

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: P834583

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-40-120-EDD**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834583
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-LD4-3LO-40-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

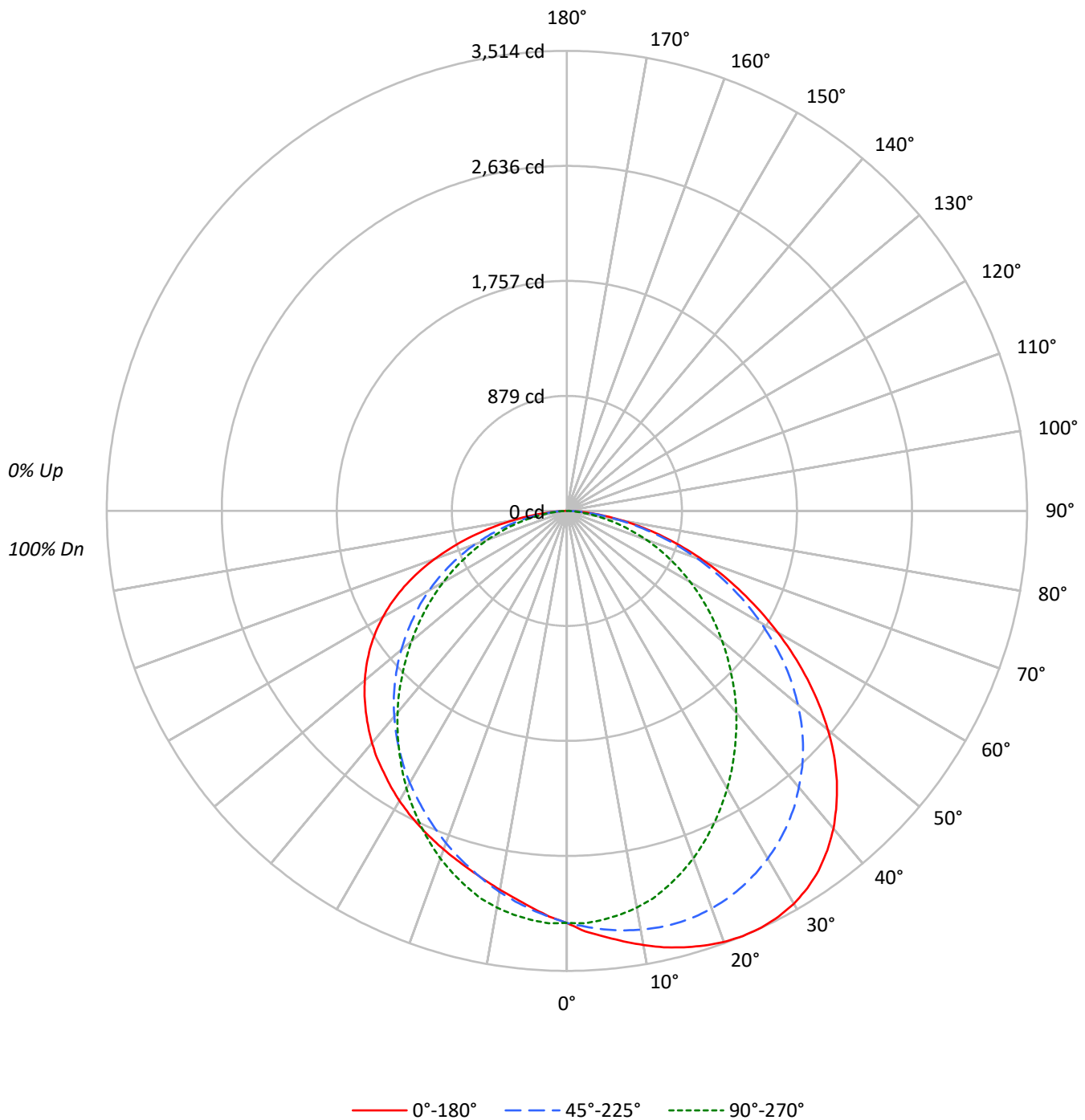
Lumens per Lamp: N/A
Luminaire Lumens: 9255.7 lumens
Efficiency: N/A
Efficacy: 131.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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



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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°	4234	4234	4234
5°	4408	4236	4111
10°	4601	4204	4015
15°	4807	4137	3958
20°	5017	4046	3941
25°	5215	3928	3947
30°	5384	3805	3973
35°	5507	3669	4006
40°	5563	3533	4065
45°	5548	3384	4132
50°	5449	3242	4217
55°	5263	3093	4305
60°	5006	2933	4370
65°	4701	2755	4364
70°	4375	2541	4235
75°	3972	2231	3904
80°	3411	1833	3293
85°	2601	1254	2262

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.4	3.2
10°-20°	861.8	9.3
20°-30°	1320.3	14.3
30°-40°	1611.2	17.4
40°-50°	1685.0	18.2
50°-60°	1525.0	16.5
60°-70°	1155.0	12.5
70°-80°	643.6	7.0
80°-90°	155.3	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°	2480.5	26.8
0°-40°	4091.8	44.2
0°-60°	7301.8	78.9
0°-90°	9255.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9255.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3147	3147	3147	3147	3147	
5°	3264	3209	3136	3059	3043	315
15°	3451	3259	2970	2832	2841	979
25°	3512	3167	2646	2552	2659	1620
35°	3353	2933	2234	2231	2439	2094
45°	2916	2550	1779	1857	2171	2243
55°	2244	2026	1318	1435	1835	2002
65°	1477	1389	865	984	1371	1465
75°	764	722	429	512	751	810
85°	168	149	81	109	146	203
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°	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6
2.5°	3216.0	3200.9	3188.5	3193.3	3196.1	3186.5	3178.2	3179.6	3171.3	3187.1	3150.0
5°	3263.5	3249.7	3235.3	3240.8	3235.3	3220.8	3209.1	3205.7	3183.7	3192.6	3154.8
7.5°	3316.4	3301.3	3280.0	3286.2	3274.5	3247.7	3232.5	3223.6	3189.9	3190.6	3148.6
10°	3367.3	3354.3	3325.4	3329.5	3308.2	3272.4	3248.4	3236.0	3188.5	3181.6	3138.3
12.5°	3414.8	3396.9	3366.0	3368.0	3337.1	3289.6	3258.7	3240.8	3178.9	3158.3	3115.6
15°	3451.2	3434.0	3396.9	3396.2	3356.3	3294.4	3259.4	3234.6	3156.2	3123.9	3079.2
17.5°	3482.2	3466.4	3420.3	3418.9	3370.8	3292.4	3250.4	3219.5	3123.2	3083.3	3033.8
20°	3504.2	3488.4	3436.8	3432.0	3374.2	3282.1	3231.8	3192.6	3079.8	3032.4	2977.4
22.5°	3514.5	3498.7	3440.2	3433.4	3366.0	3261.4	3205.0	3158.9	3030.3	2968.4	2911.3
25°	3512.5	3497.3	3431.3	3424.4	3350.1	3230.5	3167.2	3114.2	2967.7	2894.8	2838.4
27.5°	3495.3	3483.6	3414.1	3405.2	3321.3	3188.5	3121.1	3062.7	2898.3	2817.1	2755.9
30°	3465.7	3456.7	3383.2	3374.9	3285.5	3142.4	3067.5	3000.1	2823.3	2731.8	2669.9
32.5°	3418.2	3410.0	3335.7	3328.1	3237.3	3083.3	3004.9	2935.4	2741.5	2640.4	2578.5
35°	3352.9	3348.1	3275.9	3267.6	3175.4	3015.9	2932.7	2856.3	2656.2	2542.0	2482.9
37.5°	3266.9	3266.9	3197.5	3188.5	3098.4	2933.4	2851.5	2770.3	2559.9	2438.8	2380.4
40°	3167.2	3176.1	3105.3	3096.4	3009.0	2844.6	2755.2	2669.9	2456.0	2330.2	2273.1
42.5°	3047.5	3055.8	2996.6	2988.4	2906.5	2742.1	2658.9	2566.1	2347.4	2219.4	2160.3
45°	2915.5	2926.5	2873.5	2867.3	2791.0	2630.0	2550.3	2456.0	2233.9	2103.9	2046.1
47.5°	2768.3	2782.7	2736.6	2733.2	2662.4	2515.2	2432.0	2336.4	2114.9	1983.5	1929.2
50°	2603.2	2623.9	2586.0	2586.0	2522.8	2376.3	2304.0	2208.4	1991.1	1859.7	1806.1
52.5°	2426.5	2452.6	2424.4	2425.1	2373.5	2242.1	2167.2	2073.6	1861.8	1732.5	1683.0
55°	2243.5	2269.0	2251.1	2253.8	2213.3	2093.6	2025.5	1932.6	1729.7	1603.9	1557.1
57.5°	2052.3	2079.8	2068.1	2073.6	2045.4	1938.1	1867.3	1786.1	1593.6	1469.1	1429.2
60°	1860.4	1886.6	1880.4	1887.9	1870.1	1777.2	1712.6	1628.6	1456.7	1337.0	1302.0
62.5°	1666.5	1690.5	1689.2	1697.4	1687.8	1610.8	1553.0	1481.5	1315.0	1205.0	1172.7
65°	1476.6	1497.3	1495.9	1504.8	1502.8	1440.9	1388.6	1323.3	1173.3	1072.2	1044.0
67.5°	1292.3	1309.5	1304.7	1315.0	1317.8	1268.3	1222.9	1164.4	1038.5	940.2	916.1
70°	1112.1	1123.8	1117.6	1124.5	1130.7	1093.6	1055.0	1003.5	894.8	808.1	788.2
72.5°	935.4	943.6	934.0	940.9	946.4	919.6	887.9	843.2	753.1	678.1	661.6
75°	764.1	775.8	755.9	762.7	766.9	740.0	721.5	685.0	607.3	549.5	538.5
77.5°	598.4	605.2	594.2	591.5	594.2	575.0	560.5	532.3	473.9	426.4	419.5
80°	440.2	444.3	433.3	430.5	432.6	418.9	407.8	387.2	345.9	310.2	307.4
82.5°	295.1	297.1	287.5	284.7	286.1	282.0	268.9	254.5	235.2	205.0	204.3
85°	168.5	168.5	161.6	158.9	160.3	153.4	148.6	141.0	133.4	112.8	114.2
87.5°	61.9	61.9	58.5	57.8	64.7	57.1	55.0	51.6	53.6	42.6	45.4
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°	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6	3146.6
2.5°	3160.3	3153.4	3147.2	3125.9	3134.9	3112.9	3111.5	3103.2	3097.0	3085.3	3100.5
5°	3150.0	3136.2	3118.4	3092.9	3100.5	3074.3	3068.8	3059.2	3051.0	3035.8	3047.5
7.5°	3133.5	3110.8	3082.6	3050.3	3060.6	3028.3	3020.0	3009.7	3002.8	2984.9	2995.3
10°	3109.4	3077.1	3044.1	3004.9	3012.4	2977.4	2967.1	2956.0	2949.9	2934.0	2944.4
12.5°	3072.3	3033.1	2988.4	2945.7	2954.0	2921.0	2907.2	2895.5	2893.5	2880.4	2892.8
15°	3024.1	2969.8	2923.7	2878.3	2888.0	2849.4	2843.3	2831.6	2835.0	2826.1	2841.2
17.5°	2962.9	2900.3	2850.1	2801.3	2810.9	2778.6	2773.8	2768.3	2771.7	2770.3	2786.9
20°	2894.1	2825.4	2767.6	2719.5	2725.0	2699.5	2701.6	2700.2	2707.1	2714.6	2737.3
22.5°	2816.4	2738.7	2678.2	2628.7	2636.9	2614.9	2624.5	2627.3	2639.0	2656.2	2685.1
25°	2729.1	2645.9	2582.6	2535.8	2543.4	2528.9	2545.4	2552.3	2570.9	2599.8	2629.4
27.5°	2637.6	2549.6	2482.2	2437.5	2451.9	2437.5	2462.2	2476.0	2504.2	2535.8	2572.3
30°	2540.6	2449.2	2379.7	2339.8	2353.6	2340.5	2380.4	2399.0	2427.1	2470.5	2513.8
32.5°	2438.8	2342.6	2274.5	2243.5	2253.1	2251.1	2295.8	2316.4	2354.2	2403.8	2449.8
35°	2334.3	2233.9	2165.1	2139.0	2150.7	2153.4	2207.1	2231.1	2272.4	2332.2	2381.8
37.5°	2226.3	2123.8	2056.4	2035.1	2045.4	2055.8	2118.3	2142.4	2189.2	2254.5	2308.9
40°	2114.2	2011.7	1945.7	1928.5	1938.8	1949.8	2017.9	2050.9	2101.8	2172.7	2231.8
42.5°	2000.7	1898.3	1834.3	1821.9	1832.2	1853.5	1925.8	1956.7	2010.4	2088.8	2154.1
45°	1885.2	1778.6	1722.9	1713.2	1724.2	1749.0	1819.8	1857.0	1914.1	2000.0	2070.2
47.5°	1768.3	1664.4	1611.5	1605.3	1616.3	1643.8	1722.2	1755.9	1816.4	1907.9	1983.5
50°	1650.0	1548.9	1498.0	1495.9	1506.2	1535.8	1610.8	1650.7	1713.2	1815.7	1893.4
52.5°	1530.3	1433.3	1387.2	1387.2	1396.9	1427.1	1502.8	1544.0	1608.7	1716.7	1802.7
55°	1410.6	1318.5	1274.4	1277.9	1291.6	1317.8	1391.4	1434.7	1500.0	1612.1	1702.9
57.5°	1290.9	1203.6	1163.7	1168.5	1181.6	1207.7	1279.9	1328.8	1387.9	1504.2	1597.0
60°	1172.7	1090.1	1055.0	1060.5	1072.2	1098.4	1173.3	1215.3	1274.4	1392.7	1485.6
62.5°	1053.0	978.0	945.0	951.9	962.2	988.3	1059.2	1099.7	1158.2	1274.4	1368.0
65°	934.7	865.2	837.0	843.9	853.5	877.6	944.3	983.5	1039.2	1152.7	1242.1
67.5°	817.8	754.5	731.1	738.0	745.5	768.2	823.3	865.9	918.2	1026.2	1110.8
70°	702.2	645.8	625.2	632.1	638.9	659.6	707.7	746.9	795.1	894.1	972.5
72.5°	588.0	533.0	522.7	528.9	534.4	552.3	598.4	629.3	671.3	759.3	826.7
75°	476.6	429.2	422.3	428.5	433.3	447.1	485.6	512.4	547.5	623.8	678.8
77.5°	369.3	329.4	326.7	331.5	336.3	345.9	376.2	404.4	431.9	488.3	537.2
80°	268.9	236.6	236.6	241.4	240.0	251.7	273.0	295.7	315.7	356.3	392.0
82.5°	177.4	152.0	155.4	158.9	160.9	165.8	178.8	196.0	208.4	233.2	256.5
85°	98.4	81.2	84.6	87.3	86.0	91.5	98.4	108.7	114.9	126.6	138.9
87.5°	36.5	30.3	30.9	33.0	34.4	37.1	37.1	43.3	44.0	45.4	48.1
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°	3146.6	3146.6	3146.6
2.5°	3071.6	3088.1	3100.5
5°	3018.6	3032.4	3043.4
7.5°	2967.1	2979.4	2989.1
10°	2918.2	2932.0	2938.9
12.5°	2868.0	2883.8	2889.3
15°	2818.5	2834.3	2841.2
17.5°	2767.6	2788.2	2795.8
20°	2720.1	2746.3	2752.5
22.5°	2672.0	2698.8	2706.4
25°	2619.7	2651.4	2658.9
27.5°	2564.0	2601.8	2609.4
30°	2508.3	2549.6	2557.1
32.5°	2448.5	2493.2	2500.1
35°	2385.9	2430.6	2438.8
37.5°	2316.4	2365.3	2381.8
40°	2244.2	2297.2	2314.4
42.5°	2168.5	2226.3	2244.2
45°	2087.4	2150.7	2171.3
47.5°	2005.5	2077.1	2095.0
50°	1916.8	1993.2	2014.5
52.5°	1824.0	1907.2	1928.5
55°	1727.7	1811.6	1835.0
57.5°	1623.1	1709.8	1734.6
60°	1513.8	1600.4	1623.8
62.5°	1401.7	1480.1	1502.8
65°	1276.5	1350.1	1370.7
67.5°	1143.8	1211.2	1228.4
70°	1002.8	1061.2	1076.4
72.5°	855.6	896.2	916.1
75°	703.6	735.9	751.0
77.5°	550.9	573.6	586.0
80°	401.7	414.7	425.0
82.5°	262.7	268.2	275.8
85°	141.7	141.7	146.5
87.5°	48.1	46.1	48.1
90°	0.0	0.0	0.0

(END OF REPORT)