

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: P834659

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4STD-30-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834659
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

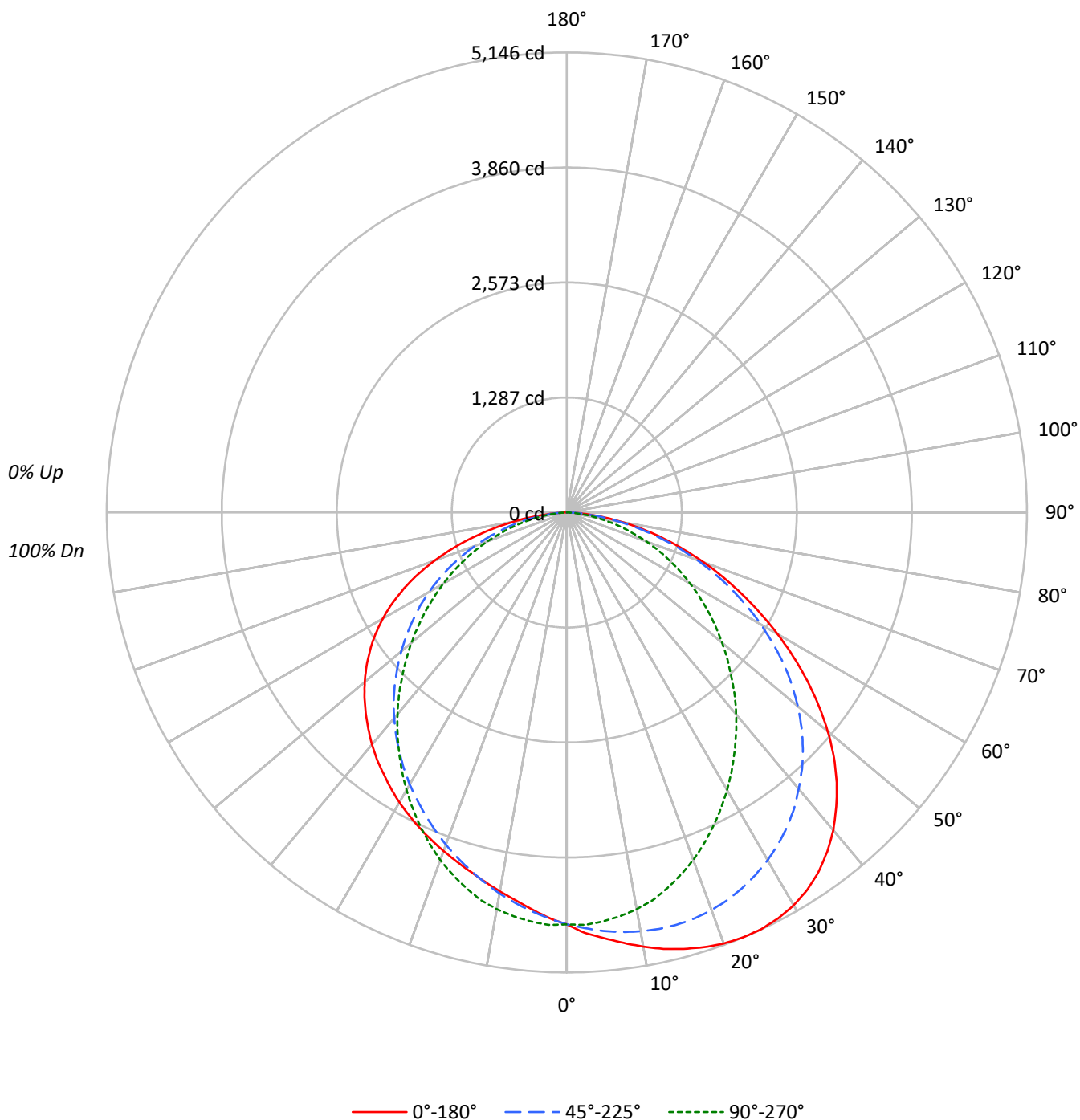
Lumens per Lamp: N/A
Luminaire Lumens: 13552.7 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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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°	6199	6199	6199
5°	6454	6202	6019
10°	6736	6156	5879
15°	7039	6057	5795
20°	7347	5924	5771
25°	7635	5752	5780
30°	7884	5572	5817
35°	8064	5373	5866
40°	8146	5174	5952
45°	8123	4955	6050
50°	7979	4747	6174
55°	7706	4529	6303
60°	7330	4295	6398
65°	6884	4033	6390
70°	6406	3720	6200
75°	5817	3267	5717
80°	4994	2684	4823
85°	3808	1834	3311

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	437.0	3.2
10°-20°	1261.9	9.3
20°-30°	1933.2	14.3
30°-40°	2359.3	17.4
40°-50°	2467.3	18.2
50°-60°	2233.1	16.5
60°-70°	1691.2	12.5
70°-80°	942.5	7.0
80°-90°	227.3	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°	3632.1	26.8
0°-40°	5991.4	44.2
0°-60°	10691.7	78.9
0°-90°	13552.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13552.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4607	4607	4607	4607	4607	
5°	4779	4699	4592	4480	4456	461
15°	5054	4772	4348	4146	4160	1433
25°	5143	4638	3874	3737	3893	2373
35°	4910	4294	3271	3267	3571	3066
45°	4269	3734	2604	2719	3179	3285
55°	3285	2966	1931	2101	2687	2931
65°	2162	2033	1267	1440	2007	2145
75°	1119	1056	628	750	1100	1187
85°	247	218	119	159	214	297
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°	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4
2.5°	4709.1	4686.9	4668.8	4675.8	4679.9	4665.8	4653.7	4655.7	4643.6	4666.8	4612.4
5°	4778.6	4758.4	4737.3	4745.3	4737.3	4716.1	4699.0	4694.0	4661.7	4674.8	4619.4
7.5°	4856.1	4834.0	4802.7	4811.8	4794.7	4755.4	4733.2	4720.2	4670.8	4671.8	4610.4
10°	4930.6	4911.5	4869.2	4875.2	4844.0	4791.7	4756.4	4738.3	4668.8	4658.7	4595.3
12.5°	5000.1	4973.9	4928.6	4931.6	4886.3	4816.8	4771.5	4745.3	4654.7	4624.5	4562.0
15°	5053.5	5028.3	4973.9	4972.9	4914.5	4823.9	4772.5	4736.3	4621.5	4574.1	4508.7
17.5°	5098.8	5075.7	5008.2	5006.2	4935.7	4820.9	4759.4	4714.1	4573.1	4514.7	4442.2
20°	5131.0	5107.9	5032.4	5025.3	4940.7	4805.8	4732.2	4674.8	4509.7	4440.2	4359.6
22.5°	5146.1	5123.0	5037.4	5027.3	4928.6	4775.5	4693.0	4625.5	4437.2	4346.5	4262.9
25°	5143.1	5121.0	5024.3	5014.2	4905.5	4730.2	4637.6	4560.0	4345.5	4238.8	4156.2
27.5°	5118.0	5100.8	4999.1	4986.0	4863.2	4668.8	4570.1	4484.5	4243.8	4125.0	4035.3
30°	5074.6	5061.6	4953.8	4941.7	4810.8	4601.3	4491.6	4392.9	4134.0	4000.1	3909.5
32.5°	5005.2	4993.1	4884.3	4873.2	4740.3	4514.7	4399.9	4298.2	4014.2	3866.2	3775.5
35°	4909.5	4902.4	4796.7	4784.6	4649.7	4416.0	4294.2	4182.4	3889.3	3722.1	3635.5
37.5°	4783.6	4783.6	4681.9	4668.8	4536.9	4295.2	4175.3	4056.5	3748.3	3571.1	3485.5
40°	4637.6	4650.7	4546.9	4533.8	4406.0	4165.3	4034.3	3909.5	3596.3	3412.0	3328.4
42.5°	4462.3	4474.4	4387.8	4375.7	4255.9	4015.2	3893.3	3757.4	3437.1	3249.8	3163.2
45°	4269.0	4285.1	4207.6	4198.5	4086.7	3851.1	3734.2	3596.3	3271.0	3080.6	2996.0
47.5°	4053.5	4074.6	4007.1	4002.1	3898.4	3682.9	3561.0	3421.0	3096.8	2904.4	2824.8
50°	3811.8	3842.0	3786.6	3786.6	3693.9	3479.4	3373.7	3233.7	2915.5	2723.1	2644.6
52.5°	3553.0	3591.2	3549.9	3550.9	3475.4	3283.1	3173.3	3036.3	2726.2	2536.8	2464.3
55°	3285.1	3322.3	3296.2	3300.2	3240.8	3065.5	2965.8	2829.9	2532.8	2348.5	2280.0
57.5°	3005.1	3045.4	3028.3	3036.3	2995.0	2837.9	2734.2	2615.4	2333.4	2151.1	2092.7
60°	2724.1	2762.4	2753.3	2764.4	2738.2	2602.3	2507.6	2384.8	2133.0	1957.8	1906.4
62.5°	2440.1	2475.4	2473.4	2485.5	2471.4	2358.6	2274.0	2169.2	1925.5	1764.4	1717.1
65°	2162.2	2192.4	2190.4	2203.5	2200.5	2109.8	2033.3	1937.6	1718.1	1570.0	1528.7
67.5°	1892.3	1917.5	1910.4	1925.5	1929.6	1857.0	1790.6	1705.0	1520.7	1376.7	1341.4
70°	1628.4	1645.6	1636.5	1646.6	1655.6	1601.2	1544.9	1469.3	1310.2	1183.3	1154.1
72.5°	1369.6	1381.7	1367.6	1377.7	1385.7	1346.5	1300.1	1234.7	1102.7	993.0	968.8
75°	1118.9	1136.0	1106.8	1116.8	1122.9	1083.6	1056.4	1003.0	889.2	804.7	788.5
77.5°	876.2	886.2	870.1	866.1	870.1	841.9	820.8	779.5	693.9	624.4	614.3
80°	644.5	650.6	634.5	630.4	633.4	613.3	597.2	567.0	506.6	454.2	450.2
82.5°	432.0	435.1	421.0	416.9	418.9	412.9	393.8	372.6	344.4	300.1	299.1
85°	246.7	246.7	236.7	232.6	234.6	224.6	217.5	206.5	195.4	165.2	167.2
87.5°	90.6	90.6	85.6	84.6	94.7	83.6	80.6	75.5	78.6	62.4	66.5
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°	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4	4607.4
2.5°	4627.5	4617.4	4608.4	4577.2	4590.2	4558.0	4556.0	4543.9	4534.9	4517.7	4539.9
5°	4612.4	4592.3	4566.1	4528.8	4539.9	4501.6	4493.6	4479.5	4467.4	4445.2	4462.3
7.5°	4588.2	4555.0	4513.7	4466.4	4481.5	4434.1	4422.1	4407.0	4396.9	4370.7	4385.8
10°	4553.0	4505.7	4457.3	4399.9	4411.0	4359.6	4344.5	4328.4	4319.3	4296.2	4311.3
12.5°	4498.6	4441.2	4375.7	4313.3	4325.4	4277.0	4256.9	4239.8	4236.8	4217.6	4235.8
15°	4428.1	4348.5	4281.1	4214.6	4228.7	4172.3	4163.2	4146.1	4151.2	4138.1	4160.2
17.5°	4338.5	4246.8	4173.3	4101.8	4115.9	4068.6	4061.5	4053.5	4058.5	4056.5	4080.7
20°	4237.8	4137.1	4052.5	3982.0	3990.0	3952.8	3955.8	3953.8	3963.8	3974.9	4008.2
22.5°	4124.0	4010.2	3921.5	3849.0	3861.1	3828.9	3843.0	3847.0	3864.1	3889.3	3931.6
25°	3996.1	3874.2	3781.6	3713.1	3724.2	3703.0	3727.2	3737.3	3764.4	3806.7	3850.0
27.5°	3862.1	3733.2	3634.5	3569.1	3590.2	3569.1	3605.3	3625.5	3666.8	3713.1	3766.5
30°	3720.1	3586.2	3484.5	3426.1	3446.2	3427.1	3485.5	3512.7	3554.0	3617.4	3680.9
32.5°	3571.1	3430.1	3330.4	3285.1	3299.2	3296.2	3361.6	3391.8	3447.2	3519.7	3587.2
35°	3418.0	3271.0	3170.3	3132.0	3149.1	3153.1	3231.7	3266.9	3327.4	3415.0	3487.5
37.5°	3259.9	3109.8	3011.2	2979.9	2995.0	3010.1	3101.8	3137.0	3205.5	3301.2	3380.7
40°	3095.7	2945.7	2849.0	2823.8	2838.9	2855.1	2954.8	3003.1	3077.6	3181.3	3268.0
42.5°	2929.6	2779.5	2685.9	2667.7	2682.8	2714.1	2819.8	2865.1	2943.7	3058.5	3154.2
45°	2760.4	2604.3	2522.7	2508.6	2524.7	2561.0	2664.7	2719.1	2802.7	2928.6	3031.3
47.5°	2589.2	2437.1	2359.6	2350.5	2366.6	2406.9	2521.7	2571.1	2659.7	2793.6	2904.4
50°	2416.0	2267.9	2193.4	2190.4	2205.5	2248.8	2358.6	2417.0	2508.6	2658.7	2772.5
52.5°	2240.7	2098.7	2031.3	2031.3	2045.4	2089.7	2200.5	2260.9	2355.5	2513.7	2639.5
55°	2065.5	1930.6	1866.1	1871.1	1891.3	1929.6	2037.3	2100.8	2196.4	2360.6	2493.5
57.5°	1890.3	1762.4	1704.0	1711.0	1730.2	1768.4	1874.2	1945.7	2032.3	2202.5	2338.4
60°	1717.1	1596.2	1544.9	1552.9	1570.0	1608.3	1718.1	1779.5	1866.1	2039.3	2175.3
62.5°	1541.8	1432.1	1383.7	1393.8	1408.9	1447.2	1550.9	1610.3	1695.9	1866.1	2003.1
65°	1368.6	1266.9	1225.6	1235.7	1249.8	1285.0	1382.7	1440.1	1521.7	1687.9	1818.8
67.5°	1197.4	1104.8	1070.5	1080.6	1091.7	1124.9	1205.5	1267.9	1344.4	1502.6	1626.4
70°	1028.2	945.6	915.4	925.5	935.6	965.8	1036.3	1093.7	1164.2	1309.2	1424.0
72.5°	861.0	780.5	765.4	774.4	782.5	808.7	876.2	921.5	982.9	1111.8	1210.5
75°	697.9	628.4	618.3	627.4	634.5	654.6	711.0	750.3	801.6	913.4	994.0
77.5°	540.8	482.4	478.4	485.4	492.5	506.6	550.9	592.2	632.4	715.0	786.5
80°	393.8	346.4	346.4	353.5	351.5	368.6	399.8	433.0	462.2	521.7	574.0
82.5°	259.8	222.6	227.6	232.6	235.7	242.7	261.8	287.0	305.1	341.4	375.6
85°	144.0	118.8	123.9	127.9	125.9	133.9	144.0	159.1	168.2	185.3	203.4
87.5°	53.4	44.3	45.3	48.3	50.4	54.4	54.4	63.4	64.5	66.5	70.5
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°	4607.4	4607.4	4607.4
2.5°	4497.6	4521.8	4539.9
5°	4420.0	4440.2	4456.3
7.5°	4344.5	4362.6	4376.7
10°	4273.0	4293.2	4303.2
12.5°	4199.5	4222.7	4230.7
15°	4127.0	4150.2	4160.2
17.5°	4052.5	4082.7	4093.8
20°	3983.0	4021.2	4030.3
22.5°	3912.5	3951.8	3962.8
25°	3835.9	3882.3	3893.3
27.5°	3754.4	3809.8	3820.8
30°	3672.8	3733.2	3744.3
32.5°	3585.2	3650.6	3660.7
35°	3493.5	3559.0	3571.1
37.5°	3391.8	3463.3	3487.5
40°	3286.1	3363.6	3388.8
42.5°	3175.3	3259.9	3286.1
45°	3056.5	3149.1	3179.3
47.5°	2936.6	3041.4	3067.5
50°	2806.7	2918.5	2949.7
52.5°	2670.8	2792.6	2823.8
55°	2529.8	2652.6	2686.9
57.5°	2376.7	2503.6	2539.8
60°	2216.6	2343.5	2377.7
62.5°	2052.4	2167.2	2200.5
65°	1869.1	1976.9	2007.1
67.5°	1674.8	1773.5	1798.6
70°	1468.3	1553.9	1576.1
72.5°	1252.8	1312.2	1341.4
75°	1030.2	1077.6	1099.7
77.5°	806.7	839.9	858.0
80°	588.1	607.3	622.4
82.5°	384.7	392.8	403.8
85°	207.5	207.5	214.5
87.5°	70.5	67.5	70.5
90°	0.0	0.0	0.0

(END OF REPORT)