

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: P837970

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2HI-30-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837970
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-LD4-2HI-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

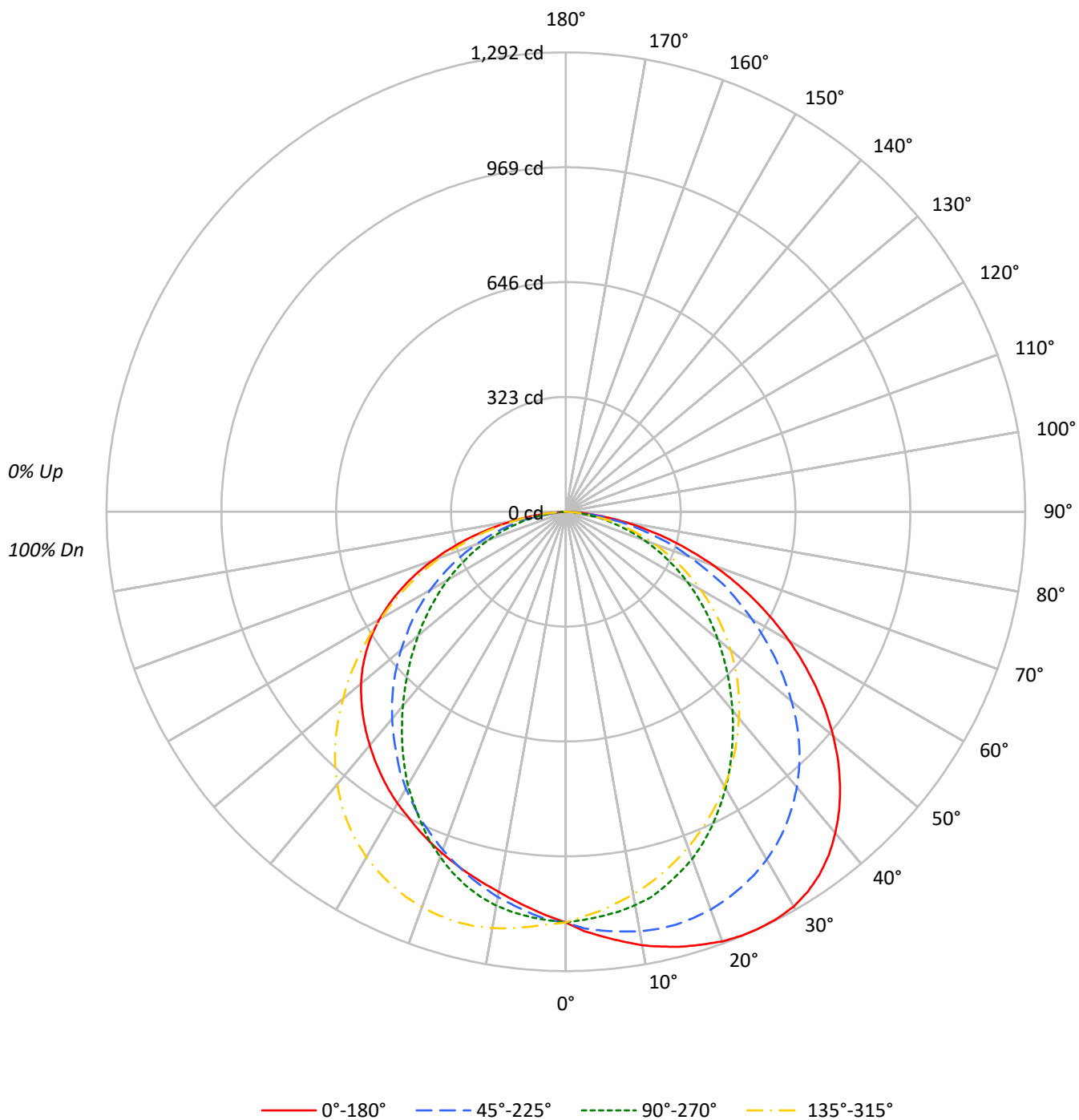
Lumens per Lamp: N/A
Luminaire Lumens: 3388.3 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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	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°	3108	3108	3108	3108
5°	3239	3085	3027	3091
10°	3383	3070	2966	3074
15°	3528	3031	2937	3031
20°	3682	2976	2924	2958
25°	3835	2892	2923	2863
30°	3983	2792	2943	2761
35°	4089	2677	2973	2635
40°	4143	2562	3014	2504
45°	4151	2445	3073	2384
50°	4112	2334	3148	2272
55°	4027	2229	3218	2168
60°	3900	2121	3261	2066
65°	3726	1997	3244	1950
70°	3481	1851	3128	1817
75°	3132	1650	2871	1642
80°	2655	1382	2413	1402
85°	1846	914	1531	939

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.6	3.2
10°-20°	317.5	9.4
20°-30°	486.6	14.4
30°-40°	591.7	17.5
40°-50°	615.1	18.2
50°-60°	555.6	16.4
60°-70°	422.4	12.5
70°-80°	235.5	7.0
80°-90°	54.2	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°	913.8	27.0
0°-40°	1505.5	44.4
0°-60°	2676.2	79.0
0°-90°	3388.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3388.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1155	1155	1155	1155	1155	
5°	1199	1142	1121	1144	1199	116
15°	1266	1088	1054	1088	1266	359
25°	1292	974	985	964	1292	597
35°	1245	815	905	802	1245	777
45°	1091	642	807	626	1091	840
55°	858	475	686	462	858	766
65°	585	314	509	306	585	578
75°	301	159	276	158	301	320
85°	60	30	50	30	60	75
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°	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9
2.5°	1180.5	1163.3	1163.5	1178.6	1167.0	1172.7	1156.5	1162.7	1160.8	1162.2	1149.0
5°	1199.1	1180.5	1180.2	1193.2	1180.2	1182.7	1162.2	1166.2	1160.3	1156.5	1142.2
7.5°	1218.8	1200.2	1198.3	1209.6	1192.6	1190.7	1168.1	1168.1	1157.3	1147.9	1134.4
10°	1238.2	1219.0	1216.6	1225.2	1204.2	1198.0	1170.5	1166.2	1151.9	1137.9	1123.4
12.5°	1252.7	1233.3	1231.4	1236.8	1213.1	1201.8	1170.5	1162.2	1141.2	1121.5	1110.2
15°	1266.4	1246.5	1241.4	1244.1	1216.9	1201.8	1166.8	1153.8	1126.9	1101.0	1087.8
17.5°	1276.1	1257.0	1251.9	1251.6	1218.8	1197.2	1158.7	1140.9	1108.6	1077.3	1064.1
20°	1285.8	1266.7	1260.2	1255.4	1218.2	1191.0	1146.8	1122.9	1085.1	1050.1	1039.1
22.5°	1290.7	1271.0	1264.0	1256.7	1214.7	1179.7	1132.3	1101.8	1058.7	1017.0	1007.8
25°	1291.5	1271.3	1263.7	1253.2	1207.7	1166.2	1113.4	1076.5	1028.3	982.0	974.1
27.5°	1289.3	1267.2	1259.7	1247.0	1197.2	1149.8	1091.1	1047.7	996.0	944.8	936.4
30°	1281.8	1259.4	1252.2	1235.7	1182.4	1129.6	1066.5	1015.6	960.1	905.7	898.4
32.5°	1266.7	1244.9	1239.0	1222.5	1166.2	1106.1	1038.0	981.1	920.5	868.5	857.8
35°	1244.6	1222.8	1219.0	1201.8	1143.6	1078.1	1006.7	943.4	878.5	825.4	814.9
37.5°	1215.8	1197.5	1191.8	1174.8	1116.9	1046.3	970.9	902.5	835.7	778.6	772.1
40°	1179.4	1162.2	1157.9	1142.8	1085.9	1011.1	932.1	860.2	791.5	738.4	729.3
42.5°	1137.9	1121.8	1119.3	1103.7	1047.7	972.0	890.1	816.3	745.4	694.2	685.1
45°	1090.8	1075.2	1074.6	1059.8	1005.9	928.6	845.9	771.8	700.4	647.4	642.5
47.5°	1038.8	1024.8	1024.8	1011.1	959.3	880.9	800.4	725.5	655.2	608.3	599.7
50°	982.2	969.0	965.0	958.2	907.9	828.9	752.4	680.2	610.5	565.7	557.4
52.5°	921.9	910.6	913.3	900.9	852.1	774.8	703.9	629.3	565.5	524.8	516.4
55°	858.3	842.1	844.6	840.0	793.9	719.0	649.5	587.3	521.3	483.0	475.2
57.5°	792.3	771.3	779.9	777.2	732.0	661.9	599.7	539.6	477.4	442.1	434.5
60°	724.7	704.5	713.4	710.9	668.4	604.8	548.2	492.5	433.7	401.7	394.1
62.5°	655.2	636.6	644.7	642.8	603.7	546.3	497.0	445.9	389.8	361.0	354.0
65°	585.1	567.4	574.6	573.3	537.2	493.5	444.5	397.6	345.6	320.6	313.6
67.5°	513.5	497.0	503.8	503.8	470.6	428.9	391.7	348.9	302.3	280.7	274.2
70°	442.4	427.0	432.9	432.4	404.4	370.4	338.4	300.1	258.4	240.6	235.2
72.5°	370.7	357.2	362.6	362.1	338.6	316.8	285.0	251.9	215.5	201.2	196.4
75°	301.2	288.5	293.6	293.1	274.0	253.5	232.2	204.7	173.5	163.5	158.7
77.5°	234.9	222.0	226.3	226.3	212.3	197.5	180.5	159.2	137.1	126.3	122.8
80°	171.3	165.1	163.0	163.3	153.8	144.1	135.5	115.0	98.9	91.6	89.2
82.5°	112.6	107.5	105.3	105.9	100.5	94.6	89.2	74.9	64.1	59.8	58.5
85°	59.8	56.0	54.1	55.5	54.4	51.2	48.5	38.8	32.1	30.4	29.6
87.5°	18.9	16.4	15.1	19.9	17.0	15.1	14.5	11.6	8.9	8.9	8.6
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°	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9
2.5°	1153.3	1153.3	1142.8	1140.4	1139.3	1140.6	1130.1	1128.2	1143.3	1138.2	1126.6
5°	1144.1	1143.6	1128.8	1126.1	1126.1	1124.5	1112.6	1109.9	1125.0	1120.7	1108.0
7.5°	1132.8	1131.2	1113.7	1111.8	1109.1	1108.0	1094.8	1092.9	1105.9	1103.2	1091.3
10°	1119.1	1117.5	1096.7	1095.4	1092.4	1090.3	1077.9	1076.5	1089.7	1085.4	1076.0
12.5°	1101.0	1098.1	1076.8	1075.4	1073.0	1072.2	1060.1	1059.5	1074.1	1069.8	1059.8
15°	1077.3	1074.9	1051.2	1051.7	1052.0	1052.0	1042.3	1041.8	1056.0	1054.2	1043.4
17.5°	1051.2	1048.0	1025.3	1026.9	1028.8	1031.0	1023.4	1024.8	1039.9	1037.5	1027.8
20°	1021.6	1018.3	996.2	1000.8	1004.9	1009.2	1004.3	1008.1	1022.1	1021.0	1013.7
22.5°	988.4	985.2	964.7	971.7	978.5	986.5	984.4	988.7	1003.5	1003.2	996.8
25°	948.0	948.8	930.8	939.4	950.7	962.0	962.8	969.8	986.3	984.6	978.7
27.5°	910.3	911.4	892.2	906.8	921.9	936.4	939.9	949.6	966.3	965.0	959.9
30°	870.7	872.0	853.5	873.4	891.7	909.5	917.0	930.2	947.2	947.2	941.8
32.5°	829.5	831.9	812.5	839.2	860.5	881.2	894.4	908.1	927.5	927.0	922.4
35°	787.2	789.9	772.1	806.0	827.3	852.6	869.1	887.4	904.6	904.9	901.4
37.5°	744.1	747.3	731.1	768.3	792.6	822.5	843.5	861.8	880.9	882.0	878.8
40°	701.2	704.7	690.7	726.6	757.3	790.7	814.9	836.5	857.5	858.0	855.9
42.5°	658.4	662.2	651.7	686.7	721.4	757.3	785.8	810.3	831.9	833.2	830.8
45°	616.7	619.9	612.3	650.6	684.0	723.1	755.9	783.7	805.5	807.4	806.6
47.5°	575.2	578.1	571.4	606.4	644.9	686.4	724.4	755.1	778.3	780.4	779.9
50°	534.5	536.9	529.6	566.3	604.5	648.7	688.3	723.9	749.7	751.9	751.6
52.5°	494.1	496.5	490.3	528.8	563.6	610.2	653.3	691.8	717.4	720.6	721.2
55°	455.0	456.1	451.2	488.1	521.8	570.6	620.2	657.6	683.2	685.9	687.5
57.5°	416.0	416.2	412.2	447.5	479.8	529.6	581.6	621.0	645.2	647.9	650.3
60°	377.2	376.9	372.3	406.5	437.5	486.8	541.0	580.0	603.5	605.9	609.1
62.5°	338.6	337.8	333.8	365.3	394.4	443.2	497.6	535.3	557.7	559.3	563.6
65°	300.4	299.6	295.8	324.9	351.3	397.9	451.2	487.1	507.3	509.4	508.6
67.5°	262.7	261.0	258.1	284.2	308.2	351.3	402.5	436.7	453.4	455.3	460.4
70°	224.9	223.1	216.3	244.1	265.1	303.6	351.3	381.7	395.7	397.6	396.8
72.5°	187.8	185.9	178.6	204.2	222.0	255.7	298.2	323.5	335.7	337.3	337.3
75°	151.7	150.6	146.0	165.4	180.2	207.7	243.8	264.8	274.2	276.1	275.6
77.5°	116.9	116.1	111.5	128.2	139.8	160.3	189.4	205.8	212.8	215.0	219.6
80°	83.8	83.5	76.2	92.7	97.8	115.0	136.3	149.0	152.7	155.7	158.9
82.5°	53.6	53.9	46.6	60.6	62.8	73.8	87.0	94.8	97.5	99.9	102.4
85°	26.1	27.2	23.2	32.1	32.3	38.0	43.6	46.6	47.7	49.6	51.7
87.5°	6.7	7.8	4.3	9.2	8.1	10.5	12.1	12.9	12.7	14.0	14.8
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°	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9
2.5°	1130.4	1139.0	1134.7	1148.7	1154.1	1145.5	1160.6	1160.8	1150.1	1162.7	1169.7
5°	1112.9	1121.8	1119.1	1133.6	1140.4	1132.8	1151.1	1154.6	1144.1	1158.4	1169.7
7.5°	1095.1	1105.6	1102.1	1116.9	1125.0	1119.1	1138.7	1144.4	1136.3	1151.9	1167.0
10°	1079.7	1088.6	1084.9	1100.5	1107.5	1102.6	1122.0	1132.5	1125.0	1144.1	1162.2
12.5°	1064.7	1071.9	1067.6	1080.6	1087.3	1081.1	1104.8	1114.5	1109.1	1129.0	1152.2
15°	1045.3	1053.3	1047.4	1059.0	1064.1	1058.7	1078.1	1094.8	1088.1	1109.9	1135.5
17.5°	1030.4	1035.0	1026.9	1036.1	1039.1	1031.8	1051.5	1067.9	1063.0	1086.8	1116.4
20°	1014.0	1017.8	1006.5	1011.6	1011.3	1002.2	1020.2	1036.4	1033.1	1059.3	1092.9
22.5°	995.7	997.6	984.4	985.5	984.9	969.8	986.0	1002.4	1001.1	1027.5	1065.2
25°	976.3	976.6	959.6	959.1	953.1	935.3	949.6	968.2	964.2	992.7	1032.3
27.5°	957.2	954.5	934.0	929.2	919.7	898.4	911.1	927.8	925.4	953.4	997.3
30°	936.7	933.2	908.1	899.3	885.5	861.0	871.5	887.1	888.5	913.0	959.1
32.5°	917.3	908.4	880.7	867.7	850.5	821.9	827.6	843.5	845.6	870.4	917.8
35°	892.2	886.3	852.1	830.0	813.0	781.8	787.7	798.8	802.0	826.2	874.5
37.5°	868.5	859.1	822.7	795.8	774.0	741.1	742.7	754.0	757.3	781.8	829.5
40°	844.0	830.6	791.5	760.0	734.9	700.4	698.5	710.4	712.8	736.8	779.9
42.5°	817.9	801.7	757.8	723.3	694.5	659.5	655.7	666.0	668.6	692.1	734.4
45°	791.5	772.1	723.3	685.6	654.1	618.3	614.5	622.3	626.4	648.4	689.1
47.5°	763.5	740.8	687.8	645.7	613.1	577.3	572.7	580.6	583.8	605.6	644.1
50°	734.1	706.6	651.1	604.8	572.5	537.2	530.4	539.6	542.6	563.0	600.8
52.5°	701.8	671.3	612.1	563.6	531.3	497.6	489.5	498.4	501.9	521.8	556.6
55°	667.6	634.7	572.7	525.6	490.6	457.7	451.0	454.5	462.0	480.9	513.2
57.5°	629.0	596.4	531.3	483.3	449.6	418.1	412.4	415.7	422.7	441.0	470.1
60°	588.1	553.6	489.0	441.0	408.4	378.5	373.4	376.3	383.9	400.6	427.5
62.5°	547.7	508.9	445.3	397.6	368.0	340.2	338.9	337.8	344.8	361.0	384.7
65°	498.7	461.5	399.8	354.5	327.6	302.5	297.1	299.6	306.3	321.1	345.9
67.5°	446.1	412.4	353.2	311.4	287.4	265.1	260.5	261.6	268.6	281.5	303.1
70°	390.4	360.7	305.5	268.1	247.8	226.8	223.9	224.1	230.9	242.2	261.0
72.5°	331.9	305.2	257.3	225.2	208.5	193.4	190.7	187.5	193.7	203.4	219.6
75°	272.4	248.9	209.3	183.2	170.0	157.3	154.9	151.7	157.9	166.2	178.9
77.5°	212.3	193.4	162.7	142.5	132.3	122.8	120.7	117.2	123.4	129.6	139.5
80°	153.6	139.8	121.5	100.2	96.7	90.5	88.4	84.6	90.5	94.6	102.1
82.5°	99.1	90.0	79.5	64.7	64.1	59.5	58.5	54.1	59.5	62.0	67.6
85°	50.1	45.8	43.1	32.9	33.9	31.0	30.7	26.1	30.4	31.5	34.8
87.5°	14.3	15.1	13.5	8.1	10.2	9.7	9.7	7.0	9.7	9.7	11.0
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: P837970

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2HI-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9	1154.9
2.5°	1156.0	1160.6	1161.6	1161.4	1164.3	1180.5	1175.1	1180.5
5°	1158.7	1168.9	1171.6	1175.4	1180.2	1198.6	1192.6	1199.1
7.5°	1160.3	1175.7	1181.6	1188.9	1196.7	1217.1	1212.3	1218.8
10°	1160.3	1180.2	1188.9	1201.0	1211.5	1235.2	1230.6	1238.2
12.5°	1155.4	1181.0	1193.2	1210.1	1223.6	1249.2	1247.3	1252.7
15°	1145.5	1177.0	1193.7	1215.5	1232.2	1260.8	1260.0	1266.4
17.5°	1132.0	1170.0	1190.2	1217.7	1238.7	1270.8	1272.6	1276.1
20°	1115.0	1156.8	1183.2	1216.9	1243.3	1278.6	1281.0	1285.8
22.5°	1092.7	1140.9	1172.7	1213.4	1243.8	1281.8	1286.1	1290.7
25°	1066.3	1121.8	1159.0	1206.6	1241.1	1281.5	1287.5	1291.5
27.5°	1036.1	1097.0	1141.4	1195.9	1233.6	1277.2	1284.5	1289.3
30°	1001.1	1070.6	1121.5	1181.8	1223.3	1269.1	1276.9	1281.8
32.5°	965.0	1041.5	1097.8	1163.8	1208.5	1256.2	1262.9	1266.7
35°	925.7	1006.2	1069.2	1140.6	1189.4	1235.5	1240.6	1244.6
37.5°	882.8	967.9	1036.6	1114.5	1162.5	1206.6	1211.2	1215.8
40°	838.6	927.8	1000.0	1082.4	1130.4	1171.3	1176.2	1179.4
42.5°	794.2	883.4	960.9	1044.7	1092.4	1131.7	1134.7	1137.9
45°	749.2	837.3	917.0	1003.0	1050.1	1087.0	1088.1	1090.8
47.5°	703.4	789.6	868.8	955.3	1001.9	1035.6	1036.6	1038.8
50°	657.3	741.9	817.4	903.8	949.4	984.9	980.1	982.2
52.5°	612.1	691.8	768.9	848.3	893.3	924.8	926.2	921.9
55°	567.6	642.8	713.6	790.1	833.0	857.5	856.7	858.3
57.5°	522.6	593.2	658.1	728.2	769.9	793.1	798.0	792.3
60°	476.8	543.1	601.3	664.6	705.0	724.4	730.1	724.7
62.5°	431.3	492.2	545.0	600.2	637.7	661.6	661.1	655.2
65°	385.8	441.0	488.1	535.0	567.6	591.6	590.5	585.1
67.5°	343.8	389.3	431.6	469.6	497.8	514.3	519.9	513.5
70°	297.4	336.7	373.9	404.4	427.8	442.6	448.0	442.4
72.5°	251.1	284.5	310.6	340.0	358.0	370.4	376.1	370.7
75°	205.3	232.8	254.0	276.9	289.6	300.1	306.6	301.2
77.5°	160.8	182.1	199.1	215.8	230.3	232.8	238.4	234.9
80°	118.5	133.9	146.3	157.3	167.8	168.9	173.5	171.3
82.5°	78.9	89.2	92.4	104.0	110.7	109.6	114.2	112.6
85°	41.8	48.0	53.6	57.1	60.9	57.4	61.4	59.8
87.5°	14.0	14.8	12.9	18.3	20.2	17.2	19.7	18.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)