

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: P834679

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5LO-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834679
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-LD4-5LO-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

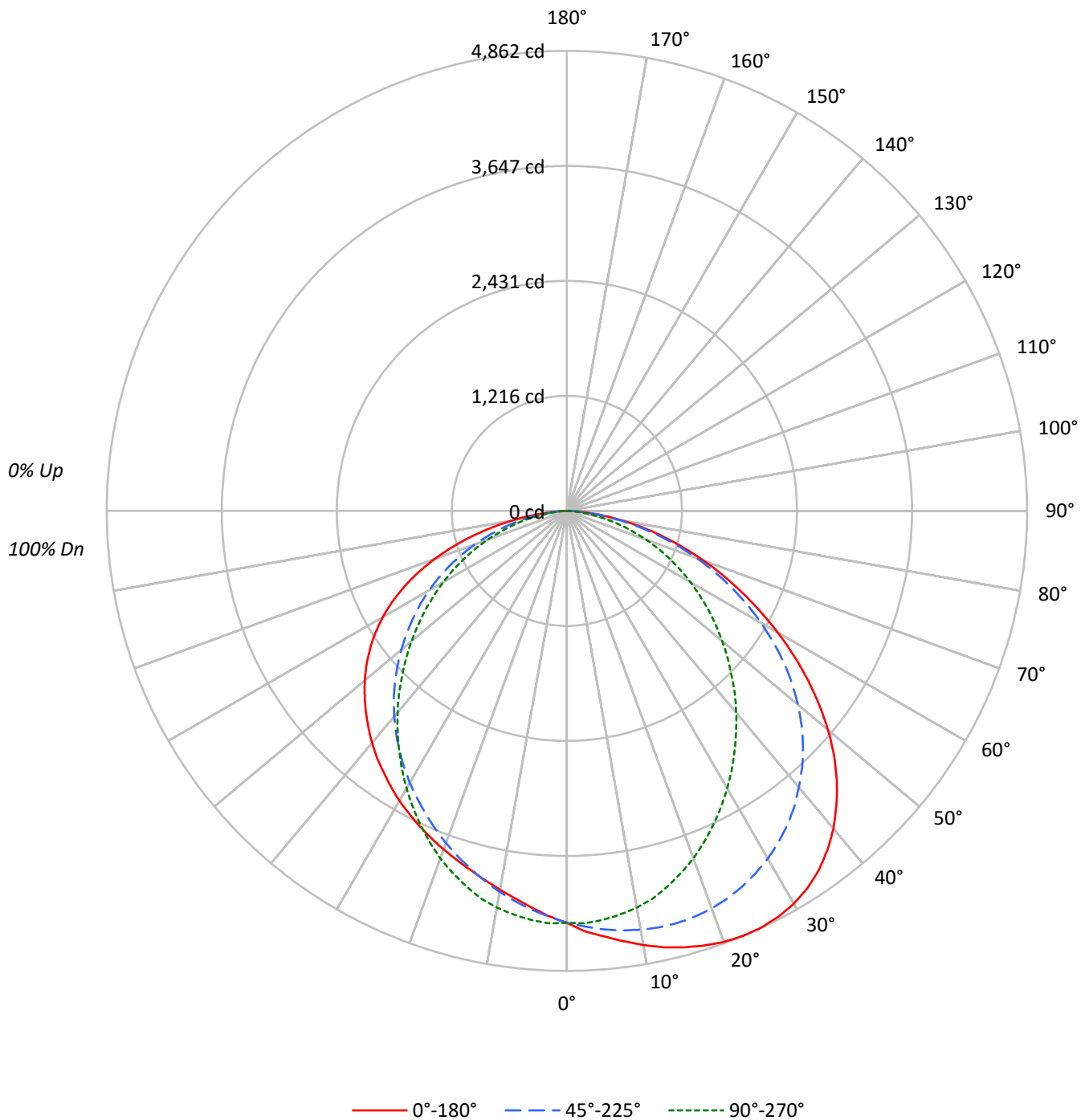
Lumens per Lamp: N/A
Luminaire Lumens: 12804.0 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 117
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°	5857	5857	5857
5°	6098	5860	5686
10°	6364	5816	5554
15°	6650	5723	5475
20°	6941	5596	5452
25°	7214	5434	5461
30°	7449	5264	5496
35°	7619	5076	5542
40°	7696	4888	5623
45°	7674	4682	5715
50°	7538	4485	5833
55°	7280	4278	5955
60°	6926	4058	6045
65°	6503	3811	6037
70°	6052	3515	5858
75°	5495	3086	5401
80°	4718	2536	4556
85°	3599	1734	3129

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	412.8	3.2
10°-20°	1192.2	9.3
20°-30°	1826.4	14.3
30°-40°	2228.9	17.4
40°-50°	2331.0	18.2
50°-60°	2109.7	16.5
60°-70°	1597.8	12.5
70°-80°	890.4	7.0
80°-90°	214.8	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°	3431.5	26.8
0°-40°	5660.4	44.2
0°-60°	10101.1	78.9
0°-90°	12804.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12804.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4353	4353	4353	4353	4353	
5°	4515	4439	4339	4232	4210	435
15°	4774	4509	4108	3917	3930	1354
25°	4859	4381	3660	3531	3678	2242
35°	4638	4057	3090	3086	3374	2896
45°	4033	3528	2460	2569	3004	3103
55°	3104	2802	1824	1985	2538	2769
65°	2043	1921	1197	1361	1896	2026
75°	1057	998	594	709	1039	1121
85°	233	206	112	150	203	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°	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8
2.5°	4448.9	4428.0	4410.9	4417.5	4421.3	4408.0	4396.6	4398.5	4387.1	4409.0	4357.6
5°	4514.6	4495.5	4475.6	4483.2	4475.6	4455.6	4439.4	4434.7	4404.2	4416.6	4364.3
7.5°	4587.8	4566.9	4537.4	4546.0	4529.8	4492.7	4471.8	4459.4	4412.8	4413.7	4355.7
10°	4658.2	4640.2	4600.2	4605.9	4576.4	4526.9	4493.6	4476.5	4410.9	4401.4	4341.4
12.5°	4723.9	4699.2	4656.3	4659.2	4616.4	4550.7	4507.9	4483.2	4397.6	4369.0	4310.0
15°	4774.3	4750.5	4699.2	4698.2	4643.0	4557.4	4508.9	4474.6	4366.2	4321.4	4259.6
17.5°	4817.1	4795.3	4731.5	4729.6	4663.0	4554.5	4496.5	4453.7	4320.5	4265.3	4196.8
20°	4847.6	4825.7	4754.3	4747.7	4667.8	4540.3	4470.8	4416.6	4260.5	4194.9	4118.8
22.5°	4861.9	4840.0	4759.1	4749.6	4656.3	4511.7	4433.7	4370.0	4192.0	4106.4	4027.4
25°	4859.0	4838.1	4746.7	4737.2	4634.5	4468.9	4381.4	4308.1	4105.5	4004.6	3926.6
27.5°	4835.2	4819.0	4722.9	4710.6	4594.5	4410.9	4317.6	4236.8	4009.4	3897.1	3812.4
30°	4794.3	4781.9	4680.1	4668.7	4545.0	4347.1	4243.4	4150.2	3905.7	3779.1	3693.5
32.5°	4728.7	4717.2	4614.5	4604.0	4478.4	4265.3	4156.8	4060.7	3792.4	3652.6	3566.9
35°	4638.3	4631.6	4531.7	4520.3	4392.8	4172.1	4056.9	3951.3	3674.5	3516.5	3434.7
37.5°	4519.3	4519.3	4423.2	4410.9	4286.2	4057.9	3944.7	3832.4	3541.3	3373.8	3292.9
40°	4381.4	4393.7	4295.7	4283.4	4162.5	3935.2	3811.5	3693.5	3397.6	3223.5	3144.5
42.5°	4215.8	4227.2	4145.4	4134.0	4020.8	3793.4	3678.3	3549.8	3247.3	3070.3	2988.5
45°	4033.2	4048.4	3975.1	3966.5	3860.9	3638.3	3527.9	3397.6	3090.3	2910.5	2830.5
47.5°	3829.5	3849.5	3785.8	3781.0	3683.0	3479.4	3364.3	3232.0	2925.7	2744.0	2668.8
50°	3601.2	3629.7	3577.4	3577.4	3489.9	3287.2	3187.3	3055.1	2754.4	2572.7	2498.5
52.5°	3356.7	3392.8	3353.8	3354.8	3283.4	3101.7	2998.0	2868.6	2575.5	2396.7	2328.2
55°	3103.6	3138.8	3114.1	3117.9	3061.7	2896.2	2802.0	2673.5	2392.9	2218.8	2154.1
57.5°	2839.1	2877.2	2861.0	2868.6	2829.6	2681.2	2583.2	2470.9	2204.5	2032.3	1977.1
60°	2573.6	2609.8	2601.2	2611.7	2587.0	2458.5	2369.1	2253.0	2015.1	1849.6	1801.1
62.5°	2305.3	2338.6	2336.7	2348.2	2334.8	2228.3	2148.3	2049.4	1819.2	1666.9	1622.2
65°	2042.7	2071.3	2069.4	2081.7	2078.9	1993.3	1921.0	1830.6	1623.2	1483.3	1444.3
67.5°	1787.8	1811.5	1804.9	1819.2	1823.0	1754.5	1691.7	1610.8	1436.7	1300.6	1267.3
70°	1538.5	1554.7	1546.1	1555.6	1564.2	1512.8	1459.5	1388.1	1237.8	1117.9	1090.3
72.5°	1294.0	1305.4	1292.1	1301.6	1309.2	1272.1	1228.3	1166.5	1041.8	938.1	915.3
75°	1057.0	1073.2	1045.6	1055.1	1060.9	1023.7	998.1	947.6	840.1	760.2	745.0
77.5°	827.8	837.3	822.0	818.2	822.0	795.4	775.4	736.4	655.5	589.9	580.4
80°	608.9	614.6	599.4	595.6	598.5	579.4	564.2	535.7	478.6	429.1	425.3
82.5°	408.2	411.0	397.7	393.9	395.8	390.1	372.0	352.0	325.4	283.5	282.6
85°	233.1	233.1	223.6	219.8	221.7	212.2	205.5	195.0	184.6	156.0	157.9
87.5°	85.6	85.6	80.9	79.9	89.4	79.0	76.1	71.4	74.2	59.0	62.8
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8	4352.8
2.5°	4371.9	4362.3	4353.8	4324.3	4336.7	4306.2	4304.3	4292.9	4284.3	4268.2	4289.1
5°	4357.6	4338.6	4313.8	4278.6	4289.1	4252.9	4245.3	4232.0	4220.6	4199.7	4215.8
7.5°	4334.8	4303.4	4264.4	4219.6	4233.9	4189.2	4177.8	4163.5	4154.0	4129.2	4143.5
10°	4301.5	4256.7	4211.1	4156.8	4167.3	4118.8	4104.5	4089.3	4080.7	4058.8	4073.1
12.5°	4250.1	4195.8	4134.0	4075.0	4086.4	4040.8	4021.7	4005.6	4002.7	3984.6	4001.8
15°	4183.5	4108.3	4044.6	3981.8	3995.1	3941.8	3933.2	3917.1	3921.8	3909.5	3930.4
17.5°	4098.8	4012.2	3942.8	3875.2	3888.5	3843.8	3837.2	3829.5	3834.3	3832.4	3855.2
20°	4003.7	3908.5	3828.6	3762.0	3769.6	3734.4	3737.3	3735.4	3744.9	3755.3	3786.7
22.5°	3896.1	3788.6	3704.9	3636.4	3647.8	3617.4	3630.7	3634.5	3650.7	3674.5	3714.4
25°	3775.3	3660.2	3572.7	3508.0	3518.4	3498.4	3521.3	3530.8	3556.5	3596.4	3637.4
27.5°	3648.8	3527.0	3433.7	3371.9	3391.9	3371.9	3406.2	3425.2	3464.2	3508.0	3558.4
30°	3514.6	3388.1	3292.0	3236.8	3255.8	3237.7	3292.9	3318.6	3357.6	3417.6	3477.5
32.5°	3373.8	3240.6	3146.4	3103.6	3116.9	3114.1	3175.9	3204.4	3256.8	3325.3	3389.0
35°	3229.2	3090.3	2995.1	2959.0	2975.2	2979.0	3053.2	3086.5	3143.6	3226.3	3294.8
37.5°	3079.8	2938.0	2844.8	2815.3	2829.6	2843.9	2930.4	2963.7	3028.4	3118.8	3194.0
40°	2924.7	2783.0	2691.6	2667.8	2682.1	2697.3	2791.5	2837.2	2907.6	3005.6	3087.4
42.5°	2767.7	2626.0	2537.5	2520.4	2534.6	2564.1	2664.0	2706.8	2781.1	2889.5	2979.9
45°	2607.9	2460.4	2383.4	2370.0	2385.3	2419.5	2517.5	2568.9	2647.9	2766.8	2863.8
47.5°	2446.2	2302.5	2229.2	2220.7	2235.9	2273.9	2382.4	2429.0	2512.8	2639.3	2744.0
50°	2282.5	2142.6	2072.2	2069.4	2083.7	2124.6	2228.3	2283.5	2370.0	2511.8	2619.3
52.5°	2117.0	1982.8	1919.1	1919.1	1932.4	1974.2	2078.9	2136.0	2225.4	2374.8	2493.7
55°	1951.4	1823.9	1763.0	1767.8	1786.8	1823.0	1924.8	1984.7	2075.1	2230.2	2355.8
57.5°	1785.9	1665.0	1609.8	1616.5	1634.6	1670.7	1770.6	1838.2	1920.0	2080.8	2209.2
60°	1622.2	1508.0	1459.5	1467.1	1483.3	1519.4	1623.2	1681.2	1763.0	1926.7	2055.1
62.5°	1456.7	1352.9	1307.3	1316.8	1331.1	1367.2	1465.2	1521.4	1602.2	1763.0	1892.4
65°	1293.0	1196.9	1157.9	1167.4	1180.7	1214.0	1306.3	1360.6	1437.6	1594.6	1718.3
67.5°	1131.3	1043.7	1011.4	1020.9	1031.4	1062.8	1138.9	1197.9	1270.2	1419.5	1536.6
70°	971.4	893.4	864.9	874.4	883.9	912.4	979.0	1033.3	1099.9	1236.9	1345.3
72.5°	813.5	737.4	723.1	731.7	739.3	764.0	827.8	870.6	928.6	1050.4	1143.6
75°	659.3	593.7	584.2	592.7	599.4	618.4	671.7	708.8	757.3	863.0	939.1
77.5°	510.9	455.7	451.9	458.6	465.3	478.6	520.4	559.4	597.5	675.5	743.1
80°	372.0	327.3	327.3	334.0	332.1	348.2	377.7	409.1	436.7	492.8	542.3
82.5°	245.5	210.3	215.0	219.8	222.6	229.3	247.4	271.2	288.3	322.5	354.9
85°	136.1	112.3	117.0	120.8	118.9	126.5	136.1	150.3	158.9	175.1	192.2
87.5°	50.4	41.9	42.8	45.7	47.6	51.4	51.4	59.9	60.9	62.8	66.6
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):

	160°	170°	180°
0°	4352.8	4352.8	4352.8
2.5°	4249.1	4272.0	4289.1
5°	4175.9	4194.9	4210.1
7.5°	4104.5	4121.6	4135.0
10°	4037.0	4056.0	4065.5
12.5°	3967.5	3989.4	3997.0
15°	3899.0	3920.9	3930.4
17.5°	3828.6	3857.1	3867.6
20°	3762.9	3799.1	3807.7
22.5°	3696.3	3733.4	3743.9
25°	3624.0	3667.8	3678.3
27.5°	3547.0	3599.3	3609.8
30°	3469.9	3527.0	3537.5
32.5°	3387.1	3449.0	3458.5
35°	3300.5	3362.4	3373.8
37.5°	3204.4	3272.0	3294.8
40°	3104.5	3177.8	3201.6
42.5°	2999.9	3079.8	3104.5
45°	2887.6	2975.2	3003.7
47.5°	2774.4	2873.3	2898.1
50°	2651.7	2757.3	2786.8
52.5°	2523.2	2638.3	2667.8
55°	2390.0	2506.1	2538.4
57.5°	2245.4	2365.3	2399.5
60°	2094.1	2214.0	2246.3
62.5°	1939.0	2047.5	2078.9
65°	1765.9	1867.7	1896.2
67.5°	1582.2	1675.5	1699.3
70°	1387.2	1468.1	1489.0
72.5°	1183.6	1239.7	1267.3
75°	973.3	1018.0	1039.0
77.5°	762.1	793.5	810.6
80°	555.6	573.7	588.0
82.5°	363.4	371.1	381.5
85°	196.0	196.0	202.7
87.5°	66.6	63.7	66.6
90°	0.0	0.0	0.0

(END OF REPORT)