

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: P834601

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3LO-50-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834601
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-50-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

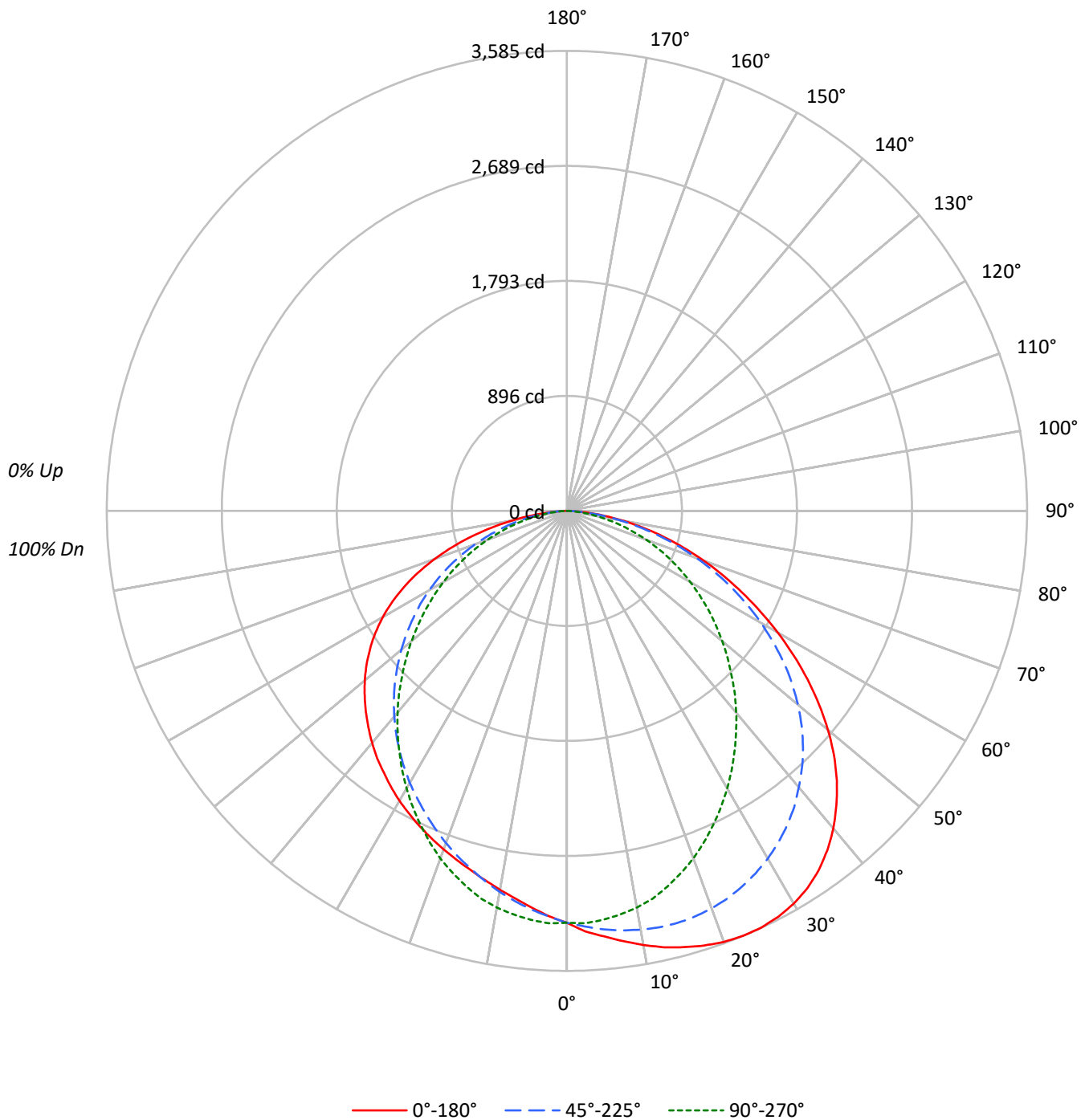
Lumens per Lamp: N/A
Luminaire Lumens: 9440.8 lumens
Efficiency: N/A
Efficacy: 134.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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



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°	4318	4318	4318
5°	4496	4321	4193
10°	4693	4288	4095
15°	4904	4220	4037
20°	5118	4126	4020
25°	5319	4007	4026
30°	5492	3881	4052
35°	5617	3743	4086
40°	5674	3604	4146
45°	5659	3452	4214
50°	5558	3307	4301
55°	5368	3155	4391
60°	5106	2992	4457
65°	4795	2810	4451
70°	4463	2591	4319
75°	4052	2276	3983
80°	3479	1870	3359
85°	2654	1278	2306



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	304.4	3.2
10°-20°	879.0	9.3
20°-30°	1346.7	14.3
30°-40°	1643.5	17.4
40°-50°	1718.7	18.2
50°-60°	1555.5	16.5
60°-70°	1178.1	12.5
70°-80°	656.5	7.0
80°-90°	158.4	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°	2530.1	26.8
0°-40°	4173.6	44.2
0°-60°	7447.9	78.9
0°-90°	9440.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9440.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3210	3210	3210	3210	3210	
5°	3329	3273	3199	3120	3104	321
15°	3520	3324	3029	2888	2898	998
25°	3583	3230	2699	2603	2712	1653
35°	3420	2991	2279	2276	2488	2136
45°	2974	2601	1814	1894	2215	2288
55°	2288	2066	1345	1463	1872	2042
65°	1506	1416	882	1003	1398	1494
75°	779	736	438	523	766	827
85°	172	152	83	111	149	207
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°	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5
2.5°	3280.3	3264.9	3252.3	3257.2	3260.0	3250.2	3241.8	3243.2	3234.7	3250.9	3213.0
5°	3328.8	3314.7	3300.0	3305.6	3300.0	3285.3	3273.3	3269.8	3247.4	3256.5	3217.9
7.5°	3382.8	3367.3	3345.6	3351.9	3340.0	3312.6	3297.2	3288.1	3253.7	3254.4	3211.6
10°	3434.7	3421.4	3391.9	3396.1	3374.4	3337.9	3313.3	3300.7	3252.3	3245.3	3201.1
12.5°	3483.1	3464.8	3433.3	3435.4	3403.8	3355.4	3323.8	3305.6	3242.5	3221.4	3177.9
15°	3520.3	3502.7	3464.8	3464.1	3423.5	3360.3	3324.5	3299.3	3219.3	3186.3	3140.7
17.5°	3551.8	3535.7	3488.7	3487.3	3438.2	3358.2	3315.4	3283.9	3185.6	3145.0	3094.4
20°	3574.3	3558.2	3505.5	3500.6	3441.7	3347.7	3296.5	3256.5	3141.4	3093.0	3036.9
22.5°	3584.8	3568.7	3509.0	3502.0	3433.3	3326.6	3269.1	3222.1	3090.9	3027.8	2969.6
25°	3582.7	3567.3	3499.9	3492.9	3417.1	3295.1	3230.5	3176.5	3027.1	2952.7	2895.2
27.5°	3565.2	3553.2	3482.4	3473.3	3387.7	3252.3	3183.5	3123.9	2956.2	2873.5	2811.0
30°	3535.0	3525.9	3450.8	3442.4	3351.2	3205.3	3128.8	3060.1	2879.8	2786.5	2723.3
32.5°	3486.6	3478.2	3402.4	3394.7	3302.1	3145.0	3065.0	2994.1	2796.3	2693.2	2630.0
35°	3419.9	3415.0	3341.4	3333.0	3239.0	3076.2	2991.3	2913.4	2709.3	2592.8	2532.5
37.5°	3332.3	3332.3	3261.4	3252.3	3160.4	2992.0	2908.5	2825.8	2611.1	2487.6	2428.0
40°	3230.5	3239.7	3167.4	3158.3	3069.2	2901.5	2810.3	2723.3	2505.2	2376.8	2318.6
42.5°	3108.5	3116.9	3056.6	3048.1	2964.7	2797.0	2712.1	2617.4	2394.3	2263.8	2203.5
45°	2973.8	2985.0	2931.0	2924.7	2846.8	2682.6	2601.3	2505.2	2278.6	2146.0	2087.0
47.5°	2823.7	2838.4	2791.4	2787.9	2715.6	2565.5	2480.6	2383.1	2157.2	2023.2	1967.8
50°	2655.3	2676.3	2637.7	2637.7	2573.2	2423.8	2350.1	2252.6	2030.9	1896.9	1842.2
52.5°	2475.0	2501.6	2472.9	2473.6	2421.0	2287.0	2210.5	2115.1	1899.0	1767.1	1716.6
55°	2288.4	2314.3	2296.1	2298.9	2257.5	2135.5	2066.0	1971.3	1764.3	1636.0	1588.3
57.5°	2093.4	2121.4	2109.5	2115.1	2086.3	1976.9	1904.6	1821.9	1625.4	1498.5	1457.8
60°	1897.6	1924.3	1918.0	1925.7	1907.5	1812.7	1746.8	1661.2	1485.8	1363.8	1328.0
62.5°	1699.8	1724.4	1723.0	1731.4	1721.6	1643.0	1584.1	1511.1	1341.3	1229.1	1196.1
65°	1506.2	1527.2	1525.8	1534.9	1532.8	1469.7	1416.4	1349.7	1196.8	1093.7	1064.9
67.5°	1318.2	1335.7	1330.8	1341.3	1344.1	1293.6	1247.3	1187.7	1059.3	959.0	934.4
70°	1134.4	1146.3	1140.0	1147.0	1153.3	1115.4	1076.1	1023.5	912.7	824.3	804.0
72.5°	954.1	962.5	952.7	959.7	965.3	937.9	905.7	860.1	768.2	691.7	674.9
75°	779.4	791.3	771.0	778.0	782.2	754.8	735.9	698.7	619.4	560.5	549.3
77.5°	610.3	617.3	606.1	603.3	606.1	586.5	571.7	543.0	483.4	434.9	427.9
80°	449.0	453.2	442.0	439.2	441.3	427.2	416.0	395.0	352.9	316.4	313.6
82.5°	301.0	303.1	293.2	290.4	291.8	287.6	274.3	259.6	239.9	209.1	208.4
85°	171.9	171.9	164.9	162.1	163.5	156.4	151.5	143.8	136.1	115.1	116.5
87.5°	63.1	63.1	59.6	58.9	65.9	58.2	56.1	52.6	54.7	43.5	46.3
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5	3209.5
2.5°	3223.5	3216.5	3210.2	3188.4	3197.6	3175.1	3173.7	3165.3	3159.0	3147.1	3162.5
5°	3213.0	3199.0	3180.7	3154.8	3162.5	3135.8	3130.2	3120.4	3112.0	3096.5	3108.5
7.5°	3196.2	3173.0	3144.2	3111.3	3121.8	3088.8	3080.4	3069.9	3062.9	3044.6	3055.2
10°	3171.6	3138.6	3105.0	3065.0	3072.7	3036.9	3026.4	3015.2	3008.9	2992.7	3003.2
12.5°	3133.7	3093.7	3048.1	3004.6	3013.1	2979.4	2965.4	2953.4	2951.3	2938.0	2950.6
15°	3084.6	3029.2	2982.2	2935.9	2945.7	2906.4	2900.1	2888.2	2891.7	2882.6	2898.0
17.5°	3022.2	2958.3	2907.1	2857.3	2867.1	2834.2	2829.3	2823.7	2827.2	2825.8	2842.6
20°	2952.0	2881.9	2822.9	2773.8	2779.5	2753.5	2755.6	2754.2	2761.2	2768.9	2792.1
22.5°	2872.8	2793.5	2731.8	2681.2	2689.7	2667.2	2677.0	2679.8	2691.8	2709.3	2738.8
25°	2783.7	2698.8	2634.2	2586.5	2594.3	2579.5	2596.4	2603.4	2622.3	2651.8	2681.9
27.5°	2690.4	2600.6	2531.8	2486.2	2500.9	2486.2	2511.5	2525.5	2554.3	2586.5	2623.7
30°	2591.4	2498.1	2427.3	2386.6	2400.6	2387.3	2428.0	2446.9	2475.7	2519.9	2564.1
32.5°	2487.6	2389.4	2320.0	2288.4	2298.2	2296.1	2341.7	2362.7	2401.3	2451.8	2498.8
35°	2381.0	2278.6	2208.4	2181.8	2193.7	2196.5	2251.2	2275.8	2317.8	2378.9	2429.4
37.5°	2270.8	2166.3	2097.6	2075.8	2086.3	2096.9	2160.7	2185.3	2233.0	2299.6	2355.0
40°	2156.5	2052.0	1984.6	1967.1	1977.6	1988.8	2058.3	2092.0	2143.9	2216.1	2276.5
42.5°	2040.7	1936.2	1871.0	1858.3	1868.9	1890.6	1964.3	1995.8	2050.6	2130.5	2197.2
45°	1922.9	1814.2	1757.3	1747.5	1758.7	1784.0	1856.2	1894.1	1952.4	2040.0	2111.6
47.5°	1803.6	1697.7	1643.7	1637.4	1648.6	1676.7	1756.6	1791.0	1852.7	1946.0	2023.2
50°	1683.0	1579.8	1527.9	1525.8	1536.3	1566.5	1643.0	1683.7	1747.5	1852.0	1931.3
52.5°	1560.9	1462.0	1415.0	1415.0	1424.8	1455.7	1532.8	1574.9	1640.9	1751.0	1838.7
55°	1438.8	1344.8	1299.9	1303.4	1317.5	1344.1	1419.2	1463.4	1530.0	1644.4	1737.0
57.5°	1316.8	1227.7	1187.0	1191.9	1205.2	1231.9	1305.5	1355.4	1415.7	1534.2	1628.9
60°	1196.1	1111.9	1076.1	1081.8	1093.7	1120.3	1196.8	1239.6	1299.9	1420.6	1515.3
62.5°	1074.0	997.6	963.9	970.9	981.4	1008.1	1080.4	1121.7	1181.4	1299.9	1395.3
65°	953.4	882.5	853.8	860.8	870.6	895.1	963.2	1003.2	1060.0	1175.8	1267.0
67.5°	834.1	769.6	745.7	752.7	760.5	783.6	839.7	883.2	936.5	1046.7	1133.0
70°	716.3	658.7	637.7	644.7	651.7	672.8	721.9	761.9	811.0	912.0	992.0
72.5°	599.8	543.7	533.2	539.5	545.1	563.3	610.3	641.9	684.7	774.5	843.2
75°	486.2	437.8	430.7	437.1	442.0	456.0	495.3	522.6	558.4	636.3	692.4
77.5°	376.7	336.0	333.2	338.1	343.0	352.9	383.7	412.5	440.6	498.1	547.9
80°	274.3	241.3	241.3	246.2	244.8	256.8	278.5	301.7	322.0	363.4	399.9
82.5°	181.0	155.0	158.5	162.1	164.2	169.1	182.4	199.9	212.6	237.8	261.7
85°	100.3	82.8	86.3	89.1	87.7	93.3	100.3	110.8	117.2	129.1	141.7
87.5°	37.2	30.9	31.6	33.7	35.1	37.9	37.9	44.2	44.9	46.3	49.1
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°	3209.5	3209.5	3209.5
2.5°	3133.0	3149.9	3162.5
5°	3079.0	3093.0	3104.3
7.5°	3026.4	3039.0	3048.8
10°	2976.6	2990.6	2997.6
12.5°	2925.4	2941.5	2947.1
15°	2874.9	2891.0	2898.0
17.5°	2822.9	2844.0	2851.7
20°	2774.5	2801.2	2807.5
22.5°	2725.4	2752.8	2760.5
25°	2672.1	2704.4	2712.1
27.5°	2615.3	2653.9	2661.6
30°	2558.5	2600.6	2608.3
32.5°	2497.4	2543.0	2550.1
35°	2433.6	2479.2	2487.6
37.5°	2362.7	2412.6	2429.4
40°	2289.1	2343.1	2360.6
42.5°	2211.9	2270.8	2289.1
45°	2129.1	2193.7	2214.7
47.5°	2045.7	2118.6	2136.9
50°	1955.2	2033.0	2054.8
52.5°	1860.5	1945.3	1967.1
55°	1762.2	1847.8	1871.7
57.5°	1655.6	1744.0	1769.3
60°	1544.1	1632.5	1656.3
62.5°	1429.7	1509.7	1532.8
65°	1302.0	1377.1	1398.1
67.5°	1166.6	1235.4	1252.9
70°	1022.8	1082.5	1097.9
72.5°	872.7	914.1	934.4
75°	717.7	750.6	766.1
77.5°	561.9	585.1	597.7
80°	409.7	423.0	433.5
82.5°	268.0	273.6	281.3
85°	144.5	144.5	149.4
87.5°	49.1	47.0	49.1
90°	0.0	0.0	0.0

(END OF REPORT)