

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: P834712

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834712
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-LD4-4LO-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

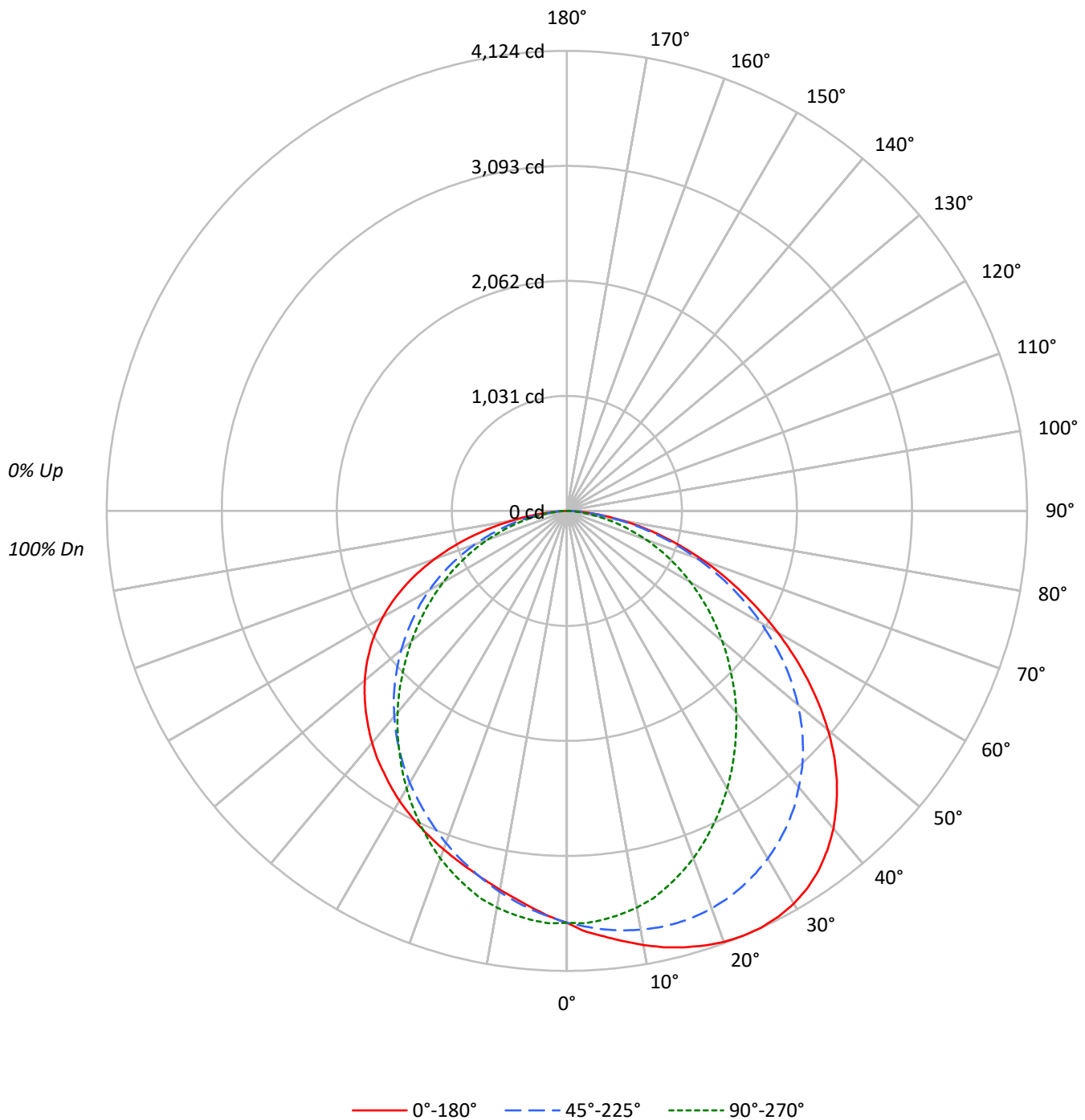
Lumens per Lamp: N/A
Luminaire Lumens: 10860.6 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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: P834712

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834712

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90

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°	4968	4968	4968
5°	5172	4970	4823
10°	5398	4933	4711
15°	5641	4854	4644
20°	5887	4747	4624
25°	6119	4609	4632
30°	6318	4465	4662
35°	6462	4305	4700
40°	6528	4146	4770
45°	6510	3971	4848
50°	6394	3804	4948
55°	6175	3629	5051
60°	5874	3442	5127
65°	5516	3232	5121
70°	5134	2981	4969
75°	4661	2618	4582
80°	4002	2151	3864
85°	3052	1470	2654

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834712

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	350.2	3.2
10°-20°	1011.2	9.3
20°-30°	1549.2	14.3
30°-40°	1890.6	17.4
40°-50°	1977.2	18.2
50°-60°	1789.5	16.5
60°-70°	1355.2	12.5
70°-80°	755.3	7.0
80°-90°	182.2	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°	2910.6	26.8
0°-40°	4801.3	44.2
0°-60°	8567.9	78.9
0°-90°	10860.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10860.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3692	3692	3692	3692	3692	
5°	3829	3766	3680	3590	3571	369
15°	4050	3824	3485	3322	3334	1149
25°	4122	3716	3105	2995	3120	1901
35°	3934	3441	2621	2618	2862	2457
45°	3421	2992	2087	2179	2548	2632
55°	2632	2377	1547	1684	2153	2349
65°	1733	1629	1015	1154	1608	1719
75°	897	847	504	601	881	951
85°	198	174	95	128	172	238
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834712

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2
2.5°	3773.7	3755.9	3741.4	3747.0	3750.3	3739.0	3729.3	3730.9	3721.2	3739.8	3696.2
5°	3829.4	3813.2	3796.3	3802.7	3796.3	3779.3	3765.6	3761.6	3735.7	3746.2	3701.8
7.5°	3891.5	3873.7	3848.7	3856.0	3842.3	3810.8	3793.0	3782.5	3743.0	3743.8	3694.6
10°	3951.2	3935.9	3902.0	3906.8	3881.8	3839.8	3811.6	3797.1	3741.4	3733.3	3682.5
12.5°	4006.9	3985.9	3949.6	3952.0	3915.7	3860.0	3823.7	3802.7	3730.1	3705.9	3655.8
15°	4049.7	4029.5	3985.9	3985.1	3938.3	3865.7	3824.5	3795.5	3703.5	3665.5	3613.1
17.5°	4086.0	4067.4	4013.4	4011.7	3955.3	3863.3	3814.0	3777.7	3664.7	3617.9	3559.8
20°	4111.8	4093.3	4032.7	4027.1	3959.3	3851.1	3792.2	3746.2	3613.9	3558.2	3493.6
22.5°	4123.9	4105.4	4036.8	4028.7	3949.6	3826.9	3760.8	3706.7	3555.8	3483.1	3416.2
25°	4121.5	4103.7	4026.3	4018.2	3931.0	3790.6	3716.4	3654.2	3482.3	3396.8	3330.6
27.5°	4101.3	4087.6	4006.1	3995.6	3897.1	3741.4	3662.3	3593.7	3400.8	3305.6	3233.8
30°	4066.6	4056.1	3969.8	3960.1	3855.2	3687.3	3599.4	3520.3	3312.9	3205.5	3132.9
32.5°	4010.9	4001.3	3914.1	3905.2	3798.7	3617.9	3525.9	3444.4	3216.8	3098.2	3025.6
35°	3934.3	3928.6	3843.9	3834.2	3726.1	3538.8	3441.2	3351.6	3116.7	2982.8	2913.4
37.5°	3833.4	3833.4	3751.9	3741.4	3635.7	3442.0	3345.9	3250.7	3003.8	2861.7	2793.1
40°	3716.4	3726.9	3643.7	3633.2	3530.8	3337.9	3233.0	3132.9	2881.9	2734.2	2667.2
42.5°	3575.9	3585.6	3516.2	3506.5	3410.5	3217.6	3120.0	3011.0	2754.4	2604.3	2534.9
45°	3421.0	3433.9	3371.8	3364.5	3274.9	3086.1	2992.5	2881.9	2621.2	2468.7	2400.9
47.5°	3248.3	3265.2	3211.2	3207.1	3124.0	2951.3	2853.7	2741.5	2481.6	2327.5	2263.7
50°	3054.6	3078.8	3034.4	3034.4	2960.2	2788.3	2703.5	2591.4	2336.4	2182.2	2119.3
52.5°	2847.2	2877.9	2844.8	2845.6	2785.1	2630.9	2543.0	2433.2	2184.6	2032.9	1974.8
55°	2632.5	2662.4	2641.4	2644.6	2597.0	2456.6	2376.7	2267.8	2029.7	1882.0	1827.1
57.5°	2408.2	2440.5	2426.7	2433.2	2400.1	2274.2	2191.1	2095.9	1869.9	1723.8	1677.0
60°	2183.0	2213.7	2206.4	2215.3	2194.3	2085.4	2009.5	1911.0	1709.3	1568.9	1527.7
62.5°	1955.4	1983.7	1982.1	1991.7	1980.5	1890.1	1822.3	1738.3	1543.0	1413.9	1376.0
65°	1732.7	1756.9	1755.3	1765.8	1763.4	1690.7	1629.4	1552.7	1376.8	1258.2	1225.1
67.5°	1516.4	1536.6	1530.9	1543.0	1546.3	1488.2	1434.9	1366.3	1218.6	1103.2	1075.0
70°	1305.0	1318.7	1311.4	1319.5	1326.8	1283.2	1238.0	1177.5	1049.9	948.3	924.9
72.5°	1097.6	1107.2	1095.9	1104.0	1110.5	1079.0	1041.9	989.4	883.7	795.7	776.4
75°	896.6	910.3	886.9	895.0	899.8	868.4	846.6	803.8	712.6	644.8	631.9
77.5°	702.1	710.2	697.3	694.0	697.3	674.7	657.7	624.6	556.0	500.4	492.3
80°	516.5	521.3	508.4	505.2	507.6	491.5	478.6	454.4	405.9	364.0	360.7
82.5°	346.2	348.6	337.3	334.1	335.7	330.9	315.5	298.6	276.0	240.5	239.7
85°	197.7	197.7	189.7	186.4	188.0	180.0	174.3	165.4	156.6	132.4	134.0
87.5°	72.6	72.6	68.6	67.8	75.9	67.0	64.6	60.5	62.9	50.0	53.3
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: P834712

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2	3692.2
2.5°	3708.3	3700.2	3693.0	3667.9	3678.4	3652.6	3651.0	3641.3	3634.1	3620.3	3638.1
5°	3696.2	3680.1	3659.1	3629.2	3638.1	3607.4	3601.0	3589.7	3580.0	3562.2	3575.9
7.5°	3676.8	3650.2	3617.1	3579.2	3591.3	3553.4	3543.7	3531.6	3523.5	3502.5	3514.6
10°	3648.6	3610.7	3571.9	3525.9	3534.8	3493.6	3481.5	3468.6	3461.3	3442.8	3454.9
12.5°	3605.0	3559.0	3506.5	3456.5	3466.2	3427.5	3411.3	3397.6	3395.2	3379.8	3394.4
15°	3548.5	3484.8	3430.7	3377.4	3388.7	3343.5	3336.3	3322.5	3326.6	3316.1	3333.8
17.5°	3476.7	3403.2	3344.3	3287.0	3298.3	3260.4	3254.8	3248.3	3252.3	3250.7	3270.1
20°	3396.0	3315.3	3247.5	3191.0	3197.5	3167.6	3170.0	3168.4	3176.5	3185.3	3212.0
22.5°	3304.8	3213.6	3142.6	3084.5	3094.2	3068.3	3079.6	3082.9	3096.6	3116.7	3150.6
25°	3202.3	3104.6	3030.4	2975.5	2984.4	2967.4	2986.8	2994.9	3016.7	3050.6	3085.3
27.5°	3095.0	2991.7	2912.6	2860.1	2877.1	2860.1	2889.2	2905.3	2938.4	2975.5	3018.3
30°	2981.2	2873.8	2792.3	2745.5	2761.7	2746.3	2793.1	2814.9	2848.0	2898.9	2949.7
32.5°	2861.7	2748.7	2668.8	2632.5	2643.8	2641.4	2693.9	2718.1	2762.5	2820.6	2874.6
35°	2739.1	2621.2	2540.5	2509.9	2523.6	2526.8	2589.8	2618.0	2666.4	2736.6	2794.7
37.5°	2612.4	2492.1	2413.0	2388.0	2400.1	2412.2	2485.7	2513.9	2568.8	2645.4	2709.2
40°	2480.8	2360.6	2283.1	2262.9	2275.0	2287.9	2367.8	2406.6	2466.3	2549.4	2618.8
42.5°	2347.6	2227.4	2152.3	2137.8	2149.9	2174.9	2259.7	2296.0	2358.9	2450.9	2527.6
45°	2212.1	2087.0	2021.6	2010.3	2023.2	2052.3	2135.4	2179.0	2246.0	2346.8	2429.2
47.5°	2074.9	1953.0	1890.9	1883.6	1896.5	1928.8	2020.8	2060.3	2131.4	2238.7	2327.5
50°	1936.1	1817.4	1757.7	1755.3	1767.4	1802.1	1890.1	1936.9	2010.3	2130.6	2221.8
52.5°	1795.6	1681.8	1627.8	1627.8	1639.1	1674.6	1763.4	1811.8	1887.6	2014.3	2115.2
55°	1655.2	1547.1	1495.4	1499.5	1515.6	1546.3	1632.6	1683.5	1760.1	1891.7	1998.2
57.5°	1514.8	1412.3	1365.5	1371.1	1386.5	1417.1	1501.9	1559.2	1628.6	1765.0	1873.9
60°	1376.0	1279.1	1238.0	1244.4	1258.2	1288.8	1376.8	1426.0	1495.4	1634.2	1743.2
62.5°	1235.6	1147.6	1108.9	1116.9	1129.0	1159.7	1242.8	1290.4	1359.0	1495.4	1605.2
65°	1096.8	1015.2	982.2	990.2	1001.5	1029.8	1108.1	1154.1	1219.4	1352.6	1457.5
67.5°	959.6	885.3	857.9	865.9	874.8	901.5	966.0	1016.1	1077.4	1204.1	1303.4
70°	824.0	757.8	733.6	741.7	749.7	773.9	830.4	876.4	932.9	1049.1	1141.1
72.5°	690.0	625.4	613.3	620.6	627.1	648.0	702.1	738.4	787.7	891.0	970.0
75°	559.3	503.6	495.5	502.8	508.4	524.6	569.8	601.2	642.4	732.0	796.5
77.5°	433.4	386.6	383.3	389.0	394.6	405.9	441.4	474.5	506.8	573.0	630.3
80°	315.5	277.6	277.6	283.3	281.7	295.4	320.4	347.0	370.4	418.0	460.0
82.5°	208.2	178.4	182.4	186.4	188.8	194.5	209.8	230.0	244.5	273.6	301.0
85°	115.4	95.2	99.3	102.5	100.9	107.3	115.4	127.5	134.8	148.5	163.0
87.5°	42.8	35.5	36.3	38.7	40.4	43.6	43.6	50.8	51.6	53.3	56.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P834712

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	3692.2	3692.2	3692.2
2.5°	3604.2	3623.6	3638.1
5°	3542.1	3558.2	3571.1
7.5°	3481.5	3496.1	3507.4
10°	3424.2	3440.4	3448.4
12.5°	3365.3	3383.9	3390.3
15°	3307.2	3325.8	3333.8
17.5°	3247.5	3271.7	3280.6
20°	3191.8	3222.5	3229.7
22.5°	3135.3	3166.8	3175.7
25°	3074.0	3111.1	3120.0
27.5°	3008.6	3053.0	3061.9
30°	2943.2	2991.7	3000.5
32.5°	2873.0	2925.5	2933.6
35°	2799.6	2852.0	2861.7
37.5°	2718.1	2775.4	2794.7
40°	2633.3	2695.5	2715.7
42.5°	2544.6	2612.4	2633.3
45°	2449.3	2523.6	2547.8
47.5°	2353.3	2437.2	2458.2
50°	2249.2	2338.8	2363.8
52.5°	2140.2	2237.9	2262.9
55°	2027.3	2125.7	2153.2
57.5°	1904.6	2006.3	2035.3
60°	1776.3	1878.0	1905.4
62.5°	1644.7	1736.7	1763.4
65°	1497.8	1584.2	1608.4
67.5°	1342.1	1421.2	1441.4
70°	1176.6	1245.2	1263.0
72.5°	1003.9	1051.6	1075.0
75°	825.6	863.5	881.3
77.5°	646.4	673.1	687.6
80°	471.3	486.6	498.7
82.5°	308.3	314.7	323.6
85°	166.2	166.2	171.9
87.5°	56.5	54.1	56.5
90°	0.0	0.0	0.0

(END OF REPORT)