

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: P835329

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5HI-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835329
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-35-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

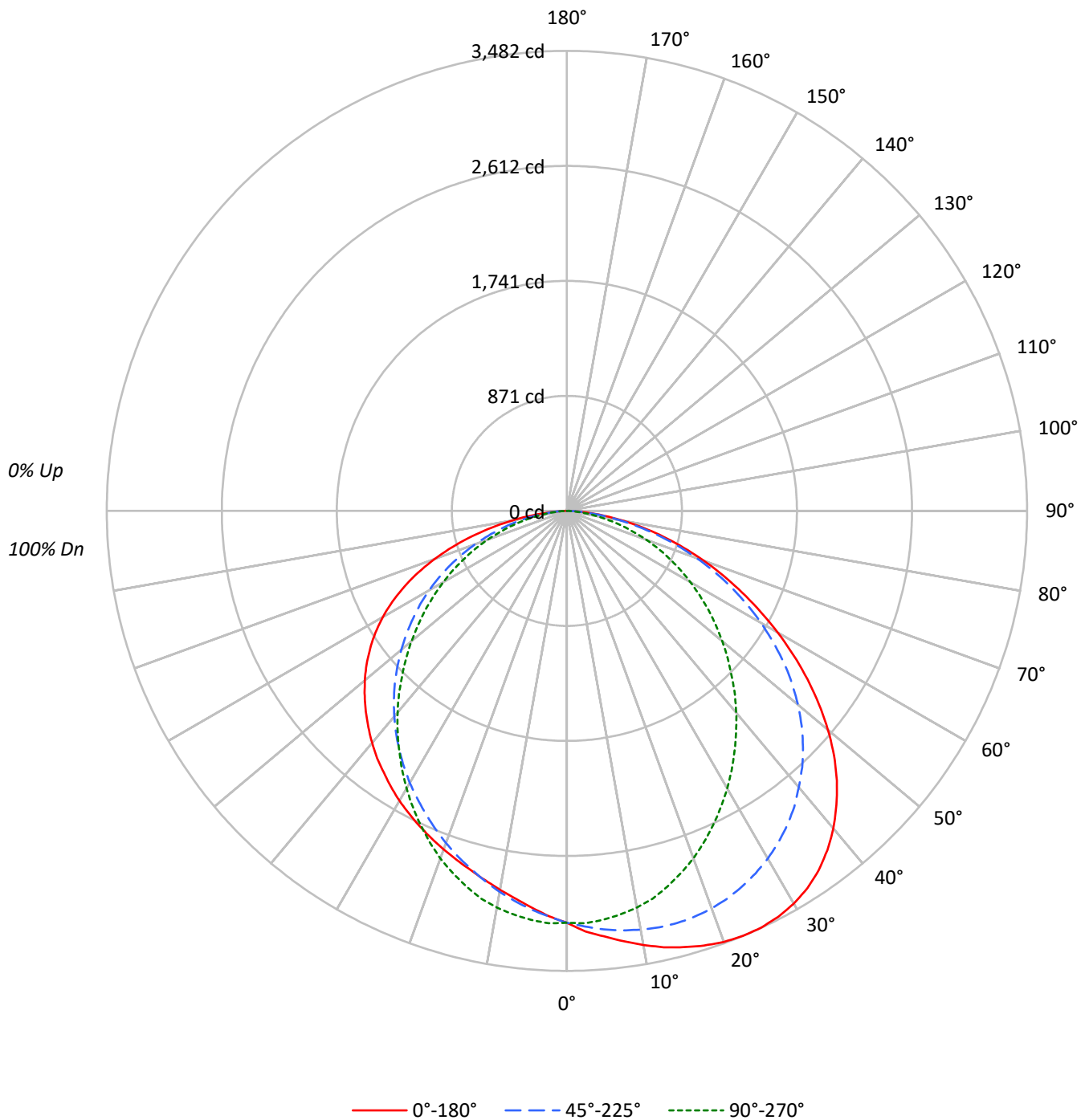
Lumens per Lamp: N/A
Luminaire Lumens: 9169.6 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

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°	8389	8389	8389
5°	8733	8393	8145
10°	9116	8330	7956
15°	9525	8197	7841
20°	9942	8016	7809
25°	10332	7783	7821
30°	10669	7539	7872
35°	10912	7270	7937
40°	11022	7001	8054
45°	10992	6706	8186
50°	10797	6424	8355
55°	10428	6128	8529
60°	9919	5813	8658
65°	9315	5458	8647
70°	8669	5034	8390
75°	7871	4421	7737
80°	6758	3632	6526
85°	5153	2482	4480

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.6	3.2
10°-20°	853.8	9.3
20°-30°	1308.0	14.3
30°-40°	1596.2	17.4
40°-50°	1669.3	18.2
50°-60°	1510.8	16.5
60°-70°	1144.2	12.5
70°-80°	637.7	7.0
80°-90°	153.8	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°	2457.4	26.8
0°-40°	4053.7	44.2
0°-60°	7233.8	78.9
0°-90°	9169.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9169.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3117	3117	3117	3117	3117	
5°	3233	3179	3107	3031	3015	312
15°	3419	3229	2942	2805	2815	970
25°	3480	3138	2621	2529	2634	1605
35°	3322	2905	2213	2210	2416	2074
45°	2888	2526	1762	1840	2151	2222
55°	2223	2007	1306	1421	1818	1983
65°	1463	1376	857	974	1358	1451
75°	757	715	425	508	744	803
85°	167	147	80	108	145	201
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°	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3
2.5°	3186.1	3171.1	3158.8	3163.6	3166.3	3156.8	3148.6	3150.0	3141.8	3157.5	3120.7
5°	3233.1	3219.5	3205.2	3210.6	3205.2	3190.9	3179.3	3175.9	3154.1	3162.9	3125.4
7.5°	3285.6	3270.6	3249.5	3255.6	3244.0	3217.4	3202.4	3193.6	3160.2	3160.9	3119.3
10°	3336.0	3323.0	3294.4	3298.5	3277.4	3242.0	3218.1	3205.8	3158.8	3152.0	3109.1
12.5°	3383.0	3365.3	3334.6	3336.7	3306.0	3259.0	3228.3	3210.6	3149.3	3128.9	3086.6
15°	3419.1	3402.1	3365.3	3364.6	3325.1	3263.8	3229.0	3204.5	3126.8	3094.8	3050.5
17.5°	3449.8	3434.1	3388.5	3387.1	3339.4	3261.7	3220.2	3189.5	3094.1	3054.6	3005.5
20°	3471.6	3455.9	3404.8	3400.0	3342.8	3251.5	3201.8	3162.9	3051.2	3004.2	2949.7
22.5°	3481.8	3466.1	3408.2	3401.4	3334.6	3231.1	3175.2	3129.5	3002.1	2940.8	2884.2
25°	3479.8	3464.8	3399.4	3392.5	3319.0	3200.4	3137.7	3085.2	2940.1	2867.9	2812.0
27.5°	3462.7	3451.1	3382.3	3373.5	3290.3	3158.8	3092.1	3034.1	2871.3	2790.9	2730.3
30°	3433.4	3424.6	3351.7	3343.5	3254.9	3113.2	3038.9	2972.1	2797.0	2706.4	2645.1
32.5°	3386.4	3378.2	3304.6	3297.2	3207.2	3054.6	2976.9	2908.1	2715.9	2615.8	2554.5
35°	3321.7	3316.9	3245.4	3237.2	3145.9	2987.8	2905.4	2829.7	2631.5	2518.3	2459.7
37.5°	3236.5	3236.5	3167.7	3158.8	3069.6	2906.0	2825.0	2744.6	2536.1	2416.1	2358.2
40°	3137.7	3146.6	3076.4	3067.5	2981.0	2818.1	2729.6	2645.1	2433.2	2308.5	2251.9
42.5°	3019.2	3027.3	2968.7	2960.6	2879.5	2716.6	2634.2	2542.2	2325.5	2198.8	2140.2
45°	2888.3	2899.2	2846.8	2840.6	2765.0	2605.6	2526.5	2433.2	2213.1	2084.3	2027.1
47.5°	2742.5	2756.8	2711.2	2707.8	2637.6	2491.8	2409.3	2314.6	2095.2	1965.1	1911.2
50°	2579.0	2599.4	2562.0	2562.0	2499.3	2354.1	2282.6	2187.9	1972.6	1842.4	1789.3
52.5°	2403.9	2429.8	2401.8	2402.5	2351.4	2221.3	2147.0	2054.3	1844.5	1716.4	1667.3
55°	2222.6	2247.8	2230.1	2232.9	2192.7	2074.1	2006.6	1914.7	1713.6	1589.0	1542.6
57.5°	2033.2	2060.5	2048.9	2054.3	2026.4	1920.1	1849.9	1769.5	1578.7	1455.4	1415.9
60°	1843.1	1869.0	1862.9	1870.4	1852.6	1760.7	1696.6	1613.5	1443.1	1324.6	1289.8
62.5°	1651.0	1674.8	1673.4	1681.6	1672.1	1595.8	1538.5	1467.7	1302.8	1193.8	1161.7
65°	1462.9	1483.3	1482.0	1490.8	1488.8	1427.5	1375.7	1311.0	1162.4	1062.3	1034.3
67.5°	1280.3	1297.3	1292.6	1302.8	1305.5	1256.4	1211.5	1153.6	1028.9	931.4	907.6
70°	1101.8	1113.4	1107.2	1114.0	1120.2	1083.4	1045.2	994.1	886.5	800.6	780.9
72.5°	926.7	934.8	925.3	932.1	937.6	911.0	879.6	835.4	746.1	671.8	655.5
75°	757.0	768.6	748.8	755.6	759.7	733.2	714.8	678.6	601.7	544.4	533.5
77.5°	592.8	599.6	588.7	586.0	588.7	569.6	555.3	527.4	469.5	422.4	415.6
80°	436.1	440.2	429.3	426.5	428.6	415.0	404.1	383.6	342.7	307.3	304.6
82.5°	292.3	294.4	284.8	282.1	283.5	279.4	266.4	252.1	233.0	203.0	202.4
85°	166.9	166.9	160.1	157.4	158.8	151.9	147.2	139.7	132.2	111.7	113.1
87.5°	61.3	61.3	57.9	57.2	64.0	56.6	54.5	51.1	53.1	42.2	45.0
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°	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3	3117.3
2.5°	3130.9	3124.1	3118.0	3096.8	3105.7	3083.9	3082.5	3074.3	3068.2	3056.6	3071.6
5°	3120.7	3107.1	3089.3	3064.1	3071.6	3045.7	3040.3	3030.7	3022.6	3007.6	3019.2
7.5°	3104.3	3081.8	3053.9	3021.9	3032.1	3000.1	2991.9	2981.7	2974.9	2957.1	2967.4
10°	3080.5	3048.5	3015.7	2976.9	2984.4	2949.7	2939.4	2928.5	2922.4	2906.7	2916.9
12.5°	3043.7	3004.8	2960.6	2918.3	2926.5	2893.8	2880.2	2868.6	2866.5	2853.6	2865.8
15°	2996.0	2942.2	2896.5	2851.5	2861.1	2822.9	2816.8	2805.2	2808.6	2799.8	2814.7
17.5°	2935.3	2873.3	2823.6	2775.2	2784.8	2752.7	2748.0	2742.5	2745.9	2744.6	2760.9
20°	2867.2	2799.1	2741.8	2694.1	2699.6	2674.4	2676.4	2675.1	2681.9	2689.4	2711.9
22.5°	2790.2	2713.2	2653.3	2604.2	2612.4	2590.6	2600.1	2602.8	2614.4	2631.5	2660.1
25°	2703.7	2621.2	2558.5	2512.2	2519.7	2505.4	2521.8	2528.6	2547.0	2575.6	2604.9
27.5°	2613.1	2525.8	2459.1	2414.8	2429.1	2414.8	2439.3	2452.9	2480.9	2512.2	2548.3
30°	2517.0	2426.4	2357.5	2318.0	2331.7	2318.7	2358.2	2376.6	2404.6	2447.5	2490.4
32.5°	2416.1	2320.7	2253.3	2222.6	2232.2	2230.1	2274.4	2294.9	2332.3	2381.4	2427.0
35°	2312.6	2213.1	2145.0	2119.1	2130.6	2133.4	2186.5	2210.4	2251.2	2310.5	2359.6
37.5°	2205.6	2104.1	2037.3	2016.2	2026.4	2036.6	2098.6	2122.5	2168.8	2233.5	2287.4
40°	2094.5	1993.0	1927.6	1910.6	1920.8	1931.7	1999.1	2031.8	2082.3	2152.4	2211.0
42.5°	1982.1	1880.6	1817.2	1805.0	1815.2	1836.3	1907.8	1938.5	1991.6	2069.3	2134.1
45°	1867.6	1762.0	1706.8	1697.3	1708.2	1732.7	1802.9	1839.7	1896.3	1981.4	2050.9
47.5°	1751.8	1648.9	1596.5	1590.3	1601.2	1628.5	1706.2	1739.5	1799.5	1890.1	1965.1
50°	1634.6	1534.4	1484.0	1482.0	1492.2	1521.5	1595.8	1635.3	1697.3	1798.8	1875.8
52.5°	1516.0	1420.0	1374.3	1374.3	1383.9	1413.8	1488.8	1529.7	1593.7	1700.7	1785.9
55°	1397.5	1306.2	1262.6	1266.0	1279.6	1305.5	1378.4	1421.3	1486.1	1597.1	1687.1
57.5°	1278.9	1192.4	1152.9	1157.6	1170.6	1196.5	1268.0	1316.4	1375.0	1490.2	1582.1
60°	1161.7	1080.0	1045.2	1050.7	1062.3	1088.1	1162.4	1204.0	1262.6	1379.8	1471.8
62.5°	1043.2	968.9	936.2	943.0	953.2	979.1	1049.3	1089.5	1147.4	1262.6	1355.2
65°	926.0	857.2	829.2	836.0	845.6	869.4	935.5	974.4	1029.6	1142.0	1230.6
67.5°	810.1	747.5	724.3	731.1	738.6	761.1	815.6	857.8	909.6	1016.6	1100.4
70°	695.7	639.8	619.4	626.2	633.0	653.4	701.1	740.0	787.7	885.8	963.5
72.5°	582.6	528.1	517.8	524.0	529.4	547.1	592.8	623.5	665.0	752.2	819.0
75°	472.2	425.2	418.4	424.5	429.3	442.9	481.0	507.6	542.4	618.0	672.5
77.5°	365.9	326.4	323.7	328.4	333.2	342.7	372.7	400.6	427.9	483.8	532.2
80°	266.4	234.4	234.4	239.2	237.8	249.4	270.5	293.0	312.7	352.9	388.4
82.5°	175.8	150.6	154.0	157.4	159.4	164.2	177.2	194.2	206.5	231.0	254.2
85°	97.4	80.4	83.8	86.5	85.2	90.6	97.4	107.7	113.8	125.4	137.6
87.5°	36.1	30.0	30.7	32.7	34.1	36.8	36.8	42.9	43.6	45.0	47.7
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):

	160°	170°	180°
0°	3117.3	3117.3	3117.3
2.5°	3043.0	3059.4	3071.6
5°	2990.5	3004.2	3015.1
7.5°	2939.4	2951.7	2961.2
10°	2891.1	2904.7	2911.5
12.5°	2841.3	2857.0	2862.4
15°	2792.3	2807.9	2814.7
17.5°	2741.8	2762.3	2769.8
20°	2694.8	2720.7	2726.8
22.5°	2647.1	2673.7	2681.2
25°	2595.3	2626.7	2634.2
27.5°	2540.1	2577.6	2585.1
30°	2485.0	2525.8	2533.3
32.5°	2425.7	2470.0	2476.8
35°	2363.7	2408.0	2416.1
37.5°	2294.9	2343.2	2359.6
40°	2223.3	2275.8	2292.8
42.5°	2148.4	2205.6	2223.3
45°	2068.0	2130.6	2151.1
47.5°	1986.9	2057.7	2075.5
50°	1899.0	1974.6	1995.7
52.5°	1807.0	1889.4	1910.6
55°	1711.6	1794.7	1817.9
57.5°	1608.0	1693.9	1718.4
60°	1499.7	1585.5	1608.7
62.5°	1388.6	1466.3	1488.8
65°	1264.6	1337.5	1358.0
67.5°	1133.1	1199.9	1216.9
70°	993.4	1051.4	1066.3
72.5°	847.6	887.8	907.6
75°	697.0	729.1	744.1
77.5°	545.8	568.3	580.5
80°	397.9	410.9	421.1
82.5°	260.3	265.7	273.2
85°	140.4	140.4	145.1
87.5°	47.7	45.7	47.7
90°	0.0	0.0	0.0

(END OF REPORT)