

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: P837863

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3LO-30-120-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: P837863
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-LD4-3LO-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

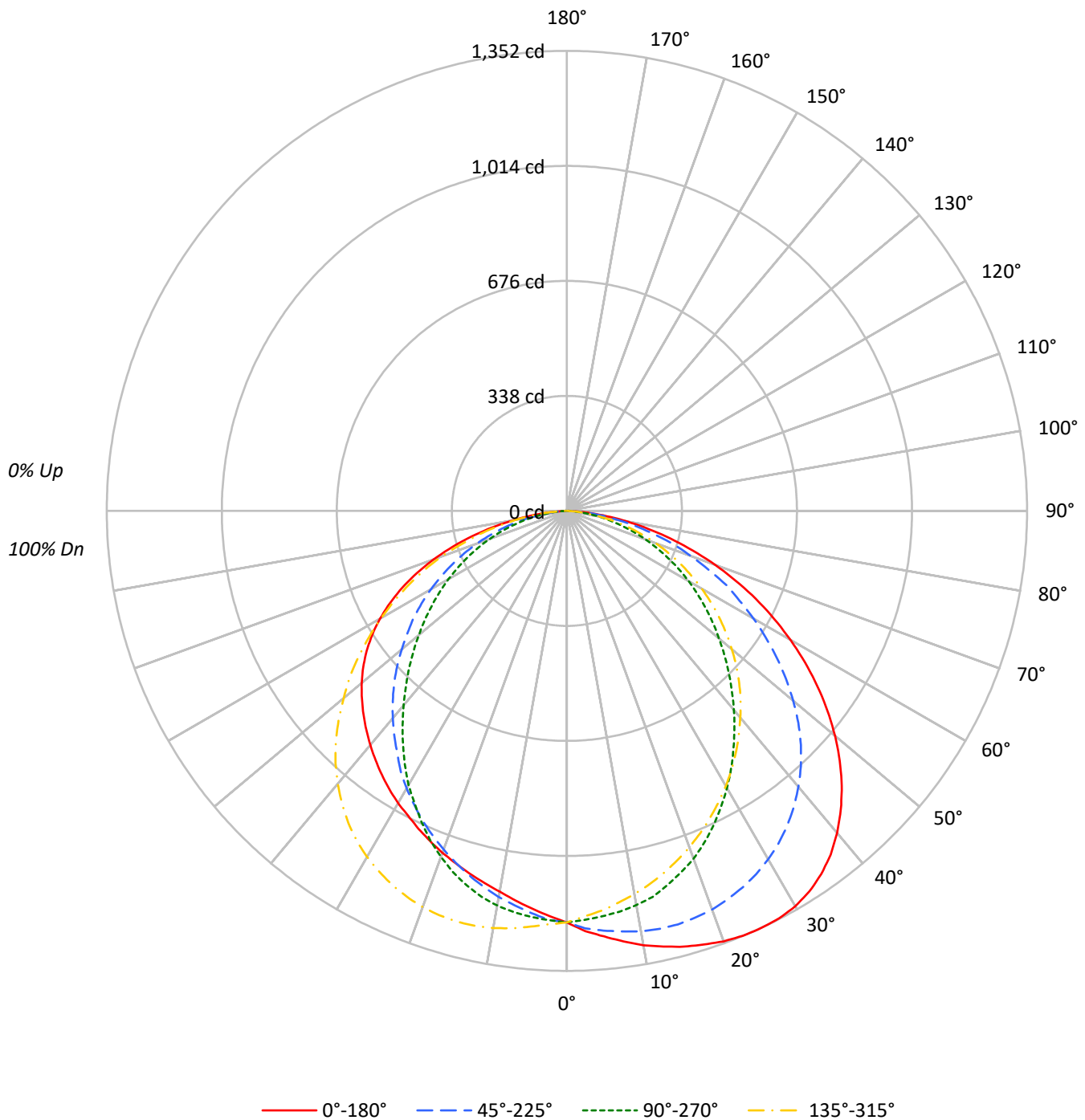
Lumens per Lamp: N/A
Luminaire Lumens: 3547.5 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 35.1
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°	3254	3254	3254	3254
5°	3391	3230	3169	3236
10°	3542	3214	3105	3218
15°	3694	3173	3075	3174
20°	3855	3115	3061	3098
25°	4015	3028	3061	2997
30°	4170	2923	3081	2890
35°	4281	2803	3112	2758
40°	4338	2682	3156	2622
45°	4346	2560	3217	2496
50°	4305	2443	3296	2378
55°	4216	2334	3369	2269
60°	4083	2221	3414	2163
65°	3901	2090	3396	2042
70°	3644	1937	3275	1902
75°	3278	1727	3006	1719
80°	2780	1447	2526	1469
85°	1933	957	1602	985



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.8	3.2
10°-20°	332.4	9.4
20°-30°	509.5	14.4
30°-40°	619.5	17.5
40°-50°	644.0	18.2
50°-60°	581.7	16.4
60°-70°	442.3	12.5
70°-80°	246.6	7.0
80°-90°	56.8	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°	956.7	27.0
0°-40°	1576.2	44.4
0°-60°	2801.9	79.0
0°-90°	3547.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3547.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1209	1209	1209	1209	1209	
5°	1255	1196	1173	1198	1255	121
15°	1326	1139	1104	1139	1326	376
25°	1352	1020	1031	1010	1352	625
35°	1303	853	947	840	1303	814
45°	1142	673	845	656	1142	879
55°	899	498	718	484	899	802
65°	613	328	533	321	613	605
75°	315	166	289	165	315	335
85°	63	31	52	32	63	79
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°	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2
2.5°	1236.0	1217.9	1218.2	1234.0	1221.8	1227.8	1210.8	1217.3	1215.4	1216.8	1203.0
5°	1255.4	1236.0	1235.7	1249.2	1235.7	1238.2	1216.8	1221.0	1214.8	1210.8	1195.9
7.5°	1276.0	1256.5	1254.6	1266.4	1248.6	1246.7	1223.0	1223.0	1211.7	1201.8	1187.7
10°	1296.3	1276.3	1273.7	1282.8	1260.8	1254.3	1225.5	1221.0	1206.1	1191.4	1176.2
12.5°	1311.5	1291.2	1289.3	1294.9	1270.1	1258.2	1225.5	1216.8	1194.8	1174.2	1162.3
15°	1325.9	1305.1	1299.7	1302.5	1274.0	1258.2	1221.6	1208.0	1179.8	1152.7	1138.9
17.5°	1336.1	1316.1	1310.7	1310.4	1276.0	1253.4	1213.1	1194.5	1160.6	1127.9	1114.1
20°	1346.2	1326.2	1319.4	1314.4	1275.4	1247.0	1200.7	1175.6	1136.1	1099.4	1087.9
22.5°	1351.3	1330.7	1323.4	1315.8	1271.8	1235.1	1185.5	1153.6	1108.5	1064.7	1055.2
25°	1352.2	1331.0	1323.1	1312.1	1264.4	1221.0	1165.7	1127.1	1076.6	1028.1	1019.9
27.5°	1349.9	1326.8	1318.9	1305.6	1253.4	1203.8	1142.3	1096.9	1042.7	989.2	980.4
30°	1342.0	1318.6	1311.0	1293.8	1237.9	1182.6	1116.6	1063.3	1005.2	948.3	940.6
32.5°	1326.2	1303.4	1297.2	1280.0	1221.0	1158.1	1086.7	1027.2	963.8	909.3	898.1
35°	1303.1	1280.2	1276.3	1258.2	1197.3	1128.8	1054.0	987.7	919.8	864.2	853.2
37.5°	1272.9	1253.7	1247.8	1230.0	1169.4	1095.5	1016.5	944.9	874.9	815.1	808.4
40°	1234.8	1216.8	1212.3	1196.5	1137.0	1058.5	975.9	900.6	828.7	773.1	763.5
42.5°	1191.4	1174.5	1171.9	1155.6	1096.9	1017.6	931.9	854.6	780.4	726.8	717.3
45°	1142.0	1125.7	1125.1	1109.6	1053.2	972.2	885.6	808.1	733.3	677.8	672.7
47.5°	1087.6	1072.9	1072.9	1058.5	1004.4	922.3	838.0	759.6	686.0	636.9	627.8
50°	1028.4	1014.5	1010.3	1003.3	950.5	867.9	787.8	712.2	639.1	592.3	583.6
52.5°	965.2	953.3	956.2	943.2	892.1	811.2	737.0	658.9	592.0	549.4	540.7
55°	898.6	881.7	884.2	879.4	831.2	752.8	680.0	614.9	545.8	505.7	497.5
57.5°	829.5	807.5	816.5	813.7	766.3	693.0	627.8	565.0	499.8	462.8	455.0
60°	758.7	737.6	746.9	744.3	699.8	633.2	574.0	515.6	454.1	420.5	412.6
62.5°	686.0	666.5	675.0	673.0	632.1	572.0	520.4	466.8	408.1	377.9	370.6
65°	612.6	594.0	601.6	600.2	562.4	516.7	465.4	416.3	361.9	335.6	328.3
67.5°	537.6	520.4	527.4	527.4	492.7	449.0	410.1	365.3	316.5	293.9	287.1
70°	463.1	447.1	453.3	452.7	423.4	387.8	354.3	314.2	270.5	251.9	246.2
72.5°	388.1	374.0	379.6	379.1	354.5	331.7	298.4	263.7	225.6	210.7	205.6
75°	315.3	302.1	307.4	306.9	286.8	265.4	243.1	214.4	181.6	171.2	166.1
77.5°	245.9	232.4	236.9	236.9	222.3	206.7	189.0	166.7	143.6	132.3	128.6
80°	179.4	172.9	170.6	170.9	161.1	150.9	141.9	120.4	103.5	95.9	93.4
82.5°	117.9	112.5	110.3	110.8	105.2	99.0	93.4	78.4	67.1	62.6	61.2
85°	62.6	58.7	56.7	58.1	57.0	53.6	50.8	40.6	33.6	31.9	31.0
87.5°	19.7	17.2	15.8	20.9	17.8	15.8	15.2	12.1	9.3	9.3	9.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2
2.5°	1207.5	1207.5	1196.5	1193.9	1192.8	1194.2	1183.2	1181.2	1197.0	1191.7	1179.5
5°	1197.9	1197.3	1181.8	1179.0	1179.0	1177.3	1164.9	1162.1	1177.8	1173.3	1160.1
7.5°	1186.0	1184.3	1166.0	1164.0	1161.2	1160.1	1146.3	1144.3	1157.8	1155.0	1142.6
10°	1171.6	1170.0	1148.2	1146.8	1143.7	1141.5	1128.5	1127.1	1140.9	1136.4	1126.5
12.5°	1152.7	1149.6	1127.4	1126.0	1123.4	1122.6	1109.9	1109.3	1124.5	1120.0	1109.6
15°	1127.9	1125.4	1100.6	1101.1	1101.4	1101.4	1091.3	1090.7	1105.6	1103.7	1092.4
17.5°	1100.6	1097.2	1073.5	1075.2	1077.2	1079.4	1071.5	1072.9	1088.7	1086.2	1076.0
20°	1069.5	1066.2	1043.0	1047.8	1052.1	1056.6	1051.5	1055.4	1070.1	1069.0	1061.4
22.5°	1034.8	1031.5	1010.0	1017.4	1024.4	1032.9	1030.6	1035.1	1050.6	1050.4	1043.6
25°	992.5	993.4	974.5	983.5	995.4	1007.2	1008.1	1015.4	1032.6	1030.9	1024.7
27.5°	953.1	954.2	934.2	949.4	965.2	980.4	984.1	994.2	1011.7	1010.3	1005.0
30°	911.6	913.0	893.5	914.4	933.6	952.2	960.1	973.9	991.7	991.7	986.1
32.5°	868.4	871.0	850.7	878.6	900.9	922.6	936.4	950.8	971.1	970.5	965.7
35°	824.2	827.0	808.4	843.9	866.2	892.7	909.9	929.1	947.1	947.4	943.7
37.5°	779.0	782.4	765.5	804.4	829.8	861.1	883.1	902.3	922.3	923.4	920.1
40°	734.2	737.8	723.2	760.7	792.8	827.8	853.2	875.8	897.8	898.3	896.1
42.5°	689.3	693.3	682.3	719.0	755.3	792.8	822.7	848.4	871.0	872.4	869.8
45°	645.6	649.0	641.1	681.2	716.1	757.0	791.4	820.5	843.3	845.3	844.5
47.5°	602.2	605.3	598.2	634.9	675.2	718.7	758.4	790.6	814.8	817.1	816.5
50°	559.6	562.1	554.5	592.9	632.9	679.2	720.6	757.9	785.0	787.2	786.9
52.5°	517.3	519.8	513.3	553.7	590.1	638.8	684.0	724.3	751.1	754.5	755.1
55°	476.4	477.5	472.4	511.1	546.3	597.4	649.3	688.5	715.3	718.1	719.8
57.5°	435.5	435.8	431.5	468.5	502.3	554.5	609.0	650.1	675.5	678.3	680.9
60°	394.9	394.6	389.8	425.6	458.1	509.7	566.4	607.3	631.8	634.3	637.7
62.5°	354.5	353.7	349.5	382.5	412.9	464.0	521.0	560.4	583.8	585.5	590.1
65°	314.5	313.6	309.7	340.2	367.8	416.6	472.4	510.0	531.1	533.4	532.5
67.5°	275.0	273.3	270.2	297.6	322.7	367.8	421.4	457.2	474.7	476.7	482.0
70°	235.5	233.5	226.5	255.5	277.5	317.9	367.8	399.7	414.3	416.3	415.5
72.5°	196.6	194.6	187.0	213.8	232.4	267.7	312.2	338.7	351.4	353.1	353.1
75°	158.8	157.7	152.9	173.2	188.7	217.5	255.3	277.3	287.1	289.1	288.5
77.5°	122.4	121.6	116.8	134.3	146.4	167.8	198.3	215.5	222.8	225.1	229.9
80°	87.7	87.4	79.8	97.0	102.4	120.4	142.7	156.0	159.9	163.0	166.4
82.5°	56.1	56.4	48.8	63.5	65.7	77.3	91.1	99.3	102.1	104.6	107.2
85°	27.4	28.5	24.3	33.6	33.8	39.8	45.7	48.8	49.9	51.9	54.2
87.5°	7.1	8.2	4.5	9.6	8.5	11.0	12.7	13.5	13.3	14.7	15.5
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°	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2
2.5°	1183.5	1192.5	1188.0	1202.7	1208.3	1199.3	1215.1	1215.4	1204.1	1217.3	1224.7
5°	1165.2	1174.5	1171.6	1186.9	1193.9	1186.0	1205.2	1208.9	1197.9	1212.8	1224.7
7.5°	1146.5	1157.5	1153.9	1169.4	1177.8	1171.6	1192.2	1198.2	1189.7	1206.1	1221.8
10°	1130.5	1139.8	1135.8	1152.2	1159.5	1154.4	1174.7	1185.7	1177.8	1197.9	1216.8
12.5°	1114.7	1122.3	1117.8	1131.3	1138.4	1131.9	1156.7	1166.8	1161.2	1182.1	1206.3
15°	1094.4	1102.8	1096.6	1108.7	1114.1	1108.5	1128.8	1146.3	1139.2	1162.1	1188.8
17.5°	1078.8	1083.6	1075.2	1084.8	1087.9	1080.3	1100.8	1118.1	1113.0	1137.8	1168.8
20°	1061.6	1065.6	1053.7	1059.1	1058.8	1049.2	1068.1	1085.1	1081.7	1109.0	1144.3
22.5°	1042.5	1044.4	1030.6	1031.7	1031.2	1015.4	1032.3	1049.5	1048.1	1075.7	1115.2
25°	1022.2	1022.4	1004.7	1004.1	997.9	979.3	994.2	1013.7	1009.5	1039.4	1080.8
27.5°	1002.1	999.3	977.9	972.8	962.9	940.6	953.9	971.4	968.8	998.2	1044.2
30°	980.7	977.0	950.8	941.5	927.1	901.4	912.4	928.8	930.2	955.9	1004.1
32.5°	960.4	951.1	922.0	908.5	890.4	860.5	866.5	883.1	885.4	911.3	961.0
35°	934.2	928.0	892.1	869.0	851.2	818.5	824.7	836.3	839.7	865.1	915.5
37.5°	909.3	899.5	861.4	833.2	810.3	775.9	777.6	789.5	792.8	818.5	868.4
40°	883.7	869.6	828.7	795.7	769.4	733.3	731.4	743.8	746.3	771.4	816.5
42.5°	856.3	839.4	793.4	757.3	727.1	690.5	686.5	697.2	700.1	724.6	768.9
45°	828.7	808.4	757.3	717.8	684.8	647.3	643.4	651.5	655.8	678.9	721.5
47.5°	799.3	775.6	720.1	676.1	642.0	604.4	599.6	607.8	611.2	634.1	674.4
50°	768.6	739.8	681.7	633.2	599.4	562.4	555.4	565.0	568.1	589.5	629.0
52.5°	734.7	702.9	640.8	590.1	556.2	521.0	512.5	521.8	525.5	546.3	582.7
55°	698.9	664.5	599.6	550.3	513.6	479.2	472.2	475.8	483.7	503.5	537.3
57.5°	658.6	624.5	556.2	506.0	470.7	437.7	431.8	435.2	442.5	461.7	492.2
60°	615.7	579.6	511.9	461.7	427.6	396.3	390.9	394.0	401.9	419.4	447.6
62.5°	573.4	532.8	466.2	416.3	385.3	356.2	354.8	353.7	361.0	377.9	402.8
65°	522.1	483.2	418.6	371.2	343.0	316.7	311.1	313.6	320.7	336.2	362.2
67.5°	467.1	431.8	369.8	326.1	300.9	277.5	272.7	273.9	281.2	294.7	317.3
70°	408.7	377.7	319.8	280.6	259.5	237.5	234.4	234.7	241.7	253.6	273.3
72.5°	347.5	319.6	269.4	235.8	218.3	202.5	199.7	196.3	202.8	212.9	229.9
75°	285.2	260.6	219.2	191.8	178.0	164.7	162.2	158.8	165.3	174.0	187.3
77.5°	222.3	202.5	170.4	149.2	138.5	128.6	126.4	122.7	129.2	135.7	146.1
80°	160.8	146.4	127.2	104.9	101.3	94.8	92.5	88.6	94.8	99.0	106.9
82.5°	103.8	94.2	83.2	67.7	67.1	62.3	61.2	56.7	62.3	64.9	70.8
85°	52.5	47.9	45.1	34.4	35.5	32.4	32.2	27.4	31.9	33.0	36.4
87.5°	14.9	15.8	14.1	8.5	10.7	10.2	10.2	7.3	10.2	10.2	11.6
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: P837863

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3LO-30-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2	1209.2
2.5°	1210.3	1215.1	1216.2	1215.9	1219.0	1236.0	1230.3	1236.0
5°	1213.1	1223.8	1226.6	1230.6	1235.7	1254.8	1248.6	1255.4
7.5°	1214.8	1230.9	1237.1	1244.7	1252.9	1274.3	1269.2	1276.0
10°	1214.8	1235.7	1244.7	1257.4	1268.4	1293.2	1288.4	1296.3
12.5°	1209.7	1236.5	1249.2	1267.0	1281.1	1307.9	1305.9	1311.5
15°	1199.3	1232.3	1249.8	1272.6	1290.1	1320.0	1319.2	1325.9
17.5°	1185.2	1225.0	1246.1	1274.9	1296.9	1330.4	1332.4	1336.1
20°	1167.4	1211.1	1238.8	1274.0	1301.7	1338.6	1341.2	1346.2
22.5°	1144.0	1194.5	1227.8	1270.4	1302.2	1342.0	1346.5	1351.3
25°	1116.4	1174.5	1213.4	1263.3	1299.4	1341.7	1347.9	1352.2
27.5°	1084.8	1148.5	1195.1	1252.0	1291.5	1337.2	1344.8	1349.9
30°	1048.1	1120.9	1174.2	1237.4	1280.8	1328.7	1336.9	1342.0
32.5°	1010.3	1090.4	1149.4	1218.5	1265.3	1315.2	1322.3	1326.2
35°	969.1	1053.5	1119.5	1194.2	1245.3	1293.5	1298.9	1303.1
37.5°	924.3	1013.4	1085.3	1166.8	1217.1	1263.3	1268.1	1272.9
40°	878.0	971.4	1047.0	1133.3	1183.5	1226.4	1231.4	1234.8
42.5°	831.5	924.8	1006.1	1093.8	1143.7	1184.9	1188.0	1191.4
45°	784.4	876.6	960.1	1050.1	1099.4	1138.1	1139.2	1142.0
47.5°	736.4	826.7	909.6	1000.2	1049.0	1084.2	1085.3	1087.6
50°	688.2	776.8	855.7	946.3	994.0	1031.2	1026.1	1028.4
52.5°	640.8	724.3	805.0	888.2	935.3	968.3	969.7	965.2
55°	594.3	673.0	747.2	827.3	872.1	897.8	896.9	898.6
57.5°	547.2	621.1	689.1	762.4	806.1	830.4	835.4	829.5
60°	499.2	568.6	629.5	695.8	738.1	758.4	764.4	758.7
62.5°	451.6	515.3	570.6	628.4	667.6	692.7	692.2	686.0
65°	403.9	461.7	511.1	560.2	594.3	619.4	618.3	612.6
67.5°	359.9	407.6	451.8	491.6	521.2	538.4	544.4	537.6
70°	311.4	352.6	391.5	423.4	447.9	463.4	469.1	463.1
72.5°	262.9	297.8	325.2	355.9	374.8	387.8	393.7	388.1
75°	214.9	243.7	266.0	289.9	303.2	314.2	321.0	315.3
77.5°	168.4	190.7	208.4	225.9	241.2	243.7	249.6	245.9
80°	124.1	140.2	153.2	164.7	175.7	176.8	181.6	179.4
82.5°	82.6	93.4	96.7	108.9	115.9	114.8	119.6	117.9
85°	43.7	50.2	56.1	59.8	63.7	60.1	64.3	62.6
87.5°	14.7	15.5	13.5	19.2	21.2	18.1	20.6	19.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)