

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: P838218

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1STD-40-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P838218
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-LD4-1STD-40-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

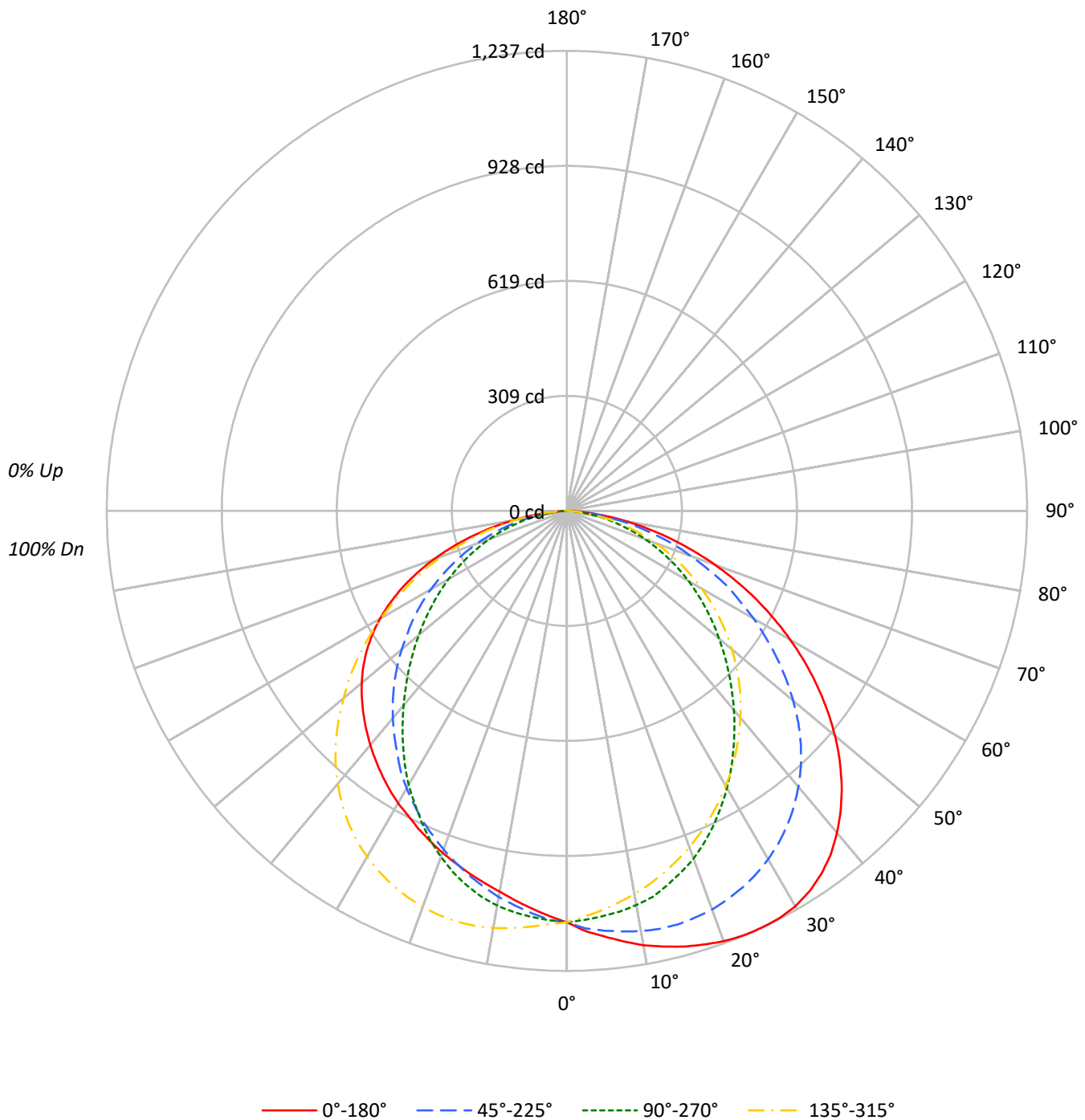
Lumens per Lamp: N/A
Luminaire Lumens: 3245.5 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	1488	1488	1488	1488
5°	1551	1478	1450	1480
10°	1620	1470	1420	1472
15°	1690	1451	1406	1452
20°	1763	1425	1400	1417
25°	1837	1385	1400	1371
30°	1908	1337	1410	1322
35°	1958	1282	1424	1262
40°	1984	1227	1444	1199
45°	1988	1171	1472	1142
50°	1969	1118	1508	1088
55°	1928	1068	1541	1038
60°	1868	1016	1562	989
65°	1784	956	1554	934
70°	1667	886	1498	870
75°	1500	790	1375	786
80°	1272	662	1155	672
85°	885	438	733	451

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.0	3.2
10°-20°	304.1	9.4
20°-30°	466.1	14.4
30°-40°	566.8	17.5
40°-50°	589.2	18.2
50°-60°	532.2	16.4
60°-70°	404.6	12.5
70°-80°	225.6	7.0
80°-90°	51.9	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°	875.3	27.0
0°-40°	1442.0	44.4
0°-60°	2563.4	79.0
0°-90°	3245.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3245.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1106	1106	1106	1106	1106	
5°	1149	1094	1074	1096	1149	111
15°	1213	1042	1010	1042	1213	344
25°	1237	933	943	924	1237	571
35°	1192	781	867	768	1192	745
45°	1045	615	773	600	1045	804
55°	822	455	657	442	822	734
65°	560	300	488	293	560	554
75°	288	152	264	151	288	306
85°	57	28	48	29	57	72
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°	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2
2.5°	1130.7	1114.2	1114.5	1128.9	1117.8	1123.3	1107.8	1113.7	1111.9	1113.2	1100.6
5°	1148.6	1130.7	1130.5	1142.9	1130.5	1132.8	1113.2	1117.1	1111.4	1107.8	1094.1
7.5°	1167.4	1149.6	1147.8	1158.6	1142.4	1140.6	1118.9	1118.9	1108.6	1099.5	1086.6
10°	1186.0	1167.6	1165.3	1173.6	1153.5	1147.5	1121.2	1117.1	1103.4	1090.0	1076.0
12.5°	1199.9	1181.3	1179.5	1184.7	1162.0	1151.1	1121.2	1113.2	1093.1	1074.2	1063.4
15°	1213.1	1194.0	1189.1	1191.6	1165.6	1151.1	1117.6	1105.2	1079.4	1054.6	1042.0
17.5°	1222.4	1204.0	1199.1	1198.9	1167.4	1146.7	1109.8	1092.8	1061.9	1031.9	1019.3
20°	1231.6	1213.3	1207.1	1202.5	1166.9	1140.8	1098.5	1075.5	1039.4	1005.9	995.3
22.5°	1236.3	1217.5	1210.7	1203.8	1163.5	1130.0	1084.6	1055.4	1014.1	974.1	965.3
25°	1237.1	1217.7	1210.5	1200.4	1156.8	1117.1	1066.5	1031.1	985.0	940.6	933.1
27.5°	1235.0	1213.8	1206.6	1194.5	1146.7	1101.3	1045.1	1003.5	954.0	905.0	897.0
30°	1227.8	1206.4	1199.4	1183.6	1132.6	1082.0	1021.6	972.8	919.7	867.5	860.6
32.5°	1213.3	1192.4	1186.7	1171.0	1117.1	1059.5	994.2	939.8	881.7	831.9	821.6
35°	1192.2	1171.3	1167.6	1151.1	1095.4	1032.7	964.3	903.7	841.5	790.6	780.6
37.5°	1164.6	1147.0	1141.6	1125.3	1069.9	1002.2	930.0	864.4	800.5	745.7	739.6
40°	1129.7	1113.2	1109.1	1094.6	1040.2	968.4	892.8	823.9	758.1	707.3	698.5
42.5°	1090.0	1074.5	1072.2	1057.2	1003.5	931.0	852.6	781.9	714.0	665.0	656.2
45°	1044.8	1029.9	1029.3	1015.1	963.5	889.5	810.3	739.3	670.9	620.1	615.4
47.5°	995.0	981.6	981.6	968.4	918.9	843.8	766.6	694.9	627.6	582.7	574.4
50°	940.8	928.2	924.3	917.9	869.6	794.0	720.7	651.6	584.7	541.9	533.9
52.5°	883.0	872.2	874.8	862.9	816.2	742.1	674.3	602.8	541.6	502.7	494.7
55°	822.1	806.6	809.0	804.6	760.5	688.7	622.1	562.5	499.3	462.7	455.2
57.5°	758.9	738.8	747.0	744.5	701.1	634.0	574.4	516.9	457.3	423.5	416.2
60°	694.1	674.8	683.3	681.0	640.2	579.3	525.1	471.7	415.5	384.7	377.5
62.5°	627.6	609.8	617.5	615.7	578.3	523.3	476.1	427.1	373.4	345.8	339.1
65°	560.5	543.4	550.4	549.1	514.5	472.7	425.8	380.9	331.1	307.1	300.4
67.5°	491.8	476.1	482.5	482.5	450.8	410.8	375.2	334.2	289.5	268.9	262.7
70°	423.7	409.0	414.7	414.2	387.3	354.8	324.1	287.5	247.5	230.4	225.3
72.5°	355.1	342.2	347.3	346.8	324.4	303.5	273.0	241.3	206.4	192.8	188.1
75°	288.5	276.4	281.3	280.8	262.4	242.8	222.4	196.1	166.2	156.6	152.0
77.5°	225.0	212.6	216.8	216.8	203.3	189.1	172.9	152.5	131.3	121.0	117.7
80°	164.1	158.2	156.1	156.4	147.3	138.1	129.8	110.2	94.7	87.7	85.4
82.5°	107.9	103.0	100.9	101.4	96.3	90.6	85.4	71.7	61.4	57.3	56.0
85°	57.3	53.7	51.9	53.2	52.1	49.0	46.4	37.2	30.7	29.2	28.4
87.5°	18.1	15.7	14.5	19.1	16.3	14.5	13.9	11.1	8.5	8.5	8.3
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°	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2
2.5°	1104.7	1104.7	1094.6	1092.3	1091.3	1092.6	1082.5	1080.7	1095.1	1090.2	1079.1
5°	1095.9	1095.4	1081.2	1078.6	1078.6	1077.1	1065.7	1063.1	1077.6	1073.5	1061.3
7.5°	1085.1	1083.5	1066.8	1064.9	1062.4	1061.3	1048.7	1046.9	1059.3	1056.7	1045.3
10°	1071.9	1070.4	1050.5	1049.2	1046.4	1044.3	1032.4	1031.1	1043.8	1039.7	1030.6
12.5°	1054.6	1051.8	1031.4	1030.1	1027.8	1027.0	1015.4	1014.9	1028.8	1024.7	1015.1
15°	1031.9	1029.6	1006.9	1007.4	1007.7	1007.7	998.4	997.9	1011.5	1009.7	999.4
17.5°	1006.9	1003.8	982.1	983.7	985.5	987.5	980.3	981.6	996.0	993.7	984.4
20°	978.5	975.4	954.2	958.6	962.5	966.6	962.0	965.6	979.0	978.0	971.0
22.5°	946.8	943.7	924.1	930.8	937.2	945.0	942.9	947.0	961.2	961.0	954.8
25°	908.1	908.8	891.5	899.8	910.6	921.5	922.2	929.0	944.7	943.2	937.5
27.5°	871.9	873.0	854.6	868.6	883.0	897.0	900.3	909.6	925.6	924.3	919.4
30°	834.0	835.3	817.5	836.6	854.1	871.2	878.4	891.0	907.3	907.3	902.1
32.5°	794.5	796.8	778.3	803.8	824.2	844.1	856.7	869.9	888.4	887.9	883.5
35°	754.0	756.6	739.6	772.1	792.5	816.7	832.5	850.0	866.5	866.8	863.4
37.5°	712.7	715.8	700.3	735.9	759.2	787.8	807.9	825.5	843.8	844.8	841.7
40°	671.7	675.0	661.6	695.9	725.4	757.4	780.6	801.2	821.4	821.9	819.8
42.5°	630.7	634.3	624.2	657.8	691.0	725.4	752.7	776.2	796.8	798.1	795.8
45°	590.7	593.8	586.5	623.2	655.2	692.6	724.1	750.7	771.6	773.4	772.6
47.5°	550.9	553.8	547.3	580.9	617.8	657.5	693.9	723.3	745.5	747.6	747.0
50°	512.0	514.3	507.3	542.4	579.1	621.4	659.3	693.4	718.1	720.2	719.9
52.5°	473.3	475.6	469.6	506.5	539.8	584.5	625.8	662.7	687.2	690.3	690.8
55°	435.8	436.9	432.2	467.6	499.8	546.5	594.0	629.9	654.4	657.0	658.5
57.5°	398.4	398.7	394.8	428.6	459.6	507.3	557.1	594.8	618.0	620.6	622.9
60°	361.3	361.0	356.6	389.4	419.1	466.3	518.2	555.6	578.0	580.3	583.4
62.5°	324.4	323.6	319.7	349.9	377.8	424.5	476.6	512.7	534.2	535.7	539.8
65°	287.7	286.9	283.3	311.2	336.5	381.1	432.2	466.5	485.9	488.0	487.2
67.5°	251.6	250.0	247.2	272.2	295.2	336.5	385.5	418.3	434.3	436.1	441.0
70°	215.5	213.7	207.2	233.8	253.9	290.8	336.5	365.6	379.1	380.9	380.1
72.5°	179.9	178.1	171.1	195.6	212.6	244.9	285.7	309.9	321.5	323.1	323.1
75°	145.3	144.2	139.9	158.4	172.6	199.0	233.5	253.7	262.7	264.5	264.0
77.5°	112.0	111.2	106.8	122.8	133.9	153.5	181.4	197.1	203.9	205.9	210.3
80°	80.3	80.0	73.0	88.8	93.7	110.2	130.6	142.7	146.3	149.1	152.2
82.5°	51.4	51.6	44.6	58.1	60.1	70.7	83.3	90.8	93.4	95.7	98.1
85°	25.0	26.1	22.2	30.7	31.0	36.4	41.8	44.6	45.7	47.5	49.5
87.5°	6.5	7.5	4.1	8.8	7.7	10.1	11.6	12.4	12.1	13.4	14.2
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°	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2
2.5°	1082.8	1091.0	1086.9	1100.3	1105.5	1097.2	1111.7	1111.9	1101.6	1113.7	1120.4
5°	1066.0	1074.5	1071.9	1085.8	1092.3	1085.1	1102.6	1106.0	1095.9	1109.6	1120.4
7.5°	1048.9	1059.0	1055.7	1069.9	1077.6	1071.9	1090.8	1096.2	1088.4	1103.4	1117.8
10°	1034.2	1042.8	1039.1	1054.1	1060.8	1056.2	1074.8	1084.8	1077.6	1095.9	1113.2
12.5°	1019.8	1026.8	1022.6	1035.0	1041.5	1035.5	1058.2	1067.5	1062.4	1081.5	1103.7
15°	1001.2	1009.0	1003.3	1014.4	1019.3	1014.1	1032.7	1048.7	1042.2	1063.1	1087.7
17.5°	987.0	991.4	983.7	992.4	995.3	988.3	1007.1	1022.9	1018.2	1040.9	1069.3
20°	971.3	974.9	964.1	969.0	968.7	959.9	977.2	992.7	989.6	1014.6	1046.9
22.5°	953.7	955.5	942.9	943.9	943.4	929.0	944.4	960.2	958.9	984.2	1020.3
25°	935.2	935.4	919.2	918.6	913.0	895.9	909.6	927.4	923.5	950.9	988.8
27.5°	916.8	914.3	894.6	890.0	881.0	860.6	872.7	888.7	886.4	913.2	955.3
30°	897.2	893.9	869.9	861.4	848.2	824.7	834.8	849.7	851.0	874.5	918.6
32.5°	878.6	870.1	843.5	831.2	814.6	787.3	792.7	807.9	810.0	833.7	879.2
35°	854.6	849.0	816.2	795.0	778.8	748.8	754.5	765.1	768.2	791.4	837.6
37.5°	831.9	822.9	788.1	762.3	741.4	709.9	711.4	722.3	725.4	748.8	794.5
40°	808.5	795.5	758.1	727.9	703.9	670.9	669.1	680.5	682.8	705.8	747.0
42.5°	783.4	767.9	725.9	692.8	665.2	631.7	628.1	637.9	640.5	662.9	703.4
45°	758.1	739.6	692.8	656.7	626.5	592.2	588.6	596.1	600.0	621.1	660.1
47.5°	731.3	709.6	658.8	618.5	587.3	553.0	548.6	556.1	559.2	580.1	617.0
50°	703.2	676.8	623.7	579.3	548.3	514.5	508.1	516.9	519.7	539.3	575.4
52.5°	672.2	643.0	586.3	539.8	508.9	476.6	468.9	477.4	480.7	499.8	533.1
55°	639.4	608.0	548.6	503.4	469.9	438.4	432.0	435.3	442.5	460.6	491.6
57.5°	602.5	571.3	508.9	462.9	430.7	400.5	395.1	398.2	404.9	422.4	450.3
60°	563.3	530.3	468.3	422.4	391.2	362.6	357.6	360.5	367.7	383.7	409.5
62.5°	524.6	487.4	426.5	380.9	352.5	325.9	324.6	323.6	330.3	345.8	368.5
65°	477.6	442.0	382.9	339.6	313.8	289.8	284.6	286.9	293.4	307.6	331.3
67.5°	427.3	395.1	338.3	298.3	275.3	253.9	249.5	250.6	257.3	269.7	290.3
70°	373.9	345.5	292.6	256.8	237.4	217.3	214.4	214.7	221.1	232.0	250.0
72.5°	317.9	292.4	246.4	215.7	199.7	185.3	182.7	179.6	185.5	194.8	210.3
75°	260.9	238.4	200.5	175.5	162.8	150.7	148.4	145.3	151.2	159.2	171.3
77.5°	203.3	185.3	155.9	136.5	126.7	117.7	115.6	112.2	118.2	124.1	133.7
80°	147.1	133.9	116.4	96.0	92.6	86.7	84.6	81.0	86.7	90.6	97.8
82.5°	95.0	86.2	76.1	61.9	61.4	57.0	56.0	51.9	57.0	59.4	64.8
85°	48.0	43.9	41.3	31.5	32.5	29.7	29.4	25.0	29.2	30.2	33.3
87.5°	13.7	14.5	12.9	7.7	9.8	9.3	9.3	6.7	9.3	9.3	10.6
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: P838218

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2	1106.2
2.5°	1107.3	1111.7	1112.7	1112.4	1115.3	1130.7	1125.6	1130.7
5°	1109.8	1119.7	1122.2	1125.8	1130.5	1148.0	1142.4	1148.6
7.5°	1111.4	1126.1	1131.8	1138.7	1146.2	1165.8	1161.2	1167.4
10°	1111.4	1130.5	1138.7	1150.4	1160.4	1183.1	1178.7	1186.0
12.5°	1106.8	1131.3	1142.9	1159.1	1172.0	1196.6	1194.7	1199.9
15°	1097.2	1127.4	1143.4	1164.3	1180.3	1207.6	1206.9	1213.1
17.5°	1084.3	1120.7	1140.0	1166.4	1186.5	1217.2	1219.0	1222.4
20°	1068.0	1108.0	1133.3	1165.6	1190.9	1224.7	1227.0	1231.6
22.5°	1046.6	1092.8	1123.3	1162.2	1191.4	1227.8	1231.9	1236.3
25°	1021.3	1074.5	1110.1	1155.8	1188.8	1227.5	1233.2	1237.1
27.5°	992.4	1050.8	1093.3	1145.5	1181.6	1223.4	1230.4	1235.0
30°	958.9	1025.5	1074.2	1132.0	1171.8	1215.6	1223.1	1227.8
32.5°	924.3	997.6	1051.5	1114.8	1157.6	1203.3	1209.7	1213.3
35°	886.6	963.8	1024.2	1092.6	1139.3	1183.4	1188.3	1192.2
37.5°	845.6	927.2	993.0	1067.5	1113.5	1155.8	1160.2	1164.6
40°	803.3	888.7	957.9	1036.8	1082.8	1122.0	1126.6	1129.7
42.5°	760.7	846.1	920.4	1000.7	1046.4	1084.0	1086.9	1090.0
45°	717.6	802.0	878.4	960.7	1005.9	1041.2	1042.2	1044.8
47.5°	673.8	756.3	832.2	915.0	959.7	991.9	993.0	995.0
50°	629.6	710.7	782.9	865.7	909.3	943.4	938.8	940.8
52.5°	586.3	662.7	736.5	812.6	855.7	885.9	887.2	883.0
55°	543.7	615.7	683.6	756.8	797.9	821.4	820.6	822.1
57.5°	500.6	568.2	630.4	697.5	737.5	759.7	764.3	758.9
60°	456.7	520.2	576.0	636.6	675.3	693.9	699.3	694.1
62.5°	413.1	471.4	522.0	574.9	610.8	633.8	633.2	627.6
65°	369.5	422.4	467.6	512.5	543.7	566.7	565.6	560.5
67.5°	329.3	372.9	413.4	449.8	476.9	492.6	498.0	491.8
70°	284.9	322.6	358.2	387.3	409.8	424.0	429.1	423.7
72.5°	240.5	272.5	297.5	325.7	342.9	354.8	360.2	355.1
75°	196.6	223.0	243.3	265.3	277.4	287.5	293.7	288.5
77.5°	154.1	174.4	190.7	206.7	220.6	223.0	228.4	225.0
80°	113.5	128.2	140.1	150.7	160.8	161.8	166.2	164.1
82.5°	75.6	85.4	88.5	99.6	106.1	105.0	109.4	107.9
85°	40.0	45.9	51.4	54.7	58.3	55.0	58.8	57.3
87.5°	13.4	14.2	12.4	17.5	19.4	16.5	18.8	18.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)