

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: P834564

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834564
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-LD4-2HI-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

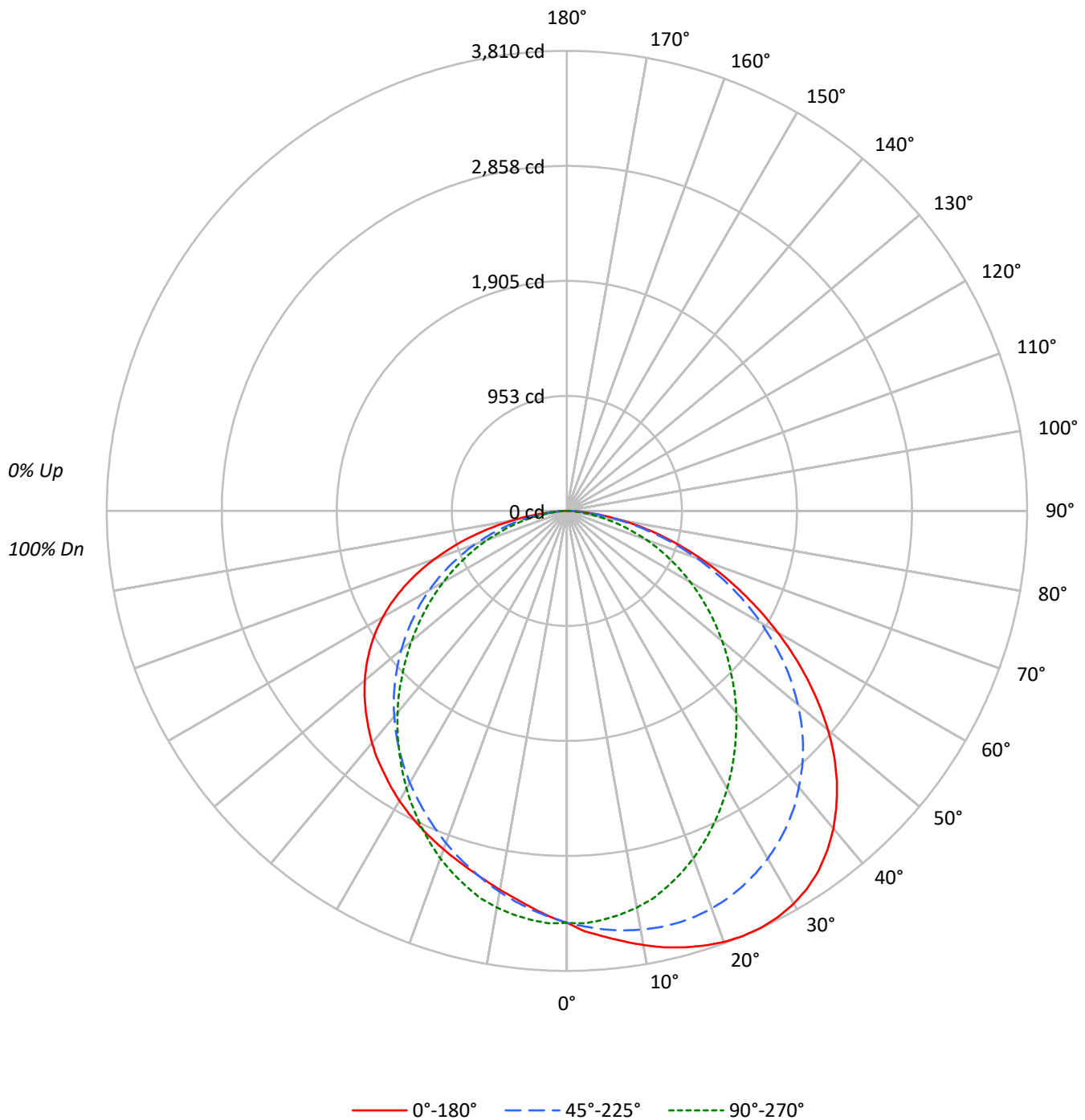
Lumens per Lamp: N/A
Luminaire Lumens: 10034.9 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 88
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
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°	4590	4590	4590
5°	4779	4593	4457
10°	4988	4558	4353
15°	5212	4485	4291
20°	5440	4386	4273
25°	5654	4259	4280
30°	5838	4125	4307
35°	5971	3978	4343
40°	6031	3831	4407
45°	6015	3669	4479
50°	5908	3515	4572
55°	5706	3353	4667
60°	5428	3180	4737
65°	5097	2987	4731
70°	4744	2755	4591
75°	4306	2419	4233
80°	3698	1987	3570
85°	2820	1359	2452

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	323.6	3.2
10°-20°	934.4	9.3
20°-30°	1431.4	14.3
30°-40°	1746.9	17.4
40°-50°	1826.9	18.2
50°-60°	1653.4	16.5
60°-70°	1252.2	12.5
70°-80°	697.8	7.0
80°-90°	168.3	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°	2689.3	26.8
0°-40°	4436.2	44.2
0°-60°	7916.5	78.9
0°-90°	10034.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10034.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3412	3412	3412	3412	3412	
5°	3538	3479	3400	3317	3300	341
15°	3742	3534	3220	3070	3080	1061
25°	3808	3434	2869	2767	2883	1757
35°	3635	3180	2422	2419	2644	2270
45°	3161	2765	1928	2013	2354	2432
55°	2432	2196	1430	1556	1990	2170
65°	1601	1506	938	1066	1486	1588
75°	828	782	465	556	814	879
85°	183	161	88	118	159	220
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°	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5
2.5°	3486.8	3470.4	3456.9	3462.2	3465.1	3454.7	3445.8	3447.2	3438.3	3455.4	3415.2
5°	3538.2	3523.3	3507.6	3513.6	3507.6	3492.0	3479.3	3475.6	3451.7	3461.4	3420.4
7.5°	3595.6	3579.2	3556.1	3562.8	3550.1	3521.1	3504.7	3495.0	3458.4	3459.2	3413.7
10°	3650.8	3636.6	3605.3	3609.8	3586.7	3547.9	3521.8	3508.4	3456.9	3449.5	3402.5
12.5°	3702.3	3682.9	3649.3	3651.6	3618.0	3566.6	3533.0	3513.6	3446.5	3424.1	3377.9
15°	3741.8	3723.1	3682.9	3682.1	3638.9	3571.8	3533.7	3506.9	3421.9	3386.8	3338.4
17.5°	3775.3	3758.2	3708.2	3706.7	3654.5	3569.5	3524.1	3490.5	3386.1	3342.9	3289.2
20°	3799.2	3782.1	3726.1	3720.9	3658.3	3558.4	3503.9	3461.4	3339.1	3287.7	3228.0
22.5°	3810.4	3793.2	3729.9	3722.4	3649.3	3536.0	3474.8	3424.9	3285.4	3218.3	3156.4
25°	3808.2	3791.7	3720.2	3712.7	3632.2	3502.4	3433.8	3376.4	3217.6	3138.5	3077.4
27.5°	3789.5	3776.8	3701.5	3691.8	3600.9	3456.9	3383.9	3320.5	3142.3	3054.3	2987.9
30°	3757.4	3747.8	3668.0	3659.0	3562.1	3407.0	3325.7	3252.6	3061.0	2961.8	2894.7
32.5°	3706.0	3697.0	3616.5	3608.3	3509.9	3342.9	3257.8	3182.5	2972.3	2862.6	2795.5
35°	3635.2	3629.9	3551.6	3542.7	3442.8	3269.8	3179.6	3096.8	2879.8	2756.0	2691.9
37.5°	3541.9	3541.9	3466.6	3456.9	3359.3	3180.3	3091.6	3003.6	2775.4	2644.2	2580.8
40°	3433.8	3443.5	3366.7	3357.0	3262.3	3084.1	2987.2	2894.7	2662.8	2526.3	2464.4
42.5°	3304.1	3313.0	3248.9	3239.9	3151.2	2973.0	2882.8	2782.1	2545.0	2406.3	2342.2
45°	3160.9	3172.8	3115.4	3108.7	3025.9	2851.5	2765.0	2662.8	2421.9	2281.0	2218.4
47.5°	3001.3	3017.0	2967.0	2963.3	2886.5	2726.9	2636.7	2533.1	2292.9	2150.5	2091.6
50°	2822.4	2844.7	2803.7	2803.7	2735.1	2576.3	2498.0	2394.4	2158.7	2016.3	1958.1
52.5°	2630.7	2659.1	2628.5	2629.2	2573.3	2430.9	2349.6	2248.2	2018.5	1878.4	1824.7
55°	2432.4	2460.0	2440.6	2443.6	2399.6	2269.8	2196.0	2095.3	1875.4	1738.9	1688.2
57.5°	2225.1	2254.9	2242.2	2248.2	2217.6	2101.3	2024.5	1936.5	1727.7	1592.8	1549.5
60°	2017.0	2045.4	2038.7	2046.9	2027.5	1926.8	1856.7	1765.8	1579.3	1449.6	1411.6
62.5°	1806.8	1832.9	1831.4	1840.3	1829.9	1746.4	1683.7	1606.2	1425.7	1306.4	1271.4
65°	1601.0	1623.3	1621.8	1631.5	1629.3	1562.2	1505.5	1434.7	1272.1	1162.5	1131.9
67.5°	1401.1	1419.8	1414.5	1425.7	1428.7	1375.0	1325.8	1262.4	1126.0	1019.3	993.2
70°	1205.8	1218.4	1211.7	1219.2	1225.9	1185.6	1143.9	1087.9	970.1	876.2	854.5
72.5°	1014.1	1023.1	1012.6	1020.1	1026.0	997.0	962.7	914.2	816.5	735.2	717.3
75°	828.4	841.1	819.5	827.0	831.4	802.3	782.2	742.7	658.4	595.8	583.9
77.5°	648.7	656.2	644.3	641.3	644.3	623.4	607.7	577.2	513.8	462.3	454.9
80°	477.2	481.7	469.8	466.8	469.0	454.1	442.2	419.8	375.1	336.3	333.3
82.5°	319.9	322.1	311.7	308.7	310.2	305.7	291.6	275.9	255.0	222.2	221.5
85°	182.7	182.7	175.2	172.3	173.7	166.3	161.1	152.9	144.7	122.3	123.8
87.5°	67.1	67.1	63.4	62.6	70.1	61.9	59.7	55.9	58.2	46.2	49.2
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°	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5	3411.5
2.5°	3426.4	3418.9	3412.2	3389.1	3398.8	3374.9	3373.4	3364.5	3357.8	3345.1	3361.5
5°	3415.2	3400.3	3380.9	3353.3	3361.5	3333.2	3327.2	3316.8	3307.8	3291.4	3304.1
7.5°	3397.3	3372.7	3342.1	3307.1	3318.2	3283.2	3274.3	3263.1	3255.6	3236.2	3247.4
10°	3371.2	3336.1	3300.3	3257.8	3266.0	3228.0	3216.8	3204.9	3198.2	3181.0	3192.2
12.5°	3330.9	3288.4	3239.9	3193.7	3202.7	3166.9	3152.0	3139.3	3137.0	3122.9	3136.3
15°	3278.7	3219.8	3169.9	3120.6	3131.1	3089.3	3082.6	3069.9	3073.7	3064.0	3080.4
17.5°	3212.4	3144.5	3090.1	3037.1	3047.6	3012.5	3007.3	3001.3	3005.1	3003.6	3021.5
20°	3137.8	3063.2	3000.6	2948.4	2954.4	2926.8	2929.0	2927.5	2935.0	2943.2	2967.8
22.5°	3053.5	2969.3	2903.7	2850.0	2858.9	2835.0	2845.5	2848.5	2861.1	2879.8	2911.1
25°	2958.8	2868.6	2800.0	2749.3	2757.5	2741.8	2759.7	2767.2	2787.3	2818.6	2850.7
27.5°	2859.7	2764.2	2691.1	2642.7	2658.3	2642.7	2669.5	2684.4	2715.0	2749.3	2788.8
30°	2754.5	2655.3	2580.0	2536.8	2551.7	2537.5	2580.8	2600.9	2631.5	2678.5	2725.4
32.5°	2644.2	2539.8	2465.9	2432.4	2442.8	2440.6	2489.1	2511.4	2552.4	2606.1	2656.1
35°	2530.8	2421.9	2347.4	2319.0	2331.7	2334.7	2392.9	2419.0	2463.7	2528.6	2582.3
37.5°	2413.7	2302.6	2229.6	2206.4	2217.6	2228.8	2296.7	2322.8	2373.5	2444.3	2503.2
40°	2292.2	2181.1	2109.5	2090.9	2102.1	2114.0	2187.8	2223.6	2278.8	2355.6	2419.7
42.5°	2169.2	2058.1	1988.7	1975.3	1986.5	2009.6	2087.9	2121.4	2179.6	2264.6	2335.4
45°	2043.9	1928.3	1867.9	1857.5	1869.4	1896.2	1973.1	2013.3	2075.2	2168.4	2244.5
47.5°	1917.1	1804.5	1747.1	1740.4	1752.3	1782.2	1867.2	1903.7	1969.3	2068.5	2150.5
50°	1788.9	1679.3	1624.1	1621.8	1633.0	1665.1	1746.4	1789.6	1857.5	1968.6	2052.8
52.5°	1659.1	1554.0	1504.0	1504.0	1514.5	1547.3	1629.3	1674.0	1744.1	1861.2	1954.4
55°	1529.4	1429.5	1381.7	1385.5	1400.4	1428.7	1508.5	1555.5	1626.3	1747.9	1846.3
57.5°	1399.6	1304.9	1261.7	1266.9	1281.1	1309.4	1387.7	1440.6	1504.8	1630.8	1731.5
60°	1271.4	1181.9	1143.9	1149.8	1162.5	1190.8	1272.1	1317.6	1381.7	1510.0	1610.7
62.5°	1141.6	1060.3	1024.6	1032.0	1043.2	1071.5	1148.3	1192.3	1255.7	1381.7	1483.1
65°	1013.4	938.1	907.5	914.9	925.4	951.5	1023.8	1066.3	1126.7	1249.7	1346.7
67.5°	886.6	818.0	792.7	800.1	808.3	832.9	892.6	938.8	995.5	1112.5	1204.3
70°	761.3	700.2	677.8	685.3	692.7	715.1	767.3	809.8	862.0	969.4	1054.4
72.5°	637.6	577.9	566.7	573.4	579.4	598.8	648.7	682.3	727.8	823.2	896.3
75°	516.8	465.3	457.8	464.6	469.8	484.7	526.4	555.5	593.6	676.3	736.0
77.5°	400.4	357.2	354.2	359.4	364.6	375.1	407.9	438.5	468.3	529.4	582.4
80°	291.6	256.5	256.5	261.7	260.2	272.9	296.0	320.6	342.3	386.3	425.0
82.5°	192.4	164.8	168.5	172.3	174.5	179.7	193.9	212.5	225.9	252.8	278.1
85°	106.6	88.0	91.7	94.7	93.2	99.2	106.6	117.8	124.5	137.2	150.6
87.5°	39.5	32.8	33.6	35.8	37.3	40.3	40.3	47.0	47.7	49.2	52.2
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°	3411.5	3411.5	3411.5
2.5°	3330.2	3348.1	3361.5
5°	3272.8	3287.7	3299.6
7.5°	3216.8	3230.3	3240.7
10°	3163.9	3178.8	3186.3
12.5°	3109.5	3126.6	3132.6
15°	3055.8	3072.9	3080.4
17.5°	3000.6	3023.0	3031.2
20°	2949.1	2977.5	2984.2
22.5°	2896.9	2926.0	2934.2
25°	2840.3	2874.6	2882.8
27.5°	2779.9	2820.9	2829.1
30°	2719.5	2764.2	2772.4
32.5°	2654.6	2703.1	2710.5
35°	2586.7	2635.2	2644.2
37.5°	2511.4	2564.4	2582.3
40°	2433.1	2490.5	2509.2
42.5°	2351.1	2413.7	2433.1
45°	2263.1	2331.7	2354.1
47.5°	2174.4	2251.9	2271.3
50°	2078.2	2161.0	2184.1
52.5°	1977.5	2067.8	2090.9
55°	1873.1	1964.1	1989.5
57.5°	1759.8	1853.7	1880.6
60°	1641.2	1735.2	1760.5
62.5°	1519.7	1604.7	1629.3
65°	1384.0	1463.8	1486.1
67.5°	1240.1	1313.1	1331.8
70°	1087.2	1150.6	1167.0
72.5°	927.6	971.6	993.2
75°	762.8	797.9	814.3
77.5°	597.3	621.9	635.3
80°	435.5	449.6	460.8
82.5°	284.8	290.8	299.0
85°	153.6	153.6	158.8
87.5°	52.2	50.0	52.2
90°	0.0	0.0	0.0

(END OF REPORT)