

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: P834643

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5LO-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834643
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-LD4-5LO-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

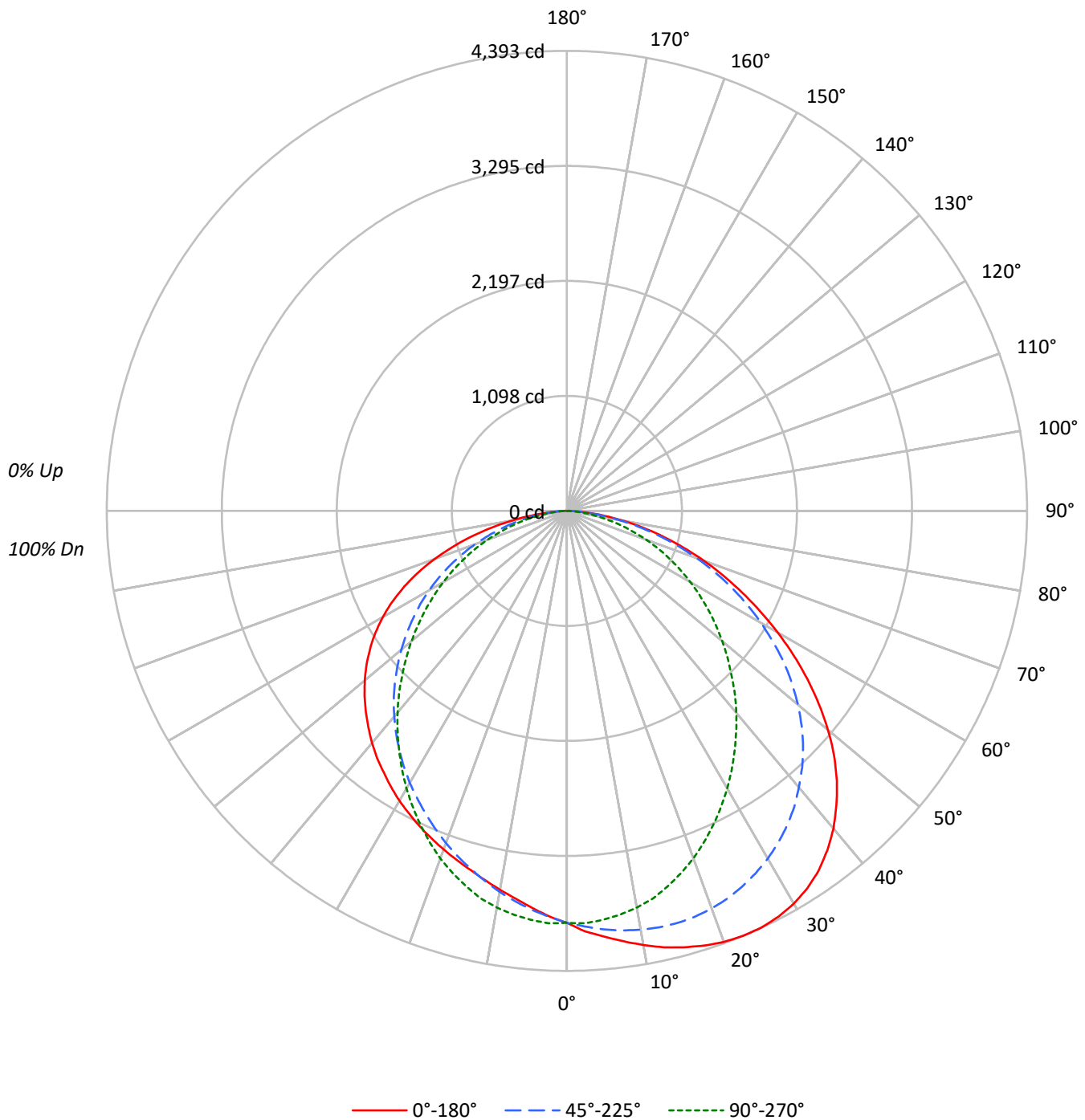
Lumens per Lamp: N/A
Luminaire Lumens: 11569.9 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 117
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°	5292	5292	5292
5°	5510	5295	5138
10°	5751	5255	5019
15°	6009	5171	4947
20°	6272	5057	4927
25°	6518	4910	4934
30°	6731	4756	4966
35°	6884	4587	5007
40°	6954	4417	5081
45°	6935	4231	5165
50°	6812	4053	5271
55°	6579	3866	5381
60°	6258	3667	5462
65°	5876	3443	5455
70°	5469	3176	5293
75°	4966	2789	4880
80°	4263	2291	4117
85°	3251	1565	2827

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.0	3.2
10°-20°	1077.3	9.3
20°-30°	1650.4	14.3
30°-40°	2014.1	17.4
40°-50°	2106.3	18.2
50°-60°	1906.3	16.5
60°-70°	1443.8	12.5
70°-80°	804.6	7.0
80°-90°	194.1	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°	3100.7	26.8
0°-40°	5114.8	44.2
0°-60°	9127.5	78.9
0°-90°	11569.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11569.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3933	3933	3933	3933	3933	
5°	4079	4012	3920	3824	3804	393
15°	4314	4074	3712	3540	3552	1224
25°	4391	3959	3307	3190	3324	2025
35°	4191	3666	2792	2789	3049	2617
45°	3644	3188	2223	2321	2714	2804
55°	2804	2532	1648	1793	2294	2502
65°	1846	1736	1082	1229	1714	1831
75°	955	902	536	640	939	1013
85°	211	186	101	136	183	253
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°	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3
2.5°	4020.1	4001.2	3985.7	3991.7	3995.2	3983.1	3972.8	3974.6	3964.2	3984.0	3937.6
5°	4079.4	4062.2	4044.2	4051.1	4044.2	4026.1	4011.5	4007.2	3979.7	3990.9	3943.6
7.5°	4145.6	4126.7	4100.1	4107.8	4093.2	4059.7	4040.8	4029.6	3987.4	3988.3	3935.9
10°	4209.3	4192.9	4156.8	4162.0	4135.3	4090.6	4060.5	4045.0	3985.7	3977.1	3923.0
12.5°	4268.6	4246.2	4207.5	4210.1	4171.4	4112.1	4073.4	4051.1	3973.7	3947.9	3894.6
15°	4314.1	4292.7	4246.2	4245.4	4195.5	4118.1	4074.3	4043.3	3945.3	3904.9	3849.0
17.5°	4352.8	4333.1	4275.5	4273.7	4213.6	4115.5	4063.1	4024.4	3904.1	3854.2	3792.3
20°	4380.3	4360.6	4296.1	4290.1	4217.9	4102.7	4039.9	3990.9	3849.9	3790.6	3721.8
22.5°	4393.2	4373.5	4300.4	4291.8	4207.5	4076.9	4006.4	3948.8	3788.0	3710.6	3639.3
25°	4390.7	4371.7	4289.2	4280.6	4187.8	4038.2	3959.1	3892.9	3709.8	3618.6	3548.1
27.5°	4369.2	4354.6	4267.7	4256.5	4151.7	3985.7	3901.5	3828.4	3622.9	3521.5	3445.0
30°	4332.2	4321.0	4229.0	4218.7	4107.0	3928.1	3834.4	3750.2	3529.2	3414.9	3337.5
32.5°	4272.9	4262.6	4169.7	4160.3	4046.8	3854.2	3756.2	3669.3	3426.9	3300.5	3223.1
35°	4191.2	4185.2	4094.9	4084.6	3969.4	3769.9	3665.9	3570.5	3320.3	3177.6	3103.6
37.5°	4083.7	4083.7	3996.9	3985.7	3873.1	3666.8	3564.5	3463.0	3199.9	3048.6	2975.5
40°	3959.1	3970.3	3881.7	3870.5	3761.3	3555.9	3444.1	3337.5	3070.1	2912.8	2841.4
42.5°	3809.5	3819.8	3745.9	3735.5	3633.2	3427.8	3323.7	3207.7	2934.3	2774.4	2700.4
45°	3644.4	3658.2	3592.0	3584.2	3488.8	3287.6	3187.9	3070.1	2792.4	2629.9	2557.7
47.5°	3460.4	3478.5	3420.9	3416.6	3328.0	3144.0	3040.0	2920.5	2643.7	2479.5	2411.6
50°	3254.1	3279.9	3232.6	3232.6	3153.5	2970.4	2880.1	2760.6	2488.9	2324.7	2257.7
52.5°	3033.1	3065.8	3030.6	3031.4	2966.9	2802.7	2709.0	2592.1	2327.3	2165.7	2103.8
55°	2804.5	2836.3	2813.9	2817.3	2766.6	2617.0	2531.9	2415.9	2162.2	2004.9	1946.4
57.5°	2565.4	2599.8	2585.2	2592.1	2556.8	2422.7	2334.2	2232.7	1992.0	1836.4	1786.5
60°	2325.6	2358.3	2350.5	2360.0	2337.6	2221.6	2140.7	2035.9	1820.9	1671.3	1627.5
62.5°	2083.1	2113.2	2111.5	2121.8	2109.8	2013.5	1941.3	1851.9	1643.8	1506.3	1465.8
65°	1845.8	1871.6	1869.9	1881.1	1878.5	1801.1	1735.8	1654.1	1466.7	1340.3	1305.1
67.5°	1615.4	1636.9	1630.9	1643.8	1647.3	1585.3	1528.6	1455.5	1298.2	1175.3	1145.2
70°	1390.2	1404.8	1397.1	1405.7	1413.4	1367.0	1318.8	1254.4	1118.5	1010.2	985.3
72.5°	1169.2	1179.6	1167.5	1176.1	1183.0	1149.5	1109.9	1054.0	941.4	847.7	827.1
75°	955.2	969.8	944.8	953.4	958.6	925.1	901.9	856.3	759.1	686.9	673.2
77.5°	748.0	756.6	742.8	739.4	742.8	718.7	700.7	665.4	592.4	533.0	524.4
80°	550.2	555.4	541.6	538.2	540.8	523.6	509.8	484.0	432.4	387.7	384.3
82.5°	368.8	371.4	359.4	355.9	357.6	352.5	336.2	318.1	294.0	256.2	255.3
85°	210.6	210.6	202.0	198.6	200.3	191.7	185.7	176.2	166.8	141.0	142.7
87.5°	77.4	77.4	73.1	72.2	80.8	71.4	68.8	64.5	67.1	53.3	56.7
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°	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3	3933.3
2.5°	3950.5	3941.9	3934.1	3907.5	3918.7	3891.2	3889.4	3879.1	3871.4	3856.8	3875.7
5°	3937.6	3920.4	3898.0	3866.2	3875.7	3843.0	3836.1	3824.1	3813.8	3794.9	3809.5
7.5°	3916.9	3888.6	3853.3	3812.9	3825.8	3785.4	3775.1	3762.2	3753.6	3731.2	3744.1
10°	3886.9	3846.5	3805.2	3756.2	3765.6	3721.8	3708.9	3695.1	3687.4	3667.6	3680.5
12.5°	3840.4	3791.4	3735.5	3682.2	3692.6	3651.3	3634.1	3619.5	3616.9	3600.6	3616.0
15°	3780.3	3712.3	3654.7	3598.0	3610.0	3561.9	3554.1	3539.5	3543.8	3532.6	3551.6
17.5°	3703.7	3625.5	3562.7	3501.7	3513.7	3473.3	3467.3	3460.4	3464.7	3463.0	3483.6
20°	3617.8	3531.8	3459.6	3399.4	3406.3	3374.5	3377.0	3375.3	3383.9	3393.4	3421.7
22.5°	3520.6	3423.5	3347.8	3285.9	3296.2	3268.7	3280.7	3284.2	3298.8	3320.3	3356.4
25°	3411.4	3307.4	3228.3	3169.8	3179.3	3161.2	3181.9	3190.5	3213.7	3249.8	3286.8
27.5°	3297.1	3187.0	3102.8	3046.9	3065.0	3046.9	3077.8	3095.0	3130.3	3169.8	3215.4
30°	3175.9	3061.5	2974.7	2924.8	2942.0	2925.7	2975.5	2998.8	3034.0	3088.2	3142.3
32.5°	3048.6	2928.3	2843.1	2804.5	2816.5	2813.9	2869.8	2895.6	2942.9	3004.8	3062.4
35°	2917.9	2792.4	2706.4	2673.8	2688.4	2691.8	2758.9	2789.0	2840.6	2915.4	2977.3
37.5°	2783.0	2654.9	2570.6	2544.0	2556.8	2569.7	2648.0	2678.1	2736.5	2818.2	2886.1
40°	2642.8	2514.7	2432.2	2410.7	2423.6	2437.3	2522.5	2563.7	2627.3	2715.9	2789.8
42.5°	2501.0	2372.9	2292.9	2277.4	2290.3	2317.0	2407.3	2445.9	2513.0	2611.0	2692.7
45°	2356.5	2223.3	2153.6	2141.6	2155.4	2186.3	2274.9	2321.3	2392.6	2500.1	2587.8
47.5°	2210.4	2080.6	2014.4	2006.6	2020.4	2054.8	2152.8	2194.9	2270.6	2384.9	2479.5
50°	2062.5	1936.1	1872.5	1869.9	1882.8	1919.8	2013.5	2063.4	2141.6	2269.7	2366.8
52.5°	1912.9	1791.7	1734.1	1734.1	1746.1	1783.9	1878.5	1930.1	2010.9	2145.9	2253.4
55°	1763.3	1648.1	1593.1	1597.4	1614.6	1647.3	1739.2	1793.4	1875.1	2015.2	2128.7
57.5°	1613.7	1504.5	1454.7	1460.7	1477.0	1509.7	1600.0	1661.0	1734.9	1880.2	1996.3
60°	1465.8	1362.7	1318.8	1325.7	1340.3	1373.0	1466.7	1519.2	1593.1	1741.0	1857.0
62.5°	1316.3	1222.5	1181.3	1189.9	1202.8	1235.4	1324.0	1374.7	1447.8	1593.1	1710.0
65°	1168.4	1081.5	1046.3	1054.9	1066.9	1097.0	1180.4	1229.4	1299.1	1440.9	1552.7
67.5°	1022.2	943.1	913.9	922.5	932.0	960.3	1029.1	1082.4	1147.7	1282.7	1388.5
70°	877.8	807.3	781.5	790.1	798.7	824.5	884.7	933.7	993.9	1117.7	1215.7
72.5°	735.1	666.3	653.4	661.1	668.0	690.4	748.0	786.7	839.1	949.1	1033.4
75°	595.8	536.5	527.9	535.6	541.6	558.8	607.0	640.5	684.3	779.8	848.6
77.5°	461.7	411.8	408.4	414.4	420.4	432.4	470.3	505.5	539.9	610.4	671.5
80°	336.2	295.7	295.7	301.8	300.0	314.7	341.3	369.7	394.6	445.3	490.0
82.5°	221.8	190.0	194.3	198.6	201.2	207.2	223.5	245.0	260.5	291.4	320.7
85°	122.9	101.4	105.7	109.2	107.5	114.3	122.9	135.8	143.6	158.2	173.7
87.5°	45.6	37.8	38.7	41.3	43.0	46.4	46.4	54.2	55.0	56.7	60.2
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°	3933.3	3933.3	3933.3
2.5°	3839.6	3860.2	3875.7
5°	3773.4	3790.6	3804.3
7.5°	3708.9	3724.4	3736.4
10°	3647.9	3665.0	3673.6
12.5°	3585.1	3604.9	3611.7
15°	3523.2	3543.0	3551.6
17.5°	3459.6	3485.4	3494.8
20°	3400.2	3432.9	3440.7
22.5°	3340.1	3373.6	3383.1
25°	3274.7	3314.3	3323.7
27.5°	3205.1	3252.4	3261.8
30°	3135.5	3187.0	3196.5
32.5°	3060.7	3116.5	3125.1
35°	2982.4	3038.3	3048.6
37.5°	2895.6	2956.6	2977.3
40°	2805.3	2871.5	2893.0
42.5°	2710.7	2783.0	2805.3
45°	2609.3	2688.4	2714.2
47.5°	2507.0	2596.4	2618.8
50°	2396.1	2491.5	2518.2
52.5°	2280.0	2384.0	2410.7
55°	2159.7	2264.5	2293.8
57.5°	2029.0	2137.3	2168.2
60°	1892.3	2000.6	2029.8
62.5°	1752.1	1850.1	1878.5
65°	1595.7	1687.7	1713.5
67.5°	1429.7	1514.0	1535.5
70°	1253.5	1326.6	1345.5
72.5°	1069.5	1120.2	1145.2
75°	879.5	919.9	938.8
77.5°	688.6	717.0	732.5
80°	502.1	518.4	531.3
82.5°	328.4	335.3	344.8
85°	177.1	177.1	183.1
87.5°	60.2	57.6	60.2
90°	0.0	0.0	0.0

(END OF REPORT)