

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: P834708

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834708
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-LD4-2HI-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

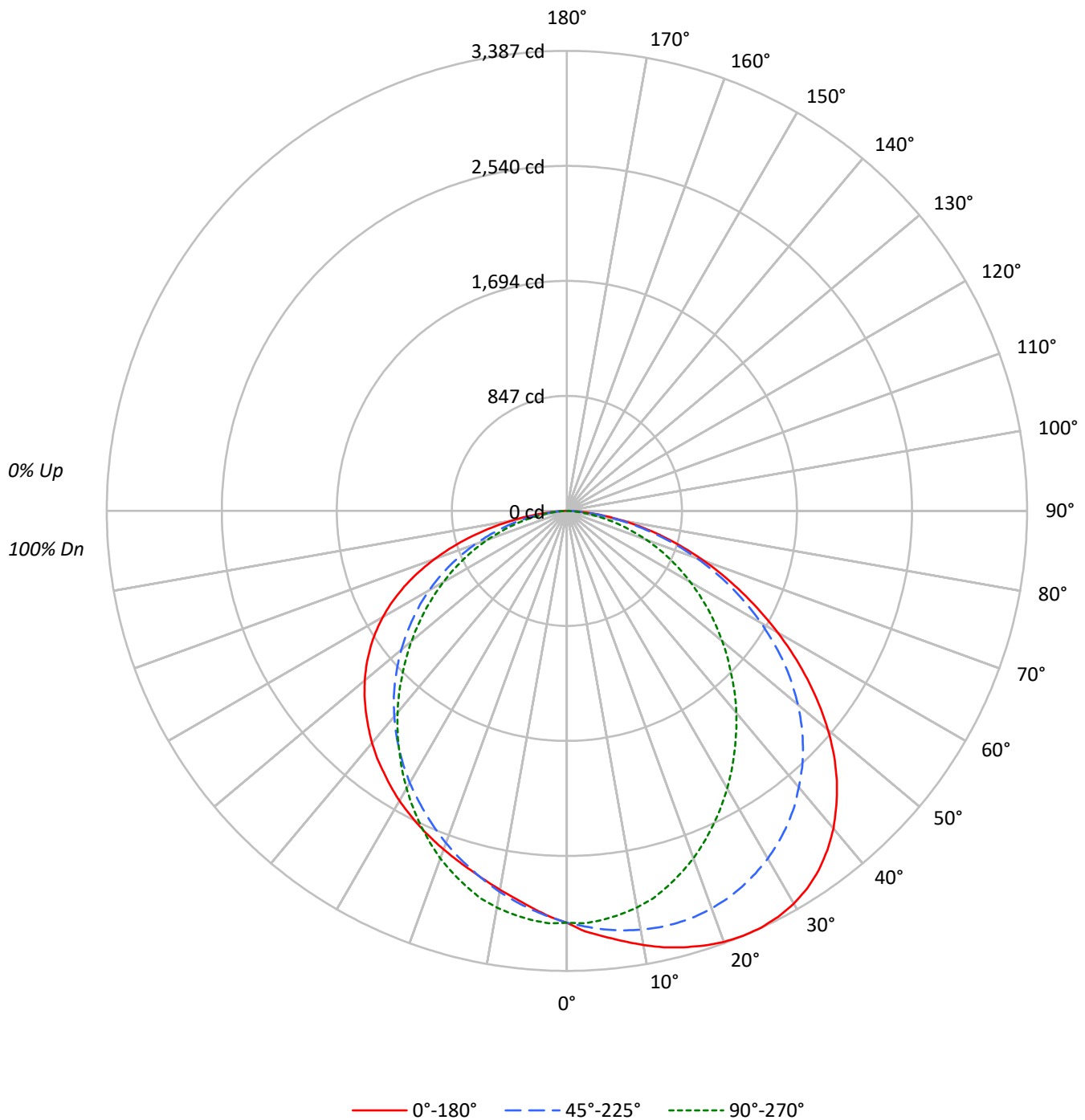
Lumens per Lamp: N/A
Luminaire Lumens: 8919.9 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 88
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

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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°	4080	4080	4080
5°	4248	4082	3961
10°	4434	4052	3869
15°	4633	3987	3814
20°	4835	3899	3798
25°	5025	3786	3804
30°	5189	3667	3829
35°	5308	3536	3861
40°	5361	3405	3918
45°	5346	3262	3982
50°	5251	3125	4064
55°	5072	2981	4148
60°	4825	2827	4211
65°	4531	2655	4206
70°	4216	2448	4081
75°	3828	2150	3763
80°	3287	1767	3174
85°	2507	1207	2180

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.6	3.2
10°-20°	830.5	9.3
20°-30°	1272.4	14.3
30°-40°	1552.8	17.4
40°-50°	1623.9	18.2
50°-60°	1469.7	16.5
60°-70°	1113.1	12.5
70°-80°	620.3	7.0
80°-90°	149.6	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°	2390.5	26.8
0°-40°	3943.3	44.2
0°-60°	7036.9	78.9
0°-90°	8919.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8919.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3032	3032	3032	3032	3032	
5°	3145	3093	3022	2948	2933	303
15°	3326	3141	2862	2729	2738	943
25°	3385	3052	2550	2460	2562	1562
35°	3231	2826	2153	2150	2350	2018
45°	2810	2458	1714	1790	2092	2162
55°	2162	1952	1271	1383	1768	1929
65°	1423	1338	834	948	1321	1412
75°	736	695	414	494	724	781
85°	162	143	78	105	141	195
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°	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4
2.5°	3099.3	3084.8	3072.8	3077.5	3080.1	3070.8	3062.9	3064.2	3056.3	3071.5	3035.7
5°	3145.1	3131.8	3117.9	3123.2	3117.9	3104.0	3092.7	3089.4	3068.2	3076.8	3040.4
7.5°	3196.1	3181.5	3161.0	3167.0	3155.7	3129.8	3115.3	3106.6	3074.2	3074.8	3034.4
10°	3245.2	3232.6	3204.7	3208.7	3188.2	3153.7	3130.5	3118.6	3072.8	3066.2	3024.5
12.5°	3290.9	3273.7	3243.8	3245.8	3216.0	3170.3	3140.4	3123.2	3063.6	3043.7	3002.6
15°	3326.0	3309.5	3273.7	3273.0	3234.6	3174.9	3141.1	3117.2	3041.7	3010.5	2967.4
17.5°	3355.9	3340.6	3296.2	3294.9	3248.5	3172.9	3132.5	3102.7	3009.9	2971.4	2923.7
20°	3377.1	3361.8	3312.1	3307.5	3251.8	3163.0	3114.6	3076.8	2968.1	2922.4	2869.4
22.5°	3387.0	3371.8	3315.4	3308.8	3243.8	3143.1	3088.7	3044.3	2920.4	2860.7	2805.7
25°	3385.0	3370.4	3306.8	3300.2	3228.6	3113.3	3052.3	3001.3	2860.1	2789.8	2735.5
27.5°	3368.5	3357.2	3290.2	3281.6	3200.8	3072.8	3007.9	2951.5	2793.1	2714.9	2655.9
30°	3340.0	3331.3	3260.4	3252.5	3166.3	3028.4	2956.2	2891.2	2720.9	2632.7	2573.1
32.5°	3294.2	3286.3	3214.7	3207.4	3119.9	2971.4	2895.9	2828.9	2642.0	2544.6	2484.9
35°	3231.3	3226.6	3157.0	3149.1	3060.2	2906.5	2826.3	2752.7	2559.8	2449.8	2392.8
37.5°	3148.4	3148.4	3081.5	3072.8	2986.0	2826.9	2748.1	2669.8	2467.0	2350.4	2294.0
40°	3052.3	3060.9	2992.6	2984.0	2899.8	2741.4	2655.3	2573.1	2366.9	2245.6	2190.6
42.5°	2937.0	2944.9	2887.9	2880.0	2801.1	2642.7	2562.5	2473.0	2262.2	2138.9	2081.9
45°	2809.7	2820.3	2769.3	2763.3	2689.7	2534.6	2457.7	2366.9	2152.8	2027.6	1971.9
47.5°	2667.9	2681.8	2637.4	2634.0	2565.8	2423.9	2343.7	2251.6	2038.2	1911.6	1859.2
50°	2508.8	2528.7	2492.2	2492.2	2431.2	2290.0	2220.4	2128.3	1918.9	1792.3	1740.6
52.5°	2338.4	2363.6	2336.4	2337.1	2287.4	2160.8	2088.5	1998.4	1794.3	1669.6	1621.9
55°	2162.1	2186.6	2169.4	2172.1	2133.0	2017.6	1952.0	1862.5	1667.0	1545.7	1500.6
57.5°	1977.9	2004.4	1993.1	1998.4	1971.2	1867.8	1799.6	1721.3	1535.8	1415.8	1377.3
60°	1792.9	1818.1	1812.2	1819.4	1802.2	1712.7	1650.4	1569.6	1403.9	1288.5	1254.7
62.5°	1606.0	1629.2	1627.9	1635.8	1626.6	1552.3	1496.6	1427.7	1267.3	1161.3	1130.1
65°	1423.1	1443.0	1441.6	1450.3	1448.3	1388.6	1338.2	1275.3	1130.8	1033.3	1006.2
67.5°	1245.4	1262.0	1257.4	1267.3	1270.0	1222.2	1178.5	1122.2	1000.9	906.1	882.9
70°	1071.8	1083.0	1077.1	1083.7	1089.7	1053.9	1016.8	967.1	862.3	778.8	759.6
72.5°	901.4	909.4	900.1	906.7	912.0	886.2	855.7	812.6	725.8	653.5	637.6
75°	736.4	747.7	728.4	735.1	739.0	713.2	695.3	660.2	585.3	529.6	519.0
77.5°	576.7	583.3	572.7	570.0	572.7	554.1	540.2	513.0	456.7	410.9	404.3
80°	424.2	428.2	417.6	414.9	416.9	403.7	393.1	373.2	333.4	298.9	296.3
82.5°	284.4	286.3	277.1	274.4	275.7	271.8	259.2	245.2	226.7	197.5	196.9
85°	162.4	162.4	155.8	153.1	154.4	147.8	143.2	135.9	128.6	108.7	110.0
87.5°	59.7	59.7	56.3	55.7	62.3	55.0	53.0	49.7	51.7	41.1	43.7
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°	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4	3032.4
2.5°	3045.7	3039.0	3033.1	3012.5	3021.1	2999.9	2998.6	2990.6	2984.7	2973.4	2988.0
5°	3035.7	3022.5	3005.2	2980.7	2988.0	2962.8	2957.5	2948.2	2940.3	2925.7	2937.0
7.5°	3019.8	2997.9	2970.8	2939.6	2949.6	2918.4	2910.4	2900.5	2893.9	2876.6	2886.6
10°	2996.6	2965.5	2933.6	2895.9	2903.2	2869.4	2859.4	2848.8	2842.8	2827.6	2837.5
12.5°	2960.8	2923.0	2880.0	2838.9	2846.8	2815.0	2801.7	2790.5	2788.5	2775.9	2787.8
15°	2914.4	2862.1	2817.7	2773.9	2783.2	2746.1	2740.1	2728.8	2732.1	2723.5	2738.1
17.5°	2855.4	2795.1	2746.7	2699.7	2708.9	2677.8	2673.2	2667.9	2671.2	2669.8	2685.7
20°	2789.1	2722.9	2667.2	2620.8	2626.1	2601.6	2603.6	2602.2	2608.9	2616.2	2638.0
22.5°	2714.3	2639.4	2581.0	2533.3	2541.3	2520.0	2529.3	2532.0	2543.2	2559.8	2587.7
25°	2630.1	2549.9	2488.9	2443.8	2451.1	2437.2	2453.1	2459.7	2477.6	2505.5	2534.0
27.5°	2541.9	2457.1	2392.1	2349.0	2363.0	2349.0	2372.9	2386.2	2413.3	2443.8	2478.9
30°	2448.5	2360.3	2293.4	2254.9	2268.2	2255.6	2294.0	2311.9	2339.1	2380.9	2422.6
32.5°	2350.4	2257.6	2191.9	2162.1	2171.4	2169.4	2212.5	2232.4	2268.8	2316.6	2361.0
35°	2249.6	2152.8	2086.6	2061.4	2072.6	2075.3	2127.0	2150.2	2190.0	2247.6	2295.3
37.5°	2145.6	2046.8	1981.8	1961.3	1971.2	1981.2	2041.5	2064.7	2109.8	2172.7	2225.1
40°	2037.5	1938.8	1875.1	1858.5	1868.5	1879.1	1944.7	1976.5	2025.6	2093.9	2150.9
42.5°	1928.1	1829.4	1767.7	1755.8	1765.8	1786.3	1855.9	1885.7	1937.4	2013.0	2076.0
45°	1816.8	1714.1	1660.4	1651.1	1661.7	1685.6	1753.8	1789.6	1844.6	1927.5	1995.1
47.5°	1704.1	1604.0	1553.0	1547.0	1557.6	1584.1	1659.7	1692.2	1750.5	1838.7	1911.6
50°	1590.1	1492.7	1443.6	1441.6	1451.6	1480.1	1552.3	1590.8	1651.1	1749.8	1824.7
52.5°	1474.8	1381.3	1336.9	1336.9	1346.2	1375.4	1448.3	1488.0	1550.3	1654.4	1737.3
55°	1359.4	1270.6	1228.2	1231.5	1244.8	1270.0	1340.9	1382.6	1445.6	1553.7	1641.1
57.5°	1244.1	1159.9	1121.5	1126.1	1138.7	1163.9	1233.5	1280.6	1337.6	1449.6	1539.1
60°	1130.1	1050.6	1016.8	1022.1	1033.3	1058.5	1130.8	1171.2	1228.2	1342.2	1431.7
62.5°	1014.8	942.5	910.7	917.3	927.3	952.5	1020.7	1059.9	1116.2	1228.2	1318.4
65°	900.8	833.8	806.7	813.3	822.6	845.8	910.1	947.8	1001.5	1110.9	1197.1
67.5°	788.1	727.1	704.6	711.2	718.5	740.4	793.4	834.5	884.9	988.9	1070.5
70°	676.7	622.4	602.5	609.1	615.8	635.6	682.0	719.8	766.2	861.7	937.2
72.5°	566.7	513.7	503.7	509.7	515.0	532.2	576.7	606.5	646.9	731.8	796.7
75°	459.3	413.6	407.0	412.9	417.6	430.8	468.0	493.8	527.6	601.2	654.2
77.5°	355.9	317.5	314.8	319.5	324.1	333.4	362.6	389.7	416.3	470.6	517.7
80°	259.2	228.0	228.0	232.7	231.3	242.6	263.1	285.0	304.2	343.3	377.8
82.5°	171.0	146.5	149.8	153.1	155.1	159.7	172.3	188.9	200.8	224.7	247.2
85°	94.8	78.2	81.5	84.2	82.9	88.2	94.8	104.7	110.7	122.0	133.9
87.5°	35.1	29.2	29.8	31.8	33.1	35.8	35.8	41.8	42.4	43.7	46.4
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):

	160°	170°	180°
0°	3032.4	3032.4	3032.4
2.5°	2960.2	2976.1	2988.0
5°	2909.1	2922.4	2933.0
7.5°	2859.4	2871.3	2880.6
10°	2812.3	2825.6	2832.2
12.5°	2764.0	2779.2	2784.5
15°	2716.2	2731.5	2738.1
17.5°	2667.2	2687.1	2694.4
20°	2621.5	2646.6	2652.6
22.5°	2575.1	2600.9	2608.2
25°	2524.7	2555.2	2562.5
27.5°	2471.0	2507.5	2514.7
30°	2417.3	2457.1	2464.4
32.5°	2359.6	2402.7	2409.4
35°	2299.3	2342.4	2350.4
37.5°	2232.4	2279.4	2295.3
40°	2162.8	2213.8	2230.4
42.5°	2089.9	2145.6	2162.8
45°	2011.7	2072.6	2092.5
47.5°	1932.8	2001.7	2019.0
50°	1847.3	1920.9	1941.4
52.5°	1757.8	1838.0	1858.5
55°	1665.0	1745.9	1768.4
57.5°	1564.3	1647.8	1671.6
60°	1458.9	1542.4	1564.9
62.5°	1350.8	1426.4	1448.3
65°	1230.2	1301.1	1321.0
67.5°	1102.3	1167.2	1183.8
70°	966.4	1022.7	1037.3
72.5°	824.5	863.7	882.9
75°	678.1	709.2	723.8
77.5°	530.9	552.8	564.7
80°	387.1	399.7	409.6
82.5°	253.2	258.5	265.8
85°	136.5	136.5	141.2
87.5°	46.4	44.4	46.4
90°	0.0	0.0	0.0

(END OF REPORT)