.5	2014.0
30°	1989.3	1917.6	1863.2	1832.0	1842.8	1832.5	1863.8	1878.3	1900.4	1934.3	1968.2
32.5°	1909.6	1834.2	1780.8	1756.6	1764.2	1762.5	1797.5	1813.7	1843.3	1882.1	1918.2
35°	1827.7	1749.1	1695.2	1674.8	1683.9	1686.1	1728.1	1746.9	1779.2	1826.1	1864.9
37.5°	1743.2	1662.9	1610.1	1593.4	1601.5	1609.6	1658.6	1677.5	1714.1	1765.2	1807.8
40°	1655.4	1575.1	1523.4	1510.0	1518.1	1526.7	1580.0	1605.8	1645.7	1701.1	1747.5
42.5°	1566.5	1486.3	1436.2	1426.5	1434.6	1451.3	1507.8	1532.1	1574.1	1635.5	1686.6
45°	1476.1	1392.6	1349.0	1341.4	1350.0	1369.4	1424.9	1454.0	1498.7	1566.0	1620.9
47.5°	1384.5	1303.2	1261.7	1256.9	1265.5	1287.0	1348.4	1374.8	1422.2	1493.8	1553.1
50°	1291.9	1212.7	1172.9	1171.3	1179.3	1202.5	1261.2	1292.4	1341.4	1421.7	1482.5
52.5°	1198.2	1122.3	1086.2	1086.2	1093.7	1117.4	1176.6	1209.0	1259.6	1344.1	1411.4
55°	1104.5	1032.3	997.9	1000.5	1011.3	1031.8	1089.4	1123.3	1174.5	1262.3	1333.3
57.5°	1010.8	942.4	911.2	914.9	925.2	945.6	1002.2	1040.4	1086.7	1177.7	1250.4
60°	918.2	853.5	826.1	830.4	839.5	860.0	918.7	951.5	997.9	1090.5	1163.2
62.5°	824.5	765.8	739.9	745.3	753.4	773.8	829.3	861.1	906.8	997.9	1071.1
65°	731.8	677.4	655.4	660.8	668.3	687.1	739.4	770.1	813.7	902.5	972.5
67.5°	640.3	590.7	572.4	577.8	583.7	601.5	644.6	678.0	718.9	803.5	869.7
70°	549.8	505.7	489.5	494.9	500.3	516.4	554.1	584.8	622.5	700.1	761.5
72.5°	460.4	417.3	409.3	414.1	418.4	432.4	468.5	492.7	525.6	594.5	647.3
75°	373.2	336.0	330.6	335.5	339.3	350.0	380.2	401.2	428.7	488.4	531.5
77.5°	289.2	257.9	255.8	259.6	263.3	270.9	294.6	316.6	338.2	382.3	420.6
80°	210.6	185.2	185.2	189.0	187.9	197.1	213.8	231.6	247.2	278.9	306.9
82.5°	138.9	119.0	121.7	124.4	126.0	129.8	140.0	153.5	163.2	182.6	200.9
85°	77.0	63.5	66.2	68.4	67.3	71.6	77.0	85.1	89.9	99.1	108.8
87.5°	28.5	23.7	24.2	25.8	26.9	29.1	29.1	33.9	34.5	35.5	37.7
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: P835308

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-4HI-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2463.7	2463.7	2463.7
2.5°	2405.0	2417.9	2427.6
5°	2363.5	2374.3	2382.9
7.5°	2323.1	2332.8	2340.4
10°	2284.9	2295.7	2301.0
12.5°	2245.6	2258.0	2262.3
15°	2206.8	2219.2	2224.6
17.5°	2167.0	2183.1	2189.0
20°	2129.8	2150.3	2155.1
22.5°	2092.1	2113.1	2119.0
25°	2051.2	2076.0	2081.9
27.5°	2007.6	2037.2	2043.1
30°	1963.9	1996.3	2002.2
32.5°	1917.1	1952.1	1957.5
35°	1868.1	1903.1	1909.6
37.5°	1813.7	1851.9	1864.9
40°	1757.2	1798.6	1812.1
42.5°	1697.9	1743.2	1757.2
45°	1634.4	1683.9	1700.1
47.5°	1570.3	1626.3	1640.3
50°	1500.8	1560.6	1577.3
52.5°	1428.1	1493.3	1510.0
55°	1352.7	1418.4	1436.7
57.5°	1270.9	1338.7	1358.1
60°	1185.3	1253.1	1271.4
62.5°	1097.5	1158.9	1176.6
65°	999.5	1057.1	1073.2
67.5°	895.5	948.3	961.8
70°	785.1	830.9	842.8
72.5°	669.9	701.7	717.3
75°	550.9	576.2	588.1
77.5°	431.3	449.1	458.8
80°	314.5	324.7	332.8
82.5°	205.7	210.0	215.9
85°	110.9	110.9	114.7
87.5°	37.7	36.1	37.7
90°	0.0	0.0	0.0

(END OF REPORT)