

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: P834513

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3HI-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834513
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-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

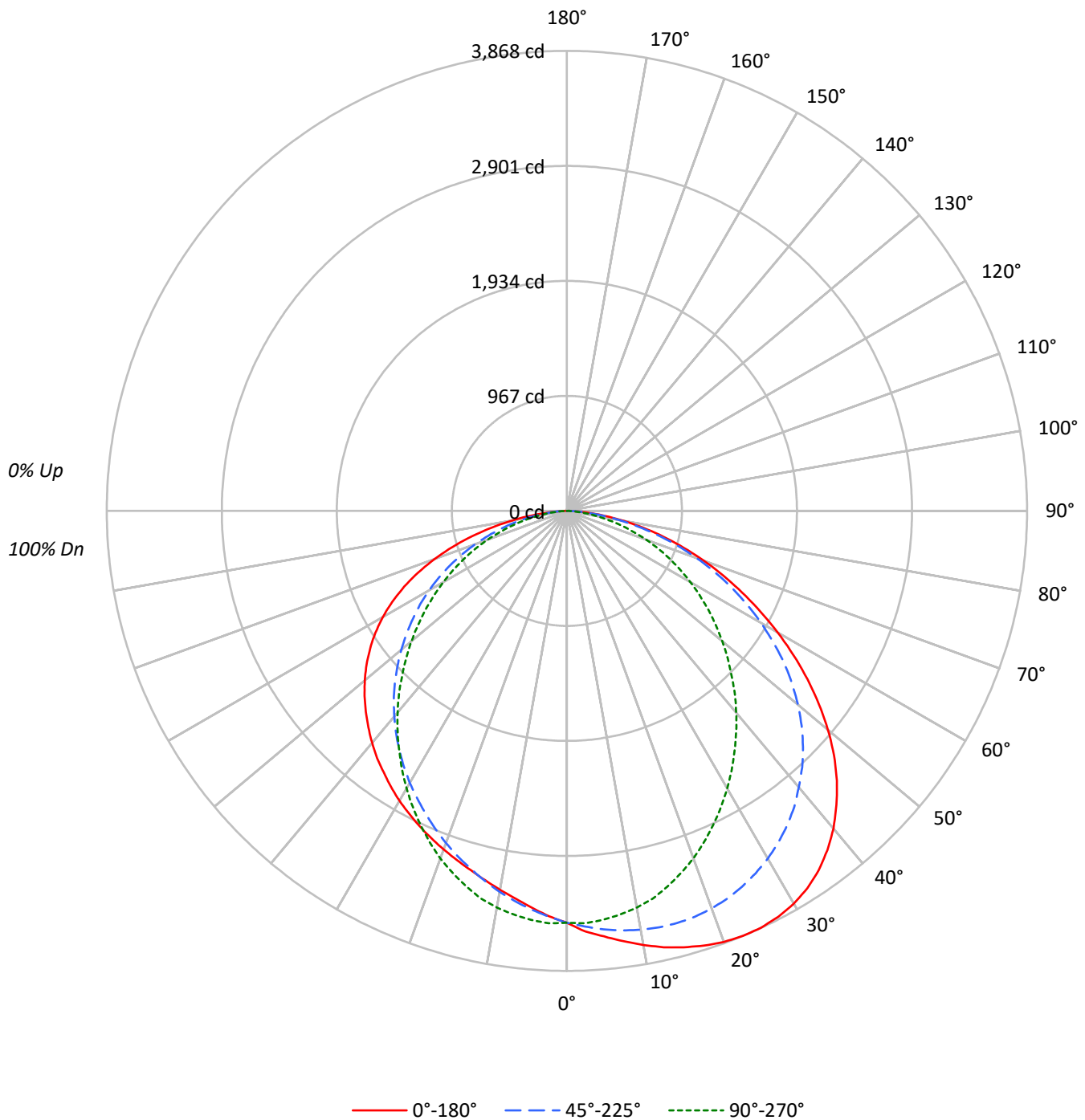
Lumens per Lamp: N/A
Luminaire Lumens: 10186.6 lumens
Efficiency: N/A
Efficacy: 77.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	4659	4659	4659
5°	4851	4662	4524
10°	5063	4627	4419
15°	5291	4553	4356
20°	5522	4452	4337
25°	5739	4323	4344
30°	5926	4188	4372
35°	6061	4038	4409
40°	6122	3889	4474
45°	6106	3725	4547
50°	5997	3568	4641
55°	5792	3404	4737
60°	5510	3229	4809
65°	5174	3032	4803
70°	4815	2796	4660
75°	4372	2455	4297
80°	3753	2018	3625
85°	2864	1379	2489

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.4	3.2
10°-20°	948.5	9.3
20°-30°	1453.1	14.3
30°-40°	1773.3	17.4
40°-50°	1854.5	18.2
50°-60°	1678.4	16.5
60°-70°	1271.1	12.5
70°-80°	708.4	7.0
80°-90°	170.9	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°	2730.0	26.8
0°-40°	4503.3	44.2
0°-60°	8036.2	78.9
0°-90°	10186.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10186.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3463	3463	3463	3463	3463	
5°	3592	3532	3452	3367	3350	346
15°	3798	3587	3268	3116	3127	1077
25°	3866	3486	2912	2809	2926	1783
35°	3690	3228	2459	2456	2684	2304
45°	3209	2807	1958	2044	2390	2469
55°	2469	2229	1451	1579	2020	2203
65°	1625	1528	952	1082	1509	1612
75°	841	794	472	564	827	892
85°	186	164	89	120	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°	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0
2.5°	3539.5	3522.8	3509.2	3514.5	3517.5	3506.9	3497.9	3499.4	3490.3	3507.7	3466.8
5°	3591.7	3576.6	3560.7	3566.7	3560.7	3544.8	3531.9	3528.1	3503.9	3513.7	3472.1
7.5°	3650.0	3633.3	3609.9	3616.7	3603.8	3574.3	3557.6	3547.8	3510.7	3511.5	3465.3
10°	3706.0	3691.6	3659.8	3664.4	3640.9	3601.6	3575.1	3561.4	3509.2	3501.6	3453.9
12.5°	3758.2	3738.6	3704.5	3706.8	3672.7	3620.5	3586.4	3566.7	3498.6	3475.9	3429.0
15°	3798.4	3779.4	3738.6	3737.8	3693.9	3625.8	3587.2	3559.9	3473.6	3438.1	3388.9
17.5°	3832.4	3815.0	3764.3	3762.8	3709.8	3623.5	3577.3	3543.3	3437.3	3393.4	3338.9
20°	3856.6	3839.2	3782.5	3777.2	3713.6	3612.1	3556.9	3513.7	3389.6	3337.4	3276.8
22.5°	3868.0	3850.6	3786.2	3778.7	3704.5	3589.4	3527.4	3476.7	3335.1	3267.0	3204.2
25°	3865.7	3849.1	3776.4	3768.8	3687.1	3555.4	3485.7	3427.5	3266.2	3186.0	3123.9
27.5°	3846.8	3833.9	3757.5	3747.6	3655.3	3509.2	3435.0	3370.7	3189.8	3100.5	3033.1
30°	3814.3	3804.4	3723.4	3714.3	3615.9	3458.5	3376.0	3301.8	3107.3	3006.6	2938.5
32.5°	3762.0	3752.9	3671.2	3662.9	3562.9	3393.4	3307.1	3230.6	3017.2	2905.9	2837.8
35°	3690.1	3684.8	3605.3	3596.3	3494.8	3319.2	3227.6	3143.6	2923.3	2797.7	2732.6
37.5°	3595.5	3595.5	3519.0	3509.2	3410.0	3228.4	3138.3	3049.0	2817.4	2684.1	2619.8
40°	3485.7	3495.6	3417.6	3407.8	3311.6	3130.7	3032.3	2938.5	2703.1	2564.5	2501.7
42.5°	3354.0	3363.1	3298.0	3288.9	3198.9	3017.9	2926.4	2824.2	2583.5	2442.7	2377.6
45°	3208.7	3220.8	3162.5	3155.7	3071.7	2894.6	2806.8	2703.1	2458.6	2315.5	2251.9
47.5°	3046.7	3062.6	3011.9	3008.1	2930.1	2768.2	2676.6	2571.3	2327.6	2183.0	2123.2
50°	2865.0	2887.8	2846.1	2846.1	2776.5	2615.3	2535.8	2430.6	2191.4	2046.8	1987.7
52.5°	2670.5	2699.3	2668.2	2669.0	2612.2	2467.6	2385.1	2282.2	2049.1	1906.7	1852.2
55°	2469.2	2497.2	2477.5	2480.5	2435.9	2304.1	2229.2	2127.0	1903.7	1765.2	1713.7
57.5°	2258.7	2289.0	2276.1	2282.2	2251.2	2133.1	2055.1	1965.8	1753.8	1616.8	1572.9
60°	2047.5	2076.3	2069.5	2077.8	2058.1	1956.0	1884.8	1792.4	1603.2	1471.5	1432.9
62.5°	1834.1	1860.6	1859.1	1868.1	1857.5	1772.8	1709.2	1630.5	1447.3	1326.2	1290.6
65°	1625.2	1647.9	1646.4	1656.2	1653.9	1585.8	1528.3	1456.4	1291.4	1180.1	1149.0
67.5°	1422.3	1441.2	1435.9	1447.3	1450.3	1395.8	1345.9	1281.5	1143.0	1034.7	1008.3
70°	1224.0	1236.9	1230.0	1237.6	1244.4	1203.5	1161.2	1104.4	984.8	889.4	867.5
72.5°	1029.4	1038.5	1027.9	1035.5	1041.6	1012.0	977.2	928.0	828.9	746.3	728.2
75°	841.0	853.8	831.9	839.5	844.0	814.5	794.0	753.9	668.4	604.8	592.7
77.5°	658.5	666.1	654.0	651.0	654.0	632.8	616.9	585.9	521.5	469.3	461.7
80°	484.4	489.0	476.9	473.8	476.1	461.0	448.9	426.2	380.7	341.4	338.4
82.5°	324.7	327.0	316.4	313.4	314.9	310.3	296.0	280.1	258.9	225.6	224.8
85°	185.5	185.5	177.9	174.9	176.4	168.8	163.5	155.2	146.8	124.1	125.7
87.5°	68.1	68.1	64.3	63.6	71.2	62.8	60.6	56.8	59.0	46.9	50.0
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°	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0	3463.0
2.5°	3478.2	3470.6	3463.8	3440.3	3450.2	3425.9	3424.4	3415.3	3408.5	3395.7	3412.3
5°	3466.8	3451.7	3432.0	3404.0	3412.3	3383.6	3377.5	3366.9	3357.8	3341.2	3354.0
7.5°	3448.6	3423.7	3392.6	3357.1	3368.4	3332.8	3323.8	3312.4	3304.8	3285.1	3296.5
10°	3422.2	3386.6	3350.2	3307.1	3315.4	3276.8	3265.5	3253.4	3246.5	3229.1	3240.5
12.5°	3381.3	3338.1	3288.9	3242.0	3251.1	3214.8	3199.6	3186.7	3184.5	3170.1	3183.7
15°	3328.3	3268.5	3217.8	3167.8	3178.4	3136.0	3129.2	3116.3	3120.1	3110.3	3126.9
17.5°	3260.9	3192.0	3136.8	3083.0	3093.6	3058.1	3052.8	3046.7	3050.5	3049.0	3067.1
20°	3185.2	3109.5	3046.0	2993.0	2999.0	2971.0	2973.3	2971.8	2979.3	2987.7	3012.6
22.5°	3099.7	3014.2	2947.6	2893.1	2902.1	2877.9	2888.5	2891.5	2904.4	2923.3	2955.1
25°	3003.6	2912.0	2842.3	2790.9	2799.2	2783.3	2801.5	2809.0	2829.5	2861.3	2893.8
27.5°	2902.9	2806.0	2731.8	2682.6	2698.5	2682.6	2709.9	2725.0	2756.0	2790.9	2831.0
30°	2796.2	2695.5	2619.0	2575.1	2590.3	2575.9	2619.8	2640.2	2671.3	2719.0	2766.6
32.5°	2684.1	2578.2	2503.2	2469.2	2479.8	2477.5	2526.7	2549.4	2591.0	2645.5	2696.2
35°	2569.1	2458.6	2382.9	2354.1	2367.0	2370.0	2429.0	2455.5	2501.0	2566.8	2621.3
37.5°	2450.2	2337.5	2263.3	2239.8	2251.2	2262.5	2331.4	2357.9	2409.4	2481.3	2541.1
40°	2326.9	2214.1	2141.4	2122.5	2133.8	2145.9	2220.9	2257.2	2313.2	2391.2	2456.3
42.5°	2202.0	2089.2	2018.8	2005.2	2016.5	2040.0	2119.5	2153.5	2212.6	2298.8	2370.8
45°	2074.8	1957.5	1896.2	1885.6	1897.7	1924.9	2002.9	2043.8	2106.6	2201.2	2278.4
47.5°	1946.1	1831.8	1773.5	1766.7	1778.8	1809.1	1895.4	1932.5	1999.1	2099.8	2183.0
50°	1815.9	1704.6	1648.6	1646.4	1657.7	1690.3	1772.8	1816.7	1885.6	1998.3	2083.9
52.5°	1684.2	1577.5	1526.8	1526.8	1537.4	1570.7	1653.9	1699.3	1770.5	1889.3	1984.0
55°	1552.5	1451.1	1402.6	1406.4	1421.5	1450.3	1531.3	1579.0	1650.9	1774.3	1874.2
57.5°	1420.8	1324.7	1280.8	1286.1	1300.4	1329.2	1408.7	1462.4	1527.5	1655.4	1757.6
60°	1290.6	1199.8	1161.2	1167.2	1180.1	1208.8	1291.4	1337.5	1402.6	1532.8	1635.0
62.5°	1158.9	1076.4	1040.0	1047.6	1059.0	1087.7	1165.7	1210.4	1274.7	1402.6	1505.6
65°	1028.7	952.2	921.2	928.8	939.4	965.9	1039.3	1082.4	1143.7	1268.6	1367.0
67.5°	900.0	830.4	804.6	812.2	820.5	845.5	906.1	953.0	1010.5	1129.4	1222.5
70°	772.8	710.8	688.1	695.6	703.2	725.9	778.9	822.0	875.0	984.0	1070.3
72.5°	647.2	586.6	575.3	582.1	588.1	607.8	658.5	692.6	738.8	835.7	909.8
75°	524.6	472.3	464.8	471.6	476.9	492.0	534.4	563.9	602.5	686.6	747.1
77.5°	406.5	362.6	359.5	364.8	370.1	380.7	414.0	445.1	475.4	537.4	591.2
80°	296.0	260.4	260.4	265.7	264.2	277.0	300.5	325.5	347.4	392.1	431.5
82.5°	195.3	167.3	171.1	174.9	177.1	182.4	196.8	215.7	229.4	256.6	282.3
85°	108.2	89.3	93.1	96.1	94.6	100.7	108.2	119.6	126.4	139.3	152.9
87.5°	40.1	33.3	34.1	36.3	37.8	40.9	40.9	47.7	48.4	50.0	53.0
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°	3463.0	3463.0	3463.0
2.5°	3380.5	3398.7	3412.3
5°	3322.2	3337.4	3349.5
7.5°	3265.5	3279.1	3289.7
10°	3211.7	3226.9	3234.4
12.5°	3156.5	3173.9	3179.9
15°	3102.0	3119.4	3126.9
17.5°	3046.0	3068.7	3077.0
20°	2993.7	3022.5	3029.3
22.5°	2940.7	2970.3	2978.6
25°	2883.2	2918.0	2926.4
27.5°	2821.9	2863.5	2871.9
30°	2760.6	2806.0	2814.3
32.5°	2694.7	2743.9	2751.5
35°	2625.8	2675.0	2684.1
37.5°	2549.4	2603.1	2621.3
40°	2469.9	2528.2	2547.1
42.5°	2386.7	2450.2	2469.9
45°	2297.3	2367.0	2389.7
47.5°	2207.3	2286.0	2305.7
50°	2109.6	2193.6	2217.1
52.5°	2007.4	2099.0	2122.5
55°	1901.5	1993.8	2019.5
57.5°	1786.4	1881.8	1909.0
60°	1666.0	1761.4	1787.2
62.5°	1542.7	1628.9	1653.9
65°	1404.9	1485.9	1508.6
67.5°	1258.8	1333.0	1351.9
70°	1103.6	1168.0	1184.6
72.5°	941.6	986.3	1008.3
75°	774.4	809.9	826.6
77.5°	606.3	631.3	644.9
80°	442.1	456.4	467.8
82.5°	289.2	295.2	303.5
85°	155.9	155.9	161.2
87.5°	53.0	50.7	53.0
90°	0.0	0.0	0.0

(END OF REPORT)