

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: P834624

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4HI-20-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834624
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-LD4-4HI-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

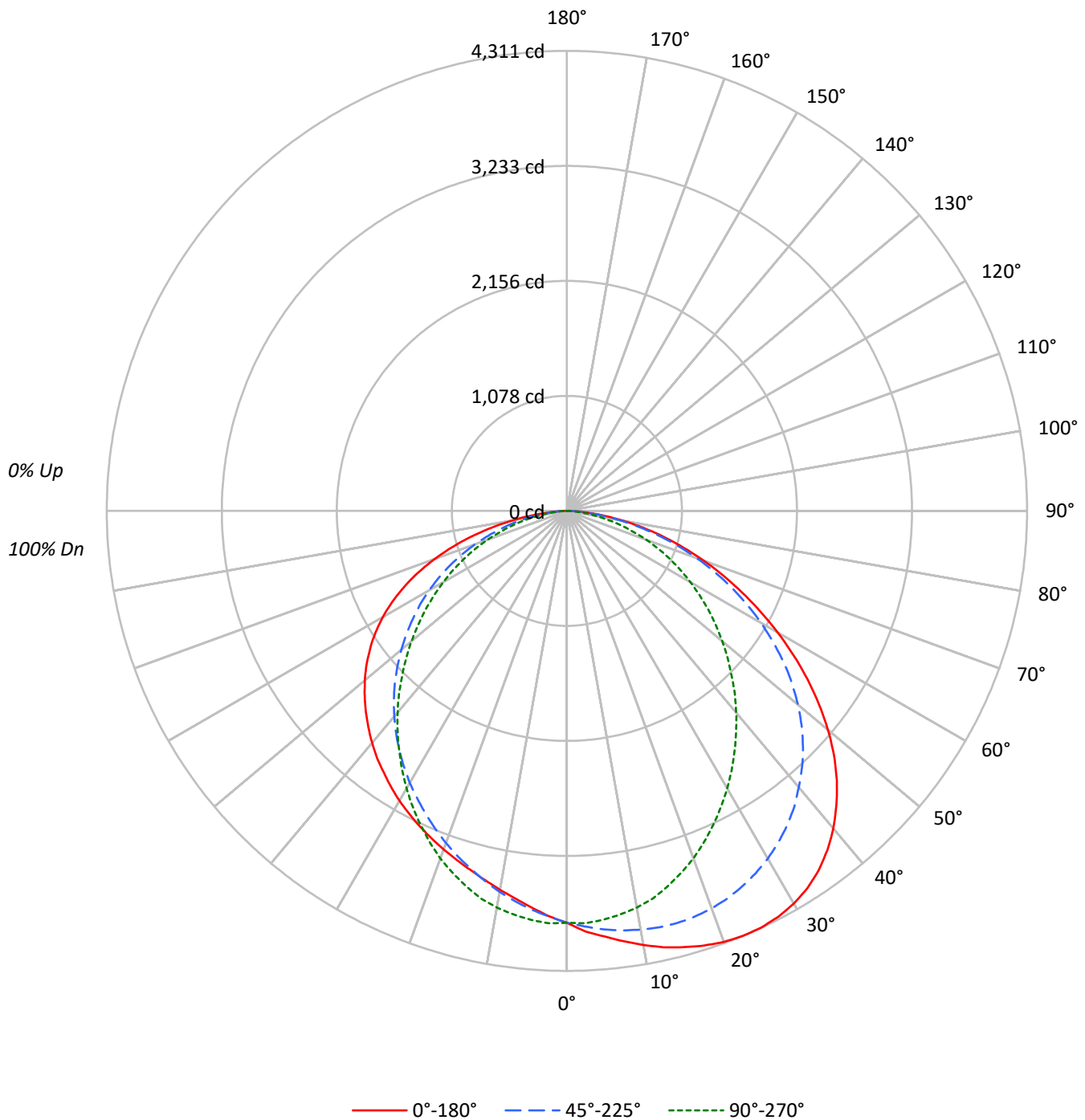
Lumens per Lamp: N/A
Luminaire Lumens: 11352.6 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 176
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



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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°	5193	5193	5193
5°	5406	5196	5042
10°	5643	5156	4925
15°	5897	5074	4854
20°	6154	4962	4834
25°	6396	4818	4842
30°	6604	4667	4873
35°	6755	4501	4913
40°	6823	4334	4986
45°	6804	4151	5068
50°	6684	3977	5172
55°	6455	3794	5280
60°	6141	3598	5360
65°	5766	3379	5353
70°	5366	3116	5194
75°	4872	2737	4789
80°	4183	2249	4039
85°	3191	1536	2774

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.0	3.2
10°-20°	1057.1	9.3
20°-30°	1619.4	14.3
30°-40°	1976.3	17.4
40°-50°	2066.8	18.2
50°-60°	1870.6	16.5
60°-70°	1416.6	12.5
70°-80°	789.5	7.0
80°-90°	190.4	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°	3042.5	26.8
0°-40°	5018.8	44.2
0°-60°	8956.1	78.9
0°-90°	11352.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11352.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3859	3859	3859	3859	3859	
5°	4003	3936	3847	3752	3733	386
15°	4233	3998	3643	3473	3485	1201
25°	4308	3885	3245	3131	3261	1987
35°	4112	3597	2740	2737	2991	2568
45°	3576	3128	2182	2278	2663	2751
55°	2752	2484	1617	1760	2251	2455
65°	1811	1703	1061	1206	1681	1797
75°	937	885	526	628	921	994
85°	207	182	100	133	180	249
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°	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4
2.5°	3944.6	3926.1	3910.9	3916.8	3920.2	3908.4	3898.2	3899.9	3889.8	3909.2	3863.6
5°	4002.8	3986.0	3968.2	3975.0	3968.2	3950.5	3936.2	3932.0	3905.0	3915.9	3869.5
7.5°	4067.8	4049.2	4023.1	4030.7	4016.3	3983.4	3964.9	3953.9	3912.6	3913.4	3862.0
10°	4130.2	4114.2	4078.8	4083.8	4057.7	4013.8	3984.3	3969.1	3910.9	3902.4	3849.3
12.5°	4188.4	4166.5	4128.5	4131.1	4093.1	4034.9	3996.9	3975.0	3899.1	3873.8	3821.5
15°	4233.1	4212.0	4166.5	4165.6	4116.7	4040.8	3997.8	3967.4	3871.2	3831.6	3776.8
17.5°	4271.1	4251.7	4195.2	4193.5	4134.4	4038.3	3986.8	3948.8	3830.7	3781.8	3721.1
20°	4298.1	4278.7	4215.4	4209.5	4138.7	4025.6	3964.0	3915.9	3777.6	3719.4	3651.9
22.5°	4310.7	4291.3	4219.6	4211.2	4128.5	4000.3	3931.1	3874.6	3716.9	3640.9	3570.9
25°	4308.2	4289.7	4208.7	4200.2	4109.1	3962.3	3884.7	3819.8	3640.1	3550.7	3481.5
27.5°	4287.1	4272.8	4187.6	4176.6	4073.7	3910.9	3828.2	3756.5	3554.9	3455.3	3380.3
30°	4250.8	4239.9	4149.6	4139.5	4029.8	3854.4	3762.4	3679.7	3462.9	3350.7	3274.8
32.5°	4192.6	4182.5	4091.4	4082.1	3970.8	3781.8	3685.6	3600.4	3362.5	3238.5	3162.6
35°	4112.5	4106.6	4018.0	4007.9	3894.9	3699.1	3597.1	3503.4	3257.9	3117.9	3045.4
37.5°	4007.1	4007.1	3921.8	3910.9	3800.4	3597.9	3497.5	3398.0	3139.8	2991.4	2919.7
40°	3884.7	3895.7	3808.8	3797.8	3690.7	3489.1	3379.4	3274.8	3012.5	2858.1	2788.1
42.5°	3737.9	3748.1	3675.5	3665.4	3565.0	3363.4	3261.3	3147.4	2879.2	2722.3	2649.7
45°	3576.0	3589.5	3524.5	3516.9	3423.3	3225.9	3128.0	3012.5	2740.0	2580.5	2509.7
47.5°	3395.4	3413.2	3356.6	3352.4	3265.5	3085.0	2982.9	2865.7	2594.0	2432.9	2366.3
50°	3193.0	3218.3	3171.9	3171.9	3094.3	2914.6	2826.0	2708.8	2442.2	2281.1	2215.3
52.5°	2976.2	3008.2	2973.7	2974.5	2911.2	2750.1	2658.2	2543.4	2283.6	2125.0	2064.3
55°	2751.8	2783.0	2761.1	2764.4	2714.7	2567.9	2484.4	2370.5	2121.6	1967.3	1909.9
57.5°	2517.3	2551.0	2536.7	2543.4	2508.8	2377.2	2290.3	2190.8	1954.6	1801.9	1753.0
60°	2281.9	2314.0	2306.4	2315.7	2293.7	2179.8	2100.5	1997.6	1786.7	1639.9	1596.9
62.5°	2044.0	2073.5	2071.9	2082.0	2070.2	1975.7	1904.8	1817.1	1612.9	1478.0	1438.3
65°	1811.2	1836.5	1834.8	1845.8	1843.2	1767.3	1703.2	1623.1	1439.2	1315.2	1280.6
67.5°	1585.1	1606.2	1600.3	1612.9	1616.3	1555.6	1499.9	1428.2	1273.8	1153.2	1123.7
70°	1364.1	1378.4	1370.8	1379.3	1386.9	1341.3	1294.1	1230.8	1097.5	991.2	966.8
72.5°	1147.3	1157.4	1145.6	1154.0	1160.8	1127.9	1089.1	1034.2	923.7	831.8	811.5
75°	937.2	951.6	927.1	935.5	940.6	907.7	884.9	840.2	744.9	674.0	660.5
77.5°	733.9	742.4	728.9	725.5	728.9	705.2	687.5	652.9	581.2	523.0	514.6
80°	539.9	545.0	531.5	528.1	530.6	513.7	500.2	474.9	424.3	380.5	377.1
82.5°	361.9	364.4	352.6	349.2	350.9	345.9	329.8	312.1	288.5	251.4	250.5
85°	206.7	206.7	198.2	194.9	196.6	188.1	182.2	172.9	163.7	138.3	140.0
87.5°	75.9	75.9	71.7	70.9	79.3	70.0	67.5	63.3	65.8	52.3	55.7
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°	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4	3859.4
2.5°	3876.3	3867.9	3860.3	3834.1	3845.1	3818.1	3816.4	3806.3	3798.7	3784.3	3802.9
5°	3863.6	3846.8	3824.8	3793.6	3802.9	3770.8	3764.1	3752.3	3742.2	3723.6	3737.9
7.5°	3843.4	3815.6	3781.0	3741.3	3754.0	3714.3	3704.2	3691.5	3683.1	3661.2	3673.8
10°	3813.9	3774.2	3733.7	3685.6	3694.9	3651.9	3639.2	3625.7	3618.2	3598.8	3611.4
12.5°	3768.3	3720.2	3665.4	3613.1	3623.2	3582.7	3565.9	3551.5	3549.0	3533.0	3548.1
15°	3709.3	3642.6	3586.1	3530.4	3542.2	3495.0	3487.4	3473.1	3477.3	3466.3	3484.9
17.5°	3634.2	3557.4	3495.8	3435.9	3447.8	3408.1	3402.2	3395.4	3399.7	3398.0	3418.2
20°	3549.8	3465.5	3394.6	3335.6	3342.3	3311.1	3313.6	3311.9	3320.4	3329.6	3357.5
22.5°	3454.5	3359.2	3284.9	3224.2	3234.3	3207.3	3219.1	3222.5	3236.9	3257.9	3293.4
25°	3347.4	3245.3	3167.7	3110.3	3119.6	3101.9	3122.1	3130.6	3153.3	3188.8	3225.0
27.5°	3235.2	3127.2	3044.5	2989.7	3007.4	2989.7	3020.1	3036.9	3071.5	3110.3	3155.0
30°	3116.2	3004.0	2918.8	2869.9	2886.8	2870.7	2919.7	2942.4	2977.0	3030.2	3083.3
32.5°	2991.4	2873.3	2789.8	2751.8	2763.6	2761.1	2815.9	2841.2	2887.6	2948.3	3004.9
35°	2863.1	2740.0	2655.6	2623.6	2637.9	2641.3	2707.1	2736.6	2787.2	2860.6	2921.4
37.5°	2730.7	2605.0	2522.3	2496.2	2508.8	2521.5	2598.3	2627.8	2685.1	2765.3	2831.9
40°	2593.2	2467.5	2386.5	2365.4	2378.1	2391.6	2475.1	2515.6	2578.0	2664.9	2737.4
42.5°	2454.0	2328.3	2249.9	2234.7	2247.3	2273.5	2362.1	2400.0	2465.8	2562.0	2642.1
45°	2312.3	2181.5	2113.2	2101.4	2114.9	2145.2	2232.1	2277.7	2347.7	2453.2	2539.2
47.5°	2168.9	2041.5	1976.5	1968.9	1982.4	2016.2	2112.3	2153.7	2227.9	2340.1	2432.9
50°	2023.8	1899.8	1837.3	1834.8	1847.5	1883.7	1975.7	2024.6	2101.4	2227.1	2322.4
52.5°	1877.0	1758.0	1701.5	1701.5	1713.3	1750.4	1843.2	1893.9	1973.2	2105.6	2211.0
55°	1730.2	1617.2	1563.2	1567.4	1584.3	1616.3	1706.6	1759.7	1839.9	1977.4	2088.7
57.5°	1583.4	1476.3	1427.4	1433.3	1449.3	1481.3	1569.9	1629.8	1702.4	1844.9	1958.8
60°	1438.3	1337.1	1294.1	1300.8	1315.2	1347.2	1439.2	1490.6	1563.2	1708.3	1822.2
62.5°	1291.5	1199.6	1159.1	1167.5	1180.2	1212.2	1299.1	1348.9	1420.6	1563.2	1677.9
65°	1146.4	1061.2	1026.6	1035.1	1046.9	1076.4	1158.2	1206.3	1274.7	1413.9	1523.5
67.5°	1003.0	925.4	896.7	905.2	914.5	942.3	1009.8	1062.1	1126.2	1258.6	1362.4
70°	861.3	792.1	766.8	775.3	783.7	809.0	868.1	916.1	975.2	1096.7	1192.8
72.5°	721.3	653.8	641.1	648.7	655.5	677.4	733.9	771.9	823.3	931.3	1014.0
75°	584.6	526.4	518.0	525.6	531.5	548.3	595.6	628.5	671.5	765.1	832.6
77.5°	453.0	404.1	400.7	406.6	412.5	424.3	461.4	496.0	529.8	598.9	658.8
80°	329.8	290.2	290.2	296.1	294.4	308.8	334.9	362.7	387.2	437.0	480.8
82.5°	217.6	186.4	190.7	194.9	197.4	203.3	219.3	240.4	255.6	286.0	314.7
85°	120.6	99.5	103.8	107.1	105.4	112.2	120.6	133.3	140.9	155.2	170.4
87.5°	44.7	37.1	38.0	40.5	42.2	45.6	45.6	53.1	54.0	55.7	59.1
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°	3859.4	3859.4	3859.4
2.5°	3767.5	3787.7	3802.9
5°	3702.5	3719.4	3732.9
7.5°	3639.2	3654.4	3666.2
10°	3579.4	3596.2	3604.7
12.5°	3517.8	3537.2	3543.9
15°	3457.0	3476.4	3484.9
17.5°	3394.6	3419.9	3429.2
20°	3336.4	3368.5	3376.0
22.5°	3277.3	3310.2	3319.5
25°	3213.2	3252.0	3261.3
27.5°	3144.9	3191.3	3200.6
30°	3076.6	3127.2	3136.5
32.5°	3003.2	3058.0	3066.4
35°	2926.4	2981.2	2991.4
37.5°	2841.2	2901.1	2921.4
40°	2752.6	2817.6	2838.7
42.5°	2659.8	2730.7	2752.6
45°	2560.3	2637.9	2663.2
47.5°	2459.9	2547.6	2569.6
50°	2351.1	2444.7	2470.9
52.5°	2237.2	2339.3	2365.4
55°	2119.1	2222.0	2250.7
57.5°	1990.9	2097.2	2127.5
60°	1856.7	1963.0	1991.7
62.5°	1719.2	1815.4	1843.2
65°	1565.7	1656.0	1681.3
67.5°	1402.9	1485.6	1506.7
70°	1230.0	1301.7	1320.2
72.5°	1049.4	1099.2	1123.7
75°	863.0	902.6	921.2
77.5°	675.7	703.6	718.7
80°	492.7	508.7	521.3
82.5°	322.3	329.0	338.3
85°	173.8	173.8	179.7
87.5°	59.1	56.5	59.1
90°	0.0	0.0	0.0

(END OF REPORT)