

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: P834516

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834516
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-LD4-4HI-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

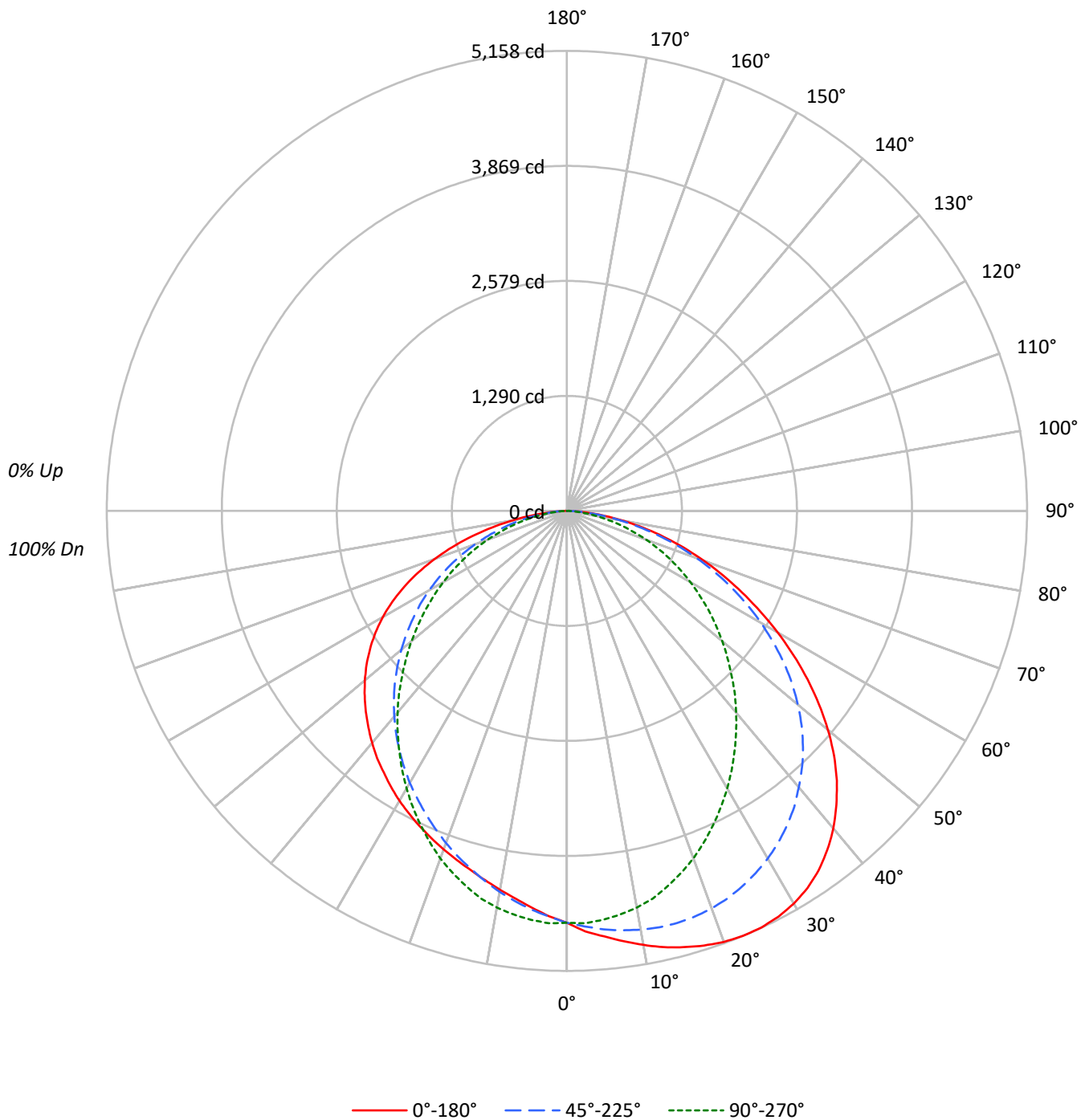
Lumens per Lamp: N/A
Luminaire Lumens: 13582.6 lumens
Efficiency: N/A
Efficacy: 77.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 176
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	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6213	6213	6213
5°	6468	6216	6032
10°	6751	6169	5892
15°	7055	6071	5808
20°	7363	5937	5783
25°	7652	5764	5793
30°	7901	5584	5830
35°	8082	5385	5879
40°	8163	5185	5965
45°	8141	4966	6063
50°	7996	4758	6188
55°	7723	4539	6317
60°	7347	4305	6412
65°	6899	4042	6404
70°	6420	3728	6214
75°	5829	3274	5730
80°	5005	2690	4833
85°	3818	1839	3319

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	437.9	3.2
10°-20°	1264.7	9.3
20°-30°	1937.5	14.3
30°-40°	2364.5	17.4
40°-50°	2472.7	18.2
50°-60°	2238.0	16.5
60°-70°	1694.9	12.5
70°-80°	944.6	7.0
80°-90°	227.8	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°	3640.1	26.8
0°-40°	6004.6	44.2
0°-60°	10715.3	78.9
0°-90°	13582.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13582.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4618	4618	4618	4618	4618	
5°	4789	4709	4602	4489	4466	462
15°	5065	4783	4358	4155	4169	1436
25°	5154	4648	3883	3746	3902	2378
35°	4920	4304	3278	3274	3579	3072
45°	4278	3742	2610	2725	3186	3292
55°	3292	2972	1935	2105	2693	2938
65°	2167	2038	1270	1443	2012	2150
75°	1121	1059	630	752	1102	1189
85°	247	218	119	160	215	298
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°	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5
2.5°	4719.5	4697.3	4679.1	4686.2	4690.2	4676.1	4664.0	4666.0	4653.9	4677.1	4622.6
5°	4789.1	4768.9	4747.7	4755.8	4747.7	4726.5	4709.4	4704.3	4672.0	4685.1	4629.6
7.5°	4866.8	4844.6	4813.3	4822.4	4805.3	4765.9	4743.7	4730.6	4681.1	4682.1	4620.6
10°	4941.5	4922.3	4879.9	4886.0	4854.7	4802.2	4766.9	4748.7	4679.1	4669.0	4605.4
12.5°	5011.1	4984.9	4939.5	4942.5	4897.1	4827.5	4782.0	4755.8	4665.0	4634.7	4572.1
15°	5064.6	5039.4	4984.9	4983.9	4925.4	4834.5	4783.0	4746.7	4631.7	4584.2	4518.6
17.5°	5110.1	5086.8	5019.2	5017.2	4946.6	4831.5	4769.9	4724.5	4583.2	4524.7	4452.0
20°	5142.4	5119.1	5043.4	5036.4	4951.6	4816.4	4742.7	4685.1	4519.6	4450.0	4369.2
22.5°	5157.5	5134.3	5048.5	5038.4	4939.5	4786.1	4703.3	4635.7	4447.0	4356.1	4272.3
25°	5154.5	5132.3	5035.4	5025.3	4916.3	4740.7	4647.8	4570.1	4355.1	4248.1	4165.4
27.5°	5129.2	5112.1	5010.1	4997.0	4873.9	4679.1	4580.2	4494.4	4253.2	4134.1	4044.2
30°	5085.8	5072.7	4964.7	4952.6	4821.4	4611.5	4501.5	4402.5	4143.2	4008.9	3918.1
32.5°	5016.2	5004.1	4895.1	4884.0	4750.8	4524.7	4409.6	4307.7	4023.0	3874.7	3783.8
35°	4920.3	4913.2	4807.3	4795.2	4659.9	4425.8	4303.6	4191.6	3897.9	3730.4	3643.6
37.5°	4794.2	4794.2	4692.2	4679.1	4546.9	4304.6	4184.5	4065.4	3756.6	3579.0	3493.2
40°	4647.8	4660.9	4557.0	4543.8	4415.7	4174.4	4043.2	3918.1	3604.2	3419.5	3335.7
42.5°	4472.2	4484.3	4397.5	4385.4	4265.3	4024.1	3901.9	3765.7	3444.7	3257.0	3170.2
45°	4278.4	4294.5	4216.8	4207.8	4095.7	3859.5	3742.5	3604.2	3278.2	3087.4	3002.7
47.5°	4062.4	4083.6	4016.0	4010.9	3907.0	3691.0	3568.9	3428.6	3103.6	2910.8	2831.1
50°	3820.2	3850.5	3794.9	3794.9	3702.1	3487.1	3381.1	3240.8	2921.9	2729.1	2650.4
52.5°	3560.8	3599.1	3557.8	3558.8	3483.1	3290.3	3180.3	3043.0	2732.2	2542.4	2469.7
55°	3292.3	3329.7	3303.4	3307.5	3247.9	3072.3	2972.4	2836.1	2538.4	2353.7	2285.0
57.5°	3011.7	3052.1	3034.9	3043.0	3001.6	2844.2	2740.2	2621.1	2338.5	2155.9	2097.3
60°	2730.1	2768.5	2759.4	2770.5	2744.3	2608.0	2513.1	2390.0	2137.7	1962.1	1910.6
62.5°	2445.5	2480.8	2478.8	2490.9	2476.8	2363.8	2279.0	2174.0	1929.8	1768.3	1720.8
65°	2167.0	2197.2	2195.2	2208.3	2205.3	2114.5	2037.8	1941.9	1721.9	1573.5	1532.1
67.5°	1896.5	1921.7	1914.6	1929.8	1933.8	1861.1	1794.5	1708.7	1524.0	1379.7	1344.4
70°	1632.0	1649.2	1640.1	1650.2	1659.3	1604.8	1548.3	1472.6	1313.1	1185.9	1156.7
72.5°	1372.6	1384.8	1370.6	1380.7	1388.8	1349.4	1303.0	1237.4	1105.2	995.2	970.9
75°	1121.3	1138.5	1109.2	1119.3	1125.4	1086.0	1058.8	1005.3	891.2	806.4	790.3
77.5°	878.1	888.2	872.0	868.0	872.0	843.8	822.6	781.2	695.4	625.8	615.7
80°	645.9	652.0	635.9	631.8	634.8	614.7	598.5	568.2	507.7	455.2	451.2
82.5°	433.0	436.0	421.9	417.8	419.9	413.8	394.6	373.4	345.2	300.8	299.8
85°	247.3	247.3	237.2	233.1	235.2	225.1	218.0	206.9	195.8	165.5	167.5
87.5°	90.8	90.8	85.8	84.8	94.9	83.8	80.7	75.7	78.7	62.6	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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5	4617.5
2.5°	4637.7	4627.6	4618.5	4587.2	4600.4	4568.1	4566.1	4553.9	4544.9	4527.7	4549.9
5°	4622.6	4602.4	4576.1	4538.8	4549.9	4511.5	4503.5	4489.3	4477.2	4455.0	4472.2
7.5°	4598.3	4565.0	4523.7	4476.2	4491.4	4443.9	4431.8	4416.7	4406.6	4380.3	4395.5
10°	4563.0	4515.6	4467.1	4409.6	4420.7	4369.2	4354.1	4337.9	4328.9	4305.7	4320.8
12.5°	4508.5	4451.0	4385.4	4322.8	4334.9	4286.5	4266.3	4249.1	4246.1	4226.9	4245.1
15°	4437.9	4358.1	4290.5	4223.9	4238.0	4181.5	4172.4	4155.3	4160.3	4147.2	4169.4
17.5°	4348.0	4256.2	4182.5	4110.9	4125.0	4077.6	4070.5	4062.4	4067.5	4065.4	4089.7
20°	4247.1	4146.2	4061.4	3990.8	3998.8	3961.5	3964.5	3962.5	3972.6	3983.7	4017.0
22.5°	4133.1	4019.0	3930.2	3857.5	3869.6	3837.3	3851.5	3855.5	3872.7	3897.9	3940.3
25°	4004.9	3882.8	3789.9	3721.3	3732.4	3711.2	3735.4	3745.5	3772.7	3815.1	3858.5
27.5°	3870.6	3741.5	3642.5	3576.9	3598.1	3576.9	3613.3	3633.5	3674.8	3721.3	3774.8
30°	3728.3	3594.1	3492.2	3433.6	3453.8	3434.6	3493.2	3520.4	3561.8	3625.4	3689.0
32.5°	3579.0	3437.7	3337.7	3292.3	3306.5	3303.4	3369.0	3399.3	3454.8	3527.5	3595.1
35°	3425.5	3278.2	3177.3	3138.9	3156.1	3160.1	3238.8	3274.2	3334.7	3422.5	3495.2
37.5°	3267.1	3116.7	3017.8	2986.5	3001.6	3016.8	3108.6	3144.0	3212.6	3308.5	3388.2
40°	3102.6	2952.2	2855.3	2830.1	2845.2	2861.4	2961.3	3009.7	3084.4	3188.4	3275.2
42.5°	2936.0	2785.7	2691.8	2673.6	2688.8	2720.0	2826.0	2871.4	2950.2	3065.2	3161.1
45°	2766.5	2610.0	2528.3	2514.2	2530.3	2566.6	2670.6	2725.1	2808.9	2935.0	3038.0
47.5°	2594.9	2442.5	2364.8	2355.7	2371.8	2412.2	2527.3	2576.7	2665.5	2799.8	2910.8
50°	2421.3	2272.9	2198.2	2195.2	2210.4	2253.8	2363.8	2422.3	2514.2	2664.5	2778.6
52.5°	2245.7	2103.4	2035.7	2035.7	2049.9	2094.3	2205.3	2265.9	2360.7	2519.2	2645.4
55°	2070.1	1934.8	1870.2	1875.3	1895.5	1933.8	2041.8	2105.4	2201.3	2365.8	2499.0
57.5°	1894.4	1766.3	1707.7	1714.8	1734.0	1772.3	1878.3	1950.0	2036.8	2207.3	2343.6
60°	1720.8	1599.7	1548.3	1556.3	1573.5	1611.8	1721.9	1783.4	1870.2	2043.8	2180.1
62.5°	1545.2	1435.2	1386.8	1396.9	1412.0	1450.4	1554.3	1613.9	1699.7	1870.2	2007.5
65°	1371.6	1269.7	1228.3	1238.4	1252.5	1287.9	1385.8	1443.3	1525.0	1691.6	1822.8
67.5°	1200.1	1107.2	1072.9	1083.0	1094.1	1127.4	1208.1	1270.7	1347.4	1505.9	1630.0
70°	1030.5	947.7	917.4	927.5	937.6	967.9	1038.6	1096.1	1166.7	1312.1	1427.1
72.5°	862.9	782.2	767.1	776.1	784.2	810.5	878.1	923.5	985.1	1114.3	1213.2
75°	699.4	629.8	619.7	628.8	635.9	656.0	712.6	751.9	803.4	915.4	996.2
77.5°	542.0	483.5	479.4	486.5	493.5	507.7	552.1	593.5	633.8	716.6	788.3
80°	394.6	347.2	347.2	354.3	352.2	369.4	400.7	434.0	463.3	522.8	575.3
82.5°	260.4	223.1	228.1	233.1	236.2	243.2	262.4	287.6	305.8	342.2	376.5
85°	144.3	119.1	124.1	128.2	126.2	134.2	144.3	159.5	168.6	185.7	203.9
87.5°	53.5	44.4	45.4	48.4	50.5	54.5	54.5	63.6	64.6	66.6	70.7
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°	4617.5	4617.5	4617.5
2.5°	4507.5	4531.7	4549.9
5°	4429.8	4450.0	4466.1
7.5°	4354.1	4372.3	4386.4
10°	4282.4	4302.6	4312.7
12.5°	4208.8	4232.0	4240.0
15°	4136.1	4159.3	4169.4
17.5°	4061.4	4091.7	4102.8
20°	3991.8	4030.1	4039.2
22.5°	3921.1	3960.5	3971.6
25°	3844.4	3890.8	3901.9
27.5°	3762.7	3818.2	3829.3
30°	3680.9	3741.5	3752.6
32.5°	3593.1	3658.7	3668.8
35°	3501.2	3566.8	3579.0
37.5°	3399.3	3471.0	3495.2
40°	3293.3	3371.0	3396.3
42.5°	3182.3	3267.1	3293.3
45°	3063.2	3156.1	3186.3
47.5°	2943.1	3048.1	3074.3
50°	2812.9	2924.9	2956.2
52.5°	2676.7	2798.8	2830.1
55°	2535.3	2658.5	2692.8
57.5°	2381.9	2509.1	2545.4
60°	2221.5	2348.6	2382.9
62.5°	2056.9	2172.0	2205.3
65°	1873.3	1981.2	2011.5
67.5°	1678.5	1777.4	1802.6
70°	1471.6	1557.3	1579.5
72.5°	1255.6	1315.1	1344.4
75°	1032.5	1079.9	1102.2
77.5°	808.4	841.8	859.9
80°	589.4	608.6	623.7
82.5°	385.6	393.6	404.7
85°	207.9	207.9	215.0
87.5°	70.7	67.6	70.7
90°	0.0	0.0	0.0

(END OF REPORT)