

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: P834541

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1LO-30-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834541
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-LD4-1LO-30-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

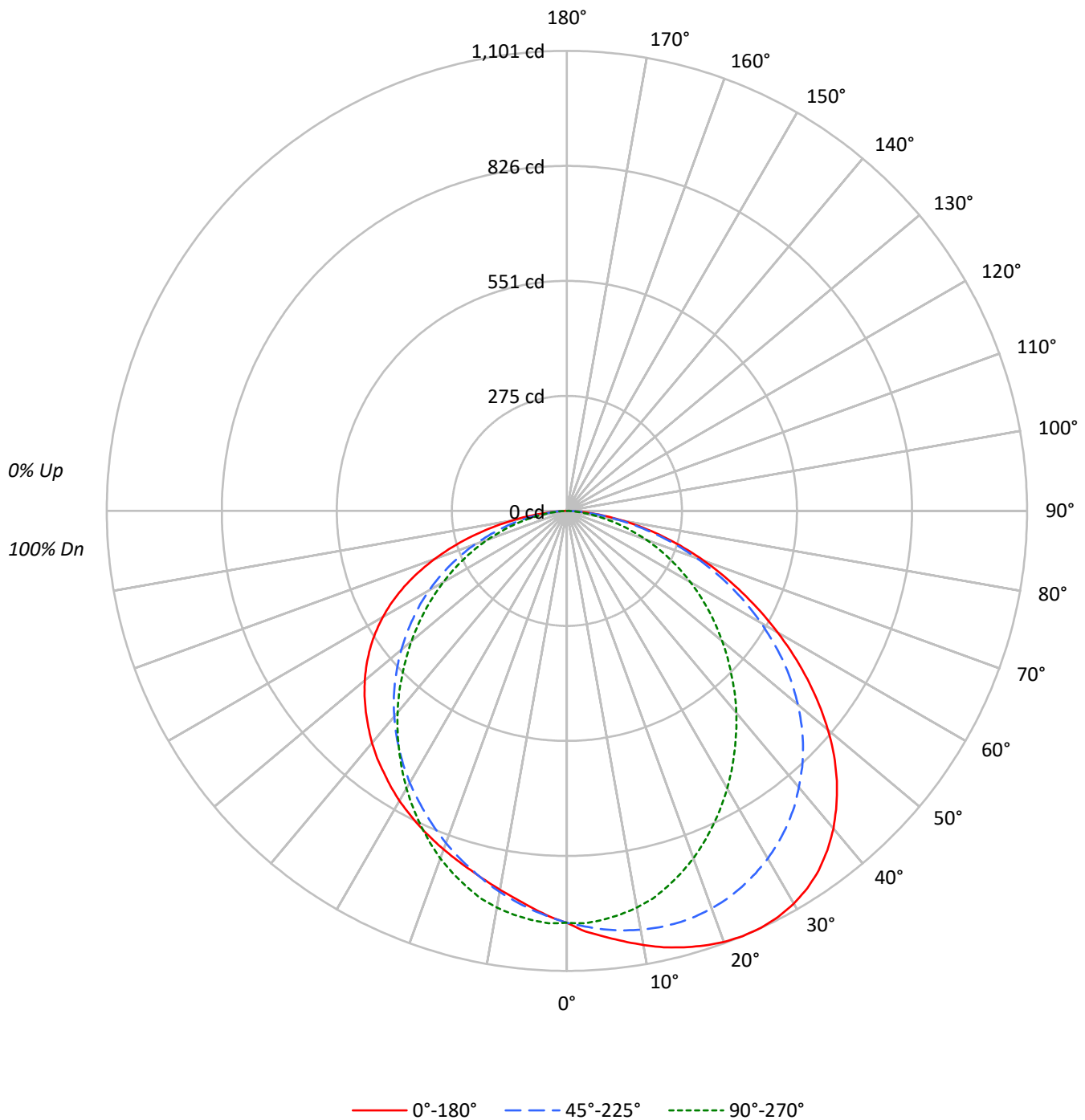
Lumens per Lamp: N/A
Luminaire Lumens: 2899.8 lumens
Efficiency: N/A
Efficacy: 123.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1326	1326	1326
5°	1381	1327	1288
10°	1441	1317	1258
15°	1506	1296	1240
20°	1572	1267	1235
25°	1634	1231	1237
30°	1687	1192	1245
35°	1725	1150	1255
40°	1743	1107	1274
45°	1738	1060	1294
50°	1707	1016	1321
55°	1649	969	1349
60°	1569	919	1369
65°	1473	863	1367
70°	1371	796	1327
75°	1245	699	1223
80°	1068	574	1032
85°	815	392	709



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	3.2
10°-20°	270.0	9.3
20°-30°	413.6	14.3
30°-40°	504.8	17.4
40°-50°	527.9	18.2
50°-60°	477.8	16.5
60°-70°	361.9	12.5
70°-80°	201.7	7.0
80°-90°	48.6	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°	777.1	26.8
0°-40°	1282.0	44.2
0°-60°	2287.7	78.9
0°-90°	2899.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2899.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	986	986	986	986	986	
5°	1022	1005	983	958	954	99
15°	1081	1021	930	887	890	307
25°	1100	992	829	800	833	508
35°	1050	919	700	699	764	656
45°	913	799	557	582	680	703
55°	703	635	413	450	575	627
65°	463	435	271	308	430	459
75°	239	226	134	160	235	254
85°	53	46	25	34	46	64
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°	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8
2.5°	1007.6	1002.8	999.0	1000.5	1001.3	998.3	995.7	996.2	993.6	998.5	986.9
5°	1022.4	1018.1	1013.6	1015.3	1013.6	1009.1	1005.4	1004.3	997.5	1000.3	988.4
7.5°	1039.0	1034.3	1027.6	1029.6	1025.9	1017.5	1012.8	1010.0	999.4	999.6	986.5
10°	1055.0	1050.9	1041.8	1043.1	1036.5	1025.2	1017.7	1013.8	999.0	996.8	983.2
12.5°	1069.9	1064.3	1054.6	1055.2	1045.5	1030.6	1020.9	1015.3	995.9	989.5	976.1
15°	1081.3	1075.9	1064.3	1064.0	1051.5	1032.1	1021.2	1013.4	988.8	978.7	964.7
17.5°	1091.0	1086.0	1071.6	1071.1	1056.1	1031.5	1018.4	1008.7	978.5	966.0	950.5
20°	1097.9	1092.9	1076.7	1075.2	1057.1	1028.3	1012.5	1000.3	964.9	950.0	932.8
22.5°	1101.1	1096.1	1077.8	1075.7	1054.6	1021.8	1004.1	989.7	949.4	930.0	912.1
25°	1100.5	1095.7	1075.0	1072.9	1049.6	1012.1	992.3	975.7	929.8	907.0	889.3
27.5°	1095.1	1091.4	1069.6	1066.8	1040.5	999.0	977.8	959.5	908.0	882.6	863.4
30°	1085.8	1083.0	1059.9	1057.4	1029.3	984.5	961.0	939.9	884.5	855.9	836.5
32.5°	1070.9	1068.3	1045.1	1042.7	1014.3	966.0	941.4	919.7	858.9	827.2	807.8
35°	1050.5	1049.0	1026.3	1023.7	994.9	944.9	918.8	894.9	832.2	796.4	777.9
37.5°	1023.5	1023.5	1001.8	999.0	970.7	919.0	893.4	868.0	802.0	764.1	745.8
40°	992.3	995.1	972.9	970.1	942.7	891.2	863.2	836.5	769.5	730.0	712.2
42.5°	954.8	957.4	938.8	936.3	910.6	859.1	833.0	804.0	735.4	695.4	676.8
45°	913.4	916.9	900.3	898.3	874.4	824.0	799.0	769.5	699.9	659.2	641.1
47.5°	867.3	871.8	857.4	856.3	834.1	788.0	761.9	732.0	662.6	621.4	604.4
50°	815.6	822.1	810.2	810.2	790.4	744.5	721.9	691.9	623.8	582.7	565.8
52.5°	760.2	768.4	759.6	759.8	743.6	702.5	679.0	649.7	583.3	542.8	527.3
55°	702.9	710.9	705.3	706.1	693.4	655.9	634.6	605.5	541.9	502.5	487.8
57.5°	643.0	651.6	647.9	649.7	640.8	607.2	585.0	559.6	499.3	460.3	447.8
60°	582.9	591.1	589.1	591.5	585.9	556.8	536.5	510.3	456.4	418.9	407.9
62.5°	522.1	529.6	529.2	531.8	528.8	504.7	486.6	464.1	412.0	377.5	367.4
65°	462.6	469.1	468.7	471.5	470.8	451.4	435.1	414.6	367.6	335.9	327.1
67.5°	404.9	410.3	408.8	412.0	412.9	397.3	383.1	364.8	325.4	294.6	287.0
70°	348.4	352.1	350.2	352.3	354.2	342.6	330.5	314.4	280.3	253.2	246.9
72.5°	293.1	295.6	292.6	294.8	296.5	288.1	278.2	264.2	235.9	212.5	207.3
75°	239.4	243.1	236.8	239.0	240.3	231.9	226.0	214.6	190.3	172.2	168.7
77.5°	187.5	189.6	186.2	185.3	186.2	180.1	175.6	166.8	148.5	133.6	131.4
80°	137.9	139.2	135.8	134.9	135.5	131.2	127.8	121.3	108.4	97.2	96.3
82.5°	92.4	93.1	90.1	89.2	89.6	88.3	84.3	79.7	73.7	64.2	64.0
85°	52.8	52.8	50.6	49.8	50.2	48.1	46.5	44.2	41.8	35.3	35.8
87.5°	19.4	19.4	18.3	18.1	20.3	17.9	17.2	16.2	16.8	13.4	14.2
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°	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8	985.8
2.5°	990.1	988.0	986.0	979.4	982.2	975.3	974.8	972.2	970.3	966.6	971.4
5°	986.9	982.6	977.0	969.0	971.4	963.2	961.5	958.5	955.9	951.1	954.8
7.5°	981.7	974.6	965.8	955.7	958.9	948.8	946.2	942.9	940.8	935.2	938.4
10°	974.2	964.1	953.7	941.4	943.8	932.8	929.6	926.1	924.2	919.2	922.5
12.5°	962.5	950.3	936.3	922.9	925.5	915.1	910.8	907.2	906.5	902.4	906.3
15°	947.5	930.4	916.0	901.8	904.8	892.7	890.8	887.1	888.2	885.4	890.1
17.5°	928.3	908.7	892.9	877.6	880.7	870.5	869.0	867.3	868.4	868.0	873.1
20°	906.7	885.2	867.1	852.0	853.7	845.8	846.4	846.0	848.1	850.5	857.6
22.5°	882.4	858.0	839.1	823.6	826.1	819.3	822.3	823.1	826.8	832.2	841.2
25°	855.0	828.9	809.1	794.5	796.8	792.3	797.5	799.6	805.5	814.5	823.8
27.5°	826.4	798.8	777.7	763.7	768.2	763.7	771.4	775.7	784.6	794.5	805.9
30°	796.0	767.3	745.6	733.1	737.4	733.3	745.8	751.6	760.4	774.0	787.6
32.5°	764.1	733.9	712.6	702.9	705.9	705.3	719.3	725.7	737.6	753.1	767.5
35°	731.3	699.9	678.3	670.1	673.8	674.7	691.5	699.0	711.9	730.7	746.2
37.5°	697.5	665.4	644.3	637.6	640.8	644.1	663.7	671.2	685.9	706.3	723.4
40°	662.4	630.3	609.6	604.2	607.4	610.9	632.2	642.6	658.5	680.7	699.2
42.5°	626.8	594.7	574.7	570.8	574.0	580.7	603.3	613.0	629.8	654.4	674.9
45°	590.6	557.2	539.8	536.8	540.2	548.0	570.2	581.8	599.7	626.6	648.6
47.5°	554.0	521.5	504.9	502.9	506.4	515.0	539.6	550.1	569.1	597.7	621.4
50°	516.9	485.3	469.3	468.7	471.9	481.2	504.7	517.2	536.8	568.9	593.2
52.5°	479.4	449.1	434.6	434.6	437.6	447.1	470.8	483.8	504.0	537.8	564.8
55°	441.9	413.1	399.3	400.4	404.7	412.9	435.9	449.5	470.0	505.1	533.5
57.5°	404.5	377.1	364.6	366.1	370.2	378.4	401.0	416.3	434.8	471.3	500.3
60°	367.4	341.5	330.5	332.3	335.9	344.1	367.6	380.8	399.3	436.3	465.4
62.5°	329.9	306.4	296.1	298.2	301.5	309.6	331.8	344.6	362.9	399.3	428.6
65°	292.8	271.1	262.2	264.4	267.4	275.0	295.9	308.1	325.6	361.1	389.2
67.5°	256.2	236.4	229.1	231.2	233.6	240.7	257.9	271.3	287.7	321.5	348.0
70°	220.0	202.3	195.9	198.0	200.2	206.6	221.7	234.0	249.1	280.1	304.7
72.5°	184.2	167.0	163.8	165.7	167.4	173.0	187.5	197.2	210.3	237.9	259.0
75°	149.3	134.5	132.3	134.2	135.8	140.1	152.1	160.5	171.5	195.4	212.7
77.5°	115.7	103.2	102.4	103.9	105.4	108.4	117.9	126.7	135.3	153.0	168.3
80°	84.3	74.1	74.1	75.6	75.2	78.9	85.5	92.7	98.9	111.6	122.8
82.5°	55.6	47.6	48.7	49.8	50.4	51.9	56.0	61.4	65.3	73.0	80.4
85°	30.8	25.4	26.5	27.4	26.9	28.7	30.8	34.0	36.0	39.6	43.5
87.5°	11.4	9.5	9.7	10.3	10.8	11.6	11.6	13.6	13.8	14.2	15.1
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°	985.8	985.8	985.8
2.5°	962.3	967.5	971.4
5°	945.7	950.0	953.5
7.5°	929.6	933.5	936.5
10°	914.3	918.6	920.7
12.5°	898.5	903.5	905.2
15°	883.0	888.0	890.1
17.5°	867.1	873.6	875.9
20°	852.2	860.4	862.3
22.5°	837.1	845.5	847.9
25°	820.8	830.7	833.0
27.5°	803.3	815.2	817.5
30°	785.9	798.8	801.2
32.5°	767.1	781.1	783.3
35°	747.5	761.5	764.1
37.5°	725.7	741.0	746.2
40°	703.1	719.7	725.1
42.5°	679.4	697.5	703.1
45°	654.0	673.8	680.3
47.5°	628.3	650.7	656.3
50°	600.5	624.5	631.1
52.5°	571.5	597.5	604.2
55°	541.3	567.6	574.9
57.5°	508.5	535.7	543.4
60°	474.3	501.4	508.7
62.5°	439.1	463.7	470.8
65°	399.9	423.0	429.5
67.5°	358.3	379.5	384.8
70°	314.2	332.5	337.2
72.5°	268.1	280.8	287.0
75°	220.4	230.6	235.3
77.5°	172.6	179.7	183.6
80°	125.8	129.9	133.2
82.5°	82.3	84.0	86.4
85°	44.4	44.4	45.9
87.5°	15.1	14.4	15.1
90°	0.0	0.0	0.0

(END OF REPORT)