

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: P834627

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5HI-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834627
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-LD4-5HI-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

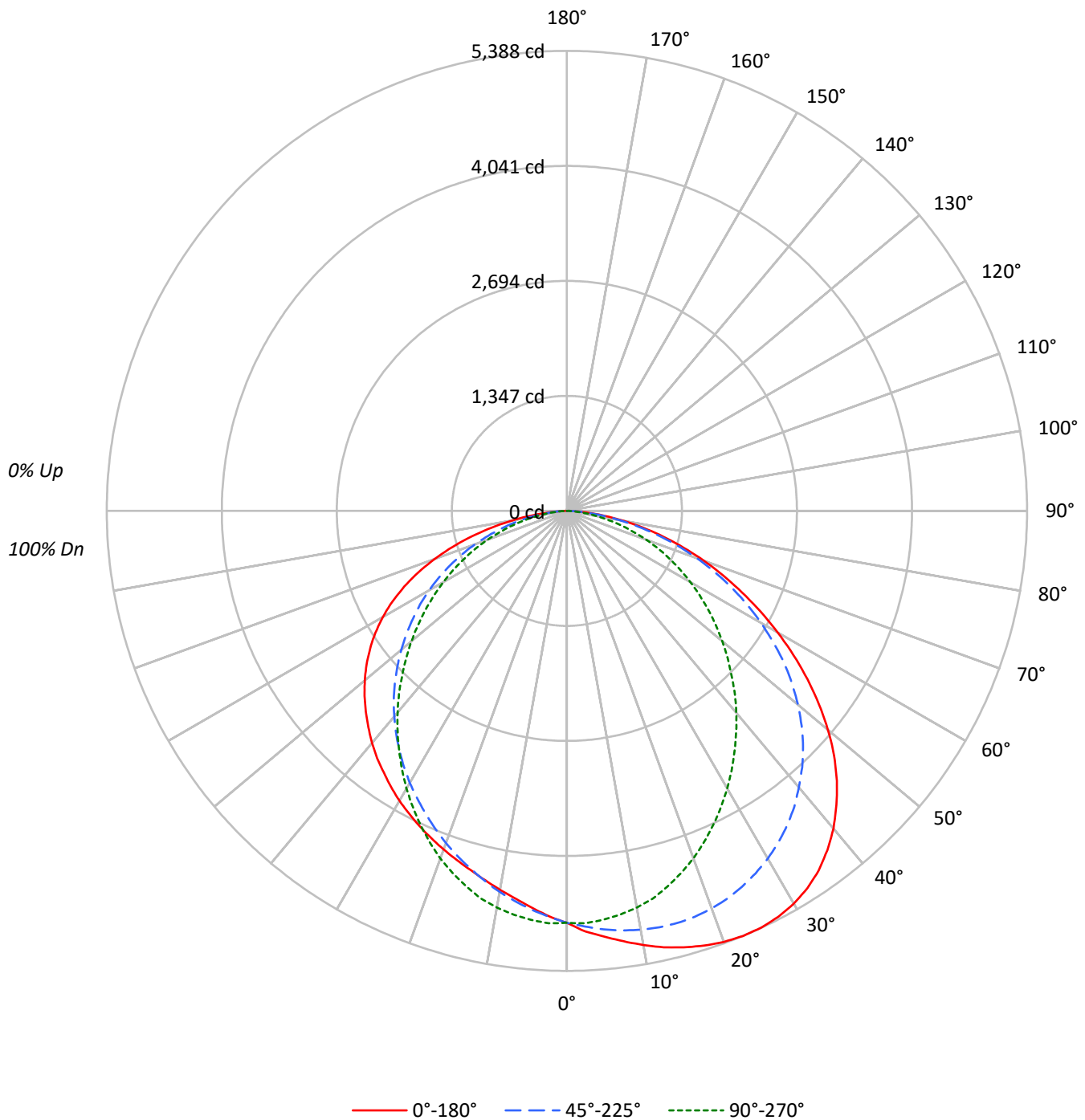
Lumens per Lamp: N/A
Luminaire Lumens: 14190.5 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 220
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°	6491	6491	6491
5°	6758	6494	6302
10°	7054	6446	6156
15°	7371	6342	6068
20°	7693	6202	6042
25°	7995	6022	6052
30°	8255	5834	6091
35°	8443	5626	6142
40°	8529	5417	6232
45°	8505	5189	6334
50°	8354	4971	6465
55°	8069	4742	6599
60°	7675	4497	6699
65°	7208	4223	6691
70°	6708	3895	6492
75°	6090	3421	5986
80°	5229	2810	5050
85°	3988	1920	3467

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.5	3.2
10°-20°	1321.3	9.3
20°-30°	2024.2	14.3
30°-40°	2470.3	17.4
40°-50°	2583.4	18.2
50°-60°	2338.1	16.5
60°-70°	1770.8	12.5
70°-80°	986.8	7.0
80°-90°	238.0	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°	3803.0	26.8
0°-40°	6273.3	44.2
0°-60°	11194.9	78.9
0°-90°	14190.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14190.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4824	4824	4824	4824	4824	
5°	5003	4920	4808	4690	4666	482
15°	5291	4997	4553	4341	4356	1501
25°	5385	4856	4056	3913	4077	2484
35°	5140	4496	3425	3421	3739	3210
45°	4470	3910	2727	2847	3329	3439
55°	3440	3105	2021	2200	2813	3069
65°	2264	2129	1326	1508	2102	2246
75°	1172	1106	658	786	1152	1242
85°	258	228	124	167	225	311
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°	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2
2.5°	4930.7	4907.5	4888.5	4895.9	4900.1	4885.3	4872.7	4874.8	4862.1	4886.4	4829.5
5°	5003.4	4982.4	4960.2	4968.6	4960.2	4938.1	4920.1	4914.9	4881.1	4894.8	4836.8
7.5°	5084.6	5061.4	5028.8	5038.2	5020.3	4979.2	4956.0	4942.3	4890.6	4891.7	4827.3
10°	5162.7	5142.6	5098.3	5104.7	5072.0	5017.2	4980.2	4961.3	4888.5	4878.0	4811.5
12.5°	5235.4	5208.0	5160.6	5163.7	5116.3	5043.5	4996.1	4968.6	4873.7	4842.1	4776.7
15°	5291.3	5265.0	5208.0	5207.0	5145.8	5050.9	4997.1	4959.2	4838.9	4789.4	4720.8
17.5°	5338.8	5314.5	5243.9	5241.8	5167.9	5047.7	4983.4	4936.0	4788.3	4727.2	4651.3
20°	5372.5	5348.3	5269.2	5261.8	5173.2	5031.9	4954.9	4894.8	4721.9	4649.1	4564.8
22.5°	5388.3	5364.1	5274.4	5263.9	5160.6	5000.3	4913.8	4843.2	4646.0	4551.1	4463.6
25°	5385.2	5362.0	5260.7	5250.2	5136.3	4952.8	4855.8	4774.6	4550.0	4438.3	4351.8
27.5°	5358.8	5340.9	5234.4	5220.7	5092.0	4888.5	4785.2	4695.5	4443.5	4319.1	4225.2
30°	5313.5	5299.7	5186.9	5174.3	5037.2	4817.9	4702.9	4599.6	4328.6	4188.3	4093.4
32.5°	5240.7	5228.0	5114.2	5102.6	4963.4	4727.2	4607.0	4500.5	4203.1	4048.1	3953.2
35°	5140.5	5133.1	5022.4	5009.8	4868.5	4623.8	4496.2	4379.2	4072.4	3897.3	3806.6
37.5°	5008.7	5008.7	4902.2	4888.5	4750.4	4497.3	4371.8	4247.4	3924.7	3739.1	3649.5
40°	4855.8	4869.5	4760.9	4747.2	4613.3	4361.3	4224.2	4093.4	3765.5	3572.5	3485.0
42.5°	4672.3	4685.0	4594.3	4581.7	4456.2	4204.2	4076.6	3934.2	3598.9	3402.8	3312.1
45°	4469.9	4486.8	4405.6	4396.1	4279.0	4032.3	3910.0	3765.5	3424.9	3225.6	3137.0
47.5°	4244.2	4266.4	4195.7	4190.5	4081.8	3856.2	3728.6	3582.0	3242.5	3041.1	2957.8
50°	3991.2	4022.8	3964.8	3964.8	3867.8	3643.2	3532.5	3385.9	3052.7	2851.3	2769.0
52.5°	3720.2	3760.2	3717.0	3718.0	3639.0	3437.6	3322.6	3179.2	2854.4	2656.2	2580.3
55°	3439.7	3478.7	3451.3	3455.5	3393.3	3209.8	3105.4	2963.1	2652.0	2459.0	2387.3
57.5°	3146.5	3188.7	3170.8	3179.2	3136.0	2971.5	2862.9	2738.5	2443.2	2252.3	2191.2
60°	2852.3	2892.4	2882.9	2894.5	2867.1	2724.7	2625.6	2497.0	2233.4	2049.9	1996.1
62.5°	2555.0	2591.9	2589.8	2602.4	2587.7	2469.6	2381.0	2271.3	2016.1	1847.4	1797.9
65°	2263.9	2295.6	2293.5	2307.2	2304.0	2209.1	2129.0	2028.8	1798.9	1643.9	1600.7
67.5°	1981.3	2007.7	2000.3	2016.1	2020.4	1944.4	1874.8	1785.2	1592.2	1441.5	1404.5
70°	1705.1	1723.0	1713.5	1724.1	1733.5	1676.6	1617.6	1538.5	1371.9	1239.0	1208.4
72.5°	1434.1	1446.7	1432.0	1442.5	1450.9	1409.8	1361.3	1292.8	1154.6	1039.7	1014.4
75°	1171.5	1189.4	1158.9	1169.4	1175.7	1134.6	1106.1	1050.2	931.1	842.5	825.6
77.5°	917.4	927.9	911.1	906.8	911.1	881.5	859.4	816.2	726.5	653.8	643.2
80°	674.9	681.2	664.3	660.1	663.3	642.2	625.3	593.7	530.4	475.6	471.3
82.5°	452.4	455.5	440.8	436.5	438.7	432.3	412.3	390.2	360.6	314.2	313.2
85°	258.3	258.3	247.8	243.6	245.7	235.1	227.8	216.2	204.6	172.9	175.0
87.5°	94.9	94.9	89.6	88.6	99.1	87.5	84.4	79.1	82.2	65.4	69.6
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°	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2	4824.2
2.5°	4845.3	4834.7	4825.2	4792.6	4806.3	4772.5	4770.4	4757.8	4748.3	4730.3	4753.5
5°	4829.5	4808.4	4781.0	4741.9	4753.5	4713.5	4705.0	4690.3	4677.6	4654.4	4672.3
7.5°	4804.2	4769.4	4726.1	4676.6	4692.4	4642.8	4630.2	4614.3	4603.8	4576.4	4592.2
10°	4767.2	4717.7	4667.1	4607.0	4618.6	4564.8	4549.0	4532.1	4522.6	4498.4	4514.2
12.5°	4710.3	4650.2	4581.7	4516.3	4528.9	4478.3	4457.2	4439.3	4436.1	4416.1	4435.1
15°	4636.5	4553.2	4482.5	4412.9	4427.7	4368.7	4359.2	4341.2	4346.5	4332.8	4356.0
17.5°	4542.6	4446.7	4369.7	4294.8	4309.6	4260.0	4252.7	4244.2	4249.5	4247.4	4272.7
20°	4437.2	4331.7	4243.2	4169.4	4177.8	4138.8	4141.9	4139.8	4150.4	4162.0	4196.8
22.5°	4318.0	4198.9	4106.1	4030.2	4042.8	4009.1	4023.8	4028.1	4046.0	4072.4	4116.6
25°	4184.1	4056.5	3959.5	3887.8	3899.4	3877.3	3902.6	3913.1	3941.6	3985.9	4031.2
27.5°	4043.9	3908.9	3805.6	3737.0	3759.2	3737.0	3775.0	3796.1	3839.3	3887.8	3943.7
30°	3895.2	3755.0	3648.5	3587.3	3608.4	3588.4	3649.5	3678.0	3721.2	3787.6	3854.1
32.5°	3739.1	3591.5	3487.1	3439.7	3454.4	3451.3	3519.8	3551.4	3609.4	3685.4	3756.0
35°	3578.9	3424.9	3319.5	3279.4	3297.3	3301.5	3383.8	3420.7	3484.0	3575.7	3651.6
37.5°	3413.3	3256.2	3152.9	3120.2	3136.0	3151.8	3247.8	3284.7	3356.4	3456.5	3539.8
40°	3241.4	3084.3	2983.1	2956.7	2972.5	2989.4	3093.8	3144.4	3222.5	3331.1	3421.7
42.5°	3067.4	2910.3	2812.3	2793.3	2809.1	2841.8	2952.5	3000.0	3082.2	3202.4	3302.6
45°	2890.3	2726.9	2641.4	2626.7	2643.5	2681.5	2790.1	2847.1	2934.6	3066.4	3173.9
47.5°	2711.0	2551.8	2470.6	2461.1	2478.0	2520.2	2640.4	2692.1	2784.8	2925.1	3041.1
50°	2529.7	2374.7	2296.6	2293.5	2309.3	2354.6	2469.6	2530.7	2626.7	2783.8	2902.9
52.5°	2346.2	2197.5	2126.9	2126.9	2141.6	2188.0	2304.0	2367.3	2466.4	2631.9	2763.8
55°	2162.7	2021.4	1953.9	1959.2	1980.3	2020.4	2133.2	2199.6	2299.8	2471.7	2610.9
57.5°	1979.2	1845.3	1784.2	1791.5	1811.6	1851.6	1962.4	2037.2	2127.9	2306.1	2448.5
60°	1797.9	1671.3	1617.6	1626.0	1643.9	1684.0	1798.9	1863.2	1953.9	2135.3	2277.6
62.5°	1614.4	1499.5	1448.8	1459.4	1475.2	1515.3	1623.9	1686.1	1775.7	1953.9	2097.3
65°	1433.0	1326.5	1283.3	1293.8	1308.6	1345.5	1447.8	1507.9	1593.3	1767.3	1904.4
67.5°	1253.8	1156.7	1120.9	1131.4	1143.0	1177.8	1262.2	1327.6	1407.7	1573.3	1703.0
70°	1076.6	990.1	958.5	969.1	979.6	1011.2	1085.0	1145.2	1219.0	1370.8	1491.0
72.5°	901.6	817.2	801.4	810.9	819.3	846.7	917.4	964.8	1029.2	1164.1	1267.5
75°	730.7	658.0	647.4	656.9	664.3	685.4	744.5	785.6	839.4	956.4	1040.8
77.5°	566.2	505.1	500.9	508.3	515.6	530.4	576.8	620.0	662.2	748.7	823.5
80°	412.3	362.7	362.7	370.1	368.0	385.9	418.6	453.4	484.0	546.2	601.0
82.5°	272.1	233.0	238.3	243.6	246.7	254.1	274.2	300.5	319.5	357.5	393.3
85°	150.8	124.4	129.7	133.9	131.8	140.2	150.8	166.6	176.1	194.0	213.0
87.5°	55.9	46.4	47.5	50.6	52.7	56.9	56.9	66.4	67.5	69.6	73.8
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°	4824.2	4824.2	4824.2
2.5°	4709.2	4734.6	4753.5
5°	4628.1	4649.1	4666.0
7.5°	4549.0	4567.9	4582.7
10°	4474.1	4495.2	4505.7
12.5°	4397.1	4421.4	4429.8
15°	4321.2	4345.5	4356.0
17.5°	4243.2	4274.8	4286.4
20°	4170.4	4210.5	4220.0
22.5°	4096.6	4137.7	4149.3
25°	4016.5	4065.0	4076.6
27.5°	3931.1	3989.0	4000.6
30°	3845.6	3908.9	3920.5
32.5°	3753.9	3822.4	3833.0
35°	3657.9	3726.5	3739.1
37.5°	3551.4	3626.3	3651.6
40°	3440.7	3521.9	3548.3
42.5°	3324.7	3413.3	3440.7
45°	3200.3	3297.3	3329.0
47.5°	3074.8	3184.5	3211.9
50°	2938.8	3055.8	3088.5
52.5°	2796.4	2924.0	2956.7
55°	2648.8	2777.5	2813.3
57.5°	2488.5	2621.4	2659.4
60°	2320.9	2453.7	2489.6
62.5°	2149.0	2269.2	2304.0
65°	1957.1	2069.9	2101.6
67.5°	1753.6	1856.9	1883.3
70°	1537.4	1627.0	1650.2
72.5°	1311.8	1374.0	1404.5
75°	1078.7	1128.3	1151.5
77.5°	844.6	879.4	898.4
80°	615.8	635.8	651.7
82.5°	402.8	411.2	422.8
85°	217.2	217.2	224.6
87.5°	73.8	70.6	73.8
90°	0.0	0.0	0.0

(END OF REPORT)