

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: P838200

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1STD-35-120-EDD-90**

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: P838200
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-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

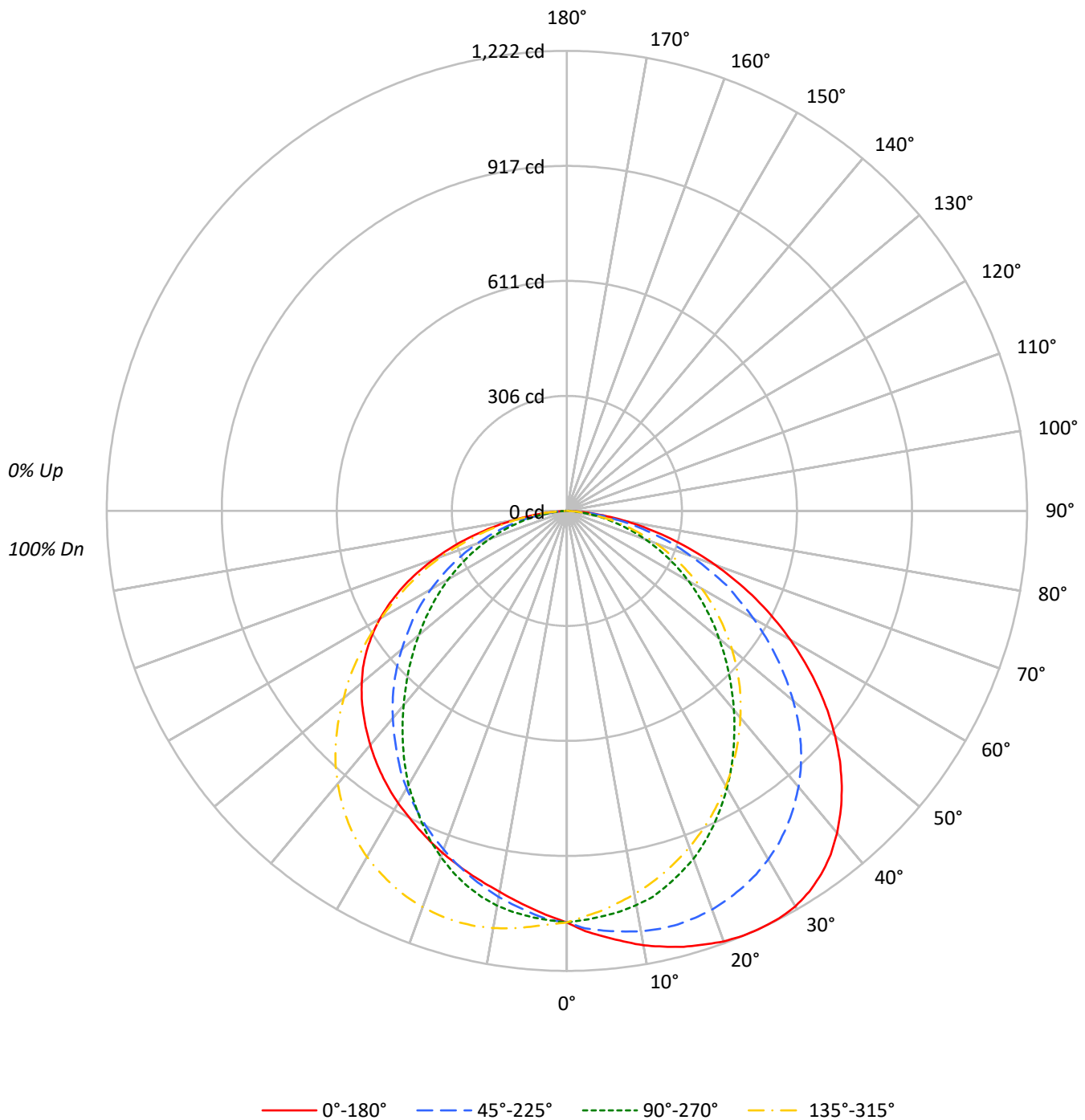
Lumens per Lamp: N/A
Luminaire Lumens: 3206.9 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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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°	1471	1471	1471	1471
5°	1533	1460	1433	1463
10°	1601	1453	1404	1455
15°	1670	1434	1390	1434
20°	1743	1408	1384	1400
25°	1815	1369	1383	1355
30°	1885	1321	1393	1306
35°	1935	1267	1407	1247
40°	1961	1212	1426	1185
45°	1964	1157	1454	1128
50°	1946	1104	1490	1075
55°	1905	1055	1523	1026
60°	1846	1004	1543	978
65°	1763	945	1535	923
70°	1647	876	1480	860
75°	1482	781	1358	777
80°	1257	654	1142	664
85°	874	432	724	445

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.8	3.2
10°-20°	300.5	9.4
20°-30°	460.6	14.4
30°-40°	560.0	17.5
40°-50°	582.2	18.2
50°-60°	525.9	16.4
60°-70°	399.8	12.5
70°-80°	222.9	7.0
80°-90°	51.3	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°	864.9	27.0
0°-40°	1424.9	44.4
0°-60°	2532.9	79.0
0°-90°	3206.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3206.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1093	1093	1093	1093	1093	
5°	1135	1081	1061	1083	1135	109
15°	1199	1030	998	1030	1199	340
25°	1222	922	932	912	1222	565
35°	1178	771	856	759	1178	736
45°	1032	608	764	593	1032	795
55°	812	450	649	437	812	725
65°	554	297	482	290	554	547
75°	285	150	261	149	285	303
85°	57	28	47	29	57	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°	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1
2.5°	1117.3	1101.0	1101.2	1115.5	1104.5	1109.9	1094.6	1100.5	1098.7	1099.9	1087.5
5°	1134.9	1117.3	1117.0	1129.3	1117.0	1119.3	1099.9	1103.8	1098.2	1094.6	1081.1
7.5°	1153.5	1135.9	1134.1	1144.8	1128.8	1127.0	1105.6	1105.6	1095.4	1086.4	1073.7
10°	1171.9	1153.7	1151.5	1159.6	1139.7	1133.9	1107.9	1103.8	1090.3	1077.0	1063.2
12.5°	1185.6	1167.3	1165.5	1170.6	1148.1	1137.4	1107.9	1099.9	1080.1	1061.4	1050.7
15°	1198.6	1179.8	1174.9	1177.5	1151.7	1137.4	1104.3	1092.0	1066.5	1042.1	1029.6
17.5°	1207.8	1189.7	1184.9	1184.6	1153.5	1133.1	1096.6	1079.8	1049.2	1019.6	1007.1
20°	1217.0	1198.9	1192.8	1188.2	1153.0	1127.2	1085.4	1062.7	1027.0	993.9	983.4
22.5°	1221.6	1203.0	1196.3	1189.4	1149.7	1116.5	1071.6	1042.8	1002.0	962.5	953.9
25°	1222.3	1203.2	1196.1	1186.1	1143.0	1103.8	1053.8	1018.9	973.2	929.4	922.0
27.5°	1220.3	1199.4	1192.2	1180.3	1133.1	1088.2	1032.6	991.6	942.6	894.2	886.3
30°	1213.2	1192.0	1185.1	1169.6	1119.1	1069.1	1009.4	961.2	908.7	857.2	850.3
32.5°	1198.9	1178.2	1172.6	1157.1	1103.8	1046.9	982.4	928.6	871.2	822.0	811.8
35°	1178.0	1157.3	1153.7	1137.4	1082.4	1020.4	952.8	892.9	831.5	781.2	771.3
37.5°	1150.7	1133.4	1128.0	1111.9	1057.1	990.3	918.9	854.2	790.9	736.9	730.7
40°	1116.3	1099.9	1095.9	1081.6	1027.8	956.9	882.2	814.1	749.1	698.9	690.2
42.5°	1077.0	1061.7	1059.4	1044.6	991.6	919.9	842.4	772.6	705.5	657.1	648.4
45°	1032.4	1017.6	1017.1	1003.1	952.1	878.9	800.6	730.5	662.9	612.7	608.1
47.5°	983.2	969.9	969.9	956.9	908.0	833.8	757.5	686.6	620.1	575.7	567.6
50°	929.6	917.1	913.3	906.9	859.3	784.5	712.1	643.8	577.8	535.4	527.5
52.5°	872.5	861.8	864.4	852.6	806.5	733.3	666.2	595.6	535.2	496.7	488.8
55°	812.3	797.0	799.3	795.0	751.4	680.5	614.7	555.8	493.4	457.2	449.8
57.5°	749.9	730.0	738.1	735.6	692.8	626.5	567.6	510.7	451.8	418.4	411.3
60°	685.9	666.8	675.2	672.9	632.6	572.4	518.9	466.1	410.5	380.2	373.0
62.5°	620.1	602.5	610.1	608.4	571.4	517.1	470.4	422.0	368.9	341.7	335.0
65°	553.8	537.0	543.9	542.6	508.4	467.1	420.7	376.3	327.1	303.4	296.8
67.5°	486.0	470.4	476.8	476.8	445.4	405.9	370.7	330.2	286.1	265.7	259.6
70°	418.7	404.1	409.7	409.2	382.7	350.6	320.2	284.0	244.5	227.7	222.6
72.5°	350.8	338.1	343.2	342.7	320.5	299.8	269.8	238.4	204.0	190.5	185.9
75°	285.1	273.1	277.9	277.4	259.3	239.9	219.8	193.8	164.2	154.8	150.2
77.5°	222.3	210.1	214.2	214.2	200.9	186.9	170.8	150.7	129.8	119.6	116.3
80°	162.2	156.3	154.3	154.5	145.6	136.4	128.3	108.9	93.6	86.7	84.4
82.5°	106.6	101.7	99.7	100.2	95.1	89.5	84.4	70.9	60.7	56.6	55.3
85°	56.6	53.0	51.2	52.5	51.5	48.4	45.9	36.7	30.3	28.8	28.0
87.5°	17.8	15.6	14.3	18.9	16.1	14.3	13.8	11.0	8.4	8.4	8.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1
2.5°	1091.5	1091.5	1081.6	1079.3	1078.3	1079.6	1069.6	1067.8	1082.1	1077.3	1066.3
5°	1082.9	1082.4	1068.3	1065.8	1065.8	1064.3	1053.0	1050.5	1064.8	1060.7	1048.7
7.5°	1072.2	1070.6	1054.1	1052.3	1049.7	1048.7	1036.2	1034.4	1046.7	1044.1	1032.9
10°	1059.2	1057.6	1038.0	1036.7	1033.9	1031.9	1020.1	1018.9	1031.4	1027.3	1018.4
12.5°	1042.1	1039.3	1019.1	1017.8	1015.6	1014.8	1003.3	1002.8	1016.6	1012.5	1003.1
15°	1019.6	1017.3	994.9	995.4	995.7	995.7	986.5	986.0	999.5	997.7	987.5
17.5°	994.9	991.8	970.4	972.0	973.7	975.8	968.6	969.9	984.2	981.9	972.7
20°	966.9	963.8	942.9	947.2	951.0	955.1	950.5	954.1	967.4	966.3	959.5
22.5°	935.5	932.4	913.1	919.7	926.1	933.7	931.7	935.7	949.8	949.5	943.4
25°	897.2	898.0	880.9	889.1	899.8	910.5	911.3	917.9	933.5	931.9	926.3
27.5°	861.6	862.6	844.5	858.2	872.5	886.3	889.6	898.8	914.6	913.3	908.5
30°	824.1	825.3	807.8	826.6	844.0	860.8	867.9	880.4	896.5	896.5	891.4
32.5°	785.1	787.4	769.0	794.2	814.4	834.0	846.5	859.5	877.9	877.4	873.0
35°	745.0	747.6	730.7	762.9	783.0	807.0	822.5	839.9	856.2	856.5	853.1
37.5°	704.2	707.3	692.0	727.2	750.1	778.4	798.3	815.7	833.8	834.8	831.7
40°	663.7	667.0	653.7	687.7	716.7	748.3	771.3	791.7	811.6	812.1	810.0
42.5°	623.2	626.7	616.8	649.9	682.8	716.7	743.8	767.0	787.4	788.6	786.3
45°	583.6	586.7	579.6	615.8	647.4	684.3	715.5	741.7	762.4	764.2	763.4
47.5°	544.4	547.2	540.8	573.9	610.4	649.7	685.6	714.7	736.6	738.7	738.1
50°	505.9	508.2	501.3	536.0	572.2	614.0	651.5	685.1	709.6	711.6	711.4
52.5°	467.6	469.9	464.0	500.5	533.4	577.5	618.3	654.8	679.0	682.1	682.6
55°	430.6	431.7	427.1	462.0	493.9	540.0	586.9	622.4	646.6	649.2	650.7
57.5°	393.7	393.9	390.1	423.5	454.1	501.3	550.5	587.7	610.7	613.2	615.5
60°	357.0	356.7	352.4	384.8	414.1	460.7	512.0	549.0	571.1	573.4	576.5
62.5°	320.5	319.7	315.9	345.7	373.3	419.4	470.9	506.6	527.8	529.3	533.4
65°	284.3	283.5	280.0	307.5	332.5	376.6	427.1	461.0	480.1	482.2	481.4
67.5°	248.6	247.1	244.3	269.0	291.7	332.5	380.9	413.3	429.1	430.9	435.7
70°	212.9	211.1	204.7	231.0	250.9	287.4	332.5	361.3	374.6	376.3	375.6
72.5°	177.7	175.9	169.0	193.3	210.1	242.0	282.3	306.2	317.7	319.2	319.2
75°	143.5	142.5	138.2	156.6	170.6	196.6	230.7	250.6	259.6	261.3	260.8
77.5°	110.7	109.9	105.6	121.4	132.3	151.7	179.2	194.8	201.4	203.5	207.8
80°	79.3	79.0	72.2	87.7	92.6	108.9	129.0	141.0	144.6	147.4	150.4
82.5°	50.7	51.0	44.1	57.4	59.4	69.9	82.4	89.8	92.3	94.6	96.9
85°	24.7	25.8	21.9	30.3	30.6	36.0	41.3	44.1	45.1	46.9	49.0
87.5°	6.4	7.4	4.1	8.7	7.6	9.9	11.5	12.2	12.0	13.3	14.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1
2.5°	1069.9	1078.0	1073.9	1087.2	1092.3	1084.1	1098.4	1098.7	1088.5	1100.5	1107.1
5°	1053.3	1061.7	1059.2	1072.9	1079.3	1072.2	1089.5	1092.8	1082.9	1096.4	1107.1
7.5°	1036.5	1046.4	1043.1	1057.1	1064.8	1059.2	1077.8	1083.1	1075.5	1090.3	1104.5
10°	1021.9	1030.3	1026.8	1041.6	1048.2	1043.6	1062.0	1071.9	1064.8	1082.9	1099.9
12.5°	1007.6	1014.5	1010.5	1022.7	1029.1	1023.2	1045.6	1054.8	1049.7	1068.6	1090.5
15°	989.3	996.9	991.3	1002.3	1007.1	1002.0	1020.4	1036.2	1029.8	1050.5	1074.7
17.5°	975.3	979.6	972.0	980.6	983.4	976.5	995.2	1010.7	1006.1	1028.6	1056.6
20°	959.7	963.3	952.6	957.4	957.2	948.5	965.6	980.9	977.8	1002.6	1034.4
22.5°	942.4	944.2	931.7	932.7	932.2	917.9	933.2	948.8	947.5	972.5	1008.2
25°	924.0	924.3	908.2	907.7	902.1	885.3	898.8	916.4	912.5	939.6	977.1
27.5°	905.9	903.4	884.0	879.4	870.5	850.3	862.3	878.1	875.8	902.3	943.9
30°	886.5	883.2	859.5	851.1	838.1	814.9	824.8	839.6	840.9	864.1	907.7
32.5°	868.2	859.8	833.5	821.3	804.9	777.9	783.3	798.3	800.4	823.8	868.7
35°	844.5	838.9	806.5	785.6	769.5	739.9	745.5	756.0	759.1	782.0	827.6
37.5°	822.0	813.1	778.7	753.2	732.5	701.4	703.0	713.7	716.7	739.9	785.1
40°	798.8	786.1	749.1	719.3	695.6	662.9	661.1	672.4	674.7	697.3	738.1
42.5°	774.1	758.8	717.2	684.6	657.3	624.2	620.6	630.3	632.8	655.0	695.1
45°	749.1	730.7	684.6	648.9	619.1	585.2	581.6	589.0	592.8	613.7	652.2
47.5°	722.6	701.2	650.9	611.2	580.3	546.4	542.1	549.5	552.5	573.2	609.6
50°	694.8	668.8	616.3	572.4	541.8	508.4	502.0	510.7	513.5	532.9	568.6
52.5°	664.2	635.4	579.3	533.4	502.8	470.9	463.3	471.7	475.0	493.9	526.8
55°	631.8	600.7	542.1	497.5	464.3	433.2	426.8	430.1	437.3	455.1	485.7
57.5°	595.4	564.5	502.8	457.4	425.5	395.7	390.4	393.4	400.1	417.4	444.9
60°	556.6	524.0	462.8	417.4	386.5	358.2	353.4	356.2	363.3	379.1	404.6
62.5°	518.4	481.6	421.5	376.3	348.3	322.0	320.8	319.7	326.4	341.7	364.1
65°	472.0	436.8	378.4	335.5	310.0	286.3	281.2	283.5	289.9	303.9	327.4
67.5°	422.2	390.4	334.3	294.7	272.1	250.9	246.6	247.6	254.2	266.4	286.8
70°	369.5	341.4	289.1	253.7	234.6	214.7	211.9	212.1	218.5	229.2	247.1
72.5°	314.1	288.9	243.5	213.2	197.3	183.1	180.5	177.5	183.3	192.5	207.8
75°	257.8	235.6	198.1	173.4	160.9	148.9	146.6	143.5	149.4	157.3	169.3
77.5°	200.9	183.1	154.0	134.9	125.2	116.3	114.2	110.9	116.8	122.6	132.1
80°	145.3	132.3	115.0	94.8	91.5	85.7	83.6	80.1	85.7	89.5	96.6
82.5°	93.8	85.2	75.2	61.2	60.7	56.3	55.3	51.2	56.3	58.6	64.0
85°	47.4	43.3	40.8	31.1	32.1	29.3	29.1	24.7	28.8	29.8	32.9
87.5°	13.5	14.3	12.7	7.6	9.7	9.2	9.2	6.6	9.2	9.2	10.5
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: P838200

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1STD-35-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1	1093.1
2.5°	1094.1	1098.4	1099.4	1099.2	1102.0	1117.3	1112.2	1117.3
5°	1096.6	1106.3	1108.9	1112.4	1117.0	1134.4	1128.8	1134.9
7.5°	1098.2	1112.7	1118.3	1125.2	1132.6	1152.0	1147.4	1153.5
10°	1098.2	1117.0	1125.2	1136.7	1146.6	1169.0	1164.7	1171.9
12.5°	1093.6	1117.8	1129.3	1145.3	1158.1	1182.3	1180.5	1185.6
15°	1084.1	1114.0	1129.8	1150.4	1166.2	1193.3	1192.5	1198.6
17.5°	1071.4	1107.3	1126.5	1152.5	1172.4	1202.7	1204.5	1207.8
20°	1055.3	1094.9	1119.8	1151.7	1176.7	1210.1	1212.4	1217.0
22.5°	1034.2	1079.8	1109.9	1148.4	1177.2	1213.2	1217.2	1221.6
25°	1009.2	1061.7	1096.9	1142.0	1174.7	1212.9	1218.5	1222.3
27.5°	980.6	1038.2	1080.3	1131.8	1167.5	1208.8	1215.7	1220.3
30°	947.5	1013.3	1061.4	1118.6	1157.8	1201.2	1208.6	1213.2
32.5°	913.3	985.7	1039.0	1101.5	1143.8	1188.9	1195.3	1198.9
35°	876.1	952.3	1012.0	1079.6	1125.7	1169.3	1174.1	1178.0
37.5°	835.5	916.1	981.1	1054.8	1100.2	1142.0	1146.4	1150.7
40°	793.7	878.1	946.5	1024.5	1069.9	1108.6	1113.2	1116.3
42.5°	751.7	836.1	909.5	988.8	1033.9	1071.1	1073.9	1077.0
45°	709.1	792.5	867.9	949.3	993.9	1028.8	1029.8	1032.4
47.5°	665.7	747.3	822.3	904.1	948.2	980.1	981.1	983.2
50°	622.1	702.2	773.6	855.4	898.5	932.2	927.6	929.6
52.5°	579.3	654.8	727.7	802.9	845.5	875.3	876.6	872.5
55°	537.2	608.4	675.4	747.8	788.4	811.6	810.8	812.3
57.5°	494.6	561.4	622.9	689.2	728.7	750.6	755.2	749.9
60°	451.3	514.0	569.1	629.0	667.3	685.6	691.0	685.9
62.5°	408.2	465.8	515.8	568.1	603.5	626.2	625.7	620.1
65°	365.1	417.4	462.0	506.4	537.2	559.9	558.9	553.8
67.5°	325.3	368.4	408.5	444.4	471.2	486.7	492.1	486.0
70°	281.5	318.7	353.9	382.7	404.9	418.9	424.0	418.7
72.5°	237.6	269.3	294.0	321.8	338.9	350.6	355.9	350.8
75°	194.3	220.3	240.4	262.1	274.1	284.0	290.2	285.1
77.5°	152.2	172.4	188.4	204.2	218.0	220.3	225.7	222.3
80°	112.2	126.7	138.4	148.9	158.8	159.9	164.2	162.2
82.5°	74.7	84.4	87.5	98.4	104.8	103.8	108.1	106.6
85°	39.5	45.4	50.7	54.1	57.6	54.3	58.1	56.6
87.5°	13.3	14.0	12.2	17.3	19.1	16.3	18.6	17.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)