

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: P834621

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834621
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-LD4-3HI-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

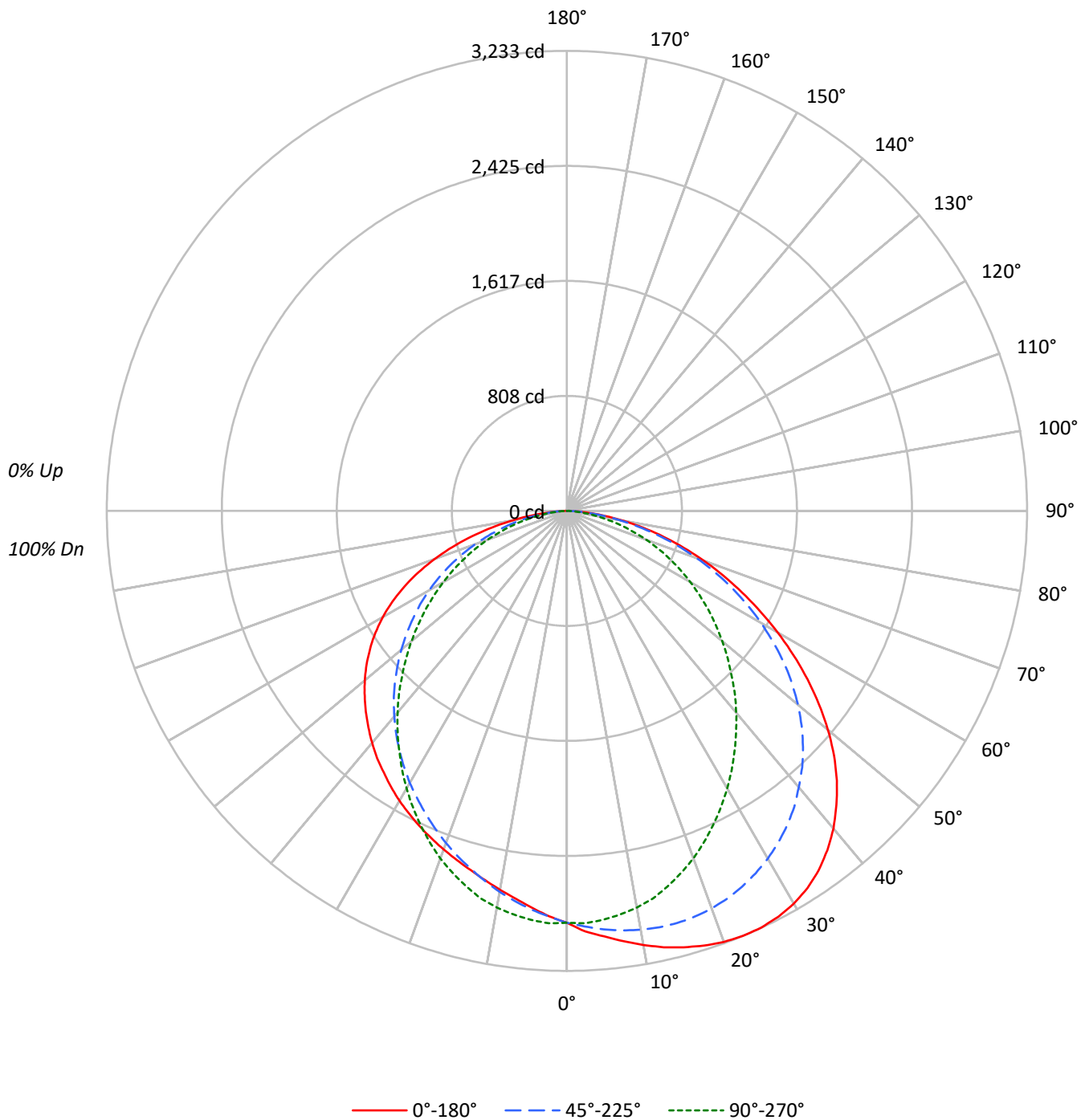
Lumens per Lamp: N/A
Luminaire Lumens: 8514.2 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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

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	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°	3895	3895	3895
5°	4055	3897	3781
10°	4232	3867	3694
15°	4422	3805	3641
20°	4616	3721	3625
25°	4797	3613	3631
30°	4953	3500	3655
35°	5066	3375	3685
40°	5117	3250	3739
45°	5103	3113	3800
50°	5013	2982	3879
55°	4841	2845	3960
60°	4605	2699	4020
65°	4324	2534	4014
70°	4024	2337	3895
75°	3654	2052	3592
80°	3137	1686	3030
85°	2393	1153	2081

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.5	3.2
10°-20°	792.8	9.3
20°-30°	1214.5	14.3
30°-40°	1482.2	17.4
40°-50°	1550.0	18.2
50°-60°	1402.9	16.5
60°-70°	1062.4	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°	2281.8	26.8
0°-40°	3764.0	44.2
0°-60°	6716.8	78.9
0°-90°	8514.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8514.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2894	2894	2894	2894	2894	
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	2063
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°	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5
2.5°	2958.4	2944.5	2933.1	2937.5	2940.0	2931.2	2923.6	2924.8	2917.2	2931.8	2897.6
5°	3002.0	2989.4	2976.1	2981.1	2976.1	2962.8	2952.0	2948.9	2928.6	2936.9	2902.1
7.5°	3050.7	3036.8	3017.2	3022.9	3012.2	2987.5	2973.6	2965.3	2934.3	2935.0	2896.4
10°	3097.6	3085.5	3059.0	3062.8	3043.2	3010.3	2988.1	2976.7	2933.1	2926.7	2886.9
12.5°	3141.2	3124.8	3096.3	3098.2	3069.7	3026.1	2997.6	2981.1	2924.2	2905.2	2866.0
15°	3174.7	3158.9	3124.8	3124.1	3087.4	3030.5	2998.2	2975.5	2903.3	2873.6	2832.5
17.5°	3203.2	3188.7	3146.3	3145.0	3100.7	3028.6	2990.0	2961.5	2873.0	2836.3	2790.7
20°	3223.5	3208.9	3161.5	3157.0	3103.9	3019.1	2972.9	2936.9	2833.1	2789.5	2738.8
22.5°	3233.0	3218.4	3164.6	3158.3	3096.3	3000.1	2948.3	2905.9	2787.6	2730.6	2678.1
25°	3231.1	3217.1	3156.4	3150.1	3081.7	2971.7	2913.5	2864.7	2730.0	2662.9	2611.0
27.5°	3215.2	3204.5	3140.6	3132.4	3055.2	2933.1	2871.1	2817.3	2666.1	2591.4	2535.1
30°	3188.0	3179.8	3112.1	3104.5	3022.3	2890.7	2821.7	2759.7	2597.1	2513.0	2456.0
32.5°	3144.4	3136.8	3068.5	3061.5	2978.0	2836.3	2764.1	2700.2	2521.8	2428.8	2371.9
35°	3084.3	3079.8	3013.4	3005.8	2921.0	2774.3	2697.7	2627.5	2443.4	2338.4	2283.9
37.5°	3005.2	3005.2	2941.3	2933.1	2850.2	2698.3	2623.1	2548.4	2354.8	2243.5	2189.7
40°	2913.5	2921.7	2856.5	2848.3	2767.9	2616.7	2534.5	2456.0	2259.3	2143.5	2091.0
42.5°	2803.4	2811.0	2756.6	2749.0	2673.7	2522.5	2445.9	2360.5	2159.3	2041.6	1987.2
45°	2681.9	2692.0	2643.3	2637.6	2567.4	2419.3	2345.9	2259.3	2054.9	1935.3	1882.2
47.5°	2546.5	2559.8	2517.4	2514.2	2449.1	2313.7	2237.1	2149.2	1945.5	1824.6	1774.6
50°	2394.7	2413.6	2378.8	2378.8	2320.6	2185.9	2119.5	2031.5	1831.6	1710.7	1661.4
52.5°	2232.1	2256.1	2230.2	2230.8	2183.4	2062.5	1993.5	1907.5	1712.6	1593.7	1548.1
55°	2063.8	2087.2	2070.7	2073.3	2035.9	1925.9	1863.2	1777.8	1591.2	1475.4	1432.4
57.5°	1887.9	1913.2	1902.4	1907.5	1881.6	1782.9	1717.7	1643.0	1465.9	1351.4	1314.7
60°	1711.4	1735.4	1729.7	1736.7	1720.2	1634.8	1575.4	1498.2	1340.0	1229.9	1197.6
62.5°	1533.0	1555.1	1553.8	1561.4	1552.6	1481.7	1428.6	1362.8	1209.7	1108.4	1078.7
65°	1358.3	1377.3	1376.1	1384.3	1382.4	1325.4	1277.4	1217.3	1079.3	986.3	960.4
67.5°	1188.8	1204.6	1200.2	1209.7	1212.2	1166.6	1124.9	1071.1	955.3	864.9	842.7
70°	1023.0	1033.8	1028.1	1034.4	1040.1	1005.9	970.5	923.1	823.1	743.4	725.0
72.5°	860.4	868.0	859.2	865.5	870.6	845.9	816.8	775.7	692.8	623.8	608.6
75°	702.9	713.7	695.3	701.6	705.4	680.8	663.7	630.1	558.6	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	146.1	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	49.3	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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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5	2894.5
2.5°	2907.1	2900.8	2895.1	2875.5	2883.7	2863.5	2862.2	2854.6	2848.9	2838.2	2852.1
5°	2897.6	2885.0	2868.5	2845.1	2852.1	2828.0	2823.0	2814.1	2806.5	2792.6	2803.4
7.5°	2882.5	2861.6	2835.6	2805.9	2815.4	2785.7	2778.1	2768.6	2762.2	2745.8	2755.3
10°	2860.3	2830.6	2800.2	2764.1	2771.1	2738.8	2729.3	2719.2	2713.5	2699.0	2708.5
12.5°	2826.1	2790.1	2749.0	2709.7	2717.3	2687.0	2674.3	2663.5	2661.7	2649.6	2661.0
15°	2781.9	2731.9	2689.5	2647.7	2656.6	2621.2	2615.5	2604.7	2607.9	2599.6	2613.6
17.5°	2725.6	2668.0	2621.8	2576.9	2585.7	2556.0	2551.6	2546.5	2549.7	2548.4	2563.6
20°	2662.3	2599.0	2545.9	2501.6	2506.6	2483.2	2485.1	2483.9	2490.2	2497.2	2518.0
22.5°	2590.8	2519.3	2463.6	2418.1	2425.7	2405.4	2414.3	2416.8	2427.6	2443.4	2470.0
25°	2510.4	2433.9	2375.7	2332.7	2339.6	2326.3	2341.5	2347.8	2364.9	2391.5	2418.7
27.5°	2426.3	2345.3	2283.3	2242.2	2255.5	2242.2	2265.0	2277.6	2303.6	2332.7	2366.2
30°	2337.1	2252.9	2189.0	2152.3	2165.0	2153.0	2189.7	2206.8	2232.7	2272.6	2312.4
32.5°	2243.5	2154.9	2092.2	2063.8	2072.6	2070.7	2111.9	2130.8	2165.6	2211.2	2253.6
35°	2147.3	2054.9	1991.7	1967.6	1978.4	1980.9	2030.2	2052.4	2090.3	2145.4	2190.9
37.5°	2048.0	1953.7	1891.7	1872.1	1881.6	1891.1	1948.6	1970.8	2013.8	2073.9	2123.9
40°	1944.8	1850.6	1789.8	1774.0	1783.5	1793.6	1856.3	1886.6	1933.4	1998.6	2053.0
42.5°	1840.4	1746.2	1687.3	1675.9	1685.4	1705.1	1771.5	1800.0	1849.3	1921.4	1981.5
45°	1734.2	1636.1	1584.8	1576.0	1586.1	1608.9	1674.0	1708.2	1760.7	1839.8	1904.3
47.5°	1626.6	1531.1	1482.4	1476.7	1486.8	1512.1	1584.2	1615.2	1670.9	1755.0	1824.6
50°	1517.8	1424.8	1378.0	1376.1	1385.6	1412.8	1481.7	1518.4	1576.0	1670.3	1741.7
52.5°	1407.7	1318.5	1276.1	1276.1	1285.0	1312.8	1382.4	1420.3	1479.8	1579.1	1658.2
55°	1297.6	1212.8	1172.3	1175.5	1188.2	1212.2	1279.9	1319.8	1379.9	1483.0	1566.5
57.5°	1187.5	1107.2	1070.5	1074.9	1086.9	1111.0	1177.4	1222.3	1276.7	1383.7	1469.1
60°	1078.7	1002.8	970.5	975.6	986.3	1010.4	1079.3	1117.9	1172.3	1281.2	1366.6
62.5°	968.6	899.7	869.3	875.6	885.1	909.1	974.3	1011.6	1065.4	1172.3	1258.4
65°	859.8	795.9	770.0	776.3	785.1	807.3	868.7	904.7	956.0	1060.4	1142.6
67.5°	752.2	694.0	672.5	678.9	685.8	706.7	757.3	796.5	844.6	943.9	1021.8
70°	646.0	594.1	575.1	581.4	587.8	606.7	651.0	687.1	731.4	822.5	894.6
72.5°	540.9	490.3	480.8	486.5	491.6	508.0	550.4	578.9	617.5	698.5	760.5
75°	438.4	394.8	388.5	394.2	398.6	411.2	446.7	471.3	503.6	573.8	624.4
77.5°	339.7	303.0	300.5	304.9	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	272.0	290.4	327.7	360.6
82.5°	163.2	139.8	143.0	146.1	148.0	152.5	164.5	180.3	191.7	214.5	236.0
85°	90.5	74.7	77.8	80.3	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°	2894.5	2894.5	2894.5
2.5°	2825.5	2840.7	2852.1
5°	2776.8	2789.5	2799.6
7.5°	2729.3	2740.7	2749.6
10°	2684.4	2697.1	2703.4
12.5°	2638.2	2652.8	2657.9
15°	2592.7	2607.2	2613.6
17.5°	2545.9	2564.9	2571.8
20°	2502.2	2526.3	2532.0
22.5°	2457.9	2482.6	2489.6
25°	2409.8	2438.9	2445.9
27.5°	2358.6	2393.4	2400.4
30°	2307.4	2345.3	2352.3
32.5°	2252.3	2293.4	2299.8
35°	2194.7	2235.9	2243.5
37.5°	2130.8	2175.8	2190.9
40°	2064.4	2113.1	2128.9
42.5°	1994.8	2048.0	2064.4
45°	1920.2	1978.4	1997.3
47.5°	1844.9	1910.7	1927.1
50°	1763.3	1833.5	1853.1
52.5°	1677.8	1754.4	1774.0
55°	1589.3	1666.5	1688.0
57.5°	1493.1	1572.8	1595.6
60°	1392.5	1472.2	1493.7
62.5°	1289.4	1361.5	1382.4
65°	1174.2	1241.9	1260.9
67.5°	1052.1	1114.1	1130.0
70°	922.4	976.2	990.1
72.5°	787.0	824.4	842.7
75°	647.2	677.0	690.9
77.5°	506.8	527.6	539.0
80°	369.5	381.5	391.0
82.5°	241.7	246.7	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)