

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: P837770

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2LO-20-120-EDD-90**

Issue Date: 5/21/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P837770
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-2LO-20-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

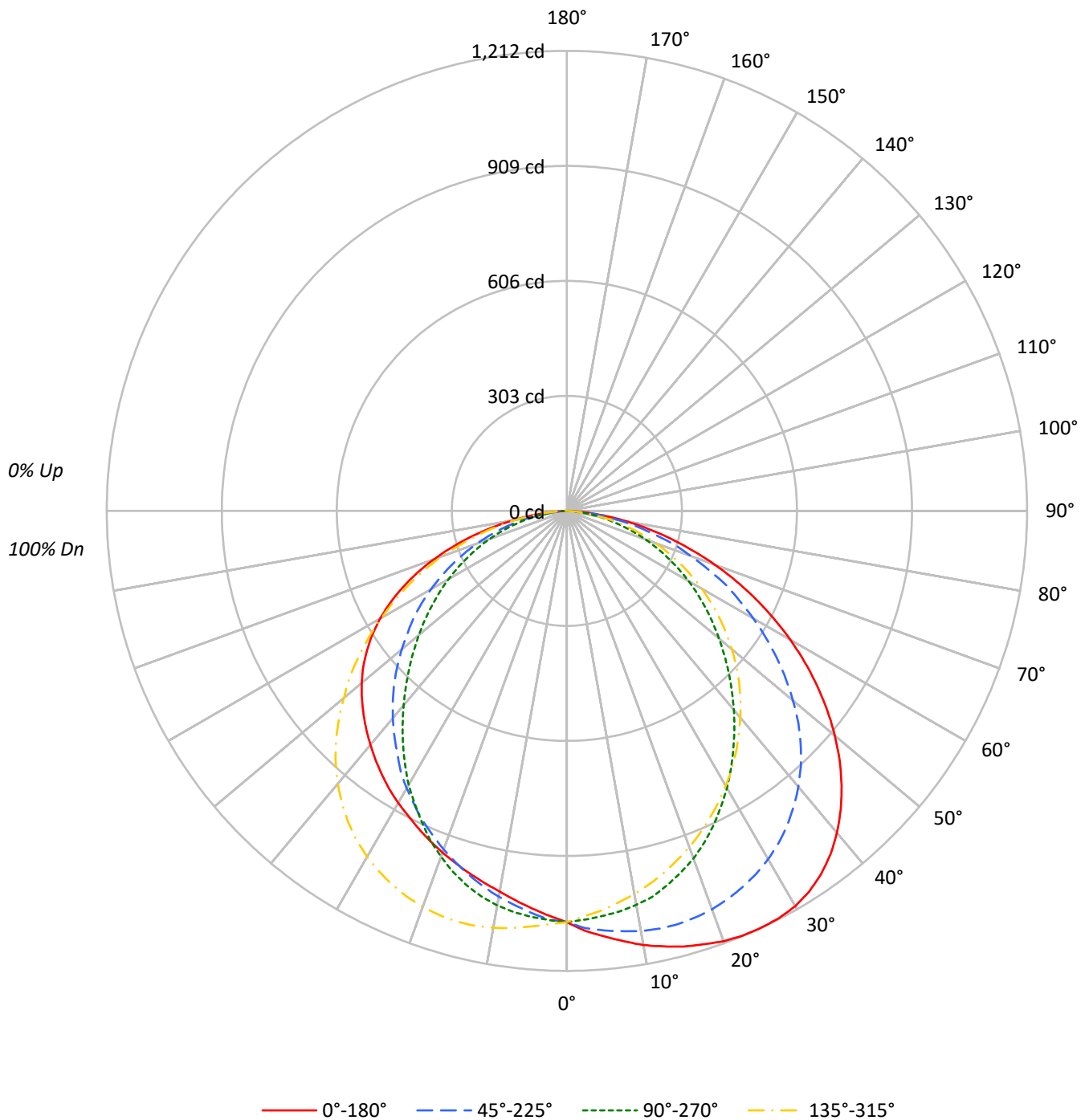
Lumens per Lamp: N/A
Luminaire Lumens: 3178.8 lumens
Efficiency: N/A
Efficacy: 67.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: 25 FT

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Luminous Intensity Polar Plot



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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
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	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	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	74	62	53	47	59	52	46		57	51	46		56
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	47	38	32	59	46	38	32	45	37	32		43	37	32		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°	270°
0°	2916	2916	2916	2916
5°	3039	2895	2840	2900
10°	3174	2880	2782	2884
15°	3310	2843	2755	2844
20°	3454	2792	2743	2776
25°	3597	2714	2743	2686
30°	3736	2619	2761	2590
35°	3836	2511	2789	2472
40°	3887	2403	2828	2349
45°	3895	2294	2883	2236
50°	3858	2189	2953	2131
55°	3778	2092	3019	2034
60°	3659	1990	3059	1939
65°	3496	1873	3043	1830
70°	3265	1736	2935	1704
75°	2938	1548	2694	1540
80°	2490	1297	2264	1316
85°	1732	858	1436	883

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.9	3.2
10°-20°	297.9	9.4
20°-30°	456.5	14.4
30°-40°	555.1	17.5
40°-50°	577.1	18.2
50°-60°	521.3	16.4
60°-70°	396.3	12.5
70°-80°	220.9	7.0
80°-90°	50.9	1.6
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°	857.3	27.0
0°-40°	1412.4	44.4
0°-60°	2510.7	79.0
0°-90°	3178.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3178.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1084	1084	1084	1084	1084	
5°	1125	1072	1051	1073	1125	108
15°	1188	1021	989	1021	1188	337
25°	1212	914	924	905	1212	560
35°	1168	764	849	752	1168	729
45°	1023	603	758	588	1023	788
55°	805	446	644	434	805	719
65°	549	294	478	287	549	542
75°	283	149	259	148	283	300
85°	56	28	46	29	56	71
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5
2.5°	1107.5	1091.3	1091.6	1105.7	1094.9	1100.2	1085.0	1090.8	1089.1	1090.3	1077.9
5°	1125.0	1107.5	1107.3	1119.4	1107.3	1109.5	1090.3	1094.1	1088.6	1085.0	1071.6
7.5°	1143.4	1126.0	1124.2	1134.8	1118.9	1117.1	1095.9	1095.9	1085.8	1076.9	1064.3
10°	1161.6	1143.7	1141.4	1149.5	1129.8	1123.9	1098.2	1094.1	1080.7	1067.6	1053.9
12.5°	1175.2	1157.1	1155.3	1160.3	1138.1	1127.5	1098.2	1090.3	1070.6	1052.2	1041.5
15°	1188.1	1169.4	1164.6	1167.2	1141.6	1127.5	1094.6	1082.5	1057.2	1033.0	1020.6
17.5°	1197.2	1179.3	1174.5	1174.2	1143.4	1123.2	1087.0	1070.4	1040.0	1010.7	998.3
20°	1206.3	1188.4	1182.3	1177.8	1142.9	1117.4	1075.9	1053.4	1018.0	985.2	974.8
22.5°	1210.9	1192.4	1185.9	1179.0	1139.6	1106.8	1062.3	1033.7	993.3	954.1	945.5
25°	1211.6	1192.7	1185.6	1175.8	1133.0	1094.1	1044.6	1010.0	964.7	921.2	913.9
27.5°	1209.6	1188.9	1181.8	1169.9	1123.2	1078.7	1023.6	982.9	934.4	886.4	878.5
30°	1202.5	1181.6	1174.7	1159.3	1109.3	1059.7	1000.6	952.8	900.8	849.7	842.9
32.5°	1188.4	1167.9	1162.4	1146.9	1094.1	1037.8	973.8	920.5	863.6	814.8	804.7
35°	1167.7	1147.2	1143.7	1127.5	1072.9	1011.5	944.5	885.1	824.2	774.4	764.5
37.5°	1140.6	1123.4	1118.1	1102.2	1047.9	981.6	910.9	846.7	784.0	730.4	724.4
40°	1106.5	1090.3	1086.3	1072.1	1018.8	948.5	874.5	807.0	742.6	692.8	684.2
42.5°	1067.6	1052.4	1050.1	1035.5	982.9	911.9	835.1	765.8	699.3	651.3	642.7
45°	1023.4	1008.7	1008.2	994.3	943.7	871.2	793.6	724.1	657.1	607.3	602.8
47.5°	974.6	961.4	961.4	948.5	900.0	826.5	750.9	680.6	614.7	570.7	562.6
50°	921.5	909.1	905.3	899.0	851.7	777.7	705.9	638.2	572.7	530.8	522.9
52.5°	864.9	854.3	856.8	845.2	799.4	726.9	660.4	590.4	530.5	492.3	484.5
55°	805.2	790.1	792.3	788.0	744.8	674.6	609.4	551.0	489.1	453.2	445.8
57.5°	743.3	723.6	731.7	729.2	686.7	621.0	562.6	506.2	447.9	414.7	407.7
60°	679.9	660.9	669.3	667.0	627.1	567.4	514.3	462.0	406.9	376.8	369.8
62.5°	614.7	597.2	604.8	603.0	566.4	512.6	466.3	418.3	365.7	338.7	332.1
65°	549.0	532.3	539.1	537.8	504.0	463.0	417.0	373.0	324.3	300.8	294.2
67.5°	481.7	466.3	472.6	472.6	441.5	402.4	367.5	327.3	283.6	263.4	257.3
70°	415.0	400.6	406.2	405.7	379.4	347.5	317.4	281.6	242.4	225.7	220.6
72.5°	347.8	335.1	340.2	339.7	317.7	297.2	267.4	236.3	202.2	188.8	184.2
75°	282.6	270.7	275.5	275.0	257.0	237.8	217.9	192.1	162.8	153.4	148.9
77.5°	220.4	208.3	212.3	212.3	199.2	185.3	169.3	149.4	128.6	118.5	115.3
80°	160.7	154.9	152.9	153.2	144.3	135.2	127.1	107.9	92.8	85.9	83.7
82.5°	105.6	100.8	98.8	99.3	94.3	88.7	83.7	70.3	60.2	56.1	54.8
85°	56.1	52.6	50.8	52.1	51.1	48.0	45.5	36.4	30.1	28.6	27.8
87.5°	17.7	15.4	14.2	18.7	15.9	14.2	13.6	10.9	8.3	8.3	8.1
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5
2.5°	1082.0	1082.0	1072.1	1069.9	1068.8	1070.1	1060.3	1058.5	1072.6	1067.8	1057.0
5°	1073.4	1072.9	1059.0	1056.5	1056.5	1054.9	1043.8	1041.3	1055.4	1051.4	1039.5
7.5°	1062.8	1061.3	1044.8	1043.1	1040.5	1039.5	1027.1	1025.4	1037.5	1035.0	1023.9
10°	1049.9	1048.4	1028.9	1027.6	1024.9	1022.8	1011.2	1010.0	1022.3	1018.3	1009.5
12.5°	1033.0	1030.2	1010.2	1008.9	1006.7	1005.9	994.5	994.0	1007.7	1003.6	994.3
15°	1010.7	1008.4	986.2	986.7	987.0	987.0	977.9	977.4	990.7	989.0	978.9
17.5°	986.2	983.2	961.9	963.5	965.2	967.2	960.2	961.4	975.6	973.3	964.2
20°	958.4	955.4	934.6	938.9	942.7	946.8	942.2	945.8	958.9	957.9	951.1
22.5°	927.3	924.3	905.1	911.6	918.0	925.5	923.5	927.6	941.5	941.2	935.1
25°	889.4	890.2	873.2	881.3	891.9	902.5	903.3	909.9	925.3	923.8	918.2
27.5°	854.0	855.0	837.1	850.7	864.9	878.5	881.8	890.9	906.6	905.3	900.5
30°	816.9	818.1	800.7	819.4	836.6	853.3	860.3	872.7	888.6	888.6	883.6
32.5°	778.2	780.5	762.3	787.3	807.3	826.7	839.1	852.0	870.2	869.7	865.4
35°	738.5	741.0	724.4	756.2	776.2	799.9	815.3	832.5	848.7	849.0	845.7
37.5°	698.1	701.1	685.9	720.8	743.6	771.6	791.3	808.5	826.5	827.5	824.4
40°	657.9	661.2	648.0	681.6	710.5	741.8	764.5	784.8	804.5	805.0	803.0
42.5°	617.7	621.2	611.4	644.2	676.8	710.5	737.2	760.2	780.5	781.7	779.5
45°	578.5	581.6	574.5	610.4	641.7	678.4	709.2	735.2	755.7	757.5	756.7
47.5°	539.6	542.4	536.1	568.9	605.1	644.0	679.6	708.4	730.2	732.2	731.7
50°	501.4	503.7	496.9	531.3	567.2	608.6	645.8	679.1	703.4	705.4	705.1
52.5°	463.5	465.8	460.0	496.1	528.7	572.5	612.9	649.0	673.1	676.1	676.6
55°	426.9	427.9	423.3	458.0	489.6	535.3	581.8	616.9	641.0	643.5	645.0
57.5°	390.2	390.5	386.7	419.8	450.1	496.9	545.7	582.6	605.3	607.8	610.1
60°	353.8	353.6	349.3	381.4	410.5	456.7	507.5	544.2	566.1	568.4	571.4
62.5°	317.7	316.9	313.1	342.7	370.0	415.8	466.8	502.2	523.2	524.7	528.7
65°	281.8	281.0	277.5	304.8	329.6	373.3	423.3	457.0	475.9	477.9	477.2
67.5°	246.4	244.9	242.1	266.6	289.1	329.6	377.6	409.7	425.4	427.1	431.9
70°	211.0	209.3	203.0	229.0	248.7	284.8	329.6	358.1	371.3	373.0	372.3
72.5°	176.2	174.4	167.6	191.6	208.3	239.9	279.8	303.5	314.9	316.4	316.4
75°	142.3	141.3	137.0	155.2	169.1	194.9	228.7	248.4	257.3	259.1	258.6
77.5°	109.7	108.9	104.6	120.3	131.2	150.4	177.7	193.1	199.7	201.7	206.0
80°	78.6	78.3	71.5	86.9	91.7	107.9	127.9	139.8	143.3	146.1	149.1
82.5°	50.3	50.5	43.7	56.9	58.9	69.3	81.6	89.0	91.5	93.8	96.0
85°	24.5	25.5	21.7	30.1	30.3	35.6	40.9	43.7	44.7	46.5	48.5
87.5°	6.3	7.3	4.0	8.6	7.6	9.9	11.4	12.1	11.9	13.1	13.9
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5
2.5°	1060.5	1068.6	1064.5	1077.7	1082.7	1074.7	1088.8	1089.1	1079.0	1090.8	1097.4
5°	1044.1	1052.4	1049.9	1063.5	1069.9	1062.8	1080.0	1083.3	1073.4	1086.8	1097.4
7.5°	1027.4	1037.3	1034.0	1047.9	1055.4	1049.9	1068.3	1073.6	1066.1	1080.7	1094.9
10°	1013.0	1021.3	1017.8	1032.4	1039.0	1034.5	1052.7	1062.5	1055.4	1073.4	1090.3
12.5°	998.8	1005.7	1001.6	1013.7	1020.1	1014.3	1036.5	1045.6	1040.5	1059.2	1081.0
15°	980.6	988.2	982.7	993.5	998.3	993.3	1011.5	1027.1	1020.8	1041.3	1065.3
17.5°	966.7	971.0	963.5	972.0	974.8	968.0	986.5	1001.9	997.3	1019.6	1047.4
20°	951.3	954.9	944.2	949.0	948.8	940.2	957.1	972.3	969.3	993.8	1025.4
22.5°	934.1	935.9	923.5	924.5	924.0	909.9	925.0	940.5	939.2	964.0	999.3
25°	915.9	916.2	900.3	899.8	894.2	877.5	890.9	908.4	904.6	931.4	968.5
27.5°	898.0	895.5	876.3	871.7	862.9	842.9	854.8	870.4	868.2	894.5	935.6
30°	878.8	875.5	852.0	843.7	830.8	807.8	817.6	832.3	833.5	856.5	899.8
32.5°	860.6	852.2	826.2	814.1	797.9	771.1	776.4	791.3	793.4	816.6	861.1
35°	837.1	831.5	799.4	778.7	762.8	733.5	739.0	749.4	752.4	775.2	820.4
37.5°	814.8	806.0	771.9	746.6	726.1	695.3	696.8	707.4	710.5	733.5	778.2
40°	791.8	779.2	742.6	713.0	689.5	657.1	655.4	666.5	668.8	691.2	731.7
42.5°	767.3	752.2	711.0	678.6	651.6	618.7	615.2	624.8	627.3	649.3	689.0
45°	742.6	724.4	678.6	643.2	613.7	580.0	576.5	583.8	587.6	608.3	646.5
47.5°	716.3	695.0	645.2	605.8	575.2	541.6	537.3	544.7	547.7	568.2	604.3
50°	688.7	662.9	610.9	567.4	537.1	504.0	497.6	506.2	509.0	528.2	563.6
52.5°	658.4	629.8	574.2	528.7	498.4	466.8	459.2	467.6	470.9	489.6	522.2
55°	626.3	595.5	537.3	493.1	460.2	429.4	423.1	426.4	433.5	451.1	481.5
57.5°	590.2	559.6	498.4	453.4	421.8	392.3	386.9	390.0	396.6	413.7	441.0
60°	551.7	519.4	458.7	413.7	383.2	355.1	350.3	353.1	360.2	375.8	401.1
62.5°	513.8	477.4	417.8	373.0	345.2	319.2	317.9	316.9	323.5	338.7	360.9
65°	467.8	432.9	375.1	332.6	307.3	283.8	278.8	281.0	287.4	301.3	324.5
67.5°	418.5	386.9	331.3	292.2	269.7	248.7	244.4	245.4	252.0	264.1	284.3
70°	366.2	338.4	286.6	251.5	232.5	212.8	210.0	210.3	216.6	227.2	244.9
72.5°	311.4	286.4	241.4	211.3	195.6	181.5	178.9	175.9	181.7	190.8	206.0
75°	255.5	233.5	196.4	171.9	159.5	147.6	145.3	142.3	148.1	155.9	167.8
77.5°	199.2	181.5	152.7	133.7	124.1	115.3	113.2	109.9	115.8	121.6	130.9
80°	144.1	131.2	114.0	94.0	90.7	84.9	82.9	79.4	84.9	88.7	95.8
82.5°	93.0	84.4	74.6	60.7	60.2	55.9	54.8	50.8	55.9	58.1	63.4
85°	47.0	43.0	40.4	30.8	31.8	29.1	28.8	24.5	28.6	29.6	32.6
87.5°	13.4	14.2	12.6	7.6	9.6	9.1	9.1	6.6	9.1	9.1	10.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P837770

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-2LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5	1083.5
2.5°	1084.5	1088.8	1089.8	1089.6	1092.3	1107.5	1102.5	1107.5
5°	1087.0	1096.6	1099.2	1102.7	1107.3	1124.4	1118.9	1125.0
7.5°	1088.6	1103.0	1108.5	1115.3	1122.7	1141.9	1137.3	1143.4
10°	1088.6	1107.3	1115.3	1126.7	1136.6	1158.8	1154.5	1161.6
12.5°	1084.0	1108.0	1119.4	1135.3	1148.0	1172.0	1170.2	1175.2
15°	1074.7	1104.2	1119.9	1140.4	1156.0	1182.8	1182.1	1188.1
17.5°	1062.0	1097.7	1116.6	1142.4	1162.1	1192.2	1194.0	1197.2
20°	1046.1	1085.3	1110.0	1141.6	1166.4	1199.5	1201.8	1206.3
22.5°	1025.1	1070.4	1100.2	1138.3	1166.9	1202.5	1206.6	1210.9
25°	1000.4	1052.4	1087.3	1132.0	1164.4	1202.3	1207.9	1211.6
27.5°	972.0	1029.2	1070.9	1121.9	1157.3	1198.2	1205.1	1209.6
30°	939.2	1004.4	1052.2	1108.8	1147.7	1190.7	1198.0	1202.5
32.5°	905.3	977.1	1029.9	1091.8	1133.8	1178.5	1184.9	1188.4
35°	868.4	944.0	1003.1	1070.1	1115.9	1159.1	1163.9	1167.7
37.5°	828.2	908.1	972.5	1045.6	1090.6	1132.0	1136.3	1140.6
40°	786.8	870.4	938.2	1015.5	1060.5	1098.9	1103.5	1106.5
42.5°	745.1	828.7	901.5	980.1	1024.9	1061.8	1064.5	1067.6
45°	702.9	785.5	860.3	941.0	985.2	1019.8	1020.8	1023.4
47.5°	659.9	740.8	815.1	896.2	939.9	971.5	972.5	974.6
50°	616.7	696.1	766.8	847.9	890.7	924.0	919.5	921.5
52.5°	574.2	649.0	721.3	795.9	838.1	867.7	868.9	864.9
55°	532.5	603.0	669.5	741.3	781.5	804.5	803.7	805.2
57.5°	490.3	556.5	617.4	683.2	722.3	744.1	748.6	743.3
60°	447.4	509.5	564.1	623.5	661.4	679.6	684.9	679.9
62.5°	404.6	461.8	511.3	563.1	598.2	620.7	620.2	614.7
65°	361.9	413.7	458.0	501.9	532.5	555.0	554.0	549.0
67.5°	322.5	365.2	404.9	440.5	467.1	482.5	487.8	481.7
70°	279.0	315.9	350.8	379.4	401.4	415.3	420.3	415.0
72.5°	235.6	266.9	291.4	319.0	335.9	347.5	352.8	347.8
75°	192.6	218.4	238.3	259.8	271.7	281.6	287.6	282.6
77.5°	150.9	170.9	186.8	202.4	216.1	218.4	223.7	220.4
80°	111.2	125.6	137.2	147.6	157.5	158.5	162.8	160.7
82.5°	74.1	83.7	86.7	97.6	103.9	102.9	107.2	105.6
85°	39.2	45.0	50.3	53.6	57.1	53.8	57.6	56.1
87.5°	13.1	13.9	12.1	17.2	19.0	16.2	18.5	17.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)