

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: P834692

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834692
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

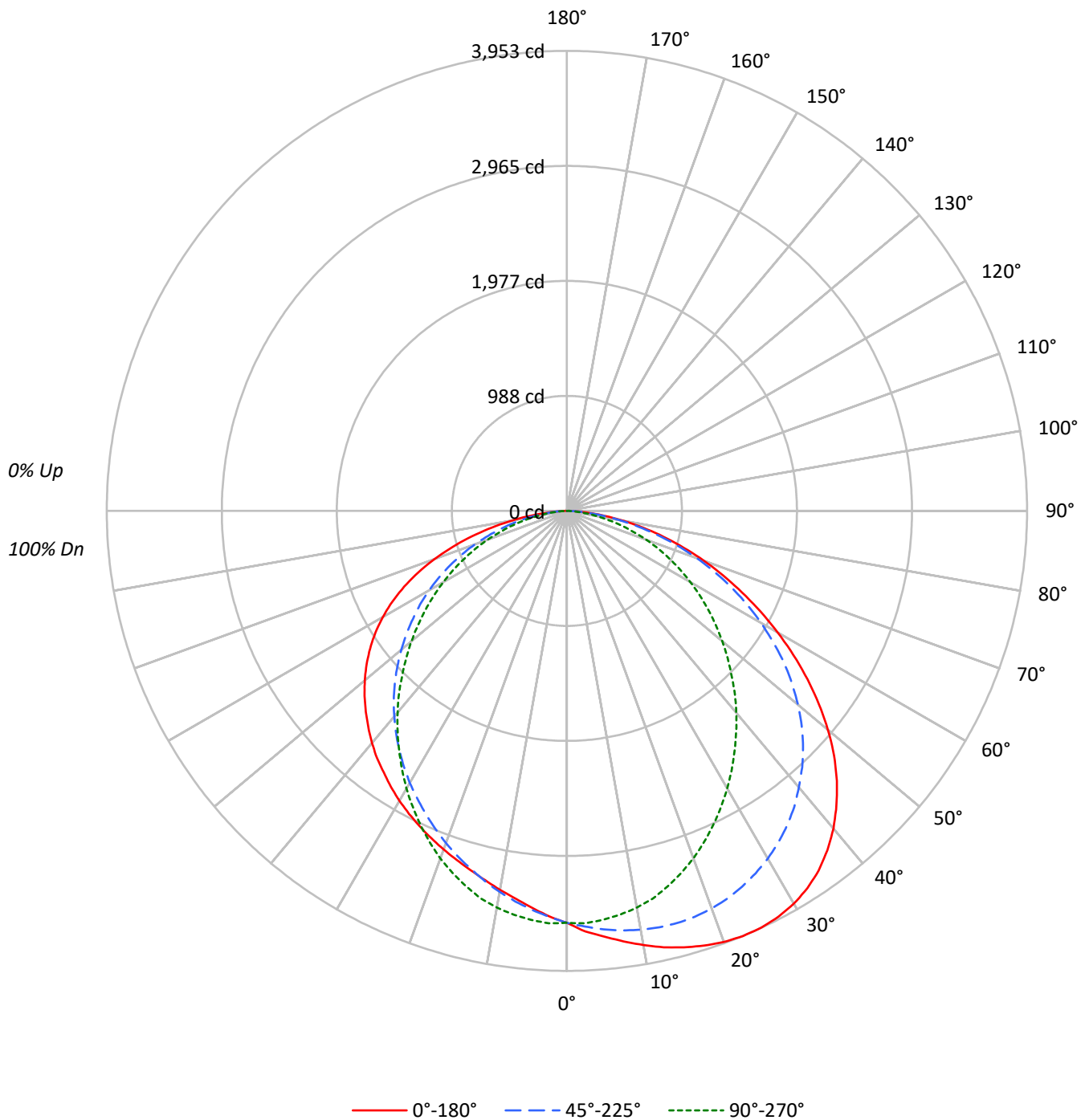
Lumens per Lamp: N/A
Luminaire Lumens: 10411.6 lumens
Efficiency: N/A
Efficacy: 104.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P834692

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-3STD-40-120-EDD-90

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°	4762	4762	4762
5°	4958	4765	4624
10°	5175	4729	4517
15°	5408	4653	4452
20°	5644	4551	4433
25°	5866	4419	4440
30°	6057	4280	4469
35°	6195	4128	4506
40°	6258	3975	4573
45°	6240	3807	4648
50°	6130	3647	4743
55°	5920	3479	4842
60°	5632	3300	4915
65°	5288	3099	4909
70°	4921	2858	4763
75°	4468	2510	4392
80°	3836	2062	3704
85°	2925	1409	2544

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.7	3.2
10°-20°	969.4	9.3
20°-30°	1485.2	14.3
30°-40°	1812.5	17.4
40°-50°	1895.4	18.2
50°-60°	1715.5	16.5
60°-70°	1299.2	12.5
70°-80°	724.0	7.0
80°-90°	174.6	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°	2790.3	26.8
0°-40°	4602.8	44.2
0°-60°	8213.7	78.9
0°-90°	10411.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10411.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3540	3540	3540	3540	3540	
5°	3671	3610	3528	3441	3424	354
15°	3882	3666	3341	3185	3196	1101
25°	3951	3563	2976	2871	2991	1823
35°	3772	3299	2513	2510	2743	2355
45°	3280	2869	2001	2089	2442	2523
55°	2524	2278	1483	1614	2064	2252
65°	1661	1562	973	1106	1542	1648
75°	860	812	483	576	845	912
85°	190	167	91	122	165	228
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°	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5
2.5°	3617.7	3600.6	3586.7	3592.1	3595.2	3584.4	3575.1	3576.7	3567.4	3585.2	3543.4
5°	3671.0	3655.6	3639.3	3645.5	3639.3	3623.1	3609.9	3606.1	3581.3	3591.4	3548.8
7.5°	3730.6	3713.6	3689.6	3696.6	3683.4	3653.3	3636.2	3626.2	3588.3	3589.0	3541.8
10°	3787.9	3773.2	3740.7	3745.3	3721.3	3681.1	3654.0	3640.1	3586.7	3579.0	3530.2
12.5°	3841.3	3821.1	3786.3	3788.6	3753.8	3700.4	3665.6	3645.5	3575.9	3552.7	3504.7
15°	3882.3	3862.9	3821.1	3820.4	3775.5	3705.9	3666.4	3638.6	3550.4	3514.0	3463.7
17.5°	3917.1	3899.3	3847.4	3845.9	3791.7	3703.5	3656.3	3621.5	3513.2	3468.3	3412.6
20°	3941.8	3924.0	3866.0	3860.6	3795.6	3691.9	3635.5	3591.4	3464.5	3411.1	3349.2
22.5°	3953.4	3935.6	3869.9	3862.1	3786.3	3668.7	3605.3	3553.4	3408.8	3339.1	3274.9
25°	3951.1	3934.1	3859.8	3852.1	3768.5	3633.9	3562.7	3503.2	3338.4	3256.4	3192.9
27.5°	3931.8	3918.6	3840.5	3830.4	3736.0	3586.7	3510.9	3445.1	3260.2	3168.9	3100.1
30°	3898.5	3888.4	3805.7	3796.4	3695.8	3534.9	3450.6	3374.7	3175.9	3073.0	3003.4
32.5°	3845.1	3835.8	3752.3	3743.8	3641.6	3468.3	3380.1	3302.0	3083.8	2970.1	2900.5
35°	3771.6	3766.2	3685.0	3675.7	3572.0	3392.5	3298.9	3213.0	2987.9	2859.5	2792.9
37.5°	3674.9	3674.9	3596.8	3586.7	3485.4	3299.7	3207.6	3116.3	2879.6	2743.4	2677.7
40°	3562.7	3572.8	3493.1	3483.0	3384.8	3199.9	3099.3	3003.4	2762.8	2621.2	2557.0
42.5°	3428.1	3437.4	3370.9	3361.6	3269.5	3084.6	2991.0	2886.5	2640.5	2496.6	2430.1
45°	3279.6	3292.0	3232.4	3225.4	3139.5	2958.5	2868.8	2762.8	2512.9	2366.6	2301.7
47.5°	3114.0	3130.3	3078.4	3074.6	2994.9	2829.3	2735.7	2628.1	2379.0	2231.3	2170.1
50°	2928.3	2951.5	2909.0	2909.0	2837.8	2673.0	2591.8	2484.2	2239.8	2092.0	2031.6
52.5°	2729.5	2758.9	2727.2	2727.9	2669.9	2522.2	2437.8	2332.6	2094.3	1948.9	1893.2
55°	2523.7	2552.3	2532.2	2535.3	2489.7	2355.0	2278.4	2174.0	1945.8	1804.2	1751.6
57.5°	2308.6	2339.6	2326.4	2332.6	2300.9	2180.2	2100.5	2009.2	1792.6	1652.6	1607.7
60°	2092.8	2122.2	2115.2	2123.7	2103.6	1999.2	1926.4	1832.0	1638.6	1504.0	1464.6
62.5°	1874.6	1901.7	1900.1	1909.4	1898.6	1811.9	1746.9	1666.5	1479.3	1355.5	1319.1
65°	1661.1	1684.3	1682.7	1692.8	1690.5	1620.8	1562.0	1488.5	1319.9	1206.1	1174.4
67.5°	1453.7	1473.1	1467.6	1479.3	1482.3	1426.6	1375.6	1309.8	1168.2	1057.6	1030.5
70°	1251.0	1264.2	1257.2	1264.9	1271.9	1230.1	1186.8	1128.8	1006.5	909.1	886.6
72.5°	1052.2	1061.5	1050.6	1058.4	1064.6	1034.4	998.8	948.5	847.2	762.8	744.3
75°	859.5	872.7	850.3	858.0	862.6	832.5	811.6	770.6	683.1	618.2	605.8
77.5°	673.1	680.8	668.4	665.4	668.4	646.8	630.5	598.8	533.1	479.7	471.9
80°	495.1	499.8	487.4	484.3	486.6	471.2	458.8	435.6	389.2	348.9	345.8
82.5°	331.9	334.2	323.4	320.3	321.8	317.2	302.5	286.3	264.6	230.6	229.8
85°	189.5	189.5	181.8	178.7	180.3	172.5	167.1	158.6	150.1	126.9	128.4
87.5°	69.6	69.6	65.8	65.0	72.7	64.2	61.9	58.0	60.3	48.0	51.1
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°	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5	3539.5
2.5°	3555.0	3547.3	3540.3	3516.3	3526.4	3501.6	3500.1	3490.8	3483.8	3470.7	3487.7
5°	3543.4	3527.9	3507.8	3479.2	3487.7	3458.3	3452.1	3441.3	3432.0	3415.0	3428.1
7.5°	3524.8	3499.3	3467.6	3431.2	3442.8	3406.5	3397.2	3385.6	3377.8	3357.7	3369.3
10°	3497.7	3461.4	3424.2	3380.1	3388.7	3349.2	3337.6	3325.2	3318.3	3300.5	3312.1
12.5°	3456.0	3411.9	3361.6	3313.6	3322.9	3285.8	3270.3	3257.1	3254.8	3240.1	3254.0
15°	3401.8	3340.7	3288.9	3237.8	3248.6	3205.3	3198.3	3185.2	3189.1	3179.0	3196.0
17.5°	3333.0	3262.6	3206.1	3151.1	3162.0	3125.6	3120.2	3114.0	3117.9	3116.3	3134.9
20°	3255.6	3178.2	3113.2	3059.1	3065.3	3036.6	3039.0	3037.4	3045.2	3053.7	3079.2
22.5°	3168.2	3080.7	3012.7	2957.0	2966.2	2941.5	2952.3	2955.4	2968.6	2987.9	3020.4
25°	3069.9	2976.3	2905.1	2852.5	2861.0	2844.8	2863.3	2871.1	2892.0	2924.5	2957.7
27.5°	2967.0	2868.0	2792.2	2741.9	2758.1	2741.9	2769.7	2785.2	2816.9	2852.5	2893.5
30°	2857.9	2755.0	2676.9	2632.0	2647.5	2632.8	2677.7	2698.5	2730.3	2779.0	2827.8
32.5°	2743.4	2635.1	2558.5	2523.7	2534.5	2532.2	2582.5	2605.7	2648.3	2704.0	2755.8
35°	2625.8	2512.9	2435.5	2406.1	2419.3	2422.3	2482.7	2509.8	2556.2	2623.5	2679.2
37.5°	2504.4	2389.1	2313.3	2289.3	2300.9	2312.5	2382.9	2410.0	2462.6	2536.1	2597.2
40°	2378.3	2263.0	2188.7	2169.4	2181.0	2193.3	2269.9	2307.1	2364.3	2444.0	2510.5
42.5°	2250.6	2135.3	2063.4	2049.4	2061.0	2085.0	2166.3	2201.1	2261.4	2349.6	2423.1
45°	2120.6	2000.7	1938.0	1927.2	1939.6	1967.4	2047.1	2088.9	2153.1	2249.8	2328.7
47.5°	1989.1	1872.3	1812.7	1805.7	1818.1	1849.1	1937.3	1975.2	2043.3	2146.2	2231.3
50°	1856.0	1742.3	1685.0	1682.7	1694.3	1727.6	1811.9	1856.8	1927.2	2042.5	2129.9
52.5°	1721.4	1612.3	1560.5	1560.5	1571.3	1605.4	1690.5	1736.9	1809.6	1931.1	2027.8
55°	1586.8	1483.1	1433.6	1437.5	1452.9	1482.3	1565.1	1613.9	1687.4	1813.5	1915.6
57.5°	1452.2	1353.9	1309.0	1314.5	1329.2	1358.6	1439.8	1494.7	1561.3	1692.0	1796.5
60°	1319.1	1226.3	1186.8	1193.0	1206.1	1235.5	1319.9	1367.1	1433.6	1566.7	1671.1
62.5°	1184.5	1100.2	1063.0	1070.8	1082.4	1111.8	1191.4	1237.1	1302.9	1433.6	1538.8
65°	1051.4	973.3	941.6	949.3	960.1	987.2	1062.2	1106.3	1169.0	1296.7	1397.2
67.5°	919.9	848.7	822.4	830.1	838.7	864.2	926.1	974.0	1032.8	1154.3	1249.5
70°	789.9	726.5	703.3	711.0	718.7	741.9	796.1	840.2	894.4	1005.8	1094.0
72.5°	661.5	599.6	588.0	594.9	601.1	621.3	673.1	707.9	755.1	854.1	929.9
75°	536.2	482.8	475.0	482.0	487.4	502.9	546.2	576.4	615.8	701.7	763.6
77.5°	415.5	370.6	367.5	372.9	378.3	389.2	423.2	454.9	485.9	549.3	604.2
80°	302.5	266.1	266.1	271.6	270.0	283.2	307.1	332.7	355.1	400.8	441.0
82.5°	199.6	171.0	174.8	178.7	181.0	186.5	201.2	220.5	234.4	262.3	288.6
85°	110.6	91.3	95.2	98.3	96.7	102.9	110.6	122.2	129.2	142.4	156.3
87.5°	41.0	34.0	34.8	37.1	38.7	41.8	41.8	48.7	49.5	51.1	54.2
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°	3539.5	3539.5	3539.5
2.5°	3455.2	3473.8	3487.7
5°	3395.6	3411.1	3423.5
7.5°	3337.6	3351.5	3362.4
10°	3282.7	3298.1	3305.9
12.5°	3226.2	3244.0	3250.2
15°	3170.5	3188.3	3196.0
17.5°	3113.2	3136.4	3145.0
20°	3059.9	3089.2	3096.2
22.5°	3005.7	3035.9	3044.4
25°	2946.9	2982.5	2991.0
27.5°	2884.2	2926.8	2935.3
30°	2821.6	2868.0	2876.5
32.5°	2754.3	2804.5	2812.3
35°	2683.8	2734.1	2743.4
37.5°	2605.7	2660.6	2679.2
40°	2524.5	2584.0	2603.4
42.5°	2439.4	2504.4	2524.5
45°	2348.1	2419.3	2442.5
47.5°	2256.0	2336.5	2356.6
50°	2156.2	2242.1	2266.1
52.5°	2051.8	2145.4	2169.4
55°	1943.4	2037.8	2064.1
57.5°	1825.9	1923.3	1951.2
60°	1702.8	1800.3	1826.6
62.5°	1576.7	1664.9	1690.5
65°	1435.9	1518.7	1541.9
67.5°	1286.6	1362.4	1381.8
70°	1128.0	1193.8	1210.8
72.5°	962.4	1008.1	1030.5
75°	791.5	827.8	844.8
77.5°	619.7	645.2	659.2
80°	451.8	466.5	478.1
82.5°	295.5	301.7	310.2
85°	159.4	159.4	164.8
87.5°	54.2	51.8	54.2
90°	0.0	0.0	0.0

(END OF REPORT)