

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: P834657

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834657
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-LD4-3HI-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

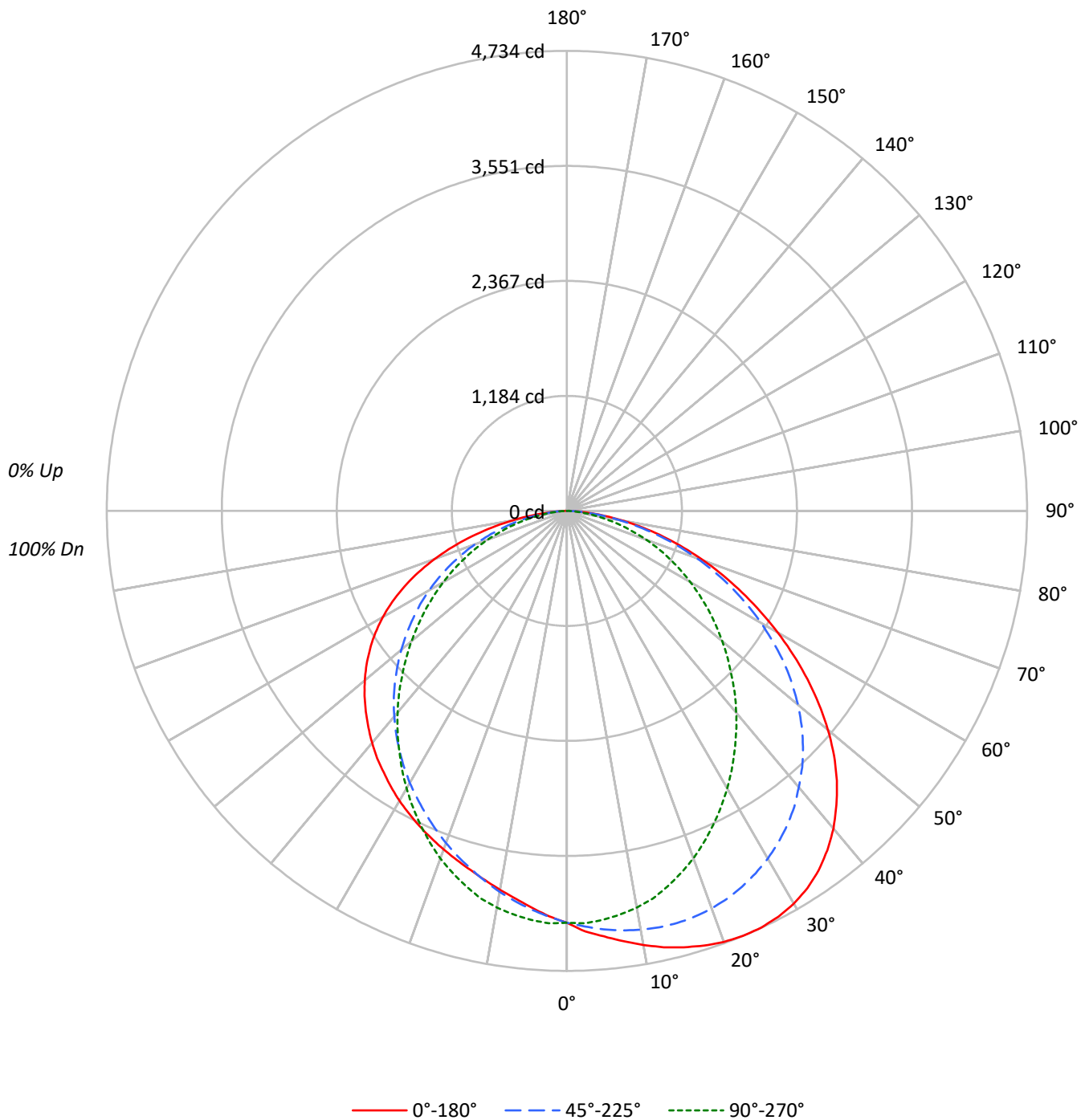
Lumens per Lamp: N/A
Luminaire Lumens: 12467.2 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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°	5703	5703	5703
5°	5937	5706	5537
10°	6197	5663	5408
15°	6475	5572	5331
20°	6758	5449	5309
25°	7024	5291	5317
30°	7253	5125	5351
35°	7418	4942	5396
40°	7493	4760	5475
45°	7473	4559	5565
50°	7340	4367	5680
55°	7089	4166	5798
60°	6743	3951	5886
65°	6332	3710	5878
70°	5893	3422	5703
75°	5350	3005	5259
80°	4594	2469	4436
85°	3504	1687	3046

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	402.0	3.2
10°-20°	1160.8	9.3
20°-30°	1778.4	14.3
30°-40°	2170.3	17.4
40°-50°	2269.7	18.2
50°-60°	2054.2	16.5
60°-70°	1555.7	12.5
70°-80°	867.0	7.0
80°-90°	209.1	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°	3341.2	26.8
0°-40°	5511.5	44.2
0°-60°	9835.4	78.9
0°-90°	12467.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12467.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4238	4238	4238	4238	4238	
5°	4396	4323	4224	4121	4099	424
15°	4649	4390	4000	3814	3827	1318
25°	4731	4266	3564	3438	3582	2183
35°	4516	3950	3009	3005	3285	2820
45°	3927	3435	2396	2501	2925	3021
55°	3022	2728	1776	1932	2472	2697
65°	1989	1870	1165	1325	1846	1973
75°	1029	972	578	690	1012	1092
85°	227	200	109	146	197	273
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°	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3
2.5°	4331.9	4311.5	4294.8	4301.3	4305.0	4292.1	4281.0	4282.8	4271.7	4293.0	4243.0
5°	4395.8	4377.3	4357.8	4365.3	4357.8	4338.4	4322.6	4318.0	4288.4	4300.4	4249.5
7.5°	4467.2	4446.8	4418.1	4426.4	4410.6	4374.5	4354.1	4342.1	4296.7	4297.6	4241.1
10°	4535.7	4518.1	4479.2	4484.8	4456.0	4407.9	4375.4	4358.8	4294.8	4285.6	4227.2
12.5°	4599.6	4575.6	4533.9	4536.6	4495.0	4431.0	4389.3	4365.3	4281.9	4254.1	4196.6
15°	4648.7	4625.6	4575.6	4574.6	4520.9	4437.5	4390.3	4356.9	4251.3	4207.8	4147.5
17.5°	4690.4	4669.1	4607.0	4605.2	4540.3	4434.7	4378.2	4336.5	4206.8	4153.1	4086.4
20°	4720.1	4698.8	4629.3	4622.8	4545.0	4420.8	4353.2	4300.4	4148.5	4084.6	4010.4
22.5°	4734.0	4712.7	4633.9	4624.7	4533.9	4393.0	4317.1	4255.0	4081.8	3998.4	3921.5
25°	4731.2	4710.8	4621.9	4612.6	4512.6	4351.4	4266.1	4194.8	3997.5	3899.3	3823.3
27.5°	4708.0	4692.3	4598.7	4586.7	4473.6	4294.8	4204.1	4125.3	3903.9	3794.6	3712.1
30°	4668.2	4656.1	4557.0	4545.9	4425.5	4232.8	4131.8	4041.0	3802.9	3679.7	3596.3
32.5°	4604.3	4593.2	4493.1	4482.9	4360.6	4153.1	4047.5	3953.9	3692.7	3556.5	3473.1
35°	4516.3	4509.8	4412.5	4401.4	4277.2	4062.3	3950.2	3847.4	3577.8	3424.0	3344.3
37.5°	4400.5	4400.5	4306.9	4294.8	4173.5	3951.1	3840.9	3731.6	3448.1	3285.1	3206.3
40°	4266.1	4278.2	4182.8	4170.7	4053.1	3831.6	3711.2	3596.3	3308.2	3138.7	3061.8
42.5°	4104.9	4116.1	4036.4	4025.3	3915.0	3693.6	3581.5	3456.4	3161.8	2989.5	2909.9
45°	3927.1	3941.9	3870.6	3862.2	3759.4	3542.6	3435.1	3308.2	3009.0	2833.9	2756.1
47.5°	3728.8	3748.3	3686.2	3681.6	3586.1	3387.9	3275.8	3147.0	2848.7	2671.8	2598.6
50°	3506.5	3534.3	3483.3	3483.3	3398.1	3200.8	3103.5	2974.7	2682.0	2505.0	2432.8
52.5°	3268.4	3303.6	3265.6	3266.5	3197.0	3020.1	2919.1	2793.1	2507.8	2333.6	2266.9
55°	3022.0	3056.2	3032.1	3035.9	2981.2	2820.0	2728.3	2603.2	2329.9	2160.4	2097.4
57.5°	2764.4	2801.5	2785.7	2793.1	2755.2	2610.6	2515.2	2405.9	2146.5	1978.8	1925.1
60°	2505.9	2541.1	2532.8	2543.0	2518.9	2393.8	2306.8	2193.7	1962.1	1800.9	1753.7
62.5°	2244.7	2277.1	2275.3	2286.4	2273.4	2169.7	2091.8	1995.5	1771.3	1623.1	1579.5
65°	1989.0	2016.8	2014.9	2027.0	2024.2	1940.8	1870.4	1782.4	1580.5	1444.3	1406.3
67.5°	1740.7	1763.9	1757.4	1771.3	1775.0	1708.3	1647.2	1568.4	1398.9	1266.4	1234.0
70°	1498.0	1513.8	1505.4	1514.7	1523.0	1473.0	1421.1	1351.6	1205.3	1088.5	1061.7
72.5°	1259.9	1271.0	1258.1	1267.3	1274.7	1238.6	1196.0	1135.8	1014.4	913.4	891.2
75°	1029.2	1045.0	1018.1	1027.4	1032.9	996.8	971.8	922.7	818.0	740.2	725.4
77.5°	806.0	815.2	800.4	796.7	800.4	774.5	755.0	717.0	638.3	574.4	565.1
80°	592.9	598.5	583.6	579.9	582.7	564.2	549.4	521.6	466.0	417.8	414.1
82.5°	397.4	400.2	387.2	383.5	385.4	379.8	362.2	342.8	316.8	276.1	275.1
85°	227.0	227.0	217.7	214.0	215.9	206.6	200.1	189.9	179.7	151.9	153.8
87.5°	83.4	83.4	78.7	77.8	87.1	76.9	74.1	69.5	72.3	57.4	61.1
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°	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3	4238.3
2.5°	4256.9	4247.6	4239.3	4210.5	4222.6	4192.9	4191.1	4180.0	4171.6	4155.9	4176.3
5°	4243.0	4224.4	4200.4	4166.1	4176.3	4141.1	4133.7	4120.7	4109.6	4089.2	4104.9
7.5°	4220.7	4190.2	4152.2	4108.6	4122.5	4079.0	4067.9	4054.0	4044.7	4020.6	4034.5
10°	4188.3	4144.8	4100.3	4047.5	4057.7	4010.4	3996.5	3981.7	3973.4	3952.1	3966.0
12.5°	4138.3	4085.5	4025.3	3967.8	3978.9	3934.5	3915.9	3900.2	3897.4	3879.8	3896.5
15°	4073.4	4000.2	3938.2	3877.0	3890.0	3838.1	3829.8	3814.0	3818.7	3806.6	3827.0
17.5°	3991.0	3906.7	3839.1	3773.3	3786.2	3742.7	3736.2	3728.8	3733.4	3731.6	3753.8
20°	3898.3	3805.7	3727.9	3663.0	3670.4	3636.2	3638.9	3637.1	3646.4	3656.5	3687.1
22.5°	3793.7	3689.0	3607.4	3540.7	3551.9	3522.2	3535.2	3538.9	3554.6	3577.8	3616.7
25°	3676.0	3563.9	3478.7	3415.7	3425.9	3406.4	3428.7	3437.9	3462.9	3501.8	3541.7
27.5°	3552.8	3434.2	3343.4	3283.2	3302.7	3283.2	3316.6	3335.1	3373.1	3415.7	3464.8
30°	3422.2	3299.0	3205.4	3151.7	3170.2	3152.6	3206.3	3231.3	3269.3	3327.7	3386.0
32.5°	3285.1	3155.4	3063.6	3022.0	3034.9	3032.1	3092.4	3120.2	3171.1	3237.8	3299.9
35°	3144.2	3009.0	2916.3	2881.1	2896.9	2900.6	2972.9	3005.3	3060.9	3141.5	3208.2
37.5°	2998.8	2860.8	2770.0	2741.3	2755.2	2769.0	2853.3	2885.8	2948.8	3036.8	3110.0
40°	2847.8	2709.8	2620.8	2597.7	2611.6	2626.4	2718.1	2762.6	2831.1	2926.5	3006.2
42.5°	2694.9	2556.9	2470.7	2454.1	2468.0	2496.7	2594.0	2635.6	2707.9	2813.5	2901.5
45°	2539.3	2395.7	2320.7	2307.7	2322.5	2355.9	2451.3	2501.3	2578.2	2694.0	2788.5
47.5°	2381.8	2241.9	2170.6	2162.2	2177.1	2214.1	2319.7	2365.1	2446.7	2569.9	2671.8
50°	2222.5	2086.3	2017.7	2014.9	2028.8	2068.7	2169.7	2223.4	2307.7	2445.7	2550.4
52.5°	2061.3	1930.6	1868.6	1868.6	1881.5	1922.3	2024.2	2079.8	2166.9	2312.3	2428.1
55°	1900.1	1775.9	1716.6	1721.3	1739.8	1775.0	1874.1	1932.5	2020.5	2171.5	2293.8
57.5°	1738.9	1621.2	1567.5	1574.0	1591.6	1626.8	1724.1	1789.8	1869.5	2026.1	2151.1
60°	1579.5	1468.4	1421.1	1428.5	1444.3	1479.5	1580.5	1637.0	1716.6	1876.0	2001.1
62.5°	1418.3	1317.4	1272.9	1282.2	1296.1	1331.3	1426.7	1481.3	1560.1	1716.6	1842.6
65°	1259.0	1165.4	1127.4	1136.7	1149.7	1182.1	1272.0	1324.8	1399.8	1552.7	1673.1
67.5°	1101.5	1016.3	984.8	994.0	1004.2	1034.8	1108.9	1166.4	1236.8	1382.2	1496.2
70°	945.9	869.9	842.1	851.4	860.6	888.4	953.3	1006.1	1070.9	1204.3	1309.9
72.5°	792.1	718.0	704.1	712.4	719.8	743.9	806.0	847.7	904.2	1022.8	1113.5
75°	642.0	578.1	568.8	577.2	583.6	602.2	654.0	690.2	737.4	840.3	914.4
77.5°	497.5	443.8	440.0	446.5	453.0	466.0	506.7	544.7	581.8	657.8	723.5
80°	362.2	318.7	318.7	325.2	323.3	339.1	367.8	398.4	425.2	479.9	528.1
82.5°	239.0	204.7	209.4	214.0	216.8	223.3	240.9	264.0	280.7	314.1	345.6
85°	132.5	109.3	113.9	117.7	115.8	123.2	132.5	146.4	154.7	170.5	187.1
87.5°	49.1	40.8	41.7	44.5	46.3	50.0	50.0	58.4	59.3	61.1	64.8
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):

	160°	170°	180°
0°	4238.3	4238.3	4238.3
2.5°	4137.4	4159.6	4176.3
5°	4066.0	4084.6	4099.4
7.5°	3996.5	4013.2	4026.2
10°	3930.8	3949.3	3958.6
12.5°	3863.1	3884.4	3891.9
15°	3796.4	3817.7	3827.0
17.5°	3727.9	3755.7	3765.9
20°	3664.0	3699.2	3707.5
22.5°	3599.1	3635.2	3645.4
25°	3528.7	3571.3	3581.5
27.5°	3453.7	3504.6	3514.8
30°	3378.6	3434.2	3444.4
32.5°	3298.0	3358.2	3367.5
35°	3213.7	3273.9	3285.1
37.5°	3120.2	3185.9	3208.2
40°	3022.9	3094.2	3117.4
42.5°	2921.0	2998.8	3022.9
45°	2811.7	2896.9	2924.7
47.5°	2701.4	2797.8	2821.9
50°	2581.9	2684.7	2713.5
52.5°	2456.8	2568.9	2597.7
55°	2327.1	2440.2	2471.7
57.5°	2186.3	2303.1	2336.4
60°	2039.0	2155.8	2187.3
62.5°	1888.0	1993.6	2024.2
65°	1719.4	1818.5	1846.3
67.5°	1540.6	1631.4	1654.6
70°	1350.7	1429.5	1449.8
72.5°	1152.5	1207.1	1234.0
75°	947.7	991.3	1011.6
77.5°	742.1	772.6	789.3
80°	541.0	558.6	572.5
82.5°	353.9	361.3	371.5
85°	190.8	190.8	197.3
87.5°	64.8	62.1	64.8
90°	0.0	0.0	0.0

(END OF REPORT)