

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: P838182

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-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: P838182
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

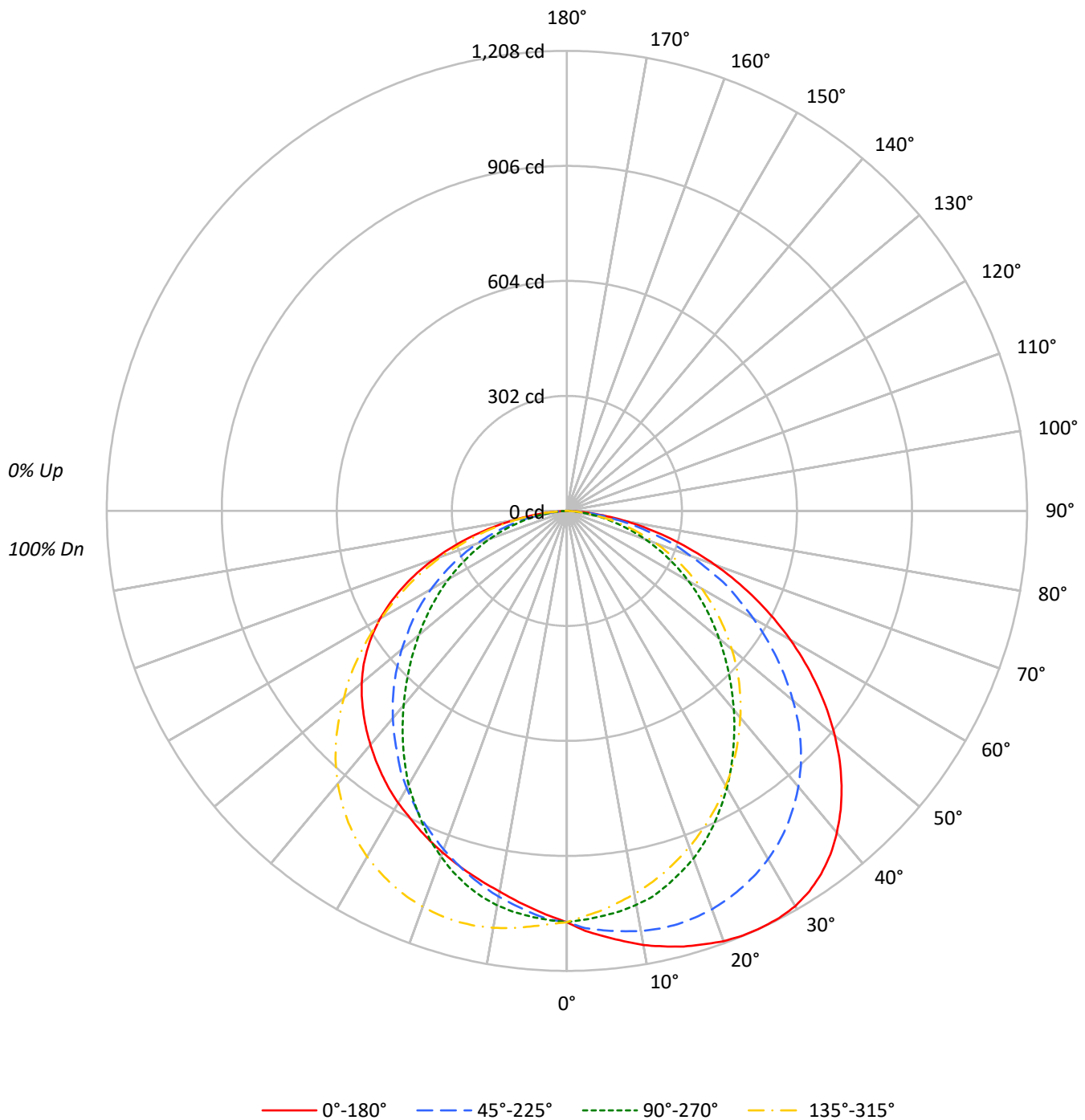
Lumens per Lamp: N/A
Luminaire Lumens: 3168.3 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

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	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	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°	270°
0°	1453	1453	1453	1453
5°	1514	1443	1415	1445
10°	1582	1435	1387	1437
15°	1650	1417	1373	1417
20°	1722	1391	1367	1383
25°	1793	1352	1367	1339
30°	1862	1305	1376	1291
35°	1912	1252	1390	1232
40°	1937	1198	1409	1171
45°	1941	1143	1436	1114
50°	1922	1091	1472	1062
55°	1883	1042	1504	1013
60°	1823	992	1524	966
65°	1742	933	1516	912
70°	1627	865	1463	849
75°	1464	771	1342	767
80°	1241	646	1128	656
85°	863	428	715	440

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.5	3.2
10°-20°	296.9	9.4
20°-30°	455.0	14.4
30°-40°	553.3	17.5
40°-50°	575.2	18.2
50°-60°	519.5	16.4
60°-70°	395.0	12.5
70°-80°	220.2	7.0
80°-90°	50.7	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°	854.4	27.0
0°-40°	1407.7	44.4
0°-60°	2502.4	79.0
0°-90°	3168.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3168.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1080	1080	1080	1080	1080	
5°	1121	1068	1048	1070	1121	108
15°	1184	1017	986	1017	1184	336
25°	1208	911	921	902	1208	558
35°	1164	762	846	750	1164	727
45°	1020	601	755	586	1020	785
55°	803	444	641	432	803	716
65°	547	293	476	286	547	541
75°	282	148	258	148	282	299
85°	56	28	46	28	56	70
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9
2.5°	1103.8	1087.7	1088.0	1102.1	1091.2	1096.5	1081.4	1087.2	1085.4	1086.7	1074.4
5°	1121.2	1103.8	1103.6	1115.7	1103.6	1105.8	1086.7	1090.5	1084.9	1081.4	1068.1
7.5°	1139.6	1122.2	1120.5	1131.0	1115.2	1113.4	1092.2	1092.2	1082.2	1073.3	1060.8
10°	1157.7	1139.8	1137.6	1145.6	1126.0	1120.2	1094.5	1090.5	1077.1	1064.0	1050.4
12.5°	1171.3	1153.2	1151.4	1156.5	1134.3	1123.7	1094.5	1086.7	1067.0	1048.7	1038.1
15°	1184.2	1165.5	1160.8	1163.3	1137.8	1123.7	1091.0	1078.9	1053.7	1029.5	1017.2
17.5°	1193.3	1175.4	1170.6	1170.3	1139.6	1119.4	1083.4	1066.8	1036.6	1007.3	995.0
20°	1202.3	1184.4	1178.4	1173.9	1139.1	1113.7	1072.3	1049.9	1014.7	981.9	971.6
22.5°	1206.9	1188.5	1181.9	1175.1	1135.8	1103.1	1058.7	1030.3	990.0	950.9	942.4
25°	1207.6	1188.7	1181.7	1171.8	1129.3	1090.5	1041.1	1006.6	961.5	918.2	910.9
27.5°	1205.6	1184.9	1177.9	1166.0	1119.4	1075.1	1020.2	979.6	931.3	883.4	875.6
30°	1198.5	1177.6	1170.8	1155.5	1105.6	1056.2	997.3	949.7	897.8	846.9	840.1
32.5°	1184.4	1164.0	1158.5	1143.1	1090.5	1034.3	970.6	917.4	860.7	812.1	802.1
35°	1163.8	1143.4	1139.8	1123.7	1069.3	1008.1	941.4	882.2	821.4	771.8	762.0
37.5°	1136.8	1119.7	1114.4	1098.5	1044.4	978.4	907.8	843.9	781.4	728.0	721.9
40°	1102.8	1086.7	1082.7	1068.6	1015.4	945.4	871.6	804.3	740.1	690.5	681.9
42.5°	1064.0	1048.9	1046.6	1032.0	979.6	908.9	832.3	763.3	697.0	649.1	640.6
45°	1019.9	1005.3	1004.8	991.0	940.6	868.3	791.0	721.7	654.9	605.3	600.8
47.5°	971.3	958.2	958.2	945.4	897.0	823.7	748.4	678.4	612.6	568.8	560.7
50°	918.4	906.1	902.3	896.0	848.9	775.1	703.6	636.0	570.8	529.0	521.2
52.5°	862.0	851.4	853.9	842.4	796.8	724.5	658.2	588.4	528.7	490.7	482.9
55°	802.6	787.4	789.7	785.4	742.3	672.3	607.3	549.1	487.4	451.7	444.4
57.5°	740.8	721.2	729.3	726.7	684.4	618.9	560.7	504.6	446.4	413.4	406.3
60°	677.6	658.7	667.0	664.8	625.0	565.5	512.6	460.5	405.6	375.6	368.5
62.5°	612.6	595.2	602.8	601.0	564.5	510.9	464.8	416.9	364.5	337.5	331.0
65°	547.1	530.5	537.3	536.0	502.3	461.5	415.6	371.8	323.2	299.8	293.2
67.5°	480.1	464.8	471.1	471.1	440.1	401.0	366.3	326.2	282.6	262.5	256.4
70°	413.6	399.3	404.8	404.3	378.1	346.4	316.4	280.6	241.6	224.9	219.9
72.5°	346.6	334.0	339.1	338.6	316.6	296.2	266.5	235.5	201.5	188.2	183.6
75°	281.6	269.8	274.6	274.1	256.2	237.0	217.1	191.4	162.2	152.9	148.4
77.5°	219.7	207.6	211.6	211.6	198.5	184.6	168.8	148.9	128.2	118.1	114.9
80°	160.2	154.4	152.4	152.7	143.8	134.8	126.7	107.6	92.4	85.6	83.4
82.5°	105.3	100.5	98.5	99.0	94.0	88.4	83.4	70.0	60.0	55.9	54.7
85°	55.9	52.4	50.6	51.9	50.9	47.9	45.3	36.3	30.0	28.5	27.7
87.5°	17.6	15.4	14.1	18.6	15.9	14.1	13.6	10.8	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

TEST NUMBER: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9
2.5°	1078.4	1078.4	1068.6	1066.3	1065.3	1066.5	1056.7	1055.0	1069.1	1064.3	1053.4
5°	1069.8	1069.3	1055.5	1052.9	1052.9	1051.4	1040.3	1037.8	1051.9	1047.9	1036.1
7.5°	1059.2	1057.7	1041.4	1039.6	1037.1	1036.1	1023.7	1022.0	1034.1	1031.5	1020.4
10°	1046.4	1044.9	1025.5	1024.2	1021.5	1019.4	1007.9	1006.6	1018.9	1014.9	1006.1
12.5°	1029.5	1026.7	1006.8	1005.6	1003.3	1002.6	991.2	990.7	1004.3	1000.3	991.0
15°	1007.3	1005.1	982.9	983.4	983.7	983.7	974.6	974.1	987.4	985.7	975.6
17.5°	982.9	979.9	958.7	960.2	962.0	964.0	957.0	958.2	972.3	970.1	961.0
20°	955.2	952.2	931.5	935.8	939.6	943.6	939.1	942.6	955.7	954.7	947.9
22.5°	924.2	921.2	902.1	908.6	914.9	922.5	920.4	924.5	938.3	938.1	932.0
25°	886.4	887.2	870.3	878.4	889.0	899.5	900.3	906.8	922.2	920.7	915.2
27.5°	851.2	852.2	834.3	847.9	862.0	875.6	878.9	887.9	903.6	902.3	897.5
30°	814.1	815.4	798.0	816.7	833.8	850.4	857.5	869.8	885.7	885.7	880.6
32.5°	775.6	777.9	759.7	784.7	804.6	824.0	836.3	849.2	867.3	866.8	862.5
35°	736.1	738.6	721.9	753.7	773.6	797.3	812.6	829.8	845.9	846.1	842.9
37.5°	695.7	698.8	683.7	718.4	741.1	769.1	788.7	805.8	823.7	824.7	821.7
40°	655.7	659.0	645.9	679.4	708.1	739.3	762.0	782.1	801.8	802.3	800.3
42.5°	615.6	619.2	609.3	642.1	674.6	708.1	734.8	757.7	777.9	779.1	776.9
45°	576.6	579.6	572.6	608.3	639.6	676.1	706.8	732.8	753.2	754.9	754.2
47.5°	537.8	540.6	534.3	567.0	603.0	641.8	677.4	706.1	727.7	729.8	729.3
50°	499.8	502.0	495.2	529.5	565.3	606.6	643.6	676.9	701.0	703.1	702.8
52.5°	462.0	464.3	458.5	494.5	527.0	570.6	610.9	646.9	670.8	673.8	674.3
55°	425.5	426.5	421.9	456.4	487.9	533.5	579.9	614.9	638.8	641.3	642.8
57.5°	388.9	389.2	385.4	418.4	448.6	495.2	543.9	580.6	603.3	605.8	608.1
60°	352.7	352.4	348.1	380.1	409.1	455.2	505.8	542.3	564.3	566.5	569.5
62.5°	316.6	315.9	312.1	341.6	368.8	414.4	465.3	500.5	521.4	522.9	527.0
65°	280.9	280.1	276.6	303.8	328.5	372.1	421.9	455.4	474.3	476.3	475.6
67.5°	245.6	244.1	241.3	265.8	288.2	328.5	376.3	408.3	423.9	425.7	430.5
70°	210.3	208.6	202.3	228.2	247.9	283.9	328.5	356.9	370.0	371.8	371.0
72.5°	175.6	173.8	167.0	190.9	207.6	239.1	278.9	302.5	313.9	315.4	315.4
75°	141.8	140.8	136.5	154.7	168.5	194.2	228.0	247.6	256.4	258.2	257.7
77.5°	109.3	108.6	104.3	119.9	130.7	149.9	177.1	192.5	199.0	201.0	205.3
80°	78.3	78.1	71.3	86.7	91.4	107.6	127.5	139.3	142.8	145.6	148.6
82.5°	50.1	50.4	43.6	56.7	58.7	69.0	81.4	88.7	91.2	93.5	95.7
85°	24.4	25.4	21.7	30.0	30.2	35.5	40.8	43.6	44.6	46.3	48.4
87.5°	6.3	7.3	4.0	8.6	7.6	9.8	11.3	12.1	11.8	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

TEST NUMBER: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9
2.5°	1057.0	1065.0	1061.0	1074.1	1079.1	1071.1	1085.2	1085.4	1075.4	1087.2	1093.8
5°	1040.6	1048.9	1046.4	1060.0	1066.3	1059.2	1076.4	1079.6	1069.8	1083.2	1093.8
7.5°	1024.0	1033.8	1030.5	1044.4	1051.9	1046.4	1064.8	1070.1	1062.5	1077.1	1091.2
10°	1009.6	1017.9	1014.4	1029.0	1035.6	1031.0	1049.2	1059.0	1051.9	1069.8	1086.7
12.5°	995.5	1002.3	998.3	1010.4	1016.7	1010.9	1033.0	1042.1	1037.1	1055.7	1077.4
15°	977.4	984.9	979.4	990.2	995.0	990.0	1008.1	1023.7	1017.4	1037.8	1061.8
17.5°	963.5	967.8	960.2	968.8	971.6	964.8	983.2	998.5	994.0	1016.2	1043.9
20°	948.2	951.7	941.1	945.9	945.6	937.1	953.9	969.1	966.0	990.5	1022.0
22.5°	931.0	932.8	920.4	921.5	920.9	906.8	922.0	937.3	936.1	960.7	996.0
25°	912.9	913.1	897.3	896.8	891.2	874.6	887.9	905.3	901.6	928.3	965.3
27.5°	895.0	892.5	873.3	868.8	860.0	840.1	851.9	867.5	865.3	891.5	932.5
30°	875.9	872.6	849.2	840.8	828.0	805.1	814.9	829.5	830.8	853.7	896.8
32.5°	857.7	849.4	823.5	811.4	795.2	768.5	773.8	788.7	790.7	813.9	858.2
35°	834.3	828.8	796.8	776.1	760.2	731.0	736.6	746.9	749.9	772.6	817.7
37.5°	812.1	803.3	769.3	744.1	723.7	693.0	694.5	705.1	708.1	731.0	775.6
40°	789.2	776.6	740.1	710.6	687.2	654.9	653.2	664.3	666.5	688.9	729.3
42.5°	764.8	749.7	708.6	676.4	649.4	616.7	613.1	622.7	625.2	647.1	686.7
45°	740.1	721.9	676.4	641.1	611.6	578.1	574.6	581.9	585.7	606.3	644.4
47.5°	713.9	692.7	643.1	603.8	573.3	539.8	535.5	542.8	545.9	566.3	602.3
50°	686.4	660.7	608.8	565.5	535.3	502.3	496.0	504.6	507.3	526.5	561.7
52.5°	656.2	627.7	572.3	527.0	496.7	465.3	457.7	466.0	469.3	487.9	520.4
55°	624.2	593.5	535.5	491.5	458.7	428.0	421.7	425.0	432.0	449.6	479.9
57.5°	588.2	557.7	496.7	451.9	420.4	390.9	385.7	388.7	395.2	412.4	439.6
60°	549.9	517.7	457.2	412.4	381.9	353.9	349.1	351.9	359.0	374.6	399.8
62.5°	512.1	475.8	416.4	371.8	344.1	318.1	316.9	315.9	322.4	337.5	359.7
65°	466.3	431.5	373.8	331.5	306.3	282.9	277.8	280.1	286.4	300.3	323.4
67.5°	417.1	385.7	330.2	291.2	268.8	247.9	243.6	244.6	251.1	263.2	283.4
70°	365.0	337.3	285.7	250.6	231.7	212.1	209.3	209.6	215.9	226.5	244.1
72.5°	310.3	285.4	240.6	210.6	195.0	180.9	178.3	175.3	181.1	190.2	205.3
75°	254.7	232.8	195.7	171.3	158.9	147.1	144.8	141.8	147.6	155.4	167.3
77.5°	198.5	180.9	152.1	133.3	123.7	114.9	112.9	109.6	115.4	121.2	130.5
80°	143.6	130.7	113.6	93.7	90.4	84.6	82.6	79.1	84.6	88.4	95.5
82.5°	92.7	84.1	74.3	60.5	60.0	55.7	54.7	50.6	55.7	57.9	63.2
85°	46.9	42.8	40.3	30.7	31.7	29.0	28.7	24.4	28.5	29.5	32.5
87.5°	13.4	14.1	12.6	7.6	9.6	9.1	9.1	6.5	9.1	9.1	10.3
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: P838182

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9	1079.9
2.5°	1080.9	1085.2	1086.2	1085.9	1088.7	1103.8	1098.8	1103.8
5°	1083.4	1093.0	1095.5	1099.0	1103.6	1120.7	1115.2	1121.2
7.5°	1084.9	1099.3	1104.8	1111.6	1118.9	1138.1	1133.6	1139.6
10°	1084.9	1103.6	1111.6	1123.0	1132.8	1155.0	1150.7	1157.7
12.5°	1080.4	1104.3	1115.7	1131.5	1144.1	1168.1	1166.3	1171.3
15°	1071.1	1100.6	1116.2	1136.6	1152.2	1178.9	1178.1	1184.2
17.5°	1058.5	1094.0	1112.9	1138.6	1158.2	1188.2	1190.0	1193.3
20°	1042.6	1081.7	1106.3	1137.8	1162.5	1195.5	1197.8	1202.3
22.5°	1021.7	1066.8	1096.5	1134.6	1163.0	1198.5	1202.6	1206.9
25°	997.0	1048.9	1083.7	1128.3	1160.5	1198.3	1203.8	1207.6
27.5°	968.8	1025.7	1067.3	1118.2	1153.5	1194.3	1201.1	1205.6
30°	936.1	1001.1	1048.7	1105.1	1143.9	1186.7	1194.0	1198.5
32.5°	902.3	973.8	1026.5	1088.2	1130.0	1174.6	1180.9	1184.4
35°	865.5	940.8	999.8	1066.5	1112.1	1155.2	1160.0	1163.8
37.5°	825.5	905.1	969.3	1042.1	1086.9	1128.3	1132.5	1136.8
40°	784.2	867.5	935.1	1012.1	1057.0	1095.3	1099.8	1102.8
42.5°	742.6	826.0	898.5	976.9	1021.5	1058.2	1061.0	1064.0
45°	700.5	782.9	857.5	937.8	981.9	1016.4	1017.4	1019.9
47.5°	657.7	738.3	812.4	893.2	936.8	968.3	969.3	971.3
50°	614.6	693.7	764.3	845.1	887.7	920.9	916.4	918.4
52.5°	572.3	646.9	718.9	793.2	835.3	864.8	866.0	862.0
55°	530.8	601.0	667.3	738.8	778.9	801.8	801.0	802.6
57.5°	488.7	554.7	615.4	680.9	719.9	741.6	746.1	740.8
60°	445.9	507.8	562.2	621.4	659.2	677.4	682.6	677.6
62.5°	403.3	460.2	509.6	561.2	596.2	618.7	618.2	612.6
65°	360.7	412.4	456.4	500.3	530.8	553.2	552.2	547.1
67.5°	321.4	364.0	403.5	439.1	465.5	480.9	486.2	480.1
70°	278.1	314.9	349.6	378.1	400.0	413.9	418.9	413.6
72.5°	234.8	266.0	290.4	317.9	334.8	346.4	351.7	346.6
75°	191.9	217.6	237.5	259.0	270.8	280.6	286.7	281.6
77.5°	150.4	170.3	186.2	201.8	215.4	217.6	222.9	219.7
80°	110.8	125.2	136.8	147.1	156.9	157.9	162.2	160.2
82.5°	73.8	83.4	86.4	97.2	103.5	102.5	106.8	105.3
85°	39.0	44.8	50.1	53.4	56.9	53.7	57.4	55.9
87.5°	13.1	13.9	12.1	17.1	18.9	16.1	18.4	17.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)