

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: P834532

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834532
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-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

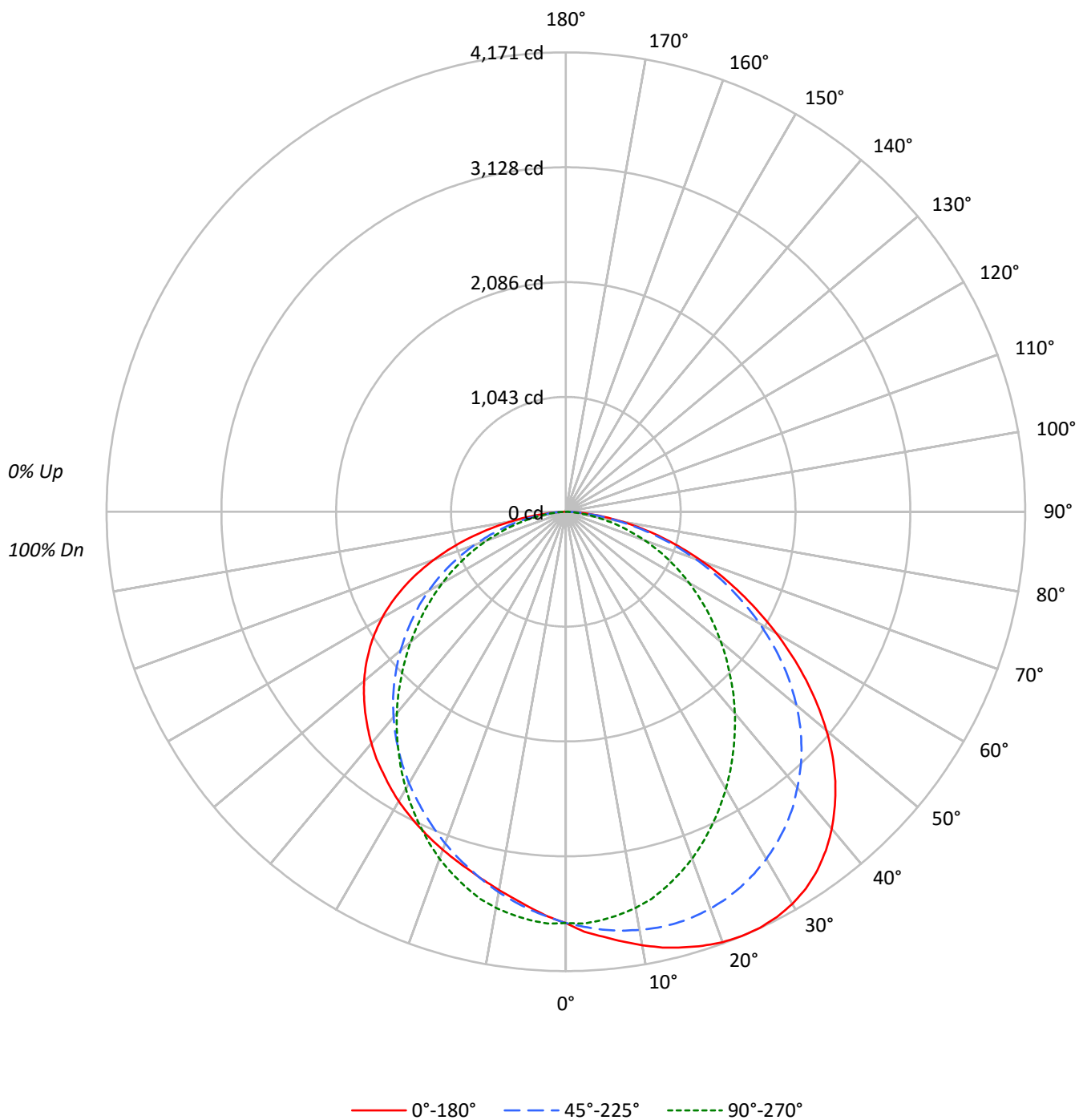
Lumens per Lamp: N/A
Luminaire Lumens: 10984.0 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	5024	5024	5024
5°	5231	5027	4878
10°	5460	4989	4765
15°	5705	4909	4697
20°	5954	4801	4677
25°	6188	4661	4684
30°	6390	4516	4715
35°	6536	4354	4754
40°	6602	4193	4824
45°	6584	4016	4903
50°	6467	3848	5004
55°	6245	3670	5108
60°	5941	3481	5186
65°	5579	3269	5179
70°	5192	3015	5025
75°	4714	2648	4633
80°	4048	2176	3908
85°	3088	1487	2685

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	354.2	3.2
10°-20°	1022.7	9.3
20°-30°	1566.8	14.3
30°-40°	1912.1	17.4
40°-50°	1999.7	18.2
50°-60°	1809.8	16.5
60°-70°	1370.6	12.5
70°-80°	763.8	7.0
80°-90°	184.2	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°	2943.7	26.8
0°-40°	4855.8	44.2
0°-60°	8665.3	78.9
0°-90°	10984.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10984.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3734	3734	3734	3734	3734	
5°	3873	3808	3722	3630	3612	373
15°	4096	3868	3524	3360	3372	1162
25°	4168	3759	3140	3029	3155	1923
35°	3979	3480	2651	2648	2894	2485
45°	3460	3026	2111	2204	2577	2662
55°	2662	2404	1565	1703	2178	2376
65°	1752	1648	1027	1167	1627	1738
75°	907	856	509	608	891	962
85°	200	176	96	129	174	241
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°	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1
2.5°	3816.6	3798.6	3783.9	3789.6	3792.9	3781.5	3771.7	3773.3	3763.5	3782.3	3738.2
5°	3872.9	3856.5	3839.4	3845.9	3839.4	3822.3	3808.4	3804.3	3778.2	3788.8	3743.9
7.5°	3935.7	3917.8	3892.5	3899.8	3885.9	3854.1	3836.1	3825.5	3785.5	3786.4	3736.6
10°	3996.1	3980.6	3946.3	3951.2	3925.9	3883.5	3854.9	3840.2	3783.9	3775.7	3724.3
12.5°	4052.4	4031.2	3994.5	3996.9	3960.2	3903.9	3867.2	3845.9	3772.5	3748.0	3697.4
15°	4095.7	4075.3	4031.2	4030.4	3983.1	3909.6	3868.0	3838.6	3745.5	3707.2	3654.1
17.5°	4132.4	4113.6	4059.0	4057.3	4000.2	3907.2	3857.4	3820.6	3706.4	3659.0	3600.3
20°	4158.5	4139.8	4078.6	4072.8	4004.3	3894.9	3835.3	3788.8	3654.9	3598.6	3533.3
22.5°	4170.8	4152.0	4082.6	4074.5	3994.5	3870.4	3803.5	3748.8	3596.2	3522.7	3455.0
25°	4168.3	4150.4	4072.0	4063.9	3975.7	3833.7	3758.6	3695.8	3521.9	3435.4	3368.5
27.5°	4147.9	4134.1	4051.6	4041.0	3941.4	3783.9	3703.9	3634.5	3439.5	3343.2	3270.5
30°	4112.8	4102.2	4014.9	4005.1	3899.0	3729.2	3640.3	3560.3	3350.5	3241.9	3168.5
32.5°	4056.5	4046.7	3958.6	3949.6	3841.9	3659.0	3566.0	3483.5	3253.4	3133.4	3059.9
35°	3979.0	3973.3	3887.6	3877.8	3768.4	3579.0	3480.3	3389.7	3152.2	3016.7	2946.5
37.5°	3877.0	3877.0	3794.5	3783.9	3677.0	3481.1	3384.0	3287.7	3037.9	2894.2	2824.9
40°	3758.6	3769.2	3685.1	3674.5	3570.9	3375.8	3269.7	3168.5	2914.7	2765.3	2697.5
42.5°	3616.6	3626.4	3556.2	3546.4	3449.3	3254.2	3155.4	3045.2	2785.7	2633.9	2563.7
45°	3459.9	3472.9	3410.1	3402.7	3312.1	3121.2	3026.5	2914.7	2651.0	2496.8	2428.2
47.5°	3285.2	3302.3	3247.7	3243.6	3159.5	2984.8	2886.1	2772.6	2509.8	2353.9	2289.4
50°	3089.3	3113.8	3068.9	3068.9	2993.8	2820.0	2734.3	2620.8	2362.9	2207.0	2143.3
52.5°	2879.6	2910.6	2877.1	2877.9	2816.7	2660.8	2571.8	2460.8	2209.5	2056.0	1997.2
55°	2662.4	2692.6	2671.4	2674.7	2626.5	2484.5	2403.7	2293.5	2052.7	1903.4	1847.9
57.5°	2435.5	2468.2	2454.3	2460.8	2427.4	2300.1	2216.0	2119.7	1891.1	1743.4	1696.1
60°	2207.8	2238.8	2231.5	2240.5	2219.2	2109.1	2032.3	1932.8	1728.7	1586.7	1545.1
62.5°	1977.7	2006.2	2004.6	2014.4	2003.0	1911.5	1843.0	1758.1	1560.6	1430.0	1391.6
65°	1752.4	1776.9	1775.2	1785.8	1783.4	1709.9	1647.9	1570.4	1392.4	1272.5	1239.0
67.5°	1533.6	1554.0	1548.3	1560.6	1563.8	1505.1	1451.2	1381.8	1232.5	1115.7	1087.2
70°	1319.8	1333.7	1326.3	1334.5	1341.8	1297.8	1252.1	1190.8	1061.9	959.0	935.4
72.5°	1110.0	1119.8	1108.4	1116.6	1123.1	1091.3	1053.7	1000.7	893.7	804.8	785.2
75°	906.8	920.7	897.0	905.2	910.1	878.2	856.2	812.9	720.7	652.1	639.1
77.5°	710.1	718.3	705.2	701.9	705.2	682.3	665.2	631.7	562.4	506.0	497.9
80°	522.4	527.3	514.2	510.9	513.4	497.1	484.0	459.5	410.5	368.1	364.8
82.5°	350.1	352.6	341.2	337.9	339.5	334.6	319.1	302.0	279.1	243.2	242.4
85°	200.0	200.0	191.8	188.5	190.2	182.0	176.3	167.3	158.3	133.9	135.5
87.5°	73.5	73.5	69.4	68.6	76.7	67.7	65.3	61.2	63.7	50.6	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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1	3734.1
2.5°	3750.4	3742.3	3734.9	3709.6	3720.2	3694.1	3692.5	3682.7	3675.4	3661.5	3679.4
5°	3738.2	3721.9	3700.7	3670.5	3679.4	3648.4	3641.9	3630.5	3620.7	3602.7	3616.6
7.5°	3718.6	3691.7	3658.2	3619.8	3632.1	3593.7	3583.9	3571.7	3563.5	3542.3	3554.6
10°	3690.0	3651.7	3612.5	3566.0	3575.0	3533.3	3521.1	3508.0	3500.7	3481.9	3494.2
12.5°	3646.0	3599.4	3546.4	3495.8	3505.6	3466.4	3450.1	3436.2	3433.8	3418.2	3432.9
15°	3588.8	3524.4	3469.7	3415.8	3427.2	3381.5	3374.2	3360.3	3364.4	3353.8	3371.7
17.5°	3516.2	3441.9	3382.3	3324.4	3335.8	3297.4	3291.7	3285.2	3289.3	3287.7	3307.2
20°	3434.6	3353.0	3284.4	3227.3	3233.8	3203.6	3206.0	3204.4	3212.6	3221.5	3248.5
22.5°	3342.3	3250.1	3178.3	3119.5	3129.3	3103.2	3114.6	3117.9	3131.8	3152.2	3186.4
25°	3238.7	3139.9	3064.8	3009.3	3018.3	3001.2	3020.8	3028.9	3051.0	3085.2	3120.3
27.5°	3130.1	3025.7	2945.7	2892.6	2909.8	2892.6	2922.0	2938.3	2971.8	3009.3	3052.6
30°	3015.0	2906.5	2824.1	2776.7	2793.0	2777.5	2824.9	2846.9	2880.4	2931.8	2983.2
32.5°	2894.2	2780.0	2699.2	2662.4	2673.9	2671.4	2724.5	2749.0	2793.9	2852.6	2907.3
35°	2770.2	2651.0	2569.4	2538.4	2552.3	2555.5	2619.2	2647.8	2696.7	2767.7	2826.5
37.5°	2642.0	2520.4	2440.4	2415.1	2427.4	2439.6	2513.9	2542.5	2598.0	2675.5	2740.0
40°	2509.0	2387.4	2309.0	2288.6	2300.9	2313.9	2394.7	2433.9	2494.3	2578.4	2648.6
42.5°	2374.3	2252.7	2176.8	2162.1	2174.4	2199.7	2285.4	2322.1	2385.8	2478.8	2556.3
45°	2237.2	2110.7	2044.6	2033.2	2046.2	2075.6	2159.7	2203.7	2271.5	2373.5	2456.8
47.5°	2098.5	1975.2	1912.4	1905.0	1918.1	1950.7	2043.8	2083.8	2155.6	2264.1	2353.9
50°	1958.1	1838.1	1777.7	1775.2	1787.5	1822.6	1911.5	1958.9	2033.2	2154.8	2247.0
52.5°	1816.0	1701.0	1646.3	1646.3	1657.7	1693.6	1783.4	1832.4	1909.1	2037.2	2139.3
55°	1674.0	1564.7	1512.4	1516.5	1532.8	1563.8	1651.2	1702.6	1780.1	1913.2	2020.9
57.5°	1532.0	1428.4	1381.0	1386.7	1402.2	1433.2	1518.9	1576.9	1647.1	1785.0	1895.2
60°	1391.6	1293.7	1252.1	1258.6	1272.5	1303.5	1392.4	1442.2	1512.4	1652.8	1763.0
62.5°	1249.6	1160.6	1121.5	1129.6	1141.9	1172.9	1256.9	1305.1	1374.5	1512.4	1623.4
65°	1109.2	1026.8	993.3	1001.5	1012.9	1041.5	1120.6	1167.2	1233.3	1368.0	1474.1
67.5°	970.5	895.4	867.6	875.8	884.8	911.7	977.0	1027.6	1089.6	1217.8	1318.2
70°	833.3	766.4	741.9	750.1	758.3	782.7	839.9	886.4	943.5	1061.1	1154.1
72.5°	697.9	632.6	620.3	627.7	634.2	655.4	710.1	746.8	796.6	901.1	981.1
75°	565.6	509.3	501.1	508.5	514.2	530.5	576.2	608.1	649.7	740.3	805.6
77.5°	438.3	391.0	387.7	393.4	399.1	410.5	446.5	479.9	512.6	579.5	637.5
80°	319.1	280.8	280.8	286.5	284.9	298.7	324.0	351.0	374.6	422.8	465.2
82.5°	210.6	180.4	184.5	188.5	191.0	196.7	212.2	232.6	247.3	276.7	304.4
85°	116.7	96.3	100.4	103.7	102.0	108.6	116.7	129.0	136.3	150.2	164.9
87.5°	43.3	35.9	36.7	39.2	40.8	44.1	44.1	51.4	52.2	53.9	57.1
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):

	160°	170°	180°
0°	3734.1	3734.1	3734.1
2.5°	3645.2	3664.7	3679.4
5°	3582.3	3598.6	3611.7
7.5°	3521.1	3535.8	3547.2
10°	3463.1	3479.5	3487.6
12.5°	3403.6	3422.3	3428.9
15°	3344.8	3363.6	3371.7
17.5°	3284.4	3308.9	3317.9
20°	3228.1	3259.1	3266.4
22.5°	3170.9	3202.8	3211.7
25°	3108.9	3146.5	3155.4
27.5°	3042.8	3087.7	3096.7
30°	2976.7	3025.7	3034.6
32.5°	2905.7	2958.7	2966.9
35°	2831.4	2884.5	2894.2
37.5°	2749.0	2806.9	2826.5
40°	2663.3	2726.1	2746.5
42.5°	2573.5	2642.0	2663.3
45°	2477.2	2552.3	2576.7
47.5°	2380.0	2464.9	2486.1
50°	2274.8	2365.3	2390.7
52.5°	2164.6	2263.3	2288.6
55°	2050.3	2149.9	2177.6
57.5°	1926.2	2029.1	2058.5
60°	1796.5	1899.3	1927.0
62.5°	1663.4	1756.5	1783.4
65°	1514.9	1602.2	1626.7
67.5°	1357.3	1437.3	1457.7
70°	1190.0	1259.4	1277.4
72.5°	1015.4	1063.5	1087.2
75°	835.0	873.3	891.3
77.5°	653.8	680.7	695.4
80°	476.7	492.2	504.4
82.5°	311.8	318.3	327.3
85°	168.1	168.1	173.9
87.5°	57.1	54.7	57.1
90°	0.0	0.0	0.0

(END OF REPORT)