

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: P834520

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6LO-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834520
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-LD4-6LO-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

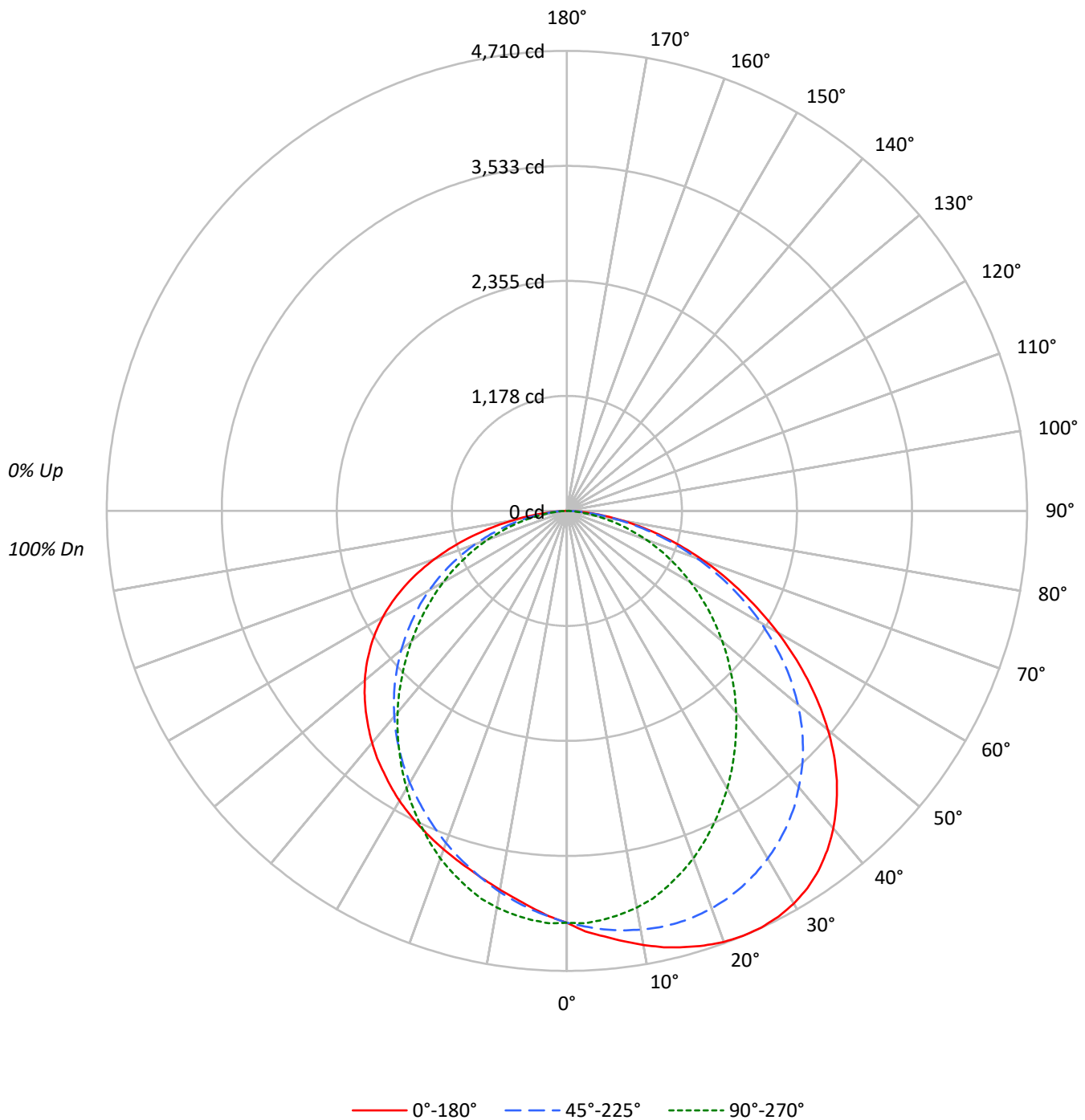
Lumens per Lamp: N/A
Luminaire Lumens: 12403.3 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 140.4
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	5673	5673	5673
5°	5907	5676	5508
10°	6165	5634	5381
15°	6442	5544	5304
20°	6724	5421	5281
25°	6988	5264	5290
30°	7216	5099	5324
35°	7380	4917	5368
40°	7455	4735	5447
45°	7434	4535	5537
50°	7302	4345	5651
55°	7053	4145	5768
60°	6709	3931	5856
65°	6300	3691	5848
70°	5863	3404	5674
75°	5323	2990	5232
80°	4571	2457	4413
85°	3486	1680	3030

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	399.9	3.2
10°-20°	1154.9	9.3
20°-30°	1769.3	14.3
30°-40°	2159.2	17.4
40°-50°	2258.0	18.2
50°-60°	2043.7	16.5
60°-70°	1547.7	12.5
70°-80°	862.5	7.0
80°-90°	208.1	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°	3324.1	26.8
0°-40°	5483.3	44.2
0°-60°	9785.0	78.9
0°-90°	12403.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12403.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4217	4217	4217	4217	4217	
5°	4373	4300	4203	4100	4078	422
15°	4625	4368	3980	3794	3807	1312
25°	4707	4244	3546	3420	3563	2171
35°	4493	3930	2994	2990	3268	2806
45°	3907	3418	2383	2488	2910	3006
55°	3006	2714	1767	1923	2459	2683
65°	1979	1861	1160	1318	1837	1963
75°	1024	967	575	687	1006	1086
85°	226	199	109	146	196	272
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°	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6
2.5°	4309.7	4289.4	4272.8	4279.3	4283.0	4270.1	4259.0	4260.9	4249.8	4271.0	4221.2
5°	4373.3	4354.9	4335.5	4342.9	4335.5	4316.2	4300.5	4295.9	4266.4	4278.4	4227.7
7.5°	4444.3	4424.0	4395.4	4403.7	4388.0	4352.1	4331.8	4319.8	4274.7	4275.6	4219.4
10°	4512.5	4495.0	4456.2	4461.8	4433.2	4385.3	4353.0	4336.4	4272.8	4263.6	4205.6
12.5°	4576.1	4552.1	4510.6	4513.4	4471.9	4408.3	4366.8	4342.9	4259.9	4232.3	4175.1
15°	4624.9	4601.9	4552.1	4551.2	4497.7	4414.8	4367.8	4334.6	4229.5	4186.2	4126.3
17.5°	4666.4	4645.2	4583.4	4581.6	4517.1	4412.0	4355.8	4314.3	4185.3	4131.8	4065.5
20°	4695.9	4674.7	4605.6	4599.1	4521.7	4398.2	4330.9	4278.4	4127.2	4063.6	3989.9
22.5°	4709.7	4688.5	4610.2	4600.9	4510.6	4370.5	4295.0	4233.2	4060.9	3977.9	3901.4
25°	4706.9	4686.7	4598.2	4589.0	4489.4	4329.1	4244.3	4173.3	3977.0	3879.3	3803.7
27.5°	4683.9	4668.2	4575.1	4563.2	4450.7	4272.8	4182.5	4104.2	3883.9	3775.1	3693.1
30°	4644.3	4632.3	4533.7	4522.6	4402.8	4211.1	4110.6	4020.3	3783.4	3660.9	3577.9
32.5°	4580.7	4569.6	4470.1	4459.9	4338.3	4131.8	4026.8	3933.7	3673.8	3538.3	3455.3
35°	4493.1	4486.7	4389.9	4378.8	4255.3	4041.5	3930.0	3827.7	3559.5	3406.5	3327.2
37.5°	4377.9	4377.9	4284.8	4272.8	4152.1	3930.9	3821.2	3712.5	3430.4	3268.2	3189.9
40°	4244.3	4256.2	4161.3	4149.3	4032.3	3812.0	3692.2	3577.9	3291.3	3122.6	3046.1
42.5°	4083.9	4095.0	4015.7	4004.6	3895.0	3674.7	3563.2	3438.7	3145.6	2974.2	2894.9
45°	3906.9	3921.7	3850.7	3842.4	3740.1	3524.4	3417.5	3291.3	2993.6	2819.4	2742.0
47.5°	3709.7	3729.1	3667.3	3662.7	3567.8	3370.5	3259.0	3130.9	2834.1	2658.1	2585.3
50°	3488.5	3516.1	3465.5	3465.5	3380.7	3184.4	3087.6	2959.5	2668.2	2492.2	2420.3
52.5°	3251.6	3286.7	3248.9	3249.8	3180.7	3004.6	2904.2	2778.8	2494.9	2321.7	2255.3
55°	3006.5	3040.6	3016.6	3020.3	2965.9	2805.5	2714.3	2589.9	2318.0	2149.3	2086.6
57.5°	2750.2	2787.1	2771.4	2778.8	2741.0	2597.3	2502.3	2393.6	2135.5	1968.7	1915.2
60°	2493.1	2528.1	2519.8	2530.0	2506.0	2381.6	2294.9	2182.5	1952.1	1791.7	1744.7
62.5°	2233.2	2265.5	2263.6	2274.7	2261.8	2158.5	2081.1	1985.3	1762.2	1614.8	1571.4
65°	1978.8	2006.5	2004.6	2016.6	2013.8	1930.9	1860.8	1773.3	1572.4	1436.9	1399.1
67.5°	1731.8	1754.8	1748.4	1762.2	1765.9	1699.5	1638.7	1560.4	1391.7	1259.9	1227.7
70°	1490.3	1506.0	1497.7	1506.9	1515.2	1465.4	1413.8	1344.7	1199.1	1083.0	1056.2
72.5°	1253.5	1264.5	1251.6	1260.8	1268.2	1232.3	1189.9	1130.0	1009.2	908.8	886.6
75°	1024.0	1039.6	1012.9	1022.1	1027.7	991.7	966.8	918.0	813.8	736.4	721.7
77.5°	801.8	811.1	796.3	792.6	796.3	770.5	751.2	713.4	635.0	571.4	562.2
80°	589.9	595.4	580.6	577.0	579.7	561.3	546.5	518.9	463.6	415.7	412.0
82.5°	395.4	398.2	385.3	381.6	383.4	377.9	360.4	341.0	315.2	274.7	273.7
85°	225.8	225.8	216.6	212.9	214.7	205.5	199.1	188.9	178.8	151.2	153.0
87.5°	82.9	82.9	78.3	77.4	86.6	76.5	73.7	69.1	71.9	57.1	60.8
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°	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6	4216.6
2.5°	4235.0	4225.8	4217.5	4189.0	4200.9	4171.5	4169.6	4158.6	4150.3	4134.6	4154.9
5°	4221.2	4202.8	4178.8	4144.7	4154.9	4119.8	4112.5	4099.6	4088.5	4068.2	4083.9
7.5°	4199.1	4168.7	4130.9	4087.6	4101.4	4058.1	4047.0	4033.2	4024.0	4000.0	4013.8
10°	4166.8	4123.5	4079.3	4026.8	4036.9	3989.9	3976.1	3961.3	3953.0	3931.8	3945.6
12.5°	4117.1	4064.5	4004.6	3947.5	3958.5	3914.3	3895.9	3880.2	3877.4	3859.9	3876.5
15°	4052.6	3979.7	3918.0	3857.2	3870.1	3818.5	3810.2	3794.5	3799.1	3787.1	3807.4
17.5°	3970.5	3886.7	3819.4	3753.9	3766.8	3723.5	3717.1	3709.7	3714.3	3712.5	3734.6
20°	3878.4	3786.2	3708.8	3644.3	3651.6	3617.5	3620.3	3618.5	3627.7	3637.8	3668.2
22.5°	3774.2	3670.1	3589.0	3522.6	3533.7	3504.2	3517.1	3520.8	3536.4	3559.5	3598.2
25°	3657.2	3545.6	3460.9	3398.2	3408.3	3389.0	3411.1	3420.3	3445.2	3483.9	3523.5
27.5°	3534.6	3416.6	3326.3	3266.4	3285.7	3266.4	3299.6	3318.0	3355.8	3398.2	3447.0
30°	3404.6	3282.0	3189.0	3135.5	3153.9	3136.4	3189.9	3214.8	3252.6	3310.6	3368.7
32.5°	3268.2	3139.2	3047.9	3006.5	3019.4	3016.6	3076.5	3104.2	3154.9	3221.2	3283.0
35°	3128.1	2993.6	2901.4	2866.4	2882.0	2885.7	2957.6	2989.9	3045.2	3125.4	3191.7
37.5°	2983.4	2846.1	2755.8	2727.2	2741.0	2754.9	2838.7	2871.0	2933.7	3021.2	3094.0
40°	2833.2	2695.9	2607.4	2584.3	2598.2	2612.9	2704.2	2748.4	2816.6	2911.5	2990.8
42.5°	2681.1	2543.8	2458.1	2441.5	2455.3	2483.9	2580.7	2622.1	2694.0	2799.1	2886.7
45°	2526.3	2383.4	2308.8	2295.9	2310.6	2343.8	2438.7	2488.5	2565.0	2680.2	2774.2
47.5°	2369.6	2230.4	2159.5	2151.2	2165.9	2202.8	2307.8	2353.0	2434.1	2556.7	2658.1
50°	2211.1	2075.6	2007.4	2004.6	2018.4	2058.1	2158.5	2212.0	2295.9	2433.2	2537.3
52.5°	2050.7	1920.7	1859.0	1859.0	1871.9	1912.5	2013.8	2069.1	2155.8	2300.5	2415.7
55°	1890.3	1766.8	1707.8	1712.5	1730.9	1765.9	1864.5	1922.6	2010.2	2160.4	2282.0
57.5°	1730.0	1612.9	1559.5	1565.9	1583.4	1618.4	1715.2	1780.7	1859.9	2015.7	2140.1
60°	1571.4	1460.8	1413.8	1421.2	1436.9	1471.9	1572.4	1628.6	1707.8	1866.4	1990.8
62.5°	1411.1	1310.6	1266.4	1275.6	1289.4	1324.4	1419.4	1473.7	1552.1	1707.8	1833.2
65°	1252.5	1159.5	1121.7	1130.9	1143.8	1176.0	1265.4	1318.0	1392.6	1544.7	1664.5
67.5°	1095.9	1011.1	979.7	988.9	999.1	1029.5	1103.2	1160.4	1230.4	1375.1	1488.5
70°	941.0	865.4	837.8	847.0	856.2	883.9	948.4	1000.9	1065.4	1198.2	1303.2
72.5°	788.0	714.3	700.5	708.8	716.1	740.1	801.8	843.3	899.5	1017.5	1107.8
75°	638.7	575.1	565.9	574.2	580.6	599.1	650.7	686.6	733.6	835.9	909.7
77.5°	494.9	441.5	437.8	444.2	450.7	463.6	504.2	541.9	578.8	654.4	719.8
80°	360.4	317.1	317.1	323.5	321.7	337.3	365.9	396.3	423.0	477.4	525.3
82.5°	237.8	203.7	208.3	212.9	215.7	222.1	239.6	262.7	279.3	312.4	343.8
85°	131.8	108.8	113.4	117.1	115.2	122.6	131.8	145.6	153.9	169.6	186.2
87.5°	48.8	40.6	41.5	44.2	46.1	49.8	49.8	58.1	59.0	60.8	64.5
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°	4216.6	4216.6	4216.6
2.5°	4116.2	4138.3	4154.9
5°	4045.2	4063.6	4078.4
7.5°	3976.1	3992.7	4005.6
10°	3910.6	3929.1	3938.3
12.5°	3843.3	3864.5	3871.9
15°	3777.0	3798.2	3807.4
17.5°	3708.8	3736.4	3746.6
20°	3645.2	3680.2	3688.5
22.5°	3580.7	3616.6	3626.7
25°	3510.6	3553.0	3563.2
27.5°	3436.0	3486.7	3496.8
30°	3361.3	3416.6	3426.7
32.5°	3281.1	3341.0	3350.3
35°	3197.3	3257.2	3268.2
37.5°	3104.2	3169.6	3191.7
40°	3007.4	3078.4	3101.4
42.5°	2906.0	2983.4	3007.4
45°	2797.3	2882.0	2909.7
47.5°	2687.6	2783.4	2807.4
50°	2568.7	2671.0	2699.6
52.5°	2444.3	2555.8	2584.3
55°	2315.2	2427.7	2459.0
57.5°	2175.1	2291.3	2324.4
60°	2028.6	2144.7	2176.0
62.5°	1878.4	1983.4	2013.8
65°	1710.6	1809.2	1836.9
67.5°	1532.7	1623.1	1646.1
70°	1343.8	1422.1	1442.4
72.5°	1146.6	1200.9	1227.7
75°	942.9	986.2	1006.5
77.5°	738.3	768.7	785.3
80°	538.3	555.8	569.6
82.5°	352.1	359.4	369.6
85°	189.9	189.9	196.3
87.5°	64.5	61.8	64.5
90°	0.0	0.0	0.0

(END OF REPORT)