

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: P835213

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835213
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-LD4-3LO-35-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

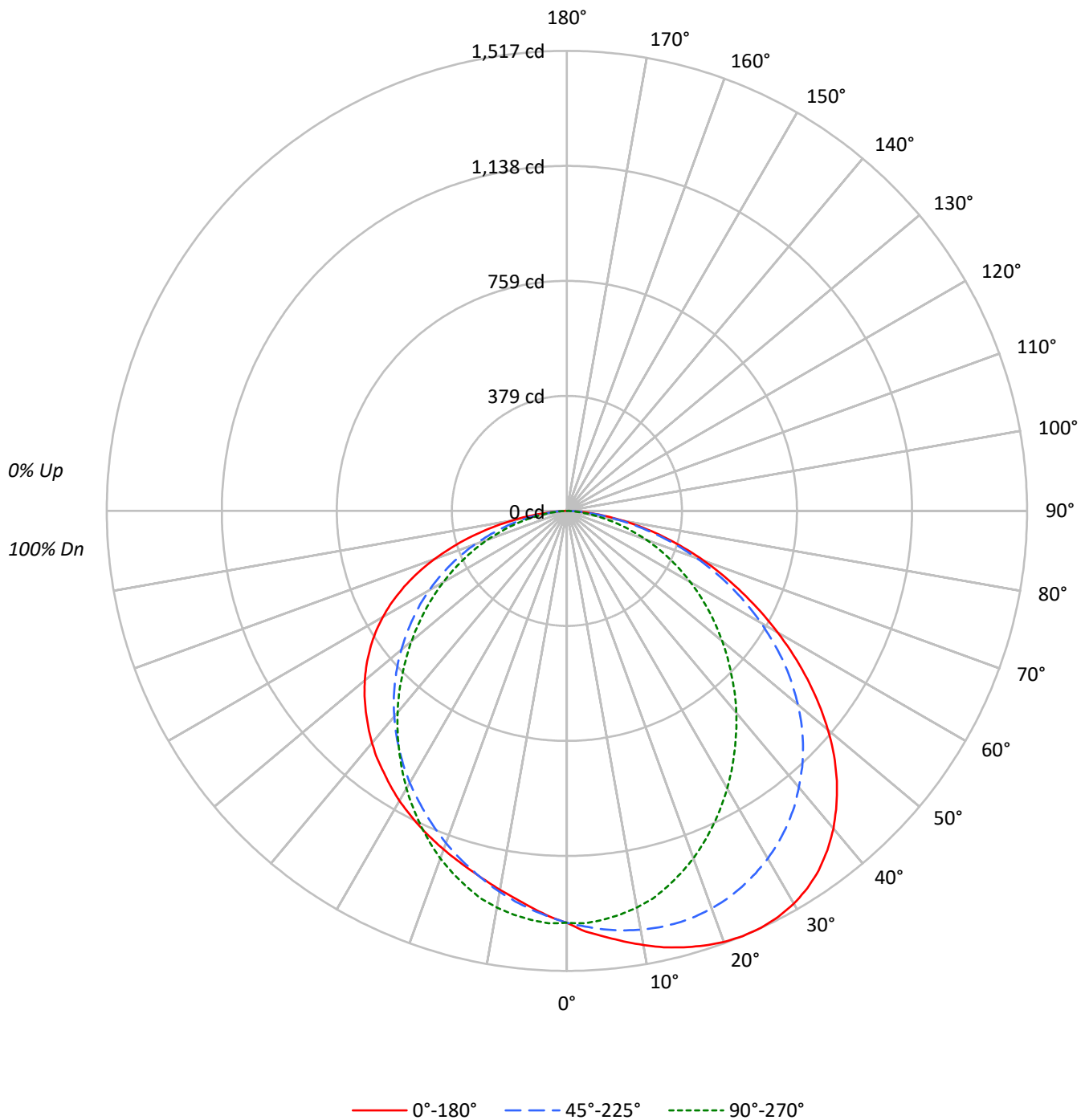
Lumens per Lamp: N/A
Luminaire Lumens: 3995.5 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 35.1
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

TEST NUMBER: P835213

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835213

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD

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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3655	3655	3655
5°	3806	3657	3549
10°	3972	3630	3467
15°	4150	3572	3417
20°	4332	3493	3403
25°	4502	3391	3408
30°	4649	3285	3430
35°	4755	3168	3459
40°	4803	3051	3510
45°	4790	2922	3567
50°	4705	2799	3641
55°	4544	2670	3716
60°	4322	2533	3773
65°	4059	2378	3768
70°	3777	2194	3655
75°	3430	1927	3371
80°	2944	1582	2844
85°	2245	1081	1951



TEST NUMBER: P835213
 CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.8	3.2
10°-20°	372.0	9.3
20°-30°	569.9	14.3
30°-40°	695.5	17.4
40°-50°	727.4	18.2
50°-60°	658.3	16.5
60°-70°	498.6	12.5
70°-80°	277.9	7.0
80°-90°	67.0	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°	1070.8	26.8
0°-40°	1766.3	44.2
0°-60°	3152.1	78.9
0°-90°	3995.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3995.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1358	1358	1358	1358	1358	
5°	1409	1385	1354	1321	1314	136
15°	1490	1407	1282	1222	1226	423
25°	1516	1367	1142	1102	1148	699
35°	1447	1266	964	963	1053	904
45°	1259	1101	768	802	937	968
55°	968	874	569	619	792	864
65°	637	599	374	425	592	632
75°	330	311	185	221	324	350
85°	73	64	35	47	63	88
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835213

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
2.5°	1388.3	1381.8	1376.4	1378.5	1379.7	1375.5	1372.0	1372.6	1369.0	1375.8	1359.8
5°	1408.8	1402.9	1396.6	1399.0	1396.6	1390.4	1385.3	1383.8	1374.3	1378.2	1361.9
7.5°	1431.7	1425.1	1415.9	1418.6	1413.5	1402.0	1395.4	1391.6	1377.0	1377.3	1359.2
10°	1453.6	1448.0	1435.5	1437.3	1428.1	1412.6	1402.3	1396.9	1376.4	1373.5	1354.8
12.5°	1474.1	1466.4	1453.0	1453.9	1440.6	1420.1	1406.7	1399.0	1372.3	1363.4	1345.0
15°	1489.8	1482.4	1466.4	1466.1	1448.9	1422.1	1407.0	1396.3	1362.5	1348.5	1329.2
17.5°	1503.2	1496.4	1476.5	1475.9	1455.1	1421.3	1403.1	1389.8	1348.2	1331.0	1309.6
20°	1512.7	1505.9	1483.6	1481.5	1456.6	1416.8	1395.1	1378.2	1329.5	1309.0	1285.3
22.5°	1517.2	1510.3	1485.1	1482.1	1453.0	1407.9	1383.6	1363.7	1308.1	1281.4	1256.8
25°	1516.3	1509.7	1481.2	1478.3	1446.2	1394.5	1367.2	1344.4	1281.1	1249.7	1225.3
27.5°	1508.8	1503.8	1473.8	1470.0	1433.7	1376.4	1347.3	1322.1	1251.1	1216.1	1189.7
30°	1496.1	1492.2	1460.4	1456.9	1418.3	1356.5	1324.2	1295.1	1218.8	1179.3	1152.6
32.5°	1475.6	1472.0	1440.0	1436.7	1397.5	1331.0	1297.2	1267.2	1183.4	1139.8	1113.1
35°	1447.4	1445.3	1414.1	1410.6	1370.8	1301.9	1266.0	1233.0	1146.6	1097.3	1071.8
37.5°	1410.3	1410.3	1380.3	1376.4	1337.5	1266.3	1230.9	1195.9	1105.1	1052.8	1027.6
40°	1367.2	1371.1	1340.5	1336.6	1298.9	1228.0	1189.4	1152.6	1060.2	1005.9	981.3
42.5°	1315.6	1319.1	1293.6	1290.0	1254.7	1183.7	1147.8	1107.7	1013.3	958.1	932.6
45°	1258.6	1263.3	1240.4	1237.8	1204.8	1135.3	1100.9	1060.2	964.3	908.2	883.3
47.5°	1195.0	1201.3	1181.4	1179.9	1149.3	1085.8	1049.8	1008.6	913.0	856.3	832.8
50°	1123.8	1132.7	1116.3	1116.3	1089.0	1025.8	994.6	953.3	859.5	802.8	779.7
52.5°	1047.5	1058.7	1046.6	1046.9	1024.6	967.9	935.5	895.2	803.7	747.9	726.5
55°	968.5	979.5	971.8	972.9	955.4	903.8	874.4	834.3	746.7	692.4	672.2
57.5°	885.9	897.8	892.8	895.2	883.0	836.7	806.1	771.0	687.9	634.2	617.0
60°	803.1	814.4	811.7	815.0	807.3	767.2	739.3	703.1	628.8	577.2	562.0
62.5°	719.4	729.8	729.2	732.7	728.6	695.3	670.4	639.5	567.7	520.2	506.2
65°	637.4	646.4	645.8	649.6	648.7	622.0	599.4	571.2	506.5	462.9	450.7
67.5°	557.9	565.3	563.2	567.7	568.9	547.5	527.9	502.7	448.3	405.9	395.5
70°	480.1	485.1	482.5	485.4	488.1	472.1	455.4	433.2	386.3	348.9	340.2
72.5°	403.8	407.3	403.2	406.2	408.5	397.0	383.3	364.0	325.1	292.7	285.6
75°	329.9	334.9	326.3	329.3	331.0	319.5	311.4	295.7	262.2	237.2	232.5
77.5°	258.3	261.3	256.5	255.3	256.5	248.2	242.0	229.8	204.6	184.1	181.1
80°	190.0	191.8	187.0	185.9	186.7	180.8	176.1	167.2	149.3	133.9	132.7
82.5°	127.4	128.3	124.1	122.9	123.5	121.7	116.1	109.9	101.5	88.5	88.2
85°	72.7	72.7	69.8	68.6	69.2	66.2	64.1	60.9	57.6	48.7	49.3
87.5°	26.7	26.7	25.2	24.9	27.9	24.6	23.8	22.3	23.2	18.4	19.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835213

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
2.5°	1364.3	1361.3	1358.6	1349.4	1353.3	1343.8	1343.2	1339.6	1336.9	1331.9	1338.4
5°	1359.8	1353.9	1346.1	1335.2	1338.4	1327.1	1324.8	1320.6	1317.0	1310.5	1315.6
7.5°	1352.7	1342.9	1330.7	1316.8	1321.2	1307.2	1303.7	1299.2	1296.3	1288.5	1293.0
10°	1342.3	1328.3	1314.1	1297.2	1300.4	1285.3	1280.8	1276.1	1273.4	1266.6	1271.0
12.5°	1326.3	1309.3	1290.0	1271.6	1275.2	1260.9	1255.0	1249.9	1249.1	1243.4	1248.8
15°	1305.5	1282.0	1262.1	1242.5	1246.7	1230.1	1227.4	1222.3	1223.8	1220.0	1226.5
17.5°	1279.0	1252.0	1230.4	1209.3	1213.4	1199.5	1197.4	1195.0	1196.5	1195.9	1203.0
20°	1249.4	1219.7	1194.7	1173.9	1176.3	1165.3	1166.2	1165.6	1168.6	1171.9	1181.7
22.5°	1215.8	1182.3	1156.1	1134.8	1138.3	1128.8	1133.0	1134.2	1139.2	1146.6	1159.1
25°	1178.1	1142.2	1114.9	1094.7	1097.9	1091.7	1098.8	1101.8	1109.8	1122.3	1135.0
27.5°	1138.6	1100.6	1071.5	1052.2	1058.4	1052.2	1062.9	1068.8	1081.0	1094.7	1110.4
30°	1096.7	1057.3	1027.3	1010.1	1016.0	1010.3	1027.6	1035.6	1047.8	1066.5	1085.2
32.5°	1052.8	1011.2	981.8	968.5	972.6	971.8	991.1	1000.0	1016.3	1037.7	1057.6
35°	1007.7	964.3	934.6	923.4	928.4	929.6	952.8	963.1	981.0	1006.8	1028.2
37.5°	961.1	916.8	887.7	878.5	883.0	887.4	914.5	924.8	945.0	973.2	996.7
40°	912.7	868.4	839.9	832.5	837.0	841.7	871.1	885.4	907.3	937.9	963.4
42.5°	863.7	819.4	791.8	786.5	790.9	800.1	831.3	844.7	867.8	901.7	929.9
45°	813.8	767.8	743.7	739.6	744.3	755.0	785.6	801.6	826.3	863.4	893.7
47.5°	763.3	718.5	695.6	693.0	697.7	709.6	743.4	758.0	784.1	823.6	856.3
50°	712.3	668.6	646.6	645.8	650.2	663.0	695.3	712.6	739.6	783.8	817.4
52.5°	660.6	618.7	598.8	598.8	603.0	616.1	648.7	666.5	694.4	741.1	778.2
55°	608.9	569.2	550.2	551.6	557.6	568.9	600.6	619.3	647.5	695.9	735.1
57.5°	557.3	519.6	502.4	504.4	510.1	521.4	552.5	573.6	599.1	649.3	689.4
60°	506.2	470.6	455.4	457.8	462.9	474.1	506.5	524.6	550.2	601.2	641.3
62.5°	454.6	422.2	407.9	410.9	415.4	426.6	457.2	474.7	500.0	550.2	590.5
65°	403.5	373.5	361.3	364.3	368.5	378.8	407.6	424.6	448.6	497.6	536.2
67.5°	353.0	325.7	315.6	318.6	321.8	331.6	355.4	373.8	396.4	443.0	479.5
70°	303.1	278.8	269.9	272.9	275.8	284.7	305.5	322.4	343.2	386.0	419.8
72.5°	253.8	230.1	225.6	228.3	230.7	238.4	258.3	271.7	289.8	327.8	356.9
75°	205.8	185.3	182.3	185.0	187.0	193.0	209.6	221.2	236.3	269.3	293.0
77.5°	159.4	142.2	141.0	143.1	145.2	149.3	162.4	174.6	186.5	210.8	231.9
80°	116.1	102.1	102.1	104.2	103.6	108.7	117.9	127.7	136.3	153.8	169.2
82.5°	76.6	65.6	67.1	68.6	69.5	71.6	77.2	84.6	90.0	100.6	110.7
85°	42.5	35.0	36.5	37.7	37.1	39.5	42.5	46.9	49.6	54.6	60.0
87.5°	15.7	13.1	13.4	14.3	14.8	16.0	16.0	18.7	19.0	19.6	20.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835213

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1358.3	1358.3	1358.3
2.5°	1326.0	1333.1	1338.4
5°	1303.1	1309.0	1313.8
7.5°	1280.8	1286.2	1290.3
10°	1259.7	1265.7	1268.7
12.5°	1238.1	1244.9	1247.3
15°	1216.7	1223.5	1226.5
17.5°	1194.7	1203.6	1206.9
20°	1174.2	1185.5	1188.2
22.5°	1153.5	1165.0	1168.3
25°	1130.9	1144.5	1147.8
27.5°	1106.8	1123.2	1126.4
30°	1082.8	1100.6	1103.9
32.5°	1057.0	1076.3	1079.2
35°	1029.9	1049.2	1052.8
37.5°	1000.0	1021.0	1028.2
40°	968.8	991.6	999.1
42.5°	936.1	961.1	968.8
45°	901.1	928.4	937.3
47.5°	865.8	896.6	904.4
50°	827.5	860.4	869.6
52.5°	787.4	823.3	832.5
55°	745.8	782.0	792.1
57.5°	700.7	738.1	748.8
60°	653.5	690.9	701.0
62.5°	605.1	638.9	648.7
65°	551.0	582.8	591.7
67.5°	493.7	522.8	530.3
70°	432.9	458.1	464.6
72.5°	369.3	386.9	395.5
75°	303.7	317.7	324.2
77.5°	237.8	247.6	253.0
80°	173.4	179.0	183.5
82.5°	113.4	115.8	119.1
85°	61.2	61.2	63.2
87.5°	20.8	19.9	20.8
90°	0.0	0.0	0.0

(END OF REPORT)