

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: P834690

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834690
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-2HI-40-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

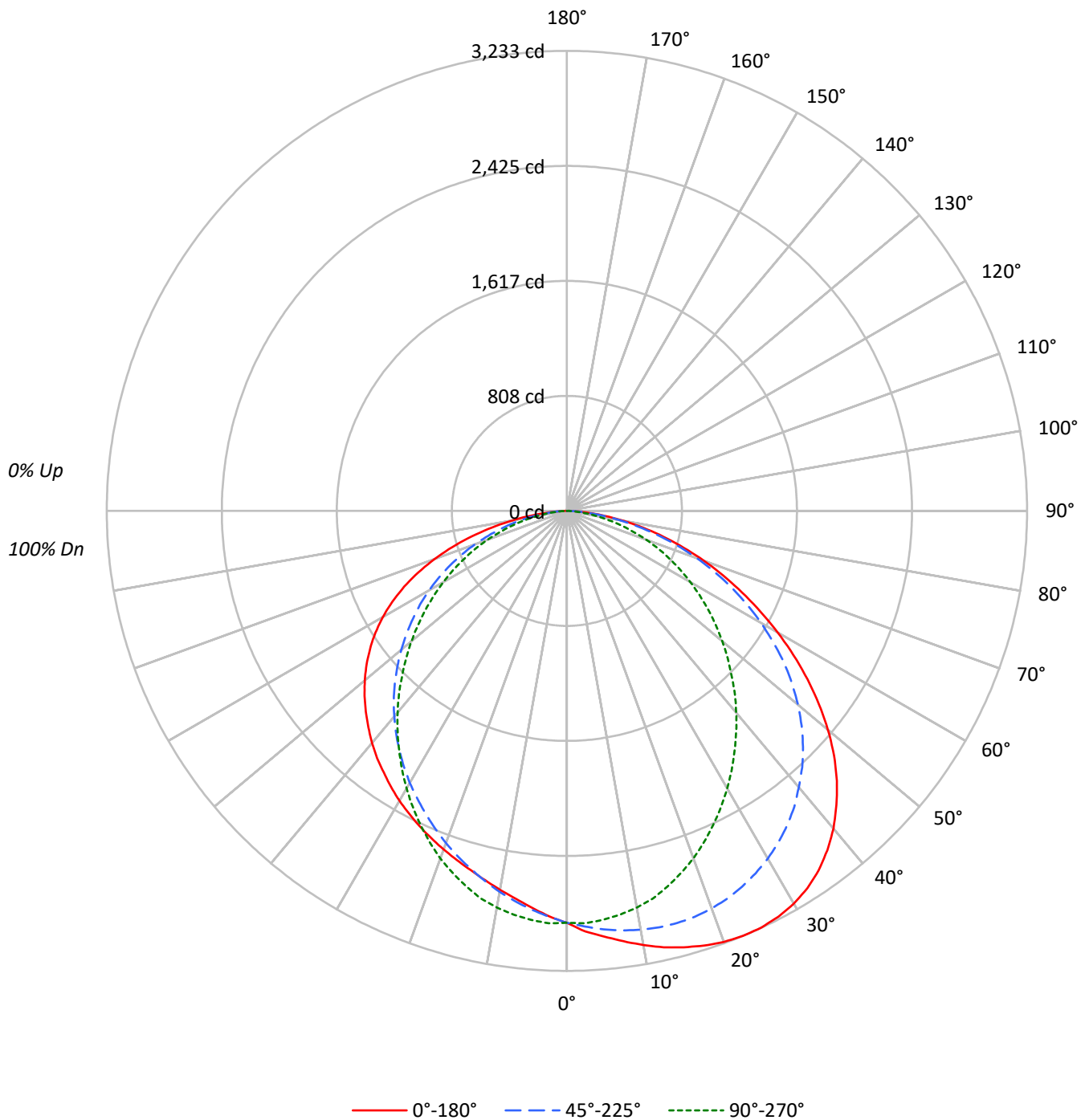
Lumens per Lamp: N/A
Luminaire Lumens: 8514.5 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P834690

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-40-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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	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°	3895	3895	3895
5°	4055	3897	3781
10°	4232	3867	3694
15°	4422	3806	3641
20°	4616	3721	3625
25°	4797	3613	3631
30°	4953	3500	3655
35°	5066	3375	3685
40°	5117	3250	3739
45°	5103	3113	3801
50°	5013	2982	3879
55°	4841	2845	3960
60°	4605	2699	4020
65°	4325	2534	4015
70°	4025	2337	3895
75°	3654	2052	3592
80°	3137	1686	3030
85°	2393	1153	2081

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834690

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-40-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.5	3.2
10°-20°	792.8	9.3
20°-30°	1214.6	14.3
30°-40°	1482.2	17.4
40°-50°	1550.1	18.2
50°-60°	1402.9	16.5
60°-70°	1062.5	12.5
70°-80°	592.1	7.0
80°-90°	142.8	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°	2281.9	26.8
0°-40°	3764.1	44.2
0°-60°	6717.1	78.9
0°-90°	8514.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8514.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2895	2895	2895	2895	2895	
5°	3002	2952	2885	2814	2800	289
15°	3175	2998	2732	2605	2614	900
25°	3231	2914	2434	2348	2446	1491
35°	3084	2698	2055	2052	2244	1926
45°	2682	2346	1636	1708	1997	2064
55°	2064	1863	1213	1320	1688	1842
65°	1358	1277	796	905	1261	1347
75°	703	664	395	471	691	745
85°	155	137	75	100	135	186
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°	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6
2.5°	2958.5	2944.6	2933.2	2937.6	2940.1	2931.3	2923.7	2924.9	2917.3	2931.9	2897.7
5°	3002.1	2989.5	2976.2	2981.2	2976.2	2962.9	2952.1	2949.0	2928.7	2937.0	2902.2
7.5°	3050.8	3036.9	3017.3	3023.0	3012.2	2987.6	2973.7	2965.4	2934.4	2935.1	2896.5
10°	3097.7	3085.6	3059.1	3062.9	3043.3	3010.4	2988.2	2976.8	2933.2	2926.8	2887.0
12.5°	3141.3	3124.9	3096.4	3098.3	3069.8	3026.2	2997.7	2981.2	2924.3	2905.3	2866.1
15°	3174.9	3159.0	3124.9	3124.2	3087.5	3030.6	2998.3	2975.6	2903.4	2873.7	2832.6
17.5°	3203.3	3188.8	3146.4	3145.1	3100.8	3028.7	2990.1	2961.6	2873.1	2836.4	2790.8
20°	3223.6	3209.0	3161.6	3157.1	3104.0	3019.2	2973.0	2937.0	2833.2	2789.5	2738.9
22.5°	3233.1	3218.5	3164.7	3158.4	3096.4	3000.2	2948.3	2906.0	2787.6	2730.7	2678.2
25°	3231.2	3217.2	3156.5	3150.2	3081.8	2971.8	2913.5	2864.8	2730.1	2663.0	2611.1
27.5°	3215.3	3204.6	3140.7	3132.5	3055.3	2933.2	2871.2	2817.4	2666.2	2591.5	2535.2
30°	3188.1	3179.9	3112.2	3104.6	3022.4	2890.8	2821.8	2759.8	2597.2	2513.1	2456.1
32.5°	3144.5	3136.9	3068.6	3061.6	2978.1	2836.4	2764.2	2700.3	2521.9	2428.9	2372.0
35°	3084.4	3079.9	3013.5	3005.9	2921.1	2774.4	2697.8	2627.6	2443.5	2338.4	2284.0
37.5°	3005.3	3005.3	2941.4	2933.2	2850.3	2698.4	2623.1	2548.5	2354.9	2243.5	2189.7
40°	2913.5	2921.8	2856.6	2848.4	2768.0	2616.8	2534.6	2456.1	2259.3	2143.6	2091.0
42.5°	2803.5	2811.1	2756.6	2749.0	2673.8	2522.5	2446.0	2360.6	2159.4	2041.7	1987.3
45°	2682.0	2692.1	2643.4	2637.7	2567.5	2419.4	2346.0	2259.3	2055.0	1935.4	1882.3
47.5°	2546.6	2559.9	2517.5	2514.3	2449.2	2313.8	2237.2	2149.3	1945.5	1824.7	1774.7
50°	2394.7	2413.7	2378.9	2378.9	2320.7	2186.0	2119.5	2031.6	1831.6	1710.8	1661.5
52.5°	2232.1	2256.2	2230.2	2230.9	2183.4	2062.6	1993.6	1907.6	1712.7	1593.8	1548.2
55°	2063.8	2087.3	2070.8	2073.3	2036.0	1925.9	1863.3	1777.9	1591.2	1475.4	1432.4
57.5°	1888.0	1913.3	1902.5	1907.6	1881.6	1782.9	1717.8	1643.1	1465.9	1351.4	1314.7
60°	1711.4	1735.5	1729.8	1736.7	1720.3	1634.9	1575.4	1498.2	1340.0	1230.0	1197.7
62.5°	1533.0	1555.2	1553.9	1561.5	1552.6	1481.8	1428.6	1362.8	1209.7	1108.5	1078.7
65°	1358.4	1377.4	1376.1	1384.3	1382.4	1325.5	1277.4	1217.3	1079.4	986.4	960.4
67.5°	1188.8	1204.6	1200.2	1209.7	1212.2	1166.7	1124.9	1071.1	955.4	864.9	842.7
70°	1023.1	1033.8	1028.1	1034.5	1040.1	1006.0	970.6	923.1	823.1	743.4	725.1
72.5°	860.5	868.1	859.2	865.5	870.6	845.9	816.8	775.7	692.8	623.8	608.7
75°	702.9	713.7	695.3	701.7	705.5	680.8	663.7	630.2	558.7	505.5	495.4
77.5°	550.4	556.8	546.6	544.1	546.6	528.9	515.6	489.7	435.9	392.3	385.9
80°	404.9	408.7	398.6	396.1	398.0	385.3	375.2	356.2	318.2	285.3	282.8
82.5°	271.4	273.3	264.5	261.9	263.2	259.4	247.4	234.1	216.4	188.5	187.9
85°	155.0	155.0	148.7	146.2	147.4	141.1	136.7	129.7	122.7	103.8	105.0
87.5°	56.9	56.9	53.8	53.1	59.5	52.5	50.6	47.5	49.4	39.2	41.8
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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TEST NUMBER: P834690

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6	2894.6
2.5°	2907.2	2900.9	2895.2	2875.6	2883.8	2863.6	2862.3	2854.7	2849.0	2838.3	2852.2
5°	2897.7	2885.1	2868.6	2845.2	2852.2	2828.1	2823.1	2814.2	2806.6	2792.7	2803.5
7.5°	2882.5	2861.7	2835.7	2806.0	2815.5	2785.7	2778.2	2768.7	2762.3	2745.9	2755.4
10°	2860.4	2830.7	2800.3	2764.2	2771.2	2738.9	2729.4	2719.3	2713.6	2699.1	2708.6
12.5°	2826.2	2790.2	2749.0	2709.8	2717.4	2687.0	2674.4	2663.6	2661.7	2649.7	2661.1
15°	2781.9	2732.0	2689.6	2647.8	2656.7	2621.2	2615.6	2604.8	2608.0	2599.7	2613.7
17.5°	2725.6	2668.1	2621.9	2577.0	2585.8	2556.1	2551.6	2546.6	2549.8	2548.5	2563.7
20°	2662.4	2599.1	2546.0	2501.7	2506.7	2483.3	2485.2	2484.0	2490.3	2497.2	2518.1
22.5°	2590.9	2519.4	2463.7	2418.2	2425.7	2405.5	2414.4	2416.9	2427.6	2443.5	2470.0
25°	2510.5	2434.0	2375.8	2332.7	2339.7	2326.4	2341.6	2347.9	2365.0	2391.6	2418.8
27.5°	2426.4	2345.4	2283.4	2242.3	2255.5	2242.3	2265.0	2277.7	2303.6	2332.7	2366.3
30°	2337.2	2253.0	2189.1	2152.4	2165.1	2153.1	2189.7	2206.8	2232.8	2272.6	2312.5
32.5°	2243.5	2155.0	2092.3	2063.8	2072.7	2070.8	2111.9	2130.9	2165.7	2211.3	2253.7
35°	2147.4	2055.0	1991.7	1967.7	1978.4	1981.0	2030.3	2052.5	2090.4	2145.5	2191.0
37.5°	2048.0	1953.8	1891.8	1872.1	1881.6	1891.1	1948.7	1970.8	2013.9	2074.0	2123.9
40°	1944.9	1850.6	1789.9	1774.1	1783.6	1793.7	1856.3	1886.7	1933.5	1998.7	2053.1
42.5°	1840.5	1746.2	1687.4	1676.0	1685.5	1705.1	1771.5	1800.0	1849.4	1921.5	1981.6
45°	1734.2	1636.1	1584.9	1576.0	1586.2	1608.9	1674.1	1708.3	1760.8	1839.9	1904.4
47.5°	1626.7	1531.1	1482.4	1476.7	1486.8	1512.1	1584.3	1615.3	1670.9	1755.1	1824.7
50°	1517.8	1424.8	1378.0	1376.1	1385.6	1412.8	1481.8	1518.5	1576.0	1670.3	1741.8
52.5°	1407.7	1318.5	1276.1	1276.1	1285.0	1312.8	1382.4	1420.4	1479.9	1579.2	1658.3
55°	1297.7	1212.9	1172.4	1175.5	1188.2	1212.2	1279.9	1319.8	1379.9	1483.0	1566.5
57.5°	1187.6	1107.2	1070.5	1074.9	1087.0	1111.0	1177.4	1222.4	1276.8	1383.7	1469.1
60°	1078.7	1002.8	970.6	975.6	986.4	1010.4	1079.4	1118.0	1172.4	1281.2	1366.6
62.5°	968.7	899.7	869.3	875.6	885.1	909.2	974.3	1011.7	1065.5	1172.4	1258.4
65°	859.8	795.9	770.0	776.3	785.2	807.3	868.7	904.8	956.0	1060.4	1142.6
67.5°	752.3	694.1	672.6	678.9	685.8	706.7	757.3	796.6	844.6	944.0	1021.8
70°	646.0	594.1	575.1	581.4	587.8	606.8	651.0	687.1	731.4	822.5	894.6
72.5°	541.0	490.3	480.8	486.5	491.6	508.1	550.4	578.9	617.5	698.5	760.5
75°	438.5	394.8	388.5	394.2	398.6	411.3	446.7	471.4	503.6	573.9	624.5
77.5°	339.8	303.1	300.5	305.0	309.4	318.2	346.1	372.0	397.3	449.2	494.1
80°	247.4	217.6	217.6	222.1	220.8	231.6	251.2	272.1	290.4	327.7	360.6
82.5°	163.2	139.8	143.0	146.2	148.1	152.5	164.5	180.3	191.7	214.5	236.0
85°	90.5	74.7	77.8	80.4	79.1	84.1	90.5	100.0	105.7	116.4	127.8
87.5°	33.5	27.8	28.5	30.4	31.6	34.2	34.2	39.9	40.5	41.8	44.3
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°	2894.6	2894.6	2894.6
2.5°	2825.6	2840.8	2852.2
5°	2776.9	2789.5	2799.7
7.5°	2729.4	2740.8	2749.7
10°	2684.5	2697.2	2703.5
12.5°	2638.3	2652.9	2657.9
15°	2592.8	2607.3	2613.7
17.5°	2546.0	2564.9	2571.9
20°	2502.3	2526.3	2532.0
22.5°	2458.0	2482.7	2489.6
25°	2409.9	2439.0	2446.0
27.5°	2358.7	2393.5	2400.4
30°	2307.4	2345.4	2352.4
32.5°	2252.4	2293.5	2299.8
35°	2194.8	2235.9	2243.5
37.5°	2130.9	2175.8	2191.0
40°	2064.5	2113.2	2129.0
42.5°	1994.9	2048.0	2064.5
45°	1920.2	1978.4	1997.4
47.5°	1844.9	1910.7	1927.2
50°	1763.3	1833.5	1853.2
52.5°	1677.9	1754.5	1774.1
55°	1589.3	1666.5	1688.0
57.5°	1493.2	1572.9	1595.7
60°	1392.6	1472.3	1493.8
62.5°	1289.4	1361.6	1382.4
65°	1174.3	1242.0	1261.0
67.5°	1052.2	1114.2	1130.0
70°	922.5	976.2	990.2
72.5°	787.1	824.4	842.7
75°	647.2	677.0	690.9
77.5°	506.8	527.7	539.1
80°	369.5	381.5	391.0
82.5°	241.7	246.8	253.7
85°	130.3	130.3	134.8
87.5°	44.3	42.4	44.3
90°	0.0	0.0	0.0

(END OF REPORT)