

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: P837804

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1STD-40-120-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: P837804
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-LD4-1STD-40-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

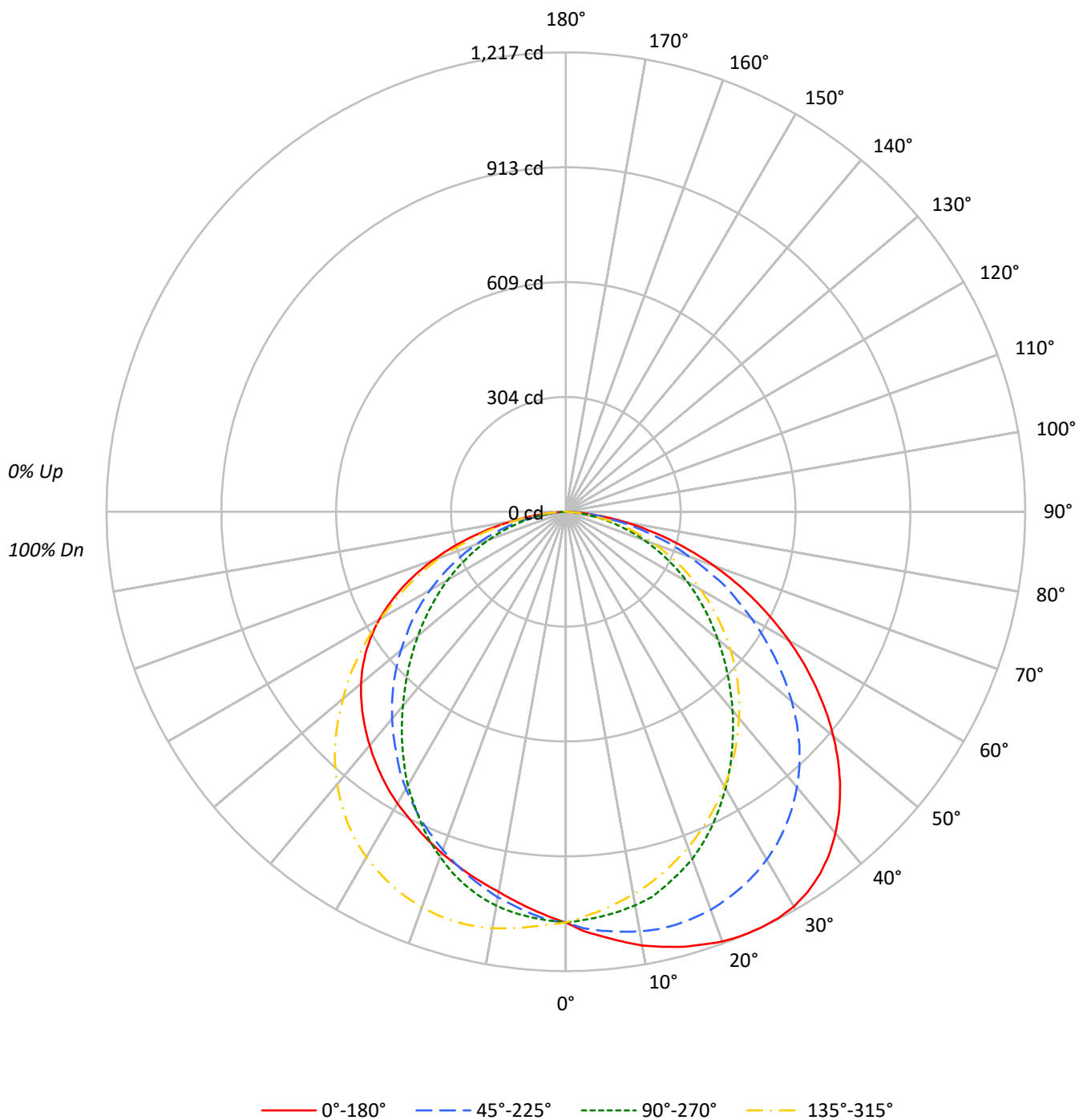
Lumens per Lamp: N/A
Luminaire Lumens: 3192.7 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: 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°	2928	2928	2928	2928
5°	3052	2907	2853	2912
10°	3188	2892	2795	2896
15°	3324	2856	2767	2856
20°	3470	2804	2755	2788
25°	3613	2725	2755	2697
30°	3753	2631	2773	2601
35°	3853	2523	2801	2483
40°	3904	2414	2840	2360
45°	3911	2304	2895	2246
50°	3875	2199	2966	2140
55°	3794	2101	3032	2042
60°	3675	1999	3073	1947
65°	3510	1882	3056	1838
70°	3279	1744	2948	1711
75°	2951	1554	2705	1547
80°	2501	1302	2273	1322
85°	1741	861	1442	886

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.3	3.2
10°-20°	299.2	9.4
20°-30°	458.5	14.4
30°-40°	557.5	17.5
40°-50°	579.6	18.2
50°-60°	523.5	16.4
60°-70°	398.0	12.5
70°-80°	221.9	7.0
80°-90°	51.1	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°	861.0	27.0
0°-40°	1418.6	44.4
0°-60°	2521.7	79.0
0°-90°	3192.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3192.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1088	1088	1088	1088	1088	
5°	1130	1076	1056	1078	1130	109
15°	1193	1025	993	1025	1193	338
25°	1217	918	928	908	1217	562
35°	1173	768	853	756	1173	732
45°	1028	605	761	590	1028	791
55°	809	448	646	435	809	722
65°	551	296	480	289	551	545
75°	284	150	260	149	284	301
85°	56	28	47	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°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2
2.5°	1112.3	1096.1	1096.3	1110.6	1099.6	1105.0	1089.7	1095.6	1093.8	1095.1	1082.6
5°	1129.9	1112.3	1112.1	1124.3	1112.1	1114.4	1095.1	1098.9	1093.3	1089.7	1076.3
7.5°	1148.4	1130.9	1129.1	1139.8	1123.8	1122.0	1100.7	1100.7	1090.5	1081.6	1068.9
10°	1166.7	1148.6	1146.4	1154.5	1134.7	1128.8	1102.9	1098.9	1085.4	1072.2	1058.5
12.5°	1180.4	1162.1	1160.3	1165.4	1143.1	1132.4	1102.9	1095.1	1075.3	1056.7	1046.1
15°	1193.3	1174.5	1169.7	1172.2	1146.6	1132.4	1099.4	1087.2	1061.8	1037.5	1025.0
17.5°	1202.5	1184.4	1179.6	1179.4	1148.4	1128.1	1091.8	1075.0	1044.6	1015.1	1002.7
20°	1211.6	1193.6	1187.5	1182.9	1147.9	1122.2	1080.6	1058.0	1022.5	989.5	979.1
22.5°	1216.2	1197.6	1191.0	1184.2	1144.6	1111.6	1066.9	1038.2	997.6	958.3	949.6
25°	1216.9	1197.9	1190.8	1180.9	1138.0	1098.9	1049.1	1014.4	968.9	925.3	917.9
27.5°	1214.9	1194.1	1187.0	1175.0	1128.1	1083.4	1028.1	987.2	938.5	890.2	882.4
30°	1207.8	1186.7	1179.9	1164.4	1114.1	1064.4	1005.0	957.0	904.7	853.4	846.6
32.5°	1193.6	1173.0	1167.4	1151.9	1098.9	1042.3	978.1	924.5	867.4	818.4	808.2
35°	1172.8	1152.2	1148.6	1132.4	1077.6	1015.9	948.6	889.0	827.8	777.8	767.9
37.5°	1145.6	1128.3	1123.0	1107.0	1052.4	985.9	914.8	850.4	787.4	733.6	727.5
40°	1111.3	1095.1	1091.0	1076.8	1023.2	952.7	878.3	810.5	745.8	695.8	687.2
42.5°	1072.2	1057.0	1054.7	1040.0	987.2	915.9	838.7	769.1	702.4	654.2	645.5
45°	1027.8	1013.1	1012.6	998.6	947.8	875.0	797.1	727.3	660.0	610.0	605.4
47.5°	978.8	965.6	965.6	952.7	903.9	830.1	754.2	683.6	617.3	573.2	565.1
50°	925.5	913.1	909.3	902.9	855.5	781.1	709.0	641.0	575.2	533.1	525.2
52.5°	868.6	858.0	860.5	848.9	802.9	730.1	663.3	593.0	532.8	494.5	486.6
55°	808.7	793.5	795.8	791.5	748.1	677.5	612.0	553.4	491.2	455.1	447.8
57.5°	746.6	726.8	734.9	732.3	689.7	623.7	565.1	508.4	449.8	416.6	409.4
60°	682.8	663.8	672.2	669.9	629.8	569.9	516.6	464.0	408.7	378.5	371.4
62.5°	617.3	599.8	607.4	605.7	568.9	514.8	468.3	420.1	367.3	340.1	333.5
65°	551.3	534.6	541.4	540.2	506.2	465.0	418.8	374.7	325.7	302.1	295.5
67.5°	483.8	468.3	474.7	474.7	443.5	404.1	369.1	328.7	284.8	264.5	258.4
70°	416.8	402.3	407.9	407.4	381.0	349.0	318.8	282.8	243.4	226.7	221.6
72.5°	349.3	336.6	341.7	341.2	319.1	298.5	268.6	237.3	203.1	189.6	185.1
75°	283.8	271.9	276.7	276.2	258.2	238.9	218.8	192.9	163.5	154.1	149.5
77.5°	221.4	209.2	213.2	213.2	200.0	186.1	170.1	150.0	129.2	119.1	115.8
80°	161.4	155.6	153.6	153.8	144.9	135.8	127.7	108.4	93.2	86.3	84.0
82.5°	106.1	101.3	99.3	99.8	94.7	89.1	84.0	70.6	60.4	56.4	55.1
85°	56.4	52.8	51.0	52.3	51.3	48.2	45.7	36.6	30.2	28.7	27.9
87.5°	17.8	15.5	14.2	18.8	16.0	14.2	13.7	10.9	8.4	8.4	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°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2
2.5°	1086.7	1086.7	1076.8	1074.5	1073.5	1074.8	1064.9	1063.1	1077.3	1072.5	1061.6
5°	1078.1	1077.6	1063.6	1061.1	1061.1	1059.5	1048.4	1045.8	1060.0	1056.0	1044.1
7.5°	1067.4	1065.9	1049.4	1047.6	1045.1	1044.1	1031.6	1029.8	1042.0	1039.5	1028.3
10°	1054.5	1052.9	1033.4	1032.1	1029.3	1027.3	1015.6	1014.4	1026.8	1022.7	1013.8
12.5°	1037.5	1034.7	1014.6	1013.3	1011.1	1010.3	998.9	998.4	1012.1	1008.0	998.6
15°	1015.1	1012.8	990.5	991.0	991.3	991.3	982.1	981.6	995.1	993.3	983.1
17.5°	990.5	987.4	966.1	967.6	969.4	971.5	964.3	965.6	979.8	977.5	968.4
20°	962.6	959.5	938.7	943.0	946.8	950.9	946.3	949.9	963.1	962.1	955.2
22.5°	931.3	928.3	909.0	915.6	922.0	929.6	927.5	931.6	945.6	945.3	939.2
25°	893.3	894.0	877.0	885.1	895.8	906.5	907.2	913.8	929.3	927.8	922.2
27.5°	857.7	858.8	840.7	854.4	868.6	882.4	885.7	894.8	910.5	909.3	904.4
30°	820.4	821.7	804.2	823.0	840.2	857.0	864.1	876.5	892.5	892.5	887.4
32.5°	781.6	783.9	765.6	790.7	810.8	830.3	842.8	855.7	874.0	873.5	869.2
35°	741.7	744.3	727.5	759.5	779.6	803.4	818.9	836.2	852.4	852.7	849.4
37.5°	701.1	704.2	688.9	724.0	746.8	775.0	794.8	812.0	830.1	831.1	828.0
40°	660.8	664.1	650.9	684.6	713.6	745.0	767.9	788.2	808.0	808.5	806.5
42.5°	620.4	623.9	614.0	647.0	679.8	713.6	740.5	763.6	783.9	785.1	782.9
45°	581.0	584.1	577.0	613.0	644.5	681.3	712.3	738.4	759.0	760.8	760.0
47.5°	542.0	544.7	538.4	571.4	607.7	646.8	682.6	711.5	733.4	735.4	734.9
50°	503.6	505.9	499.1	533.6	569.6	611.3	648.6	682.1	706.4	708.5	708.2
52.5°	465.5	467.8	462.0	498.3	531.0	575.0	615.6	651.9	676.0	679.0	679.5
55°	428.7	429.8	425.2	460.0	491.7	537.6	584.3	619.6	643.7	646.3	647.8
57.5°	391.9	392.2	388.4	421.6	452.1	499.1	548.0	585.1	608.0	610.5	612.8
60°	355.4	355.1	350.8	383.0	412.2	458.7	509.7	546.5	568.6	570.9	573.9
62.5°	319.1	318.3	314.5	344.2	371.6	417.6	468.8	504.4	525.5	527.0	531.0
65°	283.0	282.3	278.7	306.1	331.0	374.9	425.2	458.9	478.0	480.0	479.3
67.5°	247.5	246.0	243.2	267.8	290.4	331.0	379.2	411.5	427.2	429.0	433.8
70°	212.0	210.2	203.8	230.0	249.8	286.1	331.0	359.7	372.9	374.7	373.9
72.5°	176.9	175.2	168.3	192.4	209.2	240.9	281.0	304.9	316.3	317.8	317.8
75°	142.9	141.9	137.6	155.9	169.8	195.7	229.7	249.5	258.4	260.2	259.7
77.5°	110.2	109.4	105.1	120.8	131.7	151.0	178.5	193.9	200.5	202.6	206.9
80°	78.9	78.7	71.8	87.3	92.1	108.4	128.4	140.4	143.9	146.7	149.8
82.5°	50.5	50.8	43.9	57.1	59.1	69.6	82.0	89.4	91.9	94.2	96.5
85°	24.6	25.6	21.8	30.2	30.5	35.8	41.1	43.9	44.9	46.7	48.7
87.5°	6.3	7.4	4.1	8.6	7.6	9.9	11.4	12.2	11.9	13.2	14.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2
2.5°	1065.1	1073.2	1069.2	1082.4	1087.5	1079.3	1093.6	1093.8	1083.7	1095.6	1102.2
5°	1048.6	1057.0	1054.5	1068.2	1074.5	1067.4	1084.7	1088.0	1078.1	1091.5	1102.2
7.5°	1031.9	1041.8	1038.5	1052.4	1060.0	1054.5	1073.0	1078.3	1070.7	1085.4	1099.6
10°	1017.4	1025.8	1022.2	1036.9	1043.5	1039.0	1057.3	1067.2	1060.0	1078.1	1095.1
12.5°	1003.2	1010.0	1006.0	1018.2	1024.5	1018.7	1041.0	1050.1	1045.1	1063.9	1085.7
15°	984.9	992.5	986.9	997.9	1002.7	997.6	1015.9	1031.6	1025.3	1045.8	1069.9
17.5°	970.9	975.3	967.6	976.3	979.1	972.2	990.7	1006.2	1001.7	1024.0	1051.9
20°	955.5	959.0	948.4	953.2	952.9	944.3	961.3	976.5	973.5	998.1	1029.8
22.5°	938.2	940.0	927.5	928.6	928.0	913.8	929.1	944.5	943.3	968.2	1003.7
25°	919.9	920.2	904.2	903.7	898.1	881.3	894.8	912.3	908.5	935.4	972.7
27.5°	901.9	899.4	880.1	875.5	866.6	846.6	858.5	874.2	871.9	898.3	939.7
30°	882.6	879.3	855.7	847.3	834.4	811.3	821.2	835.9	837.2	860.3	903.7
32.5°	864.3	856.0	829.8	817.6	801.4	774.5	779.8	794.8	796.8	820.2	864.8
35°	840.7	835.1	802.9	782.1	766.1	736.7	742.2	752.6	755.7	778.5	824.0
37.5°	818.4	809.5	775.2	749.9	729.3	698.3	699.8	710.5	713.6	736.7	781.6
40°	795.3	782.6	745.8	716.1	692.5	660.0	658.2	669.4	671.7	694.3	734.9
42.5°	770.7	755.4	714.1	681.6	654.4	621.4	617.9	627.5	630.0	652.1	692.0
45°	745.8	727.5	681.6	646.0	616.3	582.6	579.0	586.4	590.2	611.0	649.3
47.5°	719.4	698.1	648.1	608.5	577.7	544.0	539.7	547.0	550.1	570.6	606.9
50°	691.7	665.8	613.5	569.9	539.4	506.2	499.8	508.4	511.2	530.5	566.1
52.5°	661.3	632.6	576.7	531.0	500.6	468.8	461.2	469.6	472.9	491.7	524.4
55°	629.0	598.1	539.7	495.2	462.2	431.3	424.9	428.2	435.3	453.1	483.6
57.5°	592.7	562.0	500.6	455.4	423.7	394.0	388.6	391.7	398.3	415.5	443.0
60°	554.1	521.6	460.7	415.5	384.8	356.6	351.8	354.6	361.7	377.5	402.8
62.5°	516.1	479.5	419.6	374.7	346.7	320.6	319.3	318.3	324.9	340.1	362.5
65°	469.9	434.8	376.7	334.1	308.7	285.1	280.0	282.3	288.6	302.6	325.9
67.5°	420.4	388.6	332.8	293.4	270.9	249.8	245.5	246.5	253.1	265.3	285.6
70°	367.8	339.9	287.9	252.6	233.5	213.7	210.9	211.2	217.5	228.2	246.0
72.5°	312.7	287.6	242.4	212.2	196.5	182.3	179.7	176.7	182.5	191.7	206.9
75°	256.6	234.6	197.2	172.6	160.2	148.2	146.0	142.9	148.8	156.6	168.6
77.5°	200.0	182.3	153.3	134.3	124.6	115.8	113.7	110.4	116.3	122.1	131.5
80°	144.7	131.7	114.5	94.4	91.1	85.3	83.3	79.7	85.3	89.1	96.2
82.5°	93.4	84.8	74.9	60.9	60.4	56.1	55.1	51.0	56.1	58.4	63.7
85°	47.2	43.2	40.6	31.0	32.0	29.2	28.9	24.6	28.7	29.7	32.7
87.5°	13.5	14.2	12.7	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: P837804

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1STD-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2
2.5°	1089.2	1093.6	1094.6	1094.3	1097.1	1112.3	1107.3	1112.3
5°	1091.8	1101.4	1104.0	1107.5	1112.1	1129.3	1123.8	1129.9
7.5°	1093.3	1107.8	1113.4	1120.2	1127.6	1146.9	1142.3	1148.4
10°	1093.3	1112.1	1120.2	1131.6	1141.5	1163.9	1159.6	1166.7
12.5°	1088.7	1112.8	1124.3	1140.3	1153.0	1177.1	1175.3	1180.4
15°	1079.3	1109.0	1124.8	1145.3	1161.1	1188.0	1187.2	1193.3
17.5°	1066.6	1102.4	1121.5	1147.4	1167.2	1197.4	1199.2	1202.5
20°	1050.7	1090.0	1114.9	1146.6	1171.5	1204.7	1207.0	1211.6
22.5°	1029.6	1075.0	1105.0	1143.3	1172.0	1207.8	1211.8	1216.2
25°	1004.7	1057.0	1092.0	1137.0	1169.5	1207.5	1213.1	1216.9
27.5°	976.3	1033.6	1075.5	1126.8	1162.3	1203.5	1210.3	1214.9
30°	943.3	1008.8	1056.7	1113.6	1152.7	1195.9	1203.2	1207.8
32.5°	909.3	981.4	1034.4	1096.6	1138.7	1183.7	1190.0	1193.6
35°	872.2	948.1	1007.5	1074.8	1120.7	1164.1	1168.9	1172.8
37.5°	831.8	912.1	976.8	1050.1	1095.3	1137.0	1141.3	1145.6
40°	790.2	874.2	942.3	1019.9	1065.1	1103.7	1108.3	1111.3
42.5°	748.3	832.4	905.5	984.4	1029.3	1066.4	1069.2	1072.2
45°	705.9	788.9	864.1	945.1	989.5	1024.3	1025.3	1027.8
47.5°	662.8	744.0	818.6	900.1	944.0	975.8	976.8	978.8
50°	619.4	699.1	770.2	851.6	894.5	928.0	923.5	925.5
52.5°	576.7	651.9	724.5	799.4	841.7	871.4	872.7	868.6
55°	534.8	605.7	672.4	744.5	784.9	808.0	807.2	808.7
57.5°	492.5	559.0	620.1	686.1	725.5	747.3	751.9	746.6
60°	449.3	511.7	566.6	626.2	664.3	682.6	687.9	682.8
62.5°	406.4	463.8	513.5	565.6	600.8	623.4	622.9	617.3
65°	363.5	415.5	460.0	504.1	534.8	557.4	556.4	551.3
67.5°	323.9	366.8	406.7	442.4	469.1	484.6	489.9	483.8
70°	280.2	317.3	352.3	381.0	403.1	417.1	422.1	416.8
72.5°	236.6	268.1	292.7	320.3	337.4	349.0	354.4	349.3
75°	193.4	219.3	239.4	261.0	272.9	282.8	288.9	283.8
77.5°	151.5	171.6	187.6	203.3	217.0	219.3	224.7	221.4
80°	111.7	126.2	137.8	148.2	158.1	159.2	163.5	161.4
82.5°	74.4	84.0	87.1	98.0	104.3	103.3	107.6	106.1
85°	39.3	45.2	50.5	53.8	57.4	54.1	57.9	56.4
87.5°	13.2	14.0	12.2	17.3	19.0	16.2	18.5	17.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)