

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: P834224

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-3STD-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834224
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-LD4-3STD-40-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

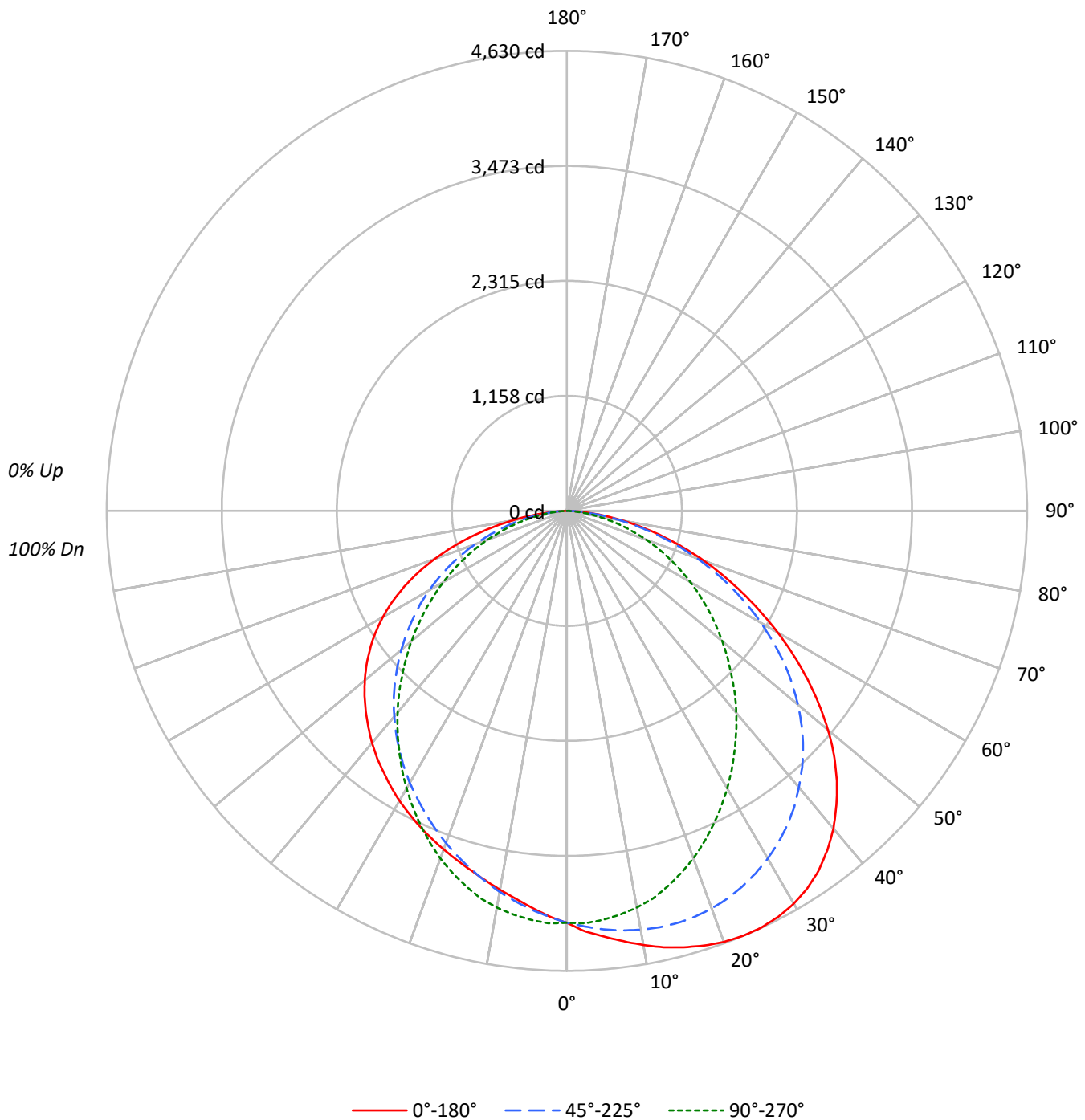
Lumens per Lamp: N/A
Luminaire Lumens: 12193.9 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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

Peachtree City, GA 30269



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	11155	11155	11155
5°	11614	11161	10831
10°	12122	11077	10580
15°	12667	10900	10428
20°	13220	10659	10384
25°	13740	10350	10401
30°	14188	10026	10468
35°	14511	9668	10555
40°	14658	9310	10711
45°	14617	8917	10886
50°	14358	8543	11111
55°	13867	8149	11342
60°	13191	7730	11514
65°	12387	7258	11499
70°	11528	6694	11157
75°	10467	5879	10288
80°	8987	4830	8678
85°	6854	3301	5959

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.2	3.2
10°-20°	1135.4	9.3
20°-30°	1739.4	14.3
30°-40°	2122.7	17.4
40°-50°	2219.9	18.2
50°-60°	2009.2	16.5
60°-70°	1521.6	12.5
70°-80°	848.0	7.0
80°-90°	204.5	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°	3268.0	26.8
0°-40°	5390.7	44.2
0°-60°	9619.8	78.9
0°-90°	12193.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12193.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4145	4145	4145	4145	4145	
5°	4300	4228	4132	4030	4010	415
15°	4547	4294	3913	3730	3743	1290
25°	4628	4173	3486	3363	3503	2135
35°	4417	3864	2943	2939	3213	2758
45°	3841	3360	2343	2446	2861	2955
55°	2956	2668	1737	1890	2418	2637
65°	1945	1829	1140	1296	1806	1930
75°	1007	950	565	675	990	1068
85°	222	196	107	143	193	267
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°	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4
2.5°	4237.0	4217.0	4200.7	4207.1	4210.7	4198.0	4187.1	4188.9	4178.1	4198.9	4150.0
5°	4299.5	4281.4	4262.3	4269.6	4262.3	4243.3	4227.9	4223.4	4194.4	4206.2	4156.3
7.5°	4369.3	4349.3	4321.2	4329.4	4314.0	4278.6	4258.7	4246.9	4202.5	4203.4	4148.2
10°	4436.3	4419.1	4381.0	4386.5	4358.4	4311.3	4279.5	4263.2	4200.7	4191.7	4134.6
12.5°	4498.8	4475.3	4434.5	4437.2	4396.4	4333.9	4293.1	4269.6	4188.0	4160.8	4104.7
15°	4546.8	4524.2	4475.3	4474.4	4421.8	4340.3	4294.0	4261.4	4158.1	4115.5	4056.6
17.5°	4587.6	4566.8	4506.1	4504.3	4440.8	4337.5	4282.3	4241.5	4114.6	4062.1	3996.8
20°	4616.6	4595.8	4527.8	4521.5	4445.4	4323.9	4257.8	4206.2	4057.6	3995.0	3922.5
22.5°	4630.2	4609.4	4532.4	4523.3	4434.5	4296.8	4222.5	4161.8	3992.3	3910.8	3835.6
25°	4627.5	4607.6	4520.6	4511.5	4413.7	4256.0	4172.6	4102.9	3909.9	3813.8	3739.5
27.5°	4604.8	4589.4	4497.9	4486.1	4375.6	4200.7	4111.9	4034.9	3818.3	3711.4	3630.8
30°	4565.9	4554.1	4457.1	4446.3	4328.5	4140.0	4041.2	3952.4	3719.6	3599.1	3517.5
32.5°	4503.4	4492.5	4394.6	4384.7	4265.0	4062.1	3958.8	3867.3	3611.7	3478.5	3397.0
35°	4417.3	4410.9	4315.8	4304.9	4183.5	3973.3	3863.6	3763.1	3499.4	3349.0	3271.0
37.5°	4304.0	4304.0	4212.5	4200.7	4082.0	3864.5	3756.7	3649.8	3372.5	3213.1	3136.0
40°	4172.6	4184.4	4091.1	4079.3	3964.2	3747.7	3629.9	3517.5	3235.7	3069.9	2994.7
42.5°	4015.0	4025.8	3947.9	3937.0	3829.2	3612.7	3503.0	3380.7	3092.5	2924.0	2846.1
45°	3841.0	3855.5	3785.7	3777.6	3677.0	3465.0	3359.8	3235.7	2943.0	2771.8	2695.7
47.5°	3647.1	3666.1	3605.4	3600.9	3507.5	3313.6	3204.0	3078.0	2786.3	2613.2	2541.6
50°	3429.6	3456.8	3407.0	3407.0	3323.6	3130.6	3035.5	2909.5	2623.2	2450.1	2379.4
52.5°	3196.7	3231.2	3194.0	3194.9	3127.0	2953.9	2855.1	2731.9	2452.8	2282.5	2217.2
55°	2955.7	2989.2	2965.7	2969.3	2915.9	2758.2	2668.5	2546.2	2278.9	2113.0	2051.4
57.5°	2703.8	2740.1	2724.7	2731.9	2694.8	2553.4	2460.1	2353.2	2099.5	1935.4	1882.9
60°	2451.0	2485.5	2477.3	2487.3	2463.7	2341.4	2256.2	2145.7	1919.1	1761.5	1715.3
62.5°	2195.5	2227.2	2225.4	2236.3	2223.6	2122.1	2046.0	1951.8	1732.5	1587.5	1544.9
65°	1945.4	1972.6	1970.8	1982.6	1979.8	1898.3	1829.4	1743.4	1545.8	1412.6	1375.5
67.5°	1702.6	1725.2	1718.9	1732.5	1736.1	1670.9	1611.1	1534.0	1368.2	1238.6	1206.9
70°	1465.2	1480.6	1472.4	1481.5	1489.6	1440.7	1390.0	1322.0	1178.8	1064.7	1038.4
72.5°	1232.3	1243.2	1230.5	1239.6	1246.8	1211.5	1169.8	1110.9	992.2	893.4	871.7
75°	1006.7	1022.1	995.8	1004.9	1010.3	975.0	950.5	902.5	800.1	724.0	709.5
77.5°	788.3	797.4	782.9	779.3	782.9	757.5	738.5	701.3	624.3	561.8	552.7
80°	579.9	585.3	570.8	567.2	569.9	551.8	537.3	510.1	455.8	408.7	405.0
82.5°	388.7	391.4	378.8	375.1	376.9	371.5	354.3	335.3	309.9	270.0	269.1
85°	222.0	222.0	212.9	209.3	211.1	202.1	195.7	185.8	175.8	148.6	150.4
87.5°	81.5	81.5	77.0	76.1	85.2	75.2	72.5	68.0	70.7	56.2	59.8
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°	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4	4145.4
2.5°	4163.6	4154.5	4146.3	4118.3	4130.0	4101.0	4099.2	4088.4	4080.2	4064.8	4084.7
5°	4150.0	4131.9	4108.3	4074.8	4084.7	4050.3	4043.1	4030.4	4019.5	3999.6	4015.0
7.5°	4128.2	4098.3	4061.2	4018.6	4032.2	3989.6	3978.7	3965.1	3956.1	3932.5	3946.1
10°	4096.5	4053.9	4010.4	3958.8	3968.8	3922.5	3908.9	3894.5	3886.3	3865.5	3879.0
12.5°	4047.6	3995.9	3937.0	3880.9	3891.7	3848.2	3830.1	3814.7	3812.0	3794.8	3811.1
15°	3984.2	3912.6	3851.9	3792.1	3804.7	3754.0	3745.8	3730.4	3735.0	3723.2	3743.1
17.5°	3903.5	3821.1	3754.9	3690.6	3703.3	3660.7	3654.3	3647.1	3651.6	3649.8	3671.5
20°	3812.9	3722.3	3646.2	3582.8	3590.0	3556.5	3559.2	3557.4	3566.4	3576.4	3606.3
22.5°	3710.5	3608.1	3528.4	3463.1	3474.0	3445.0	3457.7	3461.3	3476.7	3499.4	3537.4
25°	3595.4	3485.8	3402.4	3340.8	3350.8	3331.8	3353.5	3362.6	3387.0	3425.1	3464.1
27.5°	3474.9	3358.9	3270.1	3211.2	3230.3	3211.2	3243.9	3262.0	3299.1	3340.8	3388.8
30°	3347.2	3226.6	3135.1	3082.6	3100.7	3083.5	3136.0	3160.5	3197.7	3254.7	3311.8
32.5°	3213.1	3086.2	2996.5	2955.7	2968.4	2965.7	3024.6	3051.8	3101.6	3166.8	3227.6
35°	3075.3	2943.0	2852.4	2818.0	2833.4	2837.0	2907.7	2939.4	2993.8	3072.6	3137.9
37.5°	2933.1	2798.1	2709.3	2681.2	2694.8	2708.4	2790.8	2822.5	2884.1	2970.2	3041.8
40°	2785.4	2650.4	2563.4	2540.7	2554.3	2568.8	2658.5	2702.0	2769.1	2862.4	2940.3
42.5°	2635.9	2500.9	2416.6	2400.3	2413.9	2442.0	2537.1	2577.9	2648.6	2751.8	2837.9
45°	2483.6	2343.2	2269.8	2257.1	2271.6	2304.2	2397.6	2446.5	2521.7	2635.0	2727.4
47.5°	2329.6	2192.8	2123.0	2114.9	2129.4	2165.6	2268.9	2313.3	2393.0	2513.5	2613.2
50°	2173.8	2040.6	1973.5	1970.8	1984.4	2023.3	2122.1	2174.7	2257.1	2392.1	2494.5
52.5°	2016.1	1888.3	1827.6	1827.6	1840.3	1880.2	1979.8	2034.2	2119.4	2261.6	2374.9
55°	1858.4	1737.0	1679.0	1683.5	1701.7	1736.1	1833.1	1890.1	1976.2	2123.9	2243.5
57.5°	1700.8	1585.7	1533.1	1539.5	1556.7	1591.1	1686.3	1750.6	1828.5	1981.7	2104.0
60°	1544.9	1436.2	1390.0	1397.2	1412.6	1447.1	1545.8	1601.1	1679.0	1834.9	1957.2
62.5°	1387.3	1288.5	1245.0	1254.1	1267.6	1302.1	1395.4	1448.9	1525.9	1679.0	1802.2
65°	1231.4	1139.9	1102.7	1111.8	1124.5	1156.2	1244.1	1295.7	1369.1	1518.6	1636.4
67.5°	1077.4	994.0	963.2	972.3	982.2	1012.1	1084.6	1140.8	1209.7	1351.9	1463.4
70°	925.1	850.8	823.7	832.7	841.8	869.0	932.4	984.0	1047.5	1177.9	1281.2
72.5°	774.7	702.2	688.6	696.8	704.0	727.6	788.3	829.1	884.4	1000.3	1089.1
75°	627.9	565.4	556.4	564.5	570.8	589.0	639.7	675.1	721.3	821.8	894.3
77.5°	486.6	434.0	430.4	436.7	443.1	455.8	495.6	532.8	569.0	643.3	707.7
80°	354.3	311.7	311.7	318.0	316.2	331.6	359.7	389.6	415.9	469.4	516.5
82.5°	233.8	200.2	204.8	209.3	212.0	218.4	235.6	258.2	274.6	307.2	338.0
85°	129.6	106.9	111.5	115.1	113.3	120.5	129.6	143.2	151.3	166.7	183.0
87.5°	48.0	39.9	40.8	43.5	45.3	48.9	48.9	57.1	58.0	59.8	63.4
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°	4145.4	4145.4	4145.4
2.5°	4046.7	4068.4	4084.7
5°	3976.9	3995.0	4009.5
7.5°	3908.9	3925.3	3937.9
10°	3844.6	3862.7	3871.8
12.5°	3778.5	3799.3	3806.6
15°	3713.2	3734.1	3743.1
17.5°	3646.2	3673.4	3683.3
20°	3583.7	3618.1	3626.2
22.5°	3520.2	3555.6	3565.5
25°	3451.4	3493.0	3503.0
27.5°	3378.0	3427.8	3437.8
30°	3304.6	3358.9	3368.9
32.5°	3225.7	3284.6	3293.7
35°	3143.3	3202.2	3213.1
37.5°	3051.8	3116.1	3137.9
40°	2956.6	3026.4	3049.1
42.5°	2857.0	2933.1	2956.6
45°	2750.0	2833.4	2860.6
47.5°	2642.2	2736.4	2760.0
50°	2525.3	2625.9	2654.0
52.5°	2403.0	2512.6	2540.7
55°	2276.1	2386.7	2417.5
57.5°	2138.4	2252.6	2285.2
60°	1994.3	2108.5	2139.3
62.5°	1846.6	1949.9	1979.8
65°	1681.7	1778.7	1805.9
67.5°	1506.9	1595.7	1618.3
70°	1321.1	1398.1	1418.1
72.5°	1127.2	1180.7	1206.9
75°	926.9	969.5	989.5
77.5°	725.8	755.7	772.0
80°	529.2	546.4	560.0
82.5°	346.1	353.4	363.3
85°	186.7	186.7	193.0
87.5°	63.4	60.7	63.4
90°	0.0	0.0	0.0

(END OF REPORT)