

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: P834616

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834616
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-LD4-2LO-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

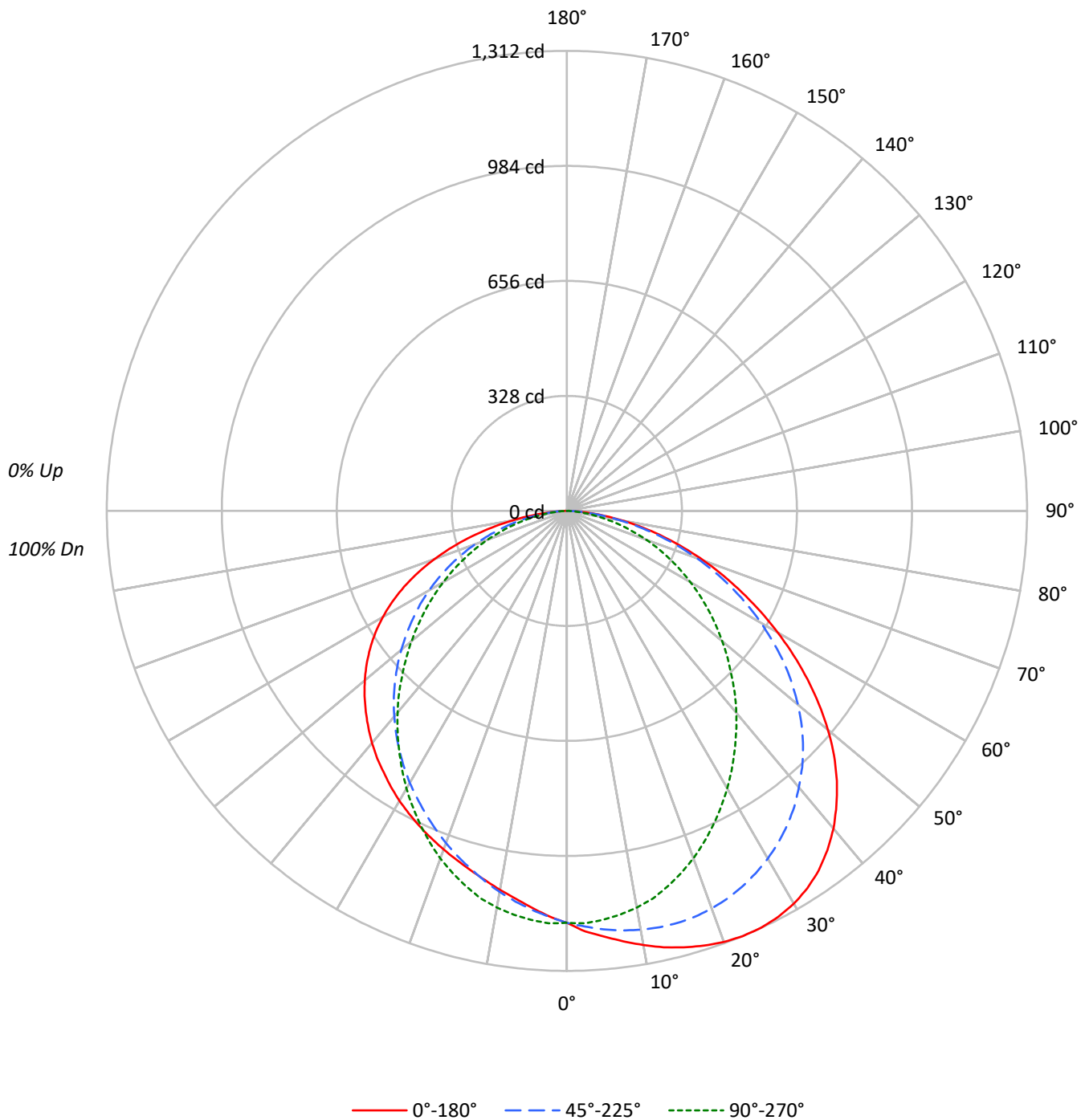
Lumens per Lamp: N/A
Luminaire Lumens: 3455.6 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	1581	1581	1581
5°	1646	1581	1535
10°	1718	1570	1499
15°	1795	1545	1478
20°	1873	1510	1471
25°	1947	1466	1474
30°	2010	1421	1483
35°	2056	1370	1496
40°	2077	1319	1518
45°	2071	1263	1543
50°	2034	1211	1574
55°	1965	1155	1607
60°	1869	1095	1632
65°	1755	1028	1629
70°	1633	948	1581
75°	1483	833	1458
80°	1273	684	1230
85°	971	468	844

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.4	3.2
10°-20°	321.8	9.3
20°-30°	492.9	14.3
30°-40°	601.6	17.4
40°-50°	629.1	18.2
50°-60°	569.4	16.5
60°-70°	431.2	12.5
70°-80°	240.3	7.0
80°-90°	58.0	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°	926.1	26.8
0°-40°	1527.7	44.2
0°-60°	2726.2	78.9
0°-90°	3455.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3455.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1175	1175	1175	1175	1175	
5°	1218	1198	1171	1142	1136	117
15°	1288	1217	1109	1057	1061	365
25°	1311	1182	988	953	993	605
35°	1252	1095	834	833	910	782
45°	1088	952	664	693	811	837
55°	838	756	492	536	685	747
65°	551	518	323	367	512	547
75°	285	269	160	191	280	303
85°	63	56	30	41	55	76
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°	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8
2.5°	1200.7	1195.1	1190.4	1192.2	1193.3	1189.7	1186.6	1187.1	1184.0	1189.9	1176.1
5°	1218.4	1213.3	1207.9	1210.0	1207.9	1202.5	1198.1	1196.9	1188.6	1192.0	1177.9
7.5°	1238.2	1232.6	1224.6	1226.9	1222.5	1212.5	1206.9	1203.5	1191.0	1191.2	1175.5
10°	1257.2	1252.3	1241.5	1243.1	1235.1	1221.8	1212.8	1208.2	1190.4	1187.9	1171.7
12.5°	1274.9	1268.2	1256.7	1257.5	1245.9	1228.2	1216.6	1210.0	1186.8	1179.1	1163.2
15°	1288.5	1282.1	1268.2	1268.0	1253.1	1230.0	1216.9	1207.6	1178.4	1166.3	1149.6
17.5°	1300.1	1294.2	1277.0	1276.5	1258.5	1229.2	1213.6	1202.0	1166.0	1151.2	1132.7
20°	1308.3	1302.4	1283.1	1281.3	1259.8	1225.4	1206.6	1192.0	1149.9	1132.2	1111.6
22.5°	1312.2	1306.3	1284.4	1281.9	1256.7	1217.7	1196.6	1179.4	1131.4	1108.3	1087.0
25°	1311.4	1305.7	1281.1	1278.5	1250.8	1206.1	1182.5	1162.7	1108.0	1080.8	1059.7
27.5°	1305.0	1300.6	1274.7	1271.3	1240.0	1190.4	1165.3	1143.5	1082.1	1051.8	1028.9
30°	1293.9	1290.6	1263.1	1260.0	1226.6	1173.2	1145.2	1120.1	1054.1	1019.9	996.8
32.5°	1276.2	1273.1	1245.4	1242.6	1208.7	1151.2	1121.9	1095.9	1023.5	985.8	962.7
35°	1251.8	1250.0	1223.1	1220.0	1185.6	1126.0	1094.9	1066.4	991.7	949.1	927.0
37.5°	1219.7	1219.7	1193.8	1190.4	1156.8	1095.2	1064.6	1034.3	955.7	910.5	888.7
40°	1182.5	1185.8	1159.4	1156.0	1123.4	1062.1	1028.7	996.8	917.0	870.0	848.7
42.5°	1137.8	1140.9	1118.8	1115.7	1085.2	1023.8	992.7	958.1	876.4	828.6	806.6
45°	1088.5	1092.6	1072.8	1070.5	1042.0	981.9	952.1	917.0	834.0	785.5	763.9
47.5°	1033.5	1038.9	1021.7	1020.5	994.0	939.1	908.0	872.3	789.6	740.6	720.3
50°	971.9	979.6	965.5	965.5	941.9	887.2	860.2	824.5	743.4	694.3	674.3
52.5°	905.9	915.7	905.2	905.4	886.2	837.1	809.1	774.2	695.1	646.8	628.3
55°	837.6	847.1	840.4	841.5	826.3	781.6	756.2	721.6	645.8	598.8	581.4
57.5°	766.2	776.5	772.1	774.2	763.7	723.6	697.2	666.9	595.0	548.5	533.6
60°	694.6	704.4	702.0	704.9	698.2	663.5	639.4	608.1	543.9	499.2	486.1
62.5°	622.2	631.2	630.7	633.7	630.1	601.4	579.8	553.1	491.0	449.9	437.8
65°	551.3	559.0	558.5	561.8	561.1	538.0	518.4	494.0	438.1	400.3	389.8
67.5°	482.5	488.9	487.1	491.0	492.0	473.5	456.6	434.7	387.7	351.0	342.0
70°	415.2	419.6	417.3	419.8	422.1	408.3	393.9	374.6	334.1	301.7	294.3
72.5°	349.2	352.3	348.7	351.3	353.3	343.3	331.5	314.8	281.2	253.2	247.0
75°	285.3	289.7	282.2	284.8	286.3	276.3	269.4	255.8	226.7	205.2	201.1
77.5°	223.4	226.0	221.9	220.8	221.9	214.7	209.3	198.7	176.9	159.2	156.6
80°	164.3	165.9	161.8	160.7	161.5	156.4	152.3	144.6	129.2	115.8	114.8
82.5°	110.2	110.9	107.3	106.3	106.8	105.3	100.4	95.0	87.8	76.5	76.3
85°	62.9	62.9	60.3	59.3	59.8	57.3	55.5	52.6	49.8	42.1	42.6
87.5°	23.1	23.1	21.8	21.6	24.1	21.3	20.5	19.3	20.0	15.9	16.9
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8	1174.8
2.5°	1179.9	1177.3	1175.0	1167.1	1170.4	1162.2	1161.7	1158.6	1156.3	1151.9	1157.6
5°	1176.1	1170.9	1164.3	1154.7	1157.6	1147.8	1145.8	1142.2	1139.1	1133.4	1137.8
7.5°	1169.9	1161.4	1150.9	1138.8	1142.7	1130.6	1127.5	1123.7	1121.1	1114.4	1118.3
10°	1160.9	1148.8	1136.5	1121.9	1124.7	1111.6	1107.8	1103.6	1101.3	1095.4	1099.3
12.5°	1147.0	1132.4	1115.7	1099.8	1102.9	1090.6	1085.4	1081.1	1080.3	1075.4	1080.0
15°	1129.1	1108.8	1091.6	1074.6	1078.2	1063.8	1061.5	1057.2	1058.5	1055.1	1060.8
17.5°	1106.2	1082.9	1064.1	1045.9	1049.5	1037.4	1035.6	1033.5	1034.8	1034.3	1040.5
20°	1080.5	1054.9	1033.3	1015.3	1017.4	1007.9	1008.6	1008.1	1010.7	1013.5	1022.0
22.5°	1051.5	1022.5	999.9	981.4	984.5	976.3	979.9	980.9	985.3	991.7	1002.5
25°	1018.9	987.8	964.2	946.8	949.6	944.2	950.4	952.9	959.9	970.6	981.7
27.5°	984.8	951.9	926.7	910.0	915.4	910.0	919.3	924.4	934.9	946.8	960.4
30°	948.6	914.4	888.5	873.6	878.7	873.8	888.7	895.7	906.2	922.4	938.5
32.5°	910.5	874.6	849.2	837.6	841.2	840.4	857.1	864.8	879.0	897.5	914.7
35°	871.5	834.0	808.4	798.6	803.0	804.0	824.0	833.0	848.4	870.7	889.2
37.5°	831.2	792.9	767.8	759.8	763.7	767.5	790.9	799.9	817.3	841.7	862.0
40°	789.3	751.1	726.4	720.0	723.9	728.0	753.4	765.7	784.7	811.2	833.3
42.5°	747.0	708.7	684.8	680.2	684.1	692.0	719.0	730.5	750.6	779.8	804.2
45°	703.8	664.0	643.2	639.6	643.8	653.0	679.4	693.3	714.6	746.7	772.9
47.5°	660.2	621.4	601.6	599.3	603.4	613.7	643.0	655.6	678.2	712.3	740.6
50°	616.0	578.3	559.3	558.5	562.4	573.4	601.4	616.3	639.6	677.9	706.9
52.5°	571.3	535.1	517.9	517.9	521.5	532.8	561.1	576.5	600.6	640.9	673.0
55°	526.7	492.3	475.8	477.1	482.2	492.0	519.5	535.6	560.0	601.9	635.8
57.5°	482.0	449.4	434.5	436.3	441.2	450.9	477.9	496.1	518.2	561.6	596.2
60°	437.8	407.0	393.9	396.0	400.3	410.1	438.1	453.7	475.8	520.0	554.6
62.5°	393.1	365.1	352.8	355.4	359.2	369.0	395.4	410.6	432.4	475.8	510.7
65°	349.0	323.0	312.5	315.1	318.7	327.7	352.6	367.2	388.0	430.4	463.7
67.5°	305.3	281.7	273.0	275.5	278.4	286.8	307.4	323.3	342.8	383.1	414.7
70°	262.2	241.1	233.4	236.0	238.6	246.3	264.2	278.9	296.8	333.8	363.1
72.5°	219.5	199.0	195.2	197.5	199.5	206.2	223.4	235.0	250.6	283.5	308.7
75°	178.0	160.2	157.7	160.0	161.8	166.9	181.3	191.3	204.4	232.9	253.4
77.5°	137.9	123.0	122.0	123.8	125.6	129.2	140.5	151.0	161.3	182.3	200.5
80°	100.4	88.3	88.3	90.1	89.6	94.0	101.9	110.4	117.9	133.0	146.4
82.5°	66.2	56.7	58.0	59.3	60.1	61.9	66.8	73.2	77.8	87.0	95.8
85°	36.7	30.3	31.6	32.6	32.1	34.2	36.7	40.6	42.9	47.2	51.9
87.5°	13.6	11.3	11.6	12.3	12.8	13.9	13.9	16.2	16.4	16.9	18.0
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°	1174.8	1174.8	1174.8
2.5°	1146.8	1153.0	1157.6
5°	1127.0	1132.2	1136.3
7.5°	1107.8	1112.4	1116.0
10°	1089.5	1094.7	1097.2
12.5°	1070.8	1076.7	1078.7
15°	1052.3	1058.2	1060.8
17.5°	1033.3	1041.0	1043.8
20°	1015.6	1025.3	1027.6
22.5°	997.6	1007.6	1010.4
25°	978.1	989.9	992.7
27.5°	957.3	971.4	974.2
30°	936.5	951.9	954.7
32.5°	914.1	930.8	933.4
35°	890.8	907.5	910.5
37.5°	864.8	883.1	889.2
40°	837.9	857.7	864.1
42.5°	809.6	831.2	837.9
45°	779.3	803.0	810.7
47.5°	748.8	775.5	782.2
50°	715.7	744.2	752.1
52.5°	681.0	712.1	720.0
55°	645.0	676.4	685.1
57.5°	606.0	638.4	647.6
60°	565.2	597.5	606.3
62.5°	523.3	552.6	561.1
65°	476.6	504.1	511.8
67.5°	427.0	452.2	458.6
70°	374.4	396.2	401.9
72.5°	319.4	334.6	342.0
75°	262.7	274.8	280.4
77.5°	205.7	214.2	218.8
80°	150.0	154.8	158.7
82.5°	98.1	100.1	103.0
85°	52.9	52.9	54.7
87.5°	18.0	17.2	18.0
90°	0.0	0.0	0.0

(END OF REPORT)