

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: P834711

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834711
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-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

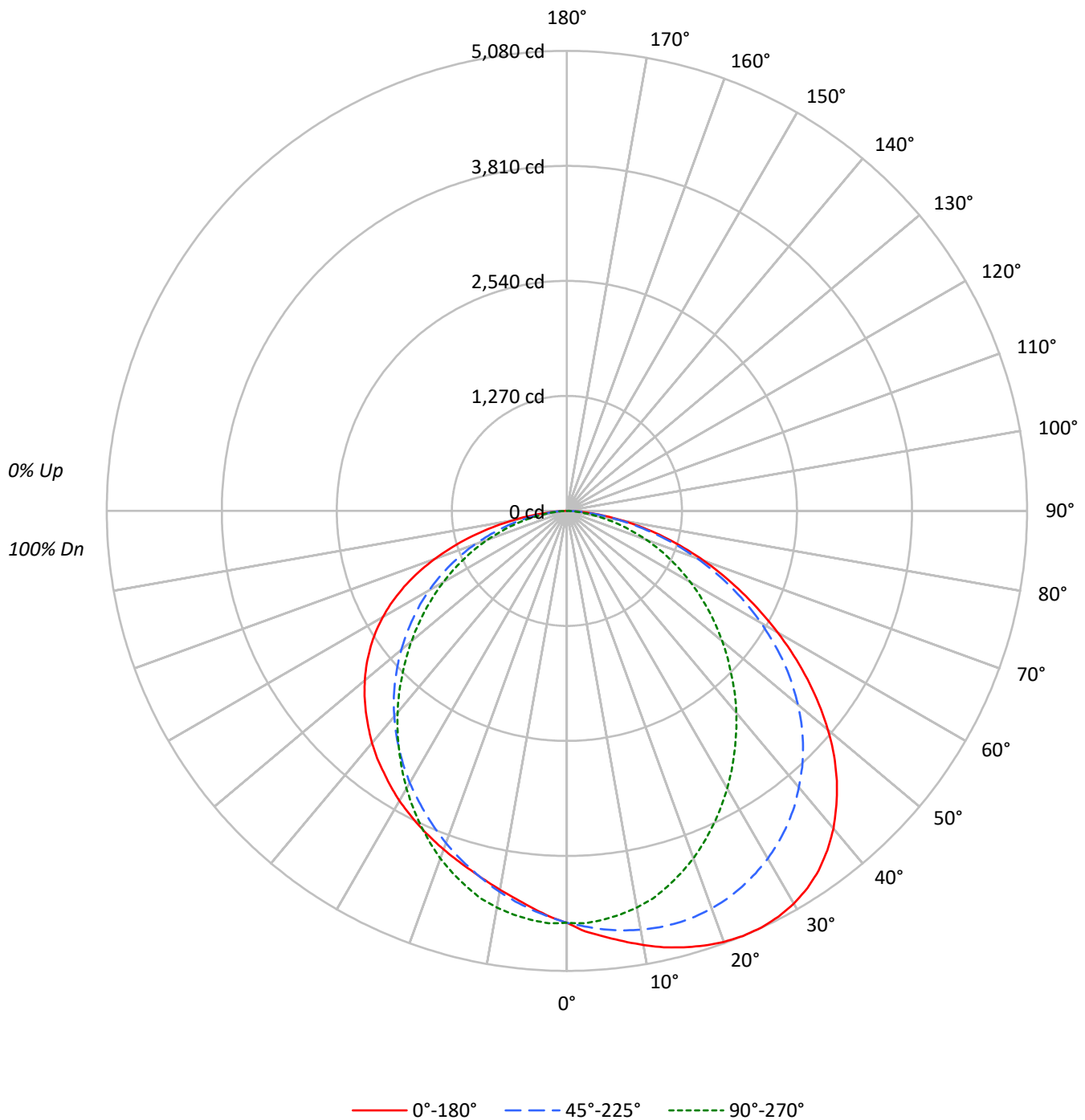
Lumens per Lamp: N/A
Luminaire Lumens: 13379.4 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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°	6120	6120	6120
5°	6372	6123	5942
10°	6650	6077	5804
15°	6949	5980	5721
20°	7253	5848	5697
25°	7538	5678	5706
30°	7783	5500	5743
35°	7961	5304	5791
40°	8041	5108	5876
45°	8019	4892	5972
50°	7877	4686	6095
55°	7608	4471	6222
60°	7237	4240	6317
65°	6796	3982	6308
70°	6324	3673	6121
75°	5742	3225	5644
80°	4930	2650	4761
85°	3761	1811	3270

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	431.4	3.2
10°-20°	1245.8	9.3
20°-30°	1908.5	14.3
30°-40°	2329.1	17.4
40°-50°	2435.7	18.2
50°-60°	2204.5	16.5
60°-70°	1669.6	12.5
70°-80°	930.4	7.0
80°-90°	224.4	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°	3585.7	26.8
0°-40°	5914.8	44.2
0°-60°	10555.0	78.9
0°-90°	13379.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13379.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4548	4548	4548	4548	4548	
5°	4718	4639	4534	4422	4399	455
15°	4989	4712	4293	4093	4107	1415
25°	5077	4578	3825	3690	3844	2342
35°	4847	4239	3229	3225	3525	3026
45°	4214	3686	2571	2684	3139	3243
55°	3243	2928	1906	2074	2652	2894
65°	2134	2007	1251	1422	1981	2117
75°	1105	1043	620	741	1086	1171
85°	244	215	117	157	212	293
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°	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5
2.5°	4648.9	4627.0	4609.1	4616.1	4620.0	4606.1	4594.2	4596.2	4584.2	4607.1	4553.4
5°	4717.5	4697.6	4676.7	4684.7	4676.7	4655.8	4638.9	4634.0	4602.1	4615.1	4560.4
7.5°	4794.0	4772.2	4741.3	4750.3	4733.4	4694.6	4672.7	4659.8	4611.1	4612.1	4551.4
10°	4867.6	4848.7	4807.0	4812.9	4782.1	4730.4	4695.6	4677.7	4609.1	4599.2	4536.5
12.5°	4936.2	4910.3	4865.6	4868.6	4823.9	4755.3	4710.5	4684.7	4595.2	4565.4	4503.7
15°	4988.9	4964.0	4910.3	4909.4	4851.7	4762.2	4711.5	4675.7	4562.4	4515.7	4451.0
17.5°	5033.6	5010.8	4944.1	4942.2	4872.6	4759.2	4698.6	4653.8	4514.7	4457.0	4385.4
20°	5065.4	5042.6	4968.0	4961.1	4877.5	4744.3	4671.7	4615.1	4452.0	4383.4	4303.9
22.5°	5080.4	5057.5	4973.0	4963.0	4865.6	4714.5	4633.0	4566.4	4380.4	4291.0	4208.4
25°	5077.4	5055.5	4960.1	4950.1	4842.7	4669.8	4578.3	4501.7	4290.0	4184.6	4103.1
27.5°	5052.5	5035.6	4935.2	4922.3	4801.0	4609.1	4511.7	4427.2	4189.6	4072.2	3983.8
30°	5009.8	4996.8	4890.5	4878.5	4749.3	4542.5	4434.1	4336.7	4081.2	3949.0	3859.5
32.5°	4941.2	4929.2	4821.9	4810.9	4679.7	4457.0	4343.7	4243.2	3962.9	3816.7	3727.3
35°	4846.7	4839.8	4735.4	4723.4	4590.2	4359.6	4239.3	4128.9	3839.6	3674.6	3589.1
37.5°	4722.4	4722.4	4622.0	4609.1	4478.9	4240.3	4121.9	4004.6	3700.4	3525.4	3440.9
40°	4578.3	4591.2	4488.8	4475.9	4349.6	4112.0	3982.8	3859.5	3550.3	3368.3	3285.8
42.5°	4405.3	4417.2	4331.7	4319.8	4201.5	3963.9	3843.6	3709.4	3393.2	3208.3	3122.8
45°	4214.4	4230.3	4153.8	4144.8	4034.5	3801.8	3686.5	3550.3	3229.2	3041.3	2957.7
47.5°	4001.6	4022.5	3955.9	3950.9	3848.5	3635.8	3515.5	3377.3	3057.2	2867.3	2788.7
50°	3763.0	3792.9	3738.2	3738.2	3646.7	3435.0	3330.6	3192.4	2878.2	2688.3	2610.8
52.5°	3507.5	3545.3	3504.6	3505.5	3431.0	3241.1	3132.7	2997.5	2691.3	2504.4	2432.8
55°	3243.1	3279.9	3254.0	3258.0	3199.3	3026.3	2927.9	2793.7	2500.4	2318.5	2250.9
57.5°	2966.7	3006.5	2989.6	2997.5	2956.7	2801.7	2699.2	2581.9	2303.6	2123.6	2065.9
60°	2689.3	2727.1	2718.1	2729.1	2703.2	2569.0	2475.6	2354.3	2105.7	1932.7	1882.0
62.5°	2408.9	2443.7	2441.8	2453.7	2439.8	2328.4	2244.9	2141.5	1900.9	1741.8	1695.1
65°	2134.5	2164.4	2162.4	2175.3	2172.3	2082.8	2007.3	1912.8	1696.1	1550.0	1509.2
67.5°	1868.1	1893.0	1886.0	1900.9	1904.9	1833.3	1767.7	1683.2	1501.2	1359.1	1324.3
70°	1607.6	1624.5	1615.6	1625.5	1634.5	1580.8	1525.1	1450.5	1293.5	1168.2	1139.4
72.5°	1352.1	1364.0	1350.1	1360.1	1368.0	1329.2	1283.5	1218.9	1088.6	980.3	956.4
75°	1104.6	1121.5	1092.6	1102.6	1108.5	1069.8	1042.9	990.2	877.9	794.4	778.5
77.5°	865.0	874.9	859.0	855.0	859.0	831.2	810.3	769.5	685.0	616.4	606.5
80°	636.3	642.3	626.3	622.4	625.4	605.5	589.6	559.7	500.1	448.4	444.4
82.5°	426.5	429.5	415.6	411.6	413.6	407.6	388.7	367.9	340.0	296.3	295.3
85°	243.6	243.6	233.6	229.7	231.6	221.7	214.7	203.8	192.9	163.0	165.0
87.5°	89.5	89.5	84.5	83.5	93.5	82.5	79.5	74.6	77.5	61.6	65.6
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°	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5	4548.5
2.5°	4568.3	4558.4	4549.5	4518.6	4531.6	4499.7	4497.8	4485.8	4476.9	4460.0	4481.8
5°	4553.4	4533.5	4507.7	4470.9	4481.8	4444.1	4436.1	4422.2	4410.3	4388.4	4405.3
7.5°	4529.6	4496.8	4456.0	4409.3	4424.2	4377.5	4365.5	4350.6	4340.7	4314.8	4329.7
10°	4494.8	4448.0	4400.3	4343.7	4354.6	4303.9	4289.0	4273.1	4264.1	4241.3	4256.2
12.5°	4441.1	4384.4	4319.8	4258.2	4270.1	4222.4	4202.5	4185.6	4182.6	4163.7	4181.6
15°	4371.5	4292.9	4226.3	4160.7	4174.6	4119.0	4110.0	4093.1	4098.1	4085.2	4107.0
17.5°	4283.0	4192.5	4120.0	4049.4	4063.3	4016.6	4009.6	4001.6	4006.6	4004.6	4028.5
20°	4183.6	4084.2	4000.7	3931.1	3939.0	3902.2	3905.2	3903.2	3913.2	3924.1	3956.9
22.5°	4071.2	3958.9	3871.4	3799.8	3811.8	3779.9	3793.9	3797.8	3814.7	3839.6	3881.4
25°	3945.0	3824.7	3733.2	3665.6	3676.5	3655.7	3679.5	3689.5	3716.3	3758.1	3800.8
27.5°	3812.8	3685.5	3588.1	3523.4	3544.3	3523.4	3559.2	3579.1	3619.9	3665.6	3718.3
30°	3672.6	3540.3	3439.9	3382.3	3402.1	3383.3	3440.9	3467.8	3508.5	3571.2	3633.8
32.5°	3525.4	3386.2	3287.8	3243.1	3257.0	3254.0	3318.6	3348.5	3403.1	3474.7	3541.3
35°	3374.3	3229.2	3129.7	3092.0	3108.9	3112.8	3190.4	3225.2	3284.8	3371.3	3442.9
37.5°	3218.2	3070.1	2972.7	2941.8	2956.7	2971.7	3062.1	3096.9	3164.5	3259.0	3337.5
40°	3056.2	2908.0	2812.6	2787.7	2802.6	2818.6	2917.0	2964.7	3038.3	3140.7	3226.2
42.5°	2892.1	2744.0	2651.5	2633.6	2648.5	2679.4	2783.8	2828.5	2906.0	3019.4	3113.8
45°	2725.1	2571.0	2490.5	2476.5	2492.5	2528.2	2630.6	2684.3	2766.9	2891.1	2992.5
47.5°	2556.1	2406.0	2329.4	2320.5	2336.4	2376.1	2489.5	2538.2	2625.7	2757.9	2867.3
50°	2385.1	2238.9	2165.4	2162.4	2177.3	2220.0	2328.4	2386.1	2476.5	2624.7	2737.0
52.5°	2212.1	2071.9	2005.3	2005.3	2019.2	2063.0	2172.3	2232.0	2325.4	2481.5	2605.8
55°	2039.1	1905.9	1842.3	1847.2	1867.1	1904.9	2011.3	2073.9	2168.3	2330.4	2461.6
57.5°	1866.1	1739.8	1682.2	1689.1	1708.0	1745.8	1850.2	1920.8	2006.3	2174.3	2308.5
60°	1695.1	1575.8	1525.1	1533.1	1550.0	1587.7	1696.1	1756.7	1842.3	2013.3	2147.5
62.5°	1522.1	1413.8	1366.0	1376.0	1390.9	1428.7	1531.1	1589.7	1674.2	1842.3	1977.5
65°	1351.1	1250.7	1209.9	1219.9	1233.8	1268.6	1365.0	1421.7	1502.2	1666.3	1795.5
67.5°	1182.1	1090.6	1056.8	1066.8	1077.7	1110.5	1190.1	1251.7	1327.3	1483.3	1605.6
70°	1015.1	933.6	903.7	913.7	923.6	953.4	1023.0	1079.7	1149.3	1292.5	1405.8
72.5°	850.0	770.5	755.6	764.5	772.5	798.3	865.0	909.7	970.3	1097.6	1195.0
75°	689.0	620.4	610.4	619.4	626.3	646.2	701.9	740.7	791.4	901.7	981.3
77.5°	533.9	476.2	472.2	479.2	486.2	500.1	543.8	584.6	624.4	705.9	776.5
80°	388.7	342.0	342.0	349.0	347.0	363.9	394.7	427.5	456.3	515.0	566.7
82.5°	256.5	219.7	224.7	229.7	232.6	239.6	258.5	283.3	301.2	337.0	370.8
85°	142.2	117.3	122.3	126.3	124.3	132.2	142.2	157.1	166.0	182.9	200.8
87.5°	52.7	43.7	44.7	47.7	49.7	53.7	53.7	62.6	63.6	65.6	69.6
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°	4548.5	4548.5	4548.5
2.5°	4440.1	4464.0	4481.8
5°	4363.5	4383.4	4399.3
7.5°	4289.0	4306.9	4320.8
10°	4218.4	4238.3	4248.2
12.5°	4145.8	4168.7	4176.6
15°	4074.2	4097.1	4107.0
17.5°	4000.7	4030.5	4041.4
20°	3932.1	3969.8	3978.8
22.5°	3862.5	3901.2	3912.2
25°	3786.9	3832.6	3843.6
27.5°	3706.4	3761.1	3772.0
30°	3625.8	3685.5	3696.4
32.5°	3539.3	3604.0	3613.9
35°	3448.9	3513.5	3525.4
37.5°	3348.5	3419.0	3442.9
40°	3244.1	3320.6	3345.5
42.5°	3134.7	3218.2	3244.1
45°	3017.4	3108.9	3138.7
47.5°	2899.1	3002.5	3028.3
50°	2770.8	2881.2	2912.0
52.5°	2636.6	2756.9	2787.7
55°	2497.4	2618.7	2652.5
57.5°	2346.3	2471.6	2507.4
60°	2188.2	2313.5	2347.3
62.5°	2026.2	2139.5	2172.3
65°	1845.2	1951.6	1981.4
67.5°	1653.4	1750.8	1775.6
70°	1449.5	1534.0	1555.9
72.5°	1236.8	1295.4	1324.3
75°	1017.1	1063.8	1085.7
77.5°	796.4	829.2	847.1
80°	580.6	599.5	614.4
82.5°	379.8	387.7	398.7
85°	204.8	204.8	211.8
87.5°	69.6	66.6	69.6
90°	0.0	0.0	0.0

(END OF REPORT)