

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: P837861

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837861
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

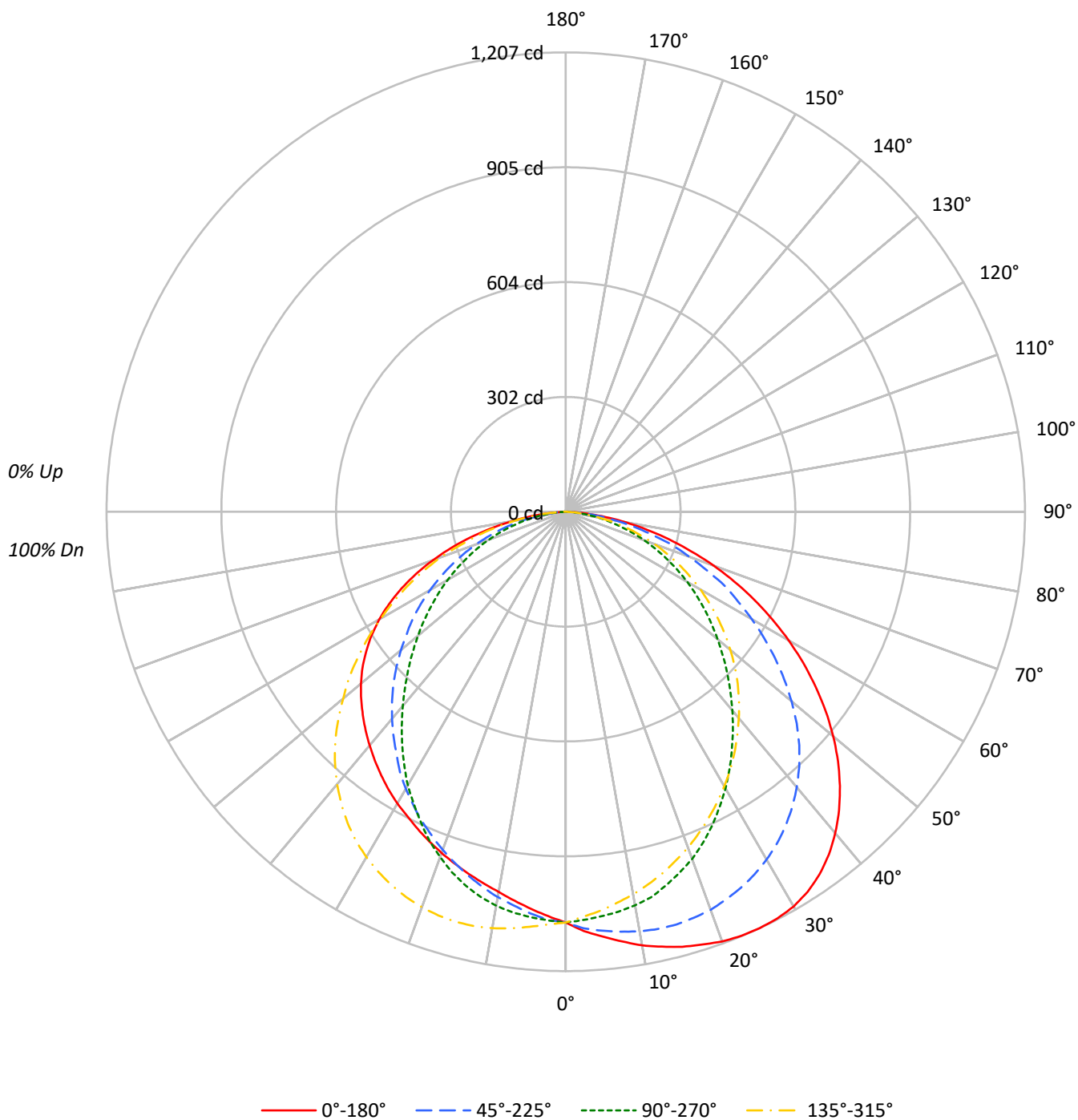
Lumens per Lamp: N/A
Luminaire Lumens: 3166.0 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-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	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°	2904	2904	2904	2904
5°	3026	2883	2829	2888
10°	3161	2868	2771	2872
15°	3297	2832	2744	2832
20°	3441	2780	2732	2765
25°	3583	2703	2732	2675
30°	3722	2609	2750	2580
35°	3821	2502	2778	2462
40°	3871	2394	2816	2340
45°	3879	2285	2871	2227
50°	3842	2180	2941	2123
55°	3763	2083	3007	2025
60°	3644	1982	3047	1931
65°	3481	1866	3031	1822
70°	3252	1729	2923	1697
75°	2926	1542	2682	1534
80°	2481	1291	2255	1311
85°	1726	855	1430	877

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.5	3.2
10°-20°	296.7	9.4
20°-30°	454.7	14.4
30°-40°	552.9	17.5
40°-50°	574.7	18.2
50°-60°	519.2	16.4
60°-70°	394.7	12.5
70°-80°	220.0	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°	853.8	27.0
0°-40°	1406.7	44.4
0°-60°	2500.6	79.0
0°-90°	3166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3166.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1079	1079	1079	1079	1079	
5°	1120	1067	1047	1069	1120	108
15°	1183	1016	985	1017	1183	336
25°	1207	910	920	901	1207	557
35°	1163	762	846	749	1163	726
45°	1019	600	754	585	1019	785
55°	802	444	641	432	802	716
65°	547	293	476	286	547	540
75°	281	148	258	148	281	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: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1
2.5°	1103.1	1086.9	1087.2	1101.3	1090.5	1095.8	1080.6	1086.4	1084.7	1085.9	1073.6
5°	1120.4	1103.1	1102.8	1114.9	1102.8	1105.1	1085.9	1089.7	1084.2	1080.6	1067.3
7.5°	1138.8	1121.4	1119.7	1130.2	1114.4	1112.6	1091.5	1091.5	1081.4	1072.6	1060.0
10°	1156.9	1139.0	1136.8	1144.8	1125.2	1119.4	1093.7	1089.7	1076.4	1063.3	1049.7
12.5°	1170.5	1152.4	1150.6	1155.7	1133.5	1122.9	1093.7	1085.9	1066.3	1047.9	1037.4
15°	1183.4	1164.7	1159.9	1162.5	1137.0	1122.9	1090.2	1078.1	1053.0	1028.8	1016.5
17.5°	1192.4	1174.5	1169.8	1169.5	1138.8	1118.7	1082.7	1066.0	1035.8	1006.6	994.3
20°	1201.5	1183.6	1177.6	1173.0	1138.3	1112.9	1071.6	1049.2	1013.9	981.2	970.9
22.5°	1206.0	1187.6	1181.1	1174.3	1135.0	1102.3	1058.0	1029.5	989.3	950.3	941.7
25°	1206.8	1187.9	1180.8	1171.0	1128.5	1089.7	1040.4	1005.9	960.8	917.5	910.2
27.5°	1204.7	1184.1	1177.1	1165.2	1118.7	1074.4	1019.5	979.0	930.6	882.8	875.0
30°	1197.7	1176.8	1170.0	1154.7	1104.8	1055.5	996.6	949.0	897.1	846.3	839.5
32.5°	1183.6	1163.2	1157.7	1142.3	1089.7	1033.6	969.9	916.8	860.1	811.6	801.5
35°	1163.0	1142.6	1139.0	1122.9	1068.6	1007.4	940.7	881.5	820.9	771.3	761.5
37.5°	1136.0	1118.9	1113.6	1097.8	1043.6	977.7	907.2	843.3	780.8	727.5	721.4
40°	1102.0	1085.9	1081.9	1067.8	1014.7	944.7	871.0	803.8	739.6	690.0	681.4
42.5°	1063.3	1048.2	1045.9	1031.3	979.0	908.2	831.7	762.7	696.5	648.7	640.1
45°	1019.2	1004.6	1004.1	990.3	939.9	867.7	790.4	721.2	654.5	604.9	600.4
47.5°	970.6	957.6	957.6	944.7	896.4	823.1	747.9	677.9	612.2	568.4	560.3
50°	917.8	905.4	901.7	895.4	848.3	774.6	703.1	635.6	570.4	528.6	520.8
52.5°	861.4	850.8	853.3	841.8	796.2	724.0	657.8	588.0	528.4	490.4	482.6
55°	802.0	786.9	789.2	784.9	741.8	671.8	606.9	548.8	487.1	451.3	444.0
57.5°	740.3	720.7	728.7	726.2	683.9	618.5	560.3	504.2	446.1	413.1	406.0
60°	677.1	658.3	666.6	664.3	624.5	565.1	512.3	460.2	405.3	375.3	368.3
62.5°	612.2	594.8	602.4	600.6	564.1	510.5	464.4	416.6	364.2	337.3	330.8
65°	546.7	530.1	536.9	535.7	501.9	461.2	415.3	371.5	323.0	299.6	293.0
67.5°	479.8	464.4	470.7	470.7	439.8	400.7	366.0	326.0	282.4	262.3	256.3
70°	413.3	399.0	404.5	404.0	377.8	346.1	316.2	280.4	241.4	224.8	219.8
72.5°	346.4	333.8	338.8	338.3	316.4	296.0	266.3	235.4	201.4	188.0	183.5
75°	281.4	269.6	274.4	273.9	256.0	236.9	217.0	191.3	162.1	152.8	148.3
77.5°	219.5	207.4	211.4	211.4	198.4	184.5	168.7	148.8	128.1	118.1	114.8
80°	160.1	154.3	152.3	152.5	143.7	134.7	126.6	107.5	92.4	85.6	83.3
82.5°	105.2	100.4	98.4	98.9	93.9	88.4	83.3	70.0	59.9	55.9	54.6
85°	55.9	52.4	50.6	51.9	50.8	47.8	45.3	36.2	30.0	28.4	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

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1
2.5°	1077.6	1077.6	1067.8	1065.5	1064.5	1065.8	1056.0	1054.2	1068.3	1063.5	1052.7
5°	1069.1	1068.6	1054.7	1052.2	1052.2	1050.7	1039.6	1037.1	1051.2	1047.2	1035.3
7.5°	1058.5	1057.0	1040.6	1038.9	1036.3	1035.3	1023.0	1021.2	1033.3	1030.8	1019.7
10°	1045.7	1044.1	1024.8	1023.5	1020.7	1018.7	1007.1	1005.9	1018.2	1014.2	1005.4
12.5°	1028.8	1026.0	1006.1	1004.9	1002.6	1001.9	990.5	990.0	1003.6	999.6	990.3
15°	1006.6	1004.4	982.2	982.7	983.0	983.0	973.9	973.4	986.8	985.0	974.9
17.5°	982.2	979.2	958.1	959.6	961.3	963.3	956.3	957.6	971.7	969.4	960.3
20°	954.5	951.5	930.9	935.2	938.9	943.0	938.4	941.9	955.0	954.0	947.2
22.5°	923.6	920.6	901.4	908.0	914.3	921.8	919.8	923.8	937.7	937.4	931.4
25°	885.8	886.6	869.7	877.8	888.3	898.9	899.7	906.2	921.6	920.0	914.5
27.5°	850.6	851.6	833.7	847.3	861.4	875.0	878.3	887.3	902.9	901.7	896.9
30°	813.6	814.8	797.5	816.1	833.2	849.8	856.9	869.2	885.1	885.1	880.0
32.5°	775.1	777.3	759.2	784.1	804.0	823.4	835.7	848.6	866.7	866.2	861.9
35°	735.5	738.1	721.4	753.2	773.0	796.7	812.1	829.2	845.3	845.5	842.3
37.5°	695.3	698.3	683.2	717.9	740.6	768.5	788.1	805.3	823.1	824.1	821.1
40°	655.2	658.5	645.4	678.9	707.6	738.8	761.5	781.6	801.2	801.7	799.7
42.5°	615.2	618.7	608.9	641.6	674.1	707.6	734.3	757.2	777.3	778.6	776.3
45°	576.2	579.2	572.2	607.9	639.1	675.6	706.3	732.3	752.7	754.4	753.7
47.5°	537.4	540.2	533.9	566.6	602.6	641.4	676.9	705.6	727.2	729.2	728.7
50°	499.4	501.7	494.9	529.1	564.9	606.1	643.2	676.4	700.5	702.6	702.3
52.5°	461.7	463.9	458.1	494.1	526.6	570.2	610.4	646.4	670.3	673.4	673.9
55°	425.2	426.2	421.6	456.1	487.6	533.2	579.5	614.5	638.4	640.9	642.4
57.5°	388.7	388.9	385.1	418.1	448.3	494.9	543.5	580.2	602.9	605.4	607.7
60°	352.4	352.2	347.9	379.9	408.8	454.9	505.5	542.0	563.9	566.1	569.1
62.5°	316.4	315.7	311.9	341.3	368.5	414.1	464.9	500.2	521.1	522.6	526.6
65°	280.7	279.9	276.4	303.6	328.2	371.8	421.6	455.1	474.0	476.0	475.3
67.5°	245.4	243.9	241.2	265.6	288.0	328.2	376.1	408.0	423.7	425.4	430.2
70°	210.2	208.4	202.1	228.1	247.7	283.7	328.2	356.7	369.8	371.5	370.8
72.5°	175.5	173.7	166.9	190.8	207.4	238.9	278.7	302.3	313.6	315.2	315.2
75°	141.7	140.7	136.4	154.6	168.4	194.1	227.8	247.4	256.3	258.0	257.5
77.5°	109.2	108.5	104.2	119.8	130.6	149.8	177.0	192.3	198.9	200.9	205.2
80°	78.3	78.0	71.2	86.6	91.4	107.5	127.4	139.2	142.7	145.5	148.5
82.5°	50.1	50.3	43.5	56.6	58.7	69.0	81.3	88.6	91.1	93.4	95.7
85°	24.4	25.4	21.6	30.0	30.2	35.5	40.8	43.5	44.6	46.3	48.3
87.5°	6.3	7.3	4.0	8.6	7.6	9.8	11.3	12.1	11.8	13.1	13.8
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: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1
2.5°	1056.2	1064.3	1060.3	1073.3	1078.4	1070.3	1084.4	1084.7	1074.6	1086.4	1093.0
5°	1039.9	1048.2	1045.7	1059.3	1065.5	1058.5	1075.6	1078.9	1069.1	1082.4	1093.0
7.5°	1023.3	1033.1	1029.8	1043.6	1051.2	1045.7	1064.0	1069.3	1061.8	1076.4	1090.5
10°	1008.9	1017.2	1013.7	1028.3	1034.8	1030.3	1048.4	1058.2	1051.2	1069.1	1085.9
12.5°	994.8	1001.6	997.6	1009.7	1016.0	1010.2	1032.3	1041.4	1036.3	1055.0	1076.6
15°	976.7	984.2	978.7	989.5	994.3	989.3	1007.4	1023.0	1016.7	1037.1	1061.0
17.5°	962.8	967.1	959.6	968.1	970.9	964.1	982.5	997.8	993.3	1015.5	1043.1
20°	947.5	951.0	940.4	945.2	945.0	936.4	953.3	968.4	965.4	989.8	1021.2
22.5°	930.4	932.1	919.8	920.8	920.3	906.2	921.3	936.7	935.4	960.1	995.3
25°	912.2	912.5	896.6	896.1	890.6	874.0	887.3	904.7	900.9	927.6	964.6
27.5°	894.4	891.9	872.7	868.2	859.4	839.5	851.3	866.9	864.7	890.8	931.9
30°	875.2	872.0	848.6	840.3	827.4	804.5	814.3	828.9	830.2	853.1	896.1
32.5°	857.1	848.8	822.9	810.8	794.7	768.0	773.3	788.1	790.2	813.3	857.6
35°	833.7	828.2	796.2	775.6	759.7	730.5	736.0	746.4	749.4	772.0	817.1
37.5°	811.6	802.7	768.8	743.6	723.2	692.5	694.0	704.6	707.6	730.5	775.1
40°	788.6	776.1	739.6	710.1	686.7	654.5	652.7	663.8	666.1	688.5	728.7
42.5°	764.2	749.1	708.1	675.9	648.9	616.2	612.7	622.3	624.8	646.7	686.2
45°	739.6	721.4	675.9	640.6	611.2	577.7	574.2	581.5	585.3	605.9	643.9
47.5°	713.4	692.2	642.6	603.4	572.9	539.4	535.2	542.5	545.5	565.9	601.9
50°	685.9	660.3	608.4	565.1	534.9	501.9	495.6	504.2	507.0	526.1	561.3
52.5°	655.7	627.3	571.9	526.6	496.4	464.9	457.4	465.7	469.0	487.6	520.1
55°	623.8	593.1	535.2	491.1	458.4	427.7	421.4	424.7	431.7	449.3	479.5
57.5°	587.8	557.3	496.4	451.6	420.1	390.7	385.4	388.4	395.0	412.1	439.3
60°	549.5	517.3	456.9	412.1	381.6	353.7	348.9	351.7	358.7	374.3	399.5
62.5°	511.8	475.5	416.1	371.5	343.9	317.9	316.7	315.7	322.2	337.3	359.5
65°	465.9	431.2	373.6	331.3	306.1	282.7	277.7	279.9	286.2	300.1	323.2
67.5°	416.9	385.4	330.0	291.0	268.6	247.7	243.4	244.4	251.0	263.1	283.2
70°	364.7	337.1	285.5	250.5	231.6	212.0	209.2	209.4	215.7	226.3	243.9
72.5°	310.1	285.2	240.4	210.4	194.8	180.7	178.2	175.2	181.0	190.1	205.2
75°	254.5	232.6	195.6	171.2	158.8	147.0	144.7	141.7	147.5	155.3	167.1
77.5°	198.4	180.7	152.0	133.2	123.6	114.8	112.8	109.5	115.3	121.1	130.4
80°	143.5	130.6	113.5	93.6	90.4	84.6	82.6	79.0	84.6	88.4	95.4
82.5°	92.6	84.1	74.3	60.4	59.9	55.6	54.6	50.6	55.6	57.9	63.2
85°	46.8	42.8	40.3	30.7	31.7	28.9	28.7	24.4	28.4	29.5	32.5
87.5°	13.3	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: P837861

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1	1079.1
2.5°	1080.1	1084.4	1085.4	1085.2	1087.9	1103.1	1098.0	1103.1
5°	1082.7	1092.2	1094.7	1098.3	1102.8	1119.9	1114.4	1120.4
7.5°	1084.2	1098.5	1104.1	1110.9	1118.2	1137.3	1132.8	1138.8
10°	1084.2	1102.8	1110.9	1122.2	1132.0	1154.2	1149.9	1156.9
12.5°	1079.6	1103.6	1114.9	1130.7	1143.3	1167.2	1165.5	1170.5
15°	1070.3	1099.8	1115.4	1135.8	1151.4	1178.1	1177.3	1183.4
17.5°	1057.7	1093.2	1112.1	1137.8	1157.4	1187.4	1189.1	1192.4
20°	1041.9	1080.9	1105.6	1137.0	1161.7	1194.7	1196.9	1201.5
22.5°	1021.0	1066.0	1095.8	1133.8	1162.2	1197.7	1201.7	1206.0
25°	996.3	1048.2	1082.9	1127.5	1159.7	1197.4	1203.0	1206.8
27.5°	968.1	1025.0	1066.6	1117.4	1152.6	1193.4	1200.2	1204.7
30°	935.4	1000.3	1047.9	1104.3	1143.1	1185.9	1193.2	1197.7
32.5°	901.7	973.2	1025.8	1087.4	1129.2	1173.8	1180.1	1183.6
35°	864.9	940.2	999.1	1065.8	1111.4	1154.4	1159.2	1163.0
37.5°	824.9	904.4	968.6	1041.4	1086.2	1127.5	1131.7	1136.0
40°	783.6	866.9	934.4	1011.4	1056.2	1094.5	1099.0	1102.0
42.5°	742.1	825.4	897.9	976.2	1020.7	1057.5	1060.3	1063.3
45°	700.0	782.4	856.9	937.2	981.2	1015.7	1016.7	1019.2
47.5°	657.2	737.8	811.8	892.6	936.2	967.6	968.6	970.6
50°	614.2	693.2	763.7	844.5	887.1	920.3	915.8	917.8
52.5°	571.9	646.4	718.4	792.7	834.7	864.2	865.4	861.4
55°	530.4	600.6	666.8	738.3	778.3	801.2	800.5	802.0
57.5°	488.3	554.3	615.0	680.4	719.4	741.1	745.6	740.3
60°	445.6	507.5	561.8	621.0	658.8	676.9	682.2	677.1
62.5°	403.0	459.9	509.2	560.8	595.8	618.2	617.7	612.2
65°	360.5	412.1	456.1	499.9	530.4	552.8	551.8	546.7
67.5°	321.2	363.7	403.3	438.8	465.2	480.5	485.8	479.8
70°	277.9	314.7	349.4	377.8	399.7	413.6	418.6	413.3
72.5°	234.6	265.8	290.2	317.7	334.5	346.1	351.4	346.4
75°	191.8	217.5	237.4	258.8	270.6	280.4	286.5	281.4
77.5°	150.3	170.2	186.0	201.6	215.2	217.5	222.8	219.5
80°	110.8	125.1	136.7	147.0	156.8	157.8	162.1	160.1
82.5°	73.8	83.3	86.3	97.2	103.5	102.5	106.7	105.2
85°	39.0	44.8	50.1	53.4	56.9	53.6	57.4	55.9
87.5°	13.1	13.8	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)