

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: P834674

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834674
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-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

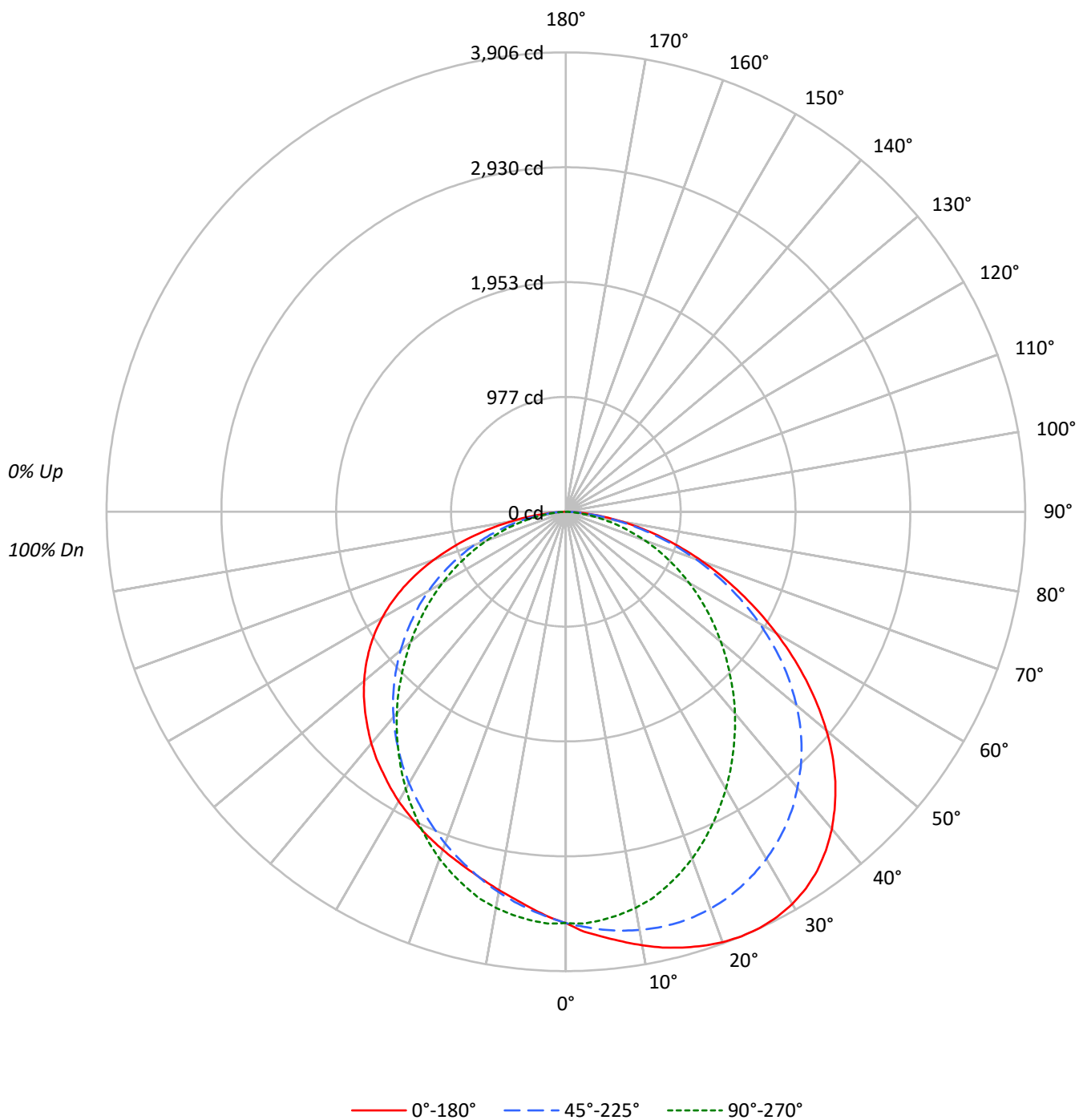
Lumens per Lamp: N/A
Luminaire Lumens: 10287.7 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4706	4706	4706
5°	4899	4708	4569
10°	5114	4673	4463
15°	5343	4598	4399
20°	5577	4497	4381
25°	5796	4366	4388
30°	5985	4229	4416
35°	6121	4078	4453
40°	6183	3927	4518
45°	6166	3762	4592
50°	6057	3604	4687
55°	5850	3438	4784
60°	5565	3261	4857
65°	5225	3062	4851
70°	4863	2824	4707
75°	4415	2480	4340
80°	3791	2038	3660
85°	2891	1392	2513

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.7	3.2
10°-20°	957.9	9.3
20°-30°	1467.5	14.3
30°-40°	1790.9	17.4
40°-50°	1872.9	18.2
50°-60°	1695.1	16.5
60°-70°	1283.7	12.5
70°-80°	715.4	7.0
80°-90°	172.6	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°	2757.1	26.8
0°-40°	4548.0	44.2
0°-60°	8115.9	78.9
0°-90°	10287.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10287.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3497	3497	3497	3497	3497	
5°	3627	3567	3486	3400	3383	350
15°	3836	3623	3301	3147	3158	1088
25°	3904	3520	2941	2837	2955	1801
35°	3727	3260	2483	2480	2711	2327
45°	3240	2835	1977	2064	2413	2493
55°	2494	2251	1466	1595	2040	2225
65°	1641	1543	962	1093	1524	1628
75°	849	802	477	570	835	901
85°	187	165	90	121	163	225
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°	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4
2.5°	3574.6	3557.8	3544.0	3549.4	3552.4	3541.7	3532.6	3534.1	3524.9	3542.5	3501.2
5°	3627.3	3612.1	3596.0	3602.1	3596.0	3579.9	3567.0	3563.1	3538.7	3548.6	3506.6
7.5°	3686.2	3669.4	3645.7	3652.6	3639.6	3609.8	3592.9	3583.0	3545.5	3546.3	3499.7
10°	3742.8	3728.3	3696.1	3700.7	3677.0	3637.3	3610.5	3596.8	3544.0	3536.4	3488.2
12.5°	3795.5	3775.6	3741.2	3743.5	3709.1	3656.4	3622.0	3602.1	3533.3	3510.4	3463.0
15°	3836.0	3816.9	3775.6	3774.9	3730.5	3661.7	3622.8	3595.2	3508.1	3472.2	3422.5
17.5°	3870.4	3852.9	3801.6	3800.1	3746.6	3659.5	3612.8	3578.4	3471.4	3427.1	3372.0
20°	3894.9	3877.3	3820.0	3814.6	3750.4	3648.0	3592.2	3548.6	3423.2	3370.5	3309.3
22.5°	3906.4	3888.8	3823.8	3816.2	3741.2	3625.1	3562.4	3511.1	3368.2	3299.4	3235.9
25°	3904.1	3887.3	3813.9	3806.2	3723.7	3590.6	3520.3	3461.5	3298.6	3217.6	3154.9
27.5°	3885.0	3872.0	3794.8	3784.8	3691.6	3544.0	3469.1	3404.1	3221.4	3131.2	3063.2
30°	3852.1	3842.2	3760.4	3751.2	3651.8	3492.8	3409.5	3334.6	3138.1	3036.4	2967.6
32.5°	3799.3	3790.2	3707.6	3699.2	3598.3	3427.1	3339.9	3262.7	3047.1	2934.7	2865.9
35°	3726.7	3721.4	3641.1	3631.9	3529.5	3352.1	3259.6	3174.8	2952.3	2825.4	2759.7
37.5°	3631.2	3631.2	3554.0	3544.0	3443.9	3260.4	3169.4	3079.2	2845.3	2710.8	2645.8
40°	3520.3	3530.3	3451.5	3441.6	3344.5	3161.8	3062.4	2967.6	2729.9	2590.0	2526.5
42.5°	3387.3	3396.5	3330.7	3321.6	3230.6	3047.9	2955.4	2852.2	2609.1	2466.9	2401.2
45°	3240.5	3252.8	3193.9	3187.0	3102.2	2923.3	2834.6	2729.9	2483.0	2338.5	2274.3
47.5°	3076.9	3093.0	3041.8	3037.9	2959.2	2795.6	2703.1	2596.9	2350.7	2204.7	2144.3
50°	2893.5	2916.4	2874.4	2874.4	2804.0	2641.2	2560.9	2454.7	2213.1	2067.1	2007.5
52.5°	2697.0	2726.1	2694.7	2695.5	2638.1	2492.1	2408.8	2304.8	2069.4	1925.7	1870.6
55°	2493.7	2521.9	2502.1	2505.1	2460.0	2327.0	2251.3	2148.1	1922.6	1782.7	1730.7
57.5°	2281.1	2311.7	2298.7	2304.8	2273.5	2154.2	2075.5	1985.3	1771.2	1632.9	1588.5
60°	2067.9	2096.9	2090.0	2098.4	2078.6	1975.4	1903.5	1810.2	1619.1	1486.1	1447.1
62.5°	1852.3	1879.0	1877.5	1886.7	1876.0	1790.4	1726.1	1646.6	1461.6	1339.3	1303.4
65°	1641.3	1664.2	1662.7	1672.6	1670.3	1601.5	1543.4	1470.8	1304.2	1191.8	1160.4
67.5°	1436.4	1455.5	1450.2	1461.6	1464.7	1409.7	1359.2	1294.2	1154.3	1045.0	1018.3
70°	1236.1	1249.1	1242.2	1249.9	1256.8	1215.5	1172.7	1115.3	994.6	898.2	876.1
72.5°	1039.7	1048.8	1038.1	1045.8	1051.9	1022.1	986.9	937.2	837.1	753.8	735.4
75°	849.3	862.3	840.1	847.8	852.4	822.6	801.9	761.4	675.0	610.8	598.6
77.5°	665.1	672.7	660.5	657.4	660.5	639.1	623.0	591.7	526.7	474.0	466.3
80°	489.3	493.8	481.6	478.5	480.8	465.6	453.3	430.4	384.5	344.8	341.7
82.5°	328.0	330.2	319.5	316.5	318.0	313.4	298.9	282.8	261.4	227.8	227.0
85°	187.3	187.3	179.6	176.6	178.1	170.5	165.1	156.7	148.3	125.4	126.9
87.5°	68.8	68.8	65.0	64.2	71.9	63.4	61.2	57.3	59.6	47.4	50.5
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°	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4	3497.4
2.5°	3512.7	3505.0	3498.2	3474.5	3484.4	3459.9	3458.4	3449.2	3442.3	3429.3	3446.2
5°	3501.2	3485.9	3466.0	3437.8	3446.2	3417.1	3411.0	3400.3	3391.1	3374.3	3387.3
7.5°	3482.9	3457.6	3426.3	3390.4	3401.8	3365.9	3356.7	3345.3	3337.6	3317.7	3329.2
10°	3456.1	3420.2	3383.5	3339.9	3348.3	3309.3	3297.9	3285.6	3278.8	3261.2	3272.6
12.5°	3414.8	3371.3	3321.6	3274.2	3283.3	3246.6	3231.4	3218.4	3216.1	3201.5	3215.3
15°	3361.3	3300.9	3249.7	3199.2	3210.0	3167.1	3160.3	3147.3	3151.1	3141.1	3158.0
17.5°	3293.3	3223.7	3167.9	3113.6	3124.3	3088.4	3083.1	3076.9	3080.8	3079.2	3097.6
20°	3216.8	3140.4	3076.2	3022.7	3028.8	3000.5	3002.8	3001.3	3008.9	3017.3	3042.5
22.5°	3130.4	3044.1	2976.8	2921.8	2930.9	2906.5	2917.2	2920.2	2933.2	2952.3	2984.4
25°	3033.4	2940.9	2870.5	2818.5	2827.0	2810.9	2829.3	2836.9	2857.5	2889.6	2922.5
27.5°	2931.7	2833.8	2758.9	2709.2	2725.3	2709.2	2736.8	2752.0	2783.4	2818.5	2859.1
30°	2823.9	2722.2	2645.0	2600.7	2616.0	2601.4	2645.8	2666.4	2697.8	2745.9	2794.1
32.5°	2710.8	2603.7	2528.1	2493.7	2504.4	2502.1	2551.8	2574.7	2616.7	2671.8	2723.0
35°	2594.6	2483.0	2406.5	2377.5	2390.5	2393.5	2453.1	2479.9	2525.8	2592.3	2647.3
37.5°	2474.5	2360.6	2285.7	2262.0	2273.5	2285.0	2354.5	2381.3	2433.3	2505.9	2566.3
40°	2349.9	2236.0	2162.6	2143.5	2155.0	2167.2	2242.9	2279.6	2336.2	2414.9	2480.7
42.5°	2223.8	2109.9	2038.8	2025.0	2036.5	2060.2	2140.5	2174.9	2234.5	2321.7	2394.3
45°	2095.4	1976.9	1915.0	1904.3	1916.5	1944.0	2022.8	2064.0	2127.5	2223.0	2301.0
47.5°	1965.4	1850.0	1791.1	1784.2	1796.5	1827.0	1914.2	1951.7	2018.9	2120.6	2204.7
50°	1833.9	1721.6	1665.0	1662.7	1674.2	1707.0	1790.4	1834.7	1904.3	2018.2	2104.5
52.5°	1700.9	1593.1	1541.9	1541.9	1552.6	1586.2	1670.3	1716.2	1788.1	1908.1	2003.6
55°	1567.9	1465.5	1416.5	1420.4	1435.6	1464.7	1546.5	1594.7	1667.3	1791.9	1892.8
57.5°	1434.9	1337.8	1293.5	1298.8	1313.3	1342.4	1422.7	1476.9	1542.7	1671.9	1775.1
60°	1303.4	1211.7	1172.7	1178.8	1191.8	1220.8	1304.2	1350.8	1416.5	1548.0	1651.2
62.5°	1170.4	1087.1	1050.4	1058.0	1069.5	1098.5	1177.3	1222.4	1287.3	1416.5	1520.5
65°	1038.9	961.7	930.3	938.0	948.7	975.4	1049.6	1093.2	1155.1	1281.2	1380.6
67.5°	908.9	838.6	812.6	820.3	828.7	853.9	915.1	962.5	1020.5	1140.6	1234.6
70°	780.5	717.8	694.9	702.5	710.2	733.1	786.6	830.2	883.7	993.8	1080.9
72.5°	653.6	592.5	581.0	587.9	594.0	613.9	665.1	699.5	746.1	844.0	918.9
75°	529.8	477.0	469.4	476.3	481.6	496.9	539.7	569.5	608.5	693.4	754.5
77.5°	410.5	366.2	363.1	368.5	373.8	384.5	418.2	449.5	480.1	542.8	597.0
80°	298.9	263.0	263.0	268.3	266.8	279.8	303.5	328.7	350.9	396.0	435.7
82.5°	197.2	168.9	172.8	176.6	178.9	184.2	198.8	217.9	231.6	259.2	285.1
85°	109.3	90.2	94.0	97.1	95.6	101.7	109.3	120.8	127.7	140.7	154.4
87.5°	40.5	33.6	34.4	36.7	38.2	41.3	41.3	48.2	48.9	50.5	53.5
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°	3497.4	3497.4	3497.4
2.5°	3414.1	3432.4	3446.2
5°	3355.2	3370.5	3382.7
7.5°	3297.9	3311.6	3322.3
10°	3243.6	3258.9	3266.5
12.5°	3187.8	3205.4	3211.5
15°	3132.7	3150.3	3158.0
17.5°	3076.2	3099.1	3107.5
20°	3023.4	3052.5	3059.4
22.5°	2969.9	2999.7	3008.1
25°	2911.8	2947.0	2955.4
27.5°	2849.9	2891.9	2900.3
30°	2788.0	2833.8	2842.2
32.5°	2721.5	2771.2	2778.8
35°	2651.9	2701.6	2710.8
37.5°	2574.7	2629.0	2647.3
40°	2494.4	2553.3	2572.4
42.5°	2410.3	2474.5	2494.4
45°	2320.1	2390.5	2413.4
47.5°	2229.2	2308.7	2328.5
50°	2130.5	2215.4	2239.1
52.5°	2027.3	2119.8	2143.5
55°	1920.3	2013.6	2039.6
57.5°	1804.1	1900.4	1928.0
60°	1682.6	1778.9	1804.9
62.5°	1558.0	1645.1	1670.3
65°	1418.8	1500.6	1523.6
67.5°	1271.3	1346.2	1365.3
70°	1114.6	1179.6	1196.4
72.5°	951.0	996.1	1018.3
75°	782.0	818.0	834.8
77.5°	612.3	637.6	651.3
80°	446.4	461.0	472.4
82.5°	292.0	298.1	306.5
85°	157.5	157.5	162.8
87.5°	53.5	51.2	53.5
90°	0.0	0.0	0.0

(END OF REPORT)