

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: P835337

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835337
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-LD4-2STD-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

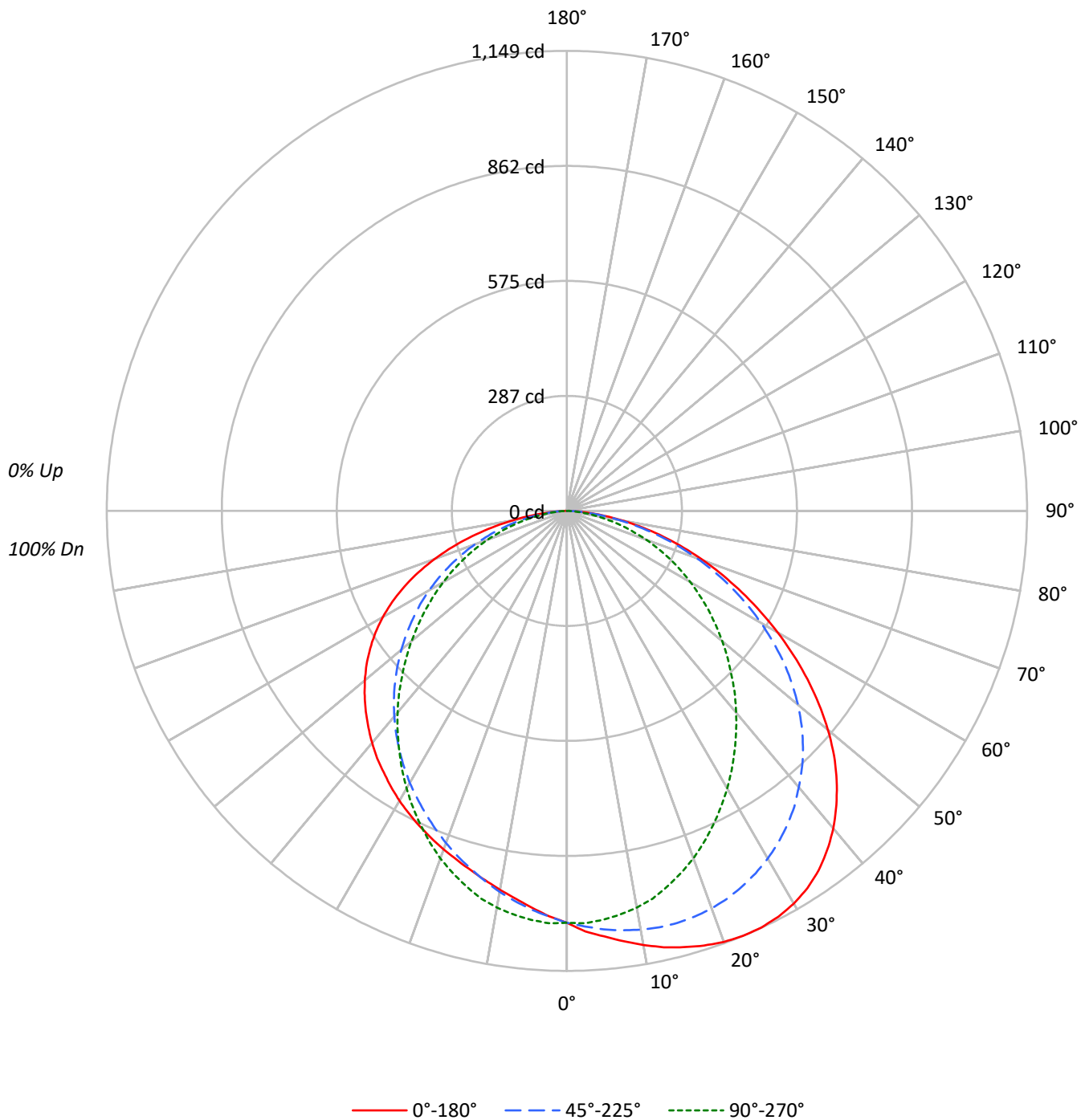
Lumens per Lamp: N/A
Luminaire Lumens: 3025.6 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2768	2768	2768
5°	2882	2769	2687
10°	3008	2749	2625
15°	3143	2705	2588
20°	3280	2645	2577
25°	3409	2568	2581
30°	3520	2488	2597
35°	3600	2399	2619
40°	3637	2310	2657
45°	3627	2213	2701
50°	3563	2120	2757
55°	3441	2022	2814
60°	3273	1918	2857
65°	3074	1801	2853
70°	2860	1661	2769
75°	2597	1459	2552
80°	2230	1198	2152
85°	1701	818	1479



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.6	3.2
10°-20°	281.7	9.3
20°-30°	431.6	14.3
30°-40°	526.7	17.4
40°-50°	550.8	18.2
50°-60°	498.5	16.5
60°-70°	377.5	12.5
70°-80°	210.4	7.0
80°-90°	50.8	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°	810.9	26.8
0°-40°	1337.6	44.2
0°-60°	2386.9	78.9
0°-90°	3025.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3025.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1029	1029	1029	1029	1029	
5°	1067	1049	1025	1000	995	103
15°	1128	1066	971	926	929	320
25°	1148	1035	865	834	869	530
35°	1096	959	730	729	797	684
45°	953	834	581	607	710	733
55°	733	662	431	469	600	654
65°	483	454	283	322	448	479
75°	250	236	140	168	246	265
85°	55	49	26	36	48	66
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°	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6
2.5°	1051.3	1046.3	1042.3	1043.9	1044.8	1041.6	1038.9	1039.4	1036.7	1041.8	1029.7
5°	1066.8	1062.3	1057.6	1059.4	1057.6	1052.9	1049.0	1047.9	1040.7	1043.6	1031.3
7.5°	1084.1	1079.2	1072.2	1074.2	1070.4	1061.6	1056.7	1053.8	1042.7	1043.0	1029.3
10°	1100.8	1096.5	1087.0	1088.4	1081.4	1069.7	1061.9	1057.8	1042.3	1040.0	1025.9
12.5°	1116.3	1110.4	1100.3	1101.0	1090.9	1075.3	1065.2	1059.4	1039.1	1032.4	1018.5
15°	1128.2	1122.6	1110.4	1110.2	1097.2	1076.9	1065.5	1057.4	1031.7	1021.2	1006.5
17.5°	1138.3	1133.1	1118.1	1117.6	1101.9	1076.2	1062.5	1052.4	1020.9	1007.9	991.7
20°	1145.5	1140.3	1123.5	1121.9	1103.0	1072.9	1056.5	1043.6	1006.8	991.3	973.3
22.5°	1148.9	1143.7	1124.6	1122.3	1100.3	1066.1	1047.7	1032.6	990.6	970.4	951.7
25°	1148.2	1143.2	1121.7	1119.4	1095.1	1056.0	1035.3	1018.0	970.1	946.3	927.9
27.5°	1142.6	1138.7	1116.0	1113.1	1085.7	1042.3	1020.3	1001.2	947.4	920.9	900.9
30°	1132.9	1130.0	1105.9	1103.2	1074.0	1027.2	1002.7	980.7	922.9	893.0	872.8
32.5°	1117.4	1114.7	1090.4	1087.9	1058.3	1007.9	982.3	959.6	896.2	863.1	842.9
35°	1096.0	1094.5	1070.9	1068.2	1038.0	985.9	958.7	933.7	868.3	831.0	811.6
37.5°	1067.9	1067.9	1045.2	1042.3	1012.8	958.9	932.1	905.6	836.8	797.2	778.1
40°	1035.3	1038.3	1015.1	1012.2	983.6	929.9	900.7	872.8	802.9	761.7	743.1
42.5°	996.2	998.9	979.6	976.9	950.1	896.4	869.2	838.8	767.3	725.5	706.2
45°	953.0	956.6	939.3	937.3	912.3	859.7	833.7	802.9	730.2	687.7	668.9
47.5°	904.9	909.6	894.6	893.5	870.3	822.2	795.0	763.7	691.3	648.4	630.6
50°	851.0	857.7	845.3	845.3	824.7	776.8	753.2	721.9	650.9	607.9	590.4
52.5°	793.2	801.7	792.5	792.7	775.9	732.9	708.4	677.9	608.6	566.3	550.2
55°	733.4	741.7	735.9	736.8	723.5	684.4	662.1	631.8	565.4	524.3	509.0
57.5°	670.9	679.9	676.1	677.9	668.6	633.6	610.4	583.9	520.9	480.2	467.2
60°	608.2	616.7	614.7	617.1	611.3	581.0	559.8	532.4	476.2	437.1	425.6
62.5°	544.8	552.6	552.2	554.9	551.7	526.5	507.7	484.3	429.9	393.9	383.3
65°	482.7	489.4	489.0	491.9	491.2	471.0	453.9	432.6	383.6	350.5	341.3
67.5°	422.4	428.1	426.5	429.9	430.8	414.6	399.7	380.6	339.5	307.3	299.5
70°	363.5	367.4	365.3	367.6	369.6	357.5	344.9	328.0	292.5	264.2	257.7
72.5°	305.8	308.5	305.3	307.6	309.4	300.6	290.3	275.6	246.2	221.7	216.3
75°	249.8	253.6	247.1	249.3	250.7	241.9	235.8	223.9	198.5	179.6	176.0
77.5°	195.6	197.8	194.3	193.4	194.3	188.0	183.2	174.0	154.9	139.4	137.1
80°	143.9	145.2	141.6	140.7	141.4	136.9	133.3	126.6	113.1	101.4	100.5
82.5°	96.5	97.1	94.0	93.1	93.5	92.2	87.9	83.2	76.9	67.0	66.8
85°	55.1	55.1	52.8	51.9	52.4	50.1	48.6	46.1	43.6	36.9	37.3
87.5°	20.2	20.2	19.1	18.9	21.1	18.7	18.0	16.9	17.5	13.9	14.8
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°	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6	1028.6
2.5°	1033.1	1030.8	1028.8	1021.8	1024.8	1017.6	1017.1	1014.4	1012.4	1008.6	1013.5
5°	1029.7	1025.2	1019.4	1011.0	1013.5	1005.0	1003.2	1000.0	997.3	992.4	996.2
7.5°	1024.3	1016.9	1007.7	997.1	1000.5	989.9	987.2	983.8	981.6	975.7	979.1
10°	1016.4	1005.9	995.1	982.3	984.7	973.3	969.9	966.3	964.3	959.1	962.5
12.5°	1004.3	991.5	976.9	962.9	965.6	954.8	950.3	946.5	945.8	941.6	945.6
15°	988.6	970.8	955.7	940.9	944.0	931.5	929.4	925.6	926.7	923.8	928.8
17.5°	968.6	948.1	931.7	915.7	918.9	908.3	906.7	904.9	906.1	905.6	911.0
20°	946.1	923.6	904.7	889.0	890.8	882.4	883.1	882.7	884.9	887.4	894.8
22.5°	920.7	895.3	875.5	859.3	862.0	854.8	857.9	858.8	862.7	868.3	877.7
25°	892.1	864.9	844.2	828.9	831.4	826.7	832.1	834.3	840.4	849.8	859.5
27.5°	862.2	833.4	811.4	796.8	801.5	796.8	804.9	809.4	818.6	828.9	840.9
30°	830.5	800.6	777.9	764.9	769.4	765.1	778.1	784.2	793.4	807.6	821.7
32.5°	797.2	765.8	743.5	733.4	736.5	735.9	750.5	757.2	769.6	785.8	800.8
35°	763.1	730.2	707.8	699.2	703.0	703.9	721.5	729.3	742.8	762.4	778.6
37.5°	727.8	694.3	672.2	665.3	668.6	672.0	692.5	700.3	715.6	737.0	754.7
40°	691.1	657.6	636.0	630.4	633.8	637.4	659.6	670.4	687.1	710.2	729.6
42.5°	654.0	620.5	599.6	595.6	598.9	605.9	629.5	639.6	657.2	682.8	704.2
45°	616.3	581.4	563.2	560.0	563.6	571.7	594.9	607.0	625.7	653.8	676.7
47.5°	578.0	544.1	526.8	524.7	528.3	537.3	563.0	574.0	593.8	623.7	648.4
50°	539.4	506.3	489.7	489.0	492.4	502.0	526.5	539.6	560.0	593.5	618.9
52.5°	500.2	468.5	453.5	453.5	456.6	466.5	491.2	504.7	525.9	561.2	589.3
55°	461.1	431.0	416.6	417.7	422.2	430.8	454.8	469.0	490.3	527.0	556.7
57.5°	422.0	393.4	380.4	382.0	386.3	394.8	418.4	434.4	453.7	491.7	522.0
60°	383.3	356.4	344.9	346.7	350.5	359.0	383.6	397.3	416.6	455.3	485.6
62.5°	344.2	319.7	308.9	311.2	314.5	323.1	346.2	359.5	378.6	416.6	447.2
65°	305.5	282.8	273.6	275.9	279.0	286.9	308.7	321.5	339.7	376.8	406.0
67.5°	267.3	246.6	239.0	241.2	243.7	251.1	269.1	283.1	300.1	335.4	363.1
70°	229.5	211.1	204.4	206.6	208.9	215.6	231.3	244.2	259.9	292.3	317.9
72.5°	192.2	174.2	170.9	172.9	174.7	180.5	195.6	205.7	219.4	248.2	270.2
75°	155.8	140.3	138.0	140.1	141.6	146.1	158.7	167.5	179.0	203.9	221.9
77.5°	120.7	107.7	106.8	108.4	109.9	113.1	123.0	132.2	141.2	159.6	175.6
80°	87.9	77.3	77.3	78.9	78.5	82.3	89.3	96.7	103.2	116.5	128.2
82.5°	58.0	49.7	50.8	51.9	52.6	54.2	58.5	64.1	68.1	76.2	83.9
85°	32.2	26.5	27.7	28.6	28.1	29.9	32.2	35.5	37.5	41.4	45.4
87.5°	11.9	9.9	10.1	10.8	11.2	12.1	12.1	14.2	14.4	14.8	15.7
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°	1028.6	1028.6	1028.6
2.5°	1004.1	1009.5	1013.5
5°	986.8	991.3	994.9
7.5°	969.9	973.9	977.1
10°	953.9	958.4	960.7
12.5°	937.5	942.7	944.5
15°	921.3	926.5	928.8
17.5°	904.7	911.4	913.9
20°	889.2	897.7	899.8
22.5°	873.5	882.2	884.7
25°	856.4	866.7	869.2
27.5°	838.2	850.5	853.0
30°	819.9	833.4	835.9
32.5°	800.4	815.0	817.2
35°	779.9	794.5	797.2
37.5°	757.2	773.2	778.6
40°	733.6	750.9	756.5
42.5°	708.9	727.8	733.6
45°	682.3	703.0	709.8
47.5°	655.6	679.0	684.8
50°	626.6	651.5	658.5
52.5°	596.2	623.4	630.4
55°	564.8	592.2	599.8
57.5°	530.6	558.9	567.0
60°	494.8	523.2	530.8
62.5°	458.2	483.8	491.2
65°	417.3	441.3	448.1
67.5°	373.9	395.9	401.5
70°	327.8	346.9	351.9
72.5°	279.7	292.9	299.5
75°	230.0	240.6	245.5
77.5°	180.1	187.5	191.6
80°	131.3	135.6	138.9
82.5°	85.9	87.7	90.2
85°	46.3	46.3	47.9
87.5°	15.7	15.1	15.7
90°	0.0	0.0	0.0

(END OF REPORT)