

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: P837941

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-5LO-20-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837941
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-LD4-5LO-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

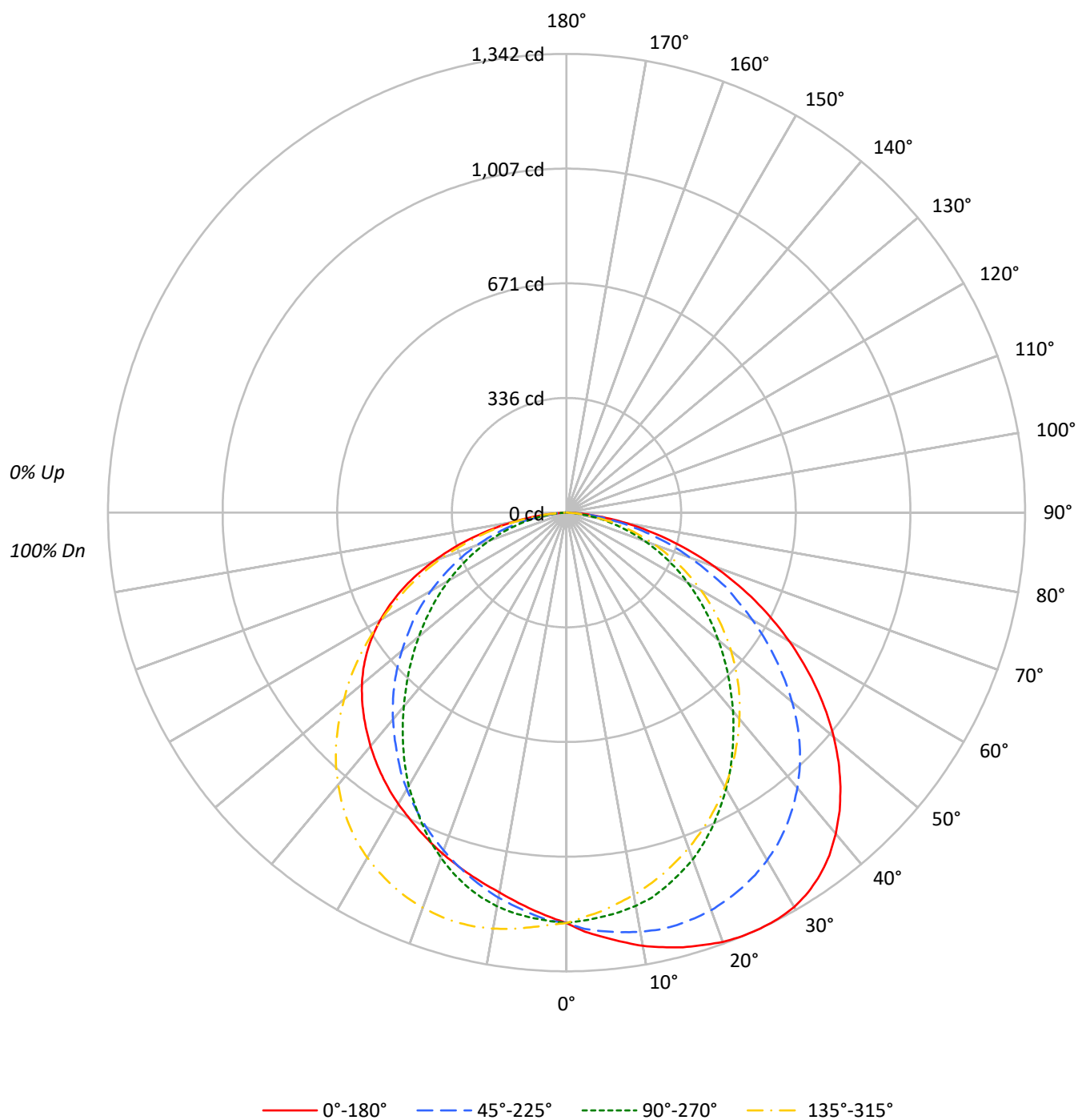
Lumens per Lamp: N/A
Luminaire Lumens: 3522.2 lumens
Efficiency: N/A
Efficacy: 60.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 58.5
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

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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°	3231	3231	3231	3231
5°	3367	3207	3147	3213
10°	3517	3191	3083	3196
15°	3668	3150	3053	3151
20°	3828	3093	3040	3076
25°	3986	3007	3039	2976
30°	4140	2902	3059	2870
35°	4250	2783	3090	2739
40°	4307	2663	3133	2603
45°	4315	2542	3194	2478
50°	4274	2426	3272	2361
55°	4186	2318	3345	2253
60°	4054	2205	3390	2148
65°	3873	2076	3372	2027
70°	3618	1924	3252	1888
75°	3255	1714	2984	1706
80°	2760	1437	2509	1458
85°	1920	951	1590	976

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.0	3.2
10°-20°	330.1	9.4
20°-30°	505.8	14.4
30°-40°	615.1	17.5
40°-50°	639.4	18.2
50°-60°	577.6	16.4
60°-70°	439.1	12.5
70°-80°	244.8	7.0
80°-90°	56.4	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°	949.9	27.0
0°-40°	1565.0	44.4
0°-60°	2781.9	79.0
0°-90°	3522.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3522.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1200	1200	1200	1200	1200	
5°	1246	1187	1165	1189	1246	120
15°	1316	1131	1096	1131	1316	373
25°	1342	1013	1024	1002	1342	620
35°	1294	847	941	834	1294	808
45°	1134	668	839	651	1134	873
55°	892	494	713	480	892	796
65°	608	326	530	318	608	601
75°	313	165	287	164	313	333
85°	62	31	52	32	62	78
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°	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5
2.5°	1227.1	1209.2	1209.5	1225.2	1213.1	1219.0	1202.2	1208.7	1206.7	1208.1	1194.4
5°	1246.5	1227.1	1226.9	1240.3	1226.9	1229.4	1208.1	1212.3	1206.1	1202.2	1187.4
7.5°	1266.9	1247.6	1245.6	1257.4	1239.7	1237.8	1214.3	1214.3	1203.1	1193.3	1179.3
10°	1287.1	1267.2	1264.7	1273.6	1251.8	1245.3	1216.8	1212.3	1197.5	1182.9	1167.8
12.5°	1302.2	1282.0	1280.1	1285.7	1261.0	1249.3	1216.8	1208.1	1186.3	1165.8	1154.0
15°	1316.5	1295.7	1290.4	1293.2	1264.9	1249.3	1212.9	1199.4	1171.4	1144.5	1130.8
17.5°	1326.6	1306.7	1301.3	1301.1	1266.9	1244.5	1204.5	1186.0	1152.4	1119.9	1106.2
20°	1336.6	1316.8	1310.0	1305.0	1266.3	1238.1	1192.1	1167.2	1128.0	1091.6	1080.1
22.5°	1341.7	1321.2	1314.0	1306.4	1262.7	1226.3	1177.0	1145.4	1100.6	1057.2	1047.6
25°	1342.5	1321.5	1313.7	1302.7	1255.4	1212.3	1157.4	1119.0	1068.9	1020.7	1012.6
27.5°	1340.3	1317.3	1309.5	1296.3	1244.5	1195.2	1134.2	1089.1	1035.3	982.1	973.4
30°	1332.4	1309.2	1301.6	1284.5	1229.1	1174.2	1108.7	1055.8	998.1	941.5	933.9
32.5°	1316.8	1294.1	1287.9	1270.8	1212.3	1149.8	1079.0	1019.9	956.9	902.9	891.6
35°	1293.8	1271.1	1267.2	1249.3	1188.8	1120.7	1046.5	980.7	913.2	858.0	847.1
37.5°	1263.8	1244.8	1238.9	1221.3	1161.0	1087.7	1009.3	938.1	868.7	809.3	802.6
40°	1226.0	1208.1	1203.6	1187.9	1128.8	1051.0	968.9	894.2	822.8	767.6	758.1
42.5°	1182.9	1166.1	1163.6	1147.3	1089.1	1010.4	925.3	848.5	774.9	721.7	712.1
45°	1133.9	1117.6	1117.1	1101.7	1045.7	965.3	879.3	802.3	728.1	672.9	667.9
47.5°	1079.8	1065.3	1065.3	1051.0	997.2	915.7	832.0	754.1	681.1	632.3	623.4
50°	1021.0	1007.3	1003.1	996.1	943.7	861.7	782.2	707.1	634.6	588.1	579.4
52.5°	958.3	946.5	949.3	936.5	885.8	805.4	731.7	654.2	587.8	545.5	536.8
55°	892.2	875.4	877.9	873.2	825.3	747.4	675.2	610.5	541.9	502.1	494.0
57.5°	823.6	801.8	810.7	807.9	760.9	688.1	623.4	560.9	496.2	459.5	451.7
60°	753.3	732.3	741.5	739.0	694.8	628.7	569.9	511.9	450.9	417.5	409.7
62.5°	681.1	661.7	670.1	668.2	627.6	567.9	516.7	463.5	405.2	375.3	368.0
65°	608.2	589.8	597.3	595.9	558.4	513.0	462.1	413.3	359.3	333.2	326.0
67.5°	533.8	516.7	523.7	523.7	489.2	445.8	407.2	362.7	314.2	291.8	285.1
70°	459.8	443.9	450.0	449.5	420.3	385.1	351.7	312.0	268.6	250.1	244.5
72.5°	385.3	371.3	376.9	376.4	352.0	329.3	296.3	261.8	224.0	209.2	204.1
75°	313.1	299.9	305.2	304.7	284.8	263.5	241.4	212.8	180.3	170.0	164.9
77.5°	244.2	230.8	235.2	235.2	220.7	205.3	187.6	165.5	142.5	131.3	127.7
80°	178.1	171.7	169.4	169.7	159.9	149.8	140.9	119.6	102.8	95.2	92.7
82.5°	117.1	111.7	109.5	110.1	104.5	98.3	92.7	77.9	66.6	62.2	60.8
85°	62.2	58.2	56.3	57.7	56.6	53.2	50.4	40.3	33.3	31.6	30.8
87.5°	19.6	17.1	15.7	20.7	17.6	15.7	15.1	12.0	9.2	9.2	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°	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5
2.5°	1198.9	1198.9	1187.9	1185.4	1184.3	1185.7	1174.8	1172.8	1188.5	1183.2	1171.1
5°	1189.3	1188.8	1173.4	1170.6	1170.6	1168.9	1156.6	1153.8	1169.5	1165.0	1151.8
7.5°	1177.6	1175.9	1157.7	1155.7	1152.9	1151.8	1138.1	1136.1	1149.6	1146.8	1134.4
10°	1163.3	1161.6	1140.0	1138.6	1135.6	1133.3	1120.4	1119.0	1132.8	1128.3	1118.5
12.5°	1144.5	1141.4	1119.3	1117.9	1115.4	1114.6	1102.0	1101.4	1116.5	1112.0	1101.7
15°	1119.9	1117.4	1092.7	1093.3	1093.6	1093.6	1083.5	1082.9	1097.8	1095.8	1084.6
17.5°	1092.7	1089.4	1065.8	1067.5	1069.5	1071.7	1063.9	1065.3	1081.0	1078.4	1068.4
20°	1061.9	1058.6	1035.6	1040.4	1044.6	1049.0	1044.0	1047.9	1062.5	1061.4	1053.8
22.5°	1027.5	1024.1	1002.8	1010.1	1017.1	1025.5	1023.3	1027.7	1043.2	1042.9	1036.2
25°	985.5	986.3	967.5	976.5	988.3	1000.0	1000.9	1008.1	1025.2	1023.5	1017.4
27.5°	946.3	947.4	927.5	942.6	958.3	973.4	977.1	987.1	1004.5	1003.1	997.8
30°	905.1	906.5	887.2	907.9	926.9	945.4	953.3	967.0	984.6	984.6	979.0
32.5°	862.2	864.8	844.6	872.3	894.5	916.0	929.7	944.0	964.2	963.6	958.9
35°	818.3	821.1	802.6	837.9	860.0	886.3	903.4	922.5	940.4	940.7	937.0
37.5°	773.5	776.8	760.0	798.7	823.9	855.0	876.8	895.9	915.7	916.9	913.5
40°	728.9	732.6	718.0	755.3	787.2	821.9	847.1	869.5	891.4	891.9	889.7
42.5°	684.4	688.3	677.4	713.8	749.9	787.2	816.9	842.4	864.8	866.2	863.6
45°	641.0	644.4	636.5	676.3	711.0	751.6	785.8	814.6	837.3	839.3	838.4
47.5°	597.9	601.0	594.0	630.4	670.4	713.5	753.0	785.0	809.0	811.3	810.7
50°	555.6	558.1	550.6	588.6	628.4	674.3	715.5	752.5	779.4	781.6	781.3
52.5°	513.6	516.1	509.7	549.7	585.8	634.3	679.1	719.1	745.7	749.1	749.7
55°	473.0	474.1	469.1	507.4	542.4	593.1	644.7	683.6	710.2	713.0	714.7
57.5°	432.4	432.7	428.5	465.1	498.8	550.6	604.6	645.5	670.7	673.5	676.0
60°	392.1	391.8	387.0	422.6	454.8	506.0	562.3	602.9	627.3	629.8	633.2
62.5°	352.0	351.2	347.0	379.7	410.0	460.7	517.2	556.4	579.7	581.4	585.8
65°	312.2	311.4	307.5	337.7	365.2	413.6	469.1	506.3	527.3	529.6	528.7
67.5°	273.0	271.4	268.3	295.4	320.4	365.2	418.4	453.9	471.3	473.3	478.6
70°	233.8	231.9	224.9	253.7	275.6	315.6	365.2	396.8	411.4	413.3	412.5
72.5°	195.2	193.2	185.7	212.3	230.8	265.8	310.0	336.3	348.9	350.6	350.6
75°	157.7	156.5	151.8	171.9	187.3	215.9	253.4	275.3	285.1	287.0	286.5
77.5°	121.5	120.7	115.9	133.3	145.3	166.6	196.9	214.0	221.2	223.5	228.2
80°	87.1	86.8	79.3	96.3	101.7	119.6	141.7	154.9	158.8	161.9	165.2
82.5°	55.7	56.0	48.4	63.0	65.2	76.7	90.5	98.6	101.4	103.9	106.4
85°	27.2	28.3	24.1	33.3	33.6	39.5	45.4	48.4	49.6	51.5	53.8
87.5°	7.0	8.1	4.5	9.5	8.4	10.9	12.6	13.4	13.2	14.6	15.4
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°	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5
2.5°	1175.1	1184.0	1179.5	1194.1	1199.7	1190.7	1206.4	1206.7	1195.5	1208.7	1215.9
5°	1156.8	1166.1	1163.3	1178.4	1185.4	1177.6	1196.6	1200.3	1189.3	1204.2	1215.9
7.5°	1138.4	1149.3	1145.6	1161.0	1169.5	1163.3	1183.7	1189.6	1181.2	1197.5	1213.1
10°	1122.4	1131.6	1127.7	1144.0	1151.2	1146.2	1166.4	1177.3	1169.5	1189.3	1208.1
12.5°	1106.7	1114.3	1109.8	1123.2	1130.2	1123.8	1148.4	1158.5	1152.9	1173.7	1197.7
15°	1086.6	1095.0	1088.8	1100.8	1106.2	1100.6	1120.7	1138.1	1131.1	1153.8	1180.4
17.5°	1071.2	1075.9	1067.5	1077.0	1080.1	1072.6	1093.0	1110.1	1105.0	1129.7	1160.5
20°	1054.1	1058.0	1046.2	1051.6	1051.3	1041.8	1060.5	1077.3	1074.0	1101.1	1136.1
22.5°	1035.0	1037.0	1023.3	1024.4	1023.8	1008.1	1024.9	1042.0	1040.6	1068.1	1107.3
25°	1014.9	1015.1	997.5	996.9	990.8	972.3	987.1	1006.5	1002.3	1032.0	1073.1
27.5°	995.0	992.2	970.9	965.9	956.1	933.9	947.1	964.5	961.9	991.1	1036.7
30°	973.7	970.1	944.0	934.8	920.5	895.0	905.9	922.2	923.6	949.1	996.9
32.5°	953.5	944.3	915.5	902.0	884.1	854.4	860.3	876.8	879.0	904.8	954.1
35°	927.5	921.3	885.8	862.8	845.2	812.7	818.8	830.3	833.7	858.9	909.0
37.5°	902.9	893.1	855.2	827.2	804.6	770.4	772.1	783.8	787.2	812.7	862.2
40°	877.4	863.4	822.8	790.0	764.0	728.1	726.1	738.5	741.0	765.9	810.7
42.5°	850.2	833.4	787.8	751.9	721.9	685.5	681.6	692.3	695.1	719.4	763.4
45°	822.8	802.6	751.9	712.7	679.9	642.7	638.8	646.9	651.1	674.1	716.3
47.5°	793.6	770.1	714.9	671.3	637.4	600.1	595.4	603.5	606.8	629.5	669.6
50°	763.1	734.5	676.9	628.7	595.1	558.4	551.4	560.9	564.0	585.3	624.5
52.5°	729.5	697.9	636.3	585.8	552.2	517.2	508.8	518.1	521.7	542.4	578.6
55°	693.9	659.8	595.4	546.4	510.0	475.8	468.8	472.4	480.3	499.9	533.5
57.5°	653.9	620.0	552.2	502.4	467.4	434.6	428.7	432.1	439.4	458.4	488.7
60°	611.3	575.5	508.3	458.4	424.5	393.5	388.1	391.2	399.1	416.4	444.4
62.5°	569.3	529.0	462.9	413.3	382.5	353.7	352.3	351.2	358.5	375.3	399.9
65°	518.4	479.7	415.6	368.5	340.5	314.5	308.9	311.4	318.4	333.8	359.6
67.5°	463.7	428.7	367.1	323.7	298.8	275.6	270.8	271.9	279.2	292.6	315.0
70°	405.8	375.0	317.6	278.6	257.6	235.8	232.7	233.0	240.0	251.8	271.4
72.5°	345.0	317.3	267.4	234.1	216.8	201.1	198.3	194.9	201.3	211.4	228.2
75°	283.1	258.8	217.6	190.4	176.7	163.5	161.0	157.7	164.1	172.8	185.9
77.5°	220.7	201.1	169.1	148.1	137.5	127.7	125.5	121.8	128.3	134.7	145.1
80°	159.6	145.3	126.3	104.2	100.5	94.1	91.9	87.9	94.1	98.3	106.1
82.5°	103.1	93.5	82.6	67.2	66.6	61.9	60.8	56.3	61.9	64.4	70.3
85°	52.1	47.6	44.8	34.2	35.3	32.2	31.9	27.2	31.6	32.8	36.1
87.5°	14.8	15.7	14.0	8.4	10.6	10.1	10.1	7.3	10.1	10.1	11.5
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: P837941

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-5LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5	1200.5
2.5°	1201.7	1206.4	1207.5	1207.3	1210.3	1227.1	1221.5	1227.1
5°	1204.5	1215.1	1217.9	1221.8	1226.9	1245.9	1239.7	1246.5
7.5°	1206.1	1222.1	1228.3	1235.8	1243.9	1265.2	1260.2	1266.9
10°	1206.1	1226.9	1235.8	1248.4	1259.3	1284.0	1279.2	1287.1
12.5°	1201.1	1227.7	1240.3	1257.9	1271.9	1298.5	1296.6	1302.2
15°	1190.7	1223.5	1240.9	1263.5	1280.9	1310.6	1309.8	1316.5
17.5°	1176.7	1216.2	1237.2	1265.8	1287.6	1321.0	1322.9	1326.6
20°	1159.1	1202.5	1229.9	1264.9	1292.4	1329.1	1331.6	1336.6
22.5°	1135.8	1186.0	1219.0	1261.3	1292.9	1332.4	1336.9	1341.7
25°	1108.4	1166.1	1204.7	1254.3	1290.1	1332.2	1338.3	1342.5
27.5°	1077.0	1140.3	1186.5	1243.1	1282.3	1327.7	1335.2	1340.3
30°	1040.6	1112.9	1165.8	1228.5	1271.7	1319.3	1327.4	1332.4
32.5°	1003.1	1082.6	1141.2	1209.8	1256.3	1305.8	1312.8	1316.8
35°	962.2	1046.0	1111.5	1185.7	1236.4	1284.3	1289.6	1293.8
37.5°	917.7	1006.2	1077.6	1158.5	1208.4	1254.3	1259.1	1263.8
40°	871.8	964.5	1039.5	1125.2	1175.1	1217.6	1222.7	1226.0
42.5°	825.6	918.3	998.9	1086.0	1135.6	1176.5	1179.5	1182.9
45°	778.8	870.4	953.3	1042.6	1091.6	1130.0	1131.1	1133.9
47.5°	731.2	820.8	903.1	993.0	1041.5	1076.5	1077.6	1079.8
50°	683.3	771.2	849.6	939.5	986.9	1023.8	1018.8	1021.0
52.5°	636.3	719.1	799.2	881.8	928.6	961.4	962.8	958.3
55°	590.0	668.2	741.8	821.4	865.9	891.4	890.5	892.2
57.5°	543.3	616.6	684.1	757.0	800.4	824.4	829.5	823.6
60°	495.7	564.6	625.1	690.9	732.9	753.0	758.9	753.3
62.5°	448.3	511.6	566.5	623.9	662.9	687.8	687.2	681.1
65°	401.0	458.4	507.4	556.2	590.0	615.0	613.8	608.2
67.5°	357.3	404.7	448.6	488.1	517.5	534.6	540.5	533.8
70°	309.2	350.1	388.7	420.3	444.7	460.1	465.7	459.8
72.5°	261.0	295.7	322.9	353.4	372.2	385.1	390.9	385.3
75°	213.4	242.0	264.1	287.9	301.0	312.0	318.7	313.1
77.5°	167.2	189.3	207.0	224.3	239.4	242.0	247.8	244.2
80°	123.2	139.2	152.1	163.5	174.5	175.6	180.3	178.1
82.5°	82.1	92.7	96.1	108.1	115.1	114.0	118.7	117.1
85°	43.4	49.8	55.7	59.4	63.3	59.6	63.8	62.2
87.5°	14.6	15.4	13.4	19.0	21.0	17.9	20.4	19.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)