

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: P834592

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834592
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-40-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

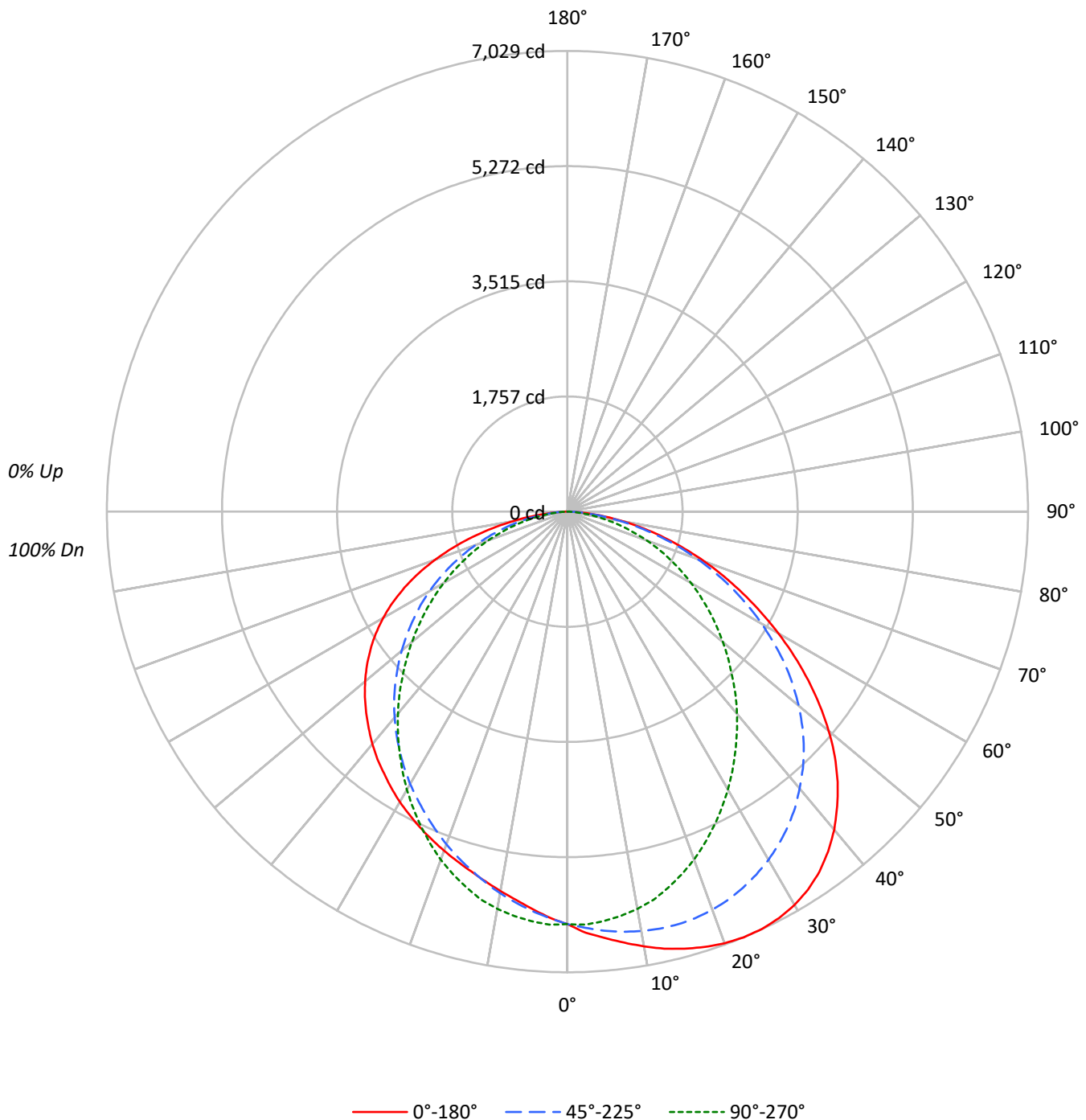
Lumens per Lamp: N/A
Luminaire Lumens: 18512.4 lumens
Efficiency: N/A
Efficacy: 131.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P834592

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834592

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD

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°	8468	8468	8468
5°	8816	8472	8221
10°	9202	8409	8031
15°	9615	8274	7916
20°	10035	8091	7883
25°	10430	7856	7895
30°	10769	7611	7946
35°	11015	7339	8012
40°	11126	7067	8130
45°	11096	6769	8264
50°	10899	6485	8434
55°	10526	6186	8610
60°	10013	5867	8740
65°	9403	5509	8728
70°	8751	5081	8469
75°	7945	4462	7809
80°	6822	3667	6587
85°	5203	2506	4523

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834592

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.9	3.2
10°-20°	1723.7	9.3
20°-30°	2640.7	14.3
30°-40°	3222.7	17.4
40°-50°	3370.2	18.2
50°-60°	3050.3	16.5
60°-70°	2310.1	12.5
70°-80°	1287.4	7.0
80°-90°	310.5	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°	4961.3	26.8
0°-40°	8184.0	44.2
0°-60°	14604.4	78.9
0°-90°	18512.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18512.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6294	6294	6294	6294	6294	
5°	6527	6419	6273	6119	6087	629
15°	6903	6519	5940	5663	5683	1958
25°	7025	6335	5292	5105	5318	3241
35°	6706	5866	4468	4462	4878	4188
45°	5831	5101	3557	3714	4343	4487
55°	4487	4051	2637	2870	3670	4004
65°	2954	2777	1730	1967	2742	2930
75°	1528	1443	858	1025	1502	1621
85°	337	297	162	217	293	406
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834592

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5
2.5°	6432.4	6402.1	6377.4	6387.0	6392.5	6373.2	6356.7	6359.5	6343.0	6374.6	6300.3
5°	6527.3	6499.8	6470.9	6481.9	6470.9	6442.0	6418.6	6411.8	6367.7	6385.6	6310.0
7.5°	6633.2	6603.0	6560.3	6572.7	6549.3	6495.7	6465.4	6447.5	6380.1	6381.5	6297.6
10°	6735.0	6708.9	6651.1	6659.4	6616.7	6545.2	6497.0	6472.3	6377.4	6363.6	6276.9
12.5°	6829.9	6794.2	6732.3	6736.4	6674.5	6579.6	6517.7	6481.9	6358.1	6316.8	6231.6
15°	6902.9	6868.5	6794.2	6792.8	6713.0	6589.2	6519.1	6469.5	6312.7	6248.1	6158.6
17.5°	6964.8	6933.1	6841.0	6838.2	6741.9	6585.1	6501.2	6439.3	6246.7	6166.9	6067.9
20°	7008.8	6977.1	6874.0	6864.3	6748.8	6564.5	6464.0	6385.6	6160.0	6065.1	5955.1
22.5°	7029.4	6997.8	6880.8	6867.1	6732.3	6523.2	6410.4	6318.2	6061.0	5937.2	5823.0
25°	7025.3	6995.0	6863.0	6849.2	6700.6	6461.3	6334.7	6228.8	5935.8	5790.0	5677.2
27.5°	6990.9	6967.5	6828.6	6810.7	6642.9	6377.4	6242.6	6125.6	5796.9	5634.5	5512.1
30°	6931.7	6913.9	6766.7	6750.2	6571.3	6285.2	6135.3	6000.4	5646.9	5464.0	5340.2
32.5°	6836.8	6820.3	6671.8	6656.6	6475.0	6166.9	6010.1	5871.1	5483.2	5281.0	5157.2
35°	6706.1	6696.5	6552.1	6535.6	6351.2	6032.1	5865.6	5712.9	5312.6	5084.3	4966.0
37.5°	6534.2	6534.2	6395.3	6377.4	6197.2	5867.0	5703.3	5541.0	5120.1	4877.9	4761.0
40°	6334.7	6352.6	6210.9	6193.0	6018.3	5689.6	5510.7	5340.2	4912.3	4660.6	4546.4
42.5°	6095.4	6111.9	5993.6	5977.1	5813.4	5484.6	5318.1	5132.4	4695.0	4439.1	4320.8
45°	5831.2	5853.3	5747.3	5735.0	5582.3	5260.4	5100.8	4912.3	4468.0	4208.0	4092.5
47.5°	5536.9	5565.8	5473.6	5466.7	5325.0	5030.6	4864.2	4673.0	4230.0	3967.3	3858.6
50°	5206.7	5248.0	5172.3	5172.3	5045.8	4752.8	4608.3	4417.1	3982.4	3719.7	3612.4
52.5°	4853.2	4905.5	4849.1	4850.4	4747.3	4484.5	4334.6	4147.5	3723.8	3465.2	3366.1
55°	4487.3	4538.2	4502.4	4507.9	4426.7	4187.4	4051.2	3865.5	3459.7	3207.9	3114.4
57.5°	4104.8	4159.9	4136.5	4147.5	4091.1	3876.5	3734.8	3572.5	3187.3	2938.3	2858.5
60°	3721.0	3773.3	3760.9	3776.1	3740.3	3554.6	3425.3	3257.5	2913.6	2674.2	2604.0
62.5°	3333.1	3381.3	3378.5	3395.0	3375.8	3221.7	3106.1	2963.1	2630.2	2410.1	2345.4
65°	2953.5	2994.7	2992.0	3009.9	3005.7	2881.9	2777.4	2646.7	2346.8	2144.6	2088.2
67.5°	2584.8	2619.2	2609.5	2630.2	2635.7	2536.6	2445.8	2328.9	2077.2	1880.5	1832.3
70°	2224.4	2247.8	2235.4	2249.1	2261.5	2187.2	2110.2	2007.0	1789.7	1616.4	1576.5
72.5°	1870.8	1887.3	1868.1	1881.8	1892.9	1839.2	1775.9	1686.5	1506.3	1356.4	1323.3
75°	1528.3	1551.7	1511.8	1525.6	1533.8	1480.2	1443.0	1370.1	1214.7	1099.1	1077.1
77.5°	1196.8	1210.5	1188.5	1183.0	1188.5	1150.0	1121.1	1064.7	947.8	852.9	839.1
80°	880.4	888.6	866.6	861.1	865.3	837.8	815.7	774.5	691.9	620.4	614.9
82.5°	590.1	594.3	575.0	569.5	572.3	564.0	537.9	509.0	470.5	409.9	408.6
85°	337.0	337.0	323.3	317.8	320.5	306.8	297.1	282.0	266.9	225.6	228.4
87.5°	123.8	123.8	116.9	115.6	129.3	114.2	110.0	103.2	107.3	85.3	90.8
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: P834592

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5	6293.5
2.5°	6321.0	6307.2	6294.8	6252.2	6270.1	6226.0	6223.3	6206.8	6194.4	6171.0	6201.3
5°	6300.3	6272.8	6237.1	6186.2	6201.3	6149.0	6138.0	6118.8	6102.2	6072.0	6095.4
7.5°	6267.3	6221.9	6165.5	6100.9	6121.5	6056.8	6040.3	6019.7	6006.0	5970.2	5990.8
10°	6219.2	6154.5	6088.5	6010.1	6025.2	5955.1	5934.4	5912.4	5900.0	5868.4	5889.0
12.5°	6144.9	6066.5	5977.1	5891.8	5908.3	5842.3	5814.7	5791.4	5787.2	5761.1	5785.9
15°	6048.6	5939.9	5847.8	5757.0	5776.2	5699.2	5686.8	5663.4	5670.3	5652.4	5682.7
17.5°	5926.2	5801.0	5700.6	5602.9	5622.2	5557.5	5547.9	5536.9	5543.7	5541.0	5574.0
20°	5788.6	5651.0	5535.5	5439.2	5450.2	5399.3	5403.4	5400.7	5414.4	5429.6	5475.0
22.5°	5633.2	5477.7	5356.7	5257.6	5274.1	5230.1	5249.4	5254.9	5278.2	5312.6	5370.4
25°	5458.5	5292.0	5165.4	5071.9	5087.0	5058.1	5091.2	5104.9	5142.1	5199.8	5259.0
27.5°	5275.5	5099.4	4964.6	4875.2	4904.1	4875.2	4924.7	4952.2	5008.6	5071.9	5144.8
30°	5081.5	4898.6	4759.6	4679.9	4707.4	4681.2	4761.0	4798.2	4854.6	4941.2	5027.9
32.5°	4877.9	4685.4	4549.2	4487.3	4506.5	4502.4	4591.8	4633.1	4708.7	4807.8	4900.0
35°	4668.8	4468.0	4330.4	4278.2	4301.6	4307.1	4414.4	4462.5	4545.0	4664.7	4763.8
37.5°	4452.9	4247.9	4113.1	4070.5	4091.1	4111.7	4236.9	4285.1	4378.6	4509.3	4618.0
40°	4228.7	4023.7	3891.6	3857.2	3877.9	3899.9	4036.1	4102.1	4203.9	4345.6	4463.9
42.5°	4001.7	3796.7	3668.8	3644.0	3664.6	3707.3	3851.7	3913.6	4020.9	4177.8	4308.4
45°	3770.6	3557.3	3445.9	3426.7	3448.7	3498.2	3639.9	3714.2	3828.3	4000.3	4140.6
47.5°	3536.7	3329.0	3223.1	3210.7	3232.7	3287.7	3444.5	3512.0	3633.0	3816.0	3967.3
50°	3300.1	3097.9	2996.1	2992.0	3012.6	3071.8	3221.7	3301.5	3426.7	3631.6	3787.1
52.5°	3060.8	2866.8	2774.6	2774.6	2793.9	2854.4	3005.7	3088.3	3217.6	3433.5	3605.5
55°	2821.4	2637.1	2549.0	2555.9	2583.4	2635.7	2782.9	2869.5	3000.2	3224.4	3406.0
57.5°	2582.0	2407.3	2327.5	2337.2	2363.3	2415.6	2560.0	2657.7	2776.0	3008.5	3194.2
60°	2345.4	2180.4	2110.2	2121.2	2144.6	2196.9	2346.8	2430.7	2549.0	2785.6	2971.3
62.5°	2106.1	1956.1	1890.1	1903.9	1924.5	1976.8	2118.5	2199.6	2316.5	2549.0	2736.1
65°	1869.5	1730.5	1674.1	1687.9	1707.1	1755.3	1888.7	1967.1	2078.6	2305.5	2484.4
67.5°	1635.6	1509.1	1462.3	1476.0	1491.2	1536.6	1646.6	1731.9	1836.5	2052.4	2221.6
70°	1404.5	1291.7	1250.4	1264.2	1277.9	1319.2	1415.5	1493.9	1590.2	1788.3	1945.1
72.5°	1176.2	1066.1	1045.5	1057.9	1068.9	1104.6	1196.8	1258.7	1342.6	1518.7	1653.5
75°	953.3	858.4	844.6	857.0	866.6	894.2	971.2	1024.8	1095.0	1247.7	1357.7
77.5°	738.7	658.9	653.4	663.0	672.7	691.9	752.5	808.9	863.9	976.7	1074.4
80°	537.9	473.2	473.2	482.8	480.1	503.5	546.1	591.5	631.4	712.6	784.1
82.5°	354.9	304.0	310.9	317.8	321.9	331.5	357.7	392.1	416.8	466.3	513.1
85°	196.7	162.3	169.2	174.7	172.0	183.0	196.7	217.3	229.7	253.1	277.9
87.5°	72.9	60.5	61.9	66.0	68.8	74.3	74.3	86.7	88.0	90.8	96.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P834592

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-6LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	6293.5	6293.5	6293.5
2.5°	6143.5	6176.5	6201.3
5°	6037.6	6065.1	6087.1
7.5°	5934.4	5959.2	5978.4
10°	5836.7	5864.3	5878.0
12.5°	5736.3	5768.0	5779.0
15°	5637.3	5668.9	5682.7
17.5°	5535.5	5576.8	5591.9
20°	5440.6	5492.8	5505.2
22.5°	5344.3	5397.9	5413.1
25°	5239.7	5303.0	5318.1
27.5°	5128.3	5204.0	5219.1
30°	5016.9	5099.4	5114.5
32.5°	4897.2	4986.6	5000.4
35°	4772.0	4861.4	4877.9
37.5°	4633.1	4730.8	4763.8
40°	4488.6	4594.6	4629.0
42.5°	4337.3	4452.9	4488.6
45°	4175.0	4301.6	4342.8
47.5°	4011.3	4154.4	4190.1
50°	3833.8	3986.5	4029.2
52.5°	3648.1	3814.6	3857.2
55°	3455.6	3623.4	3670.2
57.5°	3246.5	3419.8	3469.3
60°	3027.7	3201.1	3247.8
62.5°	2803.5	2960.3	3005.7
65°	2553.1	2700.3	2741.6
67.5°	2287.7	2422.5	2456.9
70°	2005.7	2122.6	2152.8
72.5°	1711.3	1792.4	1832.3
75°	1407.3	1471.9	1502.2
77.5°	1101.9	1147.3	1172.0
80°	803.4	829.5	850.1
82.5°	525.5	536.5	551.6
85°	283.4	283.4	293.0
87.5°	96.3	92.2	96.3
90°	0.0	0.0	0.0

(END OF REPORT)