

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: P834664

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6LO-30-120-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: P834664
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

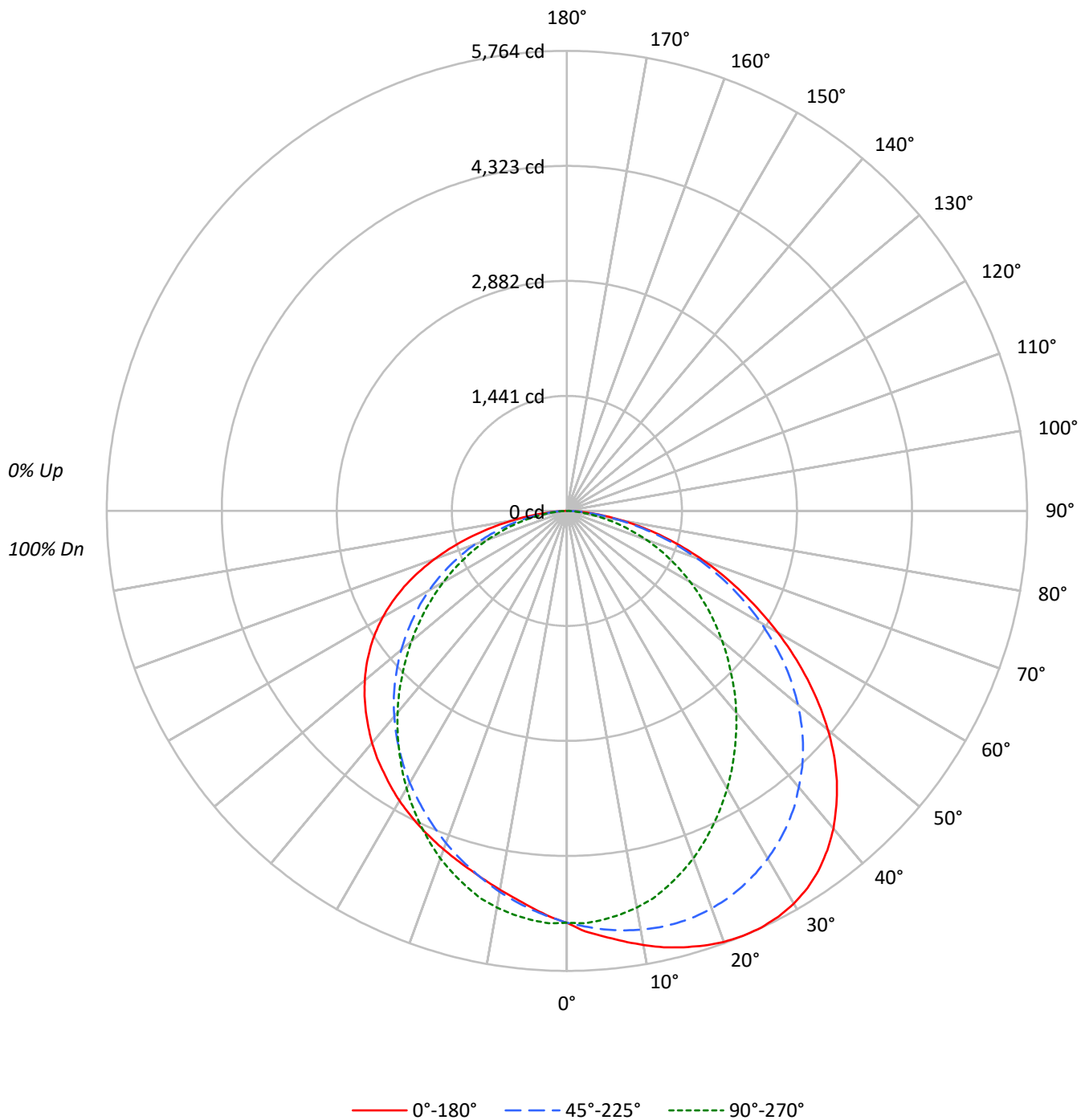
Lumens per Lamp: N/A
Luminaire Lumens: 15180.2 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P834664

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-30-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834664

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-30-120-EDD-90

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°	6944	6944	6944
5°	7229	6947	6742
10°	7545	6895	6585
15°	7885	6785	6491
20°	8229	6635	6464
25°	8552	6442	6474
30°	8831	6241	6516
35°	9032	6018	6570
40°	9124	5795	6667
45°	9098	5550	6776
50°	8937	5317	6916
55°	8632	5073	7060
60°	8211	4811	7167
65°	7710	4518	7157
70°	7176	4167	6945
75°	6515	3659	6404
80°	5594	3006	5401
85°	4267	2055	3710

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834664

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-30-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	489.4	3.2
10°-20°	1413.4	9.3
20°-30°	2165.4	14.3
30°-40°	2642.6	17.4
40°-50°	2763.6	18.2
50°-60°	2501.2	16.5
60°-70°	1894.3	12.5
70°-80°	1055.6	7.0
80°-90°	254.6	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°	4068.3	26.8
0°-40°	6710.9	44.2
0°-60°	11975.6	78.9
0°-90°	15180.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15180.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5161	5161	5161	5161	5161	
5°	5352	5263	5144	5017	4991	516
15°	5660	5346	4871	4644	4660	1605
25°	5761	5194	4339	4186	4361	2657
35°	5499	4810	3664	3659	4000	3434
45°	4782	4183	2917	3046	3561	3679
55°	3680	3322	2162	2353	3010	3283
65°	2422	2277	1419	1613	2248	2402
75°	1253	1183	704	840	1232	1329
85°	276	244	133	178	240	333
90°	0	0	0	0	0	

TEST NUMBER: P834664

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-30-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6
2.5°	5274.6	5249.7	5229.4	5237.3	5241.8	5226.1	5212.5	5214.8	5201.2	5227.2	5166.3
5°	5352.4	5329.8	5306.1	5315.2	5306.1	5282.5	5263.3	5257.6	5221.5	5236.2	5174.2
7.5°	5439.3	5414.4	5379.5	5389.6	5370.4	5326.5	5301.6	5287.0	5231.7	5232.8	5164.0
10°	5522.7	5501.3	5453.9	5460.7	5425.7	5367.1	5327.6	5307.3	5229.4	5218.2	5147.1
12.5°	5600.6	5571.2	5520.5	5523.9	5473.1	5395.3	5344.5	5315.2	5213.6	5179.8	5109.9
15°	5660.3	5632.1	5571.2	5570.1	5504.7	5403.2	5345.6	5305.0	5176.4	5123.4	5050.1
17.5°	5711.1	5685.2	5609.6	5607.3	5528.4	5399.8	5331.0	5280.2	5122.3	5056.9	4975.6
20°	5747.2	5721.3	5636.7	5628.8	5534.0	5382.9	5300.5	5236.2	5051.2	4973.4	4883.1
22.5°	5764.1	5738.2	5642.3	5631.0	5520.5	5349.0	5256.5	5180.9	4970.0	4868.5	4774.9
25°	5760.7	5735.9	5627.6	5616.3	5494.5	5298.3	5194.5	5107.6	4867.4	4747.8	4655.3
27.5°	5732.5	5713.4	5599.4	5584.8	5447.1	5229.4	5118.9	5023.0	4753.4	4620.3	4519.9
30°	5684.0	5669.4	5548.7	5535.1	5388.5	5153.9	5030.9	4920.4	4630.5	4480.4	4378.9
32.5°	5606.2	5592.7	5470.8	5458.4	5309.5	5056.9	4928.3	4814.3	4496.2	4330.4	4228.9
35°	5499.0	5491.1	5372.7	5359.2	5208.0	4946.3	4809.8	4684.6	4356.4	4169.1	4072.1
37.5°	5358.0	5358.0	5244.1	5229.4	5081.7	4811.0	4676.7	4543.6	4198.4	3999.9	3904.0
40°	5194.5	5209.1	5093.0	5078.3	4935.0	4665.4	4518.8	4378.9	4028.1	3821.7	3728.1
42.5°	4998.2	5011.7	4914.7	4901.2	4767.0	4497.4	4360.9	4208.6	3849.9	3640.1	3543.1
45°	4781.6	4799.7	4712.8	4702.7	4577.5	4313.5	4182.7	4028.1	3663.8	3450.6	3355.8
47.5°	4540.2	4563.9	4488.3	4482.7	4366.5	4125.1	3988.6	3831.8	3468.6	3253.2	3164.1
50°	4269.5	4303.3	4241.3	4241.3	4137.5	3897.3	3778.8	3622.0	3265.6	3050.1	2962.1
52.5°	3979.6	4022.5	3976.2	3977.4	3892.8	3677.3	3554.4	3400.9	3053.5	2841.5	2760.2
55°	3679.6	3721.3	3692.0	3696.5	3629.9	3433.7	3322.0	3169.7	2836.9	2630.5	2553.8
57.5°	3366.0	3411.1	3391.9	3400.9	3354.7	3178.7	3062.5	2929.4	2613.6	2409.4	2344.0
60°	3051.3	3094.1	3084.0	3096.4	3067.1	2914.8	2808.7	2671.1	2389.1	2192.8	2135.3
62.5°	2733.2	2772.6	2770.4	2783.9	2768.1	2641.8	2547.0	2429.7	2156.7	1976.3	1923.3
65°	2421.8	2455.7	2453.4	2468.1	2464.7	2363.2	2277.4	2170.3	1924.4	1758.6	1712.3
67.5°	2119.5	2147.7	2139.8	2156.7	2161.3	2080.0	2005.6	1909.7	1703.3	1542.0	1502.5
70°	1824.0	1843.2	1833.0	1844.3	1854.4	1793.5	1730.4	1645.8	1467.5	1325.4	1292.7
72.5°	1534.1	1547.6	1531.8	1543.1	1552.1	1508.1	1456.3	1382.9	1235.2	1112.2	1085.1
75°	1253.2	1272.4	1239.7	1251.0	1257.7	1213.7	1183.3	1123.5	996.0	901.3	883.2
77.5°	981.4	992.6	974.6	970.1	974.6	943.0	919.3	873.1	777.2	699.4	688.1
80°	721.9	728.7	710.6	706.1	709.5	687.0	668.9	635.1	567.4	508.7	504.2
82.5°	483.9	487.3	471.5	467.0	469.3	462.5	441.1	417.4	385.8	336.1	335.0
85°	276.4	276.4	265.1	260.6	262.8	251.5	243.6	231.2	218.8	185.0	187.2
87.5°	101.5	101.5	95.9	94.8	106.0	93.6	90.2	84.6	88.0	69.9	74.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834664

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6	5160.6
2.5°	5183.2	5171.9	5161.8	5126.8	5141.5	5105.4	5103.1	5089.6	5079.4	5060.2	5085.1
5°	5166.3	5143.7	5114.4	5072.6	5085.1	5042.2	5033.2	5017.4	5003.8	4979.0	4998.2
7.5°	5139.2	5102.0	5055.7	5002.7	5019.6	4966.6	4953.1	4936.2	4924.9	4895.6	4912.5
10°	5099.7	5046.7	4992.6	4928.3	4940.7	4883.1	4866.2	4848.2	4838.0	4812.1	4829.0
12.5°	5038.8	4974.5	4901.2	4831.3	4844.8	4790.6	4768.1	4748.9	4745.5	4724.1	4744.4
15°	4959.8	4870.7	4795.2	4720.7	4736.5	4673.3	4663.2	4644.0	4649.6	4635.0	4659.8
17.5°	4859.5	4756.8	4674.5	4594.4	4610.2	4557.1	4549.3	4540.2	4545.9	4543.6	4570.7
20°	4746.7	4633.9	4539.1	4460.1	4469.2	4427.4	4430.8	4428.6	4439.8	4452.2	4489.5
22.5°	4619.2	4491.7	4392.5	4311.2	4324.8	4288.7	4304.5	4309.0	4328.2	4356.4	4403.7
25°	4475.9	4339.4	4235.7	4159.0	4171.4	4147.7	4174.8	4186.0	4216.5	4263.9	4312.4
27.5°	4325.9	4181.5	4071.0	3997.7	4021.3	3997.7	4038.3	4060.8	4107.1	4159.0	4218.7
30°	4166.9	4016.8	3902.9	3837.5	3860.0	3838.6	3904.0	3934.5	3980.7	4051.8	4122.9
32.5°	3999.9	3842.0	3730.3	3679.6	3695.4	3692.0	3765.3	3799.1	3861.2	3942.4	4018.0
35°	3828.5	3663.8	3551.0	3508.1	3527.3	3531.8	3619.8	3659.3	3726.9	3825.1	3906.3
37.5°	3651.4	3483.3	3372.7	3337.8	3354.7	3371.6	3474.3	3513.7	3590.4	3697.6	3786.7
40°	3467.5	3299.4	3191.1	3162.9	3179.9	3197.9	3309.6	3363.7	3447.2	3563.4	3660.4
42.5°	3281.4	3113.3	3008.4	2988.1	3005.0	3040.0	3158.4	3209.2	3297.2	3425.8	3532.9
45°	3091.9	2917.0	2825.7	2809.9	2827.9	2868.5	2984.7	3045.6	3139.2	3280.2	3395.3
47.5°	2900.1	2729.8	2642.9	2632.8	2650.8	2695.9	2824.5	2879.8	2979.1	3129.1	3253.2
50°	2706.1	2540.3	2456.8	2453.4	2470.3	2518.8	2641.8	2707.2	2809.9	2977.9	3105.4
52.5°	2509.8	2350.8	2275.2	2275.2	2291.0	2340.6	2464.7	2532.4	2638.4	2815.5	2956.5
55°	2313.5	2162.4	2090.2	2095.8	2118.4	2161.3	2282.0	2353.0	2460.2	2644.0	2792.9
57.5°	2117.3	1974.0	1908.6	1916.5	1937.9	1980.8	2099.2	2179.3	2276.3	2467.0	2619.2
60°	1923.3	1787.9	1730.4	1739.4	1758.6	1801.4	1924.4	1993.2	2090.2	2284.2	2436.5
62.5°	1727.0	1604.0	1549.9	1561.2	1578.1	1620.9	1737.1	1803.7	1899.6	2090.2	2243.6
65°	1533.0	1419.0	1372.8	1384.1	1399.9	1439.3	1548.8	1613.1	1704.4	1890.5	2037.2
67.5°	1341.2	1237.4	1199.1	1210.4	1222.8	1260.0	1350.2	1420.2	1505.9	1683.0	1821.7
70°	1151.7	1059.2	1025.4	1036.6	1047.9	1081.8	1160.7	1225.0	1304.0	1466.4	1595.0
72.5°	964.4	874.2	857.3	867.4	876.5	905.8	981.4	1032.1	1100.9	1245.3	1355.9
75°	781.7	703.9	692.6	702.7	710.6	733.2	796.4	840.4	897.9	1023.1	1113.3
77.5°	605.7	540.3	535.8	543.7	551.6	567.4	617.0	663.3	708.4	800.9	881.0
80°	441.1	388.0	388.0	395.9	393.7	412.9	447.8	485.0	517.8	584.3	643.0
82.5°	291.0	249.3	254.9	260.6	264.0	271.8	293.3	321.5	341.8	382.4	420.7
85°	161.3	133.1	138.7	143.3	141.0	150.0	161.3	178.2	188.4	207.6	227.9
87.5°	59.8	49.6	50.8	54.1	56.4	60.9	60.9	71.1	72.2	74.4	79.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834664

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	5160.6	5160.6	5160.6
2.5°	5037.7	5064.8	5085.1
5°	4950.8	4973.4	4991.4
7.5°	4866.2	4886.5	4902.3
10°	4786.1	4808.7	4820.0
12.5°	4703.8	4729.7	4738.8
15°	4622.6	4648.5	4659.8
17.5°	4539.1	4572.9	4585.3
20°	4461.3	4504.1	4514.3
22.5°	4382.3	4426.3	4438.7
25°	4296.6	4348.5	4360.9
27.5°	4205.2	4267.3	4279.7
30°	4113.8	4181.5	4193.9
32.5°	4015.7	4089.0	4100.3
35°	3913.1	3986.4	3999.9
37.5°	3799.1	3879.2	3906.3
40°	3680.7	3767.5	3795.7
42.5°	3556.6	3651.4	3680.7
45°	3423.5	3527.3	3561.1
47.5°	3289.3	3406.6	3435.9
50°	3143.8	3269.0	3303.9
52.5°	2991.5	3128.0	3162.9
55°	2833.6	2971.2	3009.5
57.5°	2662.1	2804.2	2844.8
60°	2482.7	2624.9	2663.2
62.5°	2298.9	2427.5	2464.7
65°	2093.6	2214.3	2248.1
67.5°	1875.9	1986.4	2014.6
70°	1644.6	1740.5	1765.3
72.5°	1403.2	1469.8	1502.5
75°	1154.0	1207.0	1231.8
77.5°	903.5	940.8	961.1
80°	658.8	680.2	697.1
82.5°	430.9	439.9	452.3
85°	232.4	232.4	240.3
87.5°	79.0	75.6	79.0
90°	0.0	0.0	0.0

(END OF REPORT)