

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: P834715

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5LO-50-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834715
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-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

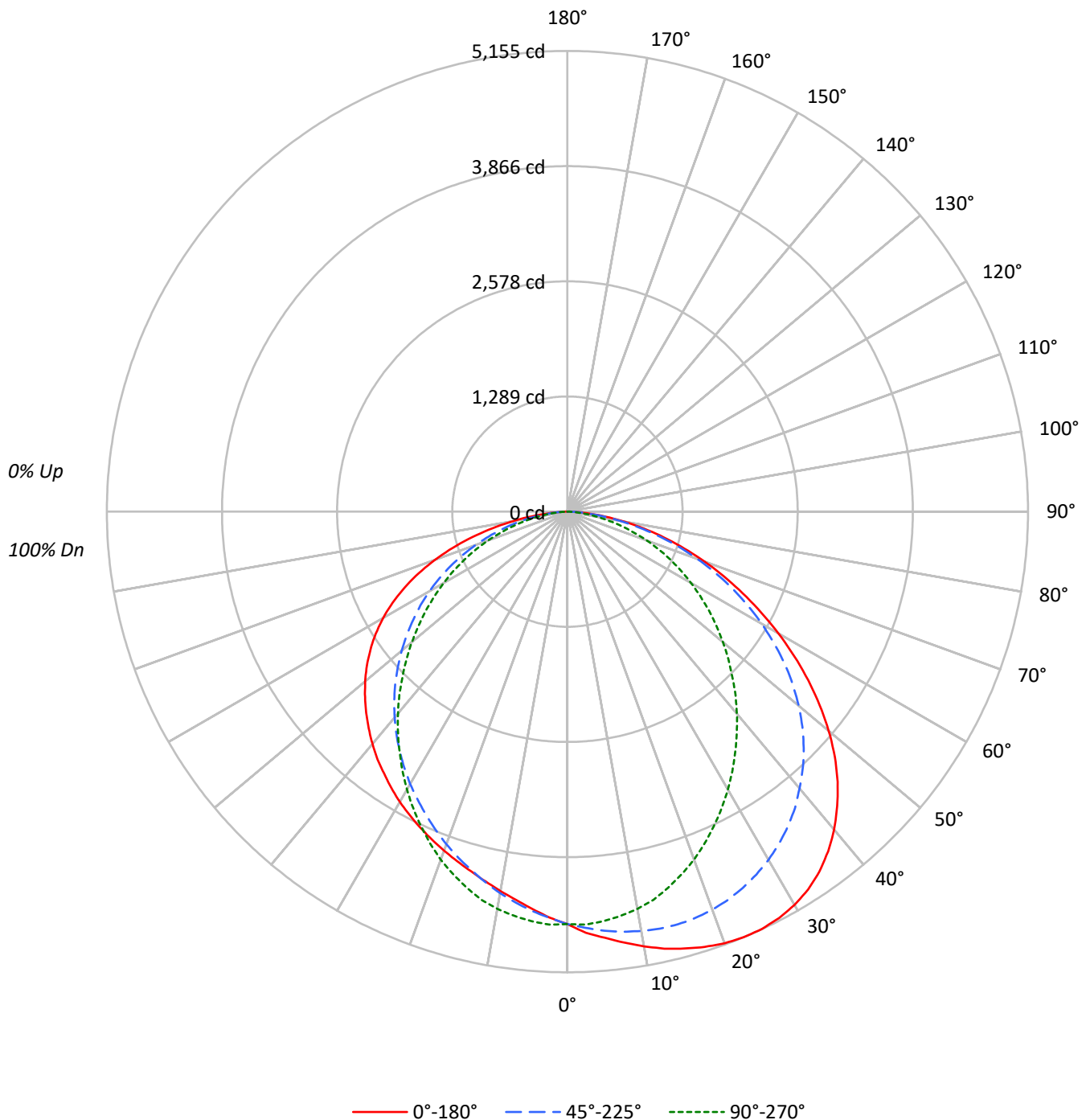
Lumens per Lamp: N/A
Luminaire Lumens: 13575.3 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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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°	6210	6210	6210
5°	6465	6213	6029
10°	6748	6166	5889
15°	7051	6067	5805
20°	7359	5934	5780
25°	7648	5761	5790
30°	7897	5581	5827
35°	8078	5382	5875
40°	8159	5182	5962
45°	8137	4964	6060
50°	7992	4755	6185
55°	7719	4536	6313
60°	7343	4303	6409
65°	6895	4040	6401
70°	6417	3726	6211
75°	5826	3273	5727
80°	5002	2689	4830
85°	3815	1837	3318

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	437.7	3.2
10°-20°	1264.0	9.3
20°-30°	1936.5	14.3
30°-40°	2363.2	17.4
40°-50°	2471.4	18.2
50°-60°	2236.8	16.5
60°-70°	1694.0	12.5
70°-80°	944.0	7.0
80°-90°	227.7	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°	3638.2	26.8
0°-40°	6001.4	44.2
0°-60°	10709.6	78.9
0°-90°	13575.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13575.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4615	4615	4615	4615	4615	
5°	4786	4707	4600	4487	4464	462
15°	5062	4780	4356	4153	4167	1436
25°	5152	4645	3881	3744	3900	2377
35°	4918	4301	3276	3272	3577	3071
45°	4276	3740	2609	2724	3185	3290
55°	3291	2971	1934	2104	2691	2936
65°	2166	2037	1269	1442	2010	2148
75°	1121	1058	630	752	1102	1189
85°	247	218	119	159	215	297
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°	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1
2.5°	4716.9	4694.7	4676.6	4683.6	4687.7	4673.6	4661.5	4663.5	4651.4	4674.6	4620.1
5°	4786.5	4766.4	4745.2	4753.3	4745.2	4724.0	4706.8	4701.8	4669.5	4682.6	4627.2
7.5°	4864.2	4842.0	4810.8	4819.8	4802.7	4763.3	4741.1	4728.0	4678.6	4679.6	4618.1
10°	4938.9	4919.7	4877.3	4883.4	4852.1	4799.7	4764.3	4746.2	4676.6	4666.5	4602.9
12.5°	5008.5	4982.2	4936.8	4939.9	4894.5	4824.9	4779.5	4753.3	4662.5	4632.2	4569.7
15°	5061.9	5036.7	4982.2	4981.2	4922.7	4831.9	4780.5	4744.2	4629.2	4581.8	4516.2
17.5°	5107.3	5084.1	5016.5	5014.5	4943.9	4828.9	4767.4	4722.0	4580.8	4522.2	4449.6
20°	5139.6	5116.4	5040.7	5033.7	4949.0	4813.8	4740.1	4682.6	4517.2	4447.6	4366.9
22.5°	5154.7	5131.5	5045.8	5035.7	4936.8	4783.5	4700.8	4633.2	4444.6	4353.8	4270.1
25°	5151.7	5129.5	5032.7	5022.6	4913.6	4738.1	4645.3	4567.6	4352.8	4245.8	4163.1
27.5°	5126.5	5109.3	5007.5	4994.3	4871.3	4676.6	4577.7	4492.0	4250.9	4131.9	4042.1
30°	5083.1	5070.0	4962.1	4950.0	4818.8	4609.0	4499.0	4400.2	4140.9	4006.8	3916.0
32.5°	5013.5	5001.4	4892.5	4881.4	4748.2	4522.2	4407.2	4305.4	4020.9	3872.6	3781.8
35°	4917.7	4910.6	4804.7	4792.6	4657.4	4423.4	4301.3	4189.4	3895.8	3728.4	3641.6
37.5°	4791.6	4791.6	4689.7	4676.6	4544.4	4302.3	4182.3	4063.3	3754.6	3577.0	3491.3
40°	4645.3	4658.4	4554.5	4541.4	4413.3	4172.2	4041.1	3916.0	3602.3	3417.7	3333.9
42.5°	4469.8	4481.9	4395.1	4383.0	4263.0	4021.9	3899.8	3763.7	3442.9	3255.3	3168.5
45°	4276.1	4292.3	4214.6	4205.5	4093.5	3857.5	3740.5	3602.3	3276.4	3085.8	3001.0
47.5°	4060.2	4081.4	4013.8	4008.8	3904.9	3689.0	3567.0	3426.7	3101.9	2909.2	2829.6
50°	3818.1	3848.4	3792.9	3792.9	3700.1	3485.2	3379.3	3239.1	2920.3	2727.7	2649.0
52.5°	3558.9	3597.2	3555.9	3556.9	3481.2	3288.5	3178.6	3041.4	2730.7	2541.1	2468.4
55°	3290.6	3327.9	3301.7	3305.7	3246.2	3070.6	2970.8	2834.6	2537.0	2352.4	2283.8
57.5°	3010.1	3050.5	3033.3	3041.4	3000.0	2842.7	2738.8	2619.7	2337.3	2154.7	2096.2
60°	2728.7	2767.0	2757.9	2769.0	2742.8	2606.6	2511.8	2388.7	2136.5	1961.0	1909.6
62.5°	2444.2	2479.5	2477.5	2489.6	2475.5	2362.5	2277.8	2172.9	1928.7	1767.3	1719.9
65°	2165.8	2196.1	2194.0	2207.2	2204.1	2113.3	2036.7	1940.8	1720.9	1572.6	1531.3
67.5°	1895.5	1920.7	1913.6	1928.7	1932.8	1860.1	1793.6	1707.8	1523.2	1379.0	1343.7
70°	1631.2	1648.3	1639.2	1649.3	1658.4	1603.9	1547.4	1471.8	1312.4	1185.3	1156.0
72.5°	1371.9	1384.0	1369.9	1380.0	1388.0	1348.7	1302.3	1236.7	1104.6	994.6	970.4
75°	1120.7	1137.9	1108.6	1118.7	1124.8	1085.4	1058.2	1004.7	890.7	806.0	789.9
77.5°	877.6	887.7	871.6	867.5	871.6	843.3	822.1	780.8	695.0	625.4	615.3
80°	645.6	651.7	635.5	631.5	634.5	614.3	598.2	567.9	507.4	454.9	450.9
82.5°	432.8	435.8	421.7	417.6	419.6	413.6	394.4	373.2	345.0	300.6	299.6
85°	247.1	247.1	237.1	233.0	235.0	225.0	217.9	206.8	195.7	165.4	167.5
87.5°	90.8	90.8	85.7	84.7	94.8	83.7	80.7	75.7	78.7	62.5	66.6
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°	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1	4615.1
2.5°	4635.2	4625.1	4616.1	4584.8	4597.9	4565.6	4563.6	4551.5	4542.4	4525.3	4547.5
5°	4620.1	4599.9	4573.7	4536.4	4547.5	4509.1	4501.1	4486.9	4474.8	4452.6	4469.8
7.5°	4595.9	4562.6	4521.2	4473.8	4489.0	4441.5	4429.4	4414.3	4404.2	4378.0	4393.1
10°	4560.6	4513.2	4464.7	4407.2	4418.3	4366.9	4351.8	4335.6	4326.5	4303.3	4318.5
12.5°	4506.1	4448.6	4383.0	4320.5	4332.6	4284.2	4264.0	4246.9	4243.8	4224.7	4242.8
15°	4435.5	4355.8	4288.2	4221.6	4235.8	4179.3	4170.2	4153.0	4158.1	4145.0	4167.2
17.5°	4345.7	4253.9	4180.3	4108.7	4122.8	4075.4	4068.3	4060.2	4065.3	4063.3	4087.5
20°	4244.8	4144.0	4059.2	3988.6	3996.7	3959.4	3962.4	3960.4	3970.5	3981.6	4014.8
22.5°	4130.9	4016.9	3928.1	3855.5	3867.6	3835.3	3849.4	3853.4	3870.6	3895.8	3938.2
25°	4002.7	3880.7	3787.9	3719.3	3730.4	3709.2	3733.4	3743.5	3770.7	3813.1	3856.5
27.5°	3868.6	3739.5	3640.6	3575.0	3596.2	3575.0	3611.3	3631.5	3672.9	3719.3	3772.7
30°	3726.3	3592.2	3490.3	3431.8	3452.0	3432.8	3491.3	3518.5	3559.9	3623.4	3687.0
32.5°	3577.0	3435.8	3336.0	3290.6	3304.7	3301.7	3367.2	3397.5	3453.0	3525.6	3593.2
35°	3423.7	3276.4	3175.6	3137.2	3154.4	3158.4	3237.1	3272.4	3332.9	3420.7	3493.3
37.5°	3265.3	3115.0	3016.2	2984.9	3000.0	3015.2	3107.0	3142.3	3210.9	3306.7	3386.4
40°	3100.9	2950.6	2853.8	2828.5	2843.7	2859.8	2959.7	3008.1	3082.8	3186.7	3273.4
42.5°	2934.5	2784.2	2690.3	2672.2	2687.3	2718.6	2824.5	2869.9	2948.6	3063.6	3159.4
45°	2765.0	2608.6	2526.9	2512.8	2528.9	2565.3	2669.2	2723.6	2807.4	2933.5	3036.4
47.5°	2593.5	2441.2	2363.5	2354.4	2370.6	2410.9	2525.9	2575.4	2664.1	2798.3	2909.2
50°	2420.0	2271.7	2197.1	2194.0	2209.2	2252.5	2362.5	2421.0	2512.8	2663.1	2777.1
52.5°	2244.5	2102.2	2034.7	2034.7	2048.8	2093.2	2204.1	2264.7	2359.5	2517.9	2643.9
55°	2069.0	1933.8	1869.2	1874.3	1894.4	1932.8	2040.7	2104.3	2200.1	2364.5	2497.7
57.5°	1893.4	1765.3	1706.8	1713.9	1733.0	1771.4	1877.3	1948.9	2035.7	2206.1	2342.3
60°	1719.9	1598.9	1547.4	1555.5	1572.6	1611.0	1720.9	1782.5	1869.2	2042.7	2178.9
62.5°	1544.4	1434.4	1386.0	1396.1	1411.2	1449.6	1553.5	1613.0	1698.7	1869.2	2006.4
65°	1370.9	1269.0	1227.7	1237.7	1251.9	1287.2	1385.0	1442.5	1524.2	1690.7	1821.8
67.5°	1199.4	1106.6	1072.3	1082.4	1093.5	1126.8	1207.5	1270.0	1346.7	1505.1	1629.1
70°	1029.9	947.2	917.0	927.0	937.1	967.4	1038.0	1095.5	1166.1	1311.4	1426.4
72.5°	862.5	781.8	766.7	775.7	783.8	810.0	877.6	923.0	984.5	1113.7	1212.5
75°	699.1	629.5	619.4	628.5	635.5	655.7	712.2	751.5	803.0	914.9	995.6
77.5°	541.7	483.2	479.2	486.2	493.3	507.4	551.8	593.1	633.5	716.2	787.8
80°	394.4	347.0	347.0	354.1	352.1	369.2	400.5	433.8	463.0	522.5	575.0
82.5°	260.3	222.9	228.0	233.0	236.0	243.1	262.3	287.5	305.7	342.0	376.3
85°	144.3	119.0	124.1	128.1	126.1	134.2	144.3	159.4	168.5	185.6	203.8
87.5°	53.5	44.4	45.4	48.4	50.4	54.5	54.5	63.6	64.6	66.6	70.6
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°	4615.1	4615.1	4615.1
2.5°	4505.1	4529.3	4547.5
5°	4427.4	4447.6	4463.7
7.5°	4351.8	4369.9	4384.0
10°	4280.1	4300.3	4310.4
12.5°	4206.5	4229.7	4237.8
15°	4133.9	4157.1	4167.2
17.5°	4059.2	4089.5	4100.6
20°	3989.6	4028.0	4037.0
22.5°	3919.0	3958.4	3969.4
25°	3842.3	3888.7	3899.8
27.5°	3760.6	3816.1	3827.2
30°	3678.9	3739.5	3750.6
32.5°	3591.2	3656.7	3666.8
35°	3499.4	3564.9	3577.0
37.5°	3397.5	3469.1	3493.3
40°	3291.6	3369.2	3394.5
42.5°	3180.6	3265.3	3291.6
45°	3061.6	3154.4	3184.6
47.5°	2941.5	3046.4	3072.7
50°	2811.4	2923.4	2954.6
52.5°	2675.2	2797.3	2828.5
55°	2534.0	2657.1	2691.4
57.5°	2380.7	2507.8	2544.1
60°	2220.3	2347.4	2381.7
62.5°	2055.8	2170.8	2204.1
65°	1872.2	1980.2	2010.4
67.5°	1677.6	1776.4	1801.6
70°	1470.8	1556.5	1578.7
72.5°	1254.9	1314.4	1343.7
75°	1032.0	1079.4	1101.6
77.5°	808.0	841.3	859.5
80°	589.1	608.3	623.4
82.5°	385.3	393.4	404.5
85°	207.8	207.8	214.9
87.5°	70.6	67.6	70.6
90°	0.0	0.0	0.0

(END OF REPORT)