

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: P834646

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6LO-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834646
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-LD4-6LO-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

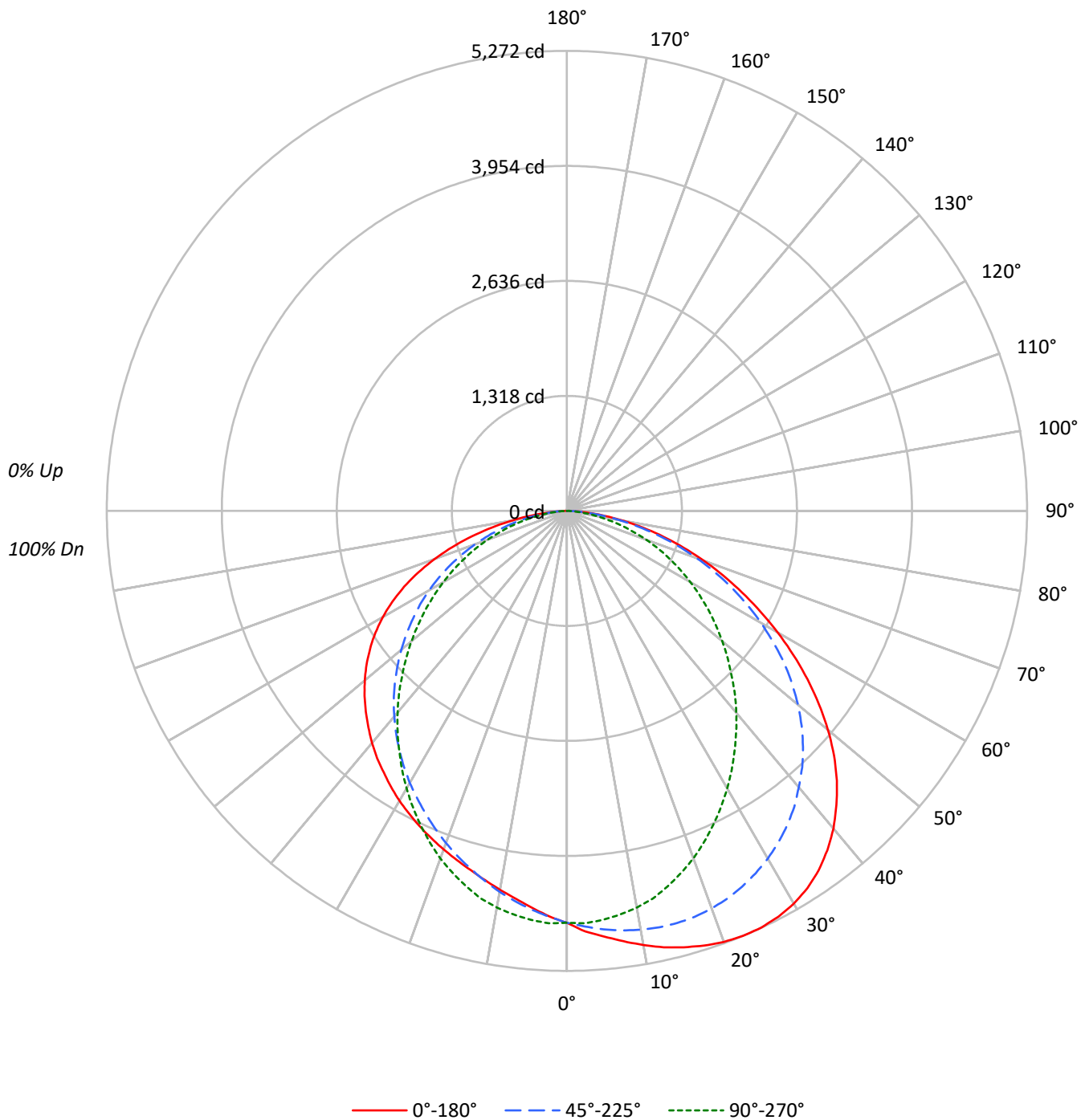
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13884.3 lumens
Efficiency: N/A
Efficacy: 98.9 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): 140.4
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°	6351	6351	6351
5°	6612	6354	6166
10°	6901	6306	6023
15°	7211	6205	5937
20°	7527	6069	5912
25°	7822	5892	5921
30°	8077	5708	5960
35°	8261	5504	6009
40°	8345	5300	6098
45°	8322	5077	6198
50°	8174	4863	6325
55°	7895	4640	6457
60°	7510	4401	6555
65°	7052	4132	6546
70°	6563	3811	6352
75°	5959	3347	5857
80°	5116	2750	4940
85°	3903	1879	3393

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	447.7	3.2
10°-20°	1292.8	9.3
20°-30°	1980.5	14.3
30°-40°	2417.0	17.4
40°-50°	2527.6	18.2
50°-60°	2287.7	16.5
60°-70°	1732.6	12.5
70°-80°	965.5	7.0
80°-90°	232.9	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°	3721.0	26.8
0°-40°	6138.0	44.2
0°-60°	10953.3	78.9
0°-90°	13884.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13884.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4720	4720	4720	4720	4720	
5°	4896	4814	4705	4589	4565	472
15°	5177	4889	4455	4248	4262	1468
25°	5269	4751	3969	3829	3989	2431
35°	5030	4399	3351	3347	3658	3141
45°	4373	3826	2668	2786	3257	3365
55°	3366	3038	1978	2152	2753	3003
65°	2215	2083	1298	1475	2056	2197
75°	1146	1082	644	769	1127	1216
85°	253	223	122	163	220	304
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°	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1
2.5°	4824.3	4801.6	4783.0	4790.2	4794.4	4779.9	4767.6	4769.6	4757.2	4781.0	4725.2
5°	4895.5	4874.8	4853.2	4861.4	4853.2	4831.5	4814.0	4808.8	4775.8	4789.2	4732.5
7.5°	4974.9	4952.2	4920.2	4929.5	4912.0	4871.8	4849.1	4835.6	4785.1	4786.1	4723.2
10°	5051.3	5031.7	4988.3	4994.5	4962.5	4908.9	4872.8	4854.2	4783.0	4772.7	4707.7
12.5°	5122.5	5095.6	5049.2	5052.3	5005.9	4934.7	4888.3	4861.4	4768.6	4737.6	4673.7
15°	5177.1	5151.3	5095.6	5094.6	5034.8	4941.9	4889.3	4852.2	4734.5	4686.0	4619.0
17.5°	5223.6	5199.8	5130.7	5128.7	5056.4	4938.8	4875.9	4829.5	4685.0	4625.2	4550.9
20°	5256.6	5232.9	5155.5	5148.3	5061.6	4923.3	4848.0	4789.2	4620.0	4548.8	4466.3
22.5°	5272.1	5248.3	5160.6	5150.3	5049.2	4892.4	4807.8	4738.7	4545.7	4452.9	4367.2
25°	5269.0	5246.3	5147.2	5136.9	5025.5	4846.0	4751.0	4671.6	4451.8	4342.5	4257.9
27.5°	5243.2	5225.6	5121.4	5108.0	4982.1	4783.0	4681.9	4594.2	4347.6	4225.9	4134.1
30°	5198.8	5185.4	5075.0	5062.6	4928.5	4713.9	4601.4	4500.3	4235.2	4098.0	4005.1
32.5°	5127.6	5115.2	5003.8	4992.5	4856.3	4625.2	4507.6	4403.4	4112.4	3960.7	3867.9
35°	5029.6	5022.4	4914.1	4901.7	4763.4	4524.1	4399.2	4284.7	3984.5	3813.2	3724.5
37.5°	4900.6	4900.6	4796.4	4783.0	4647.9	4400.3	4277.5	4155.7	3840.0	3658.5	3570.8
40°	4751.0	4764.5	4658.2	4644.8	4513.7	4267.2	4133.0	4005.1	3684.3	3495.4	3409.8
42.5°	4571.5	4583.9	4495.2	4482.8	4360.0	4113.4	3988.6	3849.3	3521.2	3329.3	3240.6
45°	4373.4	4389.9	4310.5	4301.2	4186.7	3945.3	3825.6	3684.3	3351.0	3156.0	3069.3
47.5°	4152.6	4174.3	4105.2	4100.0	3993.8	3773.0	3648.1	3504.7	3172.5	2975.5	2894.0
50°	3905.0	3936.0	3879.2	3879.2	3784.3	3564.6	3456.2	3312.8	2986.8	2789.8	2709.3
52.5°	3639.9	3679.1	3636.8	3637.8	3560.4	3363.4	3250.9	3110.6	2792.8	2598.9	2524.6
55°	3365.5	3403.6	3376.8	3380.9	3320.1	3140.5	3038.4	2899.1	2594.8	2406.0	2335.8
57.5°	3078.6	3119.9	3102.4	3110.6	3068.3	2907.4	2801.1	2679.4	2390.5	2203.7	2143.9
60°	2790.8	2830.0	2820.7	2832.1	2805.2	2665.9	2569.0	2443.1	2185.2	2005.7	1953.0
62.5°	2499.8	2536.0	2533.9	2546.3	2531.8	2416.3	2329.6	2222.3	1972.6	1807.6	1759.1
65°	2215.1	2246.0	2244.0	2257.4	2254.3	2161.4	2083.0	1985.0	1760.1	1608.4	1566.1
67.5°	1938.6	1964.4	1957.2	1972.6	1976.8	1902.5	1834.4	1746.7	1557.9	1410.4	1374.2
70°	1668.3	1685.8	1676.5	1686.9	1696.1	1640.4	1582.6	1505.3	1342.3	1212.3	1182.3
72.5°	1403.1	1415.5	1401.1	1411.4	1419.6	1379.4	1331.9	1264.9	1129.7	1017.3	992.5
75°	1146.2	1163.8	1133.9	1144.2	1150.4	1110.1	1082.3	1027.6	911.0	824.3	807.8
77.5°	897.6	907.9	891.4	887.3	891.4	862.5	840.8	798.5	710.9	639.7	629.3
80°	660.3	666.5	650.0	645.9	648.9	628.3	611.8	580.9	519.0	465.3	461.2
82.5°	442.6	445.7	431.3	427.1	429.2	423.0	403.4	381.7	352.8	307.5	306.4
85°	252.8	252.8	242.5	238.3	240.4	230.1	222.9	211.5	200.2	169.2	171.3
87.5°	92.9	92.9	87.7	86.7	97.0	85.6	82.5	77.4	80.5	64.0	68.1
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°	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1	4720.1
2.5°	4740.7	4730.4	4721.1	4689.1	4702.6	4669.5	4667.5	4655.1	4645.8	4628.3	4651.0
5°	4725.2	4704.6	4677.8	4639.6	4651.0	4611.8	4603.5	4589.1	4576.7	4554.0	4571.5
7.5°	4700.5	4666.4	4624.1	4575.7	4591.1	4542.6	4530.3	4514.8	4504.5	4477.6	4493.1
10°	4664.4	4615.9	4566.4	4507.6	4518.9	4466.3	4450.8	4434.3	4425.0	4401.3	4416.8
12.5°	4608.7	4549.9	4482.8	4418.8	4431.2	4381.7	4361.1	4343.5	4340.4	4320.8	4339.4
15°	4536.4	4454.9	4385.8	4317.7	4332.2	4274.4	4265.1	4247.6	4252.7	4239.3	4262.0
17.5°	4444.6	4350.7	4275.4	4202.2	4216.6	4168.1	4160.9	4152.6	4157.8	4155.7	4180.5
20°	4341.5	4238.3	4151.6	4079.4	4087.7	4049.5	4052.6	4050.5	4060.8	4072.2	4106.2
22.5°	4224.9	4108.3	4017.5	3943.2	3955.6	3922.6	3937.0	3941.1	3958.7	3984.5	4027.8
25°	4093.8	3969.0	3874.1	3803.9	3815.3	3793.6	3818.4	3828.7	3856.5	3899.9	3944.2
27.5°	3956.6	3824.6	3723.5	3656.4	3678.1	3656.4	3693.5	3714.2	3756.5	3803.9	3858.6
30°	3811.2	3673.9	3569.7	3509.9	3530.5	3510.9	3570.8	3598.6	3640.9	3705.9	3770.9
32.5°	3658.5	3514.0	3411.9	3365.5	3379.9	3376.8	3443.9	3474.8	3531.6	3605.8	3675.0
35°	3501.6	3351.0	3247.8	3208.6	3226.2	3230.3	3310.8	3346.9	3408.8	3498.5	3572.8
37.5°	3339.7	3185.9	3084.8	3052.8	3068.3	3083.8	3177.7	3213.8	3283.9	3382.0	3463.5
40°	3171.5	3017.8	2918.7	2892.9	2908.4	2924.9	3027.0	3076.6	3152.9	3259.2	3347.9
42.5°	3001.3	2847.5	2751.6	2733.0	2748.5	2780.5	2888.8	2935.2	3015.7	3133.3	3231.3
45°	2827.9	2668.0	2584.4	2570.0	2586.5	2623.6	2729.9	2785.6	2871.3	3000.2	3105.5
47.5°	2652.5	2496.7	2417.3	2408.0	2424.5	2465.8	2583.4	2634.0	2724.8	2862.0	2975.5
50°	2475.1	2323.4	2247.1	2244.0	2259.5	2303.8	2416.3	2476.1	2570.0	2723.7	2840.3
52.5°	2295.6	2150.1	2081.0	2081.0	2095.4	2140.8	2254.3	2316.2	2413.2	2575.2	2704.1
55°	2116.0	1977.8	1911.8	1916.9	1937.6	1976.8	2087.2	2152.2	2250.2	2418.3	2554.5
57.5°	1936.5	1805.5	1745.7	1752.9	1772.5	1811.7	1920.0	1993.3	2082.0	2256.4	2395.6
60°	1759.1	1635.3	1582.6	1590.9	1608.4	1647.6	1760.1	1823.0	1911.8	2089.2	2228.5
62.5°	1579.6	1467.1	1417.6	1427.9	1443.4	1482.6	1588.8	1649.7	1737.4	1911.8	2052.1
65°	1402.1	1297.9	1255.6	1265.9	1280.4	1316.5	1416.5	1475.4	1558.9	1729.2	1863.3
67.5°	1226.7	1131.8	1096.7	1107.0	1118.4	1152.4	1235.0	1298.9	1377.3	1539.3	1666.2
70°	1053.4	968.8	937.8	948.1	958.5	989.4	1061.6	1120.4	1192.7	1341.2	1458.8
72.5°	882.1	799.6	784.1	793.4	801.6	828.5	897.6	944.0	1007.0	1139.0	1240.1
75°	715.0	643.8	633.5	642.8	650.0	670.6	728.4	768.6	821.2	935.8	1018.3
77.5°	554.0	494.2	490.1	497.3	504.5	519.0	564.3	606.6	647.9	732.5	805.8
80°	403.4	354.9	354.9	362.1	360.1	377.6	409.6	443.6	473.6	534.4	588.1
82.5°	266.2	228.0	233.2	238.3	241.4	248.6	268.2	294.0	312.6	349.8	384.8
85°	147.5	121.7	126.9	131.0	129.0	137.2	147.5	163.0	172.3	189.8	208.4
87.5°	54.7	45.4	46.4	49.5	51.6	55.7	55.7	65.0	66.0	68.1	72.2
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°	4720.1	4720.1	4720.1
2.5°	4607.6	4632.4	4651.0
5°	4528.2	4548.8	4565.3
7.5°	4450.8	4469.4	4483.8
10°	4377.6	4398.2	4408.5
12.5°	4302.2	4326.0	4334.2
15°	4228.0	4251.7	4262.0
17.5°	4151.6	4182.6	4193.9
20°	4080.4	4119.6	4128.9
22.5°	4008.2	4048.4	4059.8
25°	3929.8	3977.3	3988.6
27.5°	3846.2	3903.0	3914.3
30°	3762.7	3824.6	3835.9
32.5°	3672.9	3740.0	3750.3
35°	3579.0	3646.1	3658.5
37.5°	3474.8	3548.1	3572.8
40°	3366.5	3445.9	3471.7
42.5°	3253.0	3339.7	3366.5
45°	3131.3	3226.2	3257.1
47.5°	3008.5	3115.8	3142.6
50°	2875.4	2989.9	3021.9
52.5°	2736.1	2860.9	2892.9
55°	2591.7	2717.5	2752.6
57.5°	2434.8	2564.8	2602.0
60°	2270.8	2400.8	2435.9
62.5°	2102.6	2220.2	2254.3
65°	1914.9	2025.3	2056.2
67.5°	1715.7	1816.8	1842.6
70°	1504.2	1591.9	1614.6
72.5°	1283.5	1344.3	1374.2
75°	1055.4	1103.9	1126.6
77.5°	826.4	860.4	879.0
80°	602.5	622.1	637.6
82.5°	394.1	402.4	413.7
85°	212.5	212.5	219.8
87.5°	72.2	69.1	72.2
90°	0.0	0.0	0.0

(END OF REPORT)