

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: P834628

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-6LO-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834628
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

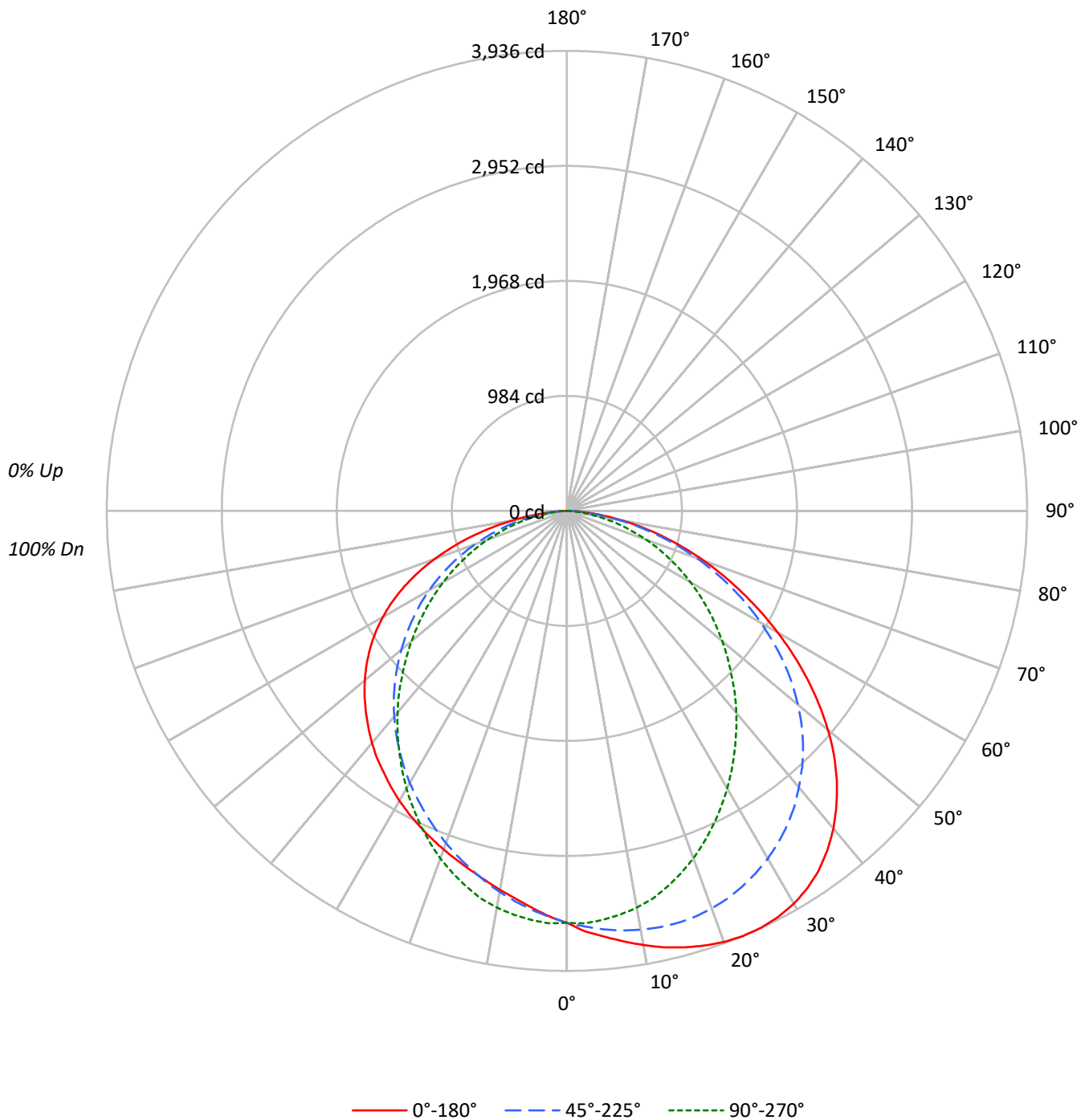
Lumens per Lamp: N/A
Luminaire Lumens: 10366.9 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

Peachtree City, GA 30269



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4742	4742	4742
5°	4937	4744	4604
10°	5153	4709	4497
15°	5385	4634	4433
20°	5620	4531	4414
25°	5841	4400	4421
30°	6031	4262	4450
35°	6168	4110	4487
40°	6231	3958	4553
45°	6214	3791	4628
50°	6103	3631	4723
55°	5895	3464	4821
60°	5607	3286	4894
65°	5266	3085	4888
70°	4901	2846	4743
75°	4449	2499	4373
80°	3820	2053	3689
85°	2913	1403	2533

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	334.3	3.2
10°-20°	965.3	9.3
20°-30°	1478.8	14.3
30°-40°	1804.7	17.4
40°-50°	1887.3	18.2
50°-60°	1708.1	16.5
60°-70°	1293.6	12.5
70°-80°	720.9	7.0
80°-90°	173.9	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°	2778.3	26.8
0°-40°	4583.0	44.2
0°-60°	8178.5	78.9
0°-90°	10366.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10366.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3524	3524	3524	3524	3524	
5°	3655	3594	3513	3426	3409	352
15°	3866	3651	3326	3172	3182	1096
25°	3934	3547	2964	2859	2978	1815
35°	3755	3285	2502	2499	2732	2345
45°	3266	2856	1992	2080	2432	2512
55°	2513	2269	1477	1607	2055	2242
65°	1654	1555	969	1102	1535	1641
75°	856	808	481	574	841	908
85°	189	166	91	122	164	227
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°	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3
2.5°	3602.1	3585.2	3571.3	3576.7	3579.8	3569.0	3559.8	3561.3	3552.1	3569.8	3528.2
5°	3655.3	3639.9	3623.7	3629.9	3623.7	3607.5	3594.4	3590.6	3565.9	3575.9	3533.6
7.5°	3714.6	3697.7	3673.8	3680.7	3667.6	3637.6	3620.6	3610.6	3572.9	3573.6	3526.6
10°	3771.6	3757.0	3724.6	3729.2	3705.4	3665.3	3638.3	3624.5	3571.3	3563.6	3515.1
12.5°	3824.8	3804.7	3770.1	3772.4	3737.7	3684.6	3649.9	3629.9	3560.5	3537.4	3489.7
15°	3865.6	3846.3	3804.7	3804.0	3759.3	3690.0	3650.7	3622.9	3535.1	3498.9	3448.8
17.5°	3900.3	3882.5	3830.9	3829.4	3775.5	3687.6	3640.7	3606.0	3498.1	3453.5	3398.0
20°	3924.9	3907.2	3849.4	3844.0	3779.3	3676.1	3619.9	3575.9	3449.6	3396.5	3334.8
22.5°	3936.5	3918.8	3853.3	3845.6	3770.1	3653.0	3589.8	3538.2	3394.1	3324.8	3260.9
25°	3934.2	3917.2	3843.3	3835.6	3752.4	3618.3	3547.4	3488.1	3324.0	3242.4	3179.2
27.5°	3914.9	3901.8	3824.0	3814.0	3720.0	3571.3	3495.8	3430.4	3246.2	3155.3	3086.8
30°	3881.8	3871.8	3789.3	3780.1	3679.9	3519.7	3435.7	3360.3	3162.3	3059.8	2990.5
32.5°	3828.6	3819.4	3736.2	3727.7	3626.0	3453.5	3365.6	3287.8	3070.6	2957.4	2888.0
35°	3755.4	3750.0	3669.2	3659.9	3556.7	3378.0	3284.8	3199.2	2975.1	2847.2	2781.0
37.5°	3659.1	3659.1	3581.3	3571.3	3470.4	3285.5	3193.9	3103.0	2867.2	2731.6	2666.2
40°	3547.4	3557.5	3478.1	3468.1	3370.3	3186.2	3086.0	2990.5	2750.9	2609.9	2546.0
42.5°	3413.4	3422.6	3356.4	3347.2	3255.5	3071.4	2978.2	2874.2	2629.2	2485.9	2419.7
45°	3265.5	3277.8	3218.5	3211.6	3126.1	2945.8	2856.4	2750.9	2502.1	2356.5	2291.8
47.5°	3100.6	3116.8	3065.2	3061.4	2982.0	2817.2	2723.9	2616.9	2368.8	2221.7	2160.8
50°	2915.8	2938.9	2896.5	2896.5	2825.6	2661.5	2580.7	2473.6	2230.2	2083.0	2022.9
52.5°	2717.8	2747.1	2715.5	2716.2	2658.5	2511.3	2427.4	2322.6	2085.3	1940.5	1885.0
55°	2512.9	2541.4	2521.3	2524.4	2479.0	2344.9	2268.7	2164.7	1937.4	1796.4	1744.1
57.5°	2298.7	2329.5	2316.4	2322.6	2291.0	2170.8	2091.5	2000.6	1784.9	1645.5	1600.8
60°	2083.8	2113.1	2106.1	2114.6	2094.6	1990.6	1918.2	1824.2	1631.6	1497.6	1458.3
62.5°	1866.5	1893.5	1892.0	1901.2	1890.4	1804.2	1739.4	1659.3	1472.9	1349.6	1313.4
65°	1653.9	1677.0	1675.5	1685.5	1683.2	1613.9	1555.3	1482.1	1314.2	1201.0	1169.4
67.5°	1447.5	1466.7	1461.3	1472.9	1476.0	1420.5	1369.7	1304.2	1163.2	1053.1	1026.1
70°	1245.7	1258.7	1251.8	1259.5	1266.4	1224.9	1181.7	1123.9	1002.2	905.2	882.8
72.5°	1047.7	1056.9	1046.1	1053.8	1060.0	1030.0	994.5	944.4	843.5	759.6	741.1
75°	855.9	869.0	846.6	854.3	858.9	828.9	808.1	767.3	680.2	615.5	603.2
77.5°	670.2	677.9	665.6	662.5	665.6	644.0	627.8	596.2	530.8	477.6	469.9
80°	493.0	497.6	485.3	482.2	484.5	469.1	456.8	433.7	387.5	347.4	344.3
82.5°	330.5	332.8	322.0	318.9	320.5	315.8	301.2	285.0	263.5	229.6	228.8
85°	188.7	188.7	181.0	178.0	179.5	171.8	166.4	157.9	149.4	126.3	127.9
87.5°	69.3	69.3	65.5	64.7	72.4	63.9	61.6	57.8	60.1	47.8	50.8
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°	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3	3524.3
2.5°	3539.7	3532.0	3525.1	3501.2	3511.2	3486.6	3485.0	3475.8	3468.9	3455.8	3472.7
5°	3528.2	3512.8	3492.8	3464.2	3472.7	3443.4	3437.3	3426.5	3417.3	3400.3	3413.4
7.5°	3509.7	3484.3	3452.7	3416.5	3428.0	3391.8	3382.6	3371.0	3363.3	3343.3	3354.9
10°	3482.7	3446.5	3409.6	3365.6	3374.1	3334.8	3323.3	3310.9	3304.0	3286.3	3297.9
12.5°	3441.1	3397.2	3347.2	3299.4	3308.6	3271.7	3256.3	3243.2	3240.8	3226.2	3240.1
15°	3387.2	3326.4	3274.7	3223.9	3234.7	3191.5	3184.6	3171.5	3175.4	3165.4	3182.3
17.5°	3318.7	3248.6	3192.3	3137.6	3148.4	3112.2	3106.8	3100.6	3104.5	3103.0	3121.4
20°	3241.6	3164.6	3099.9	3045.9	3052.1	3023.6	3025.9	3024.4	3032.1	3040.6	3066.0
22.5°	3154.6	3067.5	2999.7	2944.3	2953.5	2928.9	2939.6	2942.7	2955.8	2975.1	3007.4
25°	3056.7	2963.5	2892.7	2840.3	2848.7	2832.6	2851.1	2858.8	2879.6	2911.9	2945.0
27.5°	2954.3	2855.7	2780.2	2730.1	2746.3	2730.1	2757.8	2773.2	2804.8	2840.3	2881.1
30°	2845.7	2743.2	2665.4	2620.7	2636.1	2621.5	2666.2	2687.0	2718.6	2767.1	2815.6
32.5°	2731.6	2623.8	2547.5	2512.9	2523.7	2521.3	2571.4	2594.5	2636.9	2692.4	2744.0
35°	2614.6	2502.1	2425.1	2395.8	2408.9	2412.0	2472.0	2499.0	2545.2	2612.2	2667.7
37.5°	2493.6	2378.8	2303.3	2279.5	2291.0	2302.6	2372.7	2399.6	2452.0	2525.2	2586.1
40°	2368.0	2253.3	2179.3	2160.1	2171.6	2183.9	2260.2	2297.2	2354.2	2433.5	2499.8
42.5°	2240.9	2126.2	2054.5	2040.6	2052.2	2076.1	2157.0	2191.6	2251.7	2339.5	2412.7
45°	2111.5	1992.1	1929.7	1918.9	1931.3	1959.0	2038.3	2079.9	2143.9	2240.2	2318.7
47.5°	1980.6	1864.2	1804.9	1798.0	1810.3	1841.1	1928.9	1966.7	2034.5	2136.9	2221.7
50°	1848.1	1734.8	1677.8	1675.5	1687.1	1720.2	1804.2	1848.8	1918.9	2033.7	2120.8
52.5°	1714.0	1605.4	1553.8	1553.8	1564.6	1598.5	1683.2	1729.4	1801.8	1922.8	2019.1
55°	1580.0	1476.8	1427.5	1431.3	1446.7	1476.0	1558.4	1606.9	1680.1	1805.7	1907.4
57.5°	1445.9	1348.1	1303.4	1308.8	1323.5	1352.7	1433.6	1488.3	1554.6	1684.7	1788.7
60°	1313.4	1221.0	1181.7	1187.9	1201.0	1230.2	1314.2	1361.2	1427.5	1560.0	1663.9
62.5°	1179.4	1095.4	1058.5	1066.2	1077.7	1107.0	1186.3	1231.8	1297.3	1427.5	1532.2
65°	1046.9	969.1	937.5	945.2	956.0	983.0	1057.7	1101.6	1164.0	1291.1	1391.2
67.5°	915.9	845.1	818.9	826.6	835.1	860.5	922.1	969.9	1028.4	1149.4	1244.1
70°	786.5	723.4	700.2	707.9	715.7	738.8	792.7	836.6	890.5	1001.5	1089.3
72.5°	658.6	597.0	585.5	592.4	598.6	618.6	670.2	704.9	751.9	850.5	926.0
75°	533.9	480.7	473.0	479.9	485.3	500.7	543.9	573.9	613.2	698.7	760.3
77.5°	413.7	369.0	365.9	371.3	376.7	387.5	421.4	453.0	483.8	546.9	601.6
80°	301.2	265.0	265.0	270.4	268.9	281.9	305.8	331.2	353.6	399.0	439.1
82.5°	198.7	170.2	174.1	178.0	180.3	185.7	200.3	219.5	233.4	261.1	287.3
85°	110.2	90.9	94.8	97.8	96.3	102.5	110.2	121.7	128.6	141.7	155.6
87.5°	40.8	33.9	34.7	37.0	38.5	41.6	41.6	48.5	49.3	50.8	53.9
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°	3524.3	3524.3	3524.3
2.5°	3440.4	3458.9	3472.7
5°	3381.1	3396.5	3408.8
7.5°	3323.3	3337.1	3347.9
10°	3268.6	3284.0	3291.7
12.5°	3212.3	3230.1	3236.2
15°	3156.9	3174.6	3182.3
17.5°	3099.9	3123.0	3131.5
20°	3046.7	3076.0	3082.9
22.5°	2992.8	3022.8	3031.3
25°	2934.2	2969.7	2978.2
27.5°	2871.9	2914.2	2922.7
30°	2809.5	2855.7	2864.1
32.5°	2742.4	2792.5	2800.2
35°	2672.3	2722.4	2731.6
37.5°	2594.5	2649.2	2667.7
40°	2513.6	2573.0	2592.2
42.5°	2428.9	2493.6	2513.6
45°	2338.0	2408.9	2432.0
47.5°	2246.3	2326.4	2346.5
50°	2147.0	2232.5	2256.3
52.5°	2043.0	2136.2	2160.1
55°	1935.1	2029.1	2055.3
57.5°	1818.0	1915.1	1942.8
60°	1695.5	1792.6	1818.8
62.5°	1570.0	1657.8	1683.2
65°	1429.8	1512.2	1535.3
67.5°	1281.1	1356.6	1375.8
70°	1123.2	1188.6	1205.6
72.5°	958.3	1003.8	1026.1
75°	788.1	824.3	841.2
77.5°	617.0	642.5	656.3
80°	449.9	464.5	476.1
82.5°	294.3	300.4	308.9
85°	158.7	158.7	164.1
87.5°	53.9	51.6	53.9
90°	0.0	0.0	0.0

(END OF REPORT)