

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: P834629

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6STD-20-120-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: P834629
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-LD4-6STD-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

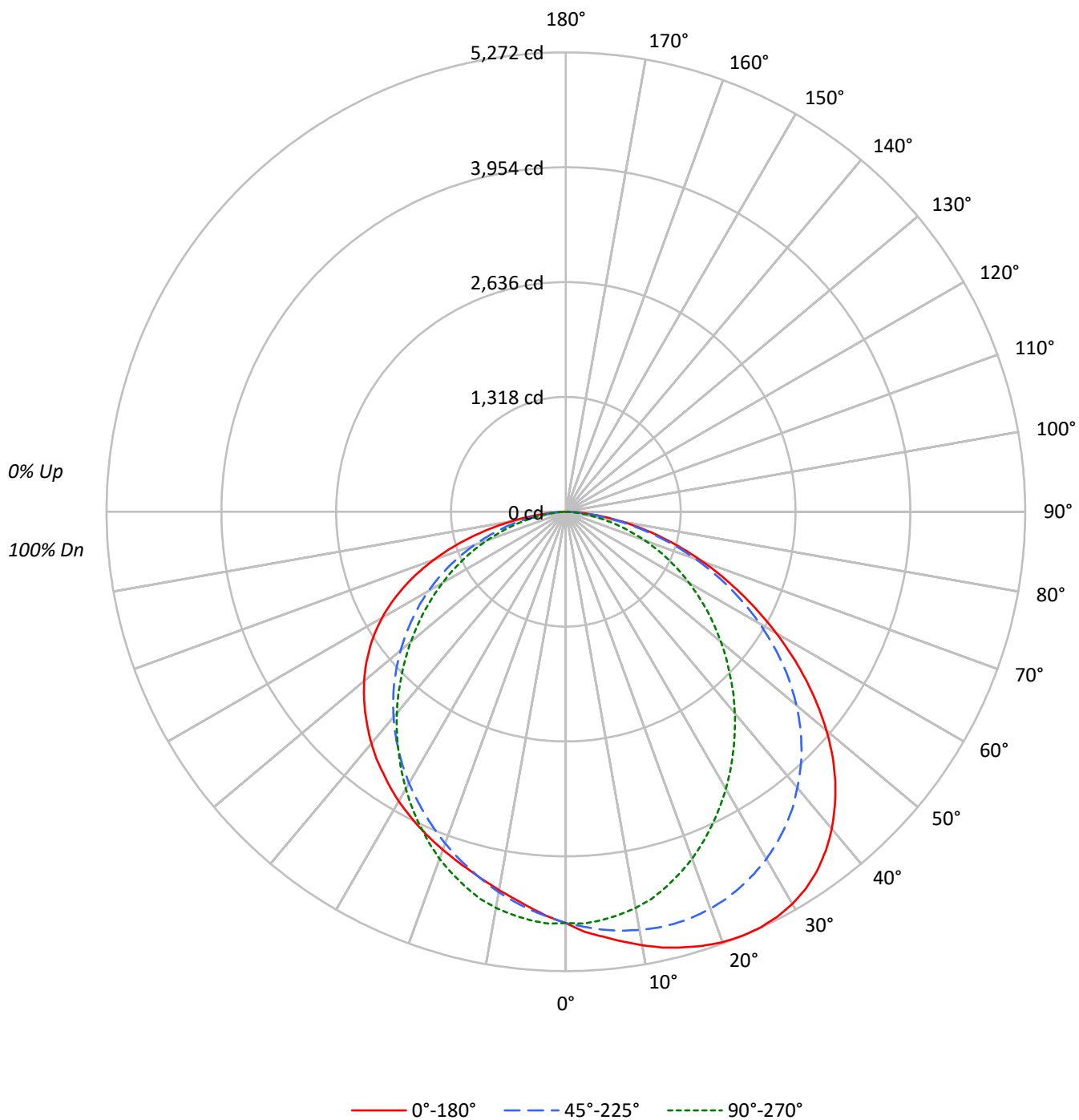
Lumens per Lamp: N/A
Luminaire Lumens: 13883.3 lumens
Efficiency: N/A
Efficacy: 69.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 199.8
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	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°	6350	6350	6350
5°	6611	6354	6166
10°	6901	6306	6023
15°	7211	6205	5936
20°	7526	6068	5911
25°	7822	5892	5921
30°	8076	5708	5959
35°	8261	5504	6009
40°	8344	5300	6097
45°	8321	5076	6197
50°	8173	4863	6325
55°	7894	4639	6457
60°	7509	4400	6554
65°	7052	4132	6546
70°	6563	3811	6351
75°	5958	3346	5856
80°	5115	2750	4940
85°	3903	1879	3392



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	447.6	3.2
10°-20°	1292.7	9.3
20°-30°	1980.4	14.3
30°-40°	2416.8	17.4
40°-50°	2527.5	18.2
50°-60°	2287.5	16.5
60°-70°	1732.4	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°	3720.7	26.8
0°-40°	6137.5	44.2
0°-60°	10952.5	78.9
0°-90°	13883.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13883.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4720	4720	4720	4720	4720	
5°	4895	4814	4704	4589	4565	472
15°	5177	4889	4455	4247	4262	1468
25°	5269	4751	3969	3828	3988	2430
35°	5029	4399	3351	3347	3658	3140
45°	4373	3825	2668	2785	3257	3365
55°	3365	3038	1978	2152	2752	3003
65°	2215	2083	1298	1475	2056	2197
75°	1146	1082	644	769	1126	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°	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7
2.5°	4823.9	4801.2	4782.7	4789.9	4794.0	4779.6	4767.2	4769.3	4756.9	4780.6	4724.9
5°	4895.1	4874.5	4852.8	4861.1	4852.8	4831.2	4813.6	4808.5	4775.4	4788.9	4732.1
7.5°	4974.6	4951.9	4919.9	4929.2	4911.6	4871.4	4848.7	4835.3	4784.7	4785.8	4722.8
10°	5050.9	5031.3	4988.0	4994.2	4962.2	4908.5	4872.4	4853.9	4782.7	4772.4	4707.4
12.5°	5122.1	5095.3	5048.8	5051.9	5005.5	4934.3	4887.9	4861.1	4768.2	4737.3	4673.3
15°	5176.8	5151.0	5095.3	5094.2	5034.4	4941.5	4888.9	4851.8	4734.2	4685.7	4618.6
17.5°	5223.2	5199.5	5130.3	5128.3	5056.1	4938.4	4875.5	4829.1	4684.7	4624.8	4550.6
20°	5256.2	5232.5	5155.1	5147.9	5061.2	4923.0	4847.7	4788.9	4619.7	4548.5	4466.0
22.5°	5271.7	5247.9	5160.2	5149.9	5048.8	4892.0	4807.4	4738.3	4545.4	4452.5	4366.9
25°	5268.6	5245.9	5146.8	5136.5	5025.1	4845.6	4750.7	4671.3	4451.5	4342.2	4257.6
27.5°	5242.8	5225.2	5121.0	5107.6	4981.8	4782.7	4681.6	4593.9	4347.3	4225.6	4133.8
30°	5198.4	5185.0	5074.6	5062.2	4928.1	4713.5	4601.1	4500.0	4234.9	4097.7	4004.8
32.5°	5127.2	5114.9	5003.4	4992.1	4855.9	4624.8	4507.2	4403.0	4112.1	3960.5	3867.6
35°	5029.2	5022.0	4913.7	4901.3	4763.1	4523.7	4398.9	4284.4	3984.2	3812.9	3724.2
37.5°	4900.3	4900.3	4796.1	4782.7	4647.5	4399.9	4277.2	4155.4	3839.8	3658.2	3570.5
40°	4750.7	4764.1	4657.8	4644.4	4513.4	4266.9	4132.7	4004.8	3684.0	3495.2	3409.6
42.5°	4571.2	4583.6	4494.8	4482.5	4359.7	4113.1	3988.3	3849.0	3521.0	3329.1	3240.4
45°	4373.1	4389.6	4310.2	4300.9	4186.4	3945.0	3825.3	3684.0	3350.8	3155.8	3069.1
47.5°	4152.3	4174.0	4104.9	4099.7	3993.5	3772.7	3647.9	3504.5	3172.3	2975.2	2893.7
50°	3904.7	3935.7	3879.0	3879.0	3784.0	3564.3	3456.0	3312.6	2986.6	2789.5	2709.1
52.5°	3639.6	3678.8	3636.5	3637.6	3560.2	3363.1	3250.7	3110.4	2792.6	2598.7	2524.4
55°	3365.2	3403.4	3376.5	3380.7	3319.8	3140.3	3038.2	2898.9	2594.6	2405.8	2335.6
57.5°	3078.4	3119.7	3102.1	3110.4	3068.1	2907.2	2800.9	2679.2	2390.3	2203.6	2143.7
60°	2790.6	2829.8	2820.5	2831.8	2805.0	2665.8	2568.8	2442.9	2185.0	2005.5	1952.9
62.5°	2499.7	2535.8	2533.7	2546.1	2531.6	2416.1	2329.4	2222.1	1972.5	1807.4	1758.9
65°	2214.9	2245.9	2243.8	2257.2	2254.1	2161.3	2082.9	1984.9	1760.0	1608.3	1566.0
67.5°	1938.4	1964.2	1957.0	1972.5	1976.6	1902.3	1834.3	1746.6	1557.8	1410.2	1374.1
70°	1668.2	1685.7	1676.4	1686.7	1696.0	1640.3	1582.5	1505.2	1342.2	1212.2	1182.3
72.5°	1403.0	1415.4	1401.0	1411.3	1419.5	1379.3	1331.8	1264.8	1129.6	1017.2	992.4
75°	1146.1	1163.7	1133.8	1144.1	1150.3	1110.0	1082.2	1027.5	910.9	824.3	807.8
77.5°	897.5	907.8	891.3	887.2	891.3	862.4	840.8	798.5	710.8	639.6	629.3
80°	660.2	666.4	649.9	645.8	648.9	628.3	611.8	580.8	518.9	465.3	461.1
82.5°	442.6	445.7	431.2	427.1	429.2	423.0	403.4	381.7	352.8	307.4	306.4
85°	252.8	252.8	242.4	238.3	240.4	230.1	222.8	211.5	200.1	169.2	171.3
87.5°	92.8	92.8	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°	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7	4719.7
2.5°	4740.4	4730.1	4720.8	4688.8	4702.2	4669.2	4667.1	4654.7	4645.5	4627.9	4650.6
5°	4724.9	4704.3	4677.4	4639.3	4650.6	4611.4	4603.2	4588.7	4576.3	4553.6	4571.2
7.5°	4700.1	4666.1	4623.8	4575.3	4590.8	4542.3	4529.9	4514.4	4504.1	4477.3	4492.8
10°	4664.0	4615.5	4566.0	4507.2	4518.6	4466.0	4450.5	4434.0	4424.7	4401.0	4416.4
12.5°	4608.3	4549.5	4482.5	4418.5	4430.9	4381.4	4360.7	4343.2	4340.1	4320.5	4339.1
15°	4536.1	4454.6	4385.5	4317.4	4331.8	4274.1	4264.8	4247.2	4252.4	4239.0	4261.7
17.5°	4444.3	4350.4	4275.1	4201.9	4216.3	4167.8	4160.6	4152.3	4157.5	4155.4	4180.2
20°	4341.1	4238.0	4151.3	4079.1	4087.3	4049.2	4052.3	4050.2	4060.5	4071.9	4105.9
22.5°	4224.6	4108.0	4017.2	3942.9	3955.3	3922.3	3936.7	3940.9	3958.4	3984.2	4027.5
25°	4093.5	3968.7	3873.8	3803.6	3815.0	3793.3	3818.1	3828.4	3856.3	3899.6	3943.9
27.5°	3956.3	3824.3	3723.2	3656.1	3677.8	3656.1	3693.3	3713.9	3756.2	3803.6	3858.3
30°	3810.9	3673.7	3569.5	3509.6	3530.3	3510.7	3570.5	3598.4	3640.6	3705.6	3770.6
32.5°	3658.2	3513.8	3411.6	3365.2	3379.6	3376.5	3443.6	3474.6	3531.3	3605.6	3674.7
35°	3501.4	3350.8	3247.6	3208.4	3225.9	3230.1	3310.5	3346.6	3408.5	3498.3	3572.6
37.5°	3339.4	3185.7	3084.6	3052.6	3068.1	3083.6	3177.4	3213.5	3283.7	3381.7	3463.2
40°	3171.3	3017.5	2918.5	2892.7	2908.2	2924.7	3026.8	3076.3	3152.7	3258.9	3347.7
42.5°	3001.0	2847.3	2751.4	2732.8	2748.3	2780.3	2888.6	2935.0	3015.5	3133.1	3231.1
45°	2827.7	2667.8	2584.3	2569.8	2586.3	2623.5	2729.7	2785.4	2871.0	3000.0	3105.2
47.5°	2652.3	2496.6	2417.1	2407.8	2424.3	2465.6	2583.2	2633.8	2724.6	2861.8	2975.2
50°	2474.9	2323.2	2246.9	2243.8	2259.3	2303.6	2416.1	2475.9	2569.8	2723.5	2840.1
52.5°	2295.4	2149.9	2080.8	2080.8	2095.3	2140.6	2254.1	2316.0	2413.0	2575.0	2703.9
55°	2115.9	1977.6	1911.6	1916.8	1937.4	1976.6	2087.0	2152.0	2250.0	2418.2	2554.3
57.5°	1936.4	1805.4	1745.5	1752.8	1772.4	1811.6	1919.9	1993.1	2081.8	2256.2	2395.5
60°	1758.9	1635.1	1582.5	1590.8	1608.3	1647.5	1760.0	1822.9	1911.6	2089.1	2228.3
62.5°	1579.4	1467.0	1417.5	1427.8	1443.3	1482.5	1588.7	1649.6	1737.3	1911.6	2051.9
65°	1402.0	1297.8	1255.5	1265.8	1280.3	1316.4	1416.4	1475.2	1558.8	1729.0	1863.1
67.5°	1226.6	1131.7	1096.6	1106.9	1118.3	1152.3	1234.9	1298.8	1377.2	1539.2	1666.1
70°	1053.3	968.7	937.8	948.1	958.4	989.3	1061.6	1120.4	1192.6	1341.1	1458.7
72.5°	882.0	799.5	784.0	793.3	801.6	828.4	897.5	943.9	1006.9	1138.9	1240.0
75°	714.9	643.7	633.4	642.7	649.9	670.6	728.3	768.6	821.2	935.7	1018.2
77.5°	554.0	494.2	490.0	497.2	504.5	518.9	564.3	606.6	647.9	732.5	805.7
80°	403.4	354.9	354.9	362.1	360.0	377.6	409.6	443.6	473.5	534.4	588.0
82.5°	266.2	228.0	233.1	238.3	241.4	248.6	268.2	294.0	312.6	349.7	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°	4719.7	4719.7	4719.7
2.5°	4607.3	4632.1	4650.6
5°	4527.9	4548.5	4565.0
7.5°	4450.5	4469.1	4483.5
10°	4377.2	4397.9	4408.2
12.5°	4301.9	4325.7	4333.9
15°	4227.6	4251.4	4261.7
17.5°	4151.3	4182.3	4193.6
20°	4080.1	4119.3	4128.6
22.5°	4007.9	4048.1	4059.5
25°	3929.5	3977.0	3988.3
27.5°	3845.9	3902.7	3914.0
30°	3762.4	3824.3	3835.6
32.5°	3672.6	3739.7	3750.0
35°	3578.7	3645.8	3658.2
37.5°	3474.6	3547.8	3572.6
40°	3366.2	3445.7	3471.5
42.5°	3252.8	3339.4	3366.2
45°	3131.0	3225.9	3256.9
47.5°	3008.3	3115.5	3142.4
50°	2875.2	2989.7	3021.7
52.5°	2735.9	2860.7	2892.7
55°	2591.5	2717.3	2752.4
57.5°	2434.7	2564.6	2601.8
60°	2270.6	2400.6	2435.7
62.5°	2102.5	2220.1	2254.1
65°	1914.7	2025.1	2056.1
67.5°	1715.6	1816.7	1842.5
70°	1504.1	1591.8	1614.5
72.5°	1283.4	1344.2	1374.1
75°	1055.4	1103.9	1126.5
77.5°	826.3	860.4	879.0
80°	602.5	622.1	637.6
82.5°	394.1	402.3	413.7
85°	212.5	212.5	219.7
87.5°	72.2	69.1	72.2
90°	0.0	0.0	0.0

(END OF REPORT)