

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: P834531

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834531
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-LD4-3HI-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

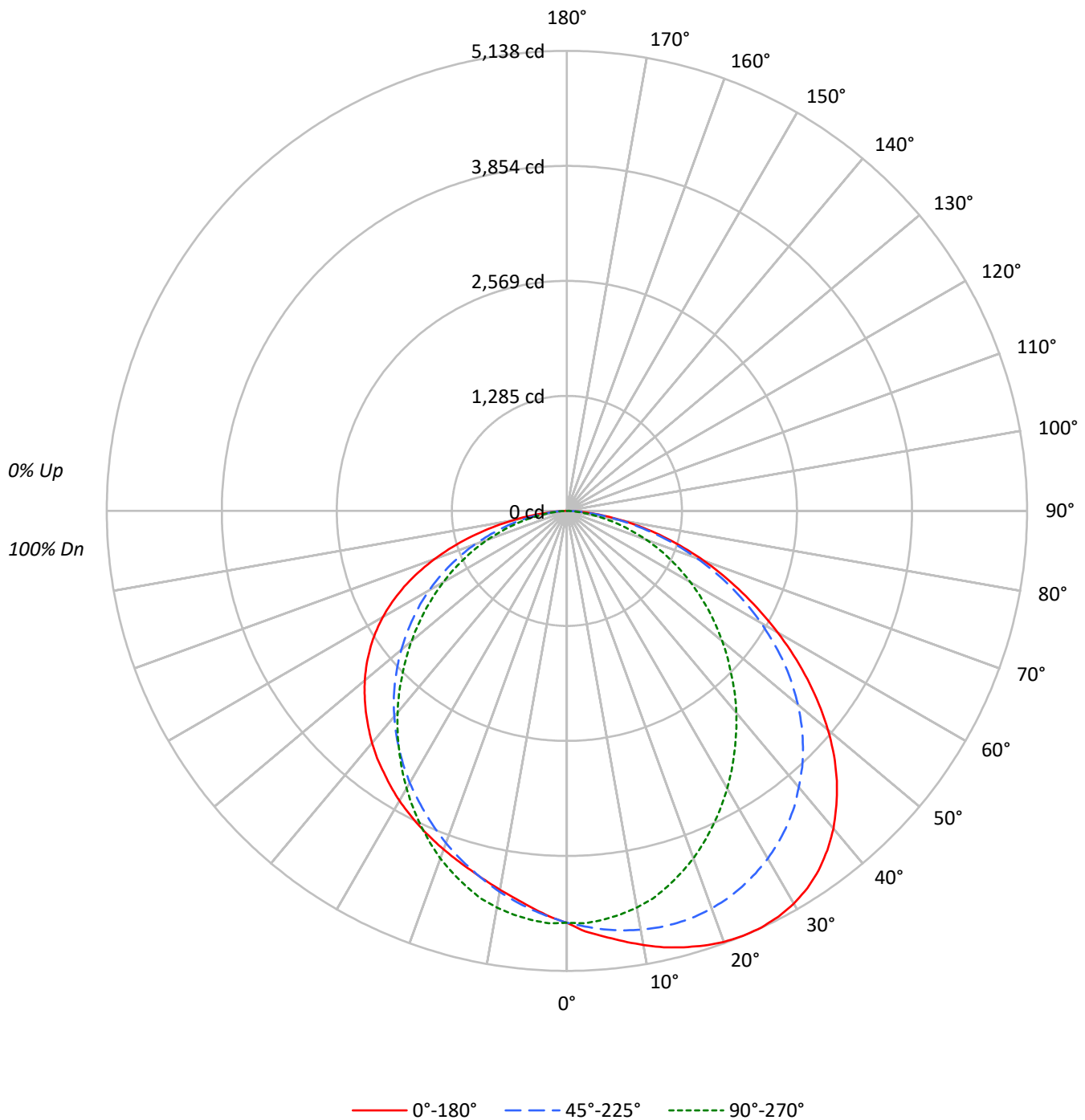
Lumens per Lamp: N/A
Luminaire Lumens: 13531.5 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6189	6189	6189
5°	6444	6193	6009
10°	6726	6146	5870
15°	7028	6048	5786
20°	7335	5914	5762
25°	7623	5743	5771
30°	7872	5563	5808
35°	8051	5364	5856
40°	8133	5166	5943
45°	8110	4948	6040
50°	7966	4740	6165
55°	7694	4522	6293
60°	7319	4289	6388
65°	6873	4027	6380
70°	6396	3714	6190
75°	5807	3262	5708
80°	4986	2680	4815
85°	3802	1831	3307

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	436.3	3.2
10°-20°	1259.9	9.3
20°-30°	1930.2	14.3
30°-40°	2355.6	17.4
40°-50°	2463.4	18.2
50°-60°	2229.6	16.5
60°-70°	1688.5	12.5
70°-80°	941.0	7.0
80°-90°	227.0	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°	3626.4	26.8
0°-40°	5982.0	44.2
0°-60°	10675.0	78.9
0°-90°	13531.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13531.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4600	4600	4600	4600	4600	
5°	4771	4692	4585	4472	4449	460
15°	5046	4765	4342	4140	4154	1431
25°	5135	4630	3868	3731	3887	2369
35°	4902	4287	3266	3262	3566	3061
45°	4262	3728	2600	2715	3174	3279
55°	3280	2961	1928	2098	2683	2927
65°	2159	2030	1265	1438	2004	2141
75°	1117	1055	627	749	1098	1185
85°	246	217	119	159	214	296
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°	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1
2.5°	4701.7	4679.6	4661.5	4668.5	4672.5	4658.5	4646.4	4648.4	4636.3	4659.5	4605.2
5°	4771.1	4751.0	4729.9	4737.9	4729.9	4708.7	4691.6	4686.6	4654.4	4667.5	4612.2
7.5°	4848.5	4826.4	4795.2	4804.3	4787.2	4748.0	4725.8	4712.8	4663.5	4664.5	4603.2
10°	4922.9	4903.8	4861.6	4867.6	4836.4	4784.2	4749.0	4730.9	4661.5	4651.4	4588.1
12.5°	4992.3	4966.1	4920.9	4923.9	4878.7	4809.3	4764.0	4737.9	4647.4	4617.2	4554.9
15°	5045.6	5020.4	4966.1	4965.1	4906.8	4816.3	4765.0	4728.8	4614.2	4567.0	4501.6
17.5°	5090.8	5067.7	5000.3	4998.3	4927.9	4813.3	4752.0	4706.7	4566.0	4507.6	4435.2
20°	5123.0	5099.9	5024.5	5017.4	4933.0	4798.2	4724.8	4667.5	4502.6	4433.2	4352.8
22.5°	5138.1	5115.0	5029.5	5019.4	4920.9	4768.1	4685.6	4618.2	4430.2	4339.7	4256.3
25°	5135.1	5112.9	5016.4	5006.4	4897.8	4722.8	4630.3	4552.9	4338.7	4232.1	4149.7
27.5°	5109.9	5092.8	4991.3	4978.2	4855.5	4661.5	4562.9	4477.5	4237.2	4118.5	4029.0
30°	5066.7	5053.6	4946.0	4934.0	4803.3	4594.1	4484.5	4386.0	4127.6	3993.8	3903.3
32.5°	4997.3	4985.3	4876.7	4865.6	4732.9	4507.6	4393.0	4291.5	4007.9	3860.1	3769.6
35°	4901.8	4894.8	4789.2	4777.1	4642.4	4409.1	4287.4	4175.8	3883.2	3716.3	3629.8
37.5°	4776.1	4776.1	4674.6	4661.5	4529.8	4288.4	4168.8	4050.1	3742.5	3565.5	3480.0
40°	4630.3	4643.4	4539.8	4526.7	4399.0	4158.7	4028.0	3903.3	3590.6	3406.6	3323.2
42.5°	4455.4	4467.4	4380.9	4368.9	4249.2	4008.9	3887.2	3751.5	3431.8	3244.7	3158.3
45°	4262.3	4278.4	4201.0	4191.9	4080.3	3845.0	3728.4	3590.6	3265.9	3075.8	2991.4
47.5°	4047.1	4068.2	4000.9	3995.8	3892.3	3677.1	3555.4	3415.7	3091.9	2899.9	2820.4
50°	3805.8	3836.0	3780.7	3780.7	3688.2	3474.0	3368.4	3228.6	2910.9	2718.9	2640.4
52.5°	3547.4	3585.6	3544.4	3545.4	3470.0	3277.9	3168.3	3031.6	2721.9	2532.8	2460.4
55°	3279.9	3317.1	3291.0	3295.0	3235.7	3060.7	2961.2	2825.4	2528.8	2344.8	2276.4
57.5°	3000.4	3040.6	3023.5	3031.6	2990.3	2833.5	2729.9	2611.3	2329.7	2147.7	2089.4
60°	2719.9	2758.1	2749.0	2760.1	2733.9	2598.2	2503.7	2381.0	2129.6	1954.7	1903.4
62.5°	2436.3	2471.5	2469.5	2481.6	2467.5	2354.9	2270.4	2165.8	1922.5	1761.6	1714.4
65°	2158.8	2189.0	2187.0	2200.0	2197.0	2106.5	2030.1	1934.6	1715.4	1567.6	1526.3
67.5°	1889.3	1914.5	1907.4	1922.5	1926.5	1854.1	1787.8	1702.3	1518.3	1374.5	1339.3
70°	1625.9	1643.0	1633.9	1644.0	1653.0	1598.7	1542.4	1467.0	1308.2	1181.5	1152.3
72.5°	1367.5	1379.5	1365.5	1375.5	1383.6	1344.3	1298.1	1232.7	1101.0	991.4	967.3
75°	1117.1	1134.2	1105.0	1115.1	1121.1	1081.9	1054.8	1001.5	887.9	803.4	787.3
77.5°	874.8	884.8	868.7	864.7	868.7	840.6	819.5	778.3	692.8	623.4	613.4
80°	643.5	649.6	633.5	629.4	632.5	612.3	596.3	566.1	505.8	453.5	449.5
82.5°	431.4	434.4	420.3	416.3	418.3	412.3	393.1	372.0	343.9	299.6	298.6
85°	246.3	246.3	236.3	232.3	234.3	224.2	217.2	206.1	195.1	164.9	166.9
87.5°	90.5	90.5	85.5	84.5	94.5	83.5	80.4	75.4	78.4	62.3	66.4
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1	4600.1
2.5°	4620.3	4610.2	4601.2	4570.0	4583.1	4550.9	4548.9	4536.8	4527.7	4510.7	4532.8
5°	4605.2	4585.1	4558.9	4521.7	4532.8	4494.6	4486.5	4472.4	4460.4	4438.3	4455.4
7.5°	4581.0	4547.9	4506.6	4459.4	4474.5	4427.2	4415.1	4400.1	4390.0	4363.9	4378.9
10°	4545.8	4498.6	4450.3	4393.0	4404.1	4352.8	4337.7	4321.6	4312.6	4289.4	4304.5
12.5°	4491.6	4434.2	4368.9	4306.5	4318.6	4270.3	4250.2	4233.1	4230.1	4211.0	4229.1
15°	4421.2	4341.7	4274.4	4208.0	4222.1	4165.8	4156.7	4139.6	4144.7	4131.6	4153.7
17.5°	4331.7	4240.2	4166.8	4095.4	4109.5	4062.2	4055.2	4047.1	4052.2	4050.1	4074.3
20°	4231.1	4130.6	4046.1	3975.7	3983.8	3946.6	3949.6	3947.6	3957.6	3968.7	4001.9
22.5°	4117.5	4003.9	3915.4	3843.0	3855.1	3822.9	3837.0	3841.0	3858.1	3883.2	3925.5
25°	3989.8	3868.1	3775.6	3707.3	3718.3	3697.2	3721.3	3731.4	3758.5	3800.8	3844.0
27.5°	3856.1	3727.4	3628.8	3563.5	3584.6	3563.5	3599.7	3619.8	3661.0	3707.3	3760.6
30°	3714.3	3580.6	3479.0	3420.7	3440.8	3421.7	3480.0	3507.2	3548.4	3611.7	3675.1
32.5°	3565.5	3424.7	3325.2	3279.9	3294.0	3291.0	3356.3	3386.5	3441.8	3514.2	3581.6
35°	3412.7	3265.9	3165.3	3127.1	3144.2	3148.2	3226.6	3261.8	3322.2	3409.6	3482.0
37.5°	3254.8	3105.0	3006.4	2975.3	2990.3	3005.4	3096.9	3132.1	3200.5	3296.0	3375.5
40°	3090.9	2941.1	2844.5	2819.4	2834.5	2850.6	2950.1	2998.4	3072.8	3176.4	3262.8
42.5°	2925.0	2775.2	2681.7	2663.6	2678.6	2709.8	2815.4	2860.6	2939.1	3053.7	3149.2
45°	2756.1	2600.2	2518.8	2504.7	2520.8	2557.0	2660.5	2714.8	2798.3	2924.0	3026.5
47.5°	2585.1	2433.3	2355.9	2346.8	2362.9	2403.1	2517.8	2567.0	2655.5	2789.2	2899.9
50°	2412.2	2264.4	2190.0	2187.0	2202.0	2245.3	2354.9	2413.2	2504.7	2654.5	2768.1
52.5°	2237.2	2095.5	2028.1	2028.1	2042.2	2086.4	2197.0	2257.3	2351.9	2509.7	2635.4
55°	2062.3	1927.5	1863.2	1868.2	1888.3	1926.5	2034.1	2097.5	2193.0	2356.9	2489.6
57.5°	1887.3	1759.6	1701.3	1708.3	1727.4	1765.7	1871.2	1942.6	2029.1	2199.0	2334.8
60°	1714.4	1593.7	1542.4	1550.5	1567.6	1605.8	1715.4	1776.7	1863.2	2036.1	2171.9
62.5°	1539.4	1429.8	1381.6	1391.6	1406.7	1444.9	1548.5	1607.8	1693.3	1863.2	1999.9
65°	1366.5	1264.9	1223.7	1233.7	1247.8	1283.0	1380.5	1437.9	1519.3	1685.2	1815.9
67.5°	1195.5	1103.0	1068.8	1078.9	1090.0	1123.1	1203.6	1265.9	1342.3	1500.2	1623.9
70°	1026.6	944.2	914.0	924.1	934.1	964.3	1034.7	1092.0	1162.4	1307.1	1421.8
72.5°	859.7	779.3	764.2	773.2	781.3	807.4	874.8	920.0	981.4	1110.1	1208.6
75°	696.8	627.4	617.4	626.4	633.5	653.6	709.9	749.1	800.4	912.0	992.4
77.5°	540.0	481.6	477.6	484.6	491.7	505.8	550.0	591.2	631.5	713.9	785.3
80°	393.1	345.9	345.9	352.9	350.9	368.0	399.2	432.4	461.5	520.8	573.1
82.5°	259.4	222.2	227.2	232.3	235.3	242.3	261.4	286.6	304.7	340.9	375.1
85°	143.8	118.6	123.7	127.7	125.7	133.7	143.8	158.9	167.9	185.0	203.1
87.5°	53.3	44.2	45.2	48.3	50.3	54.3	54.3	63.3	64.4	66.4	70.4
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°	4600.1	4600.1	4600.1
2.5°	4490.5	4514.7	4532.8
5°	4413.1	4433.2	4449.3
7.5°	4337.7	4355.8	4369.9
10°	4266.3	4286.4	4296.5
12.5°	4192.9	4216.0	4224.1
15°	4120.5	4143.7	4153.7
17.5°	4046.1	4076.3	4087.3
20°	3976.7	4014.9	4024.0
22.5°	3906.4	3945.6	3956.6
25°	3829.9	3876.2	3887.2
27.5°	3748.5	3803.8	3814.9
30°	3667.0	3727.4	3738.4
32.5°	3579.6	3644.9	3655.0
35°	3488.1	3553.4	3565.5
37.5°	3386.5	3457.9	3482.0
40°	3280.9	3358.4	3383.5
42.5°	3170.3	3254.8	3280.9
45°	3051.7	3144.2	3174.4
47.5°	2932.0	3036.6	3062.7
50°	2802.3	2913.9	2945.1
52.5°	2666.6	2788.2	2819.4
55°	2525.8	2648.5	2682.7
57.5°	2373.0	2499.7	2535.9
60°	2213.1	2339.8	2374.0
62.5°	2049.2	2163.8	2197.0
65°	1866.2	1973.8	2004.0
67.5°	1672.1	1770.7	1795.8
70°	1466.0	1551.5	1573.6
72.5°	1250.8	1310.2	1339.3
75°	1028.6	1075.9	1098.0
77.5°	805.4	838.6	856.7
80°	587.2	606.3	621.4
82.5°	384.1	392.1	403.2
85°	207.1	207.1	214.2
87.5°	70.4	67.4	70.4
90°	0.0	0.0	0.0

(END OF REPORT)