

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: P834639

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834639
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-LD4-3HI-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

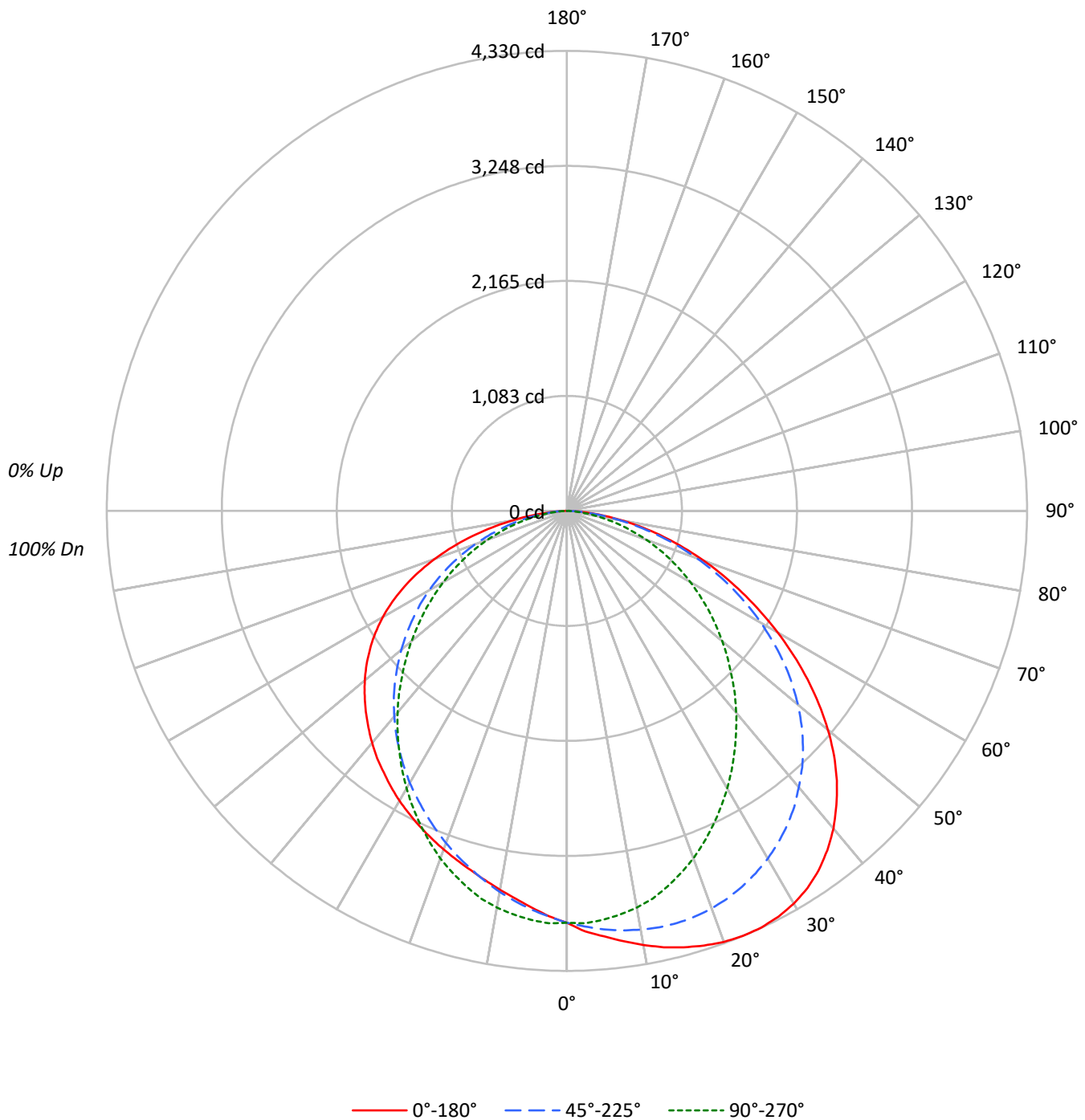
Lumens per Lamp: N/A
Luminaire Lumens: 11402.9 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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°	5216	5216	5216
5°	5430	5219	5064
10°	5668	5179	4947
15°	5923	5097	4876
20°	6181	4984	4855
25°	6424	4839	4863
30°	6634	4688	4895
35°	6785	4520	4935
40°	6853	4353	5008
45°	6835	4169	5090
50°	6713	3994	5195
55°	6484	3810	5303
60°	6168	3614	5383
65°	5792	3394	5376
70°	5390	3130	5217
75°	4894	2748	4810
80°	4202	2259	4057
85°	3205	1544	2787

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.7	3.2
10°-20°	1061.7	9.3
20°-30°	1626.6	14.3
30°-40°	1985.0	17.4
40°-50°	2075.9	18.2
50°-60°	1878.8	16.5
60°-70°	1422.9	12.5
70°-80°	793.0	7.0
80°-90°	191.3	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°	3056.0	26.8
0°-40°	5041.0	44.2
0°-60°	8995.8	78.9
0°-90°	11402.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11402.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3876	3876	3876	3876	3876	
5°	4021	3954	3864	3769	3749	388
15°	4252	4016	3659	3488	3500	1206
25°	4327	3902	3260	3144	3276	1996
35°	4131	3613	2752	2749	3005	2579
45°	3592	3142	2191	2288	2675	2764
55°	2764	2495	1624	1768	2261	2466
65°	1819	1711	1066	1212	1689	1805
75°	941	889	529	631	925	998
85°	208	183	100	134	180	250
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°	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5
2.5°	3962.1	3943.5	3928.2	3934.1	3937.5	3925.7	3915.5	3917.2	3907.0	3926.5	3880.8
5°	4020.6	4003.6	3985.8	3992.6	3985.8	3968.0	3953.6	3949.4	3922.3	3933.3	3886.7
7.5°	4085.8	4067.2	4040.9	4048.5	4034.1	4001.1	3982.4	3971.4	3929.9	3930.8	3879.1
10°	4148.5	4132.4	4096.8	4101.9	4075.6	4031.6	4001.9	3986.7	3928.2	3919.7	3866.4
12.5°	4207.0	4185.0	4146.8	4149.4	4111.2	4052.8	4014.6	3992.6	3916.4	3890.9	3838.4
15°	4251.9	4230.7	4185.0	4184.1	4135.0	4058.7	4015.5	3985.0	3888.4	3848.6	3793.5
17.5°	4290.0	4270.5	4213.8	4212.1	4152.8	4056.2	4004.5	3966.3	3847.7	3798.6	3737.6
20°	4317.1	4297.6	4234.1	4228.2	4157.0	4043.5	3981.6	3933.3	3794.3	3735.9	3668.1
22.5°	4329.8	4310.4	4238.3	4229.9	4146.8	4018.0	3948.6	3891.8	3733.3	3657.1	3586.7
25°	4327.3	4308.7	4227.3	4218.8	4127.3	3979.9	3901.9	3836.7	3656.2	3566.4	3496.9
27.5°	4306.1	4291.7	4206.1	4195.1	4091.7	3928.2	3845.2	3773.2	3570.6	3470.7	3395.2
30°	4269.7	4258.7	4168.0	4157.8	4047.7	3871.4	3779.1	3696.0	3478.3	3365.6	3289.3
32.5°	4211.2	4201.1	4109.5	4100.2	3988.4	3798.6	3702.0	3616.4	3377.5	3252.9	3176.6
35°	4130.7	4124.8	4035.8	4025.7	3912.1	3715.5	3613.0	3519.0	3272.4	3131.7	3058.9
37.5°	4024.8	4024.8	3939.2	3928.2	3817.2	3613.9	3513.0	3413.0	3153.8	3004.6	2932.6
40°	3901.9	3913.0	3825.7	3814.7	3707.1	3504.6	3394.4	3289.3	3025.8	2870.7	2800.4
42.5°	3754.5	3764.7	3691.8	3681.6	3580.8	3378.3	3275.8	3161.4	2891.9	2734.3	2661.5
45°	3591.8	3605.4	3540.1	3532.5	3438.5	3240.2	3141.9	3025.8	2752.1	2592.0	2520.8
47.5°	3410.5	3428.3	3371.5	3367.3	3280.0	3098.7	2996.2	2878.4	2605.5	2443.7	2376.8
50°	3207.1	3232.6	3186.0	3186.0	3108.0	2927.5	2838.5	2720.8	2453.0	2291.2	2225.1
52.5°	2989.4	3021.6	2986.8	2987.7	2924.1	2762.3	2669.9	2554.7	2293.7	2134.4	2073.4
55°	2764.0	2795.3	2773.3	2776.7	2726.7	2579.3	2495.4	2381.0	2131.0	1976.0	1918.4
57.5°	2528.4	2562.3	2547.9	2554.7	2520.0	2387.8	2300.5	2200.5	1963.3	1809.9	1760.7
60°	2292.0	2324.2	2316.6	2325.9	2303.9	2189.5	2109.8	2006.5	1794.6	1647.2	1604.0
62.5°	2053.1	2082.7	2081.0	2091.2	2079.3	1984.4	1913.3	1825.1	1620.1	1484.5	1444.7
65°	1819.2	1844.6	1842.9	1854.0	1851.4	1775.2	1710.8	1630.3	1445.5	1321.0	1286.2
67.5°	1592.1	1613.3	1607.4	1620.1	1623.5	1562.5	1506.5	1434.5	1279.5	1158.3	1128.6
70°	1370.1	1384.5	1376.9	1385.4	1393.0	1347.3	1299.8	1236.3	1102.4	995.6	971.0
72.5°	1152.4	1162.5	1150.7	1159.1	1165.9	1132.9	1093.9	1038.8	927.8	835.5	815.1
75°	941.4	955.8	931.2	939.7	944.8	911.7	888.8	843.9	748.2	677.0	663.5
77.5°	737.2	745.6	732.1	728.7	732.1	708.4	690.6	655.8	583.8	525.3	516.9
80°	542.3	547.4	533.8	530.4	533.0	516.0	502.5	477.0	426.2	382.1	378.8
82.5°	363.5	366.0	354.2	350.8	352.5	347.4	331.3	313.5	289.8	252.5	251.7
85°	207.6	207.6	199.1	195.7	197.4	189.0	183.0	173.7	164.4	139.0	140.7
87.5°	76.3	76.3	72.0	71.2	79.6	70.3	67.8	63.5	66.1	52.5	55.9
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°	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5	3876.5
2.5°	3893.5	3885.0	3877.4	3851.1	3862.1	3835.0	3833.3	3823.1	3815.5	3801.1	3819.8
5°	3880.8	3863.8	3841.8	3810.4	3819.8	3787.6	3780.8	3768.9	3758.7	3740.1	3754.5
7.5°	3860.4	3832.5	3797.7	3757.9	3770.6	3730.8	3720.6	3707.9	3699.4	3677.4	3690.1
10°	3830.8	3790.9	3750.3	3702.0	3711.3	3668.1	3655.4	3641.8	3634.2	3614.7	3627.4
12.5°	3785.0	3736.7	3681.6	3629.1	3639.3	3598.6	3581.7	3567.3	3564.7	3548.6	3563.9
15°	3725.7	3658.8	3602.0	3546.1	3557.9	3510.5	3502.9	3488.5	3492.7	3481.7	3500.3
17.5°	3650.3	3573.2	3511.3	3451.2	3463.0	3423.2	3417.3	3410.5	3414.7	3413.0	3433.4
20°	3565.6	3480.8	3409.6	3350.3	3357.1	3325.8	3328.3	3326.6	3335.1	3344.4	3372.4
22.5°	3469.8	3374.1	3299.5	3238.5	3248.7	3221.5	3233.4	3236.8	3251.2	3272.4	3308.0
25°	3362.2	3259.7	3181.7	3124.1	3133.4	3115.6	3136.0	3144.4	3167.3	3202.9	3239.3
27.5°	3249.5	3141.0	3058.0	3002.9	3020.7	3002.9	3033.4	3050.4	3085.1	3124.1	3169.0
30°	3130.0	3017.3	2931.8	2882.6	2899.6	2883.5	2932.6	2955.5	2990.2	3043.6	3097.0
32.5°	3004.6	2886.0	2802.1	2764.0	2775.8	2773.3	2828.4	2853.8	2900.4	2961.4	3018.2
35°	2875.8	2752.1	2667.4	2635.2	2649.6	2653.0	2719.1	2748.7	2799.6	2873.3	2934.3
37.5°	2742.8	2616.5	2533.5	2507.2	2520.0	2532.7	2609.8	2639.4	2697.0	2777.5	2844.5
40°	2604.7	2478.4	2397.1	2375.9	2388.6	2402.2	2486.1	2526.7	2589.4	2676.7	2749.6
42.5°	2464.9	2338.6	2259.8	2244.6	2257.3	2283.5	2372.5	2410.6	2476.7	2573.3	2653.8
45°	2322.5	2191.2	2122.6	2110.7	2124.3	2154.8	2242.0	2287.8	2358.1	2464.0	2550.5
47.5°	2178.5	2050.5	1985.3	1977.7	1991.2	2025.1	2121.7	2163.2	2237.8	2350.5	2443.7
50°	2032.7	1908.2	1845.5	1842.9	1855.6	1892.1	1984.4	2033.6	2110.7	2236.9	2332.7
52.5°	1885.3	1765.8	1709.1	1709.1	1720.9	1758.2	1851.4	1902.3	1981.9	2114.9	2220.8
55°	1737.9	1624.3	1570.1	1574.3	1591.3	1623.5	1714.1	1767.5	1848.0	1986.1	2098.0
57.5°	1590.4	1482.8	1433.7	1439.6	1455.7	1487.9	1576.9	1637.0	1709.9	1853.1	1967.5
60°	1444.7	1343.0	1299.8	1306.6	1321.0	1353.2	1445.5	1497.2	1570.1	1715.8	1830.2
62.5°	1297.3	1204.9	1164.2	1172.7	1185.4	1217.6	1304.9	1354.9	1426.9	1570.1	1685.3
65°	1151.5	1065.9	1031.2	1039.7	1051.5	1081.2	1163.4	1211.7	1280.3	1420.1	1530.3
67.5°	1007.5	929.5	900.7	909.2	918.5	946.5	1014.3	1066.8	1131.2	1264.2	1368.4
70°	865.1	795.6	770.2	778.7	787.2	812.6	871.9	920.2	979.5	1101.5	1198.1
72.5°	724.5	656.7	644.0	651.6	658.4	680.4	737.2	775.3	827.0	935.5	1018.5
75°	587.2	528.7	520.3	527.9	533.8	550.8	598.2	631.3	674.5	768.5	836.3
77.5°	455.0	405.9	402.5	408.4	414.3	426.2	463.5	498.2	532.1	601.6	661.8
80°	331.3	291.5	291.5	297.4	295.7	310.1	336.4	364.4	388.9	438.9	483.0
82.5°	218.6	187.3	191.5	195.7	198.3	204.2	220.3	241.5	256.7	287.2	316.1
85°	121.2	100.0	104.2	107.6	105.9	112.7	121.2	133.9	141.5	155.9	171.2
87.5°	44.9	37.3	38.1	40.7	42.4	45.8	45.8	53.4	54.2	55.9	59.3
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°	3876.5	3876.5	3876.5
2.5°	3784.2	3804.5	3819.8
5°	3718.9	3735.9	3749.4
7.5°	3655.4	3670.6	3682.5
10°	3595.2	3612.2	3620.6
12.5°	3533.4	3552.8	3559.6
15°	3472.4	3491.8	3500.3
17.5°	3409.6	3435.1	3444.4
20°	3351.2	3383.4	3391.0
22.5°	3291.9	3324.9	3334.2
25°	3227.5	3266.5	3275.8
27.5°	3158.8	3205.4	3214.8
30°	3090.2	3141.0	3150.4
32.5°	3016.5	3071.6	3080.0
35°	2939.4	2994.5	3004.6
37.5°	2853.8	2914.0	2934.3
40°	2764.8	2830.1	2851.3
42.5°	2671.6	2742.8	2764.8
45°	2571.6	2649.6	2675.0
47.5°	2470.8	2558.9	2581.0
50°	2361.5	2455.6	2481.8
52.5°	2247.1	2349.6	2375.9
55°	2128.5	2231.9	2260.7
57.5°	1999.7	2106.5	2137.0
60°	1865.0	1971.7	2000.5
62.5°	1726.9	1823.5	1851.4
65°	1572.6	1663.3	1688.7
67.5°	1409.1	1492.1	1513.3
70°	1235.4	1307.4	1326.1
72.5°	1054.1	1104.1	1128.6
75°	866.8	906.6	925.3
77.5°	678.7	706.7	721.9
80°	494.8	510.9	523.6
82.5°	323.7	330.5	339.8
85°	174.5	174.5	180.5
87.5°	59.3	56.8	59.3
90°	0.0	0.0	0.0

(END OF REPORT)