

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: P834577

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1LO-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834577
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-40-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

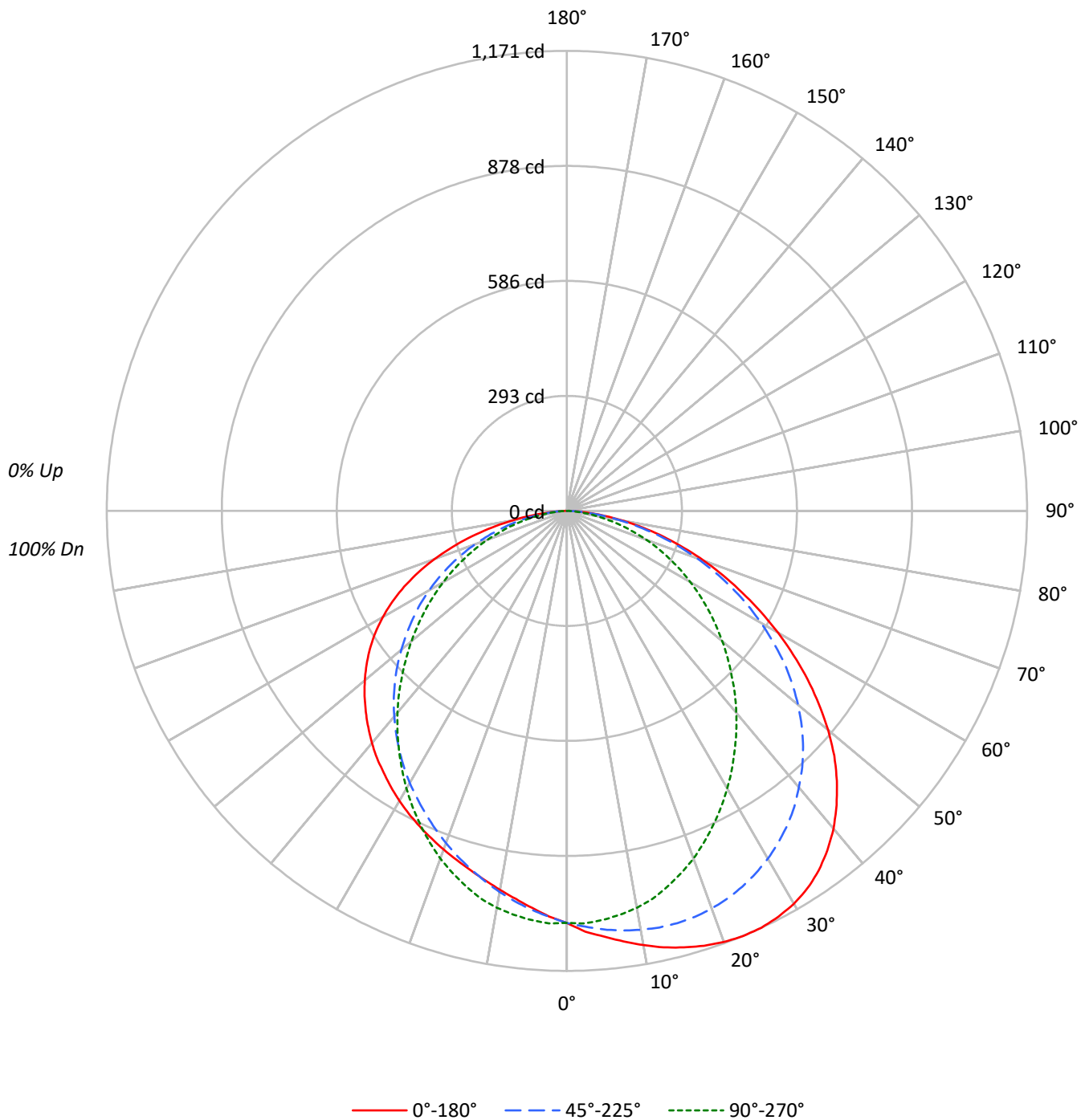
Lumens per Lamp: N/A
Luminaire Lumens: 3084.9 lumens
Efficiency: N/A
Efficacy: 131.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	1411	1411	1411
5°	1469	1412	1370
10°	1533	1401	1338
15°	1602	1379	1319
20°	1672	1348	1314
25°	1738	1309	1316
30°	1795	1268	1324
35°	1836	1223	1335
40°	1854	1178	1355
45°	1849	1128	1377
50°	1816	1081	1405
55°	1754	1031	1435
60°	1669	978	1456
65°	1567	918	1455
70°	1458	847	1411
75°	1324	743	1301
80°	1137	611	1098
85°	868	417	753



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.5	3.2
10°-20°	287.2	9.3
20°-30°	440.1	14.3
30°-40°	537.0	17.4
40°-50°	561.6	18.2
50°-60°	508.3	16.5
60°-70°	385.0	12.5
70°-80°	214.5	7.0
80°-90°	51.7	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°	826.8	26.8
0°-40°	1363.8	44.2
0°-60°	2433.7	78.9
0°-90°	3084.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3084.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1049	1049	1049	1049	1049	
5°	1088	1070	1045	1020	1014	105
15°	1150	1086	990	944	947	326
25°	1171	1056	882	851	886	540
35°	1118	978	744	744	813	698
45°	972	850	593	619	724	748
55°	748	675	439	478	612	667
65°	492	463	288	328	457	488
75°	255	240	143	171	250	270
85°	56	50	27	36	49	68
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°	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7
2.5°	1071.9	1066.9	1062.7	1064.3	1065.2	1062.0	1059.3	1059.7	1057.0	1062.3	1049.9
5°	1087.7	1083.1	1078.3	1080.1	1078.3	1073.5	1069.6	1068.5	1061.1	1064.1	1051.5
7.5°	1105.4	1100.3	1093.2	1095.3	1091.4	1082.4	1077.4	1074.4	1063.2	1063.4	1049.4
10°	1122.3	1118.0	1108.3	1109.7	1102.6	1090.7	1082.7	1078.5	1062.7	1060.4	1046.0
12.5°	1138.1	1132.2	1121.9	1122.6	1112.2	1096.4	1086.1	1080.1	1059.5	1052.6	1038.4
15°	1150.3	1144.6	1132.2	1132.0	1118.7	1098.0	1086.3	1078.1	1052.0	1041.2	1026.3
17.5°	1160.6	1155.3	1140.0	1139.5	1123.5	1097.3	1083.4	1073.0	1040.9	1027.7	1011.1
20°	1167.9	1162.7	1145.5	1143.9	1124.6	1093.9	1077.2	1064.1	1026.5	1010.7	992.4
22.5°	1171.4	1166.1	1146.6	1144.3	1121.9	1087.0	1068.2	1052.9	1010.0	989.4	970.3
25°	1170.7	1165.7	1143.6	1141.4	1116.6	1076.7	1055.6	1038.0	989.1	964.8	946.0
27.5°	1165.0	1161.1	1137.9	1134.9	1107.0	1062.7	1040.3	1020.8	966.0	938.9	918.5
30°	1155.1	1152.1	1127.6	1124.8	1095.0	1047.4	1022.4	999.9	941.0	910.5	889.9
32.5°	1139.3	1136.5	1111.8	1109.3	1079.0	1027.7	1001.5	978.4	913.7	880.0	859.4
35°	1117.5	1115.9	1091.8	1089.1	1058.4	1005.2	977.5	952.0	885.3	847.2	827.5
37.5°	1088.9	1088.9	1065.7	1062.7	1032.7	977.7	950.4	923.4	853.2	812.9	793.4
40°	1055.6	1058.6	1035.0	1032.0	1002.9	948.1	918.3	889.9	818.6	776.6	757.6
42.5°	1015.7	1018.5	998.8	996.0	968.7	914.0	886.2	855.3	782.4	739.7	720.0
45°	971.7	975.4	957.7	955.7	930.2	876.6	850.0	818.6	744.5	701.2	682.0
47.5°	922.7	927.5	912.1	911.0	887.4	838.3	810.6	778.7	704.9	661.1	643.0
50°	867.6	874.5	861.9	861.9	840.8	792.0	767.9	736.1	663.6	619.8	602.0
52.5°	808.7	817.4	808.0	808.3	791.1	747.3	722.3	691.1	620.5	577.4	560.9
55°	747.8	756.2	750.3	751.2	737.7	697.8	675.1	644.1	576.5	534.6	519.0
57.5°	684.0	693.2	689.3	691.1	681.7	646.0	622.4	595.3	531.1	489.6	476.3
60°	620.1	628.8	626.7	629.2	623.3	592.3	570.8	542.8	485.5	445.6	433.9
62.5°	555.4	563.5	563.0	565.7	562.5	536.9	517.6	493.8	438.3	401.6	390.8
65°	492.2	499.0	498.6	501.6	500.9	480.2	462.8	441.0	391.1	357.4	348.0
67.5°	430.7	436.5	434.9	438.3	439.2	422.7	407.6	388.1	346.1	313.4	305.3
70°	370.7	374.6	372.5	374.8	376.9	364.5	351.6	334.5	298.2	269.3	262.7
72.5°	311.8	314.5	311.3	313.6	315.4	306.5	295.9	281.0	251.0	226.0	220.5
75°	254.7	258.6	251.9	254.2	255.6	246.7	240.5	228.3	202.4	183.2	179.5
77.5°	199.4	201.7	198.1	197.1	198.1	191.6	186.8	177.4	157.9	142.1	139.8
80°	146.7	148.1	144.4	143.5	144.2	139.6	135.9	129.1	115.3	103.4	102.5
82.5°	98.3	99.0	95.8	94.9	95.4	94.0	89.6	84.8	78.4	68.3	68.1
85°	56.2	56.2	53.9	53.0	53.4	51.1	49.5	47.0	44.5	37.6	38.1
87.5°	20.6	20.6	19.5	19.3	21.5	19.0	18.3	17.2	17.9	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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7	1048.7
2.5°	1053.3	1051.0	1049.0	1041.9	1044.8	1037.5	1037.1	1034.3	1032.2	1028.3	1033.4
5°	1049.9	1045.3	1039.3	1030.9	1033.4	1024.7	1022.8	1019.6	1016.9	1011.8	1015.7
7.5°	1044.4	1036.8	1027.4	1016.6	1020.1	1009.3	1006.6	1003.1	1000.8	994.9	998.3
10°	1036.4	1025.6	1014.6	1001.5	1004.0	992.4	988.9	985.2	983.2	977.9	981.3
12.5°	1024.0	1010.9	996.0	981.8	984.6	973.6	969.0	965.1	964.4	960.0	964.2
15°	1007.9	989.8	974.5	959.3	962.6	949.7	947.6	943.8	944.9	941.9	947.0
17.5°	987.5	966.7	949.9	933.7	936.9	926.1	924.5	922.7	923.8	923.4	928.9
20°	964.6	941.7	922.4	906.4	908.2	899.7	900.4	900.0	902.3	904.8	912.3
22.5°	938.7	912.8	892.6	876.1	878.9	871.5	874.8	875.7	879.6	885.3	894.9
25°	909.6	881.9	860.8	845.2	847.7	842.9	848.4	850.7	856.9	866.5	876.4
27.5°	879.1	849.8	827.3	812.4	817.2	812.4	820.7	825.2	834.6	845.2	857.3
30°	846.8	816.3	793.1	779.9	784.4	780.1	793.4	799.6	809.0	823.4	837.8
32.5°	812.9	780.8	758.1	747.8	751.0	750.3	765.2	772.1	784.7	801.2	816.5
35°	778.0	744.5	721.6	712.9	716.8	717.7	735.6	743.6	757.4	777.3	793.8
37.5°	742.0	707.9	685.4	678.3	681.7	685.2	706.0	714.1	729.6	751.4	769.5
40°	704.7	670.5	648.5	642.8	646.2	649.9	672.6	683.6	700.5	724.1	743.9
42.5°	666.8	632.7	611.4	607.2	610.7	617.8	641.9	652.2	670.0	696.2	718.0
45°	628.3	592.8	574.2	571.0	574.7	582.9	606.6	618.9	638.0	666.6	690.0
47.5°	589.4	554.7	537.1	535.0	538.7	547.9	574.0	585.2	605.4	635.9	661.1
50°	549.9	516.2	499.3	498.6	502.0	511.9	536.9	550.2	571.0	605.2	631.1
52.5°	510.0	477.7	462.4	462.4	465.6	475.7	500.9	514.6	536.2	572.2	600.8
55°	470.2	439.4	424.8	425.9	430.5	439.2	463.7	478.2	500.0	537.3	567.6
57.5°	430.3	401.2	387.9	389.5	393.8	402.5	426.6	442.9	462.6	501.3	532.3
60°	390.8	363.3	351.6	353.5	357.4	366.1	391.1	405.1	424.8	464.2	495.1
62.5°	351.0	326.0	315.0	317.3	320.7	329.4	353.0	366.5	386.0	424.8	455.9
65°	311.5	288.4	279.0	281.3	284.5	292.5	314.7	327.8	346.4	384.2	414.0
67.5°	272.6	251.5	243.7	246.0	248.5	256.1	274.4	288.6	306.0	342.0	370.2
70°	234.0	215.2	208.4	210.7	213.0	219.8	235.9	248.9	265.0	298.0	324.1
72.5°	196.0	177.7	174.2	176.3	178.1	184.1	199.4	209.7	223.7	253.1	275.5
75°	158.9	143.0	140.7	142.8	144.4	149.0	161.8	170.8	182.5	207.9	226.3
77.5°	123.1	109.8	108.9	110.5	112.1	115.3	125.4	134.8	144.0	162.8	179.0
80°	89.6	78.9	78.9	80.5	80.0	83.9	91.0	98.6	105.2	118.7	130.7
82.5°	59.1	50.7	51.8	53.0	53.6	55.2	59.6	65.3	69.5	77.7	85.5
85°	32.8	27.0	28.2	29.1	28.7	30.5	32.8	36.2	38.3	42.2	46.3
87.5°	12.1	10.1	10.3	11.0	11.5	12.4	12.4	14.4	14.7	15.1	16.0
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°	1048.7	1048.7	1048.7
2.5°	1023.8	1029.3	1033.4
5°	1006.1	1010.7	1014.4
7.5°	988.9	993.0	996.2
10°	972.6	977.2	979.5
12.5°	955.9	961.2	963.0
15°	939.4	944.7	947.0
17.5°	922.4	929.3	931.8
20°	906.6	915.3	917.4
22.5°	890.6	899.5	902.0
25°	873.1	883.7	886.2
27.5°	854.6	867.2	869.7
30°	836.0	849.8	852.3
32.5°	816.1	831.0	833.3
35°	795.2	810.1	812.9
37.5°	772.1	788.3	793.8
40°	748.0	765.6	771.4
42.5°	722.8	742.0	748.0
45°	695.7	716.8	723.7
47.5°	668.4	692.3	698.2
50°	638.9	664.3	671.4
52.5°	607.9	635.7	642.8
55°	575.8	603.8	611.6
57.5°	541.0	569.9	578.1
60°	504.5	533.4	541.2
62.5°	467.2	493.3	500.9
65°	425.5	450.0	456.9
67.5°	381.2	403.7	409.4
70°	334.2	353.7	358.7
72.5°	285.2	298.7	305.3
75°	234.5	245.3	250.3
77.5°	183.6	191.2	195.3
80°	133.9	138.2	141.7
82.5°	87.6	89.4	91.9
85°	47.2	47.2	48.8
87.5°	16.0	15.4	16.0
90°	0.0	0.0	0.0

(END OF REPORT)