

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: P834693

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834693
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-LD4-3HI-40-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

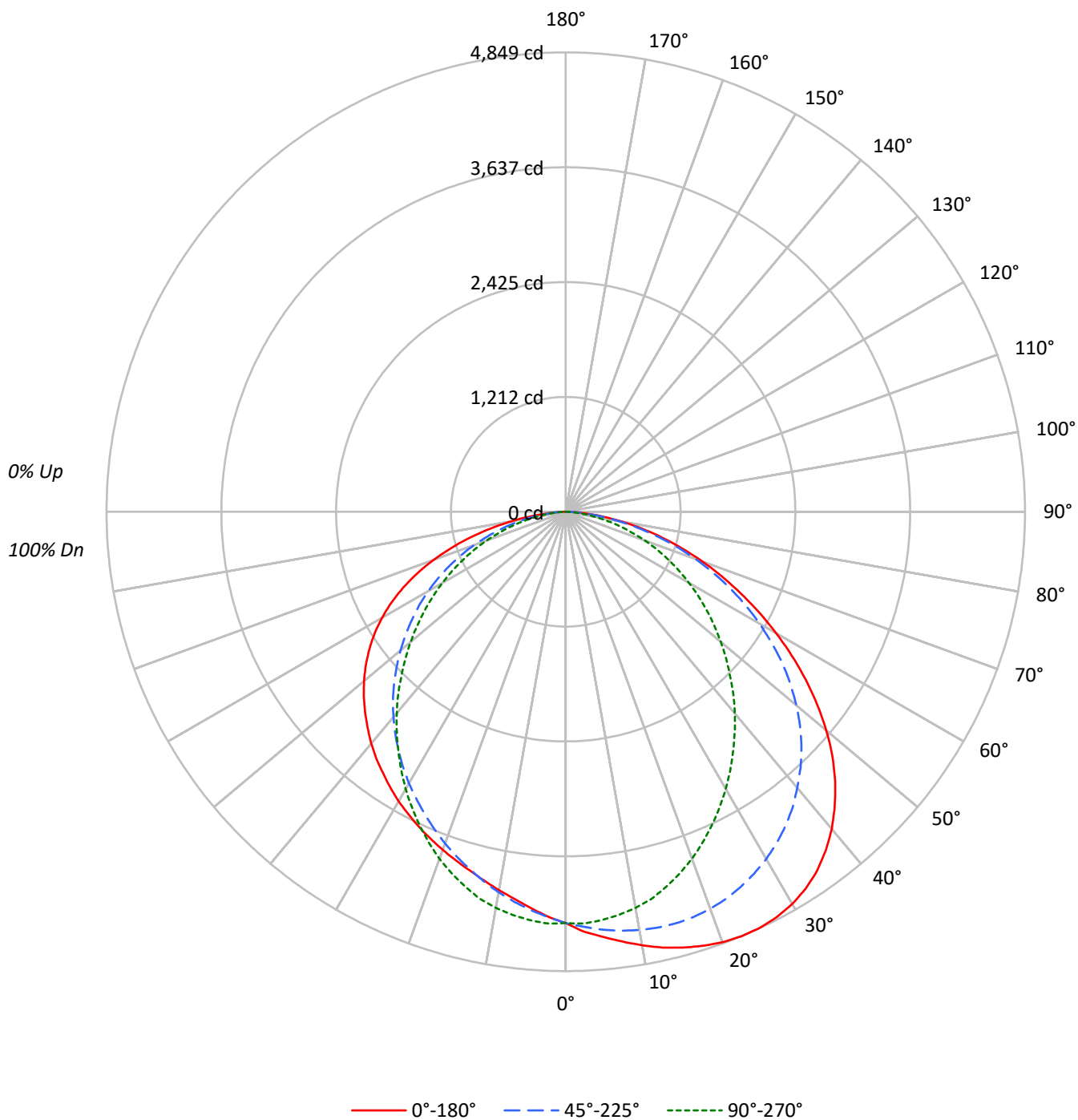
Lumens per Lamp: N/A
Luminaire Lumens: 12771.3 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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°	5842	5842	5842
5°	6082	5845	5672
10°	6348	5801	5540
15°	6633	5708	5461
20°	6923	5582	5438
25°	7195	5420	5447
30°	7430	5250	5482
35°	7599	5063	5527
40°	7676	4875	5609
45°	7655	4670	5701
50°	7519	4474	5818
55°	7262	4267	5940
60°	6908	4048	6029
65°	6487	3801	6022
70°	6037	3506	5843
75°	5481	3079	5387
80°	4706	2530	4544
85°	3589	1729	3120

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	411.8	3.2
10°-20°	1189.1	9.3
20°-30°	1821.8	14.3
30°-40°	2223.2	17.4
40°-50°	2325.0	18.2
50°-60°	2104.3	16.5
60°-70°	1593.7	12.5
70°-80°	888.1	7.0
80°-90°	214.2	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°	3422.7	26.8
0°-40°	5645.9	44.2
0°-60°	10075.2	78.9
0°-90°	12771.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12771.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4342	4342	4342	4342	4342	
5°	4503	4428	4328	4221	4199	434
15°	4762	4497	4098	3907	3920	1351
25°	4847	4370	3651	3522	3669	2236
35°	4626	4047	3082	3079	3365	2889
45°	4023	3519	2454	2562	2996	3095
55°	3096	2795	1819	1980	2532	2762
65°	2038	1916	1194	1357	1891	2021
75°	1054	996	592	707	1036	1118
85°	232	205	112	150	202	280
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°	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7
2.5°	4437.6	4416.7	4399.6	4406.2	4410.0	4396.8	4385.4	4387.3	4375.9	4397.7	4346.5
5°	4503.0	4484.1	4464.1	4471.7	4464.1	4444.2	4428.1	4423.3	4393.0	4405.3	4353.1
7.5°	4576.1	4555.2	4525.8	4534.4	4518.2	4481.2	4460.3	4448.0	4401.5	4402.4	4344.6
10°	4646.3	4628.3	4588.5	4594.1	4564.7	4515.4	4482.2	4465.1	4399.6	4390.1	4330.3
12.5°	4711.8	4687.1	4644.4	4647.3	4604.6	4539.1	4496.4	4471.7	4386.3	4357.8	4299.0
15°	4762.1	4738.4	4687.1	4686.2	4631.2	4545.7	4497.3	4463.2	4355.0	4310.4	4248.7
17.5°	4804.8	4783.0	4719.4	4717.5	4651.1	4542.9	4485.0	4442.3	4309.4	4254.4	4186.1
20°	4835.2	4813.4	4742.2	4735.5	4655.8	4528.7	4459.4	4405.3	4249.7	4184.2	4108.3
22.5°	4849.4	4827.6	4746.9	4737.4	4644.4	4500.2	4422.4	4358.8	4181.3	4095.9	4017.1
25°	4846.6	4825.7	4734.6	4725.1	4622.6	4457.5	4370.2	4297.1	4095.0	3994.4	3916.6
27.5°	4822.9	4806.7	4710.9	4698.5	4582.8	4399.6	4306.6	4225.9	3999.1	3887.1	3802.7
30°	4782.1	4769.7	4668.2	4656.8	4533.4	4336.0	4232.6	4139.6	3895.7	3769.5	3684.0
32.5°	4716.6	4705.2	4602.7	4592.2	4467.0	4254.4	4146.2	4050.4	3782.7	3643.2	3557.8
35°	4626.4	4619.8	4520.1	4508.7	4381.6	4161.4	4046.6	3941.2	3665.1	3507.5	3425.9
37.5°	4507.8	4507.8	4411.9	4399.6	4275.3	4047.5	3934.6	3822.6	3532.2	3365.2	3284.5
40°	4370.2	4382.5	4284.8	4272.4	4151.9	3925.1	3801.7	3684.0	3388.9	3215.2	3136.5
42.5°	4205.1	4216.4	4134.8	4123.4	4010.5	3783.7	3668.9	3540.7	3239.0	3062.4	2980.8
45°	4022.8	4038.0	3965.0	3956.4	3851.1	3629.0	3518.9	3388.9	3082.4	2903.0	2823.3
47.5°	3819.8	3839.7	3776.1	3771.4	3673.6	3470.5	3355.7	3223.8	2918.2	2736.9	2662.0
50°	3592.0	3620.5	3568.3	3568.3	3481.0	3278.8	3179.2	3047.3	2747.4	2566.1	2492.1
52.5°	3348.1	3384.2	3345.3	3346.2	3275.0	3093.8	2990.3	2861.3	2569.0	2390.6	2322.2
55°	3095.7	3130.8	3106.1	3109.9	3053.9	2888.8	2794.8	2666.7	2386.8	2213.1	2148.6
57.5°	2831.8	2869.8	2853.7	2861.3	2822.3	2674.3	2576.6	2464.6	2198.9	2027.1	1972.0
60°	2567.1	2603.1	2594.6	2605.0	2580.4	2452.2	2363.0	2247.3	2010.0	1844.9	1796.5
62.5°	2299.4	2332.7	2330.8	2342.2	2328.9	2222.6	2142.9	2044.2	1814.5	1662.7	1618.1
65°	2037.5	2066.0	2064.1	2076.4	2073.6	1988.2	1916.0	1825.9	1619.0	1479.5	1440.6
67.5°	1783.2	1806.9	1800.3	1814.5	1818.3	1750.0	1687.3	1606.7	1433.0	1297.3	1264.1
70°	1534.5	1550.7	1542.1	1551.6	1560.2	1508.9	1455.8	1384.6	1234.7	1115.1	1087.6
72.5°	1290.7	1302.0	1288.8	1298.2	1305.8	1268.8	1225.2	1163.5	1039.2	935.7	912.9
75°	1054.3	1070.5	1043.0	1052.4	1058.1	1021.1	995.5	945.2	838.0	758.3	743.1
77.5°	825.6	835.1	819.9	816.1	819.9	793.4	773.4	734.5	653.9	588.4	578.9
80°	607.4	613.1	597.9	594.1	596.9	577.9	562.8	534.3	477.4	428.0	424.2
82.5°	407.1	410.0	396.7	392.9	394.8	389.1	371.1	351.1	324.6	282.8	281.9
85°	232.5	232.5	223.0	219.2	221.1	211.6	205.0	194.5	184.1	155.6	157.5
87.5°	85.4	85.4	80.7	79.7	89.2	78.8	75.9	71.2	74.0	58.8	62.6
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°	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7	4341.7
2.5°	4360.7	4351.2	4342.7	4313.2	4325.6	4295.2	4293.3	4281.9	4273.4	4257.2	4278.1
5°	4346.5	4327.5	4302.8	4267.7	4278.1	4242.1	4234.5	4221.2	4209.8	4188.9	4205.1
7.5°	4323.7	4292.4	4253.5	4208.8	4223.1	4178.5	4167.1	4152.9	4143.4	4118.7	4132.9
10°	4290.5	4245.9	4200.3	4146.2	4156.7	4108.3	4094.0	4078.8	4070.3	4048.5	4062.7
12.5°	4239.2	4185.1	4123.4	4064.6	4076.0	4030.4	4011.5	3995.3	3992.5	3974.4	3991.5
15°	4172.8	4097.8	4034.2	3971.6	3984.9	3931.7	3923.2	3907.1	3911.8	3899.5	3920.4
17.5°	4088.3	4002.0	3932.7	3865.3	3878.6	3834.0	3827.3	3819.8	3824.5	3822.6	3845.4
20°	3993.4	3898.5	3818.8	3752.4	3760.0	3724.9	3727.7	3725.8	3735.3	3745.7	3777.1
22.5°	3886.2	3778.9	3695.4	3627.1	3638.5	3608.1	3621.4	3625.2	3641.3	3665.1	3704.9
25°	3765.7	3650.8	3563.5	3499.0	3509.4	3489.5	3512.3	3521.8	3547.4	3587.2	3628.1
27.5°	3639.4	3518.0	3425.0	3363.3	3383.2	3363.3	3397.4	3416.4	3455.3	3499.0	3549.3
30°	3505.6	3379.4	3283.6	3228.5	3247.5	3229.5	3284.5	3310.1	3349.0	3408.8	3468.6
32.5°	3365.2	3232.3	3138.4	3095.7	3108.9	3106.1	3167.8	3196.3	3248.5	3316.8	3380.4
35°	3220.9	3082.4	2987.5	2951.4	2967.5	2971.3	3045.4	3078.6	3135.5	3218.1	3286.4
37.5°	3071.9	2930.5	2837.5	2808.1	2822.3	2836.6	2922.9	2956.2	3020.7	3110.8	3185.8
40°	2917.2	2775.8	2684.7	2661.0	2675.3	2690.4	2784.4	2829.9	2900.2	2997.9	3079.5
42.5°	2760.7	2619.3	2531.0	2513.9	2528.2	2557.6	2657.2	2699.9	2773.9	2882.1	2972.3
45°	2601.2	2454.1	2377.3	2364.0	2379.2	2413.3	2511.1	2562.3	2641.1	2759.7	2856.5
47.5°	2439.9	2296.6	2223.5	2215.0	2230.2	2268.1	2376.3	2422.8	2506.3	2632.5	2736.9
50°	2276.7	2137.2	2066.9	2064.1	2078.3	2119.1	2222.6	2277.6	2364.0	2505.4	2612.6
52.5°	2111.5	1977.7	1914.1	1914.1	1927.4	1969.2	2073.6	2130.5	2219.7	2368.7	2487.3
55°	1946.4	1819.2	1758.5	1763.3	1782.2	1818.3	1919.8	1979.6	2069.8	2224.5	2349.7
57.5°	1781.3	1660.8	1605.7	1612.4	1630.4	1666.5	1766.1	1833.5	1915.1	2075.5	2203.6
60°	1618.1	1504.2	1455.8	1463.4	1479.5	1515.6	1619.0	1676.9	1758.5	1921.7	2049.9
62.5°	1452.9	1349.5	1303.9	1313.4	1327.7	1363.7	1461.5	1517.5	1598.1	1758.5	1887.6
65°	1289.7	1193.9	1154.9	1164.4	1177.7	1210.9	1303.0	1357.1	1434.0	1590.5	1713.9
67.5°	1128.4	1041.1	1008.8	1018.3	1028.7	1060.0	1136.0	1194.8	1266.9	1415.9	1532.6
70°	968.9	891.1	862.6	872.1	881.6	910.1	976.5	1030.6	1097.1	1233.7	1341.9
72.5°	811.4	735.5	721.2	729.8	737.4	762.1	825.6	868.3	926.2	1047.7	1140.7
75°	657.7	592.2	582.7	591.2	597.9	616.9	670.0	707.0	755.4	860.8	936.7
77.5°	509.6	454.6	450.8	457.4	464.1	477.4	519.1	558.0	596.0	673.8	741.2
80°	371.1	326.5	326.5	333.1	331.2	347.3	376.8	408.1	435.6	491.6	540.9
82.5°	244.8	209.7	214.5	219.2	222.1	228.7	246.7	270.5	287.5	321.7	354.0
85°	135.7	112.0	116.7	120.5	118.6	126.2	135.7	149.9	158.5	174.6	191.7
87.5°	50.3	41.8	42.7	45.6	47.5	51.2	51.2	59.8	60.7	62.6	66.4
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°	4341.7	4341.7	4341.7
2.5°	4238.3	4261.0	4278.1
5°	4165.2	4184.2	4199.4
7.5°	4094.0	4111.1	4124.4
10°	4026.6	4045.6	4055.1
12.5°	3957.4	3979.2	3986.8
15°	3889.0	3910.9	3920.4
17.5°	3818.8	3847.3	3857.7
20°	3753.3	3789.4	3797.9
22.5°	3686.9	3723.9	3734.3
25°	3614.8	3658.4	3668.9
27.5°	3537.9	3590.1	3600.5
30°	3461.0	3518.0	3528.4
32.5°	3378.5	3440.2	3449.6
35°	3292.1	3353.8	3365.2
37.5°	3196.3	3263.6	3286.4
40°	3096.6	3169.7	3193.4
42.5°	2992.2	3071.9	3096.6
45°	2880.2	2967.5	2996.0
47.5°	2767.3	2866.0	2890.7
50°	2644.9	2750.2	2779.6
52.5°	2516.8	2631.6	2661.0
55°	2383.9	2499.7	2532.0
57.5°	2239.7	2359.2	2393.4
60°	2088.8	2208.3	2240.6
62.5°	1934.1	2042.3	2073.6
65°	1761.4	1862.9	1891.4
67.5°	1578.2	1671.2	1694.9
70°	1383.7	1464.3	1485.2
72.5°	1180.6	1236.6	1264.1
75°	970.8	1015.4	1036.3
77.5°	760.2	791.5	808.6
80°	554.2	572.3	586.5
82.5°	362.5	370.1	380.6
85°	195.5	195.5	202.1
87.5°	66.4	63.6	66.4
90°	0.0	0.0	0.0

(END OF REPORT)