

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: P834656

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834656
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

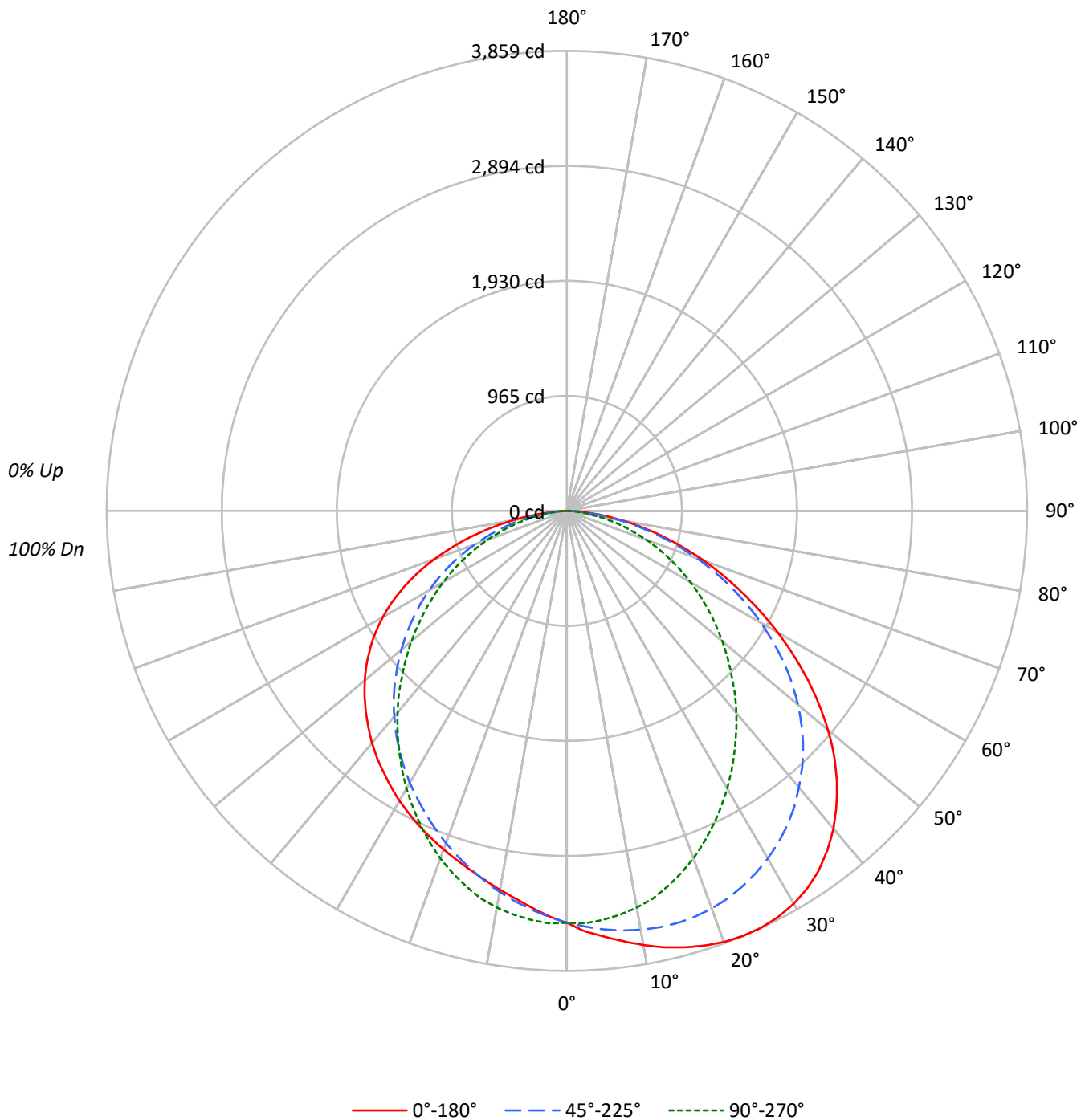
Lumens per Lamp: N/A
Luminaire Lumens: 10163.7 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	4649	4649	4649
5°	4840	4651	4514
10°	5052	4617	4409
15°	5279	4543	4346
20°	5510	4442	4328
25°	5726	4313	4335
30°	5913	4178	4363
35°	6048	4029	4399
40°	6109	3880	4464
45°	6092	3716	4537
50°	5984	3560	4630
55°	5779	3396	4727
60°	5497	3221	4798
65°	5162	3025	4792
70°	4804	2790	4650
75°	4362	2450	4287
80°	3746	2013	3616
85°	2856	1376	2484

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.7	3.2
10°-20°	946.4	9.3
20°-30°	1449.8	14.3
30°-40°	1769.3	17.4
40°-50°	1850.3	18.2
50°-60°	1674.7	16.5
60°-70°	1268.3	12.5
70°-80°	706.8	7.0
80°-90°	170.5	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°	2723.9	26.8
0°-40°	4493.2	44.2
0°-60°	8018.2	78.9
0°-90°	10163.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10163.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3455	3455	3455	3455	3455	
5°	3584	3524	3444	3359	3342	346
15°	3790	3579	3261	3109	3120	1075
25°	3857	3478	2905	2803	2920	1779
35°	3682	3220	2453	2450	2678	2299
45°	3202	2800	1953	2039	2384	2463
55°	2464	2224	1448	1575	2015	2198
65°	1622	1525	950	1080	1505	1608
75°	839	792	471	563	825	890
85°	185	163	89	119	161	223
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°	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2
2.5°	3531.5	3514.9	3501.3	3506.6	3509.6	3499.1	3490.0	3491.5	3482.4	3499.8	3459.0
5°	3583.6	3568.5	3552.7	3558.7	3552.7	3536.8	3524.0	3520.2	3496.0	3505.9	3464.3
7.5°	3641.8	3625.2	3601.8	3608.6	3595.7	3566.3	3549.7	3539.8	3502.8	3503.6	3457.5
10°	3697.7	3683.3	3651.6	3656.1	3632.7	3593.5	3567.0	3553.4	3501.3	3493.8	3446.2
12.5°	3749.8	3730.2	3696.2	3698.4	3664.5	3612.3	3578.4	3558.7	3490.7	3468.1	3421.3
15°	3789.8	3770.9	3730.2	3729.4	3685.6	3617.6	3579.1	3551.9	3465.8	3430.3	3381.2
17.5°	3823.8	3806.4	3755.8	3754.3	3701.5	3615.4	3569.3	3535.3	3429.6	3385.8	3331.4
20°	3848.0	3830.6	3774.0	3768.7	3705.2	3604.0	3548.9	3505.9	3382.0	3329.9	3269.5
22.5°	3859.3	3841.9	3777.7	3770.2	3696.2	3581.4	3519.4	3468.8	3327.6	3259.6	3197.0
25°	3857.0	3840.4	3767.9	3760.4	3678.8	3547.4	3477.9	3419.8	3258.9	3178.8	3116.9
27.5°	3838.2	3825.3	3749.0	3739.2	3647.1	3501.3	3427.3	3363.1	3182.6	3093.5	3026.3
30°	3805.7	3795.9	3715.1	3706.0	3607.8	3450.7	3368.4	3294.4	3100.3	2999.8	2931.9
32.5°	3753.6	3744.5	3662.9	3654.6	3554.9	3385.8	3299.7	3223.4	3010.4	2899.4	2831.4
35°	3681.8	3676.5	3597.2	3588.2	3487.0	3311.8	3220.4	3136.5	2916.8	2791.4	2726.4
37.5°	3587.4	3587.4	3511.1	3501.3	3402.4	3221.1	3131.2	3042.1	2811.0	2678.1	2613.9
40°	3477.9	3487.7	3409.9	3400.1	3304.2	3123.7	3025.5	2931.9	2697.0	2558.8	2496.1
42.5°	3346.5	3355.6	3290.6	3281.5	3191.7	3011.2	2919.8	2817.8	2577.7	2437.2	2372.2
45°	3201.5	3213.6	3155.4	3148.6	3064.8	2888.1	2800.5	2697.0	2453.0	2310.3	2246.9
47.5°	3039.9	3055.7	3005.1	3001.3	2923.6	2761.9	2670.5	2565.6	2322.4	2178.1	2118.5
50°	2858.6	2881.3	2839.7	2839.7	2770.2	2609.4	2530.1	2425.1	2186.4	2042.2	1983.3
52.5°	2664.5	2693.2	2662.2	2663.0	2606.4	2462.1	2379.8	2277.1	2044.5	1902.5	1848.1
55°	2463.6	2491.6	2471.9	2474.9	2430.4	2299.0	2224.2	2122.2	1899.4	1761.2	1709.9
57.5°	2253.7	2283.9	2271.0	2277.1	2246.1	2128.3	2050.5	1961.4	1749.9	1613.2	1569.4
60°	2042.9	2071.6	2064.8	2073.1	2053.5	1951.6	1880.6	1788.4	1599.6	1468.2	1429.7
62.5°	1830.0	1856.4	1854.9	1863.9	1853.4	1768.8	1705.3	1626.8	1444.0	1323.2	1287.7
65°	1621.5	1644.2	1642.7	1652.5	1650.2	1582.2	1524.8	1453.1	1288.4	1177.4	1146.5
67.5°	1419.1	1438.0	1432.7	1444.0	1447.1	1392.7	1342.8	1278.6	1140.4	1032.4	1006.0
70°	1221.2	1234.1	1227.3	1234.8	1241.6	1200.8	1158.5	1101.9	982.6	887.4	865.5
72.5°	1027.1	1036.2	1025.6	1033.2	1039.2	1009.8	975.0	925.9	827.0	744.7	726.5
75°	839.1	851.9	830.0	837.6	842.1	812.6	792.3	752.2	666.9	603.4	591.4
77.5°	657.1	664.6	652.5	649.5	652.5	631.4	615.5	584.6	520.4	468.3	460.7
80°	483.4	487.9	475.8	472.8	475.0	459.9	447.9	425.2	379.9	340.6	337.6
82.5°	324.0	326.3	315.7	312.7	314.2	309.7	295.3	279.4	258.3	225.1	224.3
85°	185.0	185.0	177.5	174.5	176.0	168.4	163.1	154.8	146.5	123.9	125.4
87.5°	68.0	68.0	64.2	63.4	71.0	62.7	60.4	56.6	58.9	46.8	49.8
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°	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2	3455.2
2.5°	3470.4	3462.8	3456.0	3432.6	3442.4	3418.2	3416.7	3407.7	3400.9	3388.0	3404.6
5°	3459.0	3443.9	3424.3	3396.3	3404.6	3375.9	3369.9	3359.3	3350.3	3333.7	3346.5
7.5°	3440.9	3416.0	3385.0	3349.5	3360.8	3325.3	3316.3	3305.0	3297.4	3277.8	3289.1
10°	3414.5	3379.0	3342.7	3299.7	3308.0	3269.5	3258.1	3246.0	3239.2	3221.9	3233.2
12.5°	3373.7	3330.6	3281.5	3234.7	3243.8	3207.5	3192.4	3179.6	3177.3	3163.0	3176.6
15°	3320.8	3261.2	3210.5	3160.7	3171.3	3129.0	3122.2	3109.3	3113.1	3103.3	3119.9
17.5°	3253.6	3184.9	3129.7	3076.1	3086.7	3051.2	3045.9	3039.9	3043.6	3042.1	3060.3
20°	3178.1	3102.5	3039.1	2986.2	2992.3	2964.3	2966.6	2965.1	2972.6	2981.0	3005.9
22.5°	3092.7	3007.4	2940.9	2886.5	2895.6	2871.4	2882.0	2885.0	2897.9	2916.8	2948.5
25°	2996.8	2905.4	2835.9	2784.6	2792.9	2777.0	2795.2	2802.7	2823.1	2854.8	2887.3
27.5°	2896.4	2799.7	2725.7	2676.6	2692.5	2676.6	2703.8	2718.9	2749.8	2784.6	2824.6
30°	2789.9	2689.4	2613.2	2569.3	2584.5	2570.1	2613.9	2634.3	2665.3	2712.8	2760.4
32.5°	2678.1	2572.4	2497.6	2463.6	2474.2	2471.9	2521.0	2543.7	2585.2	2639.6	2690.2
35°	2563.3	2453.0	2377.5	2348.8	2361.7	2364.7	2423.6	2450.0	2495.3	2561.0	2615.4
37.5°	2444.7	2332.2	2258.2	2234.8	2246.1	2257.4	2326.2	2352.6	2403.9	2475.7	2535.4
40°	2321.6	2209.1	2136.6	2117.7	2129.0	2141.1	2215.9	2252.1	2308.0	2385.8	2450.8
42.5°	2197.0	2084.5	2014.2	2000.6	2012.0	2035.4	2114.7	2148.7	2207.6	2293.7	2365.4
45°	2070.1	1953.1	1891.9	1881.3	1893.4	1920.6	1998.4	2039.2	2101.8	2196.3	2273.3
47.5°	1941.7	1827.7	1769.5	1762.7	1774.8	1805.0	1891.1	1928.1	1994.6	2095.1	2178.1
50°	1811.8	1700.8	1644.9	1642.7	1654.0	1686.5	1768.8	1812.6	1881.3	1993.8	2079.2
52.5°	1680.4	1573.9	1523.3	1523.3	1533.9	1567.1	1650.2	1695.5	1766.5	1885.1	1979.5
55°	1549.0	1447.8	1399.5	1403.2	1418.4	1447.1	1527.9	1575.4	1647.2	1770.3	1870.0
57.5°	1417.6	1321.7	1277.9	1283.2	1297.5	1326.2	1405.5	1459.1	1524.1	1651.7	1753.7
60°	1287.7	1197.1	1158.5	1164.6	1177.4	1206.1	1288.4	1334.5	1399.5	1529.4	1631.3
62.5°	1156.3	1074.0	1037.7	1045.3	1056.6	1085.3	1163.1	1207.6	1271.8	1399.5	1502.2
65°	1026.4	950.1	919.1	926.7	937.3	963.7	1037.0	1080.0	1141.2	1265.8	1364.0
67.5°	898.0	828.5	802.8	810.4	818.7	843.6	904.0	950.9	1008.3	1126.8	1219.7
70°	771.1	709.2	686.5	694.1	701.6	724.3	777.1	820.2	873.1	981.8	1067.9
72.5°	645.7	585.3	574.0	580.8	586.8	606.5	657.1	691.0	737.1	833.8	907.8
75°	523.4	471.3	463.7	470.5	475.8	490.9	533.2	562.7	601.2	685.0	745.4
77.5°	405.6	361.8	358.7	364.0	369.3	379.9	413.1	444.1	474.3	536.2	589.8
80°	295.3	259.8	259.8	265.1	263.6	276.4	299.8	324.8	346.7	391.2	430.5
82.5°	194.9	166.9	170.7	174.5	176.7	182.0	196.4	215.2	228.8	256.0	281.7
85°	108.0	89.1	92.9	95.9	94.4	100.4	108.0	119.3	126.1	139.0	152.6
87.5°	40.0	33.2	34.0	36.3	37.8	40.8	40.8	47.6	48.3	49.8	52.9
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):

	160°	170°	180°
0°	3455.2	3455.2	3455.2
2.5°	3372.9	3391.1	3404.6
5°	3314.8	3329.9	3342.0
7.5°	3258.1	3271.7	3282.3
10°	3204.5	3219.6	3227.2
12.5°	3149.4	3166.7	3172.8
15°	3095.0	3112.4	3119.9
17.5°	3039.1	3061.8	3070.1
20°	2987.0	3015.7	3022.5
22.5°	2934.1	2963.6	2971.9
25°	2876.7	2911.5	2919.8
27.5°	2815.6	2857.1	2865.4
30°	2754.4	2799.7	2808.0
32.5°	2688.7	2737.8	2745.3
35°	2619.9	2669.0	2678.1
37.5°	2543.7	2597.3	2615.4
40°	2464.4	2522.5	2541.4
42.5°	2381.3	2444.7	2464.4
45°	2292.2	2361.7	2384.3
47.5°	2202.3	2280.8	2300.5
50°	2104.9	2188.7	2212.1
52.5°	2002.9	2094.3	2117.7
55°	1897.2	1989.3	2015.0
57.5°	1782.4	1877.5	1904.7
60°	1662.3	1757.5	1783.1
62.5°	1539.2	1625.3	1650.2
65°	1401.7	1482.5	1505.2
67.5°	1256.0	1330.0	1348.9
70°	1101.1	1165.3	1182.0
72.5°	939.5	984.1	1006.0
75°	772.6	808.1	824.7
77.5°	605.0	629.9	643.5
80°	441.1	455.4	466.7
82.5°	288.5	294.5	302.9
85°	155.6	155.6	160.9
87.5°	52.9	50.6	52.9
90°	0.0	0.0	0.0

(END OF REPORT)