

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: P834625

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5LO-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834625
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-LD4-5LO-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

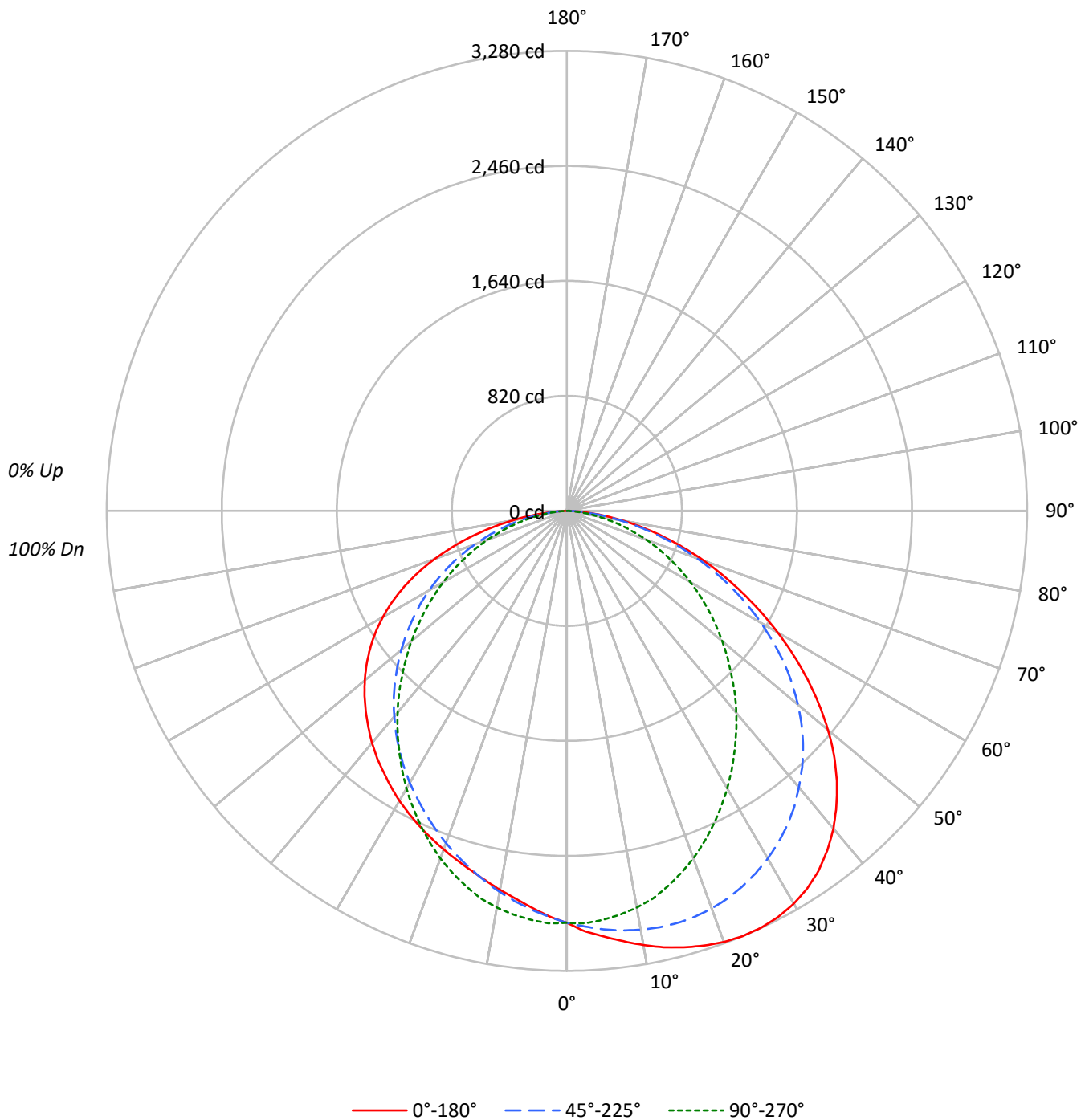
Lumens per Lamp: N/A
Luminaire Lumens: 8638.8 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 117
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	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°	3952	3952	3952
5°	4114	3954	3837
10°	4294	3924	3748
15°	4487	3861	3694
20°	4683	3776	3678
25°	4867	3666	3684
30°	5026	3551	3708
35°	5140	3425	3739
40°	5192	3298	3794
45°	5178	3159	3856
50°	5086	3026	3936
55°	4912	2887	4018
60°	4673	2738	4078
65°	4388	2571	4073
70°	4083	2371	3952
75°	3708	2083	3644
80°	3183	1711	3074
85°	2428	1169	2110

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.5	3.2
10°-20°	804.4	9.3
20°-30°	1232.3	14.3
30°-40°	1503.9	17.4
40°-50°	1572.7	18.2
50°-60°	1423.4	16.5
60°-70°	1078.0	12.5
70°-80°	600.8	7.0
80°-90°	144.9	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°	2315.2	26.8
0°-40°	3819.1	44.2
0°-60°	6815.2	78.9
0°-90°	8638.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8638.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2937	2937	2937	2937	2937	
5°	3046	2995	2927	2855	2841	294
15°	3221	3042	2772	2643	2652	914
25°	3278	2956	2470	2382	2482	1512
35°	3129	2737	2085	2082	2276	1954
45°	2721	2380	1660	1733	2027	2094
55°	2094	1890	1231	1339	1713	1868
65°	1378	1296	808	918	1279	1367
75°	713	673	401	478	701	756
85°	157	139	76	101	137	189
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°	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9
2.5°	3001.7	2987.6	2976.0	2980.5	2983.1	2974.1	2966.4	2967.7	2960.0	2974.7	2940.1
5°	3046.0	3033.1	3019.7	3024.8	3019.7	3006.2	2995.3	2992.1	2971.5	2979.9	2944.6
7.5°	3095.4	3081.3	3061.4	3067.2	3056.3	3031.2	3017.1	3008.7	2977.3	2977.9	2938.8
10°	3142.9	3130.7	3103.8	3107.6	3087.7	3054.3	3031.9	3020.3	2976.0	2969.6	2929.1
12.5°	3187.2	3170.5	3141.6	3143.6	3114.7	3070.4	3041.5	3024.8	2967.0	2947.8	2908.0
15°	3221.2	3205.2	3170.5	3169.9	3132.6	3074.9	3042.1	3019.0	2945.8	2915.7	2873.9
17.5°	3250.1	3235.4	3192.3	3191.1	3146.1	3072.9	3033.8	3004.9	2915.0	2877.8	2831.6
20°	3270.7	3255.9	3207.7	3203.3	3149.3	3063.3	3016.5	2979.9	2874.6	2830.3	2778.9
22.5°	3280.3	3265.5	3211.0	3204.5	3141.6	3044.1	2991.4	2948.4	2828.4	2770.6	2717.3
25°	3278.4	3264.2	3202.6	3196.2	3126.9	3015.2	2956.1	2906.7	2769.9	2701.9	2649.3
27.5°	3262.3	3251.4	3186.6	3178.2	3099.9	2976.0	2913.1	2858.5	2705.1	2629.4	2572.2
30°	3234.7	3226.4	3157.7	3150.0	3066.5	2933.0	2863.0	2800.1	2635.1	2549.8	2492.0
32.5°	3190.4	3182.7	3113.4	3106.3	3021.6	2877.8	2804.6	2739.8	2558.8	2464.4	2406.6
35°	3129.4	3124.9	3057.5	3049.8	2963.8	2814.9	2737.2	2666.0	2479.2	2372.6	2317.4
37.5°	3049.2	3049.2	2984.4	2976.0	2891.9	2737.9	2661.5	2585.7	2389.3	2276.3	2221.7
40°	2956.1	2964.5	2898.3	2890.0	2808.5	2655.0	2571.6	2492.0	2292.3	2174.9	2121.6
42.5°	2844.4	2852.1	2796.9	2789.2	2712.8	2559.4	2481.7	2395.1	2190.9	2071.5	2016.3
45°	2721.2	2731.4	2682.0	2676.2	2605.0	2454.8	2380.3	2292.3	2085.0	1963.7	1909.8
47.5°	2583.8	2597.3	2554.3	2551.0	2484.9	2347.6	2269.9	2180.7	1973.9	1851.3	1800.6
50°	2429.7	2449.0	2413.7	2413.7	2354.6	2217.9	2150.5	2061.3	1858.4	1735.8	1685.7
52.5°	2264.7	2289.1	2262.8	2263.5	2215.3	2092.7	2022.7	1935.4	1737.7	1617.0	1570.8
55°	2094.0	2117.7	2101.1	2103.6	2065.7	1954.0	1890.5	1803.8	1614.5	1497.0	1453.3
57.5°	1915.5	1941.2	1930.3	1935.4	1909.1	1809.0	1742.9	1667.1	1487.4	1371.2	1333.9
60°	1736.4	1760.8	1755.0	1762.1	1745.4	1658.8	1598.4	1520.1	1359.6	1247.9	1215.2
62.5°	1555.4	1577.9	1576.6	1584.3	1575.3	1503.4	1449.5	1382.7	1227.4	1124.7	1094.5
65°	1378.2	1397.5	1396.2	1404.6	1402.6	1344.9	1296.1	1235.1	1095.1	1000.8	974.5
67.5°	1206.2	1222.2	1217.8	1227.4	1229.9	1183.7	1141.4	1086.8	969.3	877.5	855.1
70°	1038.0	1048.9	1043.1	1049.6	1055.3	1020.7	984.7	936.6	835.2	754.3	735.7
72.5°	873.0	880.7	871.7	878.2	883.3	858.3	828.7	787.0	702.9	632.9	617.5
75°	713.2	724.1	705.5	711.9	715.8	690.7	673.4	639.4	566.8	512.9	502.6
77.5°	558.5	564.9	554.6	552.1	554.6	536.7	523.2	496.9	442.3	398.0	391.6
80°	410.8	414.7	404.4	401.9	403.8	390.9	380.7	361.4	322.9	289.5	286.9
82.5°	275.4	277.3	268.3	265.8	267.0	263.2	251.0	237.5	219.5	191.3	190.7
85°	157.3	157.3	150.9	148.3	149.6	143.2	138.7	131.6	124.5	105.3	106.6
87.5°	57.8	57.8	54.6	53.9	60.3	53.3	51.4	48.1	50.1	39.8	42.4
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°	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9	2936.9
2.5°	2949.7	2943.3	2937.5	2917.6	2925.9	2905.4	2904.1	2896.4	2890.6	2879.7	2893.8
5°	2940.1	2927.2	2910.5	2886.8	2893.8	2869.4	2864.3	2855.3	2847.6	2833.5	2844.4
7.5°	2924.7	2903.5	2877.2	2847.0	2856.6	2826.4	2818.7	2809.1	2802.7	2786.0	2795.6
10°	2902.2	2872.0	2841.2	2804.6	2811.7	2778.9	2769.3	2759.0	2753.3	2738.5	2748.1
12.5°	2867.5	2830.9	2789.2	2749.4	2757.1	2726.3	2713.5	2702.5	2700.6	2688.4	2700.0
15°	2822.6	2771.9	2728.9	2686.5	2695.5	2659.5	2653.8	2642.8	2646.1	2637.7	2651.8
17.5°	2765.5	2707.0	2660.2	2614.6	2623.6	2593.4	2588.9	2583.8	2587.0	2585.7	2601.1
20°	2701.3	2637.1	2583.1	2538.2	2543.3	2519.6	2521.5	2520.2	2526.7	2533.7	2554.9
22.5°	2628.7	2556.2	2499.7	2453.5	2461.2	2440.6	2449.6	2452.2	2463.1	2479.2	2506.1
25°	2547.2	2469.5	2410.5	2366.8	2373.9	2360.4	2375.8	2382.2	2399.6	2426.5	2454.1
27.5°	2461.8	2379.7	2316.7	2275.0	2288.5	2275.0	2298.1	2311.0	2337.3	2366.8	2400.8
30°	2371.3	2285.9	2221.1	2183.9	2196.7	2184.5	2221.7	2239.1	2265.4	2305.8	2346.3
32.5°	2276.3	2186.4	2122.9	2094.0	2103.0	2101.1	2142.8	2162.0	2197.3	2243.6	2286.6
35°	2178.7	2085.0	2020.8	1996.4	2007.3	2009.9	2060.0	2082.4	2121.0	2176.8	2223.0
37.5°	2077.9	1982.3	1919.4	1899.5	1909.1	1918.7	1977.2	1999.6	2043.3	2104.3	2155.0
40°	1973.3	1877.7	1816.0	1800.0	1809.6	1819.9	1883.4	1914.2	1961.8	2027.9	2083.1
42.5°	1867.4	1771.7	1712.0	1700.5	1710.1	1730.0	1797.4	1826.3	1876.4	1949.6	2010.5
45°	1759.5	1660.0	1608.0	1599.1	1609.3	1632.4	1698.6	1733.2	1786.5	1866.7	1932.2
47.5°	1650.4	1553.5	1504.1	1498.3	1508.5	1534.2	1607.4	1638.9	1695.3	1780.7	1851.3
50°	1540.0	1445.6	1398.1	1396.2	1405.8	1433.4	1503.4	1540.6	1599.1	1694.7	1767.2
52.5°	1428.3	1337.8	1294.8	1294.8	1303.8	1332.0	1402.6	1441.1	1501.5	1602.3	1682.5
55°	1316.6	1230.6	1189.5	1192.7	1205.6	1229.9	1298.6	1339.1	1400.1	1504.7	1589.4
57.5°	1204.9	1123.4	1086.2	1090.6	1102.8	1127.2	1194.6	1240.2	1295.4	1403.9	1490.6
60°	1094.5	1017.5	984.7	989.9	1000.8	1025.2	1095.1	1134.3	1189.5	1299.9	1386.6
62.5°	982.8	912.8	882.0	888.4	898.1	922.5	988.6	1026.5	1081.0	1189.5	1276.8
65°	872.4	807.6	781.2	787.7	796.6	819.1	881.4	918.0	970.0	1075.9	1159.3
67.5°	763.3	704.2	682.4	688.8	695.9	717.0	768.4	808.2	857.0	957.8	1036.7
70°	655.4	602.8	583.5	589.9	596.4	615.6	660.6	697.1	742.1	834.5	907.7
72.5°	548.9	497.5	487.9	493.6	498.8	515.5	558.5	587.4	626.5	708.7	771.6
75°	444.9	400.6	394.1	399.9	404.4	417.3	453.2	478.2	511.0	582.2	633.6
77.5°	344.7	307.5	304.9	309.4	313.9	322.9	351.1	377.5	403.1	455.8	501.4
80°	251.0	220.8	220.8	225.3	224.0	234.9	254.8	276.0	294.6	332.5	365.9
82.5°	165.6	141.9	145.1	148.3	150.2	154.7	166.9	183.0	194.5	217.6	239.4
85°	91.8	75.7	79.0	81.5	80.2	85.4	91.8	101.4	107.2	118.1	129.7
87.5°	34.0	28.2	28.9	30.8	32.1	34.7	34.7	40.4	41.1	42.4	44.9
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°	2936.9	2936.9	2936.9
2.5°	2866.9	2882.3	2893.8
5°	2817.5	2830.3	2840.6
7.5°	2769.3	2780.9	2789.8
10°	2723.7	2736.6	2743.0
12.5°	2676.9	2691.6	2696.8
15°	2630.6	2645.4	2651.8
17.5°	2583.1	2602.4	2609.5
20°	2538.9	2563.2	2569.0
22.5°	2493.9	2519.0	2526.0
25°	2445.1	2474.7	2481.7
27.5°	2393.1	2428.4	2435.5
30°	2341.1	2379.7	2386.7
32.5°	2285.3	2327.0	2333.4
35°	2226.9	2268.6	2276.3
37.5°	2162.0	2207.6	2223.0
40°	2094.6	2144.1	2160.1
42.5°	2024.0	2077.9	2094.6
45°	1948.3	2007.3	2026.6
47.5°	1871.9	1938.6	1955.3
50°	1789.1	1860.3	1880.2
52.5°	1702.4	1780.1	1800.0
55°	1612.5	1690.9	1712.7
57.5°	1515.0	1595.9	1619.0
60°	1412.9	1493.8	1515.6
62.5°	1308.3	1381.4	1402.6
65°	1191.4	1260.1	1279.4
67.5°	1067.5	1130.4	1146.5
70°	935.9	990.5	1004.6
72.5°	798.6	836.4	855.1
75°	656.7	686.9	701.0
77.5°	514.2	535.4	546.9
80°	374.9	387.1	396.7
82.5°	245.2	250.4	257.4
85°	132.2	132.2	136.7
87.5°	44.9	43.0	44.9
90°	0.0	0.0	0.0

(END OF REPORT)