

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: P837715

Luminaire Tested: **ORLG-12-4-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: P837715
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-1HI-20-120-EDD
Description: 1FT 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

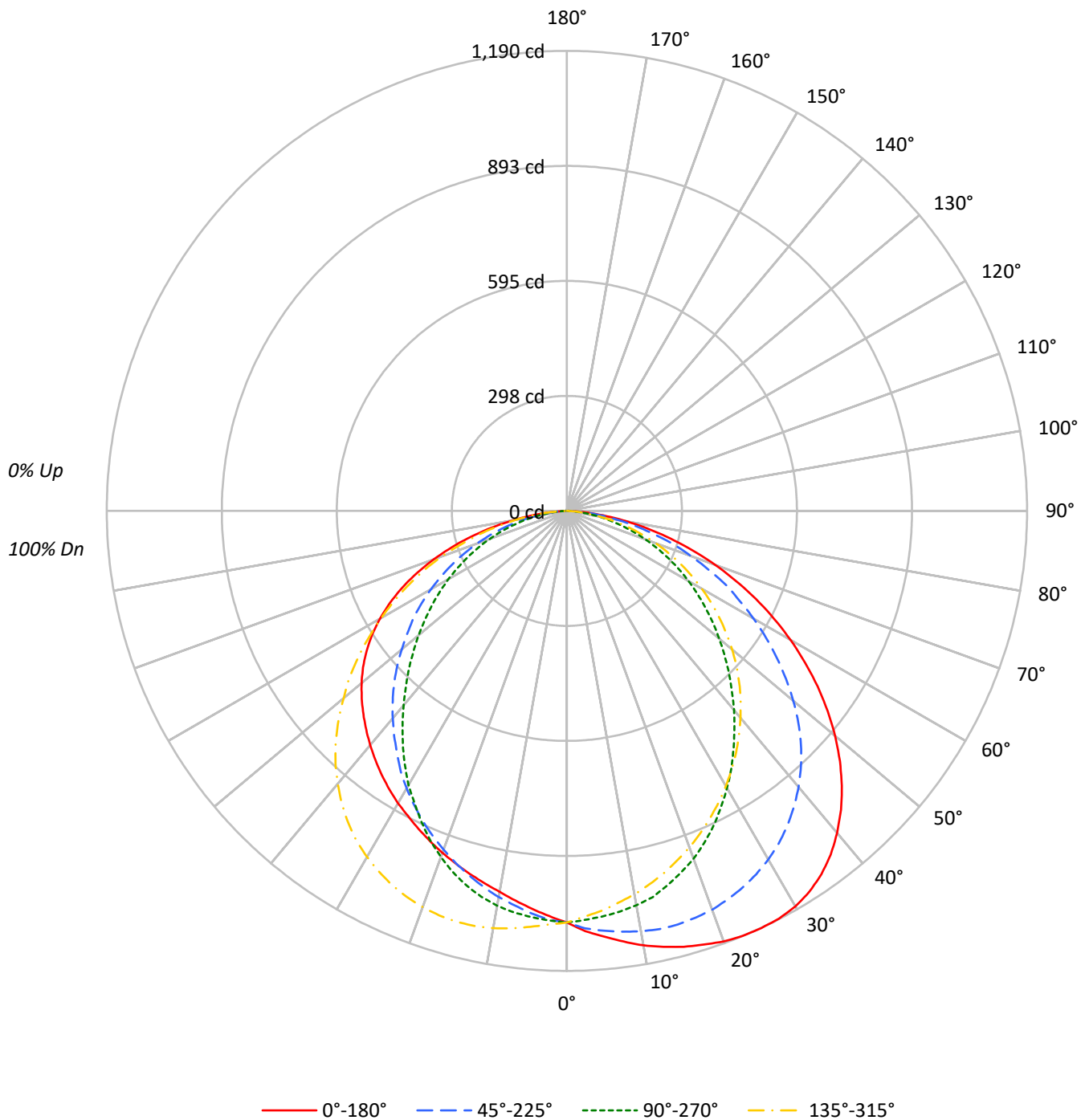
Lumens per Lamp: N/A
Luminaire Lumens: 3123.5 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2865	2865	2865	2865
5°	2986	2844	2791	2849
10°	3119	2830	2734	2834
15°	3252	2794	2707	2794
20°	3394	2743	2695	2727
25°	3535	2666	2695	2639
30°	3672	2573	2713	2545
35°	3769	2468	2740	2429
40°	3819	2362	2779	2308
45°	3827	2254	2833	2197
50°	3790	2151	2902	2094
55°	3712	2055	2966	1998
60°	3595	1955	3006	1905
65°	3435	1841	2990	1798
70°	3209	1706	2884	1674
75°	2886	1521	2646	1513
80°	2447	1274	2224	1292
85°	1701	843	1411	868

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.1	3.2
10°-20°	292.7	9.4
20°-30°	448.6	14.4
30°-40°	545.4	17.5
40°-50°	567.0	18.2
50°-60°	512.2	16.4
60°-70°	389.4	12.5
70°-80°	217.1	7.0
80°-90°	50.0	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°	842.4	27.0
0°-40°	1387.8	44.4
0°-60°	2467.0	79.0
0°-90°	3123.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3123.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1065	1065	1065	1065	1065	
5°	1105	1053	1033	1055	1105	107
15°	1167	1003	972	1003	1167	331
25°	1190	898	908	889	1190	550
35°	1147	751	834	739	1147	717
45°	1006	592	744	577	1006	774
55°	791	438	632	426	791	706
65°	539	289	470	282	539	533
75°	278	146	254	146	278	295
85°	55	27	46	28	55	69
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°	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6
2.5°	1088.2	1072.3	1072.6	1086.5	1075.8	1081.0	1066.1	1071.8	1070.1	1071.3	1059.2
5°	1105.4	1088.2	1088.0	1099.9	1088.0	1090.2	1071.3	1075.1	1069.6	1066.1	1053.0
7.5°	1123.5	1106.4	1104.6	1115.0	1099.4	1097.7	1076.8	1076.8	1066.9	1058.2	1045.8
10°	1141.4	1123.7	1121.5	1129.4	1110.1	1104.4	1079.0	1075.1	1061.9	1049.0	1035.6
12.5°	1154.8	1136.9	1135.2	1140.1	1118.3	1107.8	1079.0	1071.3	1052.0	1033.8	1023.4
15°	1167.4	1149.1	1144.3	1146.8	1121.7	1107.8	1075.6	1063.6	1038.8	1015.0	1002.8
17.5°	1176.4	1158.8	1154.0	1153.8	1123.5	1103.6	1068.1	1051.7	1021.9	993.1	980.9
20°	1185.3	1167.7	1161.7	1157.3	1123.0	1097.9	1057.2	1035.1	1000.3	968.0	957.8
22.5°	1189.8	1171.7	1165.2	1158.5	1119.8	1087.5	1043.8	1015.7	976.0	937.5	929.0
25°	1190.5	1171.9	1165.0	1155.3	1113.3	1075.1	1026.4	992.4	947.9	905.2	898.0
27.5°	1188.6	1168.2	1161.2	1149.6	1103.6	1059.9	1005.8	965.8	918.1	870.9	863.2
30°	1181.6	1161.0	1154.3	1139.1	1090.0	1041.3	983.2	936.2	885.1	834.9	828.2
32.5°	1167.7	1147.6	1142.1	1127.0	1075.1	1019.7	956.9	904.5	848.6	800.6	790.7
35°	1147.3	1127.2	1123.7	1107.8	1054.2	993.9	928.0	869.7	809.8	760.9	751.2
37.5°	1120.8	1103.9	1098.7	1083.0	1029.6	964.5	895.0	831.9	770.3	717.7	711.7
40°	1087.2	1071.3	1067.4	1053.5	1001.1	932.0	859.3	792.9	729.6	680.7	672.3
42.5°	1049.0	1034.1	1031.8	1017.4	965.8	896.0	820.5	752.5	687.2	640.0	631.5
45°	1005.5	991.1	990.6	977.0	927.3	856.0	779.8	711.5	645.7	596.8	592.3
47.5°	957.6	944.7	944.7	932.0	884.3	812.1	737.8	668.8	604.0	560.7	552.8
50°	905.4	893.3	889.6	883.3	836.9	764.1	693.6	627.1	562.7	521.5	513.8
52.5°	849.8	839.4	841.9	830.4	785.5	714.2	648.9	580.1	521.3	483.8	476.1
55°	791.2	776.3	778.5	774.3	731.9	662.8	598.7	541.4	480.5	445.3	438.1
57.5°	730.4	711.0	718.9	716.5	674.7	610.2	552.8	497.4	440.1	407.5	400.6
60°	668.0	649.4	657.6	655.4	616.1	557.5	505.4	454.0	399.8	370.3	363.3
62.5°	604.0	586.8	594.3	592.5	556.5	503.6	458.2	411.0	359.3	332.8	326.3
65°	539.4	523.0	529.7	528.5	495.2	455.0	409.8	366.5	318.6	295.5	289.1
67.5°	473.3	458.2	464.4	464.4	433.8	395.4	361.1	321.6	278.6	258.8	252.8
70°	407.8	393.6	399.1	398.6	372.8	341.5	311.9	276.6	238.2	221.8	216.8
72.5°	341.7	329.3	334.3	333.8	312.2	292.0	262.7	232.2	198.7	185.5	181.0
75°	277.6	266.0	270.7	270.2	252.6	233.7	214.1	188.7	159.9	150.7	146.3
77.5°	216.6	204.6	208.6	208.6	195.7	182.0	166.4	146.8	126.4	116.5	113.2
80°	157.9	152.2	150.2	150.5	141.8	132.9	124.9	106.0	91.1	84.4	82.2
82.5°	103.8	99.1	97.1	97.6	92.6	87.2	82.2	69.0	59.1	55.1	53.9
85°	55.1	51.7	49.9	51.2	50.2	47.2	44.7	35.8	29.6	28.1	27.3
87.5°	17.4	15.1	13.9	18.4	15.6	13.9	13.4	10.7	8.2	8.2	7.9
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6
2.5°	1063.1	1063.1	1053.5	1051.2	1050.2	1051.5	1041.8	1040.0	1054.0	1049.2	1038.6
5°	1054.7	1054.2	1040.5	1038.1	1038.1	1036.6	1025.6	1023.2	1037.1	1033.1	1021.4
7.5°	1044.3	1042.8	1026.6	1024.9	1022.4	1021.4	1009.3	1007.5	1019.4	1016.9	1006.0
10°	1031.6	1030.1	1011.0	1009.7	1007.0	1005.0	993.6	992.4	1004.5	1000.6	991.9
12.5°	1015.0	1012.2	992.6	991.4	989.1	988.4	977.2	976.7	990.1	986.2	977.0
15°	993.1	990.9	969.0	969.5	969.8	969.8	960.8	960.3	973.5	971.8	961.8
17.5°	969.0	966.0	945.2	946.7	948.4	950.4	943.4	944.7	958.6	956.4	947.4
20°	941.7	938.7	918.4	922.6	926.3	930.3	925.8	929.3	942.2	941.2	934.5
22.5°	911.2	908.2	889.3	895.8	902.0	909.4	907.4	911.4	925.1	924.8	918.9
25°	873.9	874.7	858.0	866.0	876.4	886.8	887.6	894.0	909.2	907.7	902.2
27.5°	839.1	840.1	822.5	835.9	849.8	863.2	866.5	875.4	890.8	889.6	884.8
30°	802.6	803.9	786.7	805.1	822.0	838.4	845.3	857.5	873.2	873.2	868.2
32.5°	764.6	766.9	749.0	773.6	793.2	812.3	824.5	837.2	855.0	854.5	850.3
35°	725.6	728.1	711.7	743.0	762.6	786.0	801.1	818.0	833.9	834.2	830.9
37.5°	685.9	688.9	674.0	708.3	730.6	758.2	777.5	794.4	812.1	813.1	810.1
40°	646.4	649.7	636.7	669.8	698.1	728.9	751.2	771.1	790.5	791.0	789.0
42.5°	606.9	610.4	600.7	633.0	665.1	698.1	724.4	747.0	766.9	768.1	765.9
45°	568.4	571.4	564.5	599.7	630.5	666.5	696.8	722.4	742.5	744.3	743.5
47.5°	530.2	532.9	526.7	559.0	594.5	632.8	667.8	696.1	717.5	719.4	718.9
50°	492.7	494.9	488.2	522.0	557.3	598.0	634.5	667.3	691.1	693.1	692.9
52.5°	455.5	457.7	452.0	487.5	519.5	562.5	602.2	637.7	661.3	664.3	664.8
55°	419.4	420.4	416.0	450.0	481.0	526.0	571.7	606.2	629.8	632.3	633.8
57.5°	383.4	383.7	380.0	412.5	442.3	488.2	536.2	572.4	594.8	597.3	599.5
60°	347.7	347.4	343.2	374.7	403.3	448.7	498.7	534.7	556.3	558.5	561.5
62.5°	312.2	311.4	307.7	336.7	363.6	408.5	458.7	493.4	514.1	515.6	519.5
65°	276.9	276.2	272.7	299.5	323.8	366.8	416.0	449.0	467.6	469.6	468.9
67.5°	242.1	240.6	237.9	262.0	284.1	323.8	371.0	402.6	418.0	419.7	424.4
70°	207.4	205.6	199.4	225.0	244.4	279.9	323.8	351.9	364.8	366.5	365.8
72.5°	173.1	171.4	164.6	188.2	204.6	235.7	274.9	298.3	309.4	310.9	310.9
75°	139.8	138.8	134.6	152.5	166.1	191.5	224.7	244.1	252.8	254.5	254.1
77.5°	107.8	107.0	102.8	118.2	128.9	147.8	174.6	189.7	196.2	198.2	202.4
80°	77.2	77.0	70.3	85.4	90.1	106.0	125.7	137.3	140.8	143.5	146.5
82.5°	49.4	49.7	43.0	55.9	57.9	68.0	80.2	87.4	89.9	92.1	94.4
85°	24.1	25.1	21.4	29.6	29.8	35.0	40.2	43.0	44.0	45.7	47.7
87.5°	6.2	7.2	4.0	8.4	7.5	9.7	11.2	11.9	11.7	12.9	13.7
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°	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6
2.5°	1042.0	1050.0	1046.0	1058.9	1063.9	1055.9	1069.8	1070.1	1060.2	1071.8	1078.3
5°	1025.9	1034.1	1031.6	1045.0	1051.2	1044.3	1061.2	1064.4	1054.7	1067.9	1078.3
7.5°	1009.5	1019.2	1016.0	1029.6	1037.1	1031.6	1049.7	1054.9	1047.5	1061.9	1075.8
10°	995.3	1003.5	1000.1	1014.5	1020.9	1016.5	1034.3	1044.0	1037.1	1054.7	1071.3
12.5°	981.4	988.1	984.2	996.1	1002.3	996.6	1018.4	1027.4	1022.4	1040.8	1062.1
15°	963.6	971.0	965.5	976.2	980.9	976.0	993.9	1009.3	1003.0	1023.2	1046.7
17.5°	949.9	954.1	946.7	955.1	957.8	951.1	969.3	984.4	979.9	1001.8	1029.1
20°	934.7	938.2	927.8	932.5	932.3	923.8	940.5	955.4	952.4	976.5	1007.5
22.5°	917.9	919.6	907.4	908.4	907.9	894.0	908.9	924.1	922.8	947.2	981.9
25°	900.0	900.2	884.6	884.1	878.6	862.2	875.4	892.5	888.8	915.1	951.6
27.5°	882.3	879.9	861.0	856.5	847.8	828.2	839.9	855.3	853.0	878.9	919.4
30°	863.5	860.2	837.2	829.0	816.3	793.7	803.4	817.8	819.0	841.6	884.1
32.5°	845.6	837.4	811.8	799.9	784.0	757.7	762.9	777.5	779.5	802.4	846.1
35°	822.5	817.0	785.5	765.1	749.5	720.7	726.1	736.3	739.3	761.7	806.1
37.5°	800.6	792.0	758.4	733.6	713.5	683.2	684.7	695.1	698.1	720.7	764.6
40°	778.0	765.6	729.6	700.6	677.5	645.7	643.9	654.9	657.1	679.2	718.9
42.5°	754.0	739.1	698.6	666.8	640.2	607.9	604.5	613.9	616.4	638.0	677.0
45°	729.6	711.7	666.8	632.0	603.0	569.9	566.5	573.7	577.4	597.8	635.3
47.5°	703.8	682.9	634.0	595.3	565.2	532.2	528.0	535.2	538.2	558.3	593.8
50°	676.7	651.4	600.2	557.5	527.7	495.2	489.0	497.4	500.2	519.0	553.8
52.5°	646.9	618.9	564.2	519.5	489.7	458.7	451.2	459.4	462.7	481.0	513.1
55°	615.4	585.1	528.0	484.5	452.2	421.9	415.7	418.9	425.9	443.3	473.1
57.5°	579.9	549.8	489.7	445.5	414.5	385.4	380.2	383.2	389.6	406.5	433.4
60°	542.1	510.3	450.7	406.5	376.5	348.9	344.2	346.9	353.9	369.3	394.1
62.5°	504.9	469.1	410.5	366.5	339.2	313.7	312.4	311.4	317.9	332.8	354.6
65°	459.7	425.4	368.5	326.8	302.0	278.9	273.9	276.2	282.4	296.0	318.9
67.5°	411.2	380.2	325.6	287.1	265.0	244.4	240.1	241.1	247.6	259.5	279.4
70°	359.8	332.5	281.6	247.1	228.5	209.1	206.4	206.6	212.8	223.3	240.6
72.5°	306.0	281.4	237.2	207.6	192.2	178.3	175.8	172.8	178.6	187.5	202.4
75°	251.1	229.5	193.0	168.9	156.7	145.0	142.8	139.8	145.5	153.2	164.9
77.5°	195.7	178.3	150.0	131.4	121.9	113.2	111.3	108.0	113.7	119.5	128.6
80°	141.6	128.9	112.0	92.4	89.2	83.4	81.5	78.0	83.4	87.2	94.1
82.5°	91.4	82.9	73.3	59.6	59.1	54.9	53.9	49.9	54.9	57.1	62.3
85°	46.2	42.2	39.7	30.3	31.3	28.6	28.3	24.1	28.1	29.1	32.0
87.5°	13.2	13.9	12.4	7.5	9.4	8.9	8.9	6.5	8.9	8.9	10.2
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: P837715

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1HI-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6	1064.6
2.5°	1065.6	1069.8	1070.8	1070.6	1073.3	1088.2	1083.3	1088.2
5°	1068.1	1077.5	1080.0	1083.5	1088.0	1104.9	1099.4	1105.4
7.5°	1069.6	1083.8	1089.2	1095.9	1103.1	1122.0	1117.5	1123.5
10°	1069.6	1088.0	1095.9	1107.1	1116.8	1138.6	1134.4	1141.4
12.5°	1065.1	1088.7	1099.9	1115.5	1128.0	1151.5	1149.8	1154.8
15°	1055.9	1085.0	1100.4	1120.5	1135.9	1162.2	1161.5	1167.4
17.5°	1043.5	1078.5	1097.2	1122.5	1141.9	1171.4	1173.2	1176.4
20°	1027.9	1066.4	1090.7	1121.7	1146.1	1178.6	1180.9	1185.3
22.5°	1007.3	1051.7	1081.0	1118.5	1146.6	1181.6	1185.6	1189.8
25°	982.9	1034.1	1068.4	1112.3	1144.1	1181.3	1186.8	1190.5
27.5°	955.1	1011.2	1052.2	1102.4	1137.1	1177.4	1184.1	1188.6
30°	922.8	986.9	1033.8	1089.5	1127.7	1169.9	1177.1	1181.6
32.5°	889.6	960.1	1012.0	1072.8	1114.0	1158.0	1164.2	1167.7
35°	853.3	927.5	985.7	1051.5	1096.4	1138.9	1143.6	1147.3
37.5°	813.8	892.3	955.6	1027.4	1071.6	1112.3	1116.5	1120.8
40°	773.1	855.3	921.8	997.8	1042.0	1079.8	1084.2	1087.2
42.5°	732.1	814.3	885.8	963.1	1007.0	1043.3	1046.0	1049.0
45°	690.6	771.8	845.3	924.6	968.0	1002.0	1003.0	1005.5
47.5°	648.4	727.9	800.9	880.6	923.6	954.6	955.6	957.6
50°	605.9	683.9	753.5	833.2	875.1	907.9	903.5	905.4
52.5°	564.2	637.7	708.8	782.0	823.5	852.5	853.8	849.8
55°	523.3	592.5	657.9	728.4	767.9	790.5	789.7	791.2
57.5°	481.8	546.8	606.7	671.3	709.8	731.1	735.6	730.4
60°	439.6	500.7	554.3	612.7	649.9	667.8	673.0	668.0
62.5°	397.6	453.7	502.4	553.3	587.8	609.9	609.4	604.0
65°	355.6	406.5	450.0	493.2	523.3	545.4	544.4	539.4
67.5°	316.9	358.9	397.8	432.9	458.9	474.1	479.3	473.3
70°	274.2	310.4	344.7	372.8	394.4	408.0	413.0	407.8
72.5°	231.5	262.2	286.3	313.4	330.0	341.5	346.7	341.7
75°	189.2	214.6	234.2	255.3	267.0	276.6	282.6	277.6
77.5°	148.3	167.9	183.5	198.9	212.3	214.6	219.8	216.6
80°	109.3	123.4	134.8	145.0	154.7	155.7	159.9	157.9
82.5°	72.8	82.2	85.2	95.9	102.1	101.1	105.3	103.8
85°	38.5	44.2	49.4	52.6	56.1	52.9	56.6	55.1
87.5°	12.9	13.7	11.9	16.9	18.6	15.9	18.1	17.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)