

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: P834661

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5LO-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834661
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-LD4-5LO-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

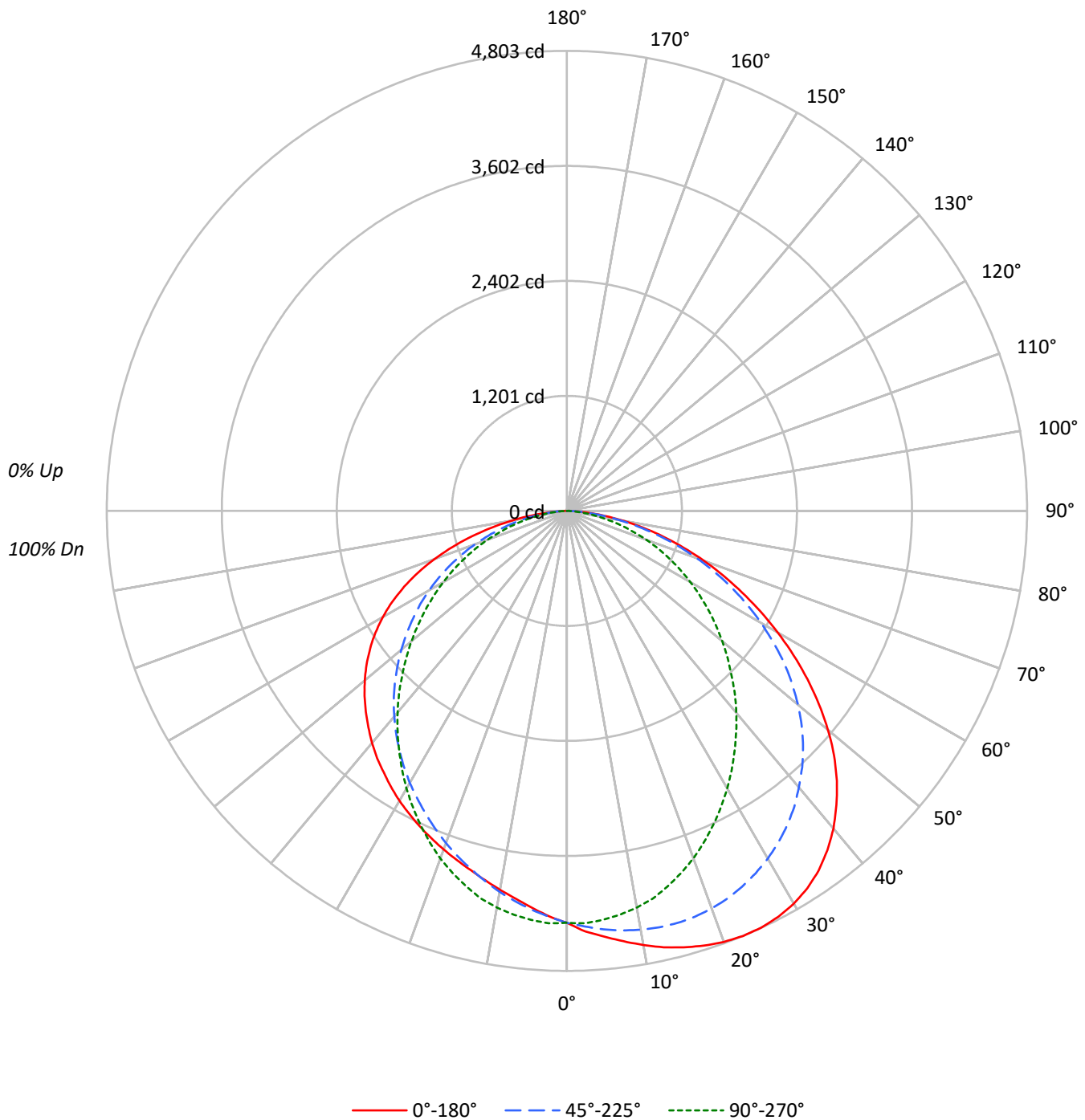
Lumens per Lamp: N/A
Luminaire Lumens: 12649.7 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 117
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°	5786	5786	5786
5°	6024	5789	5618
10°	6288	5746	5488
15°	6570	5654	5409
20°	6857	5529	5386
25°	7127	5368	5395
30°	7359	5200	5430
35°	7527	5015	5475
40°	7603	4829	5556
45°	7582	4625	5647
50°	7447	4431	5763
55°	7193	4227	5883
60°	6842	4009	5972
65°	6425	3765	5964
70°	5979	3472	5787
75°	5429	3049	5336
80°	4661	2506	4501
85°	3555	1712	3091

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	407.9	3.2
10°-20°	1177.8	9.3
20°-30°	1804.4	14.3
30°-40°	2202.1	17.4
40°-50°	2302.9	18.2
50°-60°	2084.3	16.5
60°-70°	1578.5	12.5
70°-80°	879.7	7.0
80°-90°	212.2	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°	3390.1	26.8
0°-40°	5592.2	44.2
0°-60°	9979.4	78.9
0°-90°	12649.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12649.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4300	4300	4300	4300	4300	
5°	4460	4386	4286	4181	4159	430
15°	4717	4454	4059	3870	3883	1338
25°	4800	4329	3616	3488	3634	2215
35°	4582	4008	3053	3049	3333	2861
45°	3985	3485	2431	2538	2968	3066
55°	3066	2768	1802	1961	2508	2736
65°	2018	1898	1182	1344	1873	2002
75°	1044	986	586	700	1026	1108
85°	230	203	111	148	200	277
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°	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4
2.5°	4395.3	4374.6	4357.7	4364.3	4368.1	4354.9	4343.6	4345.5	4334.2	4355.8	4305.1
5°	4460.2	4441.4	4421.6	4429.2	4421.6	4401.9	4385.9	4381.2	4351.1	4363.4	4311.7
7.5°	4532.6	4511.9	4482.7	4491.2	4475.2	4438.6	4417.9	4405.7	4359.6	4360.5	4303.2
10°	4602.1	4584.3	4544.8	4550.4	4521.3	4472.4	4439.5	4422.6	4357.7	4348.3	4289.1
12.5°	4667.0	4642.5	4600.2	4603.1	4560.8	4495.9	4453.6	4429.2	4344.6	4316.4	4258.1
15°	4716.8	4693.3	4642.5	4641.6	4587.1	4502.5	4454.5	4420.7	4313.5	4269.4	4208.3
17.5°	4759.1	4737.5	4674.5	4672.6	4606.8	4499.7	4442.3	4400.0	4268.4	4213.9	4146.2
20°	4789.2	4767.6	4697.1	4690.5	4611.5	4485.6	4416.9	4363.4	4209.2	4144.4	4069.2
22.5°	4803.3	4781.7	4701.8	4692.4	4600.2	4457.4	4380.3	4317.3	4141.5	4056.9	3978.9
25°	4800.5	4779.8	4689.5	4680.1	4578.6	4415.1	4328.6	4256.2	4056.0	3956.4	3879.3
27.5°	4777.0	4761.0	4666.0	4653.8	4539.1	4357.7	4265.6	4185.7	3961.1	3850.1	3766.5
30°	4736.5	4724.3	4623.7	4612.5	4490.3	4294.8	4192.3	4100.2	3858.6	3733.6	3649.0
32.5°	4671.7	4660.4	4558.9	4548.5	4424.5	4213.9	4106.8	4011.8	3746.7	3608.6	3524.0
35°	4582.4	4575.8	4477.1	4465.8	4339.9	4121.8	4008.1	3903.7	3630.2	3474.2	3393.3
37.5°	4464.9	4464.9	4369.9	4357.7	4234.6	4009.0	3897.1	3786.2	3498.6	3333.2	3253.3
40°	4328.6	4340.8	4244.0	4231.8	4112.4	3887.7	3765.5	3649.0	3356.7	3184.6	3106.6
42.5°	4165.0	4176.3	4095.5	4084.2	3972.3	3747.7	3633.9	3507.1	3208.1	3033.3	2952.5
45°	3984.6	3999.6	3927.2	3918.8	3814.4	3594.5	3485.4	3356.7	3053.0	2875.4	2796.4
47.5°	3783.4	3803.1	3740.2	3735.5	3638.6	3437.5	3323.8	3193.1	2890.4	2710.9	2636.6
50°	3557.8	3586.0	3534.3	3534.3	3447.8	3247.6	3148.9	3018.3	2721.2	2541.7	2468.4
52.5°	3316.2	3352.0	3313.4	3314.4	3243.9	3064.3	2961.9	2834.0	2544.5	2367.8	2300.1
55°	3066.2	3101.0	3076.5	3080.3	3024.8	2861.3	2768.2	2641.3	2364.0	2192.0	2128.1
57.5°	2804.9	2842.5	2826.5	2834.0	2795.5	2648.9	2552.0	2441.1	2177.9	2007.8	1953.3
60°	2542.6	2578.4	2569.9	2580.2	2555.8	2428.9	2340.5	2225.9	1990.9	1827.3	1779.4
62.5°	2277.6	2310.5	2308.6	2319.9	2306.7	2201.4	2122.5	2024.7	1797.2	1646.8	1602.7
65°	2018.1	2046.3	2044.4	2056.7	2053.8	1969.2	1897.8	1808.5	1603.6	1465.4	1426.9
67.5°	1766.2	1789.7	1783.1	1797.2	1801.0	1733.3	1671.3	1591.4	1419.4	1284.9	1252.0
70°	1519.9	1535.9	1527.5	1536.9	1545.3	1494.6	1441.9	1371.4	1222.9	1104.5	1077.2
72.5°	1278.4	1289.6	1276.5	1285.9	1293.4	1256.7	1213.5	1152.4	1029.3	926.8	904.3
75°	1044.3	1060.3	1033.0	1042.4	1048.1	1011.4	986.0	936.2	830.0	751.0	736.0
77.5°	817.8	827.2	812.1	808.4	812.1	785.8	766.1	727.5	647.6	582.8	573.4
80°	601.6	607.2	592.2	588.4	591.2	572.4	557.4	529.2	472.8	423.9	420.2
82.5°	403.2	406.1	392.9	389.2	391.0	385.4	367.5	347.8	321.5	280.1	279.2
85°	230.3	230.3	220.9	217.1	219.0	209.6	203.0	192.7	182.4	154.2	156.0
87.5°	84.6	84.6	79.9	79.0	88.4	78.0	75.2	70.5	73.3	58.3	62.0
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°	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4	4300.4
2.5°	4319.2	4309.8	4301.3	4272.2	4284.4	4254.3	4252.5	4241.2	4232.7	4216.7	4237.4
5°	4305.1	4286.3	4261.9	4227.1	4237.4	4201.7	4194.2	4181.0	4169.7	4149.1	4165.0
7.5°	4282.5	4251.5	4213.0	4168.8	4182.9	4138.7	4127.4	4113.3	4103.9	4079.5	4093.6
10°	4249.6	4205.5	4160.3	4106.8	4117.1	4069.2	4055.1	4040.0	4031.6	4009.9	4024.0
12.5°	4198.9	4145.3	4084.2	4025.9	4037.2	3992.1	3973.3	3957.3	3954.5	3936.6	3953.5
15°	4133.1	4058.8	3995.8	3933.8	3947.0	3894.3	3885.9	3869.9	3874.6	3862.4	3883.0
17.5°	4049.4	3963.9	3895.3	3828.5	3841.7	3797.5	3790.9	3783.4	3788.1	3786.2	3808.8
20°	3955.4	3861.4	3782.5	3716.7	3724.2	3689.4	3692.2	3690.3	3699.7	3710.1	3741.1
22.5°	3849.2	3743.0	3660.3	3592.6	3603.9	3573.8	3586.9	3590.7	3606.7	3630.2	3669.7
25°	3729.8	3616.1	3529.6	3465.7	3476.0	3456.3	3478.9	3488.3	3513.6	3553.1	3593.5
27.5°	3604.8	3484.5	3392.4	3331.3	3351.0	3331.3	3365.1	3383.9	3422.5	3465.7	3515.5
30°	3472.3	3347.3	3252.3	3197.8	3216.6	3198.7	3253.3	3278.6	3317.2	3376.4	3435.6
32.5°	3333.2	3201.6	3108.5	3066.2	3079.4	3076.5	3137.6	3165.8	3217.5	3285.2	3348.2
35°	3190.3	3053.0	2959.0	2923.3	2939.3	2943.1	3016.4	3049.3	3105.7	3187.5	3255.1
37.5°	3042.7	2902.6	2810.5	2781.4	2795.5	2809.6	2895.1	2928.0	2991.9	3081.2	3155.5
40°	2889.5	2749.4	2659.2	2635.7	2649.8	2664.8	2757.9	2803.0	2872.6	2969.4	3050.2
42.5°	2734.4	2594.3	2506.9	2490.0	2504.1	2533.2	2631.9	2674.2	2747.5	2854.7	2944.0
45°	2576.5	2430.8	2354.6	2341.5	2356.5	2390.4	2487.2	2537.9	2616.0	2733.5	2829.3
47.5°	2416.7	2274.7	2202.4	2193.9	2208.9	2246.5	2353.7	2399.8	2482.5	2607.5	2710.9
50°	2255.0	2116.8	2047.3	2044.4	2058.5	2099.0	2201.4	2255.9	2341.5	2481.5	2587.8
52.5°	2091.4	1958.9	1895.9	1895.9	1909.1	1950.5	2053.8	2110.2	2198.6	2346.2	2463.7
55°	1927.9	1801.9	1741.8	1746.5	1765.3	1801.0	1901.6	1960.8	2050.1	2203.3	2327.4
57.5°	1764.3	1645.0	1590.4	1597.0	1614.9	1650.6	1749.3	1816.0	1896.9	2055.7	2182.6
60°	1602.7	1489.9	1441.9	1449.4	1465.4	1501.1	1603.6	1660.9	1741.8	1903.5	2030.3
62.5°	1439.1	1336.6	1291.5	1300.9	1315.0	1350.7	1447.6	1503.0	1582.9	1741.8	1869.6
65°	1277.4	1182.5	1144.0	1153.4	1166.5	1199.4	1290.6	1344.2	1420.3	1575.4	1697.6
67.5°	1117.6	1031.2	999.2	1008.6	1018.9	1050.0	1125.2	1183.4	1254.9	1402.4	1518.1
70°	959.7	882.6	854.4	863.8	873.2	901.4	967.2	1020.8	1086.6	1222.0	1329.1
72.5°	803.7	728.5	714.4	722.8	730.4	754.8	817.8	860.1	917.4	1037.7	1129.9
75°	651.4	586.5	577.1	585.6	592.2	611.0	663.6	700.3	748.2	852.6	927.8
77.5°	504.8	450.2	446.5	453.1	459.6	472.8	514.2	552.7	590.3	667.4	734.1
80°	367.5	323.4	323.4	329.9	328.1	344.0	373.2	404.2	431.4	486.9	535.8
82.5°	242.5	207.7	212.4	217.1	220.0	226.5	244.4	267.9	284.8	318.7	350.6
85°	134.4	110.9	115.6	119.4	117.5	125.0	134.4	148.5	157.0	173.0	189.9
87.5°	49.8	41.4	42.3	45.1	47.0	50.8	50.8	59.2	60.2	62.0	65.8
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):

	160°	170°	180°
0°	4300.4	4300.4	4300.4
2.5°	4197.9	4220.5	4237.4
5°	4125.6	4144.4	4159.4
7.5°	4055.1	4072.0	4085.1
10°	3988.3	4007.1	4016.5
12.5°	3919.7	3941.3	3948.8
15°	3852.0	3873.6	3883.0
17.5°	3782.5	3810.7	3821.0
20°	3717.6	3753.3	3761.8
22.5°	3651.8	3688.5	3698.8
25°	3580.4	3623.6	3633.9
27.5°	3504.2	3555.9	3566.3
30°	3428.1	3484.5	3494.8
32.5°	3346.3	3407.4	3416.8
35°	3260.8	3321.9	3333.2
37.5°	3165.8	3232.6	3255.1
40°	3067.1	3139.5	3163.0
42.5°	2963.7	3042.7	3067.1
45°	2852.8	2939.3	2967.5
47.5°	2741.0	2838.7	2863.2
50°	2619.7	2724.1	2753.2
52.5°	2492.8	2606.6	2635.7
55°	2361.2	2475.9	2507.9
57.5°	2218.3	2336.8	2370.6
60°	2068.9	2187.3	2219.3
62.5°	1915.7	2022.8	2053.8
65°	1744.6	1845.2	1873.4
67.5°	1563.2	1655.3	1678.8
70°	1370.5	1450.4	1471.1
72.5°	1169.3	1224.8	1252.0
75°	961.6	1005.8	1026.5
77.5°	752.9	783.9	800.9
80°	548.9	566.8	580.9
82.5°	359.1	366.6	376.9
85°	193.6	193.6	200.2
87.5°	65.8	63.0	65.8
90°	0.0	0.0	0.0

(END OF REPORT)