

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: P834515

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834515
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-LD4-4STD-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

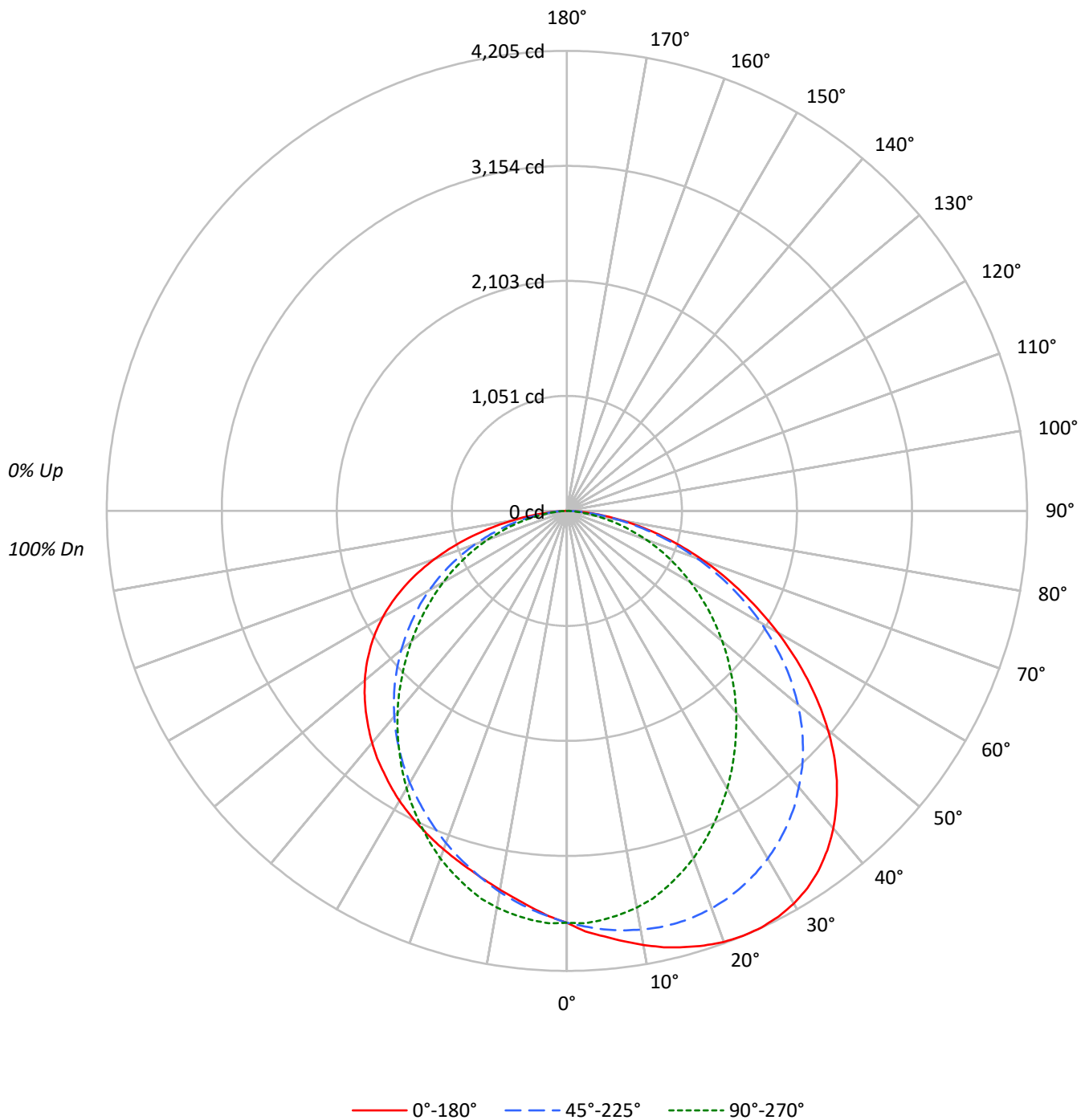
Lumens per Lamp: N/A
Luminaire Lumens: 11073.6 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	5065	5065	5065
5°	5273	5068	4918
10°	5504	5030	4804
15°	5752	4949	4735
20°	6003	4840	4715
25°	6239	4699	4723
30°	6442	4552	4753
35°	6589	4390	4793
40°	6655	4227	4863
45°	6637	4049	4943
50°	6519	3879	5045
55°	6296	3700	5150
60°	5990	3510	5228
65°	5625	3295	5221
70°	5235	3040	5066
75°	4753	2669	4671
80°	4080	2194	3940
85°	3112	1499	2706

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.0	3.2
10°-20°	1031.1	9.3
20°-30°	1579.6	14.3
30°-40°	1927.7	17.4
40°-50°	2016.0	18.2
50°-60°	1824.6	16.5
60°-70°	1381.8	12.5
70°-80°	770.1	7.0
80°-90°	185.7	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°	2967.7	26.8
0°-40°	4895.4	44.2
0°-60°	8735.9	78.9
0°-90°	11073.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11073.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3765	3765	3765	3765	3765	
5°	3904	3839	3752	3660	3641	376
15°	4129	3900	3553	3388	3399	1171
25°	4202	3789	3166	3054	3181	1939
35°	4011	3509	2673	2669	2918	2505
45°	3488	3051	2128	2222	2598	2684
55°	2684	2423	1577	1716	2195	2395
65°	1767	1661	1035	1177	1640	1752
75°	914	863	514	613	899	970
85°	202	178	97	130	175	243
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°	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6
2.5°	3847.7	3829.6	3814.7	3820.5	3823.8	3812.3	3802.4	3804.1	3794.2	3813.1	3768.7
5°	3904.4	3888.0	3870.7	3877.3	3870.7	3853.4	3839.4	3835.3	3809.0	3819.7	3774.4
7.5°	3967.8	3949.7	3924.2	3931.6	3917.6	3885.5	3867.4	3856.7	3816.4	3817.2	3767.0
10°	4028.7	4013.1	3978.5	3983.4	3957.9	3915.1	3886.3	3871.5	3814.7	3806.5	3754.7
12.5°	4085.5	4064.1	4027.0	4029.5	3992.5	3935.7	3898.7	3877.3	3803.2	3778.5	3727.5
15°	4129.1	4108.5	4064.1	4063.3	4015.5	3941.5	3899.5	3869.9	3776.1	3737.4	3683.9
17.5°	4166.1	4147.2	4092.0	4090.4	4032.8	3939.0	3888.8	3851.8	3736.6	3688.9	3629.6
20°	4192.4	4173.5	4111.8	4106.0	4036.9	3926.7	3866.6	3819.7	3684.7	3628.0	3562.1
22.5°	4204.8	4185.9	4115.9	4107.7	4027.0	3902.0	3834.5	3779.4	3625.5	3551.4	3483.1
25°	4202.3	4184.2	4105.2	4097.0	4008.1	3864.9	3789.2	3725.9	3550.6	3463.4	3395.9
27.5°	4181.7	4167.8	4084.6	4073.9	3973.6	3814.7	3734.1	3664.2	3467.5	3370.4	3297.2
30°	4146.4	4135.7	4047.6	4037.7	3930.8	3759.6	3669.9	3589.3	3377.8	3268.4	3194.3
32.5°	4089.6	4079.7	3990.8	3981.8	3873.2	3688.9	3595.0	3511.9	3279.9	3158.9	3084.9
35°	4011.4	4005.7	3919.3	3909.4	3799.1	3608.2	3508.6	3417.3	3177.9	3041.3	2970.5
37.5°	3908.6	3908.6	3825.4	3814.7	3707.0	3509.5	3411.6	3314.5	3062.7	2917.8	2847.9
40°	3789.2	3799.9	3715.2	3704.5	3600.0	3403.3	3296.4	3194.3	2938.4	2787.8	2719.5
42.5°	3646.1	3655.9	3585.2	3575.3	3477.4	3280.7	3181.2	3070.1	2808.4	2655.3	2584.6
45°	3488.1	3501.2	3437.9	3430.5	3339.1	3146.6	3051.1	2938.4	2672.6	2517.1	2448.0
47.5°	3312.0	3329.3	3274.1	3270.0	3185.3	3009.2	2909.6	2795.2	2530.3	2373.1	2308.1
50°	3114.5	3139.2	3093.9	3093.9	3018.2	2843.0	2756.6	2642.2	2382.2	2225.0	2160.8
52.5°	2903.0	2934.3	2900.6	2901.4	2839.7	2682.5	2592.8	2480.9	2227.5	2072.8	2013.5
55°	2684.1	2714.6	2693.2	2696.5	2647.9	2504.8	2423.3	2312.2	2069.5	1918.9	1862.9
57.5°	2455.4	2488.3	2474.3	2480.9	2447.2	2318.8	2234.0	2137.0	1906.6	1757.6	1709.9
60°	2225.8	2257.1	2249.7	2258.7	2237.3	2126.3	2048.9	1948.5	1742.8	1599.6	1557.7
62.5°	1993.8	2022.6	2020.9	2030.8	2019.3	1927.1	1858.0	1772.4	1573.3	1441.6	1403.0
65°	1766.7	1791.4	1789.7	1800.4	1797.9	1723.9	1661.3	1583.2	1403.8	1282.8	1249.1
67.5°	1546.1	1566.7	1561.0	1573.3	1576.6	1517.3	1463.0	1393.1	1242.5	1124.8	1096.0
70°	1330.6	1344.5	1337.1	1345.4	1352.8	1308.3	1262.3	1200.5	1070.5	966.9	943.0
72.5°	1119.1	1129.0	1117.4	1125.7	1132.2	1100.2	1062.3	1008.8	901.0	811.3	791.6
75°	914.2	928.2	904.3	912.5	917.5	885.4	863.2	819.6	726.6	657.5	644.3
77.5°	715.9	724.1	710.9	707.7	710.9	687.9	670.6	636.9	566.9	510.2	501.9
80°	526.6	531.6	518.4	515.1	517.6	501.1	488.0	463.3	413.9	371.1	367.8
82.5°	353.0	355.5	344.0	340.7	342.3	337.4	321.7	304.5	281.4	245.2	244.4
85°	201.6	201.6	193.4	190.1	191.7	183.5	177.7	168.7	159.6	134.9	136.6
87.5°	74.1	74.1	69.9	69.1	77.3	68.3	65.8	61.7	64.2	51.0	54.3
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6	3764.6
2.5°	3781.0	3772.8	3765.4	3739.9	3750.6	3724.2	3722.6	3712.7	3705.3	3691.3	3709.4
5°	3768.7	3752.2	3730.8	3700.4	3709.4	3678.2	3671.6	3660.1	3650.2	3632.1	3646.1
7.5°	3748.9	3721.8	3688.0	3649.4	3661.7	3623.0	3613.1	3600.8	3592.6	3571.2	3583.5
10°	3720.1	3681.4	3641.9	3595.0	3604.1	3562.1	3549.8	3536.6	3529.2	3510.3	3522.6
12.5°	3675.7	3628.8	3575.3	3524.3	3534.2	3494.7	3478.2	3464.2	3461.7	3446.1	3460.9
15°	3618.1	3553.1	3497.9	3443.6	3455.2	3409.1	3401.7	3387.7	3391.8	3381.1	3399.2
17.5°	3544.9	3470.0	3409.9	3351.5	3363.0	3324.3	3318.6	3312.0	3316.1	3314.5	3334.2
20°	3462.6	3380.3	3311.2	3253.6	3260.1	3229.7	3232.2	3230.5	3238.8	3247.8	3275.0
22.5°	3369.6	3276.6	3204.2	3144.9	3154.8	3128.5	3140.0	3143.3	3157.3	3177.9	3212.4
25°	3265.1	3165.5	3089.8	3033.9	3042.9	3025.6	3045.4	3053.6	3075.8	3110.4	3145.8
27.5°	3155.6	3050.3	2969.7	2916.2	2933.5	2916.2	2945.8	2962.3	2996.0	3033.9	3077.5
30°	3039.6	2930.2	2847.1	2799.3	2815.8	2800.2	2847.9	2870.1	2903.8	2955.7	3007.5
32.5°	2917.8	2802.6	2721.2	2684.1	2695.7	2693.2	2746.7	2771.4	2816.6	2875.9	2931.0
35°	2792.8	2672.6	2590.3	2559.1	2573.1	2576.4	2640.5	2669.3	2718.7	2790.3	2849.5
37.5°	2663.6	2541.0	2460.3	2434.8	2447.2	2459.5	2534.4	2563.2	2619.1	2697.3	2762.3
40°	2529.5	2406.8	2327.9	2307.3	2319.6	2332.8	2414.3	2453.7	2514.6	2599.4	2670.2
42.5°	2393.7	2271.1	2194.6	2179.7	2192.1	2217.6	2304.0	2341.0	2405.2	2499.0	2577.2
45°	2255.4	2127.9	2061.2	2049.7	2062.9	2092.5	2177.3	2221.7	2290.0	2392.9	2476.8
47.5°	2115.6	1991.3	1927.9	1920.5	1933.7	1966.6	2060.4	2100.7	2173.2	2282.6	2373.1
50°	1974.0	1853.1	1792.2	1789.7	1802.0	1837.4	1927.1	1974.8	2049.7	2172.3	2265.3
52.5°	1830.8	1714.8	1659.7	1659.7	1671.2	1707.4	1797.9	1847.3	1924.7	2053.8	2156.7
55°	1687.7	1577.4	1524.7	1528.9	1545.3	1576.6	1664.6	1716.5	1794.6	1928.8	2037.4
57.5°	1544.5	1440.0	1392.3	1398.0	1413.7	1444.9	1531.3	1589.8	1660.5	1799.6	1910.7
60°	1403.0	1304.2	1262.3	1268.8	1282.8	1314.1	1403.8	1454.0	1524.7	1666.3	1777.4
62.5°	1259.8	1170.1	1130.6	1138.8	1151.2	1182.4	1267.2	1315.7	1385.7	1524.7	1636.7
65°	1118.3	1035.1	1001.4	1009.6	1021.2	1050.0	1129.8	1176.7	1243.3	1379.1	1486.1
67.5°	978.4	902.7	874.7	882.9	892.0	919.1	985.0	1036.0	1098.5	1227.7	1328.9
70°	840.1	772.7	748.0	756.2	764.4	789.1	846.7	893.6	951.2	1069.7	1163.5
72.5°	703.5	637.7	625.4	632.8	639.4	660.8	715.9	752.9	803.1	908.4	989.1
75°	570.2	513.5	505.2	512.6	518.4	534.9	580.9	613.0	655.0	746.3	812.2
77.5°	441.9	394.1	390.9	396.6	402.4	413.9	450.1	483.8	516.8	584.2	642.6
80°	321.7	283.1	283.1	288.8	287.2	301.2	326.7	353.8	377.7	426.2	469.0
82.5°	212.3	181.9	186.0	190.1	192.5	198.3	213.9	234.5	249.3	278.9	306.9
85°	117.7	97.1	101.2	104.5	102.9	109.4	117.7	130.0	137.4	151.4	166.2
87.5°	43.6	36.2	37.0	39.5	41.1	44.4	44.4	51.8	52.7	54.3	57.6
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°	3764.6	3764.6	3764.6
2.5°	3674.9	3694.6	3709.4
5°	3611.5	3628.0	3641.1
7.5°	3549.8	3564.6	3576.1
10°	3491.4	3507.8	3516.1
12.5°	3431.3	3450.2	3456.8
15°	3372.1	3391.0	3399.2
17.5°	3311.2	3335.8	3344.9
20°	3254.4	3285.7	3293.1
22.5°	3196.8	3228.9	3237.9
25°	3134.2	3172.1	3181.2
27.5°	3067.6	3112.9	3121.9
30°	3000.9	3050.3	3059.4
32.5°	2929.4	2982.8	2991.1
35°	2854.5	2908.0	2917.8
37.5°	2771.4	2829.8	2849.5
40°	2685.0	2748.3	2768.9
42.5°	2594.5	2663.6	2685.0
45°	2497.4	2573.1	2597.7
47.5°	2399.4	2485.0	2506.4
50°	2293.3	2384.6	2410.1
52.5°	2182.2	2281.8	2307.3
55°	2067.0	2167.4	2195.4
57.5°	1941.9	2045.6	2075.2
60°	1811.1	1914.8	1942.8
62.5°	1677.0	1770.8	1797.9
65°	1527.2	1615.3	1639.9
67.5°	1368.4	1449.0	1469.6
70°	1199.7	1269.7	1287.8
72.5°	1023.6	1072.2	1096.0
75°	841.8	880.5	898.6
77.5°	659.1	686.3	701.1
80°	480.5	496.2	508.5
82.5°	314.3	320.9	330.0
85°	169.5	169.5	175.3
87.5°	57.6	55.1	57.6
90°	0.0	0.0	0.0

(END OF REPORT)