

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: P835162

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835162
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-LD4-4LO-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

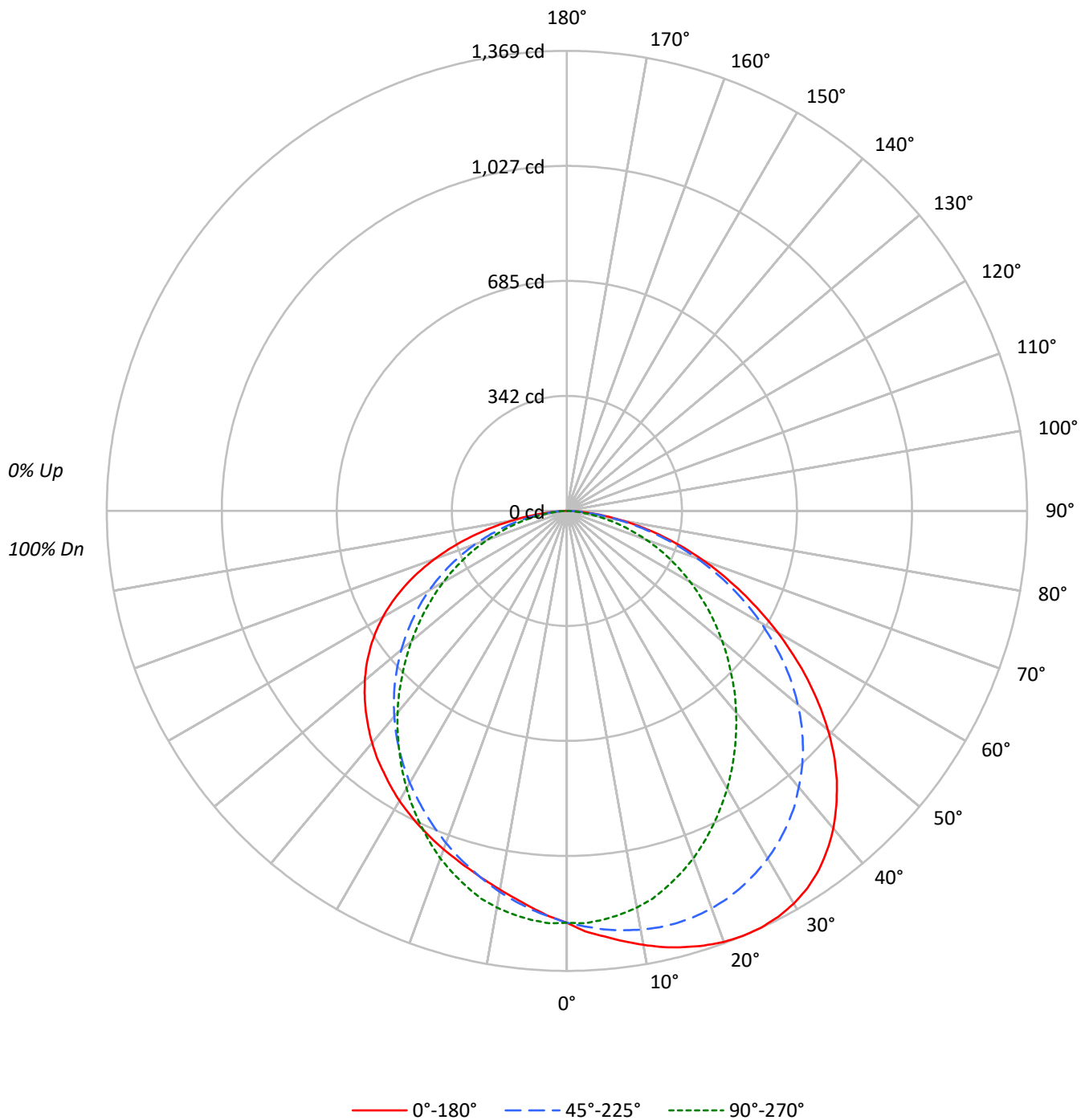
Lumens per Lamp: N/A
Luminaire Lumens: 3605.0 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3298	3298	3298
5°	3434	3300	3202
10°	3584	3275	3128
15°	3745	3222	3083
20°	3908	3151	3070
25°	4062	3060	3075
30°	4194	2964	3095
35°	4290	2858	3120
40°	4333	2752	3166
45°	4321	2636	3218
50°	4245	2526	3285
55°	4100	2409	3353
60°	3900	2285	3404
65°	3662	2146	3400
70°	3408	1979	3298
75°	3094	1738	3041
80°	2656	1429	2565
85°	2025	976	1763



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	3.2
10°-20°	335.7	9.3
20°-30°	514.2	14.3
30°-40°	627.6	17.4
40°-50°	656.3	18.2
50°-60°	594.0	16.5
60°-70°	449.8	12.5
70°-80°	250.7	7.0
80°-90°	60.5	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°	966.1	26.8
0°-40°	1593.7	44.2
0°-60°	2844.0	78.9
0°-90°	3605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3605.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1226	1226	1226	1226	1226	
5°	1271	1250	1222	1192	1185	123
15°	1344	1270	1157	1103	1107	381
25°	1368	1234	1030	994	1036	631
35°	1306	1142	870	869	950	815
45°	1136	993	693	723	846	874
55°	874	789	514	559	715	780
65°	575	541	337	383	534	571
75°	298	281	167	200	292	316
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°	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5
2.5°	1252.6	1246.7	1241.9	1243.8	1244.8	1241.1	1237.9	1238.4	1235.2	1241.3	1226.9
5°	1271.1	1265.7	1260.1	1262.2	1260.1	1254.5	1249.9	1248.6	1240.0	1243.5	1228.8
7.5°	1291.7	1285.8	1277.5	1279.9	1275.4	1264.9	1259.0	1255.5	1242.4	1242.7	1226.3
10°	1311.5	1306.4	1295.2	1296.8	1288.5	1274.6	1265.2	1260.4	1241.9	1239.2	1222.3
12.5°	1330.0	1323.1	1311.0	1311.8	1299.7	1281.3	1269.2	1262.2	1238.1	1230.1	1213.5
15°	1344.2	1337.5	1323.1	1322.8	1307.2	1283.1	1269.5	1259.8	1229.3	1216.7	1199.3
17.5°	1356.3	1350.1	1332.2	1331.6	1312.9	1282.3	1266.0	1253.9	1216.4	1200.9	1181.6
20°	1364.8	1358.7	1338.6	1336.7	1314.2	1278.3	1258.8	1243.5	1199.6	1181.1	1159.6
22.5°	1368.9	1362.7	1339.9	1337.2	1311.0	1270.3	1248.3	1230.4	1180.3	1156.2	1133.9
25°	1368.1	1362.2	1336.4	1333.8	1304.8	1258.2	1233.6	1213.0	1155.9	1127.5	1105.5
27.5°	1361.4	1356.8	1329.7	1326.3	1293.6	1241.9	1215.6	1192.9	1128.8	1097.2	1073.4
30°	1349.8	1346.4	1317.7	1314.5	1279.7	1223.9	1194.7	1168.5	1099.6	1064.0	1039.9
32.5°	1331.4	1328.1	1299.2	1296.3	1260.9	1200.9	1170.4	1143.3	1067.8	1028.4	1004.3
35°	1305.9	1304.0	1275.9	1272.7	1236.8	1174.6	1142.2	1112.5	1034.5	990.1	967.0
37.5°	1272.4	1272.4	1245.4	1241.9	1206.8	1142.5	1110.6	1079.0	997.0	949.9	927.1
40°	1233.6	1237.1	1209.5	1206.0	1172.0	1107.9	1073.1	1039.9	956.6	907.6	885.3
42.5°	1187.0	1190.2	1167.1	1163.9	1132.1	1068.0	1035.6	999.5	914.3	864.4	841.4
45°	1135.5	1139.8	1119.2	1116.8	1087.1	1024.4	993.3	956.6	870.1	819.4	796.9
47.5°	1078.2	1083.8	1065.9	1064.5	1037.0	979.6	947.2	910.0	823.7	772.6	751.4
50°	1013.9	1022.0	1007.2	1007.2	982.6	925.5	897.4	860.2	775.5	724.3	703.4
52.5°	945.1	955.3	944.3	944.5	924.4	873.3	844.1	807.7	725.1	674.8	655.5
55°	873.8	883.7	876.8	877.8	862.0	815.4	788.9	752.7	673.7	624.7	606.5
57.5°	799.3	810.1	805.5	807.7	796.7	754.9	727.3	695.7	620.7	572.2	556.7
60°	724.6	734.8	732.4	735.3	728.4	692.2	667.0	634.3	567.4	520.8	507.1
62.5°	649.1	658.4	657.9	661.1	657.4	627.4	604.9	577.0	512.2	469.3	456.7
65°	575.1	583.2	582.6	586.1	585.3	561.2	540.8	515.4	457.0	417.6	406.6
67.5°	503.3	510.0	508.2	512.2	513.3	494.0	476.3	453.5	404.5	366.2	356.8
70°	433.2	437.7	435.3	438.0	440.4	425.9	410.9	390.8	348.5	314.8	307.0
72.5°	364.3	367.5	363.8	366.5	368.6	358.2	345.8	328.4	293.3	264.1	257.7
75°	297.6	302.2	294.4	297.1	298.7	288.2	281.0	266.8	236.5	214.0	209.7
77.5°	233.1	235.7	231.4	230.4	231.4	223.9	218.3	207.3	184.6	166.1	163.4
80°	171.4	173.0	168.8	167.7	168.5	163.1	158.9	150.8	134.7	120.8	119.7
82.5°	114.9	115.7	112.0	110.9	111.4	109.8	104.7	99.1	91.6	79.8	79.6
85°	65.6	65.6	63.0	61.9	62.4	59.7	57.9	54.9	52.0	43.9	44.5
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°	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5	1225.5
2.5°	1230.9	1228.2	1225.8	1217.5	1221.0	1212.4	1211.9	1208.7	1206.3	1201.7	1207.6
5°	1226.9	1221.5	1214.6	1204.6	1207.6	1197.4	1195.3	1191.5	1188.3	1182.4	1187.0
7.5°	1220.5	1211.6	1200.6	1188.0	1192.1	1179.5	1176.3	1172.2	1169.6	1162.6	1166.6
10°	1211.1	1198.5	1185.6	1170.4	1173.3	1159.6	1155.6	1151.3	1148.9	1142.8	1146.8
12.5°	1196.6	1181.3	1163.9	1147.3	1150.5	1137.7	1132.3	1127.8	1127.0	1121.9	1126.7
15°	1177.9	1156.7	1138.8	1121.1	1124.8	1109.8	1107.4	1102.9	1104.2	1100.7	1106.6
17.5°	1154.0	1129.6	1110.1	1091.1	1094.8	1082.2	1080.4	1078.2	1079.6	1079.0	1085.4
20°	1127.2	1100.4	1077.9	1059.2	1061.3	1051.4	1052.2	1051.7	1054.4	1057.3	1066.2
22.5°	1097.0	1066.7	1043.1	1023.8	1027.0	1018.5	1022.2	1023.3	1027.8	1034.5	1045.8
25°	1062.9	1030.5	1005.9	987.7	990.6	985.0	991.4	994.1	1001.3	1012.6	1024.1
27.5°	1027.3	993.0	966.8	949.4	955.0	949.4	959.0	964.4	975.3	987.7	1001.9
30°	989.5	953.9	926.9	911.3	916.7	911.6	927.1	934.4	945.3	962.2	979.1
32.5°	949.9	912.4	885.9	873.8	877.6	876.8	894.2	902.2	916.9	936.2	954.2
35°	909.2	870.1	843.3	833.1	837.7	838.7	859.6	869.0	885.1	908.4	927.7
37.5°	867.1	827.2	801.0	792.7	796.7	800.7	825.1	834.4	852.7	878.1	899.3
40°	823.5	783.5	757.8	751.1	755.1	759.4	786.0	798.8	818.6	846.2	869.3
42.5°	779.3	739.3	714.4	709.6	713.6	721.9	750.1	762.1	783.0	813.5	839.0
45°	734.3	692.7	671.0	667.3	671.6	681.2	708.8	723.3	745.5	779.0	806.3
47.5°	688.7	648.3	627.6	625.2	629.5	640.2	670.8	683.9	707.5	743.1	772.6
50°	642.6	603.3	583.4	582.6	586.7	598.2	627.4	642.9	667.3	707.2	737.5
52.5°	596.0	558.3	540.3	540.3	544.1	555.8	585.3	601.4	626.6	668.6	702.1
55°	549.4	513.5	496.4	497.7	503.1	513.3	541.9	558.8	584.2	627.9	663.3
57.5°	502.8	468.8	453.3	455.1	460.2	470.4	498.5	517.5	540.6	585.9	622.0
60°	456.7	424.6	410.9	413.1	417.6	427.8	457.0	473.3	496.4	542.5	578.6
62.5°	410.1	380.9	368.1	370.7	374.8	384.9	412.5	428.3	451.1	496.4	532.8
65°	364.0	337.0	326.0	328.7	332.4	341.8	367.8	383.1	404.8	449.0	483.8
67.5°	318.5	293.9	284.8	287.4	290.4	299.2	320.7	337.3	357.6	399.7	432.6
70°	273.5	251.5	243.5	246.2	248.9	256.9	275.6	290.9	309.7	348.2	378.8
72.5°	229.0	207.6	203.6	206.0	208.1	215.1	233.1	245.1	261.4	295.7	322.0
75°	185.6	167.2	164.5	166.9	168.8	174.1	189.1	199.6	213.2	243.0	264.4
77.5°	143.9	128.3	127.2	129.1	131.0	134.7	146.5	157.5	168.2	190.2	209.2
80°	104.7	92.2	92.2	94.0	93.5	98.0	106.3	115.2	123.0	138.8	152.7
82.5°	69.1	59.2	60.5	61.9	62.7	64.6	69.6	76.3	81.2	90.8	99.9
85°	38.3	31.6	32.9	34.0	33.5	35.6	38.3	42.3	44.7	49.3	54.1
87.5°	14.2	11.8	12.1	12.9	13.4	14.5	14.5	16.9	17.1	17.7	18.8
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):

	160°	170°	180°
0°	1225.5	1225.5	1225.5
2.5°	1196.3	1202.8	1207.6
5°	1175.7	1181.1	1185.4
7.5°	1155.6	1160.4	1164.2
10°	1136.6	1142.0	1144.6
12.5°	1117.1	1123.2	1125.4
15°	1097.8	1103.9	1106.6
17.5°	1077.9	1086.0	1088.9
20°	1059.5	1069.6	1072.0
22.5°	1040.7	1051.2	1054.1
25°	1020.3	1032.7	1035.6
27.5°	998.7	1013.4	1016.3
30°	977.0	993.0	996.0
32.5°	953.6	971.1	973.7
35°	929.3	946.7	949.9
37.5°	902.2	921.2	927.7
40°	874.1	894.7	901.4
42.5°	844.6	867.1	874.1
45°	813.0	837.7	845.7
47.5°	781.1	809.0	816.0
50°	746.6	776.3	784.6
52.5°	710.4	742.8	751.1
55°	672.9	705.6	714.7
57.5°	632.2	665.9	675.6
60°	589.6	623.4	632.5
62.5°	545.9	576.5	585.3
65°	497.2	525.8	533.9
67.5°	445.5	471.7	478.4
70°	390.6	413.3	419.2
72.5°	333.2	349.0	356.8
75°	274.0	286.6	292.5
77.5°	214.6	223.4	228.2
80°	156.4	161.5	165.5
82.5°	102.3	104.5	107.4
85°	55.2	55.2	57.1
87.5°	18.8	17.9	18.8
90°	0.0	0.0	0.0

(END OF REPORT)