

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: P834718

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6LO-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834718
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-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

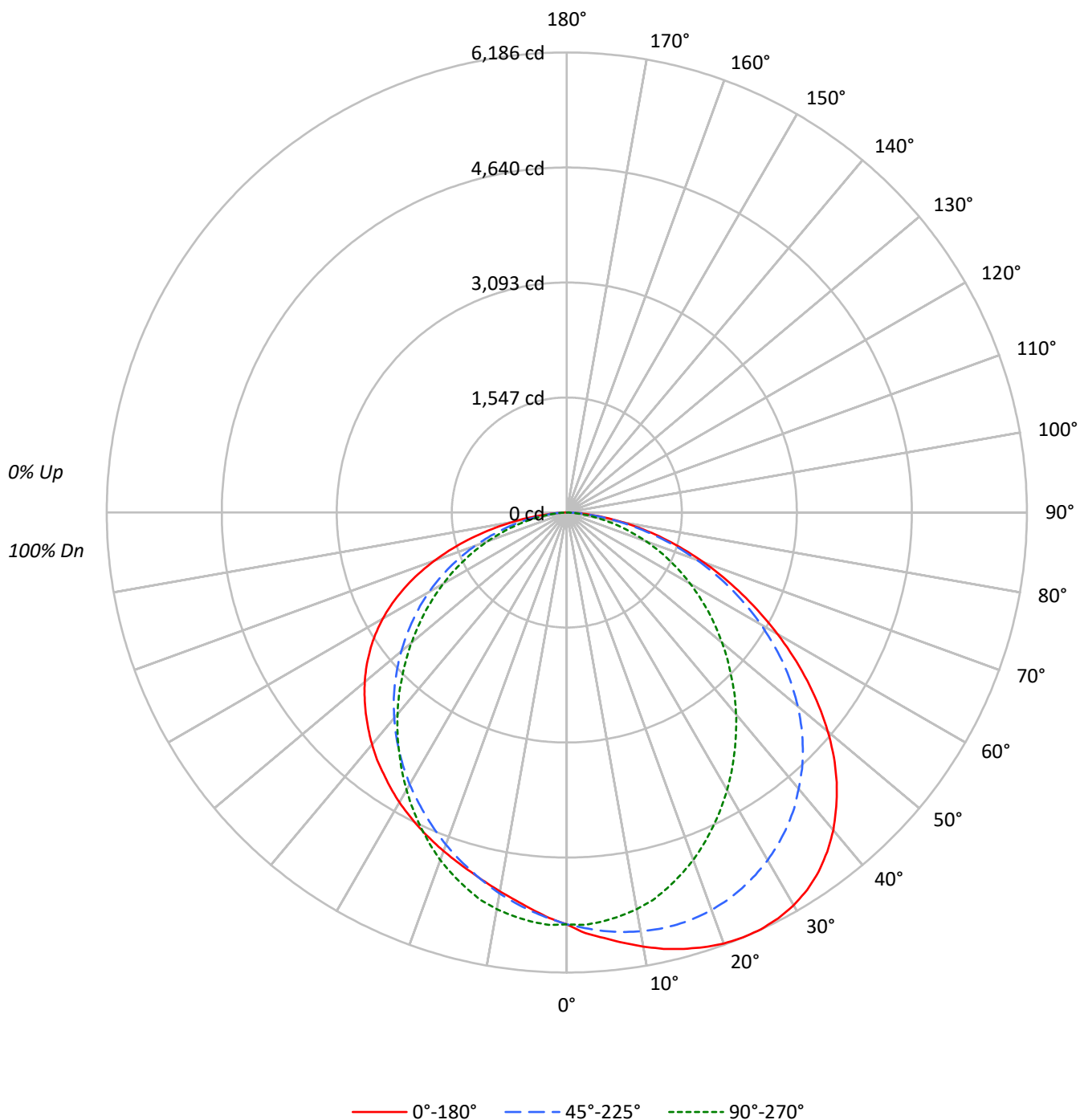
Lumens per Lamp: N/A
Luminaire Lumens: 16290.9 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

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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°	7452	7452	7452
5°	7758	7456	7235
10°	8097	7400	7067
15°	8461	7281	6966
20°	8831	7120	6937
25°	9178	6914	6948
30°	9477	6697	6993
35°	9693	6458	7051
40°	9791	6219	7155
45°	9764	5957	7272
50°	9591	5706	7422
55°	9263	5444	7576
60°	8812	5163	7691
65°	8274	4848	7681
70°	7701	4472	7453
75°	6992	3927	6872
80°	6003	3226	5797
85°	4579	2205	3980

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	525.3	3.2
10°-20°	1516.9	9.3
20°-30°	2323.8	14.3
30°-40°	2835.9	17.4
40°-50°	2965.8	18.2
50°-60°	2684.2	16.5
60°-70°	2032.9	12.5
70°-80°	1132.9	7.0
80°-90°	273.3	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°	4366.0	26.8
0°-40°	7201.9	44.2
0°-60°	12851.9	78.9
0°-90°	16290.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16290.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5538	5538	5538	5538	5538	
5°	5744	5648	5520	5384	5357	554
15°	6074	5737	5227	4984	5001	1723
25°	6182	5575	4657	4492	4680	2852
35°	5901	5162	3932	3927	4293	3685
45°	5132	4489	3130	3268	3822	3948
55°	3949	3565	2321	2525	3230	3524
65°	2599	2444	1523	1731	2413	2578
75°	1345	1270	755	902	1322	1426
85°	297	262	143	191	258	357
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°	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2
2.5°	5660.5	5633.9	5612.1	5620.6	5625.4	5608.5	5593.9	5596.3	5581.8	5609.7	5544.3
5°	5744.0	5719.8	5694.4	5704.1	5694.4	5669.0	5648.4	5642.3	5603.6	5619.3	5552.8
7.5°	5837.2	5810.6	5773.1	5784.0	5763.4	5716.2	5689.6	5673.8	5614.5	5615.7	5541.9
10°	5926.8	5903.8	5853.0	5860.2	5822.7	5759.8	5717.4	5695.6	5612.1	5600.0	5523.7
12.5°	6010.4	5978.9	5924.4	5928.0	5873.6	5790.0	5735.6	5704.1	5595.1	5558.8	5483.8
15°	6074.5	6044.2	5978.9	5977.7	5907.5	5798.5	5736.8	5693.2	5555.2	5498.3	5419.6
17.5°	6129.0	6101.1	6020.0	6017.6	5932.9	5794.9	5721.0	5666.6	5497.1	5426.9	5339.7
20°	6167.7	6139.9	6049.1	6040.6	5938.9	5776.7	5688.3	5619.3	5420.8	5337.3	5240.4
22.5°	6185.9	6158.0	6055.1	6043.0	5924.4	5740.4	5641.1	5560.0	5333.7	5224.7	5124.2
25°	6182.3	6155.6	6039.4	6027.3	5896.6	5685.9	5574.6	5481.3	5223.5	5095.2	4995.9
27.5°	6152.0	6131.4	6009.1	5993.4	5845.7	5612.1	5493.5	5390.6	5101.2	4958.4	4850.7
30°	6099.9	6084.2	5954.7	5940.1	5782.8	5531.0	5399.0	5280.4	4969.3	4808.3	4699.3
32.5°	6016.4	6001.9	5871.1	5857.8	5698.0	5426.9	5288.9	5166.6	4825.2	4647.3	4538.3
35°	5901.4	5892.9	5765.8	5751.3	5589.1	5308.2	5161.8	5027.4	4675.1	4474.2	4370.1
37.5°	5750.1	5750.1	5627.8	5612.1	5453.5	5163.0	5018.9	4876.1	4505.6	4292.6	4189.7
40°	5574.6	5590.3	5465.6	5449.9	5296.1	5006.8	4849.4	4699.3	4322.9	4101.3	4000.8
42.5°	5363.9	5378.4	5274.3	5259.8	5115.8	4826.4	4680.0	4516.5	4131.6	3906.4	3802.3
45°	5131.5	5150.9	5057.7	5046.8	4912.4	4629.1	4488.7	4322.9	3931.8	3703.1	3601.4
47.5°	4872.4	4897.9	4816.8	4810.7	4686.0	4427.0	4280.5	4112.2	3722.4	3491.2	3395.6
50°	4581.9	4618.2	4551.6	4551.6	4440.3	4182.4	4055.3	3887.1	3504.5	3273.3	3178.9
52.5°	4270.8	4316.8	4267.2	4268.4	4177.6	3946.4	3814.4	3649.8	3276.9	3049.4	2962.2
55°	3948.8	3993.6	3962.1	3967.0	3895.5	3684.9	3565.1	3401.6	3044.5	2823.0	2740.7
57.5°	3612.3	3660.7	3640.1	3649.8	3600.2	3411.3	3286.6	3143.8	2804.8	2585.7	2515.5
60°	3274.5	3320.5	3309.6	3322.9	3291.5	3128.0	3014.3	2866.6	2563.9	2353.3	2291.6
62.5°	2933.1	2975.5	2973.1	2987.6	2970.7	2835.1	2733.4	2607.5	2314.6	2120.9	2064.0
65°	2599.0	2635.4	2632.9	2648.7	2645.0	2536.1	2444.1	2329.1	2065.2	1887.2	1837.6
67.5°	2274.6	2304.9	2296.4	2314.6	2319.4	2232.2	2152.3	2049.5	1827.9	1654.8	1612.4
70°	1957.5	1978.0	1967.1	1979.2	1990.1	1924.8	1857.0	1766.2	1574.9	1422.4	1387.3
72.5°	1646.3	1660.9	1643.9	1656.0	1665.7	1618.5	1562.8	1484.1	1325.5	1193.6	1164.5
75°	1344.9	1365.5	1330.4	1342.5	1349.8	1302.5	1269.9	1205.7	1068.9	967.2	947.9
77.5°	1053.2	1065.3	1045.9	1041.1	1045.9	1012.0	986.6	937.0	834.1	750.5	738.4
80°	774.7	782.0	762.6	757.8	761.4	737.2	717.9	681.5	608.9	546.0	541.1
82.5°	519.3	523.0	506.0	501.2	503.6	496.3	473.3	447.9	414.0	360.7	359.5
85°	296.6	296.6	284.5	279.6	282.1	270.0	261.5	248.2	234.8	198.5	201.0
87.5°	108.9	108.9	102.9	101.7	113.8	100.5	96.8	90.8	94.4	75.1	79.9
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°	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2	5538.2
2.5°	5562.5	5550.3	5539.5	5501.9	5517.7	5478.9	5476.5	5462.0	5451.1	5430.5	5457.1
5°	5544.3	5520.1	5488.6	5443.8	5457.1	5411.1	5401.4	5384.5	5370.0	5343.3	5363.9
7.5°	5515.2	5475.3	5425.7	5368.8	5386.9	5330.0	5315.5	5297.3	5285.2	5253.8	5271.9
10°	5472.9	5416.0	5357.9	5288.9	5302.2	5240.4	5222.3	5202.9	5192.0	5164.2	5182.3
12.5°	5407.5	5338.5	5259.8	5184.8	5199.3	5141.2	5117.0	5096.4	5092.8	5069.8	5091.5
15°	5322.8	5227.1	5146.0	5066.1	5083.1	5015.3	5004.4	4983.8	4989.9	4974.1	5000.8
17.5°	5215.0	5104.9	5016.5	4930.5	4947.5	4890.6	4882.1	4872.4	4878.5	4876.1	4905.1
20°	5094.0	4972.9	4871.2	4786.5	4796.2	4751.4	4755.0	4752.6	4764.7	4778.0	4818.0
22.5°	4957.2	4820.4	4713.9	4626.7	4641.2	4602.5	4619.4	4624.3	4644.9	4675.1	4726.0
25°	4803.4	4657.0	4545.6	4463.3	4476.6	4451.2	4480.2	4492.3	4525.0	4575.9	4627.9
27.5°	4642.4	4487.5	4368.9	4290.2	4315.6	4290.2	4333.7	4358.0	4407.6	4463.3	4527.4
30°	4471.8	4310.7	4188.5	4118.3	4142.5	4119.5	4189.7	4222.4	4272.0	4348.3	4424.5
32.5°	4292.6	4123.1	4003.3	3948.8	3965.7	3962.1	4040.8	4077.1	4143.7	4230.9	4312.0
35°	4108.6	3931.8	3810.8	3764.8	3785.4	3790.2	3884.6	3927.0	3999.6	4105.0	4192.1
37.5°	3918.5	3738.2	3619.5	3582.0	3600.2	3618.3	3728.5	3770.8	3853.2	3968.2	4063.8
40°	3721.2	3540.8	3424.6	3394.4	3412.5	3431.9	3551.7	3609.8	3699.4	3824.1	3928.2
42.5°	3521.5	3341.1	3228.5	3206.7	3224.9	3262.4	3389.5	3444.0	3538.4	3676.4	3791.4
45°	3318.1	3130.5	3032.4	3015.5	3034.8	3078.4	3203.1	3268.5	3368.9	3520.3	3643.7
47.5°	3112.3	2929.5	2836.3	2825.4	2844.8	2893.2	3031.2	3090.5	3197.0	3358.1	3491.2
50°	2904.1	2726.1	2636.6	2632.9	2651.1	2703.1	2835.1	2905.3	3015.5	3195.8	3332.6
52.5°	2693.5	2522.8	2441.7	2441.7	2458.6	2511.9	2645.0	2717.7	2831.5	3021.5	3172.8
55°	2482.8	2320.6	2243.1	2249.2	2273.4	2319.4	2448.9	2525.2	2640.2	2837.5	2997.3
57.5°	2272.2	2118.5	2048.2	2056.7	2079.7	2125.7	2252.8	2338.8	2442.9	2647.5	2810.9
60°	2064.0	1918.7	1857.0	1866.7	1887.2	1933.2	2065.2	2139.0	2243.1	2451.4	2614.8
62.5°	1853.3	1721.4	1663.3	1675.4	1693.6	1739.6	1864.2	1935.7	2038.6	2243.1	2407.8
65°	1645.1	1522.9	1473.2	1485.3	1502.3	1544.7	1662.1	1731.1	1829.1	2028.9	2186.2
67.5°	1439.3	1328.0	1286.8	1298.9	1312.2	1352.2	1449.0	1524.1	1616.1	1806.1	1955.0
70°	1236.0	1136.7	1100.4	1112.5	1124.6	1160.9	1245.7	1314.7	1399.4	1573.7	1711.7
72.5°	1035.0	938.2	920.0	930.9	940.6	972.1	1053.2	1107.6	1181.5	1336.4	1455.1
75°	838.9	755.4	743.3	754.2	762.6	786.9	854.6	901.9	963.6	1098.0	1194.8
77.5°	650.1	579.9	575.0	583.5	592.0	608.9	662.2	711.8	760.2	859.5	945.4
80°	473.3	416.4	416.4	424.9	422.5	443.1	480.6	520.5	555.6	627.1	690.0
82.5°	312.3	267.5	273.6	279.6	283.3	291.7	314.7	345.0	366.8	410.4	451.5
85°	173.1	142.8	148.9	153.7	151.3	161.0	173.1	191.3	202.2	222.7	244.5
87.5°	64.2	53.3	54.5	58.1	60.5	65.4	65.4	76.3	77.5	79.9	84.7
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°	5538.2	5538.2	5538.2
2.5°	5406.3	5435.3	5457.1
5°	5313.1	5337.3	5356.7
7.5°	5222.3	5244.1	5261.0
10°	5136.3	5160.6	5172.7
12.5°	5048.0	5075.8	5085.5
15°	4960.8	4988.7	5000.8
17.5°	4871.2	4907.5	4920.9
20°	4787.7	4833.7	4844.6
22.5°	4703.0	4750.2	4763.5
25°	4611.0	4666.6	4680.0
27.5°	4512.9	4579.5	4592.8
30°	4414.9	4487.5	4500.8
32.5°	4309.5	4388.2	4400.3
35°	4199.4	4278.1	4292.6
37.5°	4077.1	4163.1	4192.1
40°	3950.0	4043.2	4073.5
42.5°	3816.8	3918.5	3950.0
45°	3674.0	3785.4	3821.7
47.5°	3529.9	3655.8	3687.3
50°	3373.8	3508.2	3545.7
52.5°	3210.4	3356.8	3394.4
55°	3040.9	3188.6	3229.7
57.5°	2856.9	3009.4	3053.0
60°	2664.4	2816.9	2858.1
62.5°	2467.1	2605.1	2645.0
65°	2246.8	2376.3	2412.6
67.5°	2013.1	2131.8	2162.0
70°	1765.0	1867.9	1894.5
72.5°	1505.9	1577.3	1612.4
75°	1238.4	1295.3	1321.9
77.5°	969.6	1009.6	1031.4
80°	707.0	730.0	748.1
82.5°	462.4	472.1	485.4
85°	249.4	249.4	257.8
87.5°	84.7	81.1	84.7
90°	0.0	0.0	0.0

(END OF REPORT)