

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: P835158

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-2HI-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835158
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-LD4-2HI-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

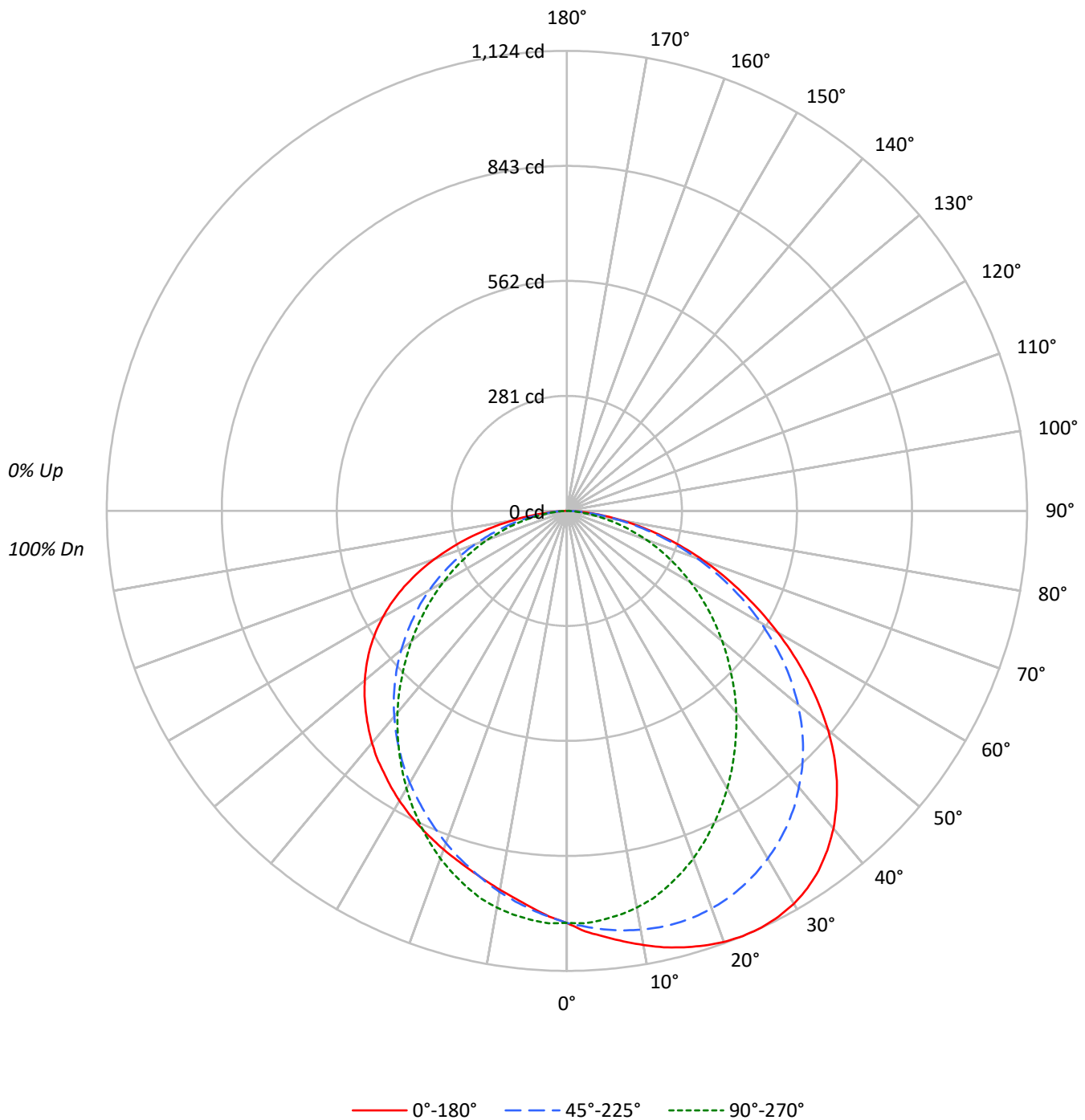
Lumens per Lamp: N/A
Luminaire Lumens: 2960.7 lumens
Efficiency: N/A
Efficacy: 67.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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°	2708	2708	2708
5°	2820	2710	2630
10°	2943	2690	2569
15°	3076	2647	2532
20°	3210	2588	2521
25°	3336	2513	2525
30°	3445	2434	2542
35°	3523	2348	2563
40°	3559	2261	2601
45°	3549	2165	2643
50°	3486	2074	2698
55°	3367	1978	2754
60°	3203	1877	2795
65°	3007	1762	2792
70°	2799	1626	2709
75°	2541	1428	2497
80°	2182	1173	2108
85°	1664	803	1448



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.5	3.2
10°-20°	275.7	9.3
20°-30°	422.3	14.3
30°-40°	515.4	17.4
40°-50°	539.0	18.2
50°-60°	487.8	16.5
60°-70°	369.4	12.5
70°-80°	205.9	7.0
80°-90°	49.7	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°	793.5	26.8
0°-40°	1308.9	44.2
0°-60°	2335.7	78.9
0°-90°	2960.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2960.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1006	1006	1006	1006	1006	
5°	1044	1026	1003	979	974	101
15°	1104	1043	950	906	909	313
25°	1124	1013	846	816	850	518
35°	1072	938	715	714	780	670
45°	933	816	569	594	694	718
55°	718	648	422	459	587	640
65°	472	444	277	315	438	469
75°	244	231	137	164	240	259
85°	54	48	26	35	47	65
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°	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5
2.5°	1028.7	1023.9	1019.9	1021.5	1022.4	1019.3	1016.6	1017.1	1014.4	1019.5	1007.6
5°	1043.9	1039.5	1034.9	1036.7	1034.9	1030.3	1026.5	1025.4	1018.4	1021.3	1009.2
7.5°	1060.9	1056.0	1049.2	1051.2	1047.4	1038.9	1034.0	1031.2	1020.4	1020.6	1007.2
10°	1077.1	1073.0	1063.7	1065.0	1058.2	1046.8	1039.1	1035.1	1019.9	1017.7	1003.9
12.5°	1092.3	1086.6	1076.7	1077.4	1067.5	1052.3	1042.4	1036.7	1016.9	1010.3	996.6
15°	1104.0	1098.5	1086.6	1086.4	1073.6	1053.8	1042.6	1034.7	1009.6	999.3	985.0
17.5°	1113.9	1108.8	1094.1	1093.6	1078.2	1053.2	1039.7	1029.8	999.0	986.3	970.4
20°	1120.9	1115.9	1099.4	1097.8	1079.3	1049.9	1033.8	1021.3	985.2	970.0	952.4
22.5°	1124.2	1119.2	1100.5	1098.3	1076.7	1043.3	1025.2	1010.5	969.3	949.5	931.3
25°	1123.6	1118.7	1097.6	1095.4	1071.6	1033.4	1013.1	996.2	949.3	926.0	908.0
27.5°	1118.1	1114.3	1092.1	1089.2	1062.4	1019.9	998.4	979.7	927.1	901.1	881.6
30°	1108.6	1105.7	1082.2	1079.6	1051.0	1005.2	981.2	959.7	903.1	873.9	854.1
32.5°	1093.4	1090.8	1067.0	1064.6	1035.6	986.3	961.2	939.0	876.9	844.6	824.8
35°	1072.5	1071.0	1047.9	1045.2	1015.8	964.7	938.1	913.7	849.7	813.1	794.2
37.5°	1045.0	1045.0	1022.8	1019.9	991.1	938.3	912.1	886.2	818.9	780.1	761.4
40°	1013.1	1016.0	993.3	990.5	962.5	909.9	881.3	854.1	785.6	745.4	727.1
42.5°	974.8	977.5	958.6	955.9	929.7	877.2	850.5	820.8	750.9	709.9	691.0
45°	932.6	936.1	919.2	917.2	892.8	841.3	815.8	785.6	714.6	673.0	654.5
47.5°	885.5	890.1	875.4	874.3	851.6	804.6	777.9	747.4	676.5	634.5	617.1
50°	832.7	839.3	827.2	827.2	807.0	760.1	737.0	706.4	636.9	594.9	577.7
52.5°	776.2	784.5	775.5	775.7	759.2	717.2	693.2	663.3	595.5	554.2	538.3
55°	717.6	725.8	720.1	720.9	708.0	669.7	647.9	618.2	553.3	513.0	498.1
57.5°	656.5	665.3	661.5	663.3	654.3	620.0	597.3	571.3	509.7	469.9	457.2
60°	595.1	603.5	601.5	603.9	598.2	568.5	547.8	521.0	466.0	427.7	416.5
62.5°	533.1	540.8	540.3	543.0	539.9	515.2	496.8	473.9	420.6	385.4	375.1
65°	472.3	478.9	478.5	481.4	480.7	460.9	444.2	423.3	375.3	343.0	334.0
67.5°	413.4	418.9	417.3	420.6	421.5	405.7	391.2	372.5	332.2	300.7	293.0
70°	355.7	359.5	357.5	359.7	361.7	349.8	337.5	321.0	286.2	258.5	252.1
72.5°	299.2	301.8	298.8	301.0	302.7	294.1	284.0	269.7	240.9	216.9	211.6
75°	244.4	248.2	241.8	244.0	245.3	236.7	230.8	219.1	194.3	175.8	172.3
77.5°	191.4	193.6	190.1	189.2	190.1	183.9	179.3	170.3	151.6	136.4	134.2
80°	140.8	142.1	138.6	137.7	138.4	134.0	130.5	123.9	110.7	99.2	98.3
82.5°	94.4	95.0	92.0	91.1	91.5	90.2	86.0	81.4	75.2	65.6	65.3
85°	53.9	53.9	51.7	50.8	51.3	49.1	47.5	45.1	42.7	36.1	36.5
87.5°	19.8	19.8	18.7	18.5	20.7	18.3	17.6	16.5	17.2	13.6	14.5
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°	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5	1006.5
2.5°	1010.9	1008.7	1006.7	999.9	1002.8	995.7	995.3	992.7	990.7	986.9	991.8
5°	1007.6	1003.2	997.5	989.4	991.8	983.4	981.7	978.6	975.9	971.1	974.8
7.5°	1002.3	995.1	986.1	975.7	979.0	968.7	966.0	962.7	960.5	954.8	958.1
10°	994.6	984.3	973.7	961.2	963.6	952.4	949.1	945.6	943.6	938.5	941.8
12.5°	982.8	970.2	955.9	942.3	944.9	934.4	930.0	926.2	925.6	921.4	925.3
15°	967.4	950.0	935.2	920.7	923.8	911.5	909.5	905.8	906.9	904.0	908.8
17.5°	947.8	927.8	911.7	896.1	899.2	888.8	887.3	885.5	886.6	886.2	891.5
20°	925.8	903.8	885.3	869.9	871.7	863.5	864.2	863.7	865.9	868.4	875.6
22.5°	900.9	876.1	856.7	840.9	843.5	836.5	839.5	840.4	844.2	849.7	858.9
25°	873.0	846.4	826.1	811.2	813.6	809.0	814.2	816.4	822.4	831.6	841.1
27.5°	843.7	815.6	794.0	779.7	784.3	779.7	787.6	792.0	801.0	811.2	822.8
30°	812.7	783.4	761.2	748.5	752.9	748.7	761.4	767.4	776.4	790.3	804.1
32.5°	780.1	749.3	727.5	717.6	720.7	720.1	734.4	741.0	753.1	768.9	783.7
35°	746.7	714.6	692.6	684.2	687.9	688.8	706.0	713.7	726.9	746.0	761.9
37.5°	712.1	679.4	657.8	651.0	654.3	657.6	677.6	685.3	700.3	721.2	738.5
40°	676.3	643.5	622.4	616.9	620.2	623.7	645.5	656.0	672.3	695.0	713.9
42.5°	640.0	607.2	586.7	582.8	586.1	592.9	616.0	625.9	643.1	668.1	689.0
45°	603.0	568.9	551.1	548.0	551.5	559.5	582.1	594.0	612.3	639.8	662.2
47.5°	565.6	532.4	515.5	513.5	517.0	525.8	550.9	561.7	581.0	610.3	634.5
50°	527.8	495.4	479.2	478.5	481.8	491.3	515.2	528.0	548.0	580.8	605.7
52.5°	489.5	458.5	443.7	443.7	446.8	456.5	480.7	493.9	514.6	549.1	576.6
55°	451.2	421.7	407.7	408.8	413.2	421.5	445.1	458.9	479.8	515.7	544.7
57.5°	412.9	385.0	372.2	373.8	378.0	386.3	409.4	425.0	444.0	481.1	510.8
60°	375.1	348.7	337.5	339.2	343.0	351.3	375.3	388.7	407.7	445.5	475.2
62.5°	336.8	312.8	302.3	304.5	307.8	316.1	338.8	351.8	370.5	407.7	437.6
65°	299.0	276.8	267.7	269.9	273.0	280.7	302.1	314.6	332.4	368.7	397.3
67.5°	261.6	241.3	233.9	236.1	238.5	245.7	263.3	277.0	293.7	328.2	355.3
70°	224.6	206.6	200.0	202.2	204.4	211.0	226.4	238.9	254.3	286.0	311.1
72.5°	188.1	170.5	167.2	169.2	170.9	176.7	191.4	201.3	214.7	242.9	264.4
75°	152.5	137.3	135.1	137.1	138.6	143.0	155.3	163.9	175.1	199.5	217.1
77.5°	118.1	105.4	104.5	106.0	107.6	110.7	120.3	129.4	138.2	156.2	171.8
80°	86.0	75.7	75.7	77.2	76.8	80.5	87.3	94.6	101.0	114.0	125.4
82.5°	56.8	48.6	49.7	50.8	51.5	53.0	57.2	62.7	66.7	74.6	82.1
85°	31.5	26.0	27.1	27.9	27.5	29.3	31.5	34.8	36.7	40.5	44.4
87.5°	11.7	9.7	9.9	10.6	11.0	11.9	11.9	13.9	14.1	14.5	15.4
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°	1006.5	1006.5	1006.5
2.5°	982.5	987.8	991.8
5°	965.6	970.0	973.5
7.5°	949.1	953.1	956.1
10°	933.5	937.9	940.1
12.5°	917.4	922.5	924.2
15°	901.6	906.6	908.8
17.5°	885.3	891.9	894.3
20°	870.1	878.5	880.5
22.5°	854.7	863.3	865.7
25°	838.0	848.1	850.5
27.5°	820.2	832.3	834.7
30°	802.4	815.6	818.0
32.5°	783.2	797.5	799.7
35°	763.2	777.5	780.1
37.5°	741.0	756.6	761.9
40°	717.9	734.8	740.3
42.5°	693.7	712.1	717.9
45°	667.7	687.9	694.5
47.5°	641.5	664.4	670.1
50°	613.1	637.6	644.4
52.5°	583.4	610.1	616.9
55°	552.6	579.5	587.0
57.5°	519.2	546.9	554.8
60°	484.2	511.9	519.4
62.5°	448.4	473.4	480.7
65°	408.3	431.9	438.5
67.5°	365.9	387.4	392.9
70°	320.8	339.5	344.3
72.5°	273.7	286.7	293.0
75°	225.1	235.4	240.2
77.5°	176.2	183.5	187.4
80°	128.5	132.7	136.0
82.5°	84.0	85.8	88.2
85°	45.3	45.3	46.9
87.5°	15.4	14.7	15.4
90°	0.0	0.0	0.0

(END OF REPORT)