

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: P834546

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-30-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834546
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-30-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

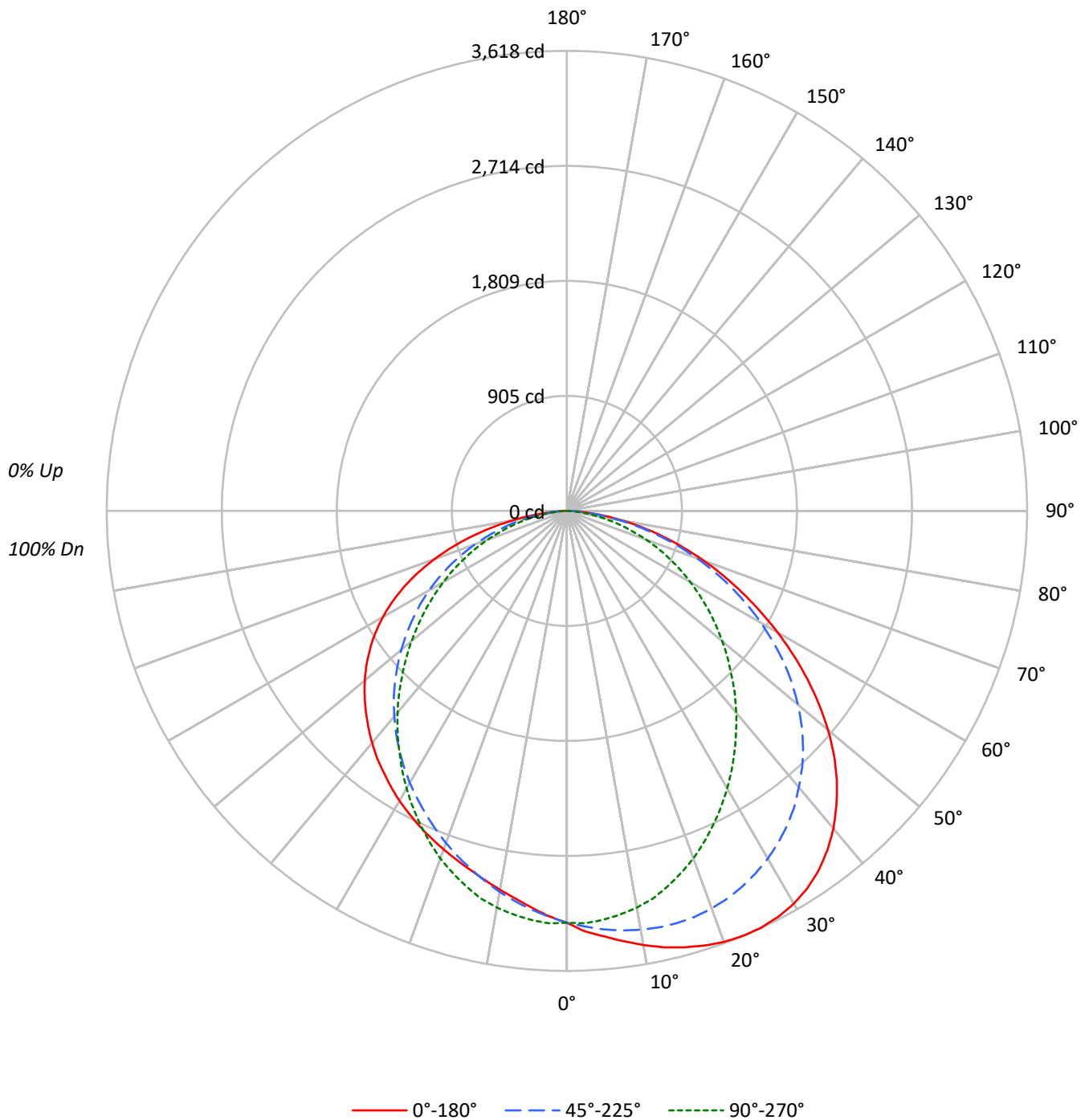
Lumens per Lamp: N/A
Luminaire Lumens: 9528.1 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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°	4358	4358	4358
5°	4537	4361	4232
10°	4736	4328	4133
15°	4949	4259	4074
20°	5165	4165	4057
25°	5368	4044	4064
30°	5543	3917	4090
35°	5669	3777	4124
40°	5727	3637	4185
45°	5711	3484	4253
50°	5609	3337	4341
55°	5418	3184	4431
60°	5154	3020	4498
65°	4840	2836	4493
70°	4504	2615	4359
75°	4089	2297	4020
80°	3511	1888	3391
85°	2678	1289	2328

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.2	3.2
10°-20°	887.2	9.3
20°-30°	1359.1	14.3
30°-40°	1658.7	17.4
40°-50°	1734.6	18.2
50°-60°	1569.9	16.5
60°-70°	1189.0	12.5
70°-80°	662.6	7.0
80°-90°	159.8	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°	2553.5	26.8
0°-40°	4212.2	44.2
0°-60°	7516.7	78.9
0°-90°	9528.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9528.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3239	3239	3239	3239	3239	
5°	3360	3304	3228	3149	3133	324
15°	3553	3355	3057	2915	2925	1008
25°	3616	3260	2724	2627	2737	1668
35°	3452	3019	2300	2297	2511	2155
45°	3001	2625	1831	1912	2235	2309
55°	2310	2085	1357	1477	1889	2061
65°	1520	1430	891	1012	1411	1508
75°	787	743	442	528	773	834
85°	174	153	84	112	151	209
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°	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2
2.5°	3310.7	3295.1	3282.3	3287.3	3290.1	3280.2	3271.7	3273.1	3264.6	3280.9	3242.7
5°	3359.5	3345.4	3330.5	3336.2	3330.5	3315.6	3303.6	3300.0	3277.4	3286.6	3247.7
7.5°	3414.0	3398.5	3376.5	3382.9	3370.8	3343.2	3327.7	3318.5	3283.8	3284.5	3241.3
10°	3466.4	3453.0	3423.2	3427.5	3405.5	3368.7	3343.9	3331.2	3282.3	3275.3	3230.7
12.5°	3515.3	3496.9	3465.0	3467.1	3435.3	3386.4	3354.6	3336.2	3272.4	3251.2	3207.3
15°	3552.8	3535.1	3496.9	3496.2	3455.1	3391.4	3355.3	3329.8	3249.1	3215.8	3169.8
17.5°	3584.7	3568.4	3520.9	3519.5	3470.0	3389.3	3346.1	3314.2	3215.1	3174.0	3123.0
20°	3607.3	3591.0	3537.9	3533.0	3473.5	3378.6	3327.0	3286.6	3170.5	3121.6	3065.0
22.5°	3617.9	3601.7	3541.5	3534.4	3465.0	3357.4	3299.3	3251.9	3119.5	3055.8	2997.0
25°	3615.8	3600.2	3532.3	3525.2	3448.7	3325.5	3260.4	3205.9	3055.1	2980.0	2922.0
27.5°	3598.1	3586.1	3514.6	3505.4	3419.0	3282.3	3213.0	3152.8	2983.6	2900.0	2837.0
30°	3567.7	3558.5	3482.7	3474.2	3382.2	3234.9	3157.7	3088.4	2906.4	2812.2	2748.5
32.5°	3518.8	3510.3	3433.9	3426.1	3332.6	3174.0	3093.3	3021.8	2822.1	2718.1	2654.3
35°	3451.6	3446.6	3372.3	3363.8	3268.9	3104.6	3019.0	2940.4	2734.3	2616.8	2555.9
37.5°	3363.1	3363.1	3291.6	3282.3	3189.6	3019.7	2935.4	2851.9	2635.2	2510.6	2450.4
40°	3260.4	3269.6	3196.7	3187.5	3097.6	2928.3	2836.3	2748.5	2528.3	2398.7	2340.0
42.5°	3137.2	3145.7	3084.8	3076.3	2992.1	2822.8	2737.2	2641.6	2416.4	2284.8	2223.9
45°	3001.3	3012.6	2958.1	2951.7	2873.1	2707.4	2625.3	2528.3	2299.6	2165.8	2106.3
47.5°	2849.8	2864.6	2817.2	2813.6	2740.7	2589.2	2503.5	2405.1	2177.1	2041.9	1986.0
50°	2679.8	2701.1	2662.1	2662.1	2597.0	2446.2	2371.8	2273.4	2049.7	1914.5	1859.2
52.5°	2497.9	2524.8	2495.7	2496.5	2443.4	2308.1	2230.9	2134.7	1916.6	1783.5	1732.5
55°	2309.5	2335.7	2317.3	2320.2	2278.4	2155.2	2085.1	1989.5	1780.7	1651.1	1602.9
57.5°	2112.7	2141.0	2129.0	2134.7	2105.6	1995.2	1922.3	1838.7	1640.5	1512.3	1471.3
60°	1915.2	1942.1	1935.7	1943.5	1925.1	1829.5	1763.0	1676.6	1499.6	1376.4	1340.3
62.5°	1715.5	1740.3	1738.9	1747.4	1737.5	1658.2	1598.7	1525.1	1353.7	1240.4	1207.2
65°	1520.1	1541.3	1539.9	1549.1	1547.0	1483.3	1429.5	1362.2	1207.9	1103.8	1074.8
67.5°	1330.4	1348.1	1343.1	1353.7	1356.6	1305.6	1258.8	1198.7	1069.1	967.9	943.1
70°	1144.9	1156.9	1150.5	1157.6	1164.0	1125.7	1086.1	1033.0	921.1	831.9	811.4
72.5°	962.9	971.4	961.5	968.6	974.2	946.6	914.0	868.0	775.3	698.1	681.1
75°	786.6	798.6	778.1	785.2	789.4	761.8	742.7	705.2	625.2	565.7	554.4
77.5°	616.0	623.1	611.7	608.9	611.7	591.9	577.0	548.0	487.8	439.0	431.9
80°	453.1	457.4	446.0	443.2	445.3	431.2	419.9	398.6	356.1	319.3	316.5
82.5°	303.7	305.9	295.9	293.1	294.5	290.3	276.8	262.0	242.1	211.0	210.3
85°	173.5	173.5	166.4	163.6	165.0	157.9	152.9	145.1	137.4	116.1	117.5
87.5°	63.7	63.7	60.2	59.5	66.6	58.8	56.6	53.1	55.2	43.9	46.7
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°	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2	3239.2
2.5°	3253.3	3246.2	3239.9	3217.9	3227.1	3204.5	3203.1	3194.6	3188.2	3176.1	3191.7
5°	3242.7	3228.5	3210.1	3183.9	3191.7	3164.8	3159.2	3149.2	3140.7	3125.2	3137.2
7.5°	3225.7	3202.3	3173.3	3140.0	3150.7	3117.4	3108.9	3098.3	3091.2	3072.8	3083.4
10°	3200.9	3167.6	3133.7	3093.3	3101.1	3065.0	3054.4	3043.0	3036.7	3020.4	3031.0
12.5°	3162.7	3122.3	3076.3	3032.4	3040.9	3006.9	2992.8	2980.7	2978.6	2965.2	2977.9
15°	3113.1	3057.2	3009.8	2963.0	2972.9	2933.3	2926.9	2914.9	2918.4	2909.2	2924.8
17.5°	3050.1	2985.7	2934.0	2883.7	2893.6	2860.4	2855.4	2849.8	2853.3	2851.9	2868.9
20°	2979.3	2908.5	2849.0	2799.5	2805.1	2779.0	2781.1	2779.7	2786.7	2794.5	2817.9
22.5°	2899.3	2819.3	2757.0	2706.0	2714.5	2691.9	2701.8	2704.6	2716.6	2734.3	2764.1
25°	2809.4	2723.7	2658.6	2610.4	2618.2	2603.4	2620.4	2627.4	2646.6	2676.3	2706.7
27.5°	2715.2	2624.6	2555.2	2509.2	2524.1	2509.2	2534.7	2548.8	2577.9	2610.4	2648.0
30°	2615.4	2521.2	2449.7	2408.7	2422.8	2409.4	2450.4	2469.5	2498.6	2543.2	2587.8
32.5°	2510.6	2411.5	2341.4	2309.5	2319.5	2317.3	2363.3	2384.6	2423.5	2474.5	2521.9
35°	2403.0	2299.6	2228.8	2201.9	2214.0	2216.8	2272.0	2296.8	2339.3	2400.9	2451.8
37.5°	2291.8	2186.3	2117.0	2095.0	2105.6	2116.3	2180.7	2205.5	2253.6	2320.9	2376.8
40°	2176.4	2070.9	2003.0	1985.3	1995.9	2007.2	2077.3	2111.3	2163.7	2236.6	2297.5
42.5°	2059.6	1954.1	1888.3	1875.5	1886.1	1908.1	1982.4	2014.3	2069.5	2150.2	2217.5
45°	1940.7	1830.9	1773.6	1763.7	1775.0	1800.5	1873.4	1911.6	1970.4	2058.9	2131.1
47.5°	1820.3	1713.4	1658.9	1652.5	1663.8	1692.2	1772.9	1807.6	1869.9	1964.0	2041.9
50°	1698.5	1594.4	1542.1	1539.9	1550.5	1581.0	1658.2	1699.2	1763.7	1869.2	1949.2
52.5°	1575.3	1475.5	1428.1	1428.1	1438.0	1469.1	1547.0	1589.5	1656.0	1767.2	1855.7
55°	1452.1	1357.3	1311.9	1315.5	1329.6	1356.6	1432.3	1476.9	1544.2	1659.6	1753.0
57.5°	1328.9	1239.0	1198.0	1202.9	1216.4	1243.3	1317.6	1367.9	1428.8	1548.4	1644.0
60°	1207.2	1122.2	1086.1	1091.8	1103.8	1130.7	1207.9	1251.1	1311.9	1433.7	1529.3
62.5°	1084.0	1006.8	972.8	979.9	990.5	1017.4	1090.3	1132.1	1192.3	1311.9	1408.2
65°	962.2	890.7	861.7	868.7	878.6	903.4	972.1	1012.5	1069.8	1186.6	1278.7
67.5°	841.8	776.7	752.6	759.7	767.5	790.9	847.5	891.4	945.2	1056.4	1143.4
70°	722.9	664.8	643.6	650.7	657.7	679.0	728.5	768.9	818.5	920.4	1001.1
72.5°	605.4	548.7	538.1	544.5	550.1	568.5	616.0	647.8	691.0	781.6	851.0
75°	490.7	441.8	434.7	441.1	446.0	460.2	499.9	527.5	563.6	642.2	698.8
77.5°	380.2	339.1	336.3	341.3	346.2	356.1	387.3	416.3	444.6	502.7	553.0
80°	276.8	243.6	243.6	248.5	247.1	259.1	281.1	304.4	325.0	366.8	403.6
82.5°	182.7	156.5	160.0	163.6	165.7	170.6	184.1	201.8	214.5	240.0	264.1
85°	101.2	83.5	87.1	89.9	88.5	94.2	101.2	111.9	118.2	130.3	143.0
87.5°	37.5	31.2	31.9	34.0	35.4	38.2	38.2	44.6	45.3	46.7	49.6
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°	3239.2	3239.2	3239.2
2.5°	3162.0	3179.0	3191.7
5°	3107.5	3121.6	3133.0
7.5°	3054.4	3067.1	3077.0
10°	3004.1	3018.3	3025.3
12.5°	2952.4	2968.7	2974.4
15°	2901.4	2917.7	2924.8
17.5°	2849.0	2870.3	2878.1
20°	2800.2	2827.1	2833.5
22.5°	2750.6	2778.2	2786.0
25°	2696.8	2729.4	2737.2
27.5°	2639.5	2678.4	2686.2
30°	2582.1	2624.6	2632.4
32.5°	2520.5	2566.5	2573.6
35°	2456.1	2502.1	2510.6
37.5°	2384.6	2434.9	2451.8
40°	2310.2	2364.8	2382.5
42.5°	2232.4	2291.8	2310.2
45°	2148.8	2214.0	2235.2
47.5°	2064.6	2138.2	2156.6
50°	1973.2	2051.8	2073.8
52.5°	1877.7	1963.3	1985.3
55°	1778.5	1864.9	1889.0
57.5°	1670.9	1760.1	1785.6
60°	1558.3	1647.5	1671.6
62.5°	1442.9	1523.6	1547.0
65°	1314.1	1389.8	1411.1
67.5°	1177.4	1246.8	1264.5
70°	1032.3	1092.5	1108.0
72.5°	880.8	922.5	943.1
75°	724.3	757.6	773.2
77.5°	567.1	590.5	603.2
80°	413.5	426.9	437.6
82.5°	270.5	276.1	283.9
85°	145.9	145.9	150.8
87.5°	49.6	47.4	49.6
90°	0.0	0.0	0.0

(END OF REPORT)