

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: P837989

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3LO-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: P837989
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-35-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

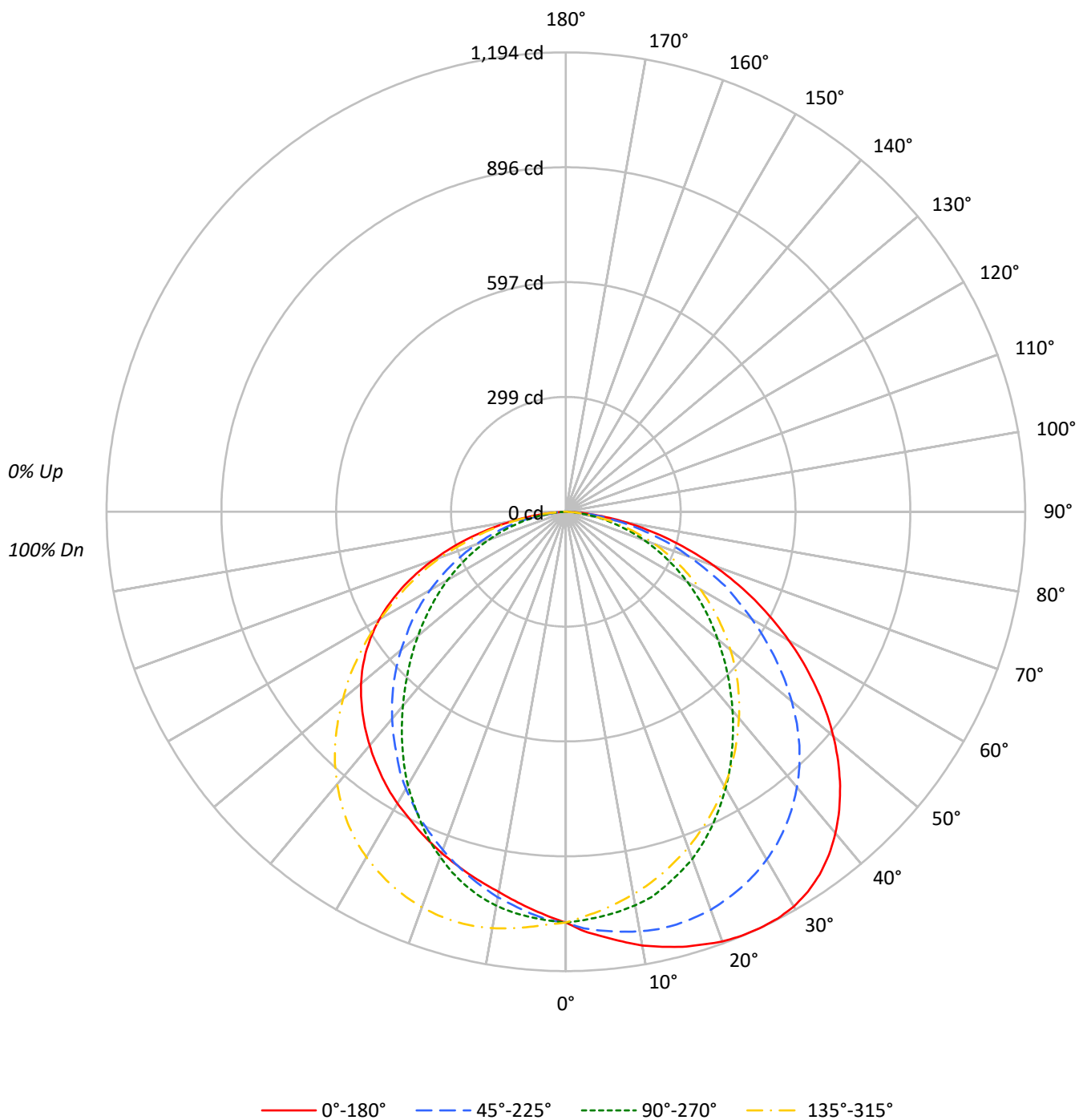
Lumens per Lamp: N/A
Luminaire Lumens: 3132.4 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2873	2873	2873	2873
5°	2994	2853	2799	2857
10°	3128	2838	2742	2842
15°	3262	2802	2715	2802
20°	3404	2751	2703	2735
25°	3545	2674	2703	2646
30°	3682	2581	2721	2552
35°	3780	2475	2748	2436
40°	3830	2368	2786	2315
45°	3838	2261	2841	2203
50°	3801	2157	2910	2100
55°	3723	2061	2975	2004
60°	3605	1961	3014	1910
65°	3444	1846	2998	1803
70°	3217	1710	2892	1679
75°	2895	1525	2654	1517
80°	2455	1277	2230	1297
85°	1707	846	1414	868

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.4	3.2
10°-20°	293.5	9.4
20°-30°	449.9	14.4
30°-40°	547.0	17.5
40°-50°	568.6	18.2
50°-60°	513.6	16.4
60°-70°	390.5	12.5
70°-80°	217.7	7.0
80°-90°	50.1	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°	844.8	27.0
0°-40°	1391.8	44.4
0°-60°	2474.0	79.0
0°-90°	3132.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3132.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1068	1068	1068	1068	1068	
5°	1108	1056	1036	1058	1108	107
15°	1171	1006	974	1006	1171	332
25°	1194	901	910	891	1194	551
35°	1151	753	836	741	1151	719
45°	1008	594	746	579	1008	776
55°	794	439	634	427	794	708
65°	541	290	471	283	541	535
75°	278	147	255	146	278	296
85°	55	27	46	28	55	70
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°	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7
2.5°	1091.3	1075.4	1075.6	1089.6	1078.9	1084.1	1069.2	1074.9	1073.1	1074.4	1062.2
5°	1108.5	1091.3	1091.1	1103.0	1091.1	1093.3	1074.4	1078.1	1072.6	1069.2	1056.0
7.5°	1126.7	1109.5	1107.8	1118.2	1102.5	1100.8	1079.9	1079.9	1069.9	1061.2	1048.7
10°	1144.6	1126.9	1124.7	1132.7	1113.2	1107.5	1082.1	1078.1	1064.9	1052.0	1038.5
12.5°	1158.1	1140.1	1138.4	1143.4	1121.5	1111.0	1082.1	1074.4	1055.0	1036.8	1026.3
15°	1170.8	1152.3	1147.6	1150.1	1124.9	1111.0	1078.6	1066.7	1041.8	1017.9	1005.6
17.5°	1179.7	1162.0	1157.3	1157.1	1126.7	1106.8	1071.1	1054.7	1024.8	995.9	983.7
20°	1188.7	1171.0	1165.0	1160.6	1126.2	1101.0	1060.2	1038.0	1003.2	970.8	960.6
22.5°	1193.2	1175.0	1168.5	1161.8	1122.9	1090.6	1046.7	1018.6	978.8	940.1	931.7
25°	1193.9	1175.2	1168.3	1158.6	1116.5	1078.1	1029.3	995.2	950.6	907.8	900.6
27.5°	1191.9	1171.5	1164.5	1152.8	1106.8	1062.9	1008.6	968.5	920.7	873.4	865.7
30°	1185.0	1164.3	1157.6	1142.4	1093.1	1044.3	986.0	938.9	887.6	837.3	830.6
32.5°	1171.0	1150.8	1145.4	1130.2	1078.1	1022.6	959.6	907.0	851.0	802.9	793.0
35°	1150.6	1130.4	1126.9	1111.0	1057.2	996.7	930.7	872.2	812.1	763.1	753.4
37.5°	1123.9	1107.0	1101.8	1086.1	1032.5	967.3	897.6	834.3	772.5	719.7	713.8
40°	1090.3	1074.4	1070.4	1056.5	1003.9	934.7	861.7	795.2	731.7	682.6	674.2
42.5°	1052.0	1037.0	1034.8	1020.3	968.5	898.6	822.8	754.6	689.1	641.8	633.3
45°	1008.4	993.9	993.4	979.7	929.9	858.5	782.0	713.5	647.5	598.5	594.0
47.5°	960.3	947.4	947.4	934.7	886.9	814.4	739.9	670.7	605.7	562.3	554.4
50°	908.0	895.8	892.1	885.9	839.3	766.3	695.6	628.8	564.3	523.0	515.3
52.5°	852.2	841.8	844.3	832.8	787.7	716.3	650.8	581.8	522.7	485.1	477.4
55°	793.5	778.5	780.8	776.5	733.9	664.7	600.4	542.9	481.9	446.5	439.3
57.5°	732.4	713.0	721.0	718.5	676.7	611.9	554.4	498.8	441.3	408.7	401.7
60°	669.9	651.3	659.5	657.2	617.9	559.1	506.8	455.3	401.0	371.3	364.4
62.5°	605.7	588.5	596.0	594.2	558.1	505.1	459.5	412.2	360.4	333.7	327.2
65°	540.9	524.5	531.2	530.0	496.6	456.3	410.9	367.6	319.5	296.4	289.9
67.5°	474.7	459.5	465.7	465.7	435.1	396.5	362.1	322.5	279.4	259.5	253.5
70°	408.9	394.7	400.2	399.7	373.8	342.4	312.8	277.4	238.8	222.4	217.4
72.5°	342.7	330.2	335.2	334.7	313.1	292.9	263.5	232.9	199.2	186.0	181.6
75°	278.4	266.7	271.5	271.0	253.3	234.4	214.7	189.3	160.4	151.2	146.7
77.5°	217.2	205.2	209.2	209.2	196.2	182.6	166.9	147.2	126.8	116.8	113.6
80°	158.4	152.7	150.7	150.9	142.2	133.2	125.3	106.3	91.4	84.7	82.4
82.5°	104.1	99.4	97.4	97.9	92.9	87.4	82.4	69.2	59.3	55.3	54.0
85°	55.3	51.8	50.1	51.3	50.3	47.3	44.8	35.9	29.6	28.1	27.4
87.5°	17.4	15.2	13.9	18.4	15.7	13.9	13.4	10.7	8.2	8.2	8.0
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°	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7
2.5°	1066.2	1066.2	1056.5	1054.2	1053.2	1054.5	1044.7	1043.0	1057.0	1052.2	1041.5
5°	1057.7	1057.2	1043.5	1041.0	1041.0	1039.5	1028.6	1026.1	1040.0	1036.0	1024.3
7.5°	1047.2	1045.7	1029.6	1027.8	1025.3	1024.3	1012.1	1010.4	1022.3	1019.8	1008.9
10°	1034.5	1033.0	1013.9	1012.6	1009.9	1007.9	996.4	995.2	1007.4	1003.4	994.7
12.5°	1017.9	1015.1	995.4	994.2	992.0	991.2	980.0	979.5	992.9	989.0	979.7
15°	995.9	993.7	971.8	972.3	972.5	972.5	963.6	963.1	976.3	974.5	964.6
17.5°	971.8	968.8	947.9	949.4	951.1	953.1	946.1	947.4	961.3	959.1	950.1
20°	944.4	941.4	921.0	925.2	928.9	932.9	928.4	931.9	944.9	943.9	937.2
22.5°	913.7	910.8	891.8	898.3	904.5	912.0	910.0	914.0	927.7	927.4	921.5
25°	876.4	877.1	860.5	868.4	878.9	889.3	890.1	896.6	911.8	910.3	904.8
27.5°	841.5	842.5	824.8	838.3	852.2	865.7	868.9	877.9	893.3	892.1	887.4
30°	804.9	806.2	789.0	807.4	824.3	840.8	847.8	860.0	875.6	875.6	870.7
32.5°	766.8	769.1	751.1	775.8	795.5	814.6	826.8	839.5	857.5	857.0	852.7
35°	727.7	730.2	713.8	745.1	764.8	788.2	803.4	820.4	836.3	836.5	833.3
37.5°	687.9	690.9	675.9	710.3	732.7	760.3	779.8	796.7	814.4	815.4	812.4
40°	648.3	651.5	638.6	671.7	700.1	731.0	753.4	773.3	792.7	793.2	791.2
42.5°	608.7	612.2	602.4	634.8	666.9	700.1	726.5	749.1	769.1	770.3	768.1
45°	570.1	573.1	566.1	601.4	632.3	668.4	698.8	724.5	744.6	746.4	745.6
47.5°	531.7	534.5	528.2	560.6	596.2	634.6	669.7	698.1	719.5	721.5	721.0
50°	494.1	496.3	489.6	523.5	558.9	599.7	636.3	669.2	693.1	695.1	694.8
52.5°	456.8	459.0	453.3	488.9	521.0	564.1	603.9	639.6	663.2	666.2	666.7
55°	420.6	421.6	417.2	451.3	482.4	527.5	573.3	607.9	631.6	634.1	635.6
57.5°	384.5	384.8	381.0	413.7	443.6	489.6	537.7	574.1	596.5	599.0	601.2
60°	348.7	348.4	344.2	375.8	404.5	450.0	500.1	536.2	557.9	560.1	563.1
62.5°	313.1	312.3	308.6	337.7	364.6	409.7	460.0	494.9	515.5	517.0	521.0
65°	277.7	276.9	273.5	300.3	324.8	367.8	417.2	450.3	469.0	470.9	470.2
67.5°	242.8	241.3	238.6	262.7	284.9	324.8	372.1	403.7	419.1	420.9	425.6
70°	208.0	206.2	200.0	225.6	245.1	280.7	324.8	352.9	365.8	367.6	366.8
72.5°	173.6	171.8	165.1	188.8	205.2	236.3	275.7	299.1	310.3	311.8	311.8
75°	140.2	139.2	135.0	152.9	166.6	192.0	225.4	244.8	253.5	255.3	254.8
77.5°	108.1	107.3	103.1	118.5	129.3	148.2	175.1	190.3	196.7	198.7	203.0
80°	77.5	77.2	70.5	85.7	90.4	106.3	126.0	137.7	141.2	143.9	146.9
82.5°	49.6	49.8	43.1	56.0	58.0	68.2	80.4	87.7	90.2	92.4	94.6
85°	24.2	25.2	21.4	29.6	29.9	35.1	40.3	43.1	44.1	45.8	47.8
87.5°	6.2	7.2	4.0	8.5	7.5	9.7	11.2	12.0	11.7	13.0	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°	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7
2.5°	1045.0	1053.0	1049.0	1061.9	1066.9	1058.9	1072.9	1073.1	1063.2	1074.9	1081.4
5°	1028.8	1037.0	1034.5	1048.0	1054.2	1047.2	1064.2	1067.4	1057.7	1070.9	1081.4
7.5°	1012.4	1022.1	1018.8	1032.5	1040.0	1034.5	1052.7	1057.9	1050.5	1064.9	1078.9
10°	998.2	1006.4	1002.9	1017.4	1023.8	1019.3	1037.3	1047.0	1040.0	1057.7	1074.4
12.5°	984.2	991.0	987.0	998.9	1005.1	999.4	1021.3	1030.3	1025.3	1043.8	1065.2
15°	966.3	973.8	968.3	979.0	983.7	978.8	996.7	1012.1	1005.9	1026.1	1049.7
17.5°	952.6	956.8	949.4	957.8	960.6	953.8	972.0	987.2	982.7	1004.7	1032.0
20°	937.4	940.9	930.4	935.2	934.9	926.5	943.1	958.1	955.1	979.2	1010.4
22.5°	920.5	922.2	910.0	911.0	910.5	896.6	911.5	926.7	925.5	949.9	984.7
25°	902.5	902.8	887.1	886.6	881.1	864.7	877.9	895.1	891.3	917.7	954.3
27.5°	884.9	882.4	863.4	859.0	850.2	830.6	842.3	857.7	855.5	881.4	922.0
30°	865.9	862.7	839.5	831.3	818.6	796.0	805.7	820.1	821.4	844.0	886.6
32.5°	848.0	839.8	814.1	802.2	786.2	759.8	765.1	779.8	781.8	804.7	848.5
35°	824.8	819.4	787.7	767.3	751.6	722.7	728.2	738.4	741.4	763.8	808.4
37.5°	802.9	794.2	760.6	735.7	715.5	685.1	686.6	697.1	700.1	722.7	766.8
40°	780.3	767.8	731.7	702.6	679.4	647.5	645.8	656.7	659.0	681.1	721.0
42.5°	756.1	741.2	700.6	668.7	642.0	609.7	606.2	615.6	618.1	639.8	678.9
45°	731.7	713.8	668.7	633.8	604.7	571.6	568.1	575.3	579.0	599.5	637.1
47.5°	705.8	684.9	635.8	597.0	566.8	533.7	529.5	536.7	539.7	559.9	595.5
50°	678.7	653.2	601.9	559.1	529.2	496.6	490.4	498.8	501.6	520.5	555.4
52.5°	648.8	620.6	565.8	521.0	491.1	460.0	452.5	460.7	464.0	482.4	514.5
55°	617.1	586.8	529.5	485.9	453.5	423.1	416.9	420.1	427.1	444.5	474.4
57.5°	581.5	551.4	491.1	446.8	415.7	386.5	381.3	384.3	390.8	407.7	434.6
60°	543.7	511.8	452.0	407.7	377.6	349.9	345.2	347.9	354.9	370.3	395.2
62.5°	506.3	470.4	411.7	367.6	340.2	314.5	313.3	312.3	318.8	333.7	355.6
65°	461.0	426.6	369.6	327.7	302.8	279.7	274.7	276.9	283.2	296.9	319.8
67.5°	412.4	381.3	326.5	287.9	265.7	245.1	240.8	241.8	248.3	260.3	280.2
70°	360.9	333.5	282.4	247.8	229.1	209.7	207.0	207.2	213.4	223.9	241.3
72.5°	306.8	282.2	237.8	208.2	192.8	178.8	176.3	173.3	179.1	188.0	203.0
75°	251.8	230.1	193.5	169.4	157.1	145.4	143.2	140.2	145.9	153.7	165.4
77.5°	196.2	178.8	150.4	131.7	122.3	113.6	111.6	108.3	114.1	119.8	129.0
80°	142.0	129.3	112.3	92.6	89.4	83.7	81.7	78.2	83.7	87.4	94.4
82.5°	91.6	83.2	73.5	59.8	59.3	55.0	54.0	50.1	55.0	57.3	62.5
85°	46.3	42.3	39.8	30.4	31.4	28.6	28.4	24.2	28.1	29.1	32.1
87.5°	13.2	13.9	12.5	7.5	9.5	9.0	9.0	6.5	9.0	9.0	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: P837989

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3LO-35-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7	1067.7
2.5°	1068.7	1072.9	1073.9	1073.6	1076.4	1091.3	1086.3	1091.3
5°	1071.1	1080.6	1083.1	1086.6	1091.1	1108.0	1102.5	1108.5
7.5°	1072.6	1086.8	1092.3	1099.0	1106.3	1125.2	1120.7	1126.7
10°	1072.6	1091.1	1099.0	1110.2	1120.0	1141.9	1137.6	1144.6
12.5°	1068.2	1091.8	1103.0	1118.7	1131.2	1154.8	1153.1	1158.1
15°	1058.9	1088.1	1103.5	1123.7	1139.1	1165.5	1164.8	1170.8
17.5°	1046.5	1081.6	1100.3	1125.7	1145.1	1174.8	1176.5	1179.7
20°	1030.8	1069.4	1093.8	1124.9	1149.3	1182.0	1184.2	1188.7
22.5°	1010.1	1054.7	1084.1	1121.7	1149.8	1185.0	1188.9	1193.2
25°	985.7	1037.0	1071.4	1115.5	1147.4	1184.7	1190.2	1193.9
27.5°	957.8	1014.1	1055.2	1105.5	1140.4	1180.7	1187.5	1191.9
30°	925.5	989.7	1036.8	1092.6	1130.9	1173.3	1180.5	1185.0
32.5°	892.1	962.8	1014.9	1075.9	1117.2	1161.3	1167.5	1171.0
35°	855.7	930.2	988.5	1054.5	1099.5	1142.1	1146.9	1150.6
37.5°	816.1	894.8	958.3	1030.3	1074.6	1115.5	1119.7	1123.9
40°	775.3	857.7	924.5	1000.7	1045.0	1082.9	1087.3	1090.3
42.5°	734.2	816.6	888.3	965.8	1009.9	1046.2	1049.0	1052.0
45°	692.6	774.0	847.8	927.2	970.8	1004.9	1005.9	1008.4
47.5°	650.3	730.0	803.2	883.1	926.2	957.3	958.3	960.3
50°	607.7	685.9	755.6	835.5	877.6	910.5	906.0	908.0
52.5°	565.8	639.6	710.8	784.2	825.8	855.0	856.2	852.2
55°	524.7	594.2	659.7	730.5	770.1	792.7	792.0	793.5
57.5°	483.1	548.4	608.4	673.2	711.8	733.2	737.7	732.4
60°	440.8	502.1	555.9	614.4	651.8	669.7	674.9	669.9
62.5°	398.7	455.0	503.8	554.9	589.5	611.7	611.2	605.7
65°	356.6	407.7	451.3	494.6	524.7	546.9	545.9	540.9
67.5°	317.8	359.9	399.0	434.1	460.2	475.4	480.7	474.7
70°	274.9	311.3	345.7	373.8	395.5	409.2	414.2	408.9
72.5°	232.1	263.0	287.2	314.3	331.0	342.4	347.7	342.7
75°	189.8	215.2	234.9	256.0	267.7	277.4	283.4	278.4
77.5°	148.7	168.4	184.0	199.5	212.9	215.2	220.4	217.2
80°	109.6	123.8	135.2	145.4	155.2	156.2	160.4	158.4
82.5°	73.0	82.4	85.4	96.1	102.4	101.4	105.6	104.1
85°	38.6	44.3	49.6	52.8	56.3	53.0	56.8	55.3
87.5°	13.0	13.7	12.0	16.9	18.7	15.9	18.2	17.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)