

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: P834641

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834641
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-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

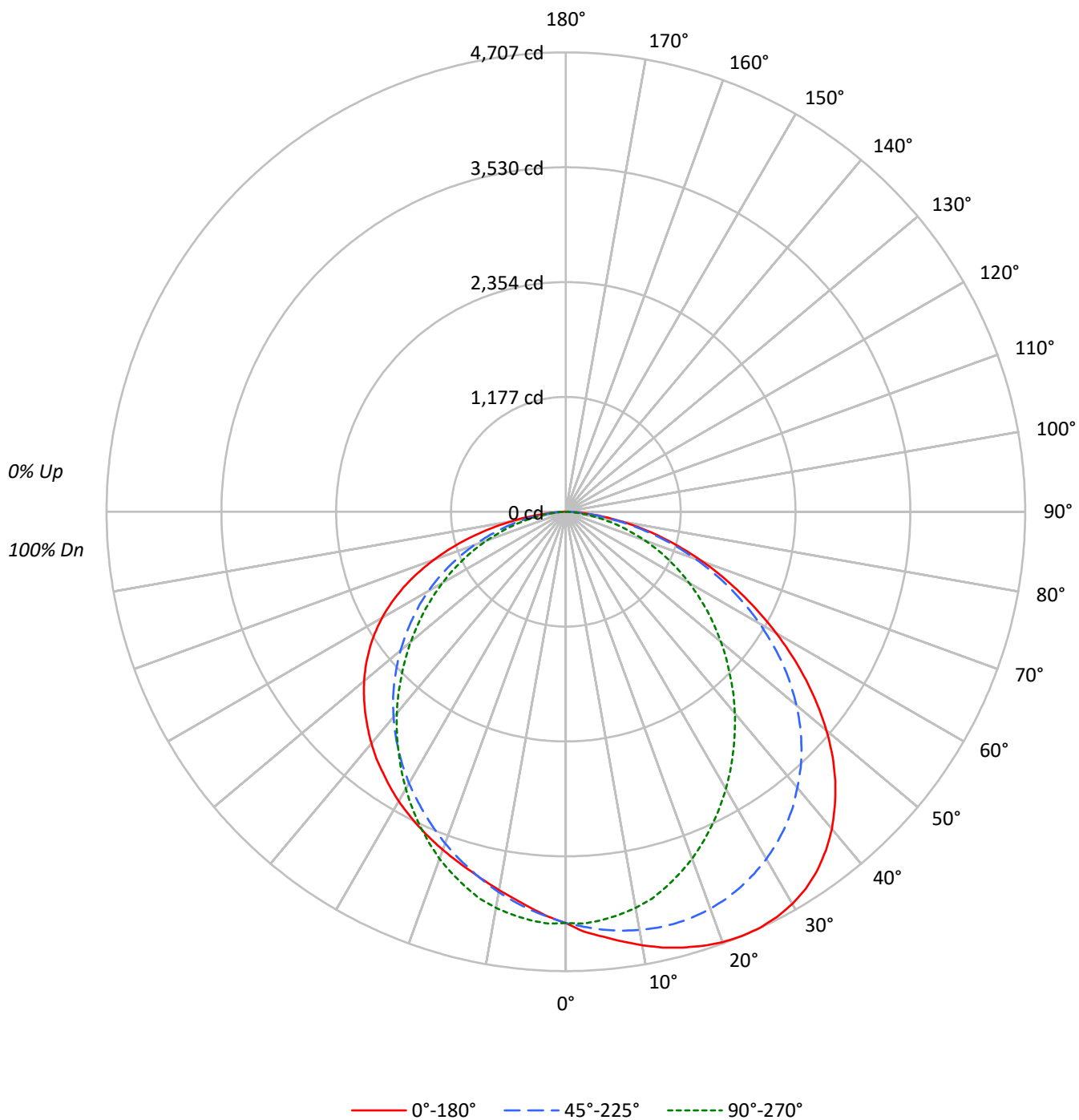
Lumens per Lamp: N/A
Luminaire Lumens: 12395.8 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	5670	5670	5670
5°	5903	5673	5505
10°	6161	5630	5377
15°	6438	5540	5300
20°	6720	5418	5278
25°	6984	5261	5287
30°	7211	5096	5321
35°	7376	4914	5365
40°	7450	4732	5444
45°	7430	4532	5533
50°	7298	4342	5647
55°	7048	4142	5765
60°	6705	3929	5852
65°	6296	3689	5845
70°	5859	3402	5671
75°	5320	2988	5229
80°	4568	2455	4410
85°	3484	1678	3029

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	399.7	3.2
10°-20°	1154.2	9.3
20°-30°	1768.2	14.3
30°-40°	2157.9	17.4
40°-50°	2256.7	18.2
50°-60°	2042.4	16.5
60°-70°	1546.8	12.5
70°-80°	862.0	7.0
80°-90°	207.9	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°	3322.1	26.8
0°-40°	5479.9	44.2
0°-60°	9779.0	78.9
0°-90°	12395.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12395.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	4214	4214	4214	4214	4214	
5°	4371	4298	4200	4097	4076	421
15°	4622	4365	3977	3792	3805	1311
25°	4704	4242	3544	3418	3561	2170
35°	4490	3928	2992	2988	3266	2804
45°	3905	3416	2382	2487	2908	3004
55°	3005	2713	1766	1921	2458	2681
65°	1978	1860	1159	1317	1836	1962
75°	1023	966	575	686	1006	1085
85°	226	199	109	146	196	272
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°	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1
2.5°	4307.1	4286.8	4270.2	4276.7	4280.4	4267.5	4256.4	4258.3	4247.2	4268.4	4218.7
5°	4370.6	4352.2	4332.9	4340.2	4332.9	4313.5	4297.9	4293.3	4263.8	4275.8	4225.1
7.5°	4441.6	4421.3	4392.7	4401.0	4385.4	4349.5	4329.2	4317.2	4272.1	4273.0	4216.8
10°	4509.7	4492.2	4453.5	4459.1	4430.5	4382.6	4350.4	4333.8	4270.2	4261.0	4203.0
12.5°	4573.3	4549.3	4507.9	4510.6	4469.2	4405.6	4364.2	4340.2	4257.3	4229.7	4172.6
15°	4622.1	4599.1	4549.3	4548.4	4495.0	4412.1	4365.1	4332.0	4226.9	4183.7	4123.8
17.5°	4663.6	4642.4	4580.7	4578.8	4514.3	4409.3	4353.1	4311.7	4182.7	4129.3	4063.0
20°	4693.0	4671.8	4602.8	4596.3	4518.9	4395.5	4328.3	4275.8	4124.7	4061.1	3987.5
22.5°	4706.8	4685.7	4607.4	4598.2	4507.9	4367.9	4292.3	4230.6	4058.4	3975.5	3899.0
25°	4704.1	4683.8	4595.4	4586.2	4486.7	4326.4	4241.7	4170.8	3974.6	3876.9	3801.4
27.5°	4681.1	4665.4	4572.4	4560.4	4448.0	4270.2	4180.0	4101.7	3881.5	3772.8	3690.9
30°	4641.4	4629.5	4530.9	4519.9	4400.1	4208.5	4108.1	4017.9	3781.1	3658.6	3575.7
32.5°	4577.9	4566.8	4467.4	4457.2	4335.6	4129.3	4024.3	3931.3	3671.5	3536.1	3453.2
35°	4490.4	4483.9	4387.2	4376.2	4252.7	4039.0	3927.6	3825.3	3557.3	3404.4	3325.2
37.5°	4375.2	4375.2	4282.2	4270.2	4149.6	3928.5	3818.9	3710.2	3428.4	3266.2	3187.9
40°	4241.7	4253.7	4158.8	4146.8	4029.8	3809.7	3689.9	3575.7	3289.3	3120.7	3044.3
42.5°	4081.4	4092.5	4013.3	4002.2	3892.6	3672.4	3561.0	3436.6	3143.7	2972.4	2893.2
45°	3904.6	3919.3	3848.4	3840.1	3737.8	3522.3	3415.5	3289.3	2991.7	2817.7	2740.3
47.5°	3707.4	3726.8	3665.1	3660.5	3565.6	3368.5	3257.0	3129.0	2832.4	2656.5	2583.7
50°	3486.4	3514.0	3463.4	3463.4	3378.6	3182.4	3085.7	2957.7	2666.6	2490.7	2418.8
52.5°	3249.7	3284.7	3246.9	3247.8	3178.7	3002.8	2902.4	2777.1	2493.4	2320.3	2253.9
55°	3004.6	3038.7	3014.8	3018.5	2964.1	2803.8	2712.7	2588.3	2316.6	2148.0	2085.4
57.5°	2748.6	2785.4	2769.8	2777.1	2739.4	2595.7	2500.8	2392.1	2134.2	1967.5	1914.1
60°	2491.6	2526.6	2518.3	2528.4	2504.5	2380.1	2293.6	2181.2	1950.9	1790.6	1743.7
62.5°	2231.8	2264.1	2262.2	2273.3	2260.4	2157.2	2079.9	1984.1	1761.2	1613.8	1570.5
65°	1977.6	2005.2	2003.4	2015.4	2012.6	1929.7	1859.7	1772.2	1571.4	1436.0	1398.2
67.5°	1730.8	1753.8	1747.3	1761.2	1764.8	1698.5	1637.7	1559.4	1390.9	1259.1	1226.9
70°	1489.4	1505.1	1496.8	1506.0	1514.3	1464.6	1413.0	1343.9	1198.4	1082.3	1055.6
72.5°	1252.7	1263.8	1250.9	1260.1	1267.4	1231.5	1189.1	1129.3	1008.6	908.2	886.1
75°	1023.3	1039.0	1012.3	1021.5	1027.0	991.1	966.2	917.4	813.3	736.0	721.2
77.5°	801.4	810.6	795.8	792.1	795.8	770.0	750.7	712.9	634.6	571.1	561.9
80°	589.5	595.0	580.3	576.6	579.4	561.0	546.2	518.6	463.3	415.4	411.7
82.5°	395.2	397.9	385.0	381.3	383.2	377.7	360.2	340.8	315.0	274.5	273.6
85°	225.7	225.7	216.5	212.8	214.6	205.4	199.0	188.8	178.7	151.1	152.9
87.5°	82.9	82.9	78.3	77.4	86.6	76.5	73.7	69.1	71.8	57.1	60.8
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°	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1	4214.1
2.5°	4232.5	4223.3	4215.0	4186.4	4198.4	4168.9	4167.1	4156.0	4147.7	4132.1	4152.3
5°	4218.7	4200.2	4176.3	4142.2	4152.3	4117.3	4110.0	4097.1	4086.0	4065.8	4081.4
7.5°	4196.6	4166.2	4128.4	4085.1	4098.9	4055.6	4044.6	4030.8	4021.5	3997.6	4011.4
10°	4164.3	4121.0	4076.8	4024.3	4034.4	3987.5	3973.6	3958.9	3950.6	3929.4	3943.2
12.5°	4114.6	4062.1	4002.2	3945.1	3956.1	3911.9	3893.5	3877.9	3875.1	3857.6	3874.2
15°	4050.1	3977.3	3915.6	3854.8	3867.7	3816.1	3807.8	3792.2	3796.8	3784.8	3805.1
17.5°	3968.1	3884.3	3817.1	3751.7	3764.6	3721.3	3714.8	3707.4	3712.1	3710.2	3732.3
20°	3876.0	3783.9	3706.5	3642.0	3649.4	3615.3	3618.1	3616.3	3625.5	3635.6	3666.0
22.5°	3771.9	3667.8	3586.8	3520.5	3531.5	3502.0	3514.9	3518.6	3534.3	3557.3	3596.0
25°	3654.9	3543.5	3458.7	3396.1	3406.2	3386.9	3409.0	3418.2	3443.1	3481.8	3521.4
27.5°	3532.4	3414.5	3324.3	3264.4	3283.7	3264.4	3297.6	3316.0	3353.7	3396.1	3444.9
30°	3402.6	3280.1	3187.0	3133.6	3152.0	3134.5	3187.9	3212.8	3250.6	3308.6	3366.6
32.5°	3266.2	3137.3	3046.1	3004.6	3017.5	3014.8	3074.6	3102.3	3152.9	3219.3	3281.0
35°	3126.2	2991.7	2899.6	2864.6	2880.3	2884.0	2955.8	2988.1	3043.3	3123.5	3189.8
37.5°	2981.6	2844.4	2754.1	2725.5	2739.4	2753.2	2837.0	2869.2	2931.9	3019.4	3092.1
40°	2831.5	2694.2	2605.8	2582.8	2596.6	2611.3	2702.5	2746.7	2814.9	2909.8	2989.0
42.5°	2679.5	2542.2	2456.6	2440.0	2453.8	2482.4	2579.1	2620.5	2692.4	2797.4	2884.9
45°	2524.7	2382.0	2307.4	2294.5	2309.2	2342.4	2437.2	2487.0	2563.4	2678.6	2772.5
47.5°	2368.2	2229.1	2158.1	2149.9	2164.6	2201.4	2306.4	2351.6	2432.6	2555.1	2656.5
50°	2209.7	2074.3	2006.2	2003.4	2017.2	2056.8	2157.2	2210.7	2294.5	2431.7	2535.8
52.5°	2049.5	1919.6	1857.9	1857.9	1870.8	1911.3	2012.6	2067.9	2154.5	2299.1	2414.2
55°	1889.2	1765.8	1706.8	1711.4	1729.8	1764.8	1863.4	1921.4	2008.9	2159.1	2280.7
57.5°	1728.9	1611.9	1558.5	1565.0	1582.5	1617.5	1714.2	1779.6	1858.8	2014.5	2138.8
60°	1570.5	1460.0	1413.0	1420.3	1436.0	1471.0	1571.4	1627.6	1706.8	1865.2	1989.6
62.5°	1410.2	1309.8	1265.6	1274.8	1288.6	1323.6	1418.5	1472.8	1551.1	1706.8	1832.1
65°	1251.8	1158.7	1121.0	1130.2	1143.1	1175.3	1264.7	1317.2	1391.8	1543.8	1663.5
67.5°	1095.2	1010.5	979.1	988.3	998.5	1028.9	1102.6	1159.7	1229.7	1374.3	1487.6
70°	940.4	864.9	837.3	846.5	855.7	883.3	947.8	1000.3	1064.8	1197.4	1302.4
72.5°	787.5	713.9	700.0	708.3	715.7	739.6	801.4	842.8	899.0	1016.9	1107.2
75°	638.3	574.8	565.6	573.8	580.3	598.7	650.3	686.2	733.2	835.4	909.1
77.5°	494.6	441.2	437.5	444.0	450.4	463.3	503.8	541.6	578.5	654.0	719.4
80°	360.2	316.9	316.9	323.3	321.5	337.1	365.7	396.1	422.8	477.1	525.0
82.5°	237.6	203.6	208.2	212.8	215.5	222.0	239.5	262.5	279.1	312.3	343.6
85°	131.7	108.7	113.3	117.0	115.1	122.5	131.7	145.5	153.8	169.5	186.1
87.5°	48.8	40.5	41.4	44.2	46.1	49.7	49.7	58.0	59.0	60.8	64.5
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°	4214.1	4214.1	4214.1
2.5°	4113.7	4135.8	4152.3
5°	4042.7	4061.1	4075.9
7.5°	3973.6	3990.2	4003.1
10°	3908.2	3926.7	3935.9
12.5°	3841.0	3862.2	3869.6
15°	3774.7	3795.9	3805.1
17.5°	3706.5	3734.2	3744.3
20°	3643.0	3678.0	3686.3
22.5°	3578.5	3614.4	3624.5
25°	3508.5	3550.9	3561.0
27.5°	3433.9	3484.5	3494.7
30°	3359.3	3414.5	3424.7
32.5°	3279.1	3339.0	3348.2
35°	3195.3	3255.2	3266.2
37.5°	3102.3	3167.7	3189.8
40°	3005.6	3076.5	3099.5
42.5°	2904.2	2981.6	3005.6
45°	2795.6	2880.3	2907.9
47.5°	2685.9	2781.7	2805.7
50°	2567.1	2669.4	2697.9
52.5°	2442.8	2554.2	2582.8
55°	2313.8	2426.2	2457.5
57.5°	2173.8	2289.9	2323.0
60°	2027.4	2143.4	2174.7
62.5°	1877.2	1982.2	2012.6
65°	1709.6	1808.1	1835.8
67.5°	1531.8	1622.1	1645.1
70°	1343.0	1421.3	1441.5
72.5°	1145.9	1200.2	1226.9
75°	942.3	985.6	1005.8
77.5°	737.8	768.2	784.8
80°	537.9	555.4	569.2
82.5°	351.9	359.2	369.4
85°	189.7	189.7	196.2
87.5°	64.5	61.7	64.5
90°	0.0	0.0	0.0

(END OF REPORT)