

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: P834605

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4STD-50-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834605
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-LD4-4STD-50-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

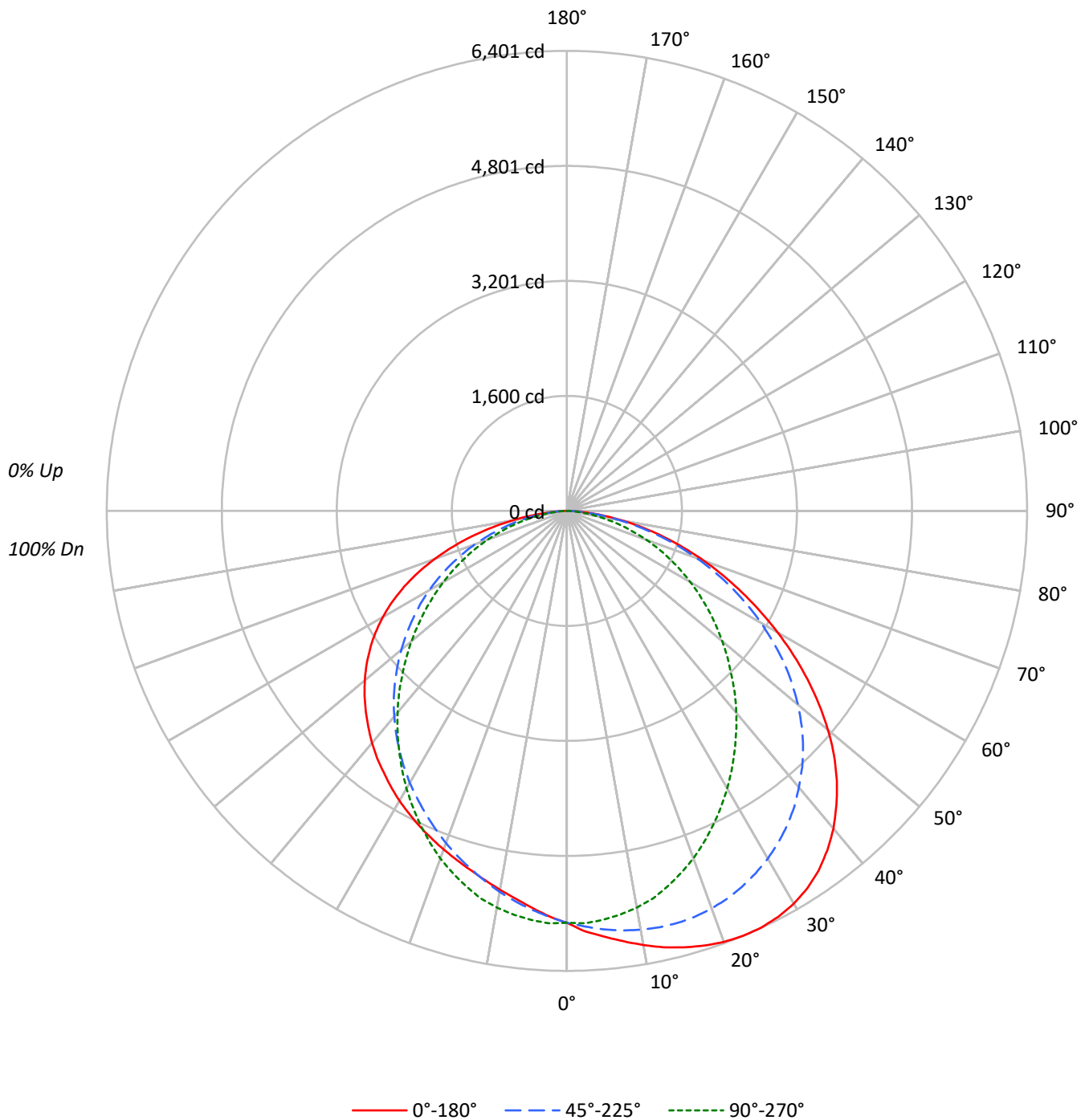
Lumens per Lamp: N/A
Luminaire Lumens: 16858.2 lumens
Efficiency: N/A
Efficacy: 126.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	7711	7711	7711
5°	8028	7715	7487
10°	8379	7657	7313
15°	8756	7535	7208
20°	9139	7368	7178
25°	9498	7154	7190
30°	9807	6931	7236
35°	10031	6683	7296
40°	10132	6436	7404
45°	10104	6164	7525
50°	9925	5905	7680
55°	9586	5633	7840
60°	9119	5343	7959
65°	8563	5017	7948
70°	7969	4628	7713
75°	7235	4064	7112
80°	6212	3339	5999
85°	4738	2282	4119

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	543.6	3.2
10°-20°	1569.7	9.3
20°-30°	2404.8	14.3
30°-40°	2934.7	17.4
40°-50°	3069.1	18.2
50°-60°	2777.7	16.5
60°-70°	2103.7	12.5
70°-80°	1172.3	7.0
80°-90°	282.8	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°	4518.0	26.8
0°-40°	7452.7	44.2
0°-60°	13299.5	78.9
0°-90°	16858.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16858.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5731	5731	5731	5731	5731	
5°	5944	5845	5712	5572	5543	573
15°	6286	5937	5409	5157	5175	1783
25°	6398	5769	4819	4649	4843	2951
35°	6107	5342	4069	4064	4442	3813
45°	5310	4645	3240	3382	3955	4086
55°	4086	3689	2401	2613	3342	3646
65°	2690	2529	1576	1791	2497	2668
75°	1392	1314	782	933	1368	1476
85°	307	271	148	198	267	369
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°	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1
2.5°	5857.6	5830.1	5807.5	5816.3	5821.3	5803.8	5788.7	5791.2	5776.2	5805.0	5737.4
5°	5944.1	5919.0	5892.7	5902.7	5892.7	5866.4	5845.1	5838.8	5798.8	5815.0	5746.1
7.5°	6040.5	6013.0	5974.1	5985.4	5964.1	5915.3	5887.7	5871.4	5810.0	5811.3	5734.9
10°	6133.2	6109.4	6056.8	6064.3	6025.5	5960.4	5916.5	5894.0	5807.5	5795.0	5716.1
12.5°	6219.7	6187.1	6130.7	6134.5	6078.1	5991.7	5935.3	5902.7	5790.0	5752.4	5674.7
15°	6286.1	6254.7	6187.1	6185.8	6113.2	6000.4	5936.6	5891.5	5748.7	5689.8	5608.3
17.5°	6342.4	6313.6	6229.7	6227.2	6139.5	5996.7	5920.3	5863.9	5688.5	5615.9	5525.7
20°	6382.5	6353.7	6259.8	6251.0	6145.8	5977.9	5886.4	5815.0	5609.6	5523.2	5422.9
22.5°	6401.3	6372.5	6266.0	6253.5	6130.7	5940.3	5837.6	5753.7	5519.4	5406.7	5302.7
25°	6397.6	6370.0	6249.7	6237.2	6101.9	5883.9	5768.7	5672.2	5405.4	5272.6	5169.9
27.5°	6366.2	6344.9	6218.4	6202.1	6049.3	5807.5	5684.8	5578.3	5278.9	5131.1	5019.6
30°	6312.4	6296.1	6162.0	6147.0	5984.2	5723.6	5587.1	5464.3	5142.3	4975.7	4863.0
32.5°	6225.9	6210.9	6075.6	6061.8	5896.5	5615.9	5473.1	5346.5	4993.3	4809.1	4696.4
35°	6106.9	6098.2	5966.6	5951.6	5783.7	5493.1	5341.5	5202.5	4837.9	4630.0	4522.3
37.5°	5950.3	5950.3	5823.8	5807.5	5643.4	5342.8	5193.7	5045.9	4662.6	4442.1	4335.6
40°	5768.7	5785.0	5656.0	5639.7	5480.6	5181.2	5018.3	4863.0	4473.4	4244.2	4140.2
42.5°	5550.7	5565.8	5458.0	5443.0	5293.9	4994.5	4842.9	4673.8	4275.5	4042.5	3934.7
45°	5310.2	5330.2	5233.8	5222.5	5083.5	4790.3	4645.0	4473.4	4068.8	3832.0	3726.8
47.5°	5042.1	5068.4	4984.5	4978.2	4849.2	4581.1	4429.6	4255.4	3852.1	3612.8	3513.8
50°	4741.5	4779.1	4710.2	4710.2	4594.9	4328.1	4196.6	4022.4	3626.6	3387.3	3289.6
52.5°	4419.5	4467.1	4415.8	4417.0	4323.1	4083.8	3947.3	3776.9	3391.1	3155.6	3065.4
55°	4086.3	4132.7	4100.1	4105.1	4031.2	3813.2	3689.2	3520.1	3150.5	2921.3	2836.1
57.5°	3738.1	3788.2	3766.9	3776.9	3725.5	3530.1	3401.1	3253.3	2902.5	2675.8	2603.1
60°	3388.6	3436.2	3424.9	3438.7	3406.1	3237.0	3119.2	2966.4	2653.2	2435.3	2371.4
62.5°	3035.3	3079.1	3076.6	3091.7	3074.1	2933.8	2828.6	2698.3	2395.2	2194.7	2135.9
65°	2689.6	2727.1	2724.6	2740.9	2737.2	2624.4	2529.2	2410.2	2137.1	1953.0	1901.6
67.5°	2353.8	2385.1	2376.4	2395.2	2400.2	2310.0	2227.3	2120.8	1891.6	1712.4	1668.6
70°	2025.6	2046.9	2035.6	2048.2	2059.4	1991.8	1921.6	1827.7	1629.8	1471.9	1435.6
72.5°	1703.7	1718.7	1701.2	1713.7	1723.7	1674.9	1617.2	1535.8	1371.7	1235.2	1205.1
75°	1391.8	1413.0	1376.7	1389.2	1396.8	1347.9	1314.1	1247.7	1106.1	1000.9	980.9
77.5°	1089.9	1102.4	1082.3	1077.3	1082.3	1047.3	1021.0	969.6	863.1	776.7	764.1
80°	801.7	809.2	789.2	784.2	787.9	762.9	742.9	705.3	630.1	565.0	560.0
82.5°	537.4	541.2	523.6	518.6	521.1	513.6	489.8	463.5	428.4	373.3	372.1
85°	306.9	306.9	294.4	289.4	291.9	279.4	270.6	256.8	243.0	205.4	207.9
87.5°	112.7	112.7	106.5	105.2	117.8	104.0	100.2	94.0	97.7	77.7	82.7
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1	5731.1
2.5°	5756.2	5743.6	5732.4	5693.5	5709.8	5669.7	5667.2	5652.2	5640.9	5619.6	5647.2
5°	5737.4	5712.3	5679.8	5633.4	5647.2	5599.6	5589.6	5572.0	5557.0	5529.4	5550.7
7.5°	5707.3	5666.0	5614.6	5555.7	5574.5	5515.6	5500.6	5481.8	5469.3	5436.7	5455.5
10°	5663.5	5604.6	5544.5	5473.1	5486.8	5422.9	5404.2	5384.1	5372.8	5344.0	5362.8
12.5°	5595.8	5524.4	5443.0	5365.3	5380.4	5320.2	5295.2	5273.9	5270.1	5246.3	5268.9
15°	5508.1	5409.2	5325.2	5242.6	5260.1	5189.9	5178.7	5157.4	5163.6	5147.4	5174.9
17.5°	5396.6	5282.6	5191.2	5102.3	5119.8	5060.9	5052.1	5042.1	5048.4	5045.9	5075.9
20°	5271.4	5146.1	5040.9	4953.2	4963.2	4916.9	4920.6	4918.1	4930.6	4944.4	4985.8
22.5°	5129.8	4988.3	4878.0	4787.8	4802.9	4762.8	4780.3	4785.3	4806.6	4837.9	4890.5
25°	4970.7	4819.1	4703.9	4618.7	4632.5	4606.2	4636.3	4648.8	4682.6	4735.2	4789.1
27.5°	4804.1	4643.8	4521.0	4439.6	4465.9	4439.6	4484.7	4509.7	4561.1	4618.7	4685.1
30°	4627.5	4460.9	4334.3	4261.7	4286.7	4262.9	4335.6	4369.4	4420.8	4499.7	4578.6
32.5°	4442.1	4266.7	4142.7	4086.3	4103.9	4100.1	4181.5	4219.1	4288.0	4378.2	4462.1
35°	4251.7	4068.8	3943.5	3895.9	3917.2	3922.2	4019.9	4063.8	4138.9	4247.9	4338.1
37.5°	4055.0	3868.3	3745.6	3706.7	3725.5	3744.3	3858.3	3902.2	3987.4	4106.4	4205.3
40°	3850.8	3664.2	3543.9	3512.6	3531.4	3551.4	3675.4	3735.6	3828.3	3957.3	4065.0
42.5°	3644.1	3457.5	3341.0	3318.4	3337.2	3376.0	3507.6	3563.9	3661.6	3804.5	3923.5
45°	3433.7	3239.5	3138.0	3120.5	3140.5	3185.6	3314.6	3382.3	3486.3	3642.9	3770.6
47.5°	3220.7	3031.5	2935.1	2923.8	2943.9	2994.0	3136.8	3198.1	3308.4	3475.0	3612.8
50°	3005.2	2821.1	2728.4	2724.6	2743.4	2797.3	2933.8	3006.5	3120.5	3307.1	3448.7
52.5°	2787.3	2610.6	2526.7	2526.7	2544.2	2599.4	2737.2	2812.3	2930.1	3126.7	3283.3
55°	2569.3	2401.4	2321.3	2327.5	2352.6	2400.2	2534.2	2613.1	2732.1	2936.3	3101.7
57.5°	2351.3	2192.2	2119.6	2128.3	2152.1	2199.7	2331.3	2420.2	2528.0	2739.7	2908.8
60°	2135.9	1985.5	1921.6	1931.7	1953.0	2000.6	2137.1	2213.5	2321.3	2536.7	2705.8
62.5°	1917.9	1781.3	1721.2	1733.7	1752.5	1800.1	1929.2	2003.1	2109.6	2321.3	2491.6
65°	1702.4	1575.9	1524.5	1537.1	1554.6	1598.4	1720.0	1791.4	1892.8	2099.5	2262.4
67.5°	1489.5	1374.2	1331.6	1344.1	1357.9	1399.3	1499.5	1577.2	1672.4	1869.0	2023.1
70°	1279.0	1176.3	1138.7	1151.2	1163.8	1201.3	1289.0	1360.4	1448.1	1628.5	1771.3
72.5°	1071.1	970.8	952.1	963.3	973.3	1005.9	1089.9	1146.2	1222.6	1383.0	1505.7
75°	868.1	781.7	769.2	780.4	789.2	814.3	884.4	933.3	997.2	1136.2	1236.4
77.5°	672.7	600.0	595.0	603.8	612.6	630.1	685.2	736.6	786.7	889.4	978.4
80°	489.8	430.9	430.9	439.7	437.2	458.5	497.3	538.7	575.0	648.9	714.0
82.5°	323.2	276.8	283.1	289.4	293.1	301.9	325.7	357.0	379.6	424.7	467.3
85°	179.1	147.8	154.1	159.1	156.6	166.6	179.1	197.9	209.2	230.5	253.0
87.5°	66.4	55.1	56.4	60.1	62.6	67.6	67.6	78.9	80.2	82.7	87.7
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°	5731.1	5731.1	5731.1
2.5°	5594.6	5624.6	5647.2
5°	5498.1	5523.2	5543.2
7.5°	5404.2	5426.7	5444.2
10°	5315.2	5340.3	5352.8
12.5°	5223.8	5252.6	5262.6
15°	5133.6	5162.4	5174.9
17.5°	5040.9	5078.5	5092.2
20°	4954.4	5002.0	5013.3
22.5°	4866.7	4915.6	4929.4
25°	4771.5	4829.2	4842.9
27.5°	4670.1	4739.0	4752.8
30°	4568.6	4643.8	4657.5
32.5°	4459.6	4541.0	4553.6
35°	4345.6	4427.0	4442.1
37.5°	4219.1	4308.0	4338.1
40°	4087.6	4184.0	4215.3
42.5°	3949.8	4055.0	4087.6
45°	3802.0	3917.2	3954.8
47.5°	3652.9	3783.2	3815.7
50°	3491.3	3630.3	3669.2
52.5°	3322.2	3473.7	3512.6
55°	3146.8	3299.6	3342.2
57.5°	2956.4	3114.2	3159.3
60°	2757.2	2915.0	2957.6
62.5°	2553.0	2695.8	2737.2
65°	2325.0	2459.1	2496.6
67.5°	2083.2	2206.0	2237.3
70°	1826.4	1932.9	1960.5
72.5°	1558.4	1632.3	1668.6
75°	1281.5	1340.4	1368.0
77.5°	1003.4	1044.8	1067.3
80°	731.6	755.4	774.2
82.5°	478.5	488.6	502.3
85°	258.1	258.1	266.8
87.5°	87.7	83.9	87.7
90°	0.0	0.0	0.0

(END OF REPORT)