

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: P835350

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-6HI-40-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835350
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-6HI-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

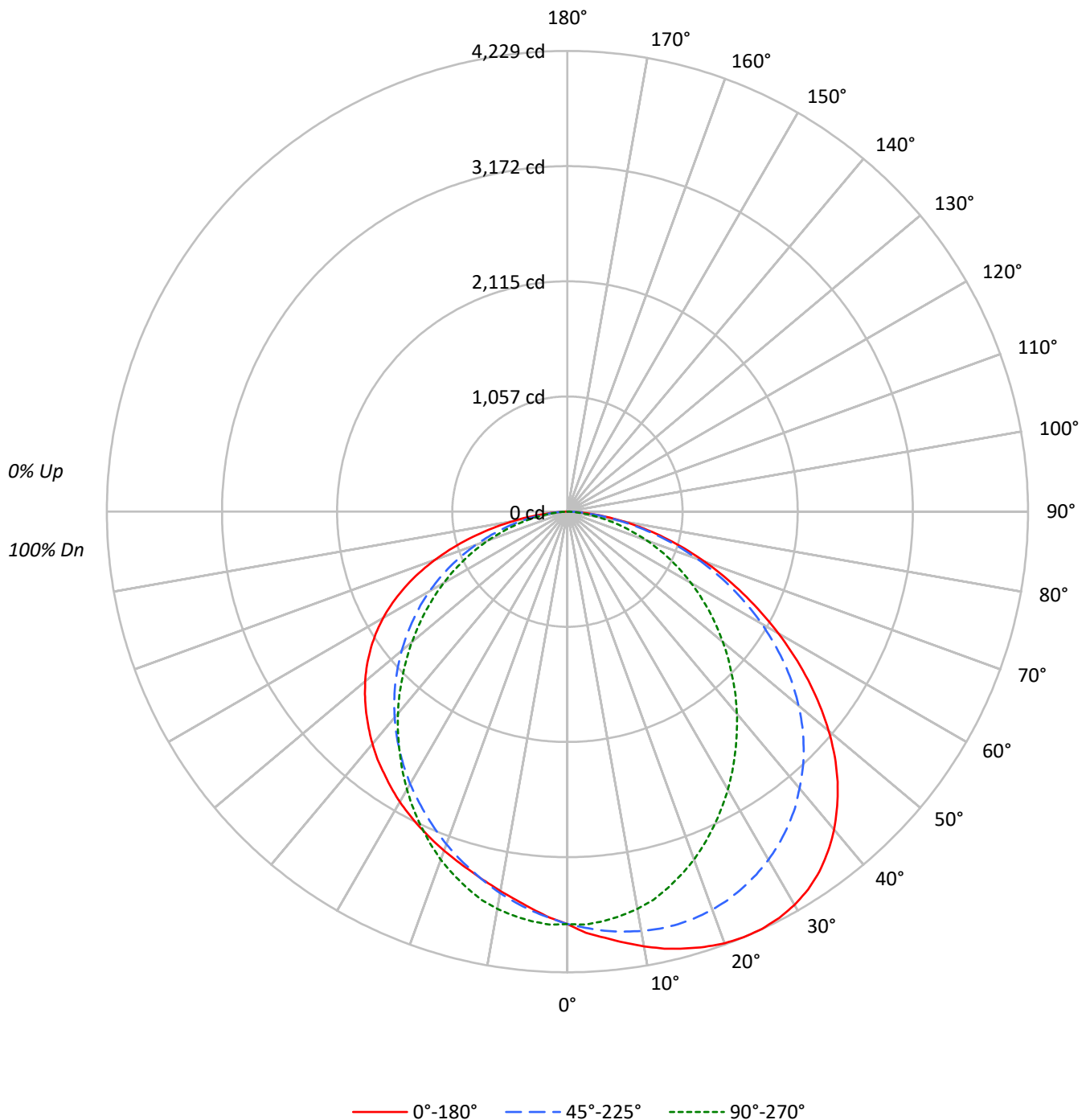
Lumens per Lamp: N/A
Luminaire Lumens: 11136.4 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 132
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°	10188	10188	10188
5°	10607	10193	9891
10°	11071	10117	9662
15°	11568	9955	9524
20°	12074	9735	9484
25°	12548	9452	9499
30°	12957	9157	9560
35°	13253	8830	9640
40°	13386	8503	9782
45°	13350	8144	9942
50°	13113	7802	10147
55°	12664	7443	10358
60°	12047	7059	10515
65°	11313	6628	10502
70°	10528	6113	10190
75°	9559	5369	9396
80°	8207	4412	7925
85°	6258	3013	5443

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.1	3.2
10°-20°	1036.9	9.3
20°-30°	1588.6	14.3
30°-40°	1938.6	17.4
40°-50°	2027.4	18.2
50°-60°	1834.9	16.5
60°-70°	1389.7	12.5
70°-80°	774.4	7.0
80°-90°	186.8	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°	2984.5	26.8
0°-40°	4923.2	44.2
0°-60°	8785.5	78.9
0°-90°	11136.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11136.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3786	3786	3786	3786	3786	
5°	3927	3861	3774	3681	3662	379
15°	4152	3922	3573	3407	3418	1178
25°	4226	3811	3184	3071	3199	1950
35°	4034	3529	2688	2684	2934	2519
45°	3508	3068	2140	2234	2612	2699
55°	2699	2437	1586	1726	2208	2409
65°	1777	1671	1041	1183	1649	1762
75°	919	868	516	616	904	975
85°	203	179	98	131	176	244
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°	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9
2.5°	3869.5	3851.3	3836.4	3842.2	3845.5	3833.9	3824.0	3825.6	3815.7	3834.7	3790.1
5°	3926.6	3910.0	3892.7	3899.3	3892.7	3875.3	3861.2	3857.1	3830.6	3841.4	3795.8
7.5°	3990.3	3972.1	3946.5	3953.9	3939.8	3907.6	3889.4	3878.6	3838.1	3838.9	3788.4
10°	4051.6	4035.8	4001.1	4006.0	3980.4	3937.4	3908.4	3893.5	3836.4	3828.1	3776.0
12.5°	4108.7	4087.1	4049.9	4052.4	4015.1	3958.0	3920.8	3899.3	3824.8	3800.0	3748.7
15°	4152.5	4131.8	4087.1	4086.3	4038.3	3963.8	3921.6	3891.8	3797.5	3758.6	3704.8
17.5°	4189.7	4170.7	4115.3	4113.6	4055.7	3961.4	3910.9	3873.6	3757.8	3709.8	3650.2
20°	4216.2	4197.2	4135.1	4129.3	4059.8	3948.9	3888.5	3841.4	3705.6	3648.5	3582.3
22.5°	4228.6	4209.6	4139.3	4131.0	4049.9	3924.1	3856.3	3800.8	3646.1	3571.6	3502.9
25°	4226.2	4208.0	4128.5	4120.2	4030.9	3886.9	3810.7	3747.0	3570.8	3483.0	3415.2
27.5°	4205.5	4191.4	4107.8	4097.1	3996.1	3836.4	3755.3	3685.0	3487.2	3389.5	3315.9
30°	4169.9	4159.1	4070.6	4060.7	3953.1	3781.0	3690.8	3609.7	3397.0	3286.9	3212.4
32.5°	4112.8	4102.9	4013.5	4004.4	3895.2	3709.8	3615.4	3531.9	3298.5	3176.9	3102.4
35°	4034.2	4028.4	3941.5	3931.6	3820.7	3628.7	3528.6	3436.7	3195.9	3058.5	2987.4
37.5°	3930.7	3930.7	3847.2	3836.4	3728.0	3529.4	3430.9	3333.3	3080.0	2934.4	2864.1
40°	3810.7	3821.5	3736.3	3725.5	3620.4	3422.6	3315.1	3212.4	2955.1	2803.6	2735.0
42.5°	3666.8	3676.7	3605.5	3595.6	3497.1	3299.3	3199.2	3087.5	2824.3	2670.4	2599.2
45°	3507.9	3521.1	3457.4	3449.9	3358.1	3164.4	3068.5	2955.1	2687.8	2531.4	2461.9
47.5°	3330.8	3348.2	3292.7	3288.6	3203.3	3026.3	2926.1	2811.1	2544.6	2386.6	2321.2
50°	3132.2	3157.0	3111.5	3111.5	3035.4	2859.1	2772.2	2657.2	2395.7	2237.6	2173.1
52.5°	2919.5	2950.9	2917.0	2917.8	2855.8	2697.7	2607.5	2495.0	2240.1	2084.5	2024.9
55°	2699.4	2730.0	2708.5	2711.8	2663.0	2519.0	2437.1	2325.3	2081.2	1929.8	1873.5
57.5°	2469.3	2502.4	2488.4	2495.0	2461.1	2332.0	2246.7	2149.1	1917.4	1767.6	1719.6
60°	2238.4	2269.9	2262.4	2271.6	2250.0	2138.3	2060.5	1959.6	1752.7	1608.7	1566.5
62.5°	2005.1	2034.1	2032.4	2042.3	2030.7	1938.1	1868.5	1782.5	1582.2	1449.8	1410.9
65°	1776.7	1801.5	1799.9	1810.6	1808.1	1733.7	1670.8	1592.2	1411.8	1290.1	1256.2
67.5°	1554.9	1575.6	1569.8	1582.2	1585.5	1526.0	1471.3	1401.0	1249.6	1131.2	1102.3
70°	1338.1	1352.2	1344.7	1353.0	1360.4	1315.8	1269.4	1207.4	1076.6	972.3	948.3
72.5°	1125.4	1135.4	1123.8	1132.1	1138.7	1106.4	1068.3	1014.5	906.1	815.9	796.1
75°	919.4	933.4	909.4	917.7	922.7	890.4	868.1	824.2	730.7	661.2	648.0
77.5°	719.9	728.2	715.0	711.7	715.0	691.8	674.4	640.5	570.2	513.1	504.8
80°	529.6	534.6	521.3	518.0	520.5	504.0	490.7	465.9	416.2	373.2	369.9
82.5°	355.0	357.5	345.9	342.6	344.2	339.3	323.6	306.2	283.0	246.6	245.8
85°	202.7	202.7	194.5	191.2	192.8	184.5	178.7	169.6	160.5	135.7	137.4
87.5°	74.5	74.5	70.3	69.5	77.8	68.7	66.2	62.1	64.5	51.3	54.6
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°	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9	3785.9
2.5°	3802.5	3794.2	3786.7	3761.1	3771.8	3745.4	3743.7	3733.8	3726.3	3712.3	3730.5
5°	3790.1	3773.5	3752.0	3721.4	3730.5	3699.0	3692.4	3680.8	3670.9	3652.7	3666.8
7.5°	3770.2	3742.9	3709.0	3670.1	3682.5	3643.6	3633.7	3621.2	3613.0	3591.4	3603.9
10°	3741.2	3702.3	3662.6	3615.4	3624.6	3582.3	3569.9	3556.7	3549.2	3530.2	3542.6
12.5°	3696.5	3649.4	3595.6	3544.3	3554.2	3514.5	3497.9	3483.9	3481.4	3465.7	3480.6
15°	3638.6	3573.2	3517.8	3463.2	3474.8	3428.4	3421.0	3406.9	3411.0	3400.3	3418.5
17.5°	3565.0	3489.7	3429.3	3370.5	3382.1	3343.2	3337.4	3330.8	3334.9	3333.3	3353.1
20°	3482.2	3399.5	3330.0	3272.0	3278.6	3248.0	3250.5	3248.9	3257.1	3266.2	3293.5
22.5°	3388.7	3295.2	3222.4	3162.8	3172.7	3146.2	3157.8	3161.1	3175.2	3195.9	3230.6
25°	3283.6	3183.5	3107.3	3051.1	3060.2	3042.8	3062.7	3070.9	3093.3	3128.0	3163.6
27.5°	3173.6	3067.6	2986.5	2932.7	2950.1	2932.7	2962.5	2979.1	3013.0	3051.1	3094.9
30°	3056.9	2946.8	2863.2	2815.2	2831.8	2816.1	2864.1	2886.4	2920.3	2972.5	3024.6
32.5°	2934.4	2818.5	2736.6	2699.4	2711.0	2708.5	2762.3	2787.1	2832.6	2892.2	2947.6
35°	2808.6	2687.8	2605.0	2573.6	2587.7	2591.0	2655.5	2684.5	2734.1	2806.1	2865.7
37.5°	2678.7	2555.4	2474.3	2448.6	2461.1	2473.5	2548.8	2577.7	2634.0	2712.6	2778.0
40°	2543.8	2420.5	2341.1	2320.4	2332.8	2346.0	2428.0	2467.7	2528.9	2614.1	2685.3
42.5°	2407.3	2284.0	2207.0	2192.1	2204.5	2230.2	2317.1	2354.3	2418.8	2513.2	2591.8
45°	2268.2	2140.0	2072.9	2061.4	2074.6	2104.4	2189.6	2234.3	2303.0	2406.4	2490.8
47.5°	2127.6	2002.6	1938.9	1931.4	1944.7	1977.8	2072.1	2112.7	2185.5	2295.5	2386.6
50°	1985.2	1863.6	1802.3	1799.9	1812.3	1847.9	1938.1	1986.1	2061.4	2184.7	2278.2
52.5°	1841.2	1724.6	1669.1	1669.1	1680.7	1717.1	1808.1	1857.8	1935.6	2065.5	2168.9
55°	1697.2	1586.4	1533.4	1537.5	1554.1	1585.5	1674.1	1726.2	1804.8	1939.7	2048.9
57.5°	1553.3	1448.2	1400.2	1406.0	1421.7	1453.1	1540.0	1598.8	1669.9	1809.8	1921.5
60°	1410.9	1311.6	1269.4	1276.0	1290.1	1321.6	1411.8	1462.2	1533.4	1675.7	1787.4
62.5°	1266.9	1176.7	1137.0	1145.3	1157.7	1189.2	1274.4	1323.2	1393.5	1533.4	1645.9
65°	1124.6	1041.0	1007.1	1015.4	1027.0	1055.9	1136.2	1183.4	1250.4	1386.9	1494.5
67.5°	983.9	907.8	879.7	887.9	897.0	924.3	990.5	1041.9	1104.7	1234.7	1336.4
70°	844.9	777.0	752.2	760.5	768.8	793.6	851.5	898.7	956.6	1075.8	1170.1
72.5°	707.5	641.3	628.9	636.4	643.0	664.5	719.9	757.2	807.7	913.6	994.7
75°	573.5	516.4	508.1	515.5	521.3	537.9	584.2	616.5	658.7	750.6	816.8
77.5°	444.4	396.4	393.1	398.9	404.7	416.2	452.7	486.6	519.7	587.5	646.3
80°	323.6	284.7	284.7	290.5	288.8	302.9	328.5	355.8	379.8	428.7	471.7
82.5°	213.5	182.9	187.0	191.2	193.6	199.4	215.2	235.8	250.7	280.5	308.7
85°	118.3	97.6	101.8	105.1	103.4	110.1	118.3	130.7	138.2	152.3	167.2
87.5°	43.9	36.4	37.2	39.7	41.4	44.7	44.7	52.1	53.0	54.6	57.9
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°	3785.9	3785.9	3785.9
2.5°	3695.7	3715.6	3730.5
5°	3632.0	3648.5	3661.8
7.5°	3569.9	3584.8	3596.4
10°	3511.2	3527.7	3536.0
12.5°	3450.8	3469.8	3476.4
15°	3391.2	3410.2	3418.5
17.5°	3330.0	3354.8	3363.9
20°	3272.9	3304.3	3311.7
22.5°	3214.9	3247.2	3256.3
25°	3152.0	3190.1	3199.2
27.5°	3085.0	3130.5	3139.6
30°	3018.0	3067.6	3076.7
32.5°	2946.0	2999.8	3008.0
35°	2870.7	2924.5	2934.4
37.5°	2787.1	2845.9	2865.7
40°	2700.2	2763.9	2784.6
42.5°	2609.2	2678.7	2700.2
45°	2511.5	2587.7	2612.5
47.5°	2413.1	2499.1	2520.6
50°	2306.3	2398.2	2423.8
52.5°	2194.6	2294.7	2320.4
55°	2078.7	2179.7	2207.8
57.5°	1953.0	2057.2	2087.0
60°	1821.4	1925.6	1953.8
62.5°	1686.5	1780.8	1808.1
65°	1535.9	1624.4	1649.3
67.5°	1376.2	1457.3	1478.0
70°	1206.5	1276.9	1295.1
72.5°	1029.4	1078.3	1102.3
75°	846.6	885.4	903.7
77.5°	662.8	690.2	705.0
80°	483.3	499.0	511.4
82.5°	316.1	322.7	331.8
85°	170.5	170.5	176.3
87.5°	57.9	55.4	57.9
90°	0.0	0.0	0.0

(END OF REPORT)