

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: P834676

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4LO-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834676
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-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

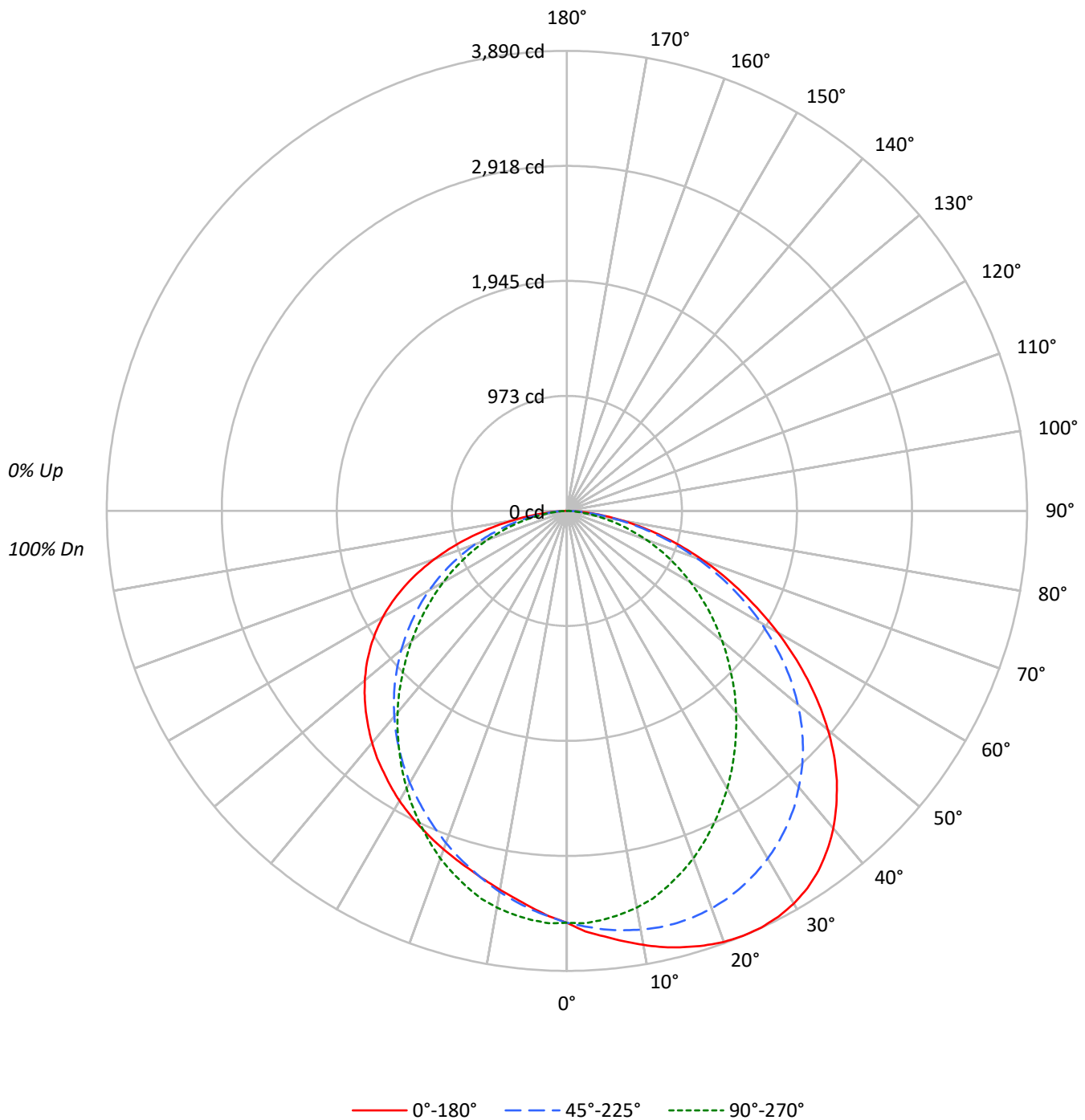
Lumens per Lamp: N/A
Luminaire Lumens: 10243.5 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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	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°	4686	4686	4686
5°	4878	4688	4549
10°	5092	4653	4444
15°	5321	4578	4380
20°	5553	4477	4362
25°	5771	4347	4369
30°	5959	4211	4397
35°	6095	4061	4433
40°	6157	3910	4499
45°	6140	3745	4572
50°	6031	3588	4667
55°	5825	3423	4764
60°	5541	3247	4836
65°	5203	3049	4830
70°	4842	2812	4686
75°	4396	2469	4321
80°	3775	2029	3645
85°	2879	1386	2502

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.3	3.2
10°-20°	953.8	9.3
20°-30°	1461.2	14.3
30°-40°	1783.2	17.4
40°-50°	1864.8	18.2
50°-60°	1687.8	16.5
60°-70°	1278.2	12.5
70°-80°	712.3	7.0
80°-90°	171.8	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°	2745.3	26.8
0°-40°	4528.5	44.2
0°-60°	8081.1	78.9
0°-90°	10243.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10243.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3482	3482	3482	3482	3482	
5°	3612	3552	3471	3386	3368	348
15°	3820	3607	3287	3134	3144	1083
25°	3887	3505	2928	2825	2943	1793
35°	3711	3246	2472	2469	2699	2317
45°	3227	2822	1968	2055	2403	2483
55°	2483	2242	1459	1588	2031	2216
65°	1634	1537	958	1088	1517	1621
75°	846	798	475	567	831	897
85°	186	164	90	120	162	224
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°	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4
2.5°	3559.3	3542.5	3528.8	3534.1	3537.2	3526.5	3517.4	3518.9	3509.8	3527.3	3486.2
5°	3611.8	3596.6	3580.6	3586.7	3580.6	3564.6	3551.6	3547.8	3523.5	3533.4	3491.5
7.5°	3670.4	3653.6	3630.0	3636.9	3624.0	3594.3	3577.5	3567.6	3530.3	3531.1	3484.7
10°	3726.7	3712.3	3680.3	3684.9	3661.3	3621.7	3595.0	3581.3	3528.8	3521.2	3473.2
12.5°	3779.2	3759.4	3725.2	3727.5	3693.2	3640.7	3606.5	3586.7	3518.2	3495.3	3448.1
15°	3819.6	3800.5	3759.4	3758.7	3714.5	3646.0	3607.2	3579.8	3493.0	3457.3	3407.8
17.5°	3853.8	3836.3	3785.3	3783.8	3730.5	3643.7	3597.3	3563.1	3456.5	3412.4	3357.5
20°	3878.2	3860.7	3803.6	3798.3	3734.3	3632.3	3576.8	3533.4	3408.5	3356.0	3295.1
22.5°	3889.6	3872.1	3807.4	3799.8	3725.2	3609.5	3547.1	3496.1	3353.7	3285.2	3222.1
25°	3887.3	3870.6	3797.5	3789.9	3707.7	3575.2	3505.2	3446.6	3284.5	3203.8	3141.4
27.5°	3868.3	3855.4	3778.5	3768.6	3675.7	3528.8	3454.2	3389.5	3207.6	3117.8	3050.0
30°	3835.6	3825.7	3744.2	3735.1	3636.1	3477.8	3394.8	3320.2	3124.6	3023.4	2954.9
32.5°	3783.0	3773.9	3691.7	3683.3	3582.9	3412.4	3325.6	3248.7	3034.0	2922.2	2853.6
35°	3710.7	3705.4	3625.5	3616.3	3514.3	3337.8	3245.7	3161.2	2939.7	2813.3	2747.8
37.5°	3615.6	3615.6	3538.7	3528.8	3429.1	3246.4	3155.8	3066.0	2833.1	2699.1	2634.4
40°	3505.2	3515.1	3436.7	3426.8	3330.1	3148.2	3049.3	2954.9	2718.2	2578.9	2515.7
42.5°	3372.8	3381.9	3316.4	3307.3	3216.7	3034.8	2942.7	2839.9	2597.9	2456.3	2390.9
45°	3226.6	3238.8	3180.2	3173.3	3088.9	2910.7	2822.4	2718.2	2472.3	2328.4	2264.5
47.5°	3063.7	3079.7	3028.7	3024.9	2946.5	2783.6	2691.5	2585.7	2340.6	2195.2	2135.1
50°	2881.0	2903.9	2862.0	2862.0	2792.0	2629.9	2549.9	2444.1	2203.6	2058.2	1998.8
52.5°	2685.4	2714.4	2683.1	2683.9	2626.8	2481.4	2398.5	2294.9	2060.5	1917.4	1862.6
55°	2483.0	2511.1	2491.3	2494.4	2449.5	2317.0	2241.7	2138.9	1914.4	1775.1	1723.3
57.5°	2271.3	2301.8	2288.9	2294.9	2263.7	2145.0	2066.6	1976.8	1763.6	1625.9	1581.7
60°	2059.0	2087.9	2081.1	2089.4	2069.6	1966.9	1895.3	1802.5	1612.2	1479.7	1440.9
62.5°	1844.3	1871.0	1869.4	1878.6	1867.9	1782.7	1718.7	1639.6	1455.4	1333.6	1297.8
65°	1634.2	1657.1	1655.6	1665.5	1663.2	1594.7	1536.8	1464.5	1298.6	1186.7	1155.5
67.5°	1430.2	1449.3	1444.0	1455.4	1458.4	1403.6	1353.4	1288.7	1149.4	1040.5	1013.9
70°	1230.8	1243.8	1236.9	1244.5	1251.4	1210.3	1167.6	1110.6	990.3	894.4	872.3
72.5°	1035.2	1044.3	1033.7	1041.3	1047.4	1017.7	982.7	933.2	833.5	750.5	732.3
75°	845.7	858.6	836.5	844.1	848.7	819.0	798.5	758.1	672.1	608.2	596.0
77.5°	662.2	669.8	657.7	654.6	657.7	636.3	620.4	589.1	524.5	471.9	464.3
80°	487.2	491.7	479.5	476.5	478.8	463.6	451.4	428.5	382.9	343.3	340.2
82.5°	326.5	328.8	318.2	315.1	316.6	312.1	297.6	281.6	260.3	226.8	226.1
85°	186.5	186.5	178.9	175.8	177.4	169.7	164.4	156.0	147.7	124.8	126.4
87.5°	68.5	68.5	64.7	63.9	71.6	63.2	60.9	57.1	59.4	47.2	50.2
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4	3482.4
2.5°	3497.6	3490.0	3483.1	3459.5	3469.4	3445.1	3443.6	3434.4	3427.6	3414.6	3431.4
5°	3486.2	3471.0	3451.2	3423.0	3431.4	3402.5	3396.4	3385.7	3376.6	3359.8	3372.8
7.5°	3467.9	3442.8	3411.6	3375.8	3387.2	3351.5	3342.3	3330.9	3323.3	3303.5	3314.9
10°	3441.3	3405.5	3369.0	3325.6	3333.9	3295.1	3283.7	3271.5	3264.7	3247.2	3258.6
12.5°	3400.2	3356.8	3307.3	3260.1	3269.2	3232.7	3217.5	3204.5	3202.3	3187.8	3201.5
15°	3346.9	3286.8	3235.8	3185.5	3196.2	3153.6	3146.7	3133.8	3137.6	3127.7	3144.4
17.5°	3279.1	3209.9	3154.3	3100.3	3110.9	3075.1	3069.8	3063.7	3067.5	3066.0	3084.3
20°	3203.0	3126.9	3063.0	3009.7	3015.8	2987.6	2989.9	2988.4	2996.0	3004.4	3029.5
22.5°	3117.0	3031.0	2964.0	2909.2	2918.3	2894.0	2904.6	2907.7	2920.6	2939.7	2971.6
25°	3020.3	2928.2	2858.2	2806.5	2814.8	2798.8	2817.1	2824.7	2845.3	2877.2	2910.0
27.5°	2919.1	2821.7	2747.1	2697.6	2713.6	2697.6	2725.0	2740.2	2771.4	2806.5	2846.8
30°	2811.8	2710.5	2633.7	2589.5	2604.7	2590.3	2634.4	2655.0	2686.2	2734.1	2782.1
32.5°	2699.1	2592.6	2517.2	2483.0	2493.6	2491.3	2540.8	2563.6	2605.5	2660.3	2711.3
35°	2583.4	2472.3	2396.2	2367.3	2380.2	2383.2	2442.6	2469.3	2514.9	2581.1	2636.0
37.5°	2463.9	2350.5	2275.9	2252.3	2263.7	2275.2	2344.4	2371.1	2422.8	2495.1	2555.3
40°	2339.9	2226.4	2153.4	2134.3	2145.8	2157.9	2233.3	2269.8	2326.2	2404.6	2470.0
42.5°	2214.3	2100.8	2030.1	2016.4	2027.8	2051.4	2131.3	2165.5	2224.9	2311.7	2384.0
45°	2086.4	1968.4	1906.7	1896.1	1908.3	1935.7	2014.1	2055.2	2118.4	2213.5	2291.1
47.5°	1957.0	1842.0	1783.4	1776.6	1788.8	1819.2	1906.0	1943.3	2010.3	2111.5	2195.2
50°	1826.1	1714.2	1657.8	1655.6	1667.0	1699.7	1782.7	1826.8	1896.1	2009.5	2095.5
52.5°	1693.6	1586.3	1535.3	1535.3	1545.9	1579.4	1663.2	1708.8	1780.4	1899.9	1995.0
55°	1561.2	1459.2	1410.5	1414.3	1429.5	1458.4	1539.9	1587.8	1660.1	1784.2	1884.7
57.5°	1428.7	1332.1	1287.9	1293.2	1307.7	1336.6	1416.5	1470.6	1536.1	1664.7	1767.4
60°	1297.8	1206.5	1167.6	1173.7	1186.7	1215.6	1298.6	1345.0	1410.5	1541.4	1644.1
62.5°	1165.4	1082.4	1045.9	1053.5	1064.9	1093.8	1172.2	1217.1	1281.8	1410.5	1514.0
65°	1034.4	957.6	926.4	934.0	944.6	971.3	1045.1	1088.5	1150.1	1275.7	1374.7
67.5°	905.0	835.0	809.1	816.7	825.1	850.2	911.1	958.3	1016.2	1135.7	1229.3
70°	777.2	714.7	691.9	699.5	707.1	730.0	783.2	826.6	879.9	989.5	1076.3
72.5°	650.8	589.9	578.5	585.3	591.4	611.2	662.2	696.5	742.9	840.3	914.9
75°	527.5	475.0	467.4	474.2	479.5	494.8	537.4	567.1	605.9	690.4	751.3
77.5°	408.8	364.6	361.6	366.9	372.2	382.9	416.4	447.6	478.0	540.4	594.5
80°	297.6	261.8	261.8	267.2	265.7	278.6	302.2	327.3	349.4	394.3	433.9
82.5°	196.4	168.2	172.0	175.8	178.1	183.4	197.9	216.9	230.6	258.0	283.9
85°	108.8	89.8	93.6	96.7	95.1	101.2	108.8	120.3	127.1	140.1	153.8
87.5°	40.3	33.5	34.3	36.5	38.1	41.1	41.1	48.0	48.7	50.2	53.3
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°	3482.4	3482.4	3482.4
2.5°	3399.4	3417.7	3431.4
5°	3340.8	3356.0	3368.2
7.5°	3283.7	3297.4	3308.1
10°	3229.7	3244.9	3252.5
12.5°	3174.1	3191.6	3197.7
15°	3119.3	3136.8	3144.4
17.5°	3063.0	3085.8	3094.2
20°	3010.4	3039.4	3046.2
22.5°	2957.2	2986.9	2995.2
25°	2899.3	2934.3	2942.7
27.5°	2837.7	2879.5	2887.9
30°	2776.0	2821.7	2830.1
32.5°	2709.8	2759.3	2766.9
35°	2640.5	2690.0	2699.1
37.5°	2563.6	2617.7	2636.0
40°	2483.7	2542.3	2561.4
42.5°	2400.0	2463.9	2483.7
45°	2310.2	2380.2	2403.0
47.5°	2219.6	2298.8	2318.5
50°	2121.4	2205.9	2229.5
52.5°	2018.6	2110.7	2134.3
55°	1912.1	2004.9	2030.8
57.5°	1796.4	1892.3	1919.7
60°	1675.3	1771.3	1797.1
62.5°	1551.3	1638.0	1663.2
65°	1412.7	1494.2	1517.0
67.5°	1265.8	1340.4	1359.5
70°	1109.8	1174.5	1191.2
72.5°	946.9	991.8	1013.9
75°	778.7	814.5	831.2
77.5°	609.7	634.8	648.5
80°	444.5	459.0	470.4
82.5°	290.8	296.9	305.2
85°	156.8	156.8	162.1
87.5°	53.3	51.0	53.3
90°	0.0	0.0	0.0

(END OF REPORT)