

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: P834530

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834530
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-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

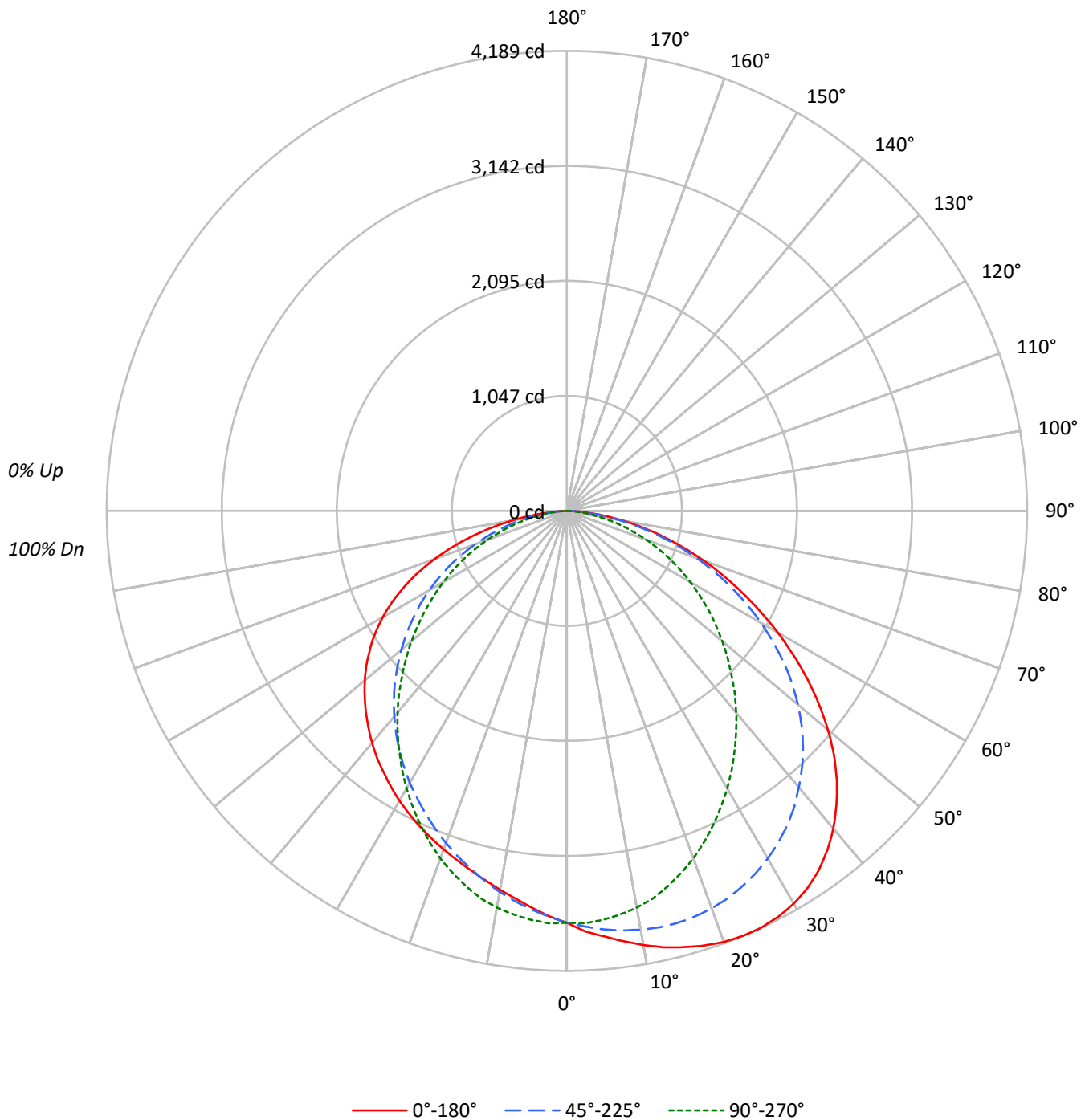
Lumens per Lamp: N/A
Luminaire Lumens: 11031.4 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P834530

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834530

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-27-120-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°	5046	5046	5046
5°	5253	5049	4899
10°	5483	5011	4786
15°	5730	4930	4717
20°	5980	4822	4697
25°	6215	4682	4705
30°	6417	4535	4735
35°	6564	4373	4774
40°	6630	4211	4845
45°	6612	4034	4924
50°	6494	3864	5026
55°	6272	3686	5130
60°	5967	3496	5208
65°	5603	3283	5201
70°	5214	3028	5047
75°	4734	2659	4653
80°	4065	2185	3925
85°	3100	1493	2695

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834530

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.7	3.2
10°-20°	1027.1	9.3
20°-30°	1573.6	14.3
30°-40°	1920.3	17.4
40°-50°	2008.3	18.2
50°-60°	1817.6	16.5
60°-70°	1376.5	12.5
70°-80°	767.1	7.0
80°-90°	185.0	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°	2956.4	26.8
0°-40°	4876.7	44.2
0°-60°	8702.6	78.9
0°-90°	11031.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11031.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3750	3750	3750	3750	3750	
5°	3890	3825	3738	3646	3627	375
15°	4113	3885	3540	3375	3386	1167
25°	4186	3775	3154	3042	3169	1931
35°	3996	3495	2662	2659	2907	2495
45°	3475	3040	2120	2213	2588	2674
55°	2674	2414	1571	1710	2187	2386
65°	1760	1655	1031	1172	1634	1746
75°	911	860	512	611	895	966
85°	201	177	97	130	175	242
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834530

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2
2.5°	3833.0	3815.0	3800.2	3806.0	3809.2	3797.8	3787.9	3789.6	3779.7	3798.6	3754.3
5°	3889.6	3873.2	3856.0	3862.5	3856.0	3838.7	3824.8	3820.7	3794.5	3805.1	3760.0
7.5°	3952.7	3934.6	3909.2	3916.6	3902.7	3870.7	3852.7	3842.0	3801.9	3802.7	3752.7
10°	4013.3	3997.8	3963.3	3968.3	3942.8	3900.2	3871.5	3856.8	3800.2	3792.0	3740.4
12.5°	4069.9	4048.6	4011.7	4014.2	3977.3	3920.7	3883.8	3862.5	3788.7	3764.1	3713.3
15°	4113.3	4092.9	4048.6	4047.8	4000.2	3926.4	3884.6	3855.1	3761.7	3723.2	3669.9
17.5°	4150.2	4131.4	4076.5	4074.8	4017.4	3924.0	3874.0	3837.1	3722.3	3674.8	3615.8
20°	4176.5	4157.6	4096.1	4090.4	4021.5	3911.7	3851.9	3805.1	3670.7	3614.1	3548.6
22.5°	4188.8	4169.9	4100.2	4092.0	4011.7	3887.1	3819.9	3765.0	3611.7	3537.9	3469.9
25°	4186.3	4168.3	4089.6	4081.4	3992.8	3850.2	3774.8	3711.7	3537.1	3450.2	3383.0
27.5°	4165.8	4151.9	4069.1	4058.4	3958.4	3800.2	3719.9	3650.2	3454.3	3357.6	3284.6
30°	4130.6	4119.9	4032.2	4022.4	3915.8	3745.3	3655.9	3575.6	3364.9	3255.9	3182.1
32.5°	4074.0	4064.2	3975.6	3966.6	3858.4	3674.8	3581.3	3498.6	3267.4	3146.9	3073.1
35°	3996.1	3990.4	3904.3	3894.5	3784.6	3594.5	3495.3	3404.3	3165.8	3029.7	2959.2
37.5°	3893.7	3893.7	3810.9	3800.2	3692.8	3496.1	3398.6	3301.8	3051.0	2906.7	2837.0
40°	3774.8	3785.5	3701.0	3690.4	3586.3	3390.4	3283.8	3182.1	2927.2	2777.2	2709.2
42.5°	3632.2	3642.0	3571.5	3561.7	3464.1	3268.2	3169.0	3058.4	2797.7	2645.2	2574.7
45°	3474.8	3487.9	3424.8	3417.4	3326.4	3134.6	3039.5	2927.2	2662.4	2507.5	2438.7
47.5°	3299.4	3316.6	3261.7	3257.6	3173.1	2997.7	2898.5	2784.6	2520.6	2364.1	2299.3
50°	3102.6	3127.2	3082.1	3082.1	3006.7	2832.1	2746.1	2632.1	2373.1	2216.5	2152.6
52.5°	2892.0	2923.1	2889.5	2890.3	2828.8	2672.3	2582.9	2471.4	2219.0	2064.9	2005.8
55°	2673.9	2704.2	2682.9	2686.2	2637.9	2495.2	2414.1	2303.4	2061.6	1911.6	1855.8
57.5°	2446.0	2478.8	2464.9	2471.4	2437.8	2310.0	2225.5	2128.8	1899.3	1750.9	1703.4
60°	2217.3	2248.5	2241.1	2250.1	2228.8	2118.2	2041.1	1941.1	1736.2	1593.5	1551.7
62.5°	1986.2	2014.9	2013.2	2023.1	2011.6	1919.8	1850.9	1765.7	1567.3	1436.1	1397.6
65°	1759.9	1784.5	1782.9	1793.5	1791.1	1717.3	1655.0	1577.1	1398.4	1277.9	1244.3
67.5°	1540.2	1560.7	1555.0	1567.3	1570.6	1511.6	1457.5	1387.8	1237.8	1120.6	1091.9
70°	1325.5	1339.4	1332.0	1340.2	1347.6	1303.4	1257.4	1196.0	1066.5	963.2	939.4
72.5°	1114.8	1124.7	1113.2	1121.4	1127.9	1096.0	1058.3	1005.0	897.6	808.2	788.6
75°	910.7	924.6	900.9	909.1	914.0	882.0	859.9	816.4	723.8	655.0	641.8
77.5°	713.2	721.4	708.2	705.0	708.2	685.3	668.1	634.5	564.8	508.2	500.0
80°	524.6	529.5	516.4	513.1	515.6	499.2	486.1	461.5	412.3	369.7	366.4
82.5°	351.7	354.1	342.6	339.4	341.0	336.1	320.5	303.3	280.3	244.3	243.5
85°	200.8	200.8	192.6	189.4	191.0	182.8	177.1	168.0	159.0	134.4	136.1
87.5°	73.8	73.8	69.7	68.9	77.1	68.0	65.6	61.5	63.9	50.8	54.1
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: P834530

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2	3750.2
2.5°	3766.6	3758.4	3751.0	3725.6	3736.3	3710.0	3708.4	3698.6	3691.2	3677.3	3695.3
5°	3754.3	3737.9	3716.6	3686.3	3695.3	3664.1	3657.6	3646.1	3636.3	3618.2	3632.2
7.5°	3734.6	3707.6	3674.0	3635.4	3647.7	3609.2	3599.4	3587.1	3578.9	3557.6	3569.9
10°	3705.9	3667.4	3628.1	3581.3	3590.4	3548.6	3536.3	3523.1	3515.8	3496.9	3509.2
12.5°	3661.7	3615.0	3561.7	3510.9	3520.7	3481.3	3464.9	3451.0	3448.6	3433.0	3447.7
15°	3604.3	3539.5	3484.6	3430.5	3442.0	3396.1	3388.7	3374.8	3378.9	3368.2	3386.3
17.5°	3531.3	3456.8	3396.9	3338.7	3350.2	3311.7	3305.9	3299.4	3303.5	3301.8	3321.5
20°	3449.4	3367.4	3298.5	3241.2	3247.7	3217.4	3219.9	3218.2	3226.4	3235.4	3262.5
22.5°	3356.7	3264.1	3192.0	3133.0	3142.8	3116.6	3128.0	3131.3	3145.3	3165.8	3200.2
25°	3252.6	3153.5	3078.0	3022.3	3031.3	3014.1	3033.8	3042.0	3064.1	3098.5	3133.8
27.5°	3143.6	3038.7	2958.4	2905.1	2922.3	2905.1	2934.6	2951.0	2984.6	3022.3	3065.7
30°	3028.0	2919.0	2836.2	2788.7	2805.1	2789.5	2837.0	2859.2	2892.8	2944.4	2996.1
32.5°	2906.7	2792.0	2710.8	2673.9	2685.4	2682.9	2736.2	2760.8	2805.9	2864.9	2919.8
35°	2782.1	2662.4	2580.5	2549.3	2563.3	2566.5	2630.5	2659.2	2708.3	2779.7	2838.7
37.5°	2653.4	2531.3	2451.0	2425.5	2437.8	2450.1	2524.7	2553.4	2609.2	2687.0	2751.8
40°	2519.8	2397.7	2319.0	2298.5	2310.8	2323.9	2405.1	2444.4	2505.1	2589.5	2660.0
42.5°	2384.6	2262.4	2186.2	2171.4	2183.7	2209.1	2295.2	2332.1	2396.0	2489.5	2567.4
45°	2246.8	2119.8	2053.4	2041.9	2055.0	2084.5	2169.0	2213.2	2281.3	2383.7	2467.4
47.5°	2107.5	1983.7	1920.6	1913.2	1926.3	1959.1	2052.6	2092.7	2164.9	2273.9	2364.1
50°	1966.5	1846.0	1785.3	1782.9	1795.2	1830.4	1919.8	1967.3	2041.9	2164.1	2256.7
52.5°	1823.9	1708.3	1653.4	1653.4	1664.8	1700.9	1791.1	1840.3	1917.3	2046.0	2148.5
55°	1681.2	1571.4	1518.9	1523.0	1539.4	1570.6	1658.3	1709.9	1787.8	1921.4	2029.6
57.5°	1538.6	1434.5	1387.0	1392.7	1408.3	1439.4	1525.5	1583.7	1654.2	1792.7	1903.4
60°	1397.6	1299.3	1257.4	1264.0	1277.9	1309.1	1398.4	1448.4	1518.9	1659.9	1770.6
62.5°	1255.0	1165.6	1126.3	1134.5	1146.8	1177.9	1262.4	1310.7	1380.4	1518.9	1630.4
65°	1114.0	1031.2	997.6	1005.8	1017.3	1046.0	1125.5	1172.2	1238.6	1373.8	1480.4
67.5°	974.6	899.2	871.4	879.6	888.6	915.6	981.2	1032.0	1094.3	1223.0	1323.8
70°	836.9	769.7	745.1	753.3	761.5	786.1	843.5	890.2	947.6	1065.6	1159.1
72.5°	700.9	635.3	623.0	630.4	636.9	658.2	713.2	750.0	800.0	905.0	985.3
75°	568.1	511.5	503.3	510.7	516.4	532.8	578.7	610.7	652.5	743.5	809.1
77.5°	440.2	392.6	389.4	395.1	400.8	412.3	448.4	482.0	514.8	582.0	640.2
80°	320.5	282.0	282.0	287.7	286.1	300.0	325.4	352.5	376.3	424.6	467.2
82.5°	211.5	181.2	185.3	189.4	191.8	197.6	213.1	233.6	248.4	277.9	305.8
85°	117.2	96.7	100.8	104.1	102.5	109.0	117.2	129.5	136.9	150.8	165.6
87.5°	43.4	36.1	36.9	39.3	41.0	44.3	44.3	51.6	52.5	54.1	57.4
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: P834530

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	3750.2	3750.2	3750.2
2.5°	3660.9	3680.5	3695.3
5°	3597.7	3614.1	3627.3
7.5°	3536.3	3551.0	3562.5
10°	3478.1	3494.5	3502.7
12.5°	3418.2	3437.1	3443.6
15°	3359.2	3378.1	3386.3
17.5°	3298.5	3323.1	3332.2
20°	3242.0	3273.1	3280.5
22.5°	3184.6	3216.6	3225.6
25°	3122.3	3160.0	3169.0
27.5°	3055.9	3101.0	3110.0
30°	2989.5	3038.7	3047.7
32.5°	2918.2	2971.5	2979.7
35°	2843.6	2896.9	2906.7
37.5°	2760.8	2819.0	2838.7
40°	2674.7	2737.9	2758.4
42.5°	2584.6	2653.4	2674.7
45°	2487.8	2563.3	2587.8
47.5°	2390.3	2475.5	2496.9
50°	2284.6	2375.5	2401.0
52.5°	2173.9	2273.1	2298.5
55°	2059.1	2159.1	2187.0
57.5°	1934.5	2037.8	2067.3
60°	1804.2	1907.5	1935.4
62.5°	1670.6	1764.0	1791.1
65°	1521.4	1609.1	1633.7
67.5°	1363.2	1443.5	1464.0
70°	1195.1	1264.8	1282.9
72.5°	1019.7	1068.1	1091.9
75°	838.6	877.1	895.1
77.5°	656.6	683.6	698.4
80°	478.7	494.3	506.6
82.5°	313.1	319.7	328.7
85°	168.9	168.9	174.6
87.5°	57.4	54.9	57.4
90°	0.0	0.0	0.0

(END OF REPORT)