

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: P835347

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835347
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-5HI-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

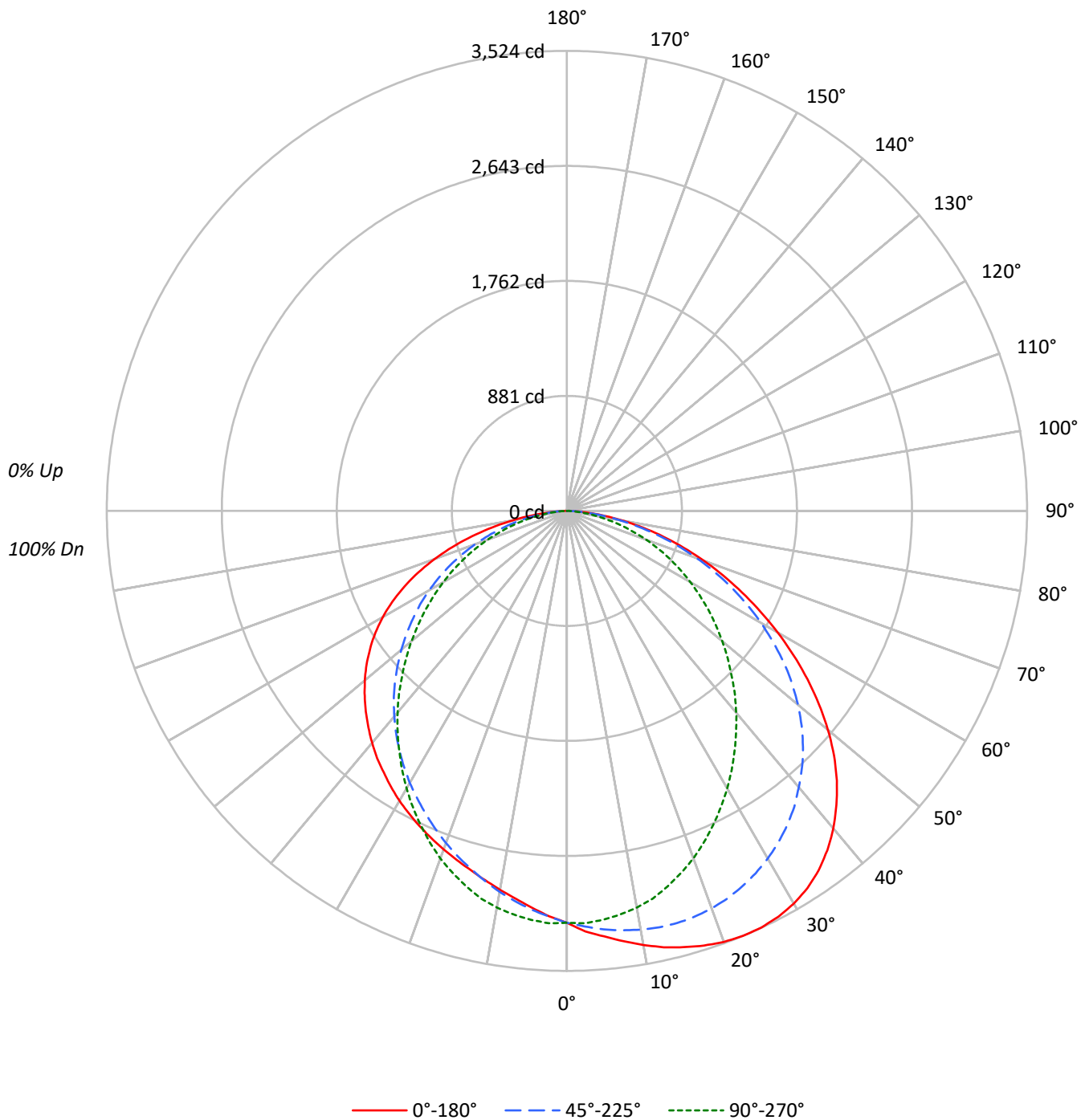
Lumens per Lamp: N/A
Luminaire Lumens: 9280.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 110
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°	8489	8489	8489
5°	8839	8494	8243
10°	9225	8430	8052
15°	9640	8295	7936
20°	10061	8112	7903
25°	10457	7877	7916
30°	10797	7630	7967
35°	11043	7358	8033
40°	11155	7085	8151
45°	11124	6787	8285
50°	10927	6501	8456
55°	10553	6202	8632
60°	10039	5882	8762
65°	9427	5524	8751
70°	8773	5094	8491
75°	7965	4474	7829
80°	6839	3676	6605
85°	5215	2513	4536

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.2	3.2
10°-20°	864.1	9.3
20°-30°	1323.8	14.3
30°-40°	1615.5	17.4
40°-50°	1689.4	18.2
50°-60°	1529.1	16.5
60°-70°	1158.0	12.5
70°-80°	645.3	7.0
80°-90°	155.7	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°	2487.0	26.8
0°-40°	4102.5	44.2
0°-60°	7321.0	78.9
0°-90°	9280.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9280.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3155	3155	3155	3155	3155	
5°	3272	3218	3144	3067	3051	315
15°	3460	3268	2978	2839	2849	981
25°	3522	3176	2653	2559	2666	1625
35°	3362	2940	2240	2237	2445	2099
45°	2923	2557	1783	1862	2177	2249
55°	2249	2031	1322	1438	1840	2007
65°	1480	1392	868	986	1374	1469
75°	766	723	430	514	753	813
85°	169	149	81	109	147	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°	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8
2.5°	3224.5	3209.3	3196.9	3201.7	3204.5	3194.8	3186.5	3187.9	3179.7	3195.5	3158.3
5°	3272.1	3258.3	3243.8	3249.3	3243.8	3229.3	3217.6	3214.1	3192.1	3201.0	3163.1
7.5°	3325.2	3310.0	3288.6	3294.8	3283.1	3256.2	3241.0	3232.1	3198.3	3199.0	3156.9
10°	3376.2	3363.1	3334.1	3338.3	3316.9	3281.0	3256.9	3244.5	3196.9	3190.0	3146.6
12.5°	3423.8	3405.8	3374.8	3376.9	3345.8	3298.3	3267.2	3249.3	3187.2	3166.6	3123.8
15°	3460.3	3443.1	3405.8	3405.1	3365.2	3303.1	3267.9	3243.1	3164.5	3132.1	3087.2
17.5°	3491.3	3475.5	3429.3	3427.9	3379.6	3301.0	3259.0	3227.9	3131.4	3091.4	3041.7
20°	3513.4	3497.5	3445.8	3441.0	3383.1	3290.7	3240.3	3201.0	3087.9	3040.4	2985.2
22.5°	3523.8	3507.9	3449.3	3442.4	3374.8	3270.0	3213.4	3167.2	3038.3	2976.2	2919.0
25°	3521.7	3506.5	3440.3	3433.4	3358.9	3239.0	3175.5	3122.4	2975.5	2902.4	2845.9
27.5°	3504.4	3492.7	3423.1	3414.1	3330.0	3196.9	3129.3	3070.7	2905.9	2824.5	2763.1
30°	3474.8	3465.8	3392.0	3383.8	3294.1	3150.7	3075.5	3007.9	2830.7	2739.0	2676.9
32.5°	3427.2	3418.9	3344.5	3336.9	3245.9	3091.4	3012.8	2943.1	2748.7	2647.3	2585.2
35°	3361.7	3356.9	3284.5	3276.2	3183.8	3023.8	2940.4	2863.8	2663.2	2548.7	2489.4
37.5°	3275.5	3275.5	3205.9	3196.9	3106.6	2941.1	2859.0	2777.6	2566.6	2445.3	2386.6
40°	3175.5	3184.5	3113.5	3104.5	3016.9	2852.1	2762.5	2676.9	2462.5	2336.3	2279.1
42.5°	3055.5	3063.8	3004.5	2996.2	2914.2	2749.4	2665.9	2572.8	2353.5	2225.3	2166.0
45°	2923.1	2934.2	2881.1	2874.9	2798.3	2637.0	2557.0	2462.5	2239.8	2109.4	2051.5
47.5°	2775.6	2790.0	2743.8	2740.4	2669.4	2521.8	2438.4	2342.5	2120.5	1988.7	1934.3
50°	2610.1	2630.7	2592.8	2592.8	2529.4	2382.5	2310.1	2214.2	1996.3	1864.6	1810.8
52.5°	2432.8	2459.0	2430.8	2431.5	2379.7	2248.0	2172.9	2079.1	1866.7	1737.1	1687.4
55°	2249.4	2274.9	2257.0	2259.8	2219.1	2099.1	2030.8	1937.7	1734.3	1608.1	1561.2
57.5°	2057.7	2085.3	2073.6	2079.1	2050.8	1943.2	1872.2	1790.8	1597.8	1472.9	1432.9
60°	1865.3	1891.5	1885.3	1892.9	1875.0	1781.9	1717.1	1632.9	1460.5	1340.5	1305.4
62.5°	1670.9	1695.0	1693.6	1701.9	1692.2	1615.0	1557.1	1485.4	1318.5	1208.1	1175.7
65°	1480.5	1501.2	1499.8	1508.8	1506.7	1444.7	1392.3	1326.8	1176.4	1075.1	1046.8
67.5°	1295.7	1313.0	1308.1	1318.5	1321.2	1271.6	1226.1	1167.5	1041.3	942.7	918.5
70°	1115.1	1126.8	1120.6	1127.5	1133.7	1096.4	1057.8	1006.1	897.1	810.3	790.3
72.5°	937.8	946.1	936.4	943.3	948.9	922.0	890.2	845.4	755.1	679.9	663.4
75°	766.1	777.8	757.8	764.7	768.9	742.0	723.4	686.8	608.9	551.0	539.9
77.5°	599.9	606.8	595.8	593.0	595.8	576.5	562.0	533.7	475.1	427.5	420.6
80°	441.3	445.5	434.4	431.7	433.7	420.0	408.9	388.2	346.9	311.0	308.2
82.5°	295.8	297.9	288.2	285.5	286.9	282.7	269.6	255.1	235.8	205.5	204.8
85°	168.9	168.9	162.1	159.3	160.7	153.8	148.9	141.4	133.8	113.1	114.5
87.5°	62.1	62.1	58.6	57.9	64.8	57.2	55.2	51.7	53.8	42.8	45.5
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°	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8	3154.8
2.5°	3168.6	3161.7	3155.5	3134.1	3143.1	3121.0	3119.7	3111.4	3105.2	3093.5	3108.6
5°	3158.3	3144.5	3126.6	3101.0	3108.6	3082.4	3076.9	3067.3	3059.0	3043.8	3055.5
7.5°	3141.7	3119.0	3090.7	3058.3	3068.6	3036.2	3027.9	3017.6	3010.7	2992.8	3003.1
10°	3117.6	3085.2	3052.1	3012.8	3020.4	2985.2	2974.8	2963.8	2957.6	2941.7	2952.1
12.5°	3080.4	3041.0	2996.2	2953.5	2961.7	2928.6	2914.9	2903.1	2901.1	2888.0	2900.4
15°	3032.1	2977.6	2931.4	2885.9	2895.5	2856.9	2850.7	2839.0	2842.4	2833.5	2848.7
17.5°	2970.7	2908.0	2857.6	2808.7	2818.3	2785.9	2781.1	2775.6	2779.0	2777.6	2794.2
20°	2901.8	2832.8	2774.9	2726.6	2732.1	2706.6	2708.7	2707.3	2714.2	2721.8	2744.5
22.5°	2823.8	2745.9	2685.2	2635.6	2643.8	2621.8	2631.4	2634.2	2645.9	2663.2	2692.1
25°	2736.3	2652.8	2589.4	2542.5	2550.1	2535.6	2552.1	2559.0	2577.6	2606.6	2636.3
27.5°	2644.5	2556.3	2488.7	2443.9	2458.4	2443.9	2468.7	2482.5	2510.8	2542.5	2579.0
30°	2547.3	2455.6	2385.9	2346.0	2359.7	2346.6	2386.6	2405.3	2433.5	2477.0	2520.4
32.5°	2445.3	2348.7	2280.4	2249.4	2259.1	2257.0	2301.8	2322.5	2360.4	2410.1	2456.3
35°	2340.4	2239.8	2170.8	2144.6	2156.3	2159.1	2212.9	2237.0	2278.4	2338.4	2388.0
37.5°	2232.2	2129.4	2061.8	2040.5	2050.8	2061.2	2123.9	2148.0	2194.9	2260.4	2314.9
40°	2119.8	2017.0	1950.8	1933.6	1943.9	1955.0	2023.2	2056.3	2107.4	2178.4	2237.7
42.5°	2006.0	1903.2	1839.1	1826.7	1837.0	1858.4	1930.8	1961.9	2015.6	2094.3	2159.8
45°	1890.1	1783.3	1727.4	1717.7	1728.8	1753.6	1824.6	1861.9	1919.1	2005.3	2075.6
47.5°	1772.9	1668.8	1615.7	1609.5	1620.5	1648.1	1726.7	1760.5	1821.2	1912.9	1988.7
50°	1654.3	1552.9	1501.9	1499.8	1510.2	1539.8	1615.0	1655.0	1717.7	1820.5	1898.4
52.5°	1534.3	1437.1	1390.9	1390.9	1400.5	1430.9	1506.7	1548.1	1612.9	1721.2	1807.4
55°	1414.3	1321.9	1277.8	1281.2	1295.0	1321.2	1395.0	1438.5	1504.0	1616.4	1707.4
57.5°	1294.3	1206.8	1166.8	1171.6	1184.7	1210.9	1283.3	1332.3	1391.6	1508.1	1601.2
60°	1175.7	1093.0	1057.8	1063.3	1075.1	1101.3	1176.4	1218.5	1277.8	1396.4	1489.5
62.5°	1055.7	980.6	947.5	954.4	964.7	990.9	1062.0	1102.6	1161.3	1277.8	1371.6
65°	937.1	867.5	839.2	846.1	855.8	879.9	946.8	986.1	1042.0	1155.7	1245.4
67.5°	819.9	756.5	733.0	739.9	747.5	770.3	825.4	868.2	920.6	1028.9	1113.7
70°	704.1	647.5	626.8	633.7	640.6	661.3	709.6	748.9	797.2	896.5	975.1
72.5°	589.6	534.4	524.1	530.3	535.8	553.7	599.9	631.0	673.0	761.3	828.9
75°	477.9	430.3	423.4	429.6	434.4	448.2	486.8	513.7	548.9	625.4	680.6
77.5°	370.3	330.3	327.6	332.4	337.2	346.9	377.2	405.5	433.1	489.6	538.6
80°	269.6	237.2	237.2	242.0	240.7	252.4	273.8	296.5	316.5	357.2	393.1
82.5°	177.9	152.4	155.8	159.3	161.4	166.2	179.3	196.5	208.9	233.8	257.2
85°	98.6	81.4	84.8	87.6	86.2	91.7	98.6	109.0	115.2	126.9	139.3
87.5°	36.5	30.3	31.0	33.1	34.5	37.2	37.2	43.4	44.1	45.5	48.3
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):

	160°	170°	180°
0°	3154.8	3154.8	3154.8
2.5°	3079.7	3096.2	3108.6
5°	3026.6	3040.4	3051.4
7.5°	2974.8	2987.3	2996.9
10°	2925.9	2939.7	2946.6
12.5°	2875.5	2891.4	2896.9
15°	2825.9	2841.8	2848.7
17.5°	2774.9	2795.6	2803.1
20°	2727.3	2753.5	2759.7
22.5°	2679.0	2705.9	2713.5
25°	2626.6	2658.3	2665.9
27.5°	2570.8	2608.7	2616.3
30°	2514.9	2556.3	2563.9
32.5°	2454.9	2499.7	2506.6
35°	2392.2	2437.0	2445.3
37.5°	2322.5	2371.5	2388.0
40°	2250.1	2303.2	2320.4
42.5°	2174.2	2232.2	2250.1
45°	2092.9	2156.3	2177.0
47.5°	2010.8	2082.5	2100.5
50°	1921.9	1998.4	2019.8
52.5°	1828.8	1912.2	1933.6
55°	1732.2	1816.4	1839.8
57.5°	1627.4	1714.3	1739.1
60°	1517.8	1604.7	1628.1
62.5°	1405.4	1484.0	1506.7
65°	1279.9	1353.6	1374.3
67.5°	1146.8	1214.4	1231.6
70°	1005.4	1064.0	1079.2
72.5°	857.8	898.5	918.5
75°	705.4	737.9	753.0
77.5°	552.4	575.1	587.5
80°	402.7	415.8	426.2
82.5°	263.4	268.9	276.5
85°	142.1	142.1	146.9
87.5°	48.3	46.2	48.3
90°	0.0	0.0	0.0

(END OF REPORT)