

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: P838039

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1HI-20-120-EDD**

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: P838039
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-LD4-1HI-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

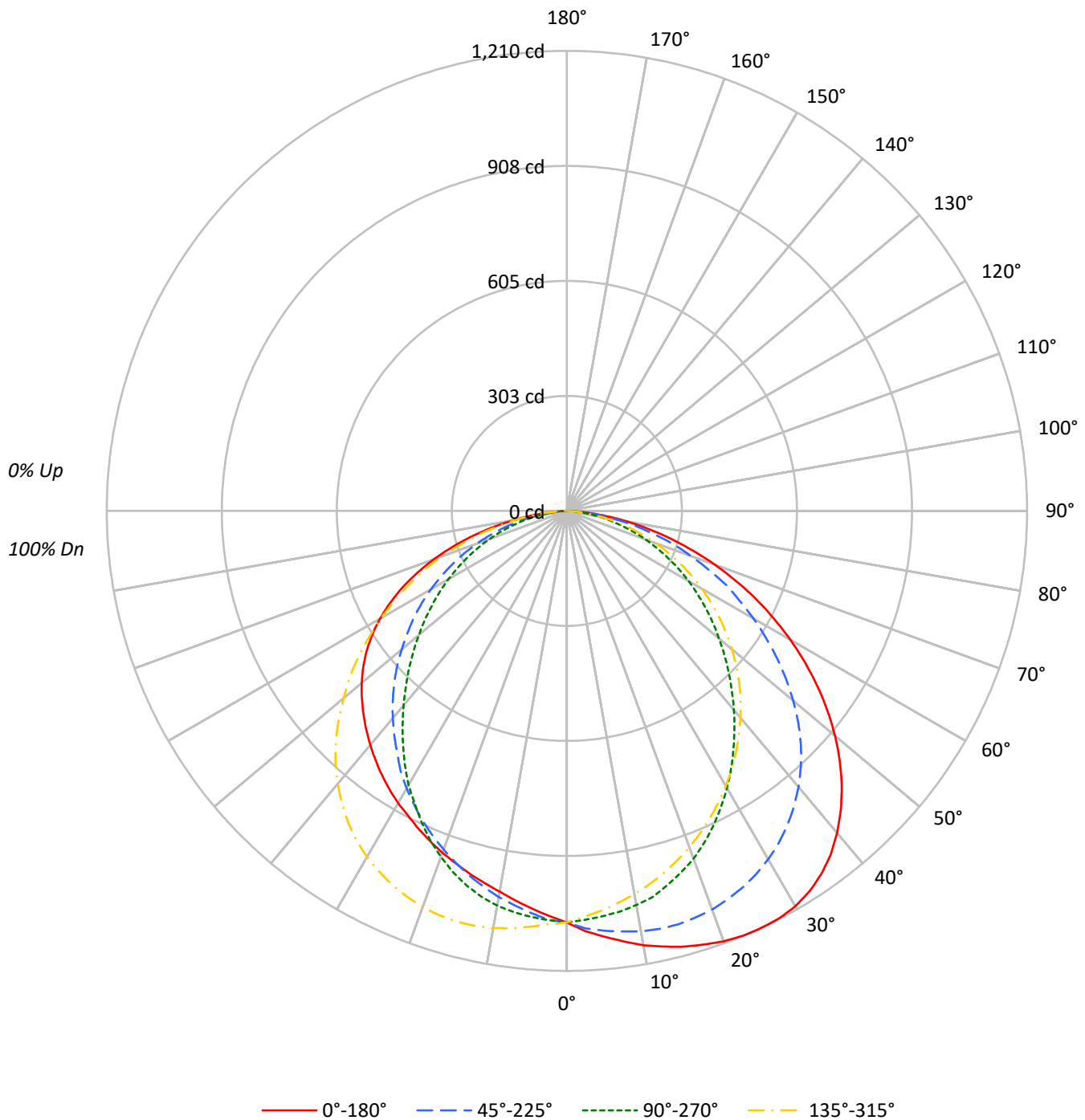
Lumens per Lamp: N/A
Luminaire Lumens: 3174.9 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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



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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°	1456	1456	1456	1456
5°	1518	1446	1418	1448
10°	1585	1438	1389	1440
15°	1653	1420	1376	1420
20°	1725	1394	1370	1386
25°	1797	1355	1370	1341
30°	1866	1308	1379	1293
35°	1916	1254	1393	1234
40°	1941	1200	1412	1173
45°	1945	1145	1439	1117
50°	1927	1093	1475	1064
55°	1886	1045	1508	1015
60°	1827	994	1528	968
65°	1746	935	1520	914
70°	1631	867	1466	851
75°	1467	773	1345	769
80°	1244	648	1130	657
85°	865	429	716	440

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.7	3.2
10°-20°	297.5	9.4
20°-30°	456.0	14.4
30°-40°	554.4	17.5
40°-50°	576.4	18.2
50°-60°	520.6	16.4
60°-70°	395.8	12.5
70°-80°	220.7	7.0
80°-90°	50.8	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°	856.2	27.0
0°-40°	1410.7	44.4
0°-60°	2507.7	79.0
0°-90°	3174.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3174.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1082	1082	1082	1082	1082	
5°	1124	1070	1050	1072	1124	108
15°	1187	1019	988	1020	1187	336
25°	1210	913	923	904	1210	559
35°	1166	764	848	752	1166	728
45°	1022	602	756	587	1022	787
55°	804	445	643	433	804	718
65°	548	294	477	287	548	542
75°	282	149	259	148	282	300
85°	56	28	46	28	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°	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2
2.5°	1106.2	1090.0	1090.2	1104.4	1093.5	1098.8	1083.7	1089.5	1087.7	1089.0	1076.6
5°	1123.6	1106.2	1105.9	1118.0	1105.9	1108.2	1089.0	1092.8	1087.2	1083.7	1070.3
7.5°	1142.0	1124.6	1122.8	1133.4	1117.5	1115.7	1094.5	1094.5	1084.4	1075.6	1063.0
10°	1160.2	1142.3	1140.0	1148.1	1128.4	1122.6	1096.8	1092.8	1079.4	1066.3	1052.6
12.5°	1173.8	1155.6	1153.9	1158.9	1136.7	1126.1	1096.8	1089.0	1069.3	1050.9	1040.3
15°	1186.7	1168.0	1163.2	1165.7	1140.2	1126.1	1093.3	1081.2	1055.9	1031.7	1019.3
17.5°	1195.8	1177.8	1173.0	1172.8	1142.0	1121.8	1085.7	1069.0	1038.8	1009.5	997.1
20°	1204.9	1186.9	1180.9	1176.3	1141.5	1116.0	1074.6	1052.1	1016.8	984.0	973.6
22.5°	1209.4	1191.0	1184.4	1177.6	1138.2	1105.4	1061.0	1032.4	992.1	952.9	944.3
25°	1210.2	1191.2	1184.2	1174.3	1131.6	1092.8	1043.3	1008.7	963.5	920.1	912.8
27.5°	1208.1	1187.4	1180.4	1168.5	1121.8	1077.4	1022.3	981.7	933.2	885.3	877.5
30°	1201.1	1180.1	1173.3	1157.9	1107.9	1058.4	999.4	951.7	899.7	848.7	841.9
32.5°	1186.9	1166.5	1160.9	1145.5	1092.8	1036.5	972.6	919.4	862.6	813.8	803.7
35°	1166.2	1145.8	1142.3	1126.1	1071.6	1010.2	943.3	884.0	823.2	773.4	763.6
37.5°	1139.2	1122.1	1116.8	1100.9	1046.6	980.4	909.8	845.6	783.0	729.5	723.5
40°	1105.1	1089.0	1084.9	1070.8	1017.5	947.4	873.4	806.0	741.6	691.9	683.3
42.5°	1066.3	1051.1	1048.9	1034.2	981.7	910.8	834.0	764.9	698.5	650.5	641.9
45°	1022.1	1007.5	1006.9	993.1	942.6	870.1	792.6	723.2	656.3	606.6	602.0
47.5°	973.4	960.2	960.2	947.4	898.9	825.4	750.0	679.8	613.9	570.0	561.9
50°	920.4	908.0	904.2	897.9	850.7	776.7	705.0	637.4	572.0	530.1	522.3
52.5°	863.8	853.2	855.7	844.1	798.4	726.0	659.6	589.7	529.9	491.7	483.9
55°	804.2	789.1	791.4	787.1	743.9	673.7	608.6	550.3	488.5	452.6	445.3
57.5°	742.4	722.7	730.8	728.3	685.9	620.2	561.9	505.6	447.3	414.2	407.2
60°	679.0	660.1	668.4	666.2	626.3	566.7	513.7	461.4	406.4	376.4	369.3
62.5°	613.9	596.5	604.1	602.3	565.7	511.9	465.7	417.8	365.3	338.3	331.7
65°	548.3	531.6	538.4	537.2	503.3	462.5	416.5	372.6	323.9	300.4	293.8
67.5°	481.1	465.7	472.0	472.0	441.0	401.9	367.0	326.9	283.2	263.0	257.0
70°	414.5	400.1	405.7	405.2	378.9	347.1	317.1	281.2	242.1	225.4	220.4
72.5°	347.3	334.7	339.8	339.3	317.3	296.9	267.1	236.0	201.9	188.6	184.0
75°	282.2	270.4	275.1	274.6	256.7	237.5	217.6	191.8	162.6	153.2	148.7
77.5°	220.1	208.0	212.0	212.0	198.9	185.0	169.1	149.2	128.5	118.4	115.1
80°	160.5	154.7	152.7	153.0	144.1	135.1	127.0	107.8	92.6	85.8	83.6
82.5°	105.5	100.7	98.7	99.2	94.2	88.6	83.6	70.2	60.1	56.0	54.8
85°	56.0	52.5	50.7	52.0	51.0	48.0	45.4	36.4	30.0	28.5	27.8
87.5°	17.7	15.4	14.1	18.7	15.9	14.1	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°	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2
2.5°	1080.7	1080.7	1070.8	1068.5	1067.5	1068.8	1058.9	1057.2	1071.3	1066.5	1055.7
5°	1072.1	1071.6	1057.7	1055.2	1055.2	1053.6	1042.5	1040.0	1054.2	1050.1	1038.2
7.5°	1061.5	1060.0	1043.5	1041.8	1039.3	1038.2	1025.9	1024.1	1036.2	1033.7	1022.6
10°	1048.6	1047.1	1027.6	1026.4	1023.6	1021.6	1010.0	1008.7	1021.1	1017.0	1008.2
12.5°	1031.7	1028.9	1009.0	1007.7	1005.4	1004.7	993.3	992.8	1006.4	1002.4	993.1
15°	1009.5	1007.2	985.0	985.5	985.7	985.7	976.7	976.2	989.5	987.8	977.7
17.5°	985.0	982.0	960.8	962.3	964.0	966.1	959.0	960.2	974.4	972.1	963.0
20°	957.2	954.2	933.5	937.8	941.6	945.6	941.1	944.6	957.7	956.7	949.9
22.5°	926.2	923.1	904.0	910.5	916.8	924.4	922.4	926.4	940.3	940.1	934.0
25°	888.3	889.1	872.1	880.2	890.8	901.4	902.2	908.8	924.2	922.6	917.1
27.5°	853.0	854.0	836.1	849.7	863.8	877.5	880.7	889.8	905.5	904.2	899.4
30°	815.9	817.1	799.7	818.4	835.5	852.2	859.3	871.6	887.5	887.5	882.5
32.5°	777.2	779.5	761.3	786.3	806.3	825.7	838.1	850.9	869.1	868.6	864.3
35°	737.6	740.1	723.5	755.3	775.2	798.9	814.3	831.5	847.7	847.9	844.6
37.5°	697.2	700.2	685.1	719.9	742.7	770.7	790.4	807.5	825.4	826.5	823.4
40°	657.1	660.4	647.2	680.8	709.6	740.9	763.6	783.8	803.5	804.0	802.0
42.5°	616.9	620.5	610.6	643.4	676.0	709.6	736.3	759.3	779.5	780.8	778.5
45°	577.8	580.8	573.8	609.6	640.9	677.5	708.3	734.3	754.8	756.5	755.8
47.5°	538.9	541.7	535.4	568.2	604.3	643.2	678.8	707.6	729.3	731.3	730.8
50°	500.8	503.1	496.3	530.6	566.5	607.9	645.0	678.3	702.5	704.5	704.3
52.5°	463.0	465.2	459.4	495.5	528.1	571.8	612.1	648.2	672.2	675.3	675.8
55°	426.4	427.4	422.8	457.4	489.0	534.6	581.1	616.2	640.2	642.7	644.2
57.5°	389.8	390.0	386.2	419.3	449.6	496.3	545.0	581.9	604.6	607.1	609.4
60°	353.4	353.2	348.9	380.9	409.9	456.1	506.9	543.5	565.4	567.7	570.7
62.5°	317.3	316.5	312.8	342.3	369.6	415.2	466.2	501.6	522.5	524.0	528.1
65°	281.5	280.7	277.2	304.4	329.2	372.8	422.8	456.4	475.3	477.3	476.6
67.5°	246.1	244.6	241.8	266.3	288.8	329.2	377.1	409.2	424.8	426.6	431.4
70°	210.8	209.0	202.7	228.7	248.4	284.5	329.2	357.7	370.8	372.6	371.8
72.5°	175.9	174.2	167.4	191.3	208.0	239.6	279.4	303.2	314.5	316.0	316.0
75°	142.1	141.1	136.8	155.0	168.9	194.6	228.5	248.1	257.0	258.7	258.2
77.5°	109.6	108.8	104.5	120.2	131.0	150.2	177.5	192.9	199.4	201.4	205.7
80°	78.5	78.3	71.4	86.8	91.6	107.8	127.7	139.6	143.1	145.9	148.9
82.5°	50.2	50.5	43.7	56.8	58.8	69.2	81.5	88.9	91.4	93.7	95.9
85°	24.5	25.5	21.7	30.0	30.3	35.6	40.9	43.7	44.7	46.4	48.5
87.5°	6.3	7.3	4.0	8.6	7.6	9.8	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°	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2
2.5°	1059.2	1067.3	1063.2	1076.4	1081.4	1073.3	1087.5	1087.7	1077.6	1089.5	1096.1
5°	1042.8	1051.1	1048.6	1062.2	1068.5	1061.5	1078.6	1081.9	1072.1	1085.5	1096.1
7.5°	1026.1	1036.0	1032.7	1046.6	1054.2	1048.6	1067.0	1072.3	1064.8	1079.4	1093.5
10°	1011.7	1020.1	1016.5	1031.2	1037.7	1033.2	1051.4	1061.2	1054.2	1072.1	1089.0
12.5°	997.6	1004.4	1000.4	1012.5	1018.8	1013.0	1035.2	1044.3	1039.3	1057.9	1079.6
15°	979.4	987.0	981.5	992.3	997.1	992.1	1010.2	1025.9	1019.6	1040.0	1064.0
17.5°	965.5	969.8	962.3	970.8	973.6	966.8	985.2	1000.6	996.1	1018.3	1046.1
20°	950.2	953.7	943.1	947.9	947.6	939.0	956.0	971.1	968.1	992.6	1024.1
22.5°	933.0	934.8	922.4	923.4	922.9	908.8	923.9	939.3	938.0	962.8	998.1
25°	914.8	915.1	899.2	898.7	893.1	876.4	889.8	907.2	903.5	930.2	967.3
27.5°	896.9	894.4	875.2	870.6	861.8	841.9	853.7	869.4	867.1	893.4	934.5
30°	877.7	874.4	850.9	842.6	829.7	806.8	816.6	831.3	832.5	855.5	898.7
32.5°	859.5	851.2	825.2	813.1	796.9	770.2	775.5	790.4	792.4	815.6	860.0
35°	836.1	830.5	798.4	777.7	761.8	732.6	738.1	748.5	751.5	774.2	819.4
37.5°	813.8	805.0	770.9	745.7	725.2	694.4	696.0	706.6	709.6	732.6	777.2
40°	790.9	778.2	741.6	712.1	688.6	656.3	654.6	665.7	667.9	690.4	730.8
42.5°	766.4	751.2	710.1	677.8	650.8	618.0	614.4	624.0	626.5	648.5	688.1
45°	741.6	723.5	677.8	642.4	612.9	579.3	575.8	583.1	586.9	607.6	645.7
47.5°	715.4	694.2	644.5	605.1	574.5	541.0	536.7	544.0	547.0	567.5	603.6
50°	687.9	662.1	610.1	566.7	536.4	503.3	497.0	505.6	508.4	527.6	562.9
52.5°	657.6	629.1	573.5	528.1	497.8	466.2	458.7	467.0	470.3	489.0	521.5
55°	625.5	594.7	536.7	492.5	459.7	428.9	422.6	425.9	432.9	450.6	480.9
57.5°	589.4	558.9	497.8	452.9	421.3	391.8	386.5	389.5	396.1	413.2	440.5
60°	551.1	518.7	458.2	413.2	382.7	354.7	349.9	352.6	359.7	375.4	400.6
62.5°	513.2	476.8	417.3	372.6	344.8	318.8	317.6	316.5	323.1	338.3	360.5
65°	467.2	432.4	374.6	332.2	307.0	283.5	278.4	280.7	287.0	300.9	324.1
67.5°	418.0	386.5	330.9	291.8	269.3	248.4	244.1	245.1	251.7	263.8	284.0
70°	365.8	338.0	286.3	251.2	232.2	212.5	209.8	210.0	216.3	226.9	244.6
72.5°	311.0	286.0	241.1	211.0	195.4	181.2	178.7	175.7	181.5	190.6	205.7
75°	255.2	233.2	196.1	171.7	159.3	147.4	145.1	142.1	147.9	155.7	167.6
77.5°	198.9	181.2	152.5	133.5	123.9	115.1	113.1	109.8	115.6	121.4	130.8
80°	143.9	131.0	113.8	93.9	90.6	84.8	82.8	79.3	84.8	88.6	95.7
82.5°	92.9	84.3	74.5	60.6	60.1	55.8	54.8	50.7	55.8	58.1	63.4
85°	47.0	42.9	40.4	30.8	31.8	29.0	28.8	24.5	28.5	29.5	32.6
87.5°	13.4	14.1	12.6	7.6	9.6	9.1	9.1	6.6	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: P838039

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1HI-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2	1082.2
2.5°	1083.2	1087.5	1088.5	1088.2	1091.0	1106.2	1101.1	1106.2
5°	1085.7	1095.3	1097.8	1101.4	1105.9	1123.1	1117.5	1123.6
7.5°	1087.2	1101.6	1107.2	1114.0	1121.3	1140.5	1135.9	1142.0
10°	1087.2	1105.9	1114.0	1125.3	1135.2	1157.4	1153.1	1160.2
12.5°	1082.7	1106.7	1118.0	1133.9	1146.5	1170.5	1168.8	1173.8
15°	1073.3	1102.9	1118.5	1139.0	1154.6	1181.4	1180.6	1186.7
17.5°	1060.7	1096.3	1115.2	1141.0	1160.7	1190.7	1192.5	1195.8
20°	1044.8	1083.9	1108.7	1140.2	1165.0	1198.0	1200.3	1204.9
22.5°	1023.9	1069.0	1098.8	1136.9	1165.5	1201.1	1205.1	1209.4
25°	999.1	1051.1	1086.0	1130.6	1162.9	1200.8	1206.4	1210.2
27.5°	970.8	1027.9	1069.6	1120.5	1155.9	1196.8	1203.6	1208.1
30°	938.0	1003.2	1050.9	1107.4	1146.3	1189.2	1196.5	1201.1
32.5°	904.2	975.9	1028.7	1090.5	1132.4	1177.1	1183.4	1186.9
35°	867.4	942.8	1001.9	1068.8	1114.5	1157.6	1162.4	1166.2
37.5°	827.2	907.0	971.4	1044.3	1089.2	1130.6	1134.9	1139.2
40°	785.8	869.4	937.0	1014.3	1059.2	1097.6	1102.1	1105.1
42.5°	744.2	827.7	900.4	978.9	1023.6	1060.5	1063.2	1066.3
45°	702.0	784.6	859.3	939.8	984.0	1018.6	1019.6	1022.1
47.5°	659.1	739.9	814.1	895.1	938.8	970.3	971.4	973.4
50°	615.9	695.2	765.9	846.9	889.6	922.9	918.3	920.4
52.5°	573.5	648.2	720.4	794.9	837.1	866.6	867.9	863.8
55°	531.9	602.3	668.7	740.4	780.5	803.5	802.7	804.2
57.5°	489.7	555.9	616.7	682.3	721.4	743.2	747.7	742.4
60°	446.8	508.9	563.4	622.7	660.6	678.8	684.1	679.0
62.5°	404.1	461.2	510.7	562.4	597.5	620.0	619.5	613.9
65°	361.5	413.2	457.4	501.3	531.9	554.3	553.3	548.3
67.5°	322.1	364.8	404.4	440.0	466.5	481.9	487.2	481.1
70°	278.7	315.5	350.4	378.9	400.9	414.7	419.8	414.5
72.5°	235.3	266.6	291.1	318.6	335.5	347.1	352.4	347.3
75°	192.4	218.1	238.0	259.5	271.4	281.2	287.3	282.2
77.5°	150.7	170.6	186.5	202.2	215.8	218.1	223.4	220.1
80°	111.1	125.5	137.1	147.4	157.3	158.3	162.6	160.5
82.5°	74.0	83.6	86.6	97.4	103.7	102.7	107.0	105.5
85°	39.1	44.9	50.2	53.5	57.0	53.8	57.6	56.0
87.5°	13.1	13.9	12.1	17.2	18.9	16.2	18.4	17.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)