

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: P834677

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834677
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-LD4-4STD-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

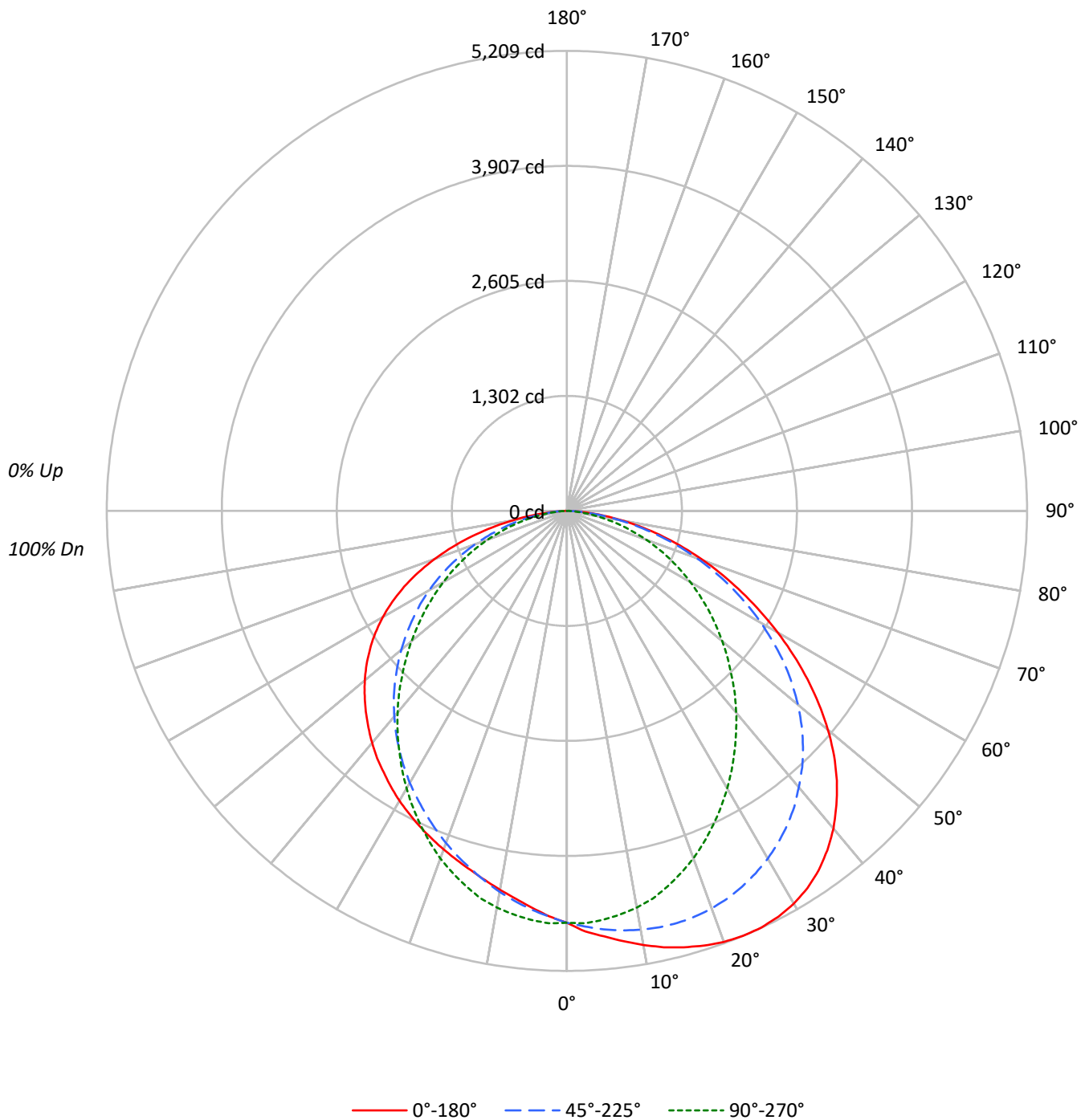
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13718.0 lumens
Efficiency: N/A
Efficacy: 103.0 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): 133.2
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6275	6275	6275
5°	6533	6278	6092
10°	6819	6231	5951
15°	7125	6131	5866
20°	7436	5996	5841
25°	7728	5822	5850
30°	7980	5640	5888
35°	8162	5438	5937
40°	8245	5237	6025
45°	8222	5016	6123
50°	8076	4805	6250
55°	7800	4584	6380
60°	7420	4348	6476
65°	6968	4082	6468
70°	6484	3766	6276
75°	5887	3307	5787
80°	5055	2717	4881
85°	3855	1857	3352

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	442.3	3.2
10°-20°	1277.3	9.3
20°-30°	1956.8	14.3
30°-40°	2388.0	17.4
40°-50°	2497.4	18.2
50°-60°	2260.3	16.5
60°-70°	1711.8	12.5
70°-80°	954.0	7.0
80°-90°	230.1	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°	3676.4	26.8
0°-40°	6064.5	44.2
0°-60°	10822.1	78.9
0°-90°	13718.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13718.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4664	4664	4664	4664	4664	
5°	4837	4756	4648	4534	4511	466
15°	5115	4831	4402	4197	4211	1451
25°	5206	4694	3922	3783	3941	2402
35°	4969	4346	3311	3307	3615	3103
45°	4321	3780	2636	2752	3218	3325
55°	3325	3002	1954	2126	2720	2967
65°	2189	2058	1282	1458	2032	2171
75°	1132	1069	636	759	1113	1201
85°	250	220	120	161	217	300
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°	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6
2.5°	4766.5	4744.1	4725.7	4732.9	4736.9	4722.7	4710.4	4712.5	4700.2	4723.7	4668.6
5°	4836.8	4816.5	4795.0	4803.2	4795.0	4773.6	4756.3	4751.2	4718.6	4731.8	4675.8
7.5°	4915.3	4892.9	4861.3	4870.5	4853.2	4813.4	4791.0	4777.7	4727.8	4728.8	4666.6
10°	4990.8	4971.4	4928.6	4934.7	4903.1	4850.1	4814.4	4796.1	4725.7	4715.5	4651.3
12.5°	5061.1	5034.6	4988.7	4991.8	4945.9	4875.6	4829.7	4803.2	4711.5	4680.9	4617.7
15°	5115.1	5089.6	5034.6	5033.6	4974.5	4882.7	4830.7	4794.0	4677.8	4629.9	4563.7
17.5°	5161.0	5137.6	5069.3	5067.2	4995.9	4879.7	4817.5	4771.6	4628.9	4569.8	4496.4
20°	5193.6	5170.2	5093.7	5086.6	5001.0	4864.4	4790.0	4731.8	4564.7	4494.3	4412.8
22.5°	5208.9	5185.5	5098.8	5088.6	4988.7	4833.8	4750.2	4681.9	4491.3	4399.5	4314.9
25°	5205.8	5183.4	5085.6	5075.4	4965.3	4787.9	4694.1	4615.6	4398.5	4290.5	4206.9
27.5°	5180.4	5163.0	5060.1	5046.8	4922.5	4725.7	4625.8	4539.2	4295.6	4175.3	4084.6
30°	5136.5	5123.3	5014.2	5002.0	4869.5	4657.4	4546.3	4446.4	4184.5	4048.9	3957.1
32.5°	5066.2	5054.0	4943.9	4932.7	4798.1	4569.8	4453.6	4350.6	4063.2	3913.3	3821.6
35°	4969.4	4962.2	4855.2	4843.0	4706.4	4469.9	4346.5	4233.4	3936.8	3767.5	3679.9
37.5°	4841.9	4841.9	4739.0	4725.7	4592.2	4347.6	4226.2	4106.0	3794.0	3614.6	3528.0
40°	4694.1	4707.4	4602.4	4589.1	4459.7	4216.1	4083.5	3957.1	3640.1	3453.6	3369.0
42.5°	4516.8	4529.0	4441.3	4429.1	4307.8	4064.2	3940.8	3803.2	3479.1	3289.5	3201.8
45°	4321.0	4337.4	4258.9	4249.7	4136.5	3898.0	3779.8	3640.1	3310.9	3118.2	3032.6
47.5°	4102.9	4124.3	4056.0	4050.9	3945.9	3727.8	3604.4	3462.8	3134.5	2939.8	2859.3
50°	3858.3	3888.8	3832.8	3832.8	3739.0	3521.9	3414.8	3273.2	2951.0	2756.3	2676.8
52.5°	3596.3	3635.0	3593.2	3594.2	3517.8	3323.1	3212.0	3073.4	2759.4	2567.8	2494.4
55°	3325.1	3362.9	3336.4	3340.4	3280.3	3102.9	3002.0	2864.4	2563.7	2377.1	2307.8
57.5°	3041.8	3082.5	3065.2	3073.4	3031.6	2872.5	2767.6	2647.3	2361.8	2177.3	2118.2
60°	2757.4	2796.1	2786.9	2798.1	2771.6	2634.0	2538.2	2413.8	2159.0	1981.6	1929.6
62.5°	2469.9	2505.6	2503.5	2515.8	2501.5	2387.3	2301.7	2195.7	1949.0	1785.9	1738.0
65°	2188.6	2219.1	2217.1	2230.4	2227.3	2135.6	2058.1	1961.2	1739.0	1589.2	1547.4
67.5°	1915.4	1940.9	1933.7	1949.0	1953.1	1879.7	1812.4	1725.8	1539.2	1393.5	1357.8
70°	1648.3	1665.6	1656.5	1666.6	1675.8	1620.8	1563.7	1487.2	1326.2	1197.7	1168.2
72.5°	1386.3	1398.6	1384.3	1394.5	1402.6	1362.9	1316.0	1249.7	1116.2	1005.1	980.6
75°	1132.5	1149.8	1120.3	1130.5	1136.6	1096.8	1069.3	1015.3	900.1	814.5	798.2
77.5°	886.8	897.0	880.7	876.6	880.7	852.2	830.8	789.0	702.3	632.0	621.8
80°	652.4	658.5	642.2	638.1	641.2	620.8	604.5	573.9	512.7	459.7	455.7
82.5°	437.3	440.4	426.1	422.0	424.1	417.9	398.6	377.2	348.6	303.8	302.7
85°	249.7	249.7	239.5	235.5	237.5	227.3	220.2	209.0	197.8	167.2	169.2
87.5°	91.7	91.7	86.6	85.6	95.8	84.6	81.5	76.5	79.5	63.2	67.3
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°	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6	4663.6
2.5°	4683.9	4673.7	4664.6	4633.0	4646.2	4613.6	4611.6	4599.3	4590.2	4572.8	4595.3
5°	4668.6	4648.3	4621.8	4584.0	4595.3	4556.5	4548.4	4534.1	4521.9	4499.4	4516.8
7.5°	4644.2	4610.5	4568.8	4520.8	4536.1	4488.2	4476.0	4460.7	4450.5	4424.0	4439.3
10°	4608.5	4560.6	4511.7	4453.6	4464.8	4412.8	4397.5	4381.2	4372.0	4348.6	4363.9
12.5°	4553.5	4495.4	4429.1	4365.9	4378.1	4329.2	4308.8	4291.5	4288.4	4269.1	4287.4
15°	4482.1	4401.6	4333.3	4266.0	4280.3	4223.2	4214.0	4196.7	4201.8	4188.5	4211.0
17.5°	4391.4	4298.6	4224.2	4151.8	4166.1	4118.2	4111.1	4102.9	4108.0	4106.0	4130.4
20°	4289.4	4187.5	4101.9	4030.5	4038.7	4001.0	4004.0	4002.0	4012.2	4023.4	4057.0
22.5°	4174.3	4059.1	3969.4	3896.0	3908.2	3875.6	3889.9	3893.9	3911.3	3936.8	3979.6
25°	4044.8	3921.5	3827.7	3758.4	3769.6	3748.2	3772.6	3782.8	3810.4	3853.2	3897.0
27.5°	3909.2	3778.8	3678.9	3612.6	3634.0	3612.6	3649.3	3669.7	3711.5	3758.4	3812.4
30°	3765.5	3629.9	3527.0	3467.8	3488.2	3468.9	3528.0	3555.5	3597.3	3661.5	3725.7
32.5°	3614.6	3471.9	3371.0	3325.1	3339.4	3336.4	3402.6	3433.2	3489.3	3562.6	3630.9
35°	3459.7	3310.9	3208.9	3170.2	3187.5	3191.6	3271.1	3306.8	3368.0	3456.6	3530.0
37.5°	3299.7	3147.8	3047.9	3016.3	3031.6	3046.9	3139.6	3175.3	3244.6	3341.4	3422.0
40°	3133.5	2981.6	2883.8	2858.3	2873.6	2889.9	2990.8	3039.7	3115.2	3220.1	3307.8
42.5°	2965.3	2813.4	2718.6	2700.3	2715.6	2747.2	2854.2	2900.1	2979.6	3095.8	3192.6
45°	2794.1	2636.1	2553.5	2539.2	2555.5	2592.2	2697.2	2752.3	2836.9	2964.3	3068.3
47.5°	2620.8	2466.8	2388.4	2379.2	2395.5	2436.3	2552.5	2602.4	2692.1	2827.7	2939.8
50°	2445.4	2295.6	2220.2	2217.1	2232.4	2276.2	2387.3	2446.5	2539.2	2691.1	2806.3
52.5°	2268.1	2124.3	2056.0	2056.0	2070.3	2115.2	2227.3	2288.5	2384.3	2544.3	2671.7
55°	2090.7	1954.1	1888.9	1894.0	1914.4	1953.1	2062.2	2126.4	2223.2	2389.4	2523.9
57.5°	1913.3	1783.9	1724.7	1731.9	1751.3	1790.0	1897.0	1969.4	2057.1	2229.3	2366.9
60°	1738.0	1615.7	1563.7	1571.8	1589.2	1627.9	1739.0	1801.2	1888.9	2064.2	2201.8
62.5°	1560.6	1449.5	1400.6	1410.8	1426.1	1464.8	1569.8	1629.9	1716.6	1888.9	2027.5
65°	1385.3	1282.3	1240.6	1250.7	1265.0	1300.7	1399.6	1457.7	1540.2	1708.4	1841.0
67.5°	1212.0	1118.2	1083.6	1093.8	1105.0	1138.6	1220.2	1283.4	1360.8	1520.9	1646.3
70°	1040.8	957.2	926.6	936.8	947.0	977.6	1048.9	1107.0	1178.4	1325.2	1441.4
72.5°	871.5	790.0	774.7	783.9	792.0	818.5	886.8	932.7	994.9	1125.4	1225.3
75°	706.4	636.1	625.9	635.1	642.2	662.6	719.7	759.4	811.4	924.6	1006.1
77.5°	547.4	488.3	484.2	491.3	498.5	512.7	557.6	599.4	640.2	723.7	796.1
80°	398.6	350.7	350.7	357.8	355.8	373.1	404.7	438.3	467.9	528.0	581.0
82.5°	263.0	225.3	230.4	235.5	238.5	245.7	265.0	290.5	308.9	345.6	380.2
85°	145.8	120.3	125.4	129.5	127.4	135.6	145.8	161.1	170.2	187.6	205.9
87.5°	54.0	44.9	45.9	48.9	51.0	55.0	55.0	64.2	65.2	67.3	71.4
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°	4663.6	4663.6	4663.6
2.5°	4552.4	4576.9	4595.3
5°	4474.0	4494.3	4510.6
7.5°	4397.5	4415.8	4430.1
10°	4325.1	4345.5	4355.7
12.5°	4250.7	4274.2	4282.3
15°	4177.3	4200.8	4211.0
17.5°	4101.9	4132.5	4143.7
20°	4031.6	4070.3	4079.5
22.5°	3960.2	4000.0	4011.2
25°	3882.7	3929.6	3940.8
27.5°	3800.2	3856.2	3867.4
30°	3717.6	3778.8	3790.0
32.5°	3628.9	3695.2	3705.4
35°	3536.1	3602.4	3614.6
37.5°	3433.2	3505.6	3530.0
40°	3326.2	3404.6	3430.1
42.5°	3214.0	3299.7	3326.2
45°	3093.7	3187.5	3218.1
47.5°	2972.4	3078.5	3105.0
50°	2840.9	2954.1	2985.7
52.5°	2703.3	2826.7	2858.3
55°	2560.6	2685.0	2719.6
57.5°	2405.7	2534.1	2570.8
60°	2243.6	2372.0	2406.7
62.5°	2077.4	2193.7	2227.3
65°	1891.9	2001.0	2031.6
67.5°	1695.2	1795.1	1820.6
70°	1486.2	1572.9	1595.3
72.5°	1268.1	1328.2	1357.8
75°	1042.8	1090.7	1113.1
77.5°	816.5	850.1	868.5
80°	595.3	614.7	630.0
82.5°	389.4	397.5	408.8
85°	210.0	210.0	217.1
87.5°	71.4	68.3	71.4
90°	0.0	0.0	0.0

(END OF REPORT)