

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: P834623

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834623
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-LD4-4STD-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

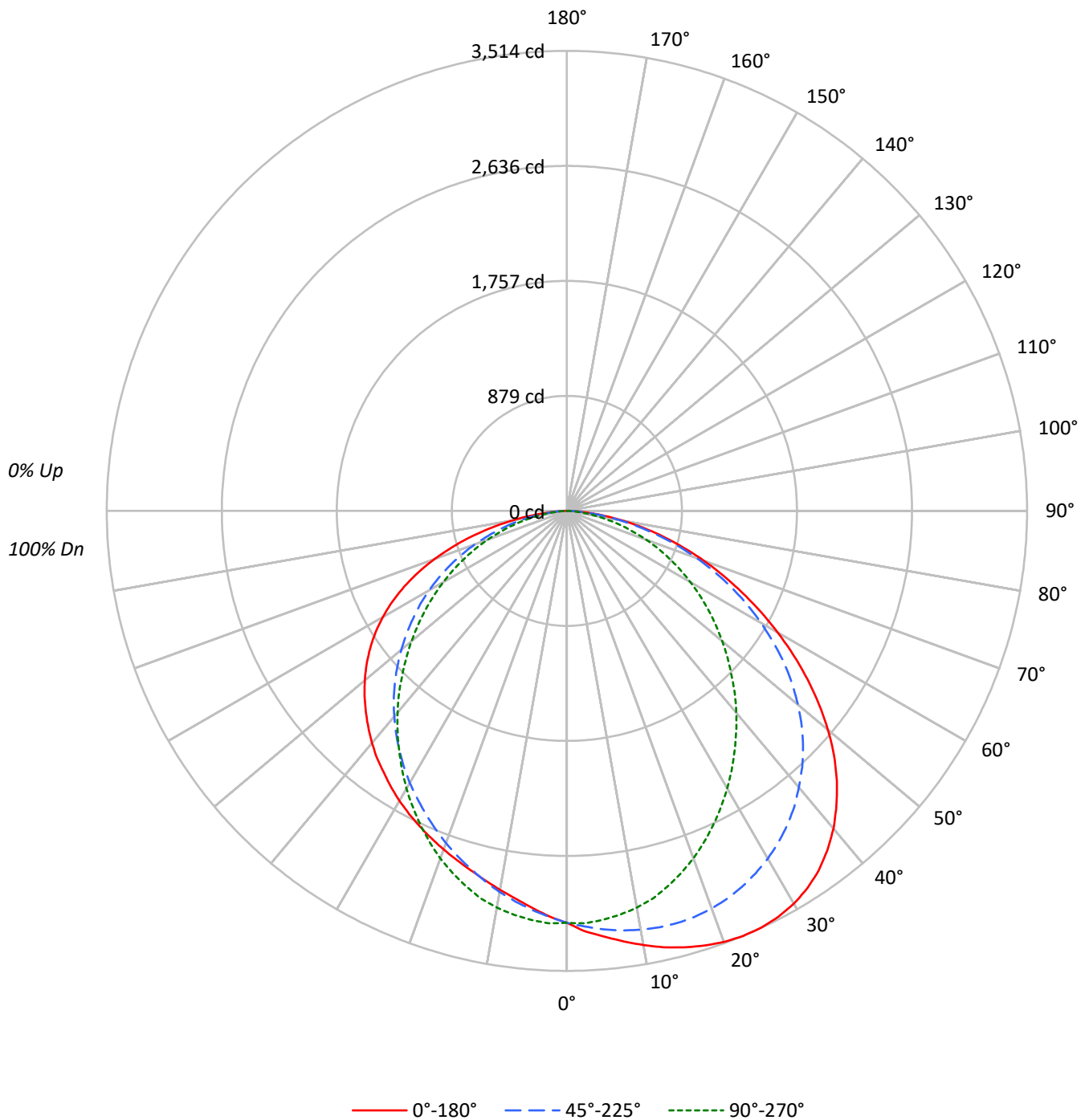
Lumens per Lamp: N/A
Luminaire Lumens: 9255.5 lumens
Efficiency: N/A
Efficacy: 69.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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



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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4234	4234	4234
5°	4408	4236	4110
10°	4601	4204	4015
15°	4807	4137	3958
20°	5017	4045	3941
25°	5214	3928	3947
30°	5384	3805	3973
35°	5507	3669	4006
40°	5563	3533	4065
45°	5547	3384	4132
50°	5449	3242	4217
55°	5263	3093	4304
60°	5006	2933	4370
65°	4701	2755	4364
70°	4375	2541	4234
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°	155.2	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°	4091.7	44.2
0°-60°	7301.7	78.9
0°-90°	9255.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9255.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3146	3146	3146	3146	3146	
5°	3263	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°	2915	2550	1778	1857	2171	2243
55°	2244	2025	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°	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5
2.5°	3216.0	3200.8	3188.4	3193.3	3196.0	3186.4	3178.1	3179.5	3171.3	3187.1	3149.9
5°	3263.4	3249.7	3235.2	3240.7	3235.2	3220.8	3209.1	3205.6	3183.6	3192.6	3154.7
7.5°	3316.4	3301.2	3279.9	3286.1	3274.4	3247.6	3232.5	3223.5	3189.8	3190.5	3148.6
10°	3367.3	3354.2	3325.3	3329.4	3308.1	3272.4	3248.3	3235.9	3188.4	3181.6	3138.2
12.5°	3414.7	3396.8	3365.9	3368.0	3337.0	3289.5	3258.6	3240.7	3178.8	3158.2	3115.5
15°	3451.2	3434.0	3396.8	3396.1	3356.3	3294.4	3259.3	3234.5	3156.1	3123.8	3079.1
17.5°	3482.1	3466.3	3420.2	3418.8	3370.7	3292.3	3250.3	3219.4	3123.1	3083.2	3033.7
20°	3504.1	3488.3	3436.7	3431.9	3374.1	3282.0	3231.8	3192.6	3079.8	3032.3	2977.3
22.5°	3514.4	3498.6	3440.2	3433.3	3365.9	3261.3	3205.0	3158.9	3030.3	2968.4	2911.3
25°	3512.4	3497.2	3431.2	3424.3	3350.1	3230.4	3167.1	3114.2	2967.7	2894.8	2838.4
27.5°	3495.2	3483.5	3414.0	3405.1	3321.2	3188.4	3121.0	3062.6	2898.2	2817.1	2755.8
30°	3465.6	3456.7	3383.1	3374.8	3285.4	3142.4	3067.4	3000.0	2823.2	2731.8	2669.9
32.5°	3418.2	3409.9	3335.6	3328.1	3237.3	3083.2	3004.8	2935.4	2741.4	2640.3	2578.4
35°	3352.8	3348.0	3275.8	3267.5	3175.4	3015.8	2932.6	2856.3	2656.1	2542.0	2482.8
37.5°	3266.9	3266.9	3197.4	3188.4	3098.4	2933.3	2851.4	2770.3	2559.8	2438.8	2380.3
40°	3167.1	3176.1	3105.2	3096.3	3008.9	2844.6	2755.2	2669.9	2456.0	2330.1	2273.0
42.5°	3047.5	3055.7	2996.6	2988.3	2906.5	2742.1	2658.9	2566.0	2347.3	2219.4	2160.2
45°	2915.4	2926.4	2873.5	2867.3	2790.9	2630.0	2550.2	2456.0	2233.8	2103.9	2046.1
47.5°	2768.2	2782.7	2736.6	2733.2	2662.3	2515.1	2431.9	2336.3	2114.9	1983.5	1929.2
50°	2603.2	2623.8	2586.0	2586.0	2522.7	2376.2	2304.0	2208.4	1991.1	1859.7	1806.1
52.5°	2426.4	2452.5	2424.3	2425.0	2373.5	2242.1	2167.1	2073.6	1861.8	1732.5	1682.9
55°	2243.5	2268.9	2251.0	2253.8	2213.2	2093.5	2025.4	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	1593.5	1469.1	1429.2
60°	1860.4	1886.5	1880.3	1887.9	1870.0	1777.2	1712.5	1628.6	1456.7	1337.0	1301.9
62.5°	1666.4	1690.5	1689.1	1697.4	1687.8	1610.7	1553.0	1481.4	1315.0	1205.0	1172.6
65°	1476.6	1497.2	1495.9	1504.8	1502.8	1440.9	1388.6	1323.2	1173.3	1072.2	1044.0
67.5°	1292.3	1309.5	1304.7	1315.0	1317.7	1268.2	1222.8	1164.4	1038.5	940.2	916.1
70°	1112.1	1123.8	1117.6	1124.5	1130.7	1093.5	1055.0	1003.4	894.8	808.1	788.2
72.5°	935.4	943.6	934.0	940.9	946.4	919.5	887.9	843.2	753.1	678.1	661.6
75°	764.1	775.8	755.8	762.7	766.9	740.0	721.5	685.0	607.3	549.5	538.5
77.5°	598.3	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	418.8	407.8	387.2	345.9	310.2	307.4
82.5°	295.0	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	160.2	153.4	148.6	141.0	133.4	112.8	114.2
87.5°	61.9	61.9	58.5	57.8	64.6	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°	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5	3146.5
2.5°	3160.2	3153.4	3147.2	3125.9	3134.8	3112.8	3111.4	3103.2	3097.0	3085.3	3100.4
5°	3149.9	3136.2	3118.3	3092.8	3100.4	3074.3	3068.8	3059.1	3050.9	3035.8	3047.5
7.5°	3133.4	3110.7	3082.5	3050.2	3060.5	3028.2	3019.9	3009.6	3002.8	2984.9	2995.2
10°	3109.4	3077.0	3044.0	3004.8	3012.4	2977.3	2967.0	2956.0	2949.8	2934.0	2944.3
12.5°	3072.2	3033.0	2988.3	2945.7	2953.9	2920.9	2907.2	2895.5	2893.4	2880.3	2892.7
15°	3024.1	2969.7	2923.7	2878.3	2887.9	2849.4	2843.2	2831.5	2834.9	2826.0	2841.1
17.5°	2962.9	2900.3	2850.1	2801.2	2810.9	2778.5	2773.7	2768.2	2771.7	2770.3	2786.8
20°	2894.1	2825.3	2767.5	2719.4	2724.9	2699.5	2701.5	2700.1	2707.0	2714.6	2737.3
22.5°	2816.4	2738.7	2678.1	2628.6	2636.9	2614.9	2624.5	2627.2	2638.9	2656.1	2685.0
25°	2729.0	2645.8	2582.5	2535.8	2543.3	2528.9	2545.4	2552.3	2570.8	2599.7	2629.3
27.5°	2637.6	2549.5	2482.1	2437.4	2451.9	2437.4	2462.2	2475.9	2504.1	2535.8	2572.2
30°	2540.6	2449.1	2379.6	2339.8	2353.5	2340.4	2380.3	2398.9	2427.1	2470.4	2513.8
32.5°	2438.8	2342.5	2274.4	2243.5	2253.1	2251.0	2295.7	2316.4	2354.2	2403.7	2449.8
35°	2334.3	2233.8	2165.1	2138.9	2150.6	2153.4	2207.0	2231.1	2272.4	2332.2	2381.7
37.5°	2226.3	2123.8	2056.4	2035.1	2045.4	2055.7	2118.3	2142.4	2189.1	2254.5	2308.8
40°	2114.2	2011.7	1945.7	1928.5	1938.8	1949.8	2017.9	2050.9	2101.8	2172.6	2231.8
42.5°	2000.7	1898.2	1834.3	1821.9	1832.2	1853.5	1925.7	1956.7	2010.3	2088.7	2154.1
45°	1885.1	1778.5	1722.8	1713.2	1724.2	1749.0	1819.8	1856.9	1914.0	2000.0	2070.2
47.5°	1768.2	1664.4	1611.4	1605.2	1616.2	1643.7	1722.1	1755.8	1816.4	1907.8	1983.5
50°	1649.9	1548.8	1497.9	1495.9	1506.2	1535.8	1610.7	1650.6	1713.2	1815.7	1893.4
52.5°	1530.3	1433.3	1387.2	1387.2	1396.8	1427.1	1502.8	1544.0	1608.7	1716.6	1802.6
55°	1410.6	1318.4	1274.4	1277.9	1291.6	1317.7	1391.3	1434.7	1500.0	1612.1	1702.9
57.5°	1290.9	1203.6	1163.7	1168.5	1181.6	1207.7	1279.9	1328.7	1387.9	1504.1	1597.0
60°	1172.6	1090.1	1055.0	1060.5	1072.2	1098.3	1173.3	1215.3	1274.4	1392.7	1485.6
62.5°	1053.0	978.0	945.0	951.9	962.2	988.3	1059.1	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°	817.7	754.5	731.1	738.0	745.5	768.2	823.2	865.9	918.2	1026.1	1110.7
70°	702.2	645.8	625.2	632.0	638.9	659.6	707.7	746.9	795.0	894.1	972.5
72.5°	588.0	533.0	522.7	528.9	534.4	552.3	598.3	629.3	671.3	759.3	826.7
75°	476.6	429.2	422.3	428.5	433.3	447.0	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	537.1
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	165.7	178.8	196.0	208.4	233.1	256.5
85°	98.3	81.2	84.6	87.3	86.0	91.5	98.3	108.7	114.9	126.5	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°	3146.5	3146.5	3146.5
2.5°	3071.5	3088.0	3100.4
5°	3018.6	3032.3	3043.3
7.5°	2967.0	2979.4	2989.0
10°	2918.2	2931.9	2938.8
12.5°	2868.0	2883.8	2889.3
15°	2818.4	2834.3	2841.1
17.5°	2767.5	2788.2	2795.7
20°	2720.1	2746.2	2752.4
22.5°	2671.9	2698.8	2706.3
25°	2619.7	2651.3	2658.9
27.5°	2564.0	2601.8	2609.4
30°	2508.3	2549.5	2557.1
32.5°	2448.4	2493.1	2500.0
35°	2385.8	2430.5	2438.8
37.5°	2316.4	2365.2	2381.7
40°	2244.2	2297.1	2314.3
42.5°	2168.5	2226.3	2244.2
45°	2087.3	2150.6	2171.3
47.5°	2005.5	2077.0	2094.9
50°	1916.8	1993.1	2014.4
52.5°	1823.9	1907.2	1928.5
55°	1727.6	1811.6	1834.9
57.5°	1623.1	1709.8	1734.5
60°	1513.8	1600.4	1623.8
62.5°	1401.7	1480.1	1502.8
65°	1276.5	1350.1	1370.7
67.5°	1143.7	1211.1	1228.3
70°	1002.8	1061.2	1076.3
72.5°	855.6	896.1	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)