

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: P835229

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835229
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
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

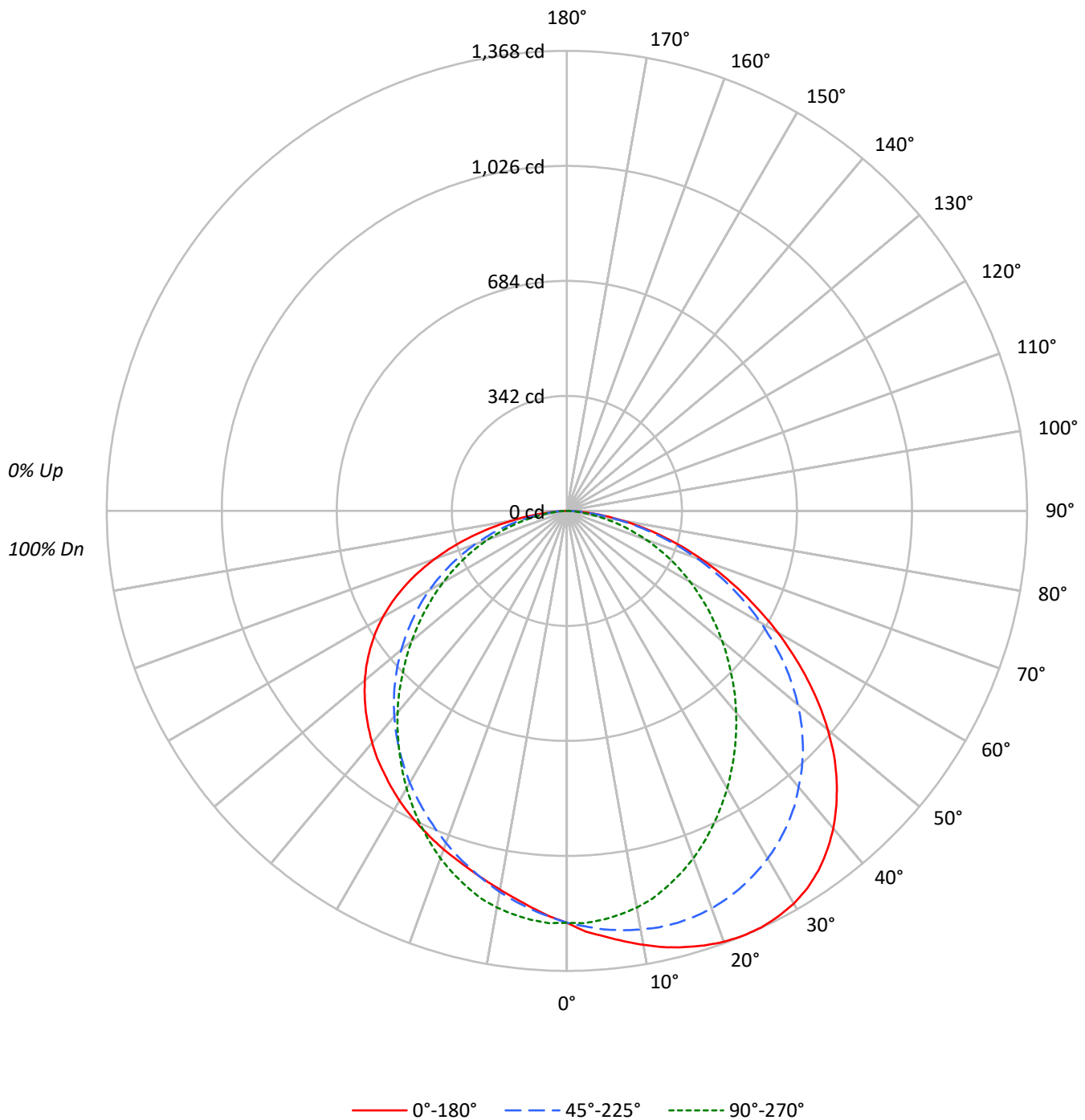
Lumens per Lamp: N/A
Luminaire Lumens: 3601.9 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	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°	3295	3295	3295
5°	3431	3297	3199
10°	3581	3272	3125
15°	3742	3220	3080
20°	3905	3149	3067
25°	4059	3057	3072
30°	4191	2962	3092
35°	4286	2856	3118
40°	4330	2750	3164
45°	4318	2634	3216
50°	4241	2523	3282
55°	4096	2407	3350
60°	3897	2283	3401
65°	3659	2144	3396
70°	3405	1977	3296
75°	3092	1736	3039
80°	2655	1427	2563
85°	2025	976	1760

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.1	3.2
10°-20°	335.4	9.3
20°-30°	513.8	14.3
30°-40°	627.0	17.4
40°-50°	655.7	18.2
50°-60°	593.5	16.5
60°-70°	449.5	12.5
70°-80°	250.5	7.0
80°-90°	60.4	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°	965.3	26.8
0°-40°	1592.3	44.2
0°-60°	2841.5	78.9
0°-90°	3601.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3601.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1224	1224	1224	1224	1224	
5°	1270	1249	1220	1190	1184	122
15°	1343	1268	1156	1102	1106	381
25°	1367	1232	1030	993	1035	631
35°	1305	1141	869	868	949	815
45°	1135	992	692	723	845	873
55°	873	788	513	558	714	779
65°	575	540	337	383	533	570
75°	297	281	167	199	292	315
85°	66	58	32	42	57	79
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°	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5
2.5°	1251.5	1245.6	1240.8	1242.7	1243.8	1240.0	1236.8	1237.4	1234.1	1240.3	1225.8
5°	1270.0	1264.7	1259.0	1261.2	1259.0	1253.4	1248.9	1247.5	1239.0	1242.4	1227.7
7.5°	1290.6	1284.7	1276.4	1278.8	1274.3	1263.8	1258.0	1254.5	1241.4	1241.6	1225.3
10°	1310.4	1305.3	1294.1	1295.7	1287.4	1273.5	1264.1	1259.3	1240.8	1238.2	1221.3
12.5°	1328.9	1321.9	1309.9	1310.7	1298.6	1280.2	1268.1	1261.2	1237.1	1229.1	1212.5
15°	1343.1	1336.4	1321.9	1321.7	1306.1	1282.0	1268.4	1258.8	1228.3	1215.7	1198.3
17.5°	1355.1	1349.0	1331.0	1330.5	1311.8	1281.2	1264.9	1252.9	1215.4	1199.9	1180.6
20°	1363.7	1357.5	1337.5	1335.6	1313.1	1277.2	1257.7	1242.4	1198.5	1180.1	1158.7
22.5°	1367.7	1361.5	1338.8	1336.1	1309.9	1269.2	1247.3	1229.3	1179.3	1155.2	1133.0
25°	1366.9	1361.0	1335.3	1332.6	1303.7	1257.2	1232.5	1211.9	1154.9	1126.5	1104.6
27.5°	1360.2	1355.7	1328.6	1325.1	1292.5	1240.8	1214.6	1191.8	1127.9	1096.3	1072.5
30°	1348.7	1345.2	1316.6	1313.4	1278.6	1222.9	1193.7	1167.5	1098.7	1063.1	1039.0
32.5°	1330.2	1327.0	1298.1	1295.2	1259.8	1199.9	1169.4	1142.3	1066.9	1027.5	1003.4
35°	1304.8	1302.9	1274.8	1271.6	1235.7	1173.6	1141.3	1111.6	1033.7	989.2	966.2
37.5°	1271.3	1271.3	1244.3	1240.8	1205.8	1141.5	1109.7	1078.1	996.2	949.1	926.3
40°	1232.5	1236.0	1208.4	1205.0	1171.0	1107.0	1072.2	1039.0	955.8	906.8	884.6
42.5°	1186.0	1189.2	1166.2	1162.9	1131.1	1067.1	1034.7	998.6	913.5	863.7	840.7
45°	1134.6	1138.9	1118.2	1115.8	1086.1	1023.5	992.4	955.8	869.3	818.7	796.3
47.5°	1077.3	1082.9	1065.0	1063.6	1036.1	978.8	946.4	909.2	823.0	771.9	750.8
50°	1013.1	1021.1	1006.4	1006.4	981.7	924.7	896.6	859.4	774.8	723.7	702.9
52.5°	944.3	954.4	943.5	943.7	923.7	872.5	843.4	807.0	724.5	674.2	654.9
55°	873.1	883.0	876.0	877.1	861.3	814.7	788.2	752.1	673.1	624.2	606.0
57.5°	798.7	809.4	804.8	807.0	796.0	754.2	726.7	695.1	620.1	571.7	556.2
60°	724.0	734.2	731.8	734.7	727.7	691.6	666.5	633.8	566.9	520.3	506.7
62.5°	648.5	657.9	657.4	660.6	656.8	626.8	604.4	576.5	511.7	468.9	456.3
65°	574.6	582.7	582.1	585.6	584.8	560.7	540.4	515.0	456.6	417.3	406.3
67.5°	502.9	509.6	507.7	511.7	512.8	493.5	475.9	453.1	404.2	365.9	356.5
70°	432.8	437.3	434.9	437.6	440.0	425.6	410.6	390.5	348.2	314.5	306.7
72.5°	364.0	367.2	363.5	366.1	368.3	357.8	345.5	328.1	293.1	263.9	257.5
75°	297.4	301.9	294.1	296.8	298.4	288.0	280.8	266.6	236.3	213.9	209.6
77.5°	232.9	235.5	231.3	230.2	231.3	223.8	218.1	207.2	184.4	165.9	163.3
80°	171.3	172.9	168.6	167.5	168.4	163.0	158.7	150.7	134.6	120.7	119.6
82.5°	114.8	115.6	111.9	110.8	111.3	109.7	104.7	99.0	91.5	79.8	79.5
85°	65.6	65.6	62.9	61.8	62.4	59.7	57.8	54.9	51.9	43.9	44.4
87.5°	24.1	24.1	22.8	22.5	25.2	22.2	21.4	20.1	20.9	16.6	17.7
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5	1224.5
2.5°	1229.9	1227.2	1224.8	1216.5	1220.0	1211.4	1210.9	1207.6	1205.2	1200.7	1206.6
5°	1225.8	1220.5	1213.5	1203.6	1206.6	1196.4	1194.3	1190.5	1187.3	1181.4	1186.0
7.5°	1219.4	1210.6	1199.6	1187.0	1191.0	1178.5	1175.3	1171.2	1168.6	1161.6	1165.6
10°	1210.0	1197.5	1184.6	1169.4	1172.3	1158.7	1154.6	1150.4	1148.0	1141.8	1145.8
12.5°	1195.6	1180.3	1162.9	1146.3	1149.6	1136.7	1131.4	1126.8	1126.0	1120.9	1125.7
15°	1176.9	1155.7	1137.8	1120.1	1123.9	1108.9	1106.5	1101.9	1103.3	1099.8	1105.7
17.5°	1153.0	1128.7	1109.1	1090.1	1093.9	1081.3	1079.4	1077.3	1078.6	1078.1	1084.5
20°	1126.3	1099.5	1077.0	1058.3	1060.4	1050.5	1051.3	1050.8	1053.5	1056.4	1065.3
22.5°	1096.0	1065.8	1042.2	1023.0	1026.2	1017.6	1021.4	1022.4	1027.0	1033.7	1044.9
25°	1062.0	1029.7	1005.0	986.8	989.8	984.2	990.6	993.3	1000.5	1011.7	1023.2
27.5°	1026.4	992.2	966.0	948.6	954.2	948.6	958.2	963.5	974.5	986.8	1001.0
30°	988.7	953.1	926.1	910.5	915.9	910.8	926.3	933.6	944.5	961.4	978.3
32.5°	949.1	911.6	885.1	873.1	876.8	876.0	893.4	901.4	916.2	935.4	953.4
35°	908.4	869.3	842.6	832.4	836.9	838.0	858.9	868.3	884.3	907.6	926.9
37.5°	866.4	826.5	800.3	792.0	796.0	800.0	824.4	833.7	851.9	877.4	898.5
40°	822.8	782.9	757.2	750.5	754.5	758.8	785.3	798.1	817.9	845.5	868.5
42.5°	778.6	738.7	713.8	709.0	713.0	721.3	749.4	761.5	782.3	812.9	838.3
45°	733.6	692.1	670.5	666.7	671.0	680.6	708.2	722.7	744.9	778.3	805.6
47.5°	688.1	647.7	627.1	624.7	629.0	639.7	670.2	683.3	706.9	742.5	771.9
50°	642.1	602.7	582.9	582.1	586.2	597.7	626.8	642.4	666.7	706.6	736.8
52.5°	595.5	557.8	539.9	539.9	543.6	555.4	584.8	600.9	626.0	668.1	701.5
55°	549.0	513.1	496.0	497.3	502.6	512.8	541.5	558.3	583.7	627.4	662.7
57.5°	502.4	468.4	452.9	454.7	459.8	470.0	498.1	517.1	540.1	585.4	621.5
60°	456.3	424.2	410.6	412.7	417.3	427.4	456.6	472.9	496.0	542.0	578.1
62.5°	409.8	380.6	367.8	370.4	374.4	384.6	412.2	428.0	450.7	496.0	532.4
65°	363.7	336.7	325.7	328.4	332.2	341.5	367.5	382.7	404.4	448.6	483.4
67.5°	318.2	293.6	284.5	287.2	290.1	299.0	320.4	337.0	357.3	399.3	432.3
70°	273.3	251.3	243.3	246.0	248.6	256.7	275.4	290.7	309.4	347.9	378.5
72.5°	228.8	207.4	203.4	205.8	208.0	214.9	232.9	244.9	261.2	295.5	321.7
75°	185.5	167.0	164.3	166.7	168.6	174.0	189.0	199.4	213.1	242.8	264.2
77.5°	143.7	128.2	127.1	129.0	130.9	134.6	146.4	157.4	168.1	190.0	209.0
80°	104.7	92.1	92.1	93.9	93.4	98.0	106.3	115.1	122.9	138.6	152.6
82.5°	69.1	59.2	60.5	61.8	62.6	64.5	69.6	76.3	81.1	90.7	99.8
85°	38.3	31.6	32.9	34.0	33.5	35.6	38.3	42.3	44.7	49.2	54.1
87.5°	14.2	11.8	12.0	12.8	13.4	14.5	14.5	16.9	17.1	17.7	18.7
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°	1224.5	1224.5	1224.5
2.5°	1195.3	1201.8	1206.6
5°	1174.7	1180.1	1184.4
7.5°	1154.6	1159.5	1163.2
10°	1135.6	1141.0	1143.7
12.5°	1116.1	1122.3	1124.4
15°	1096.8	1103.0	1105.7
17.5°	1077.0	1085.1	1088.0
20°	1058.6	1068.7	1071.1
22.5°	1039.8	1050.3	1053.2
25°	1019.5	1031.8	1034.7
27.5°	997.8	1012.5	1015.5
30°	976.1	992.2	995.1
32.5°	952.8	970.2	972.9
35°	928.5	945.9	949.1
37.5°	901.4	920.5	926.9
40°	873.3	894.0	900.6
42.5°	843.9	866.4	873.3
45°	812.3	836.9	845.0
47.5°	780.5	808.3	815.3
50°	745.9	775.7	783.9
52.5°	709.8	742.2	750.5
55°	672.3	705.0	714.1
57.5°	631.7	665.4	675.0
60°	589.1	622.8	631.9
62.5°	545.5	576.0	584.8
65°	496.8	525.4	533.4
67.5°	445.1	471.3	478.0
70°	390.2	413.0	418.9
72.5°	333.0	348.7	356.5
75°	273.8	286.4	292.3
77.5°	214.4	223.2	228.0
80°	156.3	161.4	165.4
82.5°	102.2	104.4	107.3
85°	55.1	55.1	57.0
87.5°	18.7	17.9	18.7
90°	0.0	0.0	0.0

(END OF REPORT)