

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: P834584

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834584
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-LD4-3STD-40-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

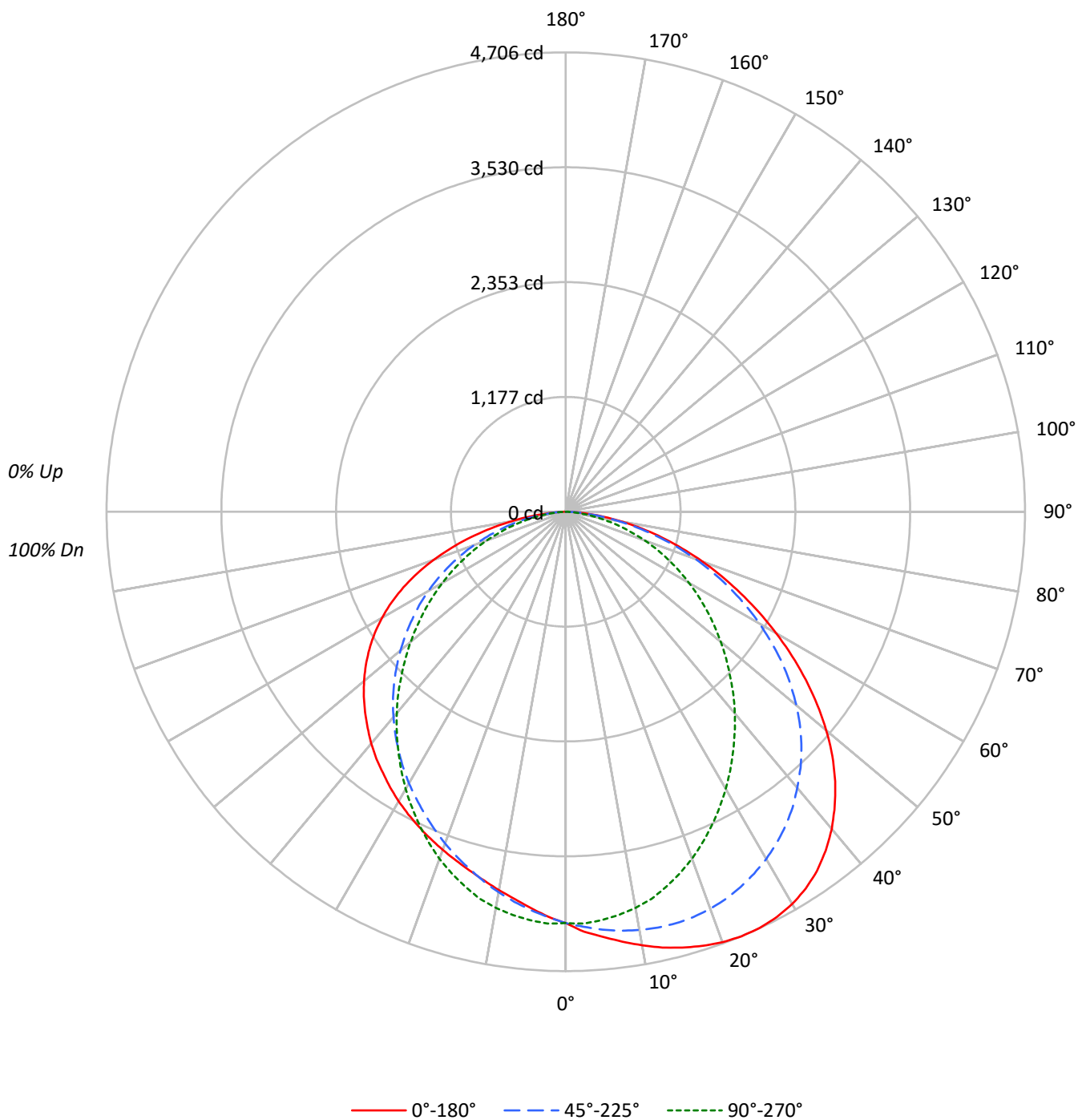
Lumens per Lamp: N/A
Luminaire Lumens: 12394.8 lumens
Efficiency: N/A
Efficacy: 124.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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

TEST NUMBER: P834584

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834584

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD

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°	5669	5669	5669
5°	5903	5673	5505
10°	6161	5630	5377
15°	6438	5540	5300
20°	6719	5418	5278
25°	6983	5260	5286
30°	7211	5096	5320
35°	7375	4914	5365
40°	7449	4732	5444
45°	7429	4532	5533
50°	7297	4342	5647
55°	7048	4142	5764
60°	6704	3928	5852
65°	6296	3689	5844
70°	5859	3402	5670
75°	5320	2988	5229
80°	4568	2455	4410
85°	3484	1678	3029

TEST NUMBER: P834584

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	399.6	3.2
10°-20°	1154.1	9.3
20°-30°	1768.1	14.3
30°-40°	2157.7	17.4
40°-50°	2256.5	18.2
50°-60°	2042.3	16.5
60°-70°	1546.7	12.5
70°-80°	861.9	7.0
80°-90°	207.9	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°	3321.8	26.8
0°-40°	5479.5	44.2
0°-60°	9778.2	78.9
0°-90°	12394.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12394.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4214	4214	4214	4214	4214	
5°	4370	4298	4200	4097	4076	421
15°	4622	4365	3977	3792	3805	1311
25°	4704	4241	3543	3418	3561	2170
35°	4490	3927	2992	2988	3266	2804
45°	3904	3415	2382	2487	2908	3004
55°	3004	2712	1766	1921	2457	2681
65°	1978	1860	1159	1317	1836	1962
75°	1023	966	575	686	1006	1085
85°	226	199	109	146	196	272
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834584

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7
2.5°	4306.7	4286.5	4269.9	4276.3	4280.0	4267.1	4256.1	4257.9	4246.9	4268.1	4218.3
5°	4370.3	4351.9	4332.5	4339.9	4332.5	4313.2	4297.5	4292.9	4263.5	4275.4	4224.8
7.5°	4441.2	4421.0	4392.4	4400.7	4385.0	4349.1	4328.8	4316.9	4271.7	4272.7	4216.5
10°	4509.4	4491.9	4453.2	4458.7	4430.2	4382.3	4350.0	4333.5	4269.9	4260.7	4202.7
12.5°	4572.9	4549.0	4507.5	4510.3	4468.8	4405.3	4363.8	4339.9	4257.0	4229.4	4172.3
15°	4621.7	4598.7	4549.0	4548.1	4494.6	4411.7	4364.8	4331.6	4226.6	4183.3	4123.5
17.5°	4663.2	4642.0	4580.3	4578.4	4514.0	4409.0	4352.8	4311.3	4182.4	4129.0	4062.7
20°	4692.7	4671.5	4602.4	4595.9	4518.6	4395.2	4327.9	4275.4	4124.4	4060.8	3987.1
22.5°	4706.5	4685.3	4607.0	4597.8	4507.5	4367.5	4292.0	4230.3	4058.1	3975.2	3898.7
25°	4703.7	4683.4	4595.0	4585.8	4486.3	4326.1	4241.3	4170.4	3974.3	3876.6	3801.1
27.5°	4680.7	4665.0	4572.0	4560.0	4447.7	4269.9	4179.6	4101.4	3881.2	3772.5	3690.6
30°	4641.1	4629.1	4530.6	4519.5	4399.8	4208.2	4107.8	4017.5	3780.8	3658.3	3575.4
32.5°	4577.5	4566.5	4467.0	4456.9	4335.3	4129.0	4024.0	3931.0	3671.2	3535.8	3452.9
35°	4490.0	4483.6	4386.9	4375.8	4252.4	4038.7	3927.3	3825.0	3557.0	3404.1	3324.9
37.5°	4374.9	4374.9	4281.9	4269.9	4149.2	3928.2	3818.6	3709.9	3428.1	3266.0	3187.7
40°	4241.3	4253.3	4158.5	4146.5	4029.5	3809.4	3689.7	3575.4	3289.0	3120.5	3044.0
42.5°	4081.1	4092.1	4012.9	4001.9	3892.3	3672.2	3560.7	3436.4	3143.5	2972.2	2893.0
45°	3904.3	3919.0	3848.1	3839.8	3737.5	3522.0	3415.2	3289.0	2991.5	2817.4	2740.1
47.5°	3707.2	3726.5	3664.8	3660.2	3565.3	3368.2	3256.8	3128.7	2832.2	2656.3	2583.5
50°	3486.1	3513.7	3463.1	3463.1	3378.3	3182.2	3085.5	2957.4	2666.4	2490.5	2418.6
52.5°	3249.4	3284.4	3246.6	3247.6	3178.5	3002.6	2902.2	2776.9	2493.2	2320.1	2253.8
55°	3004.4	3038.5	3014.5	3018.2	2963.9	2803.6	2712.4	2588.1	2316.4	2147.8	2085.2
57.5°	2748.4	2785.2	2769.5	2776.9	2739.1	2595.5	2500.6	2391.9	2134.0	1967.3	1913.9
60°	2491.4	2526.4	2518.1	2528.2	2504.3	2379.9	2293.4	2181.0	1950.7	1790.5	1743.5
62.5°	2231.7	2263.9	2262.1	2273.1	2260.2	2157.1	2079.7	1983.9	1761.0	1613.6	1570.4
65°	1977.5	2005.1	2003.2	2015.2	2012.5	1929.6	1859.6	1772.1	1571.3	1435.9	1398.1
67.5°	1730.6	1753.6	1747.2	1761.0	1764.7	1698.4	1637.6	1559.3	1390.8	1259.0	1226.8
70°	1489.3	1505.0	1496.7	1505.9	1514.2	1464.4	1412.9	1343.8	1198.3	1082.2	1055.5
72.5°	1252.6	1263.7	1250.8	1260.0	1267.3	1231.4	1189.1	1129.2	1008.5	908.1	886.0
75°	1023.3	1038.9	1012.2	1021.4	1026.9	991.0	966.2	917.3	813.3	735.9	721.2
77.5°	801.3	810.5	795.8	792.1	795.8	770.0	750.6	712.9	634.6	571.0	561.8
80°	589.5	595.0	580.2	576.6	579.3	560.9	546.2	518.5	463.3	415.4	411.7
82.5°	395.1	397.9	385.0	381.3	383.1	377.6	360.1	340.8	315.0	274.5	273.5
85°	225.7	225.7	216.4	212.8	214.6	205.4	198.9	188.8	178.7	151.0	152.9
87.5°	82.9	82.9	78.3	77.4	86.6	76.4	73.7	69.1	71.8	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

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834584

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7	4213.7
2.5°	4232.1	4222.9	4214.6	4186.1	4198.1	4168.6	4166.7	4155.7	4147.4	4131.7	4152.0
5°	4218.3	4199.9	4176.0	4141.9	4152.0	4117.0	4109.6	4096.7	4085.7	4065.4	4081.1
7.5°	4196.2	4165.8	4128.1	4084.8	4098.6	4055.3	4044.2	4030.4	4021.2	3997.3	4011.1
10°	4164.0	4120.7	4076.5	4024.0	4034.1	3987.1	3973.3	3958.6	3950.3	3929.1	3942.9
12.5°	4114.2	4061.7	4001.9	3944.8	3955.8	3911.6	3893.2	3877.5	3874.8	3857.3	3873.9
15°	4049.8	3977.0	3915.3	3854.5	3867.4	3815.8	3807.5	3791.9	3796.5	3784.5	3804.8
17.5°	3967.8	3884.0	3816.8	3751.4	3764.3	3721.0	3714.5	3707.2	3711.8	3709.9	3732.0
20°	3875.7	3783.6	3706.2	3641.8	3649.1	3615.0	3617.8	3616.0	3625.2	3635.3	3665.7
22.5°	3771.6	3667.5	3586.5	3520.2	3531.2	3501.8	3514.7	3518.3	3534.0	3557.0	3595.7
25°	3654.7	3543.2	3458.5	3395.8	3406.0	3386.6	3408.7	3417.9	3442.8	3481.5	3521.1
27.5°	3532.2	3414.3	3324.0	3264.1	3283.5	3264.1	3297.3	3315.7	3353.5	3395.8	3444.7
30°	3402.3	3279.8	3186.8	3133.3	3151.8	3134.3	3187.7	3212.6	3250.3	3308.3	3366.4
32.5°	3266.0	3137.0	3045.9	3004.4	3017.3	3014.5	3074.4	3102.0	3152.7	3219.0	3280.7
35°	3126.0	2991.5	2899.4	2864.4	2880.1	2883.7	2955.6	2987.8	3043.1	3123.2	3189.5
37.5°	2981.4	2844.1	2753.9	2725.3	2739.1	2753.0	2836.8	2869.0	2931.6	3019.1	3091.9
40°	2831.3	2694.0	2605.6	2582.6	2596.4	2611.1	2702.3	2746.5	2814.7	2909.5	2988.7
42.5°	2679.3	2542.0	2456.4	2439.8	2453.6	2482.2	2578.9	2620.3	2692.2	2797.2	2884.7
45°	2524.5	2381.8	2307.2	2294.3	2309.0	2342.2	2437.0	2486.8	2563.2	2678.4	2772.3
47.5°	2368.0	2228.9	2158.0	2149.7	2164.4	2201.3	2306.3	2351.4	2432.4	2554.9	2656.3
50°	2209.6	2074.2	2006.0	2003.2	2017.1	2056.7	2157.1	2210.5	2294.3	2431.5	2535.6
52.5°	2049.3	1919.4	1857.7	1857.7	1870.6	1911.1	2012.5	2067.7	2154.3	2298.9	2414.0
55°	1889.0	1765.6	1706.7	1711.3	1729.7	1764.7	1863.2	1921.3	2008.8	2158.9	2280.5
57.5°	1728.8	1611.8	1558.4	1564.8	1582.3	1617.3	1714.0	1779.4	1858.6	2014.3	2138.6
60°	1570.4	1459.8	1412.9	1420.2	1435.9	1470.9	1571.3	1627.5	1706.7	1865.1	1989.4
62.5°	1410.1	1309.7	1265.5	1274.7	1288.5	1323.5	1418.4	1472.7	1551.0	1706.7	1831.9
65°	1251.7	1158.7	1120.9	1130.1	1143.0	1175.2	1264.6	1317.1	1391.7	1543.6	1663.4
67.5°	1095.1	1010.4	979.1	988.3	998.4	1028.8	1102.5	1159.6	1229.6	1374.2	1487.5
70°	940.4	864.8	837.2	846.4	855.6	883.3	947.7	1000.2	1064.7	1197.3	1302.3
72.5°	787.5	713.8	700.0	708.3	715.6	739.6	801.3	842.7	898.9	1016.8	1107.1
75°	638.3	574.7	565.5	573.8	580.2	598.7	650.2	686.2	733.1	835.4	909.1
77.5°	494.6	441.2	437.5	443.9	450.4	463.3	503.8	541.6	578.4	653.9	719.3
80°	360.1	316.8	316.8	323.3	321.4	337.1	365.6	396.0	422.8	477.1	525.0
82.5°	237.6	203.5	208.2	212.8	215.5	222.0	239.5	262.5	279.1	312.2	343.5
85°	131.7	108.7	113.3	117.0	115.1	122.5	131.7	145.5	153.8	169.5	186.0
87.5°	48.8	40.5	41.4	44.2	46.1	49.7	49.7	58.0	58.9	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

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834584

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	4213.7	4213.7	4213.7
2.5°	4113.3	4135.4	4152.0
5°	4042.4	4060.8	4075.6
7.5°	3973.3	3989.9	4002.8
10°	3907.9	3926.4	3935.6
12.5°	3840.7	3861.9	3869.3
15°	3774.4	3795.6	3804.8
17.5°	3706.2	3733.9	3744.0
20°	3642.7	3677.7	3686.0
22.5°	3578.2	3614.1	3624.3
25°	3508.2	3550.6	3560.7
27.5°	3433.6	3484.3	3494.4
30°	3359.0	3414.3	3424.4
32.5°	3278.9	3338.7	3347.9
35°	3195.1	3254.9	3266.0
37.5°	3102.0	3167.4	3189.5
40°	3005.3	3076.2	3099.3
42.5°	2904.0	2981.4	3005.3
45°	2795.3	2880.1	2907.7
47.5°	2685.7	2781.5	2805.5
50°	2566.9	2669.1	2697.7
52.5°	2442.6	2554.0	2582.6
55°	2313.6	2426.0	2457.3
57.5°	2173.6	2289.7	2322.8
60°	2027.2	2143.2	2174.6
62.5°	1877.1	1982.1	2012.5
65°	1709.4	1808.0	1835.6
67.5°	1531.7	1621.9	1645.0
70°	1342.9	1421.2	1441.4
72.5°	1145.8	1200.1	1226.8
75°	942.2	985.5	1005.8
77.5°	737.7	768.1	784.7
80°	537.9	555.4	569.2
82.5°	351.8	359.2	369.3
85°	189.7	189.7	196.2
87.5°	64.5	61.7	64.5
90°	0.0	0.0	0.0

(END OF REPORT)