

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: P834521

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6STD-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834521
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-LD4-6STD-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

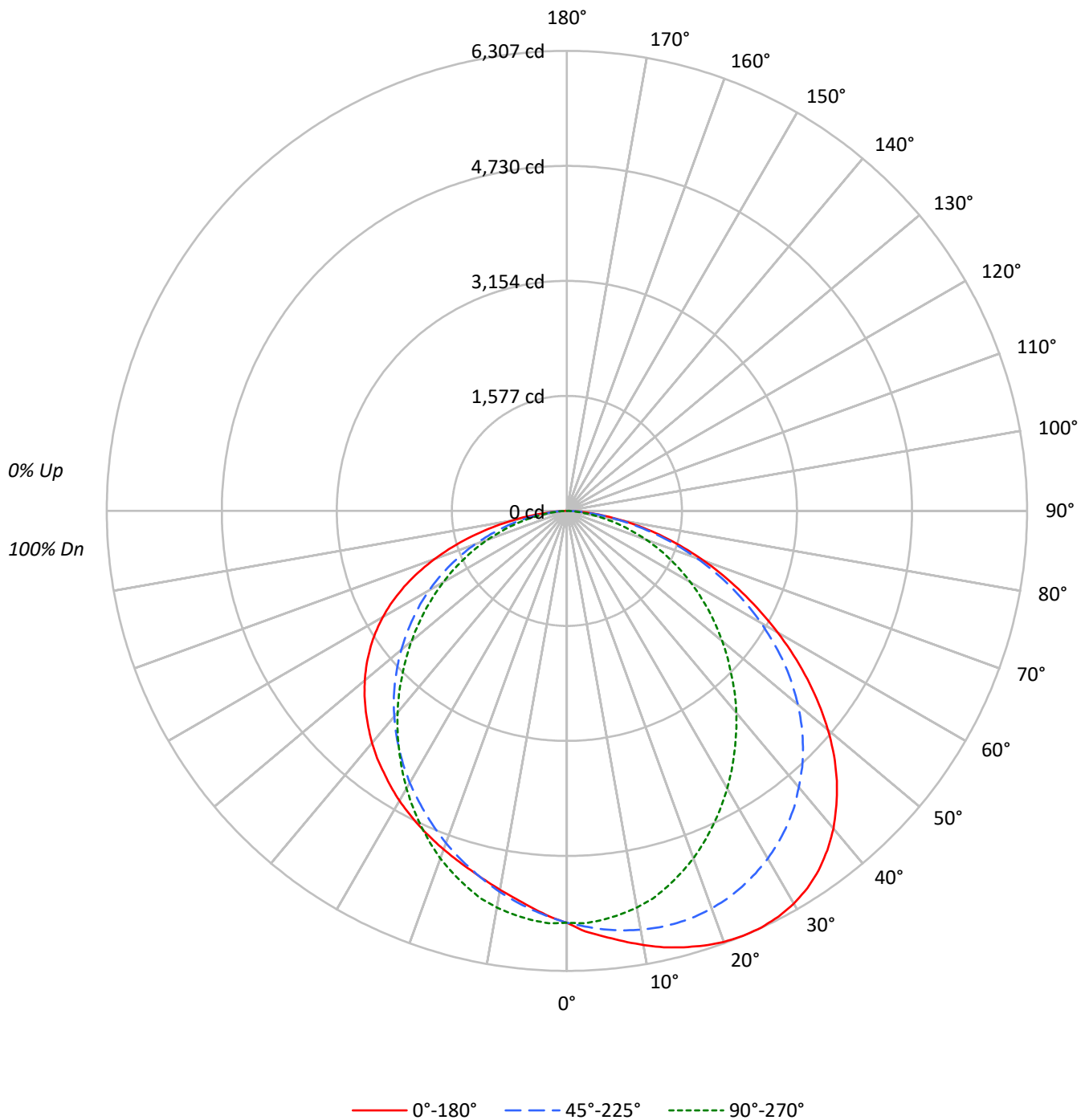
Lumens per Lamp: N/A
Luminaire Lumens: 16610.3 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 199.8
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

Peachtree City, GA 30269



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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°	7598	7598	7598
5°	7910	7602	7377
10°	8256	7545	7206
15°	8627	7424	7102
20°	9004	7260	7073
25°	9358	7049	7084
30°	9663	6829	7130
35°	9883	6585	7189
40°	9983	6341	7295
45°	9956	6073	7414
50°	9779	5818	7567
55°	9445	5550	7725
60°	8984	5264	7842
65°	8437	4943	7832
70°	7851	4559	7599
75°	7129	4004	7007
80°	6120	3290	5910
85°	4668	2248	4059

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	535.6	3.2
10°-20°	1546.6	9.3
20°-30°	2369.4	14.3
30°-40°	2891.5	17.4
40°-50°	3023.9	18.2
50°-60°	2736.9	16.5
60°-70°	2072.7	12.5
70°-80°	1155.1	7.0
80°-90°	278.6	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°	4451.6	26.8
0°-40°	7343.1	44.2
0°-60°	13103.9	78.9
0°-90°	16610.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16610.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5647	5647	5647	5647	5647	
5°	5857	5759	5628	5490	5462	565
15°	6194	5849	5330	5082	5099	1757
25°	6304	5684	4748	4580	4772	2908
35°	6017	5263	4009	4004	4377	3757
45°	5232	4577	3192	3333	3897	4026
55°	4026	3635	2366	2575	3293	3593
65°	2650	2492	1553	1765	2460	2629
75°	1371	1295	770	920	1348	1454
85°	302	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°	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8
2.5°	5771.5	5744.3	5722.1	5730.8	5735.7	5718.4	5703.6	5706.1	5691.3	5719.7	5653.0
5°	5856.7	5832.0	5806.1	5815.9	5806.1	5780.1	5759.2	5753.0	5713.5	5729.5	5661.6
7.5°	5951.7	5924.5	5886.3	5897.4	5876.4	5828.3	5801.1	5785.1	5724.6	5725.8	5650.5
10°	6043.0	6019.6	5967.7	5975.1	5936.9	5872.7	5829.5	5807.3	5722.1	5709.8	5632.0
12.5°	6128.2	6096.1	6040.6	6044.3	5988.7	5903.6	5848.0	5815.9	5704.8	5667.8	5591.3
15°	6193.6	6162.8	6096.1	6094.9	6023.3	5912.2	5849.3	5804.8	5664.1	5606.1	5525.9
17.5°	6249.2	6220.8	6138.1	6135.6	6049.2	5908.5	5833.2	5777.7	5604.9	5533.3	5444.4
20°	6288.7	6260.3	6167.7	6159.1	6055.4	5890.0	5799.9	5729.5	5527.1	5441.9	5343.2
22.5°	6307.2	6278.8	6173.9	6161.5	6040.6	5853.0	5751.7	5669.0	5438.2	5327.2	5224.7
25°	6303.5	6276.3	6157.8	6145.5	6012.2	5797.4	5683.9	5588.8	5325.9	5195.1	5093.9
27.5°	6272.6	6251.6	6127.0	6110.9	5960.3	5722.1	5601.2	5496.2	5201.3	5055.6	4945.8
30°	6219.5	6203.5	6071.4	6056.6	5896.2	5639.4	5504.9	5383.9	5066.7	4902.6	4791.5
32.5°	6134.4	6119.6	5986.3	5972.7	5809.8	5533.3	5392.6	5267.9	4919.8	4738.4	4627.3
35°	6017.1	6008.5	5878.9	5864.1	5698.7	5412.3	5263.0	5126.0	4766.8	4561.9	4455.8
37.5°	5862.8	5862.8	5738.2	5722.1	5560.4	5264.2	5117.3	4971.7	4594.0	4376.8	4271.8
40°	5683.9	5699.9	5572.8	5556.7	5400.0	5105.0	4944.5	4791.5	4407.6	4181.7	4079.3
42.5°	5469.1	5483.9	5377.8	5362.9	5216.1	4921.1	4771.7	4605.1	4212.6	3983.0	3876.9
45°	5232.1	5251.9	5156.8	5145.7	5008.7	4719.9	4576.7	4407.6	4008.9	3775.7	3672.0
47.5°	4968.0	4993.9	4911.2	4905.0	4777.9	4513.8	4364.4	4192.8	3795.4	3559.7	3462.2
50°	4671.8	4708.8	4640.9	4640.9	4527.3	4264.4	4134.8	3963.3	3573.2	3337.5	3241.2
52.5°	4354.5	4401.4	4350.8	4352.1	4259.5	4023.8	3889.2	3721.4	3341.2	3109.2	3020.3
55°	4026.2	4071.9	4039.8	4044.7	3971.9	3757.1	3635.0	3468.3	3104.2	2878.3	2794.4
57.5°	3683.1	3732.5	3711.5	3721.4	3670.7	3478.2	3351.1	3205.4	2859.8	2636.4	2564.8
60°	3338.7	3385.6	3374.5	3388.1	3356.0	3189.4	3073.4	2922.8	2614.2	2399.4	2336.5
62.5°	2990.7	3033.9	3031.4	3046.2	3028.9	2890.7	2787.0	2658.6	2359.9	2162.5	2104.4
65°	2650.0	2687.0	2684.6	2700.6	2696.9	2585.8	2492.0	2374.8	2105.7	1924.2	1873.6
67.5°	2319.2	2350.1	2341.4	2359.9	2364.9	2276.0	2194.6	2089.6	1863.8	1687.3	1644.1
70°	1995.8	2016.8	2005.7	2018.0	2029.2	1962.5	1893.4	1800.8	1605.8	1450.3	1414.5
72.5°	1678.6	1693.4	1676.2	1688.5	1698.4	1650.2	1593.5	1513.2	1351.5	1217.0	1187.4
75°	1371.3	1392.3	1356.5	1368.8	1376.2	1328.1	1294.8	1229.3	1089.9	986.2	966.4
77.5°	1073.8	1086.2	1066.4	1061.5	1066.4	1031.9	1005.9	955.3	850.4	765.3	752.9
80°	789.9	797.3	777.6	772.7	776.4	751.7	731.9	694.9	620.8	556.7	551.7
82.5°	529.5	533.2	515.9	511.0	513.5	506.1	482.6	456.7	422.1	367.8	366.6
85°	302.4	302.4	290.1	285.1	287.6	275.2	266.6	253.0	239.5	202.4	204.9
87.5°	111.1	111.1	104.9	103.7	116.0	102.4	98.7	92.6	96.3	76.5	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°	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8	5646.8
2.5°	5671.5	5659.2	5648.1	5609.8	5625.8	5586.4	5583.9	5569.1	5558.0	5537.0	5564.1
5°	5653.0	5628.3	5596.2	5550.6	5564.1	5517.2	5507.4	5490.1	5475.3	5448.1	5469.1
7.5°	5623.4	5582.6	5532.0	5474.0	5492.5	5434.5	5419.7	5401.2	5388.9	5356.8	5375.3
10°	5580.2	5522.2	5462.9	5392.6	5406.1	5343.2	5324.7	5304.9	5293.8	5265.4	5284.0
12.5°	5513.5	5443.2	5362.9	5286.4	5301.2	5242.0	5217.3	5196.3	5192.6	5169.2	5191.4
15°	5427.1	5329.6	5246.9	5165.5	5182.7	5113.6	5102.5	5081.5	5087.7	5071.7	5098.8
17.5°	5317.3	5205.0	5114.9	5027.2	5044.5	4986.5	4977.9	4968.0	4974.1	4971.7	5001.3
20°	5193.9	5070.4	4966.7	4880.3	4890.2	4844.5	4848.3	4845.8	4858.1	4871.7	4912.4
22.5°	5054.4	4914.9	4806.3	4717.4	4732.2	4692.7	4710.0	4714.9	4735.9	4766.8	4818.6
25°	4897.6	4748.3	4634.7	4550.8	4564.4	4538.4	4568.1	4580.4	4613.7	4665.6	4718.7
27.5°	4733.5	4575.5	4454.5	4374.3	4400.2	4374.3	4418.7	4443.4	4494.0	4550.8	4616.2
30°	4559.4	4395.3	4270.6	4199.0	4223.7	4200.3	4271.8	4305.2	4355.8	4433.5	4511.3
32.5°	4376.8	4204.0	4081.8	4026.2	4043.5	4039.8	4120.0	4157.1	4224.9	4313.8	4396.5
35°	4189.1	4008.9	3885.5	3838.6	3859.6	3864.5	3960.8	4004.0	4078.1	4185.4	4274.3
37.5°	3995.4	3811.5	3690.5	3652.2	3670.7	3689.3	3801.6	3844.8	3928.7	4046.0	4143.5
40°	3794.2	3610.3	3491.8	3460.9	3479.4	3499.2	3621.4	3680.6	3772.0	3899.1	4005.2
42.5°	3590.5	3406.6	3291.8	3269.6	3288.1	3326.4	3456.0	3511.5	3607.8	3748.5	3865.8
45°	3383.2	3191.8	3091.9	3074.6	3094.3	3138.8	3265.9	3332.6	3435.0	3589.3	3715.2
47.5°	3173.3	2987.0	2891.9	2880.8	2900.6	2949.9	3090.6	3151.1	3259.7	3423.9	3559.7
50°	2961.0	2779.6	2688.3	2684.6	2703.1	2756.1	2890.7	2962.3	3074.6	3258.5	3398.0
52.5°	2746.3	2572.2	2489.5	2489.5	2506.8	2561.1	2696.9	2771.0	2887.0	3080.8	3235.0
55°	2531.5	2366.1	2287.1	2293.3	2318.0	2364.9	2496.9	2574.7	2692.0	2893.2	3056.1
57.5°	2316.7	2160.0	2088.4	2097.0	2120.5	2167.4	2297.0	2384.6	2490.8	2699.4	2866.0
60°	2104.4	1956.3	1893.4	1903.3	1924.2	1971.1	2105.7	2181.0	2287.1	2499.4	2666.0
62.5°	1889.7	1755.1	1695.9	1708.2	1726.8	1773.7	1900.8	1973.6	2078.5	2287.1	2455.0
65°	1677.4	1552.7	1502.1	1514.5	1531.7	1574.9	1694.7	1765.0	1865.0	2068.7	2229.1
67.5°	1467.6	1354.0	1312.0	1324.4	1338.0	1378.7	1477.4	1554.0	1647.8	1841.5	1993.4
70°	1260.2	1159.0	1122.0	1134.3	1146.6	1183.7	1270.1	1340.4	1426.8	1604.6	1745.3
72.5°	1055.3	956.6	938.1	949.2	959.0	991.1	1073.8	1129.4	1204.7	1362.6	1483.6
75°	855.4	770.2	757.8	769.0	777.6	802.3	871.4	919.5	982.5	1119.5	1218.2
77.5°	662.8	591.2	586.3	594.9	603.6	620.8	675.2	725.8	775.1	876.3	964.0
80°	482.6	424.6	424.6	433.2	430.8	451.7	490.0	530.7	566.5	639.4	703.5
82.5°	318.4	272.8	278.9	285.1	288.8	297.5	320.9	351.8	374.0	418.4	460.4
85°	176.5	145.6	151.8	156.8	154.3	164.2	176.5	195.0	206.1	227.1	249.3
87.5°	65.4	54.3	55.5	59.2	61.7	66.7	66.7	77.8	79.0	81.5	86.4
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°	5646.8	5646.8	5646.8
2.5°	5512.3	5541.9	5564.1
5°	5417.3	5441.9	5461.7
7.5°	5324.7	5346.9	5364.2
10°	5237.1	5261.7	5274.1
12.5°	5146.9	5175.3	5185.2
15°	5058.1	5086.5	5098.8
17.5°	4966.7	5003.8	5017.3
20°	4881.6	4928.5	4939.6
22.5°	4795.2	4843.3	4856.9
25°	4701.4	4758.1	4771.7
27.5°	4601.4	4669.3	4682.9
30°	4501.4	4575.5	4589.1
32.5°	4394.0	4474.3	4486.6
35°	4281.7	4361.9	4376.8
37.5°	4157.1	4244.7	4274.3
40°	4027.5	4122.5	4153.4
42.5°	3891.7	3995.4	4027.5
45°	3746.0	3859.6	3896.6
47.5°	3599.2	3727.5	3759.6
50°	3439.9	3576.9	3615.2
52.5°	3273.3	3422.7	3460.9
55°	3100.5	3251.1	3293.1
57.5°	2912.9	3068.4	3112.9
60°	2716.7	2872.2	2914.1
62.5°	2515.5	2656.2	2696.9
65°	2290.8	2422.9	2459.9
67.5°	2052.6	2173.6	2204.4
70°	1799.6	1904.5	1931.6
72.5°	1535.4	1608.3	1644.1
75°	1262.7	1320.7	1347.8
77.5°	988.7	1029.4	1051.6
80°	720.8	744.3	762.8
82.5°	471.5	481.4	494.9
85°	254.3	254.3	262.9
87.5°	86.4	82.7	86.4
90°	0.0	0.0	0.0

(END OF REPORT)