

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: P834710

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834710
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-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

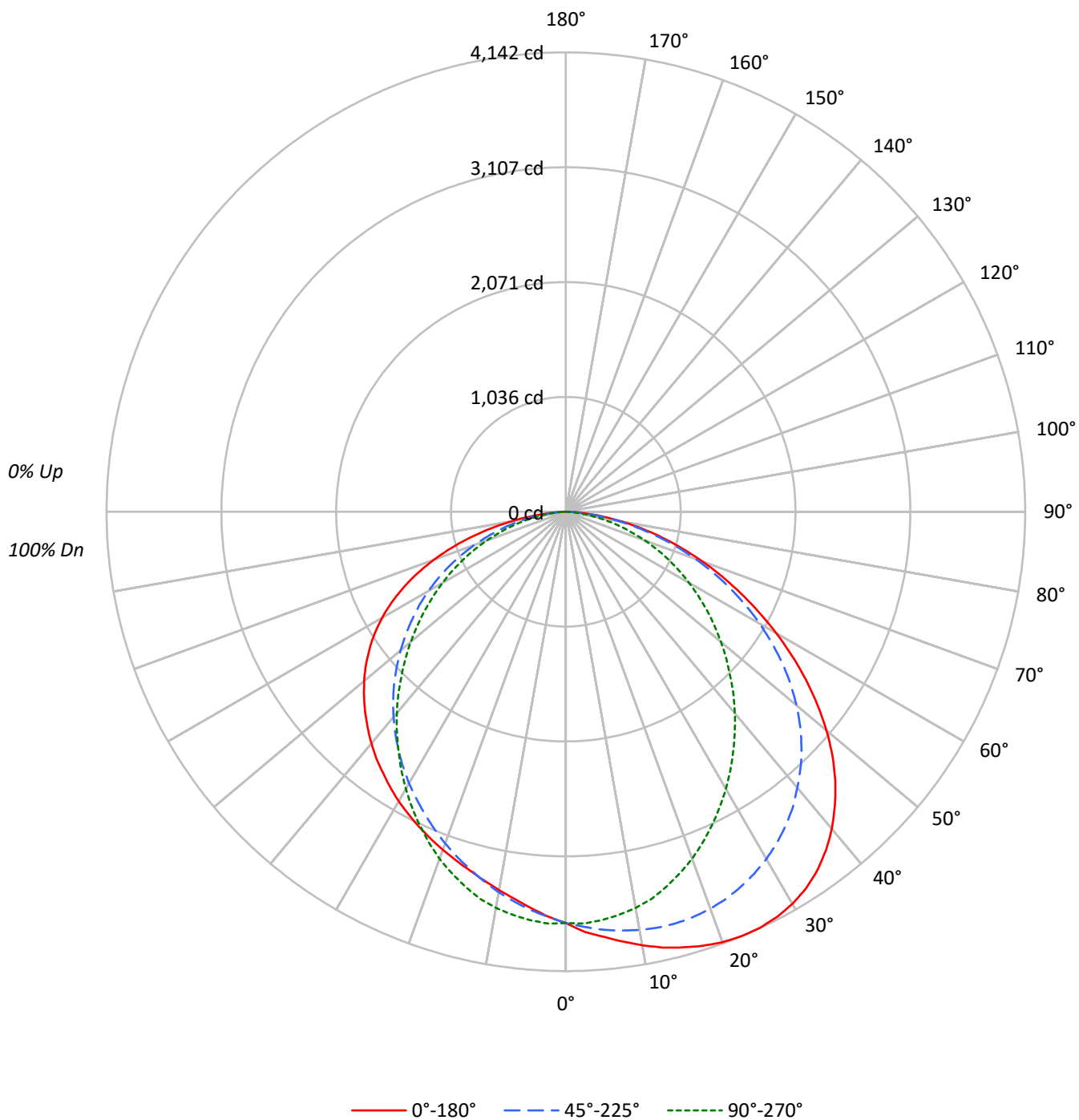
Lumens per Lamp: N/A
Luminaire Lumens: 10907.4 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	4989	4989	4989
5°	5194	4992	4844
10°	5422	4954	4732
15°	5665	4875	4664
20°	5913	4767	4644
25°	6145	4629	4652
30°	6345	4484	4682
35°	6490	4324	4721
40°	6556	4164	4790
45°	6537	3988	4869
50°	6422	3821	4969
55°	6202	3645	5073
60°	5900	3457	5149
65°	5540	3246	5143
70°	5156	2994	4990
75°	4681	2629	4601
80°	4019	2160	3881
85°	3066	1476	2665

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.7	3.2
10°-20°	1015.6	9.3
20°-30°	1555.9	14.3
30°-40°	1898.8	17.4
40°-50°	1985.7	18.2
50°-60°	1797.2	16.5
60°-70°	1361.1	12.5
70°-80°	758.5	7.0
80°-90°	183.0	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°	2923.2	26.8
0°-40°	4821.9	44.2
0°-60°	8604.8	78.9
0°-90°	10907.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10907.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3708	3708	3708	3708	3708	
5°	3846	3782	3696	3605	3586	371
15°	4067	3841	3500	3337	3348	1153
25°	4139	3732	3118	3008	3133	1909
35°	3951	3456	2632	2629	2874	2467
45°	3436	3005	2096	2188	2559	2643
55°	2644	2387	1554	1691	2162	2359
65°	1740	1636	1020	1159	1615	1726
75°	900	850	506	604	885	955
85°	199	175	96	128	173	239
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°	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1
2.5°	3789.9	3772.1	3757.5	3763.2	3766.4	3755.1	3745.4	3747.0	3737.3	3755.9	3712.1
5°	3845.9	3829.6	3812.6	3819.1	3812.6	3795.6	3781.8	3777.8	3751.8	3762.4	3717.8
7.5°	3908.3	3890.4	3865.3	3872.6	3858.8	3827.2	3809.4	3798.8	3759.1	3759.9	3710.5
10°	3968.2	3952.8	3918.8	3923.7	3898.5	3856.4	3828.0	3813.4	3757.5	3749.4	3698.3
12.5°	4024.2	4003.1	3966.6	3969.1	3932.6	3876.7	3840.2	3819.1	3746.2	3721.9	3671.6
15°	4067.1	4046.9	4003.1	4002.3	3955.3	3882.3	3841.0	3811.8	3719.4	3681.3	3628.6
17.5°	4103.6	4085.0	4030.7	4029.0	3972.3	3879.9	3830.5	3794.0	3680.5	3633.5	3575.1
20°	4129.5	4110.9	4050.1	4044.4	3976.4	3867.7	3808.6	3762.4	3629.5	3573.5	3508.7
22.5°	4141.7	4123.1	4054.2	4046.1	3966.6	3843.4	3777.0	3722.7	3571.1	3498.2	3430.9
25°	4139.3	4121.4	4043.6	4035.5	3948.0	3807.0	3732.4	3670.0	3497.3	3411.4	3345.0
27.5°	4119.0	4105.2	4023.4	4012.8	3913.9	3757.5	3678.1	3609.2	3415.5	3319.8	3247.7
30°	4084.1	4073.6	3986.9	3977.2	3871.8	3703.2	3614.9	3535.4	3327.1	3219.3	3146.4
32.5°	4028.2	4018.5	3931.0	3922.0	3815.1	3633.5	3541.1	3459.2	3230.7	3111.5	3038.6
35°	3951.2	3945.6	3860.4	3850.7	3742.1	3554.1	3456.0	3366.0	3130.2	2995.6	2925.9
37.5°	3849.9	3849.9	3768.0	3757.5	3651.3	3456.8	3360.4	3264.7	3016.7	2874.1	2805.2
40°	3732.4	3742.9	3659.4	3648.9	3546.0	3352.3	3246.9	3146.4	2894.3	2746.0	2678.7
42.5°	3591.4	3601.1	3531.4	3521.7	3425.2	3231.5	3133.4	3024.0	2766.3	2615.5	2545.8
45°	3435.7	3448.7	3386.3	3379.0	3289.0	3099.4	3005.4	2894.3	2632.5	2479.3	2411.3
47.5°	3262.3	3279.3	3225.0	3221.0	3137.5	2964.0	2866.0	2753.3	2492.3	2337.5	2273.5
50°	3067.8	3092.1	3047.5	3047.5	2972.9	2800.3	2715.2	2602.5	2346.4	2191.6	2128.4
52.5°	2859.5	2890.3	2857.0	2857.8	2797.1	2642.3	2553.9	2443.7	2194.0	2041.7	1983.3
55°	2643.9	2673.9	2652.8	2656.0	2608.2	2467.2	2386.9	2277.5	2038.4	1890.1	1835.0
57.5°	2418.6	2451.0	2437.2	2443.7	2410.4	2284.0	2200.5	2104.9	1877.9	1731.2	1684.2
60°	2192.4	2223.2	2215.9	2224.8	2203.8	2094.4	2018.2	1919.3	1716.7	1575.6	1534.3
62.5°	1963.9	1992.2	1990.6	2000.3	1989.0	1898.2	1830.1	1745.8	1549.7	1420.0	1381.9
65°	1740.2	1764.5	1762.9	1773.4	1771.0	1698.0	1636.4	1559.4	1382.7	1263.6	1230.4
67.5°	1522.9	1543.2	1537.5	1549.7	1552.9	1494.6	1441.1	1372.2	1223.9	1108.0	1079.6
70°	1310.6	1324.4	1317.1	1325.2	1332.5	1288.7	1243.3	1182.5	1054.5	952.3	928.8
72.5°	1102.3	1112.0	1100.7	1108.8	1115.3	1083.6	1046.4	993.7	887.5	799.2	779.7
75°	900.5	914.3	890.7	898.9	903.7	872.1	850.2	807.3	715.7	647.6	634.6
77.5°	705.1	713.2	700.3	697.0	700.3	677.6	660.6	627.3	558.4	502.5	494.4
80°	518.7	523.6	510.6	507.4	509.8	493.6	480.6	456.3	407.7	365.5	362.3
82.5°	347.7	350.1	338.8	335.6	337.2	332.3	316.9	299.9	277.2	241.5	240.7
85°	198.6	198.6	190.5	187.2	188.8	180.7	175.1	166.2	157.2	132.9	134.5
87.5°	72.9	72.9	68.9	68.1	76.2	67.3	64.8	60.8	63.2	50.3	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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1	3708.1
2.5°	3724.3	3716.2	3708.9	3683.8	3694.3	3668.4	3666.7	3657.0	3649.7	3635.9	3653.8
5°	3712.1	3695.9	3674.8	3644.9	3653.8	3623.0	3616.5	3605.1	3595.4	3577.6	3591.4
7.5°	3692.7	3665.9	3632.7	3594.6	3606.8	3568.7	3558.9	3546.8	3538.7	3517.6	3529.8
10°	3664.3	3626.2	3587.3	3541.1	3550.0	3508.7	3496.5	3483.6	3476.3	3457.6	3469.8
12.5°	3620.5	3574.3	3521.7	3471.4	3481.1	3442.2	3426.0	3412.2	3409.8	3394.4	3409.0
15°	3563.8	3499.8	3445.5	3392.0	3403.3	3357.9	3350.6	3336.9	3340.9	3330.4	3348.2
17.5°	3491.7	3417.9	3358.7	3301.2	3312.5	3274.5	3268.8	3262.3	3266.3	3264.7	3284.2
20°	3410.6	3329.6	3261.5	3204.7	3211.2	3181.2	3183.7	3182.1	3190.2	3199.1	3225.8
22.5°	3319.0	3227.4	3156.1	3097.8	3107.5	3081.5	3092.9	3096.1	3109.9	3130.2	3164.2
25°	3216.1	3118.0	3043.5	2988.3	2997.3	2980.2	2999.7	3007.8	3029.7	3063.7	3098.6
27.5°	3108.3	3004.6	2925.1	2872.4	2889.5	2872.4	2901.6	2917.8	2951.1	2988.3	3031.3
30°	2994.0	2886.2	2804.4	2757.3	2773.6	2758.2	2805.2	2827.1	2860.3	2911.3	2962.4
32.5°	2874.1	2760.6	2680.3	2643.9	2655.2	2652.8	2705.5	2729.8	2774.4	2832.7	2887.0
35°	2750.9	2632.5	2551.5	2520.7	2534.5	2537.7	2600.9	2629.3	2677.9	2748.4	2806.8
37.5°	2623.6	2502.8	2423.4	2398.3	2410.4	2422.6	2496.4	2524.7	2579.8	2656.8	2720.9
40°	2491.5	2370.7	2292.9	2272.7	2284.8	2297.8	2378.0	2416.9	2476.9	2560.4	2630.1
42.5°	2357.8	2237.0	2161.6	2147.0	2159.2	2184.3	2269.4	2305.9	2369.1	2461.5	2538.5
45°	2221.6	2096.0	2030.3	2019.0	2031.9	2061.1	2144.6	2188.4	2255.6	2357.0	2439.6
47.5°	2083.8	1961.4	1899.0	1891.7	1904.7	1937.1	2029.5	2069.2	2140.6	2248.3	2337.5
50°	1944.4	1825.3	1765.3	1762.9	1775.0	1809.9	1898.2	1945.2	2019.0	2139.7	2231.3
52.5°	1803.4	1689.1	1634.8	1634.8	1646.1	1681.8	1771.0	1819.6	1895.8	2023.0	2124.3
55°	1662.4	1553.7	1501.9	1505.9	1522.1	1552.9	1639.7	1690.7	1767.7	1899.8	2006.8
57.5°	1521.3	1418.4	1371.4	1377.1	1392.5	1423.3	1508.4	1565.9	1635.6	1772.6	1882.0
60°	1381.9	1284.7	1243.3	1249.8	1263.6	1294.4	1382.7	1432.2	1501.9	1641.3	1750.7
62.5°	1240.9	1152.5	1113.6	1121.7	1133.9	1164.7	1248.2	1296.0	1364.9	1501.9	1612.1
65°	1101.5	1019.6	986.4	994.5	1005.8	1034.2	1112.8	1159.0	1224.7	1358.4	1463.8
67.5°	963.7	889.1	861.6	869.7	878.6	905.3	970.2	1020.4	1082.0	1209.3	1309.0
70°	827.5	761.1	736.8	744.9	753.0	777.3	834.0	880.2	936.9	1053.7	1146.1
72.5°	693.0	628.1	616.0	623.3	629.8	650.8	705.1	741.6	791.1	894.8	974.2
75°	561.7	505.8	497.7	504.9	510.6	526.8	572.2	603.8	645.2	735.1	800.0
77.5°	435.2	388.2	385.0	390.7	396.3	407.7	443.3	476.6	509.0	575.5	633.0
80°	316.9	278.8	278.8	284.5	282.9	296.6	321.8	348.5	372.0	419.8	462.0
82.5°	209.1	179.1	183.2	187.2	189.7	195.3	210.7	231.0	245.6	274.8	302.3
85°	115.9	95.6	99.7	102.9	101.3	107.8	115.9	128.1	135.4	149.1	163.7
87.5°	43.0	35.7	36.5	38.9	40.5	43.8	43.8	51.1	51.9	53.5	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):

	160°	170°	180°
0°	3708.1	3708.1	3708.1
2.5°	3619.7	3639.2	3653.8
5°	3557.3	3573.5	3586.5
7.5°	3496.5	3511.1	3522.5
10°	3439.0	3455.2	3463.3
12.5°	3379.8	3398.5	3404.9
15°	3321.5	3340.1	3348.2
17.5°	3261.5	3285.8	3294.7
20°	3205.6	3236.4	3243.7
22.5°	3148.8	3180.4	3189.3
25°	3087.2	3124.5	3133.4
27.5°	3021.6	3066.2	3075.1
30°	2955.9	3004.6	3013.5
32.5°	2885.4	2938.1	2946.2
35°	2811.7	2864.3	2874.1
37.5°	2729.8	2787.3	2806.8
40°	2644.7	2707.1	2727.4
42.5°	2555.5	2623.6	2644.7
45°	2459.9	2534.5	2558.8
47.5°	2363.4	2447.7	2468.8
50°	2258.9	2348.9	2374.0
52.5°	2149.5	2247.5	2272.7
55°	2036.0	2134.9	2162.4
57.5°	1912.8	2014.9	2044.1
60°	1783.9	1886.1	1913.6
62.5°	1651.8	1744.2	1771.0
65°	1504.3	1591.0	1615.3
67.5°	1347.9	1427.3	1447.6
70°	1181.7	1250.6	1268.4
72.5°	1008.3	1056.1	1079.6
75°	829.1	867.2	885.1
77.5°	649.2	676.0	690.6
80°	473.3	488.7	500.9
82.5°	309.6	316.1	325.0
85°	167.0	167.0	172.6
87.5°	56.7	54.3	56.7
90°	0.0	0.0	0.0

(END OF REPORT)