

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: P834660

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834660
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-LD4-4HI-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

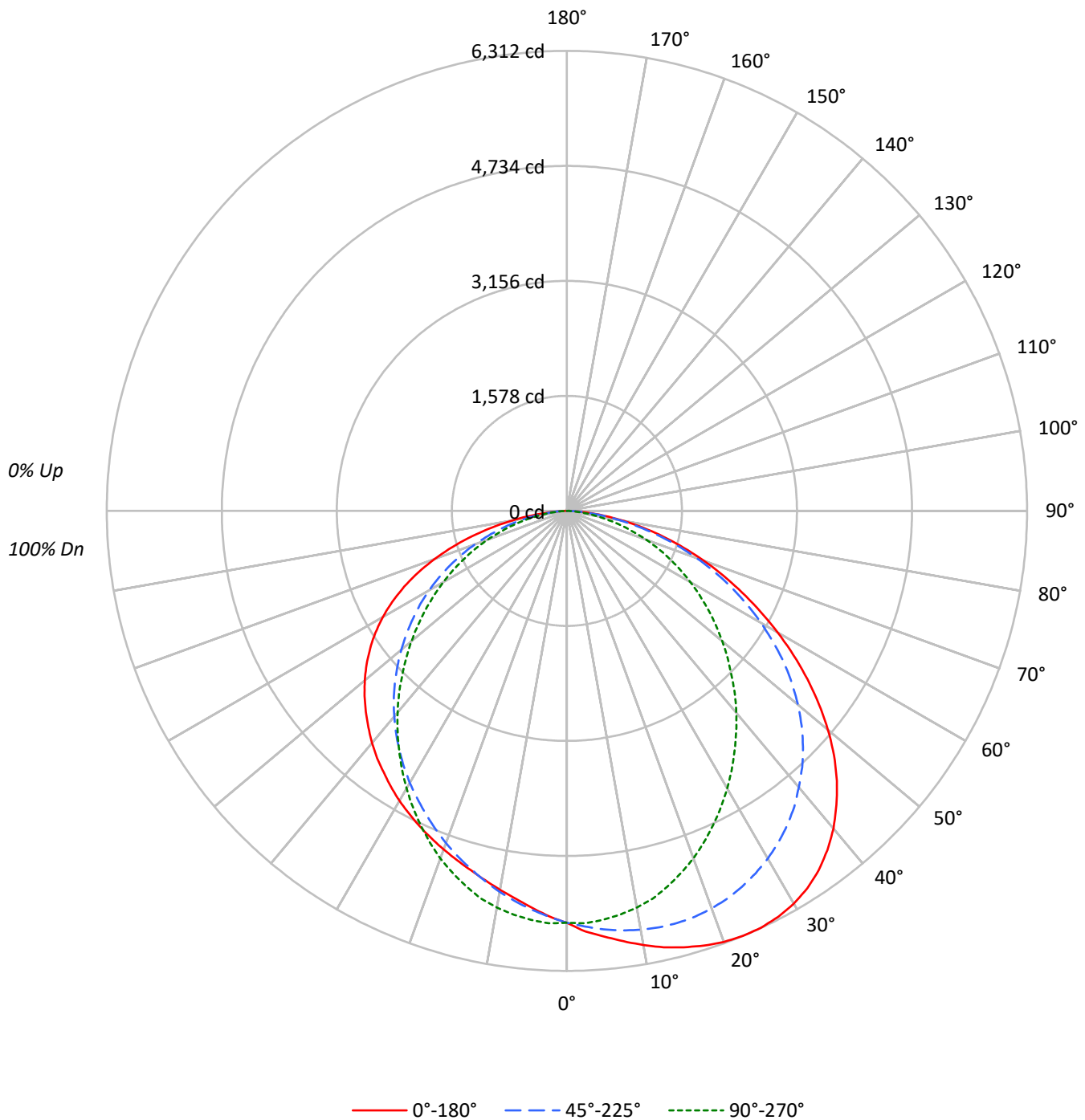
Lumens per Lamp: N/A
Luminaire Lumens: 16623.5 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 176
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

1121 Highway 74 South

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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°	7604	7604	7604
5°	7916	7608	7383
10°	8263	7551	7211
15°	8634	7430	7108
20°	9011	7266	7078
25°	9365	7055	7090
30°	9671	6834	7135
35°	9891	6590	7195
40°	9991	6346	7301
45°	9964	6078	7420
50°	9787	5823	7573
55°	9452	5555	7731
60°	8992	5269	7848
65°	8443	4947	7838
70°	7858	4563	7605
75°	7135	4007	7012
80°	6126	3292	5915
85°	4671	2251	4062

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	536.0	3.2
10°-20°	1547.8	9.3
20°-30°	2371.3	14.3
30°-40°	2893.8	17.4
40°-50°	3026.3	18.2
50°-60°	2739.0	16.5
60°-70°	2074.4	12.5
70°-80°	1156.0	7.0
80°-90°	278.8	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°	4455.1	26.8
0°-40°	7348.9	44.2
0°-60°	13114.2	78.9
0°-90°	16623.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16623.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5651	5651	5651	5651	5651	
5°	5861	5764	5633	5494	5466	565
15°	6198	5854	5334	5086	5103	1758
25°	6308	5688	4752	4584	4776	2910
35°	6022	5267	4012	4007	4380	3760
45°	5236	4580	3194	3335	3900	4029
55°	4029	3638	2368	2577	3296	3596
65°	2652	2494	1554	1766	2462	2631
75°	1372	1296	771	920	1349	1456
85°	303	267	146	195	263	364
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°	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3
2.5°	5776.1	5748.9	5726.6	5735.3	5740.2	5722.9	5708.1	5710.6	5695.8	5724.2	5657.5
5°	5861.3	5836.6	5810.6	5820.5	5810.6	5784.7	5763.7	5757.5	5718.0	5734.1	5666.1
7.5°	5956.4	5929.2	5890.9	5902.1	5881.1	5832.9	5805.7	5789.6	5729.1	5730.4	5655.0
10°	6047.8	6024.3	5972.5	5979.9	5941.6	5877.4	5834.1	5811.9	5726.6	5714.3	5636.5
12.5°	6133.0	6100.9	6045.3	6049.1	5993.5	5908.2	5852.6	5820.5	5709.4	5672.3	5595.7
15°	6198.5	6167.6	6100.9	6099.7	6028.1	5916.9	5853.9	5809.4	5668.6	5610.5	5530.2
17.5°	6254.1	6225.7	6142.9	6140.5	6054.0	5913.2	5837.8	5782.2	5609.3	5537.7	5448.7
20°	6293.6	6265.2	6172.6	6163.9	6060.2	5894.6	5804.5	5734.1	5531.5	5446.2	5347.4
22.5°	6312.2	6283.7	6178.8	6166.4	6045.3	5857.6	5756.3	5673.5	5442.5	5331.4	5228.8
25°	6308.5	6281.3	6162.7	6150.3	6016.9	5802.0	5688.4	5593.2	5330.1	5199.2	5097.9
27.5°	6277.6	6256.6	6131.8	6115.8	5965.1	5726.6	5605.6	5500.6	5205.4	5059.6	4949.7
30°	6224.5	6208.4	6076.2	6061.4	5900.8	5643.9	5509.2	5388.2	5070.7	4906.4	4795.3
32.5°	6139.2	6124.4	5991.0	5977.4	5814.4	5537.7	5396.8	5272.1	4923.7	4742.1	4631.0
35°	6021.9	6013.2	5883.5	5868.7	5703.2	5416.6	5267.1	5130.0	4770.6	4565.5	4459.3
37.5°	5867.5	5867.5	5742.7	5726.6	5564.8	5268.4	5121.4	4975.6	4597.6	4380.2	4275.2
40°	5688.4	5704.4	5577.2	5561.1	5404.2	5109.0	4948.4	4795.3	4411.1	4185.0	4082.5
42.5°	5473.4	5488.2	5382.0	5367.2	5220.2	4925.0	4775.5	4608.7	4215.9	3986.2	3879.9
45°	5236.3	5256.0	5160.9	5149.8	5012.7	4723.6	4580.3	4411.1	4012.1	3778.6	3674.9
47.5°	4971.9	4997.8	4915.1	4908.9	4781.7	4517.3	4367.9	4196.2	3798.4	3562.5	3464.9
50°	4675.4	4712.5	4644.6	4644.6	4530.9	4267.8	4138.1	3966.4	3576.1	3340.1	3243.8
52.5°	4358.0	4404.9	4354.3	4355.5	4262.9	4026.9	3892.3	3724.3	3343.8	3111.6	3022.7
55°	4029.4	4075.1	4043.0	4047.9	3975.1	3760.1	3637.8	3471.1	3106.7	2880.6	2796.6
57.5°	3686.0	3735.4	3714.4	3724.3	3673.7	3481.0	3353.7	3208.0	2862.1	2638.5	2566.9
60°	3341.4	3388.3	3377.2	3390.8	3358.7	3191.9	3075.8	2925.1	2616.3	2401.3	2338.3
62.5°	2993.0	3036.3	3033.8	3048.6	3031.3	2893.0	2789.2	2660.7	2361.8	2164.2	2106.1
65°	2652.1	2689.2	2686.7	2702.7	2699.0	2587.9	2494.0	2376.6	2107.3	1925.8	1875.1
67.5°	2321.0	2351.9	2343.3	2361.8	2366.8	2277.8	2196.3	2091.3	1865.2	1688.6	1645.4
70°	1997.4	2018.4	2007.3	2019.6	2030.8	1964.1	1894.9	1802.2	1607.1	1451.4	1415.6
72.5°	1679.9	1694.8	1677.5	1689.8	1699.7	1651.5	1594.7	1514.4	1352.6	1218.0	1188.3
75°	1372.4	1393.4	1357.5	1369.9	1377.3	1329.1	1295.8	1230.3	1090.7	987.0	967.2
77.5°	1074.7	1087.0	1067.3	1062.3	1067.3	1032.7	1006.7	956.1	851.1	765.9	753.5
80°	790.6	798.0	778.2	773.3	777.0	752.3	732.5	695.4	621.3	557.1	552.2
82.5°	529.9	533.6	516.3	511.4	513.9	506.5	483.0	457.0	422.5	368.1	366.9
85°	302.6	302.6	290.3	285.3	287.8	275.5	266.8	253.2	239.6	202.6	205.1
87.5°	111.2	111.2	105.0	103.8	116.1	102.5	98.8	92.6	96.4	76.6	81.5
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°	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3	5651.3
2.5°	5676.0	5663.7	5652.5	5614.2	5630.3	5590.8	5588.3	5573.5	5562.4	5541.4	5568.5
5°	5657.5	5632.8	5600.7	5554.9	5568.5	5521.6	5511.7	5494.4	5479.6	5452.4	5473.4
7.5°	5627.8	5587.1	5536.4	5478.4	5496.9	5438.8	5424.0	5405.5	5393.1	5361.0	5379.5
10°	5584.6	5526.5	5467.2	5396.8	5410.4	5347.4	5328.9	5309.1	5298.0	5269.6	5288.1
12.5°	5517.9	5447.5	5367.2	5290.6	5305.4	5246.1	5221.4	5200.4	5196.7	5173.3	5195.5
15°	5431.4	5333.8	5251.1	5169.5	5186.8	5117.7	5106.6	5085.6	5091.7	5075.7	5102.8
17.5°	5321.5	5209.1	5118.9	5031.2	5048.5	4990.4	4981.8	4971.9	4978.1	4975.6	5005.3
20°	5198.0	5074.4	4970.7	4884.2	4894.1	4848.4	4852.1	4849.6	4862.0	4875.6	4916.3
22.5°	5058.4	4918.8	4810.1	4721.2	4736.0	4696.4	4713.7	4718.7	4739.7	4770.6	4822.4
25°	4901.5	4752.0	4638.4	4554.4	4568.0	4542.0	4571.7	4584.0	4617.4	4669.3	4722.4
27.5°	4737.2	4579.1	4458.0	4377.7	4403.7	4377.7	4422.2	4446.9	4497.6	4554.4	4619.9
30°	4563.0	4398.7	4274.0	4202.3	4227.0	4203.6	4275.2	4308.6	4359.2	4437.0	4514.9
32.5°	4380.2	4207.3	4085.0	4029.4	4046.7	4043.0	4123.3	4160.3	4228.3	4317.2	4400.0
35°	4192.5	4012.1	3888.6	3841.6	3862.6	3867.6	3963.9	4007.2	4081.3	4188.8	4277.7
37.5°	3998.5	3814.5	3693.4	3655.1	3673.7	3692.2	3804.6	3847.8	3931.8	4049.2	4146.8
40°	3797.2	3613.1	3494.5	3463.7	3482.2	3502.0	3624.2	3683.5	3774.9	3902.2	4008.4
42.5°	3593.4	3409.3	3294.4	3272.2	3290.7	3329.0	3458.7	3514.3	3610.7	3751.5	3868.8
45°	3385.8	3194.4	3094.3	3077.0	3096.8	3141.3	3268.5	3335.2	3437.7	3592.1	3718.1
47.5°	3175.8	2989.3	2894.2	2883.1	2902.9	2952.3	3093.1	3153.6	3262.3	3426.6	3562.5
50°	2963.4	2781.8	2690.4	2686.7	2705.2	2758.3	2893.0	2964.6	3077.0	3261.1	3400.7
52.5°	2748.4	2574.3	2491.5	2491.5	2508.8	2563.2	2699.0	2773.2	2889.3	3083.2	3237.6
55°	2533.5	2368.0	2288.9	2295.1	2319.8	2366.8	2498.9	2576.7	2694.1	2895.4	3058.5
57.5°	2318.6	2161.7	2090.1	2098.7	2122.2	2169.1	2298.8	2386.5	2492.7	2701.5	2868.3
60°	2106.1	1957.9	1894.9	1904.8	1925.8	1972.7	2107.3	2182.7	2288.9	2501.4	2668.2
62.5°	1891.2	1756.5	1697.2	1709.6	1728.1	1775.1	1902.3	1975.2	2080.2	2288.9	2456.9
65°	1678.7	1554.0	1503.3	1515.7	1533.0	1576.2	1696.0	1766.4	1866.5	2070.3	2230.9
67.5°	1468.7	1355.1	1313.1	1325.4	1339.0	1379.8	1478.6	1555.2	1649.1	1843.0	1994.9
70°	1261.2	1159.9	1122.8	1135.2	1147.6	1184.6	1271.1	1341.5	1428.0	1605.8	1746.7
72.5°	1056.1	957.3	938.8	949.9	959.8	991.9	1074.7	1130.3	1205.6	1363.7	1484.8
75°	856.0	770.8	758.4	769.6	778.2	802.9	872.1	920.3	983.3	1120.4	1219.2
77.5°	663.3	591.7	586.7	595.4	604.0	621.3	675.7	726.3	775.7	877.0	964.7
80°	483.0	424.9	424.9	433.6	431.1	452.1	490.4	531.2	567.0	639.9	704.1
82.5°	318.7	273.0	279.2	285.3	289.1	297.7	321.2	352.0	374.3	418.8	460.8
85°	176.6	145.8	151.9	156.9	154.4	164.3	176.6	195.2	206.3	227.3	249.5
87.5°	65.5	54.4	55.6	59.3	61.8	66.7	66.7	77.8	79.1	81.5	86.5
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°	5651.3	5651.3	5651.3
2.5°	5516.7	5546.3	5568.5
5°	5421.5	5446.2	5466.0
7.5°	5328.9	5351.1	5368.4
10°	5241.2	5265.9	5278.3
12.5°	5151.0	5179.4	5189.3
15°	5062.1	5090.5	5102.8
17.5°	4970.7	5007.7	5021.3
20°	4885.4	4932.4	4943.5
22.5°	4799.0	4847.1	4860.7
25°	4705.1	4761.9	4775.5
27.5°	4605.0	4673.0	4686.6
30°	4505.0	4579.1	4592.7
32.5°	4397.5	4477.8	4490.2
35°	4285.1	4365.4	4380.2
37.5°	4160.3	4248.0	4277.7
40°	4030.6	4125.8	4156.6
42.5°	3894.8	3998.5	4030.6
45°	3749.0	3862.6	3899.7
47.5°	3602.0	3730.5	3762.6
50°	3442.7	3579.8	3618.1
52.5°	3275.9	3425.4	3463.7
55°	3103.0	3253.7	3295.7
57.5°	2915.2	3070.8	3115.3
60°	2718.8	2874.4	2916.4
62.5°	2517.5	2658.3	2699.0
65°	2292.6	2424.8	2461.9
67.5°	2054.2	2175.3	2206.2
70°	1801.0	1906.0	1933.2
72.5°	1536.7	1609.5	1645.4
75°	1263.7	1321.7	1348.9
77.5°	989.4	1030.2	1052.4
80°	721.4	744.9	763.4
82.5°	471.9	481.8	495.3
85°	254.5	254.5	263.1
87.5°	86.5	82.8	86.5
90°	0.0	0.0	0.0

(END OF REPORT)