

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: P834640

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4LO-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834640
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-LD4-4LO-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

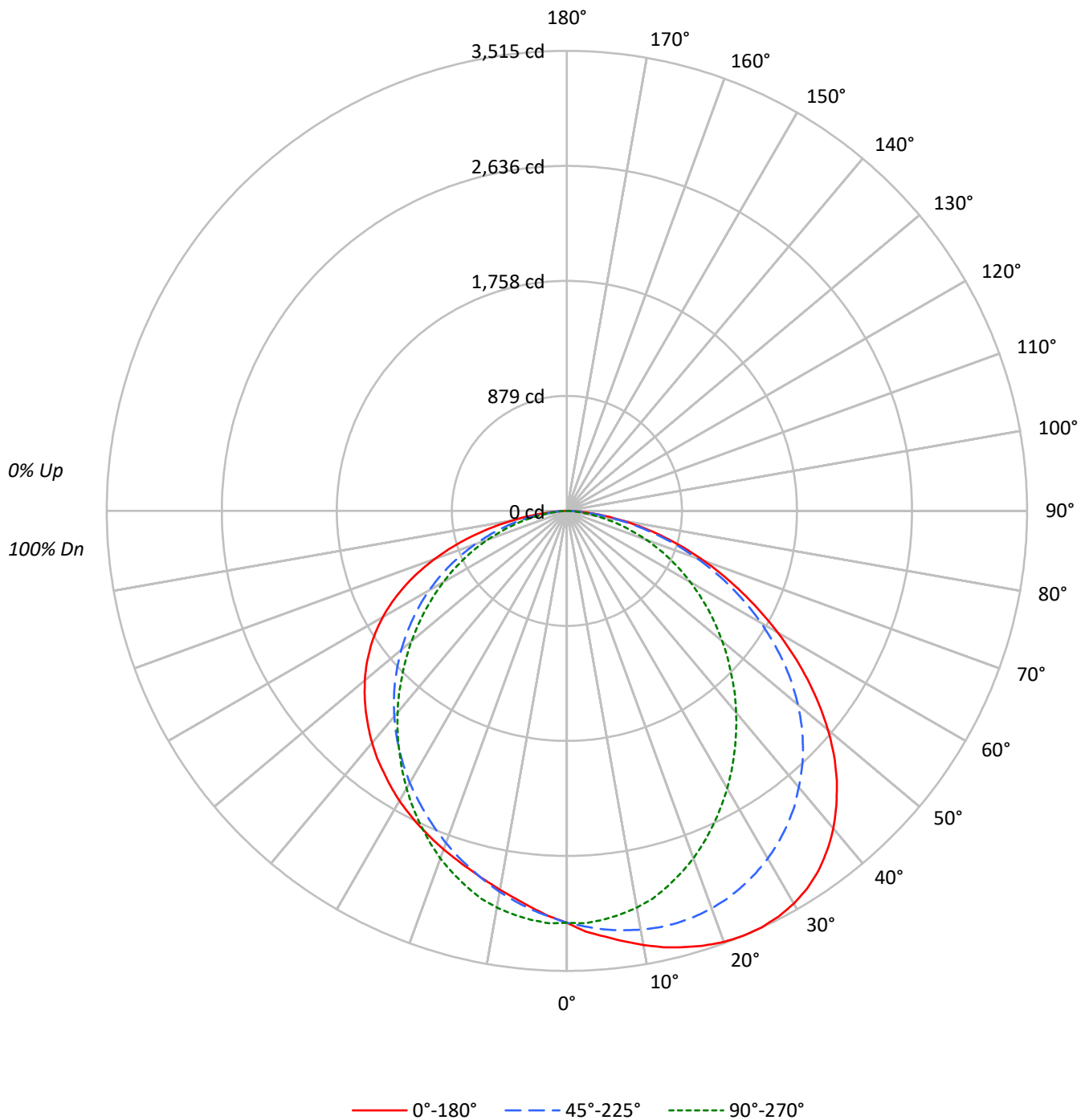
Lumens per Lamp: N/A
Luminaire Lumens: 9256.2 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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°	4234	4234	4234
5°	4408	4236	4111
10°	4601	4204	4015
15°	4808	4137	3958
20°	5018	4046	3941
25°	5215	3928	3948
30°	5385	3805	3973
35°	5508	3669	4006
40°	5563	3534	4065
45°	5548	3385	4132
50°	5449	3242	4217
55°	5263	3093	4305
60°	5007	2934	4370
65°	4701	2755	4364
70°	4375	2541	4235
75°	3973	2231	3905
80°	3411	1833	3294
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°	861.9	9.3
20°-30°	1320.4	14.3
30°-40°	1611.3	17.4
40°-50°	1685.1	18.2
50°-60°	1525.1	16.5
60°-70°	1155.0	12.5
70°-80°	643.7	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°	2480.7	26.8
0°-40°	4092.0	44.2
0°-60°	7302.2	78.9
0°-90°	9256.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9256.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3147	3147	3147	3147	3147	
5°	3264	3209	3136	3059	3044	315
15°	3451	3260	2970	2832	2841	979
25°	3513	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°	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7
2.5°	3216.2	3201.1	3188.7	3193.5	3196.2	3186.6	3178.4	3179.7	3171.5	3187.3	3150.2
5°	3263.7	3249.9	3235.5	3241.0	3235.5	3221.0	3209.3	3205.9	3183.9	3192.8	3155.0
7.5°	3316.6	3301.5	3280.2	3286.4	3274.7	3247.8	3232.7	3223.8	3190.1	3190.7	3148.8
10°	3367.5	3354.4	3325.6	3329.7	3308.4	3272.6	3248.5	3236.1	3188.7	3181.8	3138.5
12.5°	3415.0	3397.1	3366.1	3368.2	3337.3	3289.8	3258.8	3241.0	3179.1	3158.4	3115.8
15°	3451.4	3434.2	3397.1	3396.4	3356.5	3294.6	3259.5	3234.8	3156.4	3124.0	3079.3
17.5°	3482.4	3466.6	3420.5	3419.1	3371.0	3292.5	3250.6	3219.6	3123.3	3083.4	3033.9
20°	3504.4	3488.6	3437.0	3432.2	3374.4	3282.2	3232.0	3192.8	3080.0	3032.6	2977.5
22.5°	3514.7	3498.9	3440.4	3433.5	3366.1	3261.6	3205.2	3159.1	3030.5	2968.6	2911.5
25°	3512.6	3497.5	3431.5	3424.6	3350.3	3230.6	3167.4	3114.4	2967.9	2895.0	2838.6
27.5°	3495.4	3483.8	3414.3	3405.3	3321.4	3188.7	3121.3	3062.8	2898.4	2817.3	2756.1
30°	3465.9	3456.9	3383.3	3375.1	3285.7	3142.6	3067.6	3000.2	2823.5	2732.0	2670.1
32.5°	3418.4	3410.2	3335.9	3328.3	3237.5	3083.4	3005.0	2935.6	2741.6	2640.5	2578.6
35°	3353.1	3348.3	3276.0	3267.8	3175.6	3016.0	2932.8	2856.5	2656.3	2542.1	2483.0
37.5°	3267.1	3267.1	3197.6	3188.7	3098.6	2933.5	2851.7	2770.5	2560.0	2439.0	2380.5
40°	3167.4	3176.3	3105.5	3096.5	3009.2	2844.8	2755.4	2670.1	2456.2	2330.3	2273.2
42.5°	3047.7	3055.9	2996.8	2988.5	2906.7	2742.3	2659.1	2566.2	2347.5	2219.6	2160.4
45°	2915.6	2926.6	2873.7	2867.5	2791.1	2630.2	2550.4	2456.2	2234.0	2104.0	2046.2
47.5°	2768.4	2782.9	2736.8	2733.4	2662.5	2515.3	2432.1	2336.5	2115.0	1983.6	1929.3
50°	2603.4	2624.0	2586.2	2586.2	2522.9	2376.4	2304.2	2208.6	1991.2	1859.8	1806.2
52.5°	2426.6	2452.7	2424.5	2425.2	2373.6	2242.3	2167.3	2073.7	1861.9	1732.6	1683.1
55°	2243.6	2269.1	2251.2	2254.0	2213.4	2093.7	2025.6	1932.7	1729.8	1604.0	1557.2
57.5°	2052.4	2079.9	2068.2	2073.7	2045.5	1938.2	1867.4	1786.2	1593.7	1469.2	1429.3
60°	1860.5	1886.7	1880.5	1888.0	1870.2	1777.3	1712.6	1628.7	1456.8	1337.1	1302.0
62.5°	1666.6	1690.6	1689.3	1697.5	1687.9	1610.8	1553.1	1481.5	1315.1	1205.0	1172.7
65°	1476.7	1497.4	1496.0	1504.9	1502.9	1441.0	1388.7	1323.3	1173.4	1072.3	1044.1
67.5°	1292.4	1309.6	1304.8	1315.1	1317.8	1268.3	1222.9	1164.5	1038.6	940.2	916.2
70°	1112.2	1123.9	1117.7	1124.6	1130.8	1093.6	1055.1	1003.5	894.8	808.2	788.2
72.5°	935.4	943.7	934.0	940.9	946.4	919.6	888.0	843.3	753.2	678.2	661.7
75°	764.2	775.8	755.9	762.8	766.9	740.1	721.5	685.1	607.3	549.6	538.6
77.5°	598.4	605.3	594.3	591.5	594.3	575.0	560.6	532.4	473.9	426.4	419.6
80°	440.2	444.3	433.3	430.6	432.6	418.9	407.9	387.2	346.0	310.2	307.5
82.5°	295.1	297.1	287.5	284.8	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°	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7	3146.7
2.5°	3160.5	3153.6	3147.4	3126.1	3135.0	3113.0	3111.6	3103.4	3097.2	3085.5	3100.6
5°	3150.2	3136.4	3118.5	3093.1	3100.6	3074.5	3069.0	3059.4	3051.1	3036.0	3047.7
7.5°	3133.7	3111.0	3082.8	3050.4	3060.8	3028.4	3020.2	3009.9	3003.0	2985.1	2995.4
10°	3109.6	3077.3	3044.2	3005.0	3012.6	2977.5	2967.2	2956.2	2950.0	2934.2	2944.5
12.5°	3072.4	3033.2	2988.5	2945.9	2954.1	2921.1	2907.4	2895.7	2893.6	2880.5	2892.9
15°	3024.3	2970.0	2923.9	2878.5	2888.1	2849.6	2843.4	2831.7	2835.1	2826.2	2841.3
17.5°	2963.1	2900.5	2850.3	2801.4	2811.1	2778.7	2773.9	2768.4	2771.9	2770.5	2787.0
20°	2894.3	2825.5	2767.7	2719.6	2725.1	2699.7	2701.7	2700.3	2707.2	2714.8	2737.5
22.5°	2816.6	2738.9	2678.3	2628.8	2637.1	2615.1	2624.7	2627.4	2639.1	2656.3	2685.2
25°	2729.2	2646.0	2582.7	2536.0	2543.5	2529.1	2545.6	2552.5	2571.0	2599.9	2629.5
27.5°	2637.7	2549.7	2482.3	2437.6	2452.0	2437.6	2462.4	2476.1	2504.3	2536.0	2572.4
30°	2540.8	2449.3	2379.8	2339.9	2353.7	2340.6	2380.5	2399.1	2427.3	2470.6	2513.9
32.5°	2439.0	2342.7	2274.6	2243.6	2253.3	2251.2	2295.9	2316.5	2354.4	2403.9	2450.0
35°	2334.4	2234.0	2165.2	2139.1	2150.8	2153.5	2207.2	2231.3	2272.5	2332.4	2381.9
37.5°	2226.4	2124.0	2056.5	2035.2	2045.5	2055.9	2118.5	2142.5	2189.3	2254.6	2309.0
40°	2114.3	2011.8	1945.8	1928.6	1938.9	1949.9	2018.0	2051.0	2101.9	2172.8	2231.9
42.5°	2000.8	1898.4	1834.4	1822.0	1832.3	1853.6	1925.9	1956.8	2010.5	2088.9	2154.2
45°	1885.3	1778.7	1723.0	1713.3	1724.3	1749.1	1819.9	1857.1	1914.2	2000.1	2070.3
47.5°	1768.4	1664.5	1611.5	1605.3	1616.4	1643.9	1722.3	1756.0	1816.5	1908.0	1983.6
50°	1650.1	1548.9	1498.0	1496.0	1506.3	1535.9	1610.8	1650.7	1713.3	1815.8	1893.5
52.5°	1530.4	1433.4	1387.3	1387.3	1396.9	1427.2	1502.9	1544.1	1608.8	1716.8	1802.7
55°	1410.7	1318.5	1274.5	1277.9	1291.7	1317.8	1391.4	1434.8	1500.1	1612.2	1703.0
57.5°	1291.0	1203.7	1163.8	1168.6	1181.7	1207.8	1280.0	1328.8	1388.0	1504.2	1597.1
60°	1172.7	1090.2	1055.1	1060.6	1072.3	1098.4	1173.4	1215.4	1274.5	1392.8	1485.7
62.5°	1053.0	978.1	945.0	951.9	962.2	988.4	1059.2	1099.8	1158.3	1274.5	1368.1
65°	934.7	865.3	837.1	843.9	853.6	877.6	944.4	983.6	1039.3	1152.8	1242.2
67.5°	817.8	754.5	731.1	738.0	745.6	768.3	823.3	866.0	918.2	1026.2	1110.8
70°	702.3	645.9	625.2	632.1	639.0	659.6	707.8	747.0	795.1	894.2	972.6
72.5°	588.1	533.1	522.7	528.9	534.4	552.3	598.4	629.3	671.3	759.3	826.7
75°	476.7	429.2	422.3	428.5	433.3	447.1	485.6	512.4	547.5	623.8	678.9
77.5°	369.4	329.5	326.7	331.5	336.3	346.0	376.2	404.4	431.9	488.3	537.2
80°	268.9	236.6	236.6	241.4	240.0	251.7	273.1	295.8	315.7	356.3	392.1
82.5°	177.5	152.0	155.4	158.9	160.9	165.8	178.8	196.0	208.4	233.2	256.6
85°	98.4	81.2	84.6	87.4	86.0	91.5	98.4	108.7	114.9	126.6	138.9
87.5°	36.5	30.3	31.0	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°	3146.7	3146.7	3146.7
2.5°	3071.8	3088.3	3100.6
5°	3018.8	3032.6	3043.6
7.5°	2967.2	2979.6	2989.2
10°	2918.4	2932.1	2939.0
12.5°	2868.2	2884.0	2889.5
15°	2818.6	2834.5	2841.3
17.5°	2767.7	2788.4	2795.9
20°	2720.3	2746.4	2752.6
22.5°	2672.1	2699.0	2706.5
25°	2619.9	2651.5	2659.1
27.5°	2564.2	2602.0	2609.5
30°	2508.4	2549.7	2557.3
32.5°	2448.6	2493.3	2500.2
35°	2386.0	2430.7	2439.0
37.5°	2316.5	2365.4	2381.9
40°	2244.3	2297.3	2314.5
42.5°	2168.7	2226.4	2244.3
45°	2087.5	2150.8	2171.4
47.5°	2005.7	2077.2	2095.1
50°	1916.9	1993.3	2014.6
52.5°	1824.1	1907.3	1928.6
55°	1727.8	1811.7	1835.1
57.5°	1623.2	1709.9	1734.7
60°	1513.9	1600.5	1623.9
62.5°	1401.8	1480.2	1502.9
65°	1276.6	1350.2	1370.8
67.5°	1143.8	1211.2	1228.4
70°	1002.8	1061.3	1076.4
72.5°	855.6	896.2	916.2
75°	703.6	736.0	751.1
77.5°	550.9	573.6	586.0
80°	401.7	414.7	425.1
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)