

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: P834231

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-2HI-50-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834231
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-2HI-50-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

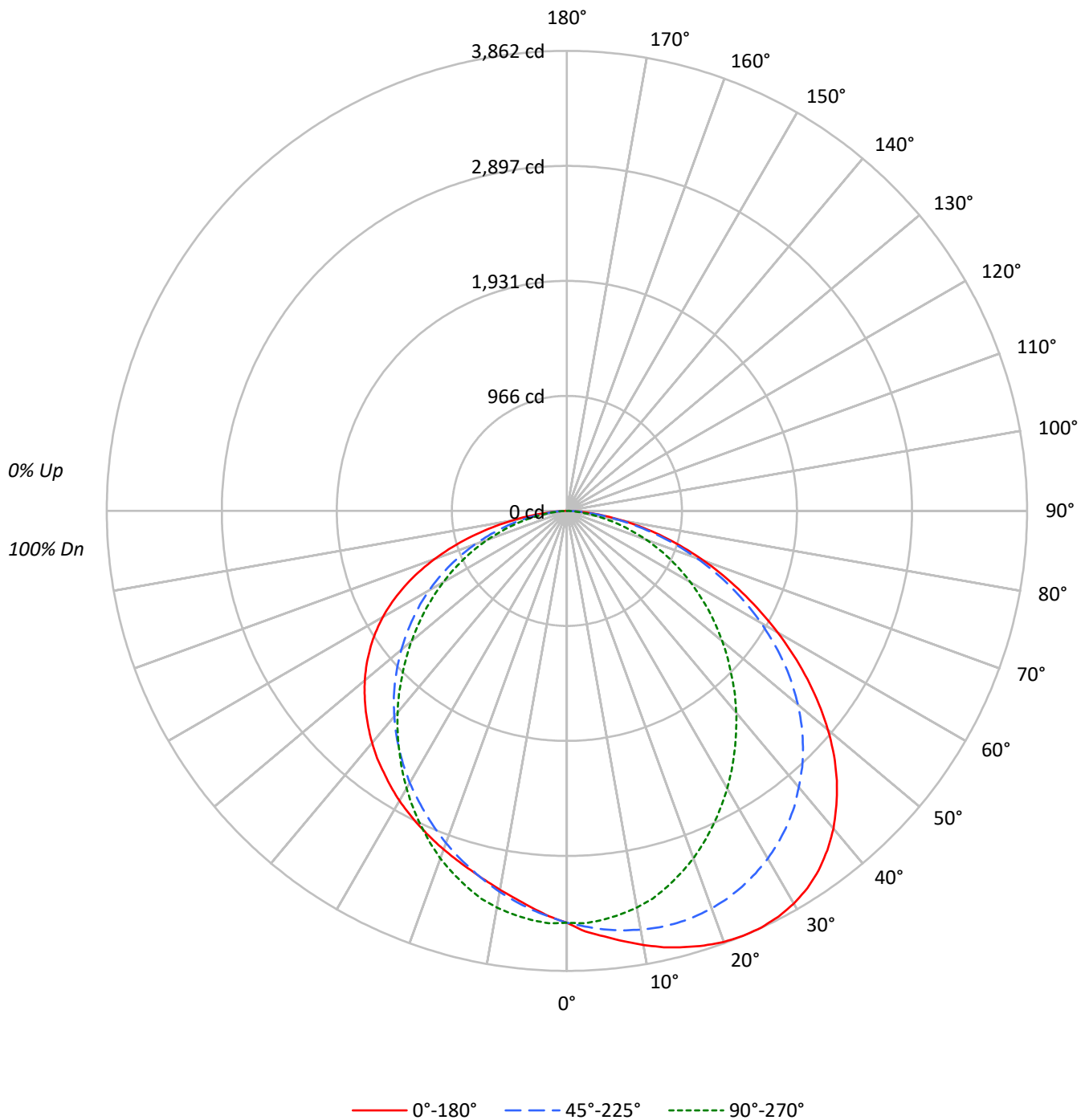
Lumens per Lamp: N/A
Luminaire Lumens: 10170.4 lumens
Efficiency: N/A
Efficacy: 115.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9304	9304	9304
5°	9687	9309	9034
10°	10110	9239	8824
15°	10565	9091	8698
20°	11027	8891	8661
25°	11460	8632	8675
30°	11833	8362	8731
35°	12103	8064	8804
40°	12225	7765	8933
45°	12192	7437	9080
50°	11975	7125	9267
55°	11566	6797	9460
60°	11002	6447	9603
65°	10332	6053	9591
70°	9615	5583	9305
75°	8729	4903	8581
80°	7496	4029	7237
85°	5718	2754	4971



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.9	3.2
10°-20°	947.0	9.3
20°-30°	1450.8	14.3
30°-40°	1770.5	17.4
40°-50°	1851.5	18.2
50°-60°	1675.8	16.5
60°-70°	1269.1	12.5
70°-80°	707.3	7.0
80°-90°	170.6	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°	2725.7	26.8
0°-40°	4496.1	44.2
0°-60°	8023.4	78.9
0°-90°	10170.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10170.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3458	3458	3458	3458	3458	
5°	3586	3526	3446	3362	3344	346
15°	3792	3582	3263	3111	3122	1076
25°	3860	3480	2907	2805	2922	1780
35°	3684	3222	2455	2452	2680	2301
45°	3204	2802	1954	2040	2386	2465
55°	2465	2226	1449	1576	2016	2200
65°	1623	1526	951	1081	1506	1610
75°	840	793	472	563	825	890
85°	185	163	89	119	161	223
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°	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5
2.5°	3533.9	3517.2	3503.6	3508.9	3511.9	3501.4	3492.3	3493.8	3484.7	3502.1	3461.3
5°	3586.0	3570.9	3555.0	3561.1	3555.0	3539.1	3526.3	3522.5	3498.3	3508.2	3466.6
7.5°	3644.2	3627.6	3604.1	3610.9	3598.1	3568.6	3552.0	3542.2	3505.1	3505.9	3459.8
10°	3700.1	3685.8	3654.0	3658.5	3635.1	3595.8	3569.4	3555.8	3503.6	3496.1	3448.5
12.5°	3752.3	3732.6	3698.6	3700.9	3666.9	3614.7	3580.7	3561.1	3493.0	3470.4	3423.5
15°	3792.3	3773.4	3732.6	3731.9	3688.0	3620.0	3581.5	3554.3	3468.1	3432.6	3383.5
17.5°	3826.3	3808.9	3758.3	3756.8	3703.9	3617.7	3571.6	3537.6	3431.8	3388.0	3333.6
20°	3850.5	3833.1	3776.4	3771.2	3707.7	3606.4	3551.2	3508.2	3384.2	3332.1	3271.6
22.5°	3861.8	3844.5	3780.2	3772.7	3698.6	3583.7	3521.8	3471.1	3329.8	3261.8	3199.1
25°	3859.6	3842.9	3770.4	3762.8	3681.2	3549.7	3480.2	3422.0	3261.0	3180.9	3118.9
27.5°	3840.7	3827.8	3751.5	3741.7	3649.5	3503.6	3429.6	3365.3	3184.7	3095.5	3028.3
30°	3808.2	3798.4	3717.5	3708.4	3610.2	3453.0	3370.6	3296.5	3102.3	3001.8	2933.8
32.5°	3756.0	3747.0	3665.3	3657.0	3557.3	3388.0	3301.8	3225.5	3012.4	2901.3	2833.3
35°	3684.2	3679.0	3599.6	3590.5	3489.3	3313.9	3222.5	3138.6	2918.7	2793.2	2728.2
37.5°	3589.8	3589.8	3513.4	3503.6	3404.6	3223.2	3133.3	3044.1	2812.9	2679.9	2615.6
40°	3480.2	3490.0	3412.2	3402.4	3306.4	3125.7	3027.5	2933.8	2698.8	2560.5	2497.7
42.5°	3348.7	3357.8	3292.8	3283.7	3193.8	3013.1	2921.7	2819.7	2579.3	2438.8	2373.8
45°	3203.6	3215.7	3157.5	3150.7	3066.8	2890.0	2802.3	2698.8	2454.7	2311.8	2248.3
47.5°	3041.9	3057.7	3007.1	3003.3	2925.5	2763.7	2672.3	2567.3	2323.9	2179.6	2119.9
50°	2860.5	2883.2	2841.6	2841.6	2772.1	2611.1	2531.7	2426.7	2187.9	2043.5	1984.6
52.5°	2666.3	2695.0	2664.0	2664.7	2608.1	2463.7	2381.3	2278.6	2045.8	1903.7	1849.3
55°	2465.2	2493.2	2473.5	2476.6	2432.0	2300.5	2225.7	2123.6	1900.7	1762.4	1711.0
57.5°	2255.1	2285.4	2272.5	2278.6	2247.6	2129.7	2051.8	1962.7	1751.1	1614.3	1570.4
60°	2044.3	2073.0	2066.2	2074.5	2054.9	1952.8	1881.8	1789.6	1600.7	1469.2	1430.6
62.5°	1831.2	1857.6	1856.1	1865.2	1854.6	1769.9	1706.5	1627.9	1445.0	1324.1	1288.5
65°	1622.6	1645.3	1643.7	1653.6	1651.3	1583.3	1525.8	1454.0	1289.3	1178.2	1147.2
67.5°	1420.0	1438.9	1433.6	1445.0	1448.0	1393.6	1343.7	1279.5	1141.2	1033.1	1006.6
70°	1222.0	1234.9	1228.1	1235.6	1242.4	1201.6	1159.3	1102.6	983.2	888.0	866.1
72.5°	1027.8	1036.9	1026.3	1033.9	1039.9	1010.4	975.7	926.5	827.5	745.2	727.0
75°	839.6	852.5	830.6	838.1	842.7	813.2	792.8	752.7	667.3	603.8	591.7
77.5°	657.5	665.1	653.0	649.9	653.0	631.8	615.9	584.9	520.7	468.6	461.0
80°	483.7	488.2	476.1	473.1	475.4	460.2	448.2	425.5	380.1	340.8	337.8
82.5°	324.2	326.5	315.9	312.9	314.4	309.9	295.5	279.6	258.5	225.2	224.5
85°	185.2	185.2	177.6	174.6	176.1	168.5	163.2	154.9	146.6	123.9	125.5
87.5°	68.0	68.0	64.2	63.5	71.0	62.7	60.5	56.7	58.9	46.9	49.9
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°	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5	3457.5
2.5°	3472.6	3465.1	3458.3	3434.8	3444.7	3420.5	3419.0	3409.9	3403.1	3390.3	3406.9
5°	3461.3	3446.2	3426.5	3398.6	3406.9	3378.2	3372.1	3361.5	3352.5	3335.8	3348.7
7.5°	3443.2	3418.2	3387.2	3351.7	3363.1	3327.5	3318.5	3307.1	3299.6	3279.9	3291.3
10°	3416.7	3381.2	3344.9	3301.8	3310.2	3271.6	3260.3	3248.2	3241.4	3224.0	3235.3
12.5°	3375.9	3332.8	3283.7	3236.8	3245.9	3209.6	3194.5	3181.7	3179.4	3165.0	3178.7
15°	3323.0	3263.3	3212.7	3162.8	3173.4	3131.0	3124.2	3111.4	3115.2	3105.3	3122.0
17.5°	3255.7	3187.0	3131.8	3078.1	3088.7	3053.2	3047.9	3041.9	3045.6	3044.1	3062.3
20°	3180.2	3104.6	3041.1	2988.2	2994.3	2966.3	2968.6	2967.0	2974.6	2982.9	3007.9
22.5°	3094.8	3009.4	2942.9	2888.4	2897.5	2873.3	2883.9	2886.9	2899.8	2918.7	2950.4
25°	2998.8	2907.3	2837.8	2786.4	2794.7	2778.9	2797.0	2804.6	2825.0	2856.7	2889.2
27.5°	2898.3	2801.5	2727.5	2678.4	2694.2	2678.4	2705.6	2720.7	2751.7	2786.4	2826.5
30°	2791.7	2691.2	2614.9	2571.0	2586.1	2571.8	2615.6	2636.0	2667.0	2714.6	2762.2
32.5°	2679.9	2574.1	2499.2	2465.2	2475.8	2473.5	2522.7	2545.3	2586.9	2641.3	2692.0
35°	2565.0	2454.7	2379.1	2350.4	2363.2	2366.2	2425.2	2451.6	2497.0	2562.7	2617.1
37.5°	2446.3	2333.7	2259.7	2236.2	2247.6	2258.9	2327.7	2354.1	2405.5	2477.3	2537.0
40°	2323.2	2210.5	2138.0	2119.1	2130.4	2142.5	2217.3	2253.6	2309.5	2387.4	2452.4
42.5°	2198.5	2085.8	2015.6	2002.0	2013.3	2036.7	2116.1	2150.1	2209.0	2295.2	2367.0
45°	2071.5	1954.3	1893.1	1882.6	1894.6	1921.9	1999.7	2040.5	2103.2	2197.7	2274.8
47.5°	1943.0	1828.9	1770.7	1763.9	1776.0	1806.2	1892.4	1929.4	1995.9	2096.4	2179.6
50°	1813.0	1701.9	1646.0	1643.7	1655.1	1687.6	1769.9	1813.8	1882.6	1995.2	2080.6
52.5°	1681.5	1575.0	1524.3	1524.3	1534.9	1568.2	1651.3	1696.6	1767.7	1886.3	1980.8
55°	1550.0	1448.8	1400.4	1404.2	1419.3	1448.0	1528.9	1576.5	1648.3	1771.5	1871.2
57.5°	1418.5	1322.5	1278.7	1284.0	1298.4	1327.1	1406.4	1460.1	1525.1	1652.8	1754.8
60°	1288.5	1197.9	1159.3	1165.4	1178.2	1206.9	1289.3	1335.4	1400.4	1530.4	1632.4
62.5°	1157.0	1074.7	1038.4	1045.9	1057.3	1086.0	1163.8	1208.4	1272.7	1400.4	1503.2
65°	1027.1	950.7	919.7	927.3	937.9	964.3	1037.6	1080.7	1141.9	1266.6	1364.9
67.5°	898.6	829.0	803.4	810.9	819.2	844.2	904.6	951.5	1008.9	1127.6	1220.5
70°	771.6	709.6	687.0	694.5	702.1	724.8	777.7	820.7	873.6	982.5	1068.6
72.5°	646.2	585.7	574.4	581.2	587.2	606.9	657.5	691.5	737.6	834.3	908.4
75°	523.7	471.6	464.0	470.8	476.1	491.2	533.6	563.0	601.6	685.5	745.9
77.5°	405.8	362.0	359.0	364.3	369.6	380.1	413.4	444.4	474.6	536.6	590.2
80°	295.5	260.0	260.0	265.3	263.8	276.6	300.0	325.0	346.9	391.5	430.8
82.5°	195.0	167.0	170.8	174.6	176.8	182.1	196.5	215.4	229.0	256.2	281.9
85°	108.1	89.2	93.0	96.0	94.5	100.5	108.1	119.4	126.2	139.1	152.7
87.5°	40.1	33.3	34.0	36.3	37.8	40.8	40.8	47.6	48.4	49.9	52.9
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°	3457.5	3457.5	3457.5
2.5°	3375.1	3393.3	3406.9
5°	3317.0	3332.1	3344.2
7.5°	3260.3	3273.9	3284.5
10°	3206.6	3221.7	3229.3
12.5°	3151.4	3168.8	3174.9
15°	3097.0	3114.4	3122.0
17.5°	3041.1	3063.8	3072.1
20°	2989.0	3017.7	3024.5
22.5°	2936.1	2965.5	2973.8
25°	2878.6	2913.4	2921.7
27.5°	2817.4	2859.0	2867.3
30°	2756.2	2801.5	2809.8
32.5°	2690.4	2739.6	2747.1
35°	2621.7	2670.8	2679.9
37.5°	2545.3	2599.0	2617.1
40°	2466.0	2524.2	2543.1
42.5°	2382.9	2446.3	2466.0
45°	2293.7	2363.2	2385.9
47.5°	2203.7	2282.3	2302.0
50°	2106.3	2190.1	2213.6
52.5°	2004.2	2095.7	2119.1
55°	1898.4	1990.6	2016.3
57.5°	1783.6	1878.8	1906.0
60°	1663.4	1758.6	1784.3
62.5°	1540.2	1626.4	1651.3
65°	1402.7	1483.5	1506.2
67.5°	1256.8	1330.9	1349.8
70°	1101.9	1166.1	1182.7
72.5°	940.1	984.7	1006.6
75°	773.1	808.6	825.3
77.5°	605.3	630.3	643.9
80°	441.4	455.7	467.0
82.5°	288.7	294.7	303.1
85°	155.7	155.7	161.0
87.5°	52.9	50.6	52.9
90°	0.0	0.0	0.0

(END OF REPORT)