

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: P834658

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834658
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-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

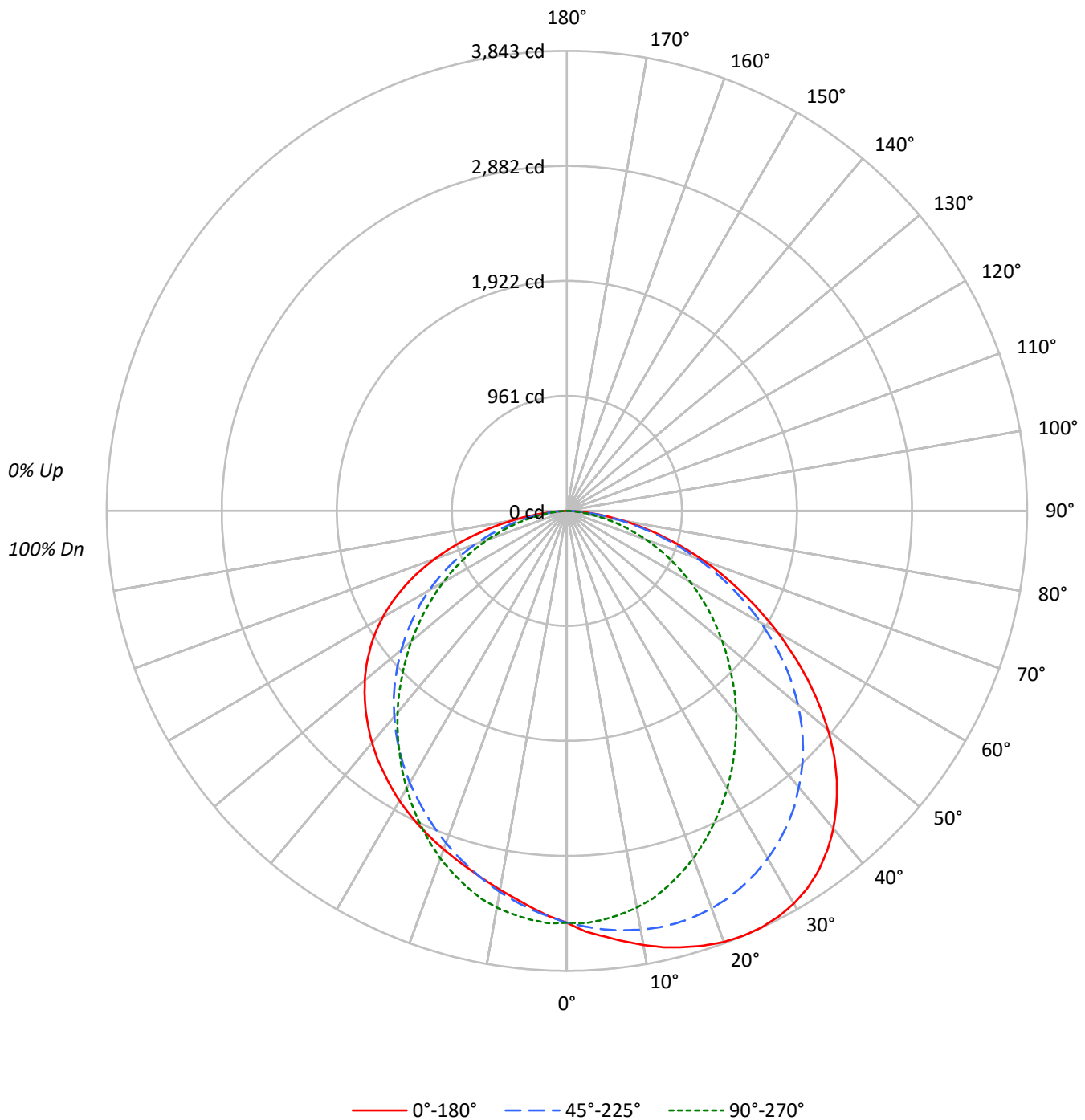
Lumens per Lamp: N/A
Luminaire Lumens: 10120.1 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	4629	4629	4629
5°	4819	4631	4494
10°	5030	4597	4390
15°	5256	4523	4327
20°	5486	4423	4309
25°	5702	4295	4316
30°	5887	4160	4344
35°	6022	4012	4380
40°	6082	3863	4445
45°	6066	3700	4517
50°	5958	3545	4611
55°	5754	3382	4706
60°	5474	3207	4778
65°	5140	3012	4771
70°	4784	2778	4630
75°	4343	2440	4269
80°	3729	2005	3601
85°	2844	1369	2473

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.3	3.2
10°-20°	942.3	9.3
20°-30°	1443.6	14.3
30°-40°	1761.7	17.4
40°-50°	1842.4	18.2
50°-60°	1667.5	16.5
60°-70°	1262.8	12.5
70°-80°	703.8	7.0
80°-90°	169.7	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°	2712.2	26.8
0°-40°	4473.9	44.2
0°-60°	7983.8	78.9
0°-90°	10120.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10120.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3440	3440	3440	3440	3440	
5°	3568	3509	3429	3345	3328	344
15°	3774	3564	3247	3096	3106	1070
25°	3840	3463	2893	2791	2907	1772
35°	3666	3206	2442	2440	2667	2289
45°	3188	2788	1945	2030	2374	2453
55°	2453	2215	1442	1569	2006	2189
65°	1615	1518	946	1075	1499	1602
75°	836	789	469	560	821	886
85°	184	162	89	119	160	222
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°	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4
2.5°	3516.4	3499.8	3486.3	3491.6	3494.6	3484.0	3475.0	3476.5	3467.5	3484.8	3444.2
5°	3568.3	3553.2	3537.4	3543.4	3537.4	3521.6	3508.9	3505.1	3481.0	3490.8	3449.4
7.5°	3626.2	3609.6	3586.3	3593.1	3580.3	3551.0	3534.4	3524.6	3487.8	3488.6	3442.7
10°	3681.8	3667.5	3635.9	3640.5	3617.1	3578.0	3551.7	3538.2	3486.3	3478.8	3431.4
12.5°	3733.7	3714.2	3680.3	3682.6	3648.7	3596.8	3563.0	3543.4	3475.8	3453.2	3406.6
15°	3773.6	3754.8	3714.2	3713.4	3669.8	3602.1	3563.8	3536.7	3451.0	3415.6	3366.7
17.5°	3807.4	3790.1	3739.7	3738.2	3685.6	3599.8	3554.0	3520.1	3414.9	3371.2	3317.1
20°	3831.5	3814.2	3757.8	3752.5	3689.3	3588.6	3533.7	3490.8	3367.5	3315.6	3255.4
22.5°	3842.7	3825.4	3761.5	3754.0	3680.3	3566.0	3504.3	3454.0	3313.3	3245.7	3183.2
25°	3840.5	3823.9	3751.8	3744.2	3663.0	3532.2	3463.0	3405.1	3244.9	3165.2	3103.5
27.5°	3821.7	3808.9	3733.0	3723.2	3631.4	3486.3	3412.6	3348.7	3168.9	3080.2	3013.3
30°	3789.4	3779.6	3699.1	3690.1	3592.3	3435.9	3353.9	3280.2	3087.0	2987.0	2919.3
32.5°	3737.5	3728.4	3647.2	3639.0	3539.7	3371.2	3285.5	3209.6	2997.5	2886.9	2819.3
35°	3666.0	3660.8	3581.8	3572.8	3472.0	3297.5	3206.5	3123.1	2904.2	2779.4	2714.7
37.5°	3572.0	3572.0	3496.1	3486.3	3387.8	3207.3	3117.8	3029.1	2799.0	2666.6	2602.7
40°	3463.0	3472.8	3395.3	3385.5	3290.0	3110.3	3012.5	2919.3	2685.4	2547.8	2485.4
42.5°	3332.1	3341.2	3276.5	3267.5	3178.0	2998.2	2907.3	2805.7	2566.6	2426.7	2362.0
45°	3187.7	3199.8	3141.9	3135.1	3051.6	2875.7	2788.4	2685.4	2442.5	2300.4	2237.2
47.5°	3026.8	3042.6	2992.2	2988.5	2911.0	2750.1	2659.1	2554.6	2312.4	2168.8	2109.4
50°	2846.3	2868.9	2827.5	2827.5	2758.4	2598.2	2519.2	2414.7	2177.1	2033.4	1974.8
52.5°	2653.1	2681.6	2650.8	2651.6	2595.2	2451.5	2369.6	2267.3	2035.7	1894.3	1840.2
55°	2453.0	2480.9	2461.3	2464.3	2420.0	2289.1	2214.7	2113.1	1891.3	1753.7	1702.5
57.5°	2244.0	2274.1	2261.3	2267.3	2236.5	2119.1	2041.7	1953.0	1742.4	1606.3	1562.7
60°	2034.2	2062.7	2056.0	2064.3	2044.7	1943.2	1872.5	1780.7	1592.7	1461.9	1423.5
62.5°	1822.1	1848.4	1846.9	1855.9	1845.4	1761.2	1698.0	1619.8	1437.8	1317.5	1282.2
65°	1614.6	1637.1	1635.6	1645.4	1643.1	1575.5	1518.3	1446.9	1282.9	1172.4	1141.5
67.5°	1413.0	1431.8	1426.6	1437.8	1440.8	1386.7	1337.1	1273.1	1135.5	1028.0	1001.7
70°	1216.0	1228.8	1222.0	1229.5	1236.3	1195.7	1153.6	1097.2	978.4	883.6	861.8
72.5°	1022.7	1031.8	1021.2	1028.7	1034.8	1005.4	970.8	922.0	823.4	741.5	723.4
75°	835.5	848.3	826.5	834.0	838.5	809.2	788.9	749.0	664.0	600.9	588.8
77.5°	654.2	661.8	649.7	646.7	649.7	628.7	612.9	582.1	518.1	466.2	458.7
80°	481.3	485.8	473.8	470.8	473.0	458.0	445.9	423.4	378.3	339.2	336.1
82.5°	322.6	324.9	314.3	311.3	312.8	308.3	294.0	278.2	257.2	224.1	223.3
85°	184.2	184.2	176.7	173.7	175.2	167.7	162.4	154.2	145.9	123.3	124.8
87.5°	67.7	67.7	63.9	63.2	70.7	62.4	60.2	56.4	58.7	46.6	49.6
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°	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4	3440.4
2.5°	3455.5	3447.9	3441.2	3417.9	3427.6	3403.6	3402.1	3393.0	3386.3	3373.5	3390.0
5°	3444.2	3429.1	3409.6	3381.8	3390.0	3361.5	3355.4	3344.9	3335.9	3319.3	3332.1
7.5°	3426.1	3401.3	3370.5	3335.1	3346.4	3311.1	3302.1	3290.8	3283.3	3263.7	3275.0
10°	3399.8	3364.5	3328.4	3285.5	3293.8	3255.4	3244.1	3232.1	3225.3	3208.1	3219.3
12.5°	3359.2	3316.3	3267.5	3220.8	3229.9	3193.8	3178.7	3165.9	3163.7	3149.4	3162.9
15°	3306.6	3247.2	3196.8	3147.1	3157.7	3115.6	3108.8	3096.0	3099.8	3090.0	3106.5
17.5°	3239.6	3171.2	3116.3	3062.9	3073.4	3038.1	3032.8	3026.8	3030.6	3029.1	3047.1
20°	3164.4	3089.2	3026.1	2973.4	2979.4	2951.6	2953.9	2952.4	2959.9	2968.2	2993.0
22.5°	3079.5	2994.5	2928.3	2874.2	2883.2	2859.1	2869.7	2872.7	2885.4	2904.2	2935.8
25°	2984.0	2893.0	2823.8	2772.6	2780.9	2765.1	2783.2	2790.7	2811.0	2842.6	2874.9
27.5°	2883.9	2787.7	2714.0	2665.1	2680.9	2665.1	2692.2	2707.2	2738.0	2772.6	2812.5
30°	2777.9	2677.9	2601.9	2558.3	2573.4	2559.1	2602.7	2623.0	2653.8	2701.2	2748.6
32.5°	2666.6	2561.3	2486.9	2453.0	2463.6	2461.3	2510.2	2532.8	2574.1	2628.3	2678.6
35°	2552.3	2442.5	2367.3	2338.7	2351.5	2354.5	2413.2	2439.5	2484.6	2550.0	2604.2
37.5°	2434.2	2322.2	2248.5	2225.2	2236.5	2247.7	2316.2	2342.5	2393.6	2465.1	2524.5
40°	2311.7	2199.6	2127.4	2108.6	2119.9	2131.9	2206.4	2242.5	2298.1	2375.6	2440.3
42.5°	2187.6	2075.5	2005.6	1992.1	2003.3	2026.7	2105.6	2139.5	2198.1	2283.8	2355.3
45°	2061.2	1944.7	1883.8	1873.2	1885.3	1912.3	1989.8	2030.4	2092.8	2186.8	2263.5
47.5°	1933.4	1819.9	1761.9	1755.2	1767.2	1797.3	1883.0	1919.9	1986.0	2086.1	2168.8
50°	1804.1	1693.5	1637.9	1635.6	1646.9	1679.2	1761.2	1804.8	1873.2	1985.3	2070.3
52.5°	1673.2	1567.2	1516.8	1516.8	1527.3	1560.4	1643.1	1688.3	1758.9	1877.0	1971.0
55°	1542.4	1441.6	1393.5	1397.2	1412.3	1440.8	1521.3	1568.7	1640.1	1762.7	1862.0
57.5°	1411.5	1316.0	1272.4	1277.7	1291.9	1320.5	1399.5	1452.9	1517.5	1644.6	1746.2
60°	1282.2	1191.9	1153.6	1159.6	1172.4	1201.0	1282.9	1328.8	1393.5	1522.8	1624.3
62.5°	1151.3	1069.4	1033.3	1040.8	1052.1	1080.6	1158.1	1202.5	1266.4	1393.5	1495.7
65°	1022.0	946.0	915.2	922.7	933.2	959.6	1032.5	1075.4	1136.3	1260.4	1358.1
67.5°	894.1	824.9	799.4	806.9	815.2	840.0	900.1	946.8	1003.9	1122.0	1214.5
70°	767.8	706.1	683.6	691.1	698.6	721.2	773.8	816.7	869.3	977.6	1063.3
72.5°	643.0	582.8	571.5	578.3	584.3	603.9	654.2	688.1	734.0	830.2	903.9
75°	521.1	469.3	461.7	468.5	473.8	488.8	530.9	560.2	598.6	682.1	742.2
77.5°	403.8	360.2	357.2	362.5	367.7	378.3	411.3	442.2	472.3	533.9	587.3
80°	294.0	258.7	258.7	264.0	262.4	275.2	298.5	323.4	345.2	389.5	428.6
82.5°	194.0	166.2	170.0	173.7	176.0	181.2	195.5	214.3	227.9	254.9	280.5
85°	107.5	88.7	92.5	95.5	94.0	100.0	107.5	118.8	125.6	138.4	151.9
87.5°	39.9	33.1	33.8	36.1	37.6	40.6	40.6	47.4	48.1	49.6	52.6
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°	3440.4	3440.4	3440.4
2.5°	3358.5	3376.5	3390.0
5°	3300.5	3315.6	3327.6
7.5°	3244.1	3257.7	3268.2
10°	3190.8	3205.8	3213.3
12.5°	3135.9	3153.2	3159.2
15°	3081.7	3099.0	3106.5
17.5°	3026.1	3048.6	3056.9
20°	2974.2	3002.8	3009.5
22.5°	2921.5	2950.9	2959.1
25°	2864.4	2899.0	2907.3
27.5°	2803.5	2844.8	2853.1
30°	2742.6	2787.7	2796.0
32.5°	2677.1	2726.0	2733.5
35°	2608.7	2657.6	2666.6
37.5°	2532.8	2586.1	2604.2
40°	2453.8	2511.7	2530.5
42.5°	2371.1	2434.2	2453.8
45°	2282.3	2351.5	2374.1
47.5°	2192.8	2271.1	2290.6
50°	2095.8	2179.3	2202.6
52.5°	1994.3	2085.3	2108.6
55°	1889.0	1980.8	2006.3
57.5°	1774.7	1869.5	1896.6
60°	1655.2	1749.9	1775.5
62.5°	1532.6	1618.3	1643.1
65°	1395.7	1476.2	1498.7
67.5°	1250.6	1324.3	1343.1
70°	1096.4	1160.3	1176.9
72.5°	935.5	979.9	1001.7
75°	769.3	804.6	821.2
77.5°	602.4	627.2	640.7
80°	439.2	453.5	464.7
82.5°	287.3	293.3	301.6
85°	154.9	154.9	160.2
87.5°	52.6	50.4	52.6
90°	0.0	0.0	0.0

(END OF REPORT)