

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: P837843

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2STD-27-120-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: P837843
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-LD4-2STD-27-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

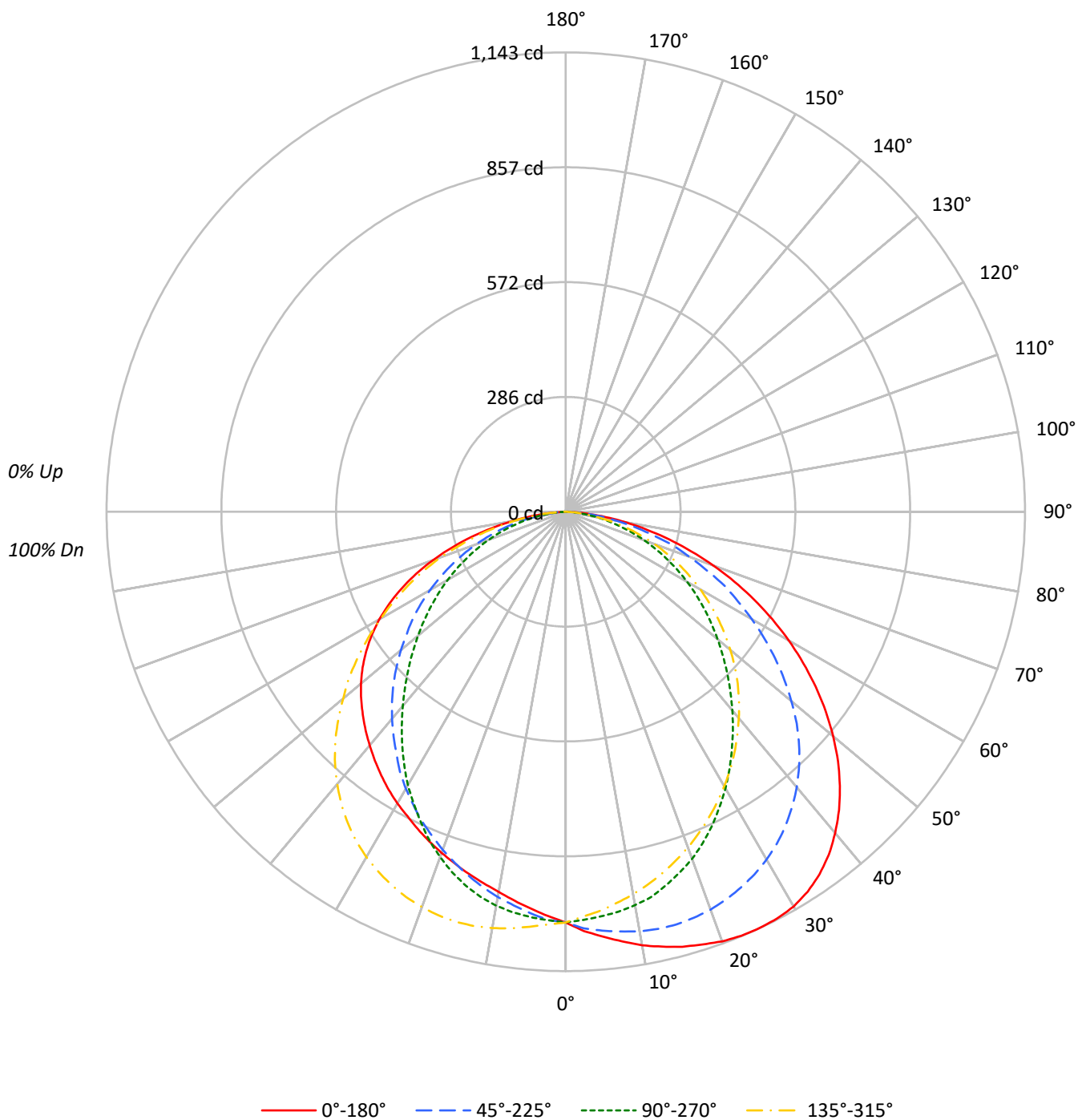
Lumens per Lamp: N/A
Luminaire Lumens: 2997.6 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2749	2749	2749	2749
5°	2865	2730	2678	2734
10°	2993	2716	2624	2720
15°	3121	2681	2598	2682
20°	3258	2633	2587	2617
25°	3393	2559	2586	2533
30°	3524	2470	2604	2442
35°	3617	2369	2630	2331
40°	3665	2266	2667	2215
45°	3672	2163	2718	2109
50°	3638	2064	2785	2009
55°	3562	1972	2847	1917
60°	3450	1877	2885	1828
65°	3296	1766	2870	1726
70°	3079	1637	2768	1607
75°	2771	1460	2540	1452
80°	2349	1223	2135	1241
85°	1633	809	1355	831

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.0	3.2
10°-20°	280.9	9.4
20°-30°	430.5	14.4
30°-40°	523.5	17.5
40°-50°	544.2	18.2
50°-60°	491.6	16.4
60°-70°	373.7	12.5
70°-80°	208.3	7.0
80°-90°	48.0	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°	808.4	27.0
0°-40°	1331.9	44.4
0°-60°	2367.6	79.0
0°-90°	2997.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2997.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1022	1022	1022	1022	1022	
5°	1061	1010	992	1012	1061	102
15°	1120	962	933	963	1120	318
25°	1143	862	871	853	1143	528
35°	1101	721	801	710	1101	688
45°	965	568	714	554	965	743
55°	759	420	607	409	759	678
65°	518	277	451	271	518	512
75°	266	140	244	140	266	283
85°	53	26	44	27	53	67
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°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7
2.5°	1044.4	1029.1	1029.4	1042.7	1032.5	1037.5	1023.2	1028.6	1027.0	1028.2	1016.5
5°	1060.8	1044.4	1044.1	1055.6	1044.1	1046.3	1028.2	1031.7	1026.5	1023.2	1010.5
7.5°	1078.2	1061.8	1060.1	1070.1	1055.1	1053.4	1033.4	1033.4	1023.9	1015.5	1003.6
10°	1095.4	1078.5	1076.3	1083.9	1065.4	1059.9	1035.6	1031.7	1019.1	1006.7	993.9
12.5°	1108.3	1091.1	1089.4	1094.2	1073.2	1063.2	1035.6	1028.2	1009.6	992.2	982.2
15°	1120.4	1102.8	1098.2	1100.6	1076.6	1063.2	1032.2	1020.8	997.0	974.1	962.4
17.5°	1129.0	1112.1	1107.5	1107.3	1078.2	1059.2	1025.1	1009.3	980.7	953.1	941.4
20°	1137.6	1120.6	1114.9	1110.6	1077.7	1053.7	1014.6	993.4	960.0	929.0	919.3
22.5°	1141.9	1124.5	1118.3	1111.8	1074.6	1043.7	1001.7	974.8	936.7	899.7	891.6
25°	1142.6	1124.7	1118.0	1108.7	1068.5	1031.7	985.0	952.4	909.7	868.7	861.8
27.5°	1140.7	1121.1	1114.4	1103.2	1059.2	1017.2	965.3	926.9	881.1	835.8	828.4
30°	1134.0	1114.2	1107.8	1093.2	1046.0	999.3	943.6	898.5	849.4	801.3	794.8
32.5°	1120.6	1101.3	1096.1	1081.6	1031.7	978.6	918.3	868.0	814.4	768.4	758.9
35°	1101.1	1081.8	1078.5	1063.2	1011.7	953.8	890.7	834.6	777.2	730.3	721.0
37.5°	1075.6	1059.4	1054.4	1039.4	988.1	925.7	859.0	798.4	739.3	688.8	683.1
40°	1043.4	1028.2	1024.4	1011.0	960.7	894.5	824.6	761.0	700.2	653.3	645.2
42.5°	1006.7	992.4	990.3	976.5	926.9	859.9	787.5	722.2	659.5	614.2	606.1
45°	965.0	951.2	950.7	937.6	889.9	821.5	748.4	682.8	619.7	572.7	568.4
47.5°	919.0	906.6	906.6	894.5	848.7	779.4	708.1	641.8	579.6	538.2	530.5
50°	869.0	857.3	853.7	847.8	803.2	733.4	665.7	601.8	540.1	500.5	493.1
52.5°	815.6	805.6	808.0	797.0	753.8	685.4	622.8	556.7	500.3	464.3	456.9
55°	759.3	745.0	747.2	743.1	702.4	636.1	574.6	519.6	461.2	427.3	420.4
57.5°	700.9	682.3	690.0	687.6	647.6	585.6	530.5	477.4	422.3	391.1	384.4
60°	641.1	623.2	631.1	629.0	591.3	535.1	485.0	435.7	383.7	355.4	348.7
62.5°	579.6	563.2	570.3	568.7	534.1	483.3	439.7	394.4	344.9	319.4	313.2
65°	517.7	501.9	508.4	507.2	475.2	436.6	393.3	351.8	305.8	283.6	277.4
67.5°	454.3	439.7	445.7	445.7	416.4	379.4	346.5	308.6	267.4	248.3	242.6
70°	391.3	377.8	383.0	382.5	357.7	327.7	299.3	265.5	228.6	212.8	208.1
72.5°	327.9	316.0	320.8	320.3	299.6	280.3	252.2	222.8	190.7	178.0	173.7
75°	266.5	255.3	259.8	259.3	242.4	224.3	205.4	181.1	153.5	144.7	140.4
77.5°	207.8	196.4	200.2	200.2	187.8	174.7	159.7	140.9	121.3	111.8	108.7
80°	151.6	146.1	144.2	144.4	136.1	127.5	119.9	101.8	87.5	81.0	78.9
82.5°	99.6	95.1	93.2	93.7	88.9	83.7	78.9	66.3	56.7	52.9	51.7
85°	52.9	49.6	47.9	49.1	48.1	45.3	42.9	34.3	28.4	26.9	26.2
87.5°	16.7	14.5	13.3	17.6	15.0	13.3	12.9	10.2	7.9	7.9	7.6
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°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7
2.5°	1020.3	1020.3	1011.0	1008.9	1007.9	1009.1	999.8	998.1	1011.5	1007.0	996.7
5°	1012.2	1011.7	998.6	996.2	996.2	994.8	984.3	981.9	995.3	991.5	980.3
7.5°	1002.2	1000.8	985.3	983.6	981.2	980.3	968.6	966.9	978.4	976.0	965.5
10°	990.0	988.6	970.3	969.1	966.4	964.5	953.6	952.4	964.1	960.2	951.9
12.5°	974.1	971.4	952.6	951.4	949.3	948.6	937.8	937.4	950.2	946.4	937.6
15°	953.1	951.0	930.0	930.5	930.7	930.7	922.1	921.6	934.3	932.6	923.1
17.5°	930.0	927.1	907.1	908.5	910.2	912.1	905.4	906.6	920.0	917.8	909.2
20°	903.8	900.9	881.4	885.4	889.0	892.8	888.5	891.8	904.2	903.3	896.9
22.5°	874.4	871.6	853.5	859.7	865.6	872.8	870.9	874.7	887.8	887.6	881.8
25°	838.7	839.4	823.4	831.1	841.1	851.1	851.8	858.0	872.5	871.1	865.9
27.5°	805.3	806.3	789.4	802.2	815.6	828.4	831.5	840.1	854.9	853.7	849.2
30°	770.3	771.5	755.0	772.7	788.9	804.6	811.3	823.0	838.0	838.0	833.2
32.5°	733.8	736.0	718.8	742.4	761.2	779.6	791.3	803.4	820.6	820.1	816.1
35°	696.4	698.8	683.1	713.1	731.9	754.3	768.9	785.1	800.3	800.6	797.5
37.5°	658.3	661.1	646.8	679.7	701.2	727.6	746.2	762.4	779.4	780.3	777.4
40°	620.4	623.5	611.1	642.8	670.0	699.5	721.0	740.0	758.6	759.1	757.2
42.5°	582.5	585.8	576.5	607.5	638.3	670.0	695.2	716.9	736.0	737.2	735.0
45°	545.5	548.4	541.7	575.6	605.1	639.7	668.8	693.3	712.6	714.3	713.6
47.5°	508.8	511.5	505.5	536.5	570.6	607.3	640.9	668.0	688.5	690.5	690.0
50°	472.9	475.0	468.6	501.0	534.8	573.9	608.9	640.4	663.3	665.2	665.0
52.5°	437.1	439.2	433.8	467.8	498.6	539.8	578.0	612.0	634.7	637.5	638.0
55°	402.5	403.5	399.2	431.9	461.7	504.8	548.6	581.8	604.4	606.8	608.2
57.5°	368.0	368.2	364.7	395.9	424.5	468.6	514.6	549.4	570.8	573.2	575.3
60°	333.7	333.4	329.4	359.6	387.1	430.7	478.6	513.1	533.9	536.0	538.9
62.5°	299.6	298.9	295.3	323.2	348.9	392.1	440.2	473.6	493.4	494.8	498.6
65°	265.7	265.0	261.7	287.4	310.8	352.0	399.2	430.9	448.8	450.7	450.0
67.5°	232.4	230.9	228.3	251.4	272.7	310.8	356.1	386.3	401.1	402.8	407.3
70°	199.0	197.3	191.4	215.9	234.5	268.6	310.8	337.7	350.1	351.8	351.1
72.5°	166.1	164.5	158.0	180.7	196.4	226.2	263.8	286.2	297.0	298.4	298.4
75°	134.2	133.2	129.2	146.3	159.4	183.8	215.7	234.3	242.6	244.3	243.8
77.5°	103.4	102.7	98.7	113.4	123.7	141.8	167.5	182.1	188.3	190.2	194.2
80°	74.1	73.9	67.4	82.0	86.5	101.8	120.6	131.8	135.1	137.8	140.6
82.5°	47.4	47.7	41.2	53.6	55.5	65.3	77.0	83.9	86.3	88.4	90.6
85°	23.1	24.1	20.5	28.4	28.6	33.6	38.6	41.2	42.2	43.9	45.8
87.5°	6.0	6.9	3.8	8.1	7.2	9.3	10.7	11.4	11.2	12.4	13.1
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°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7
2.5°	1000.0	1007.7	1003.9	1016.3	1021.0	1013.4	1026.7	1027.0	1017.4	1028.6	1034.8
5°	984.6	992.4	990.0	1002.9	1008.9	1002.2	1018.4	1021.5	1012.2	1024.8	1034.8
7.5°	968.8	978.1	975.0	988.1	995.3	990.0	1007.4	1012.4	1005.3	1019.1	1032.5
10°	955.2	963.1	959.8	973.6	979.8	975.5	992.7	1002.0	995.3	1012.2	1028.2
12.5°	941.9	948.3	944.5	956.0	961.9	956.4	977.4	986.0	981.2	998.9	1019.4
15°	924.7	931.9	926.6	936.9	941.4	936.7	953.8	968.6	962.6	981.9	1004.6
17.5°	911.6	915.7	908.5	916.6	919.3	912.8	930.2	944.8	940.5	961.4	987.7
20°	897.1	900.4	890.4	894.9	894.7	886.6	902.6	916.9	914.0	937.1	966.9
22.5°	880.9	882.6	870.9	871.8	871.3	858.0	872.3	886.8	885.6	909.0	942.4
25°	863.7	864.0	848.9	848.5	843.2	827.5	840.1	856.6	853.0	878.3	913.3
27.5°	846.8	844.4	826.3	822.0	813.7	794.8	806.0	820.8	818.7	843.5	882.3
30°	828.7	825.6	803.4	795.6	783.4	761.7	771.0	784.8	786.0	807.7	848.5
32.5°	811.5	803.7	779.1	767.7	752.4	727.2	732.2	746.2	748.1	770.1	812.0
35°	789.4	784.1	753.8	734.3	719.3	691.6	696.9	706.7	709.5	731.0	773.6
37.5°	768.4	760.0	727.9	704.0	684.7	655.7	657.1	667.1	670.0	691.6	733.8
40°	746.7	734.8	700.2	672.3	650.2	619.7	618.0	628.5	630.6	651.8	690.0
42.5°	723.6	709.3	670.4	639.9	614.4	583.4	580.1	589.2	591.5	612.3	649.7
45°	700.2	683.1	639.9	606.6	578.7	547.0	543.6	550.6	554.1	573.7	609.7
47.5°	675.4	655.4	608.5	571.3	542.4	510.7	506.7	513.6	516.5	535.8	569.9
50°	649.5	625.1	576.1	535.1	506.5	475.2	469.3	477.4	480.0	498.1	531.5
52.5°	620.9	593.9	541.5	498.6	470.0	440.2	433.1	440.9	444.0	461.7	492.4
55°	590.6	561.5	506.7	465.0	434.0	404.9	399.0	402.1	408.7	425.4	454.0
57.5°	556.5	527.7	470.0	427.6	397.8	369.9	364.9	367.7	373.9	390.2	415.9
60°	520.3	489.8	432.6	390.2	361.3	334.9	330.3	333.0	339.6	354.4	378.2
62.5°	484.5	450.2	394.0	351.8	325.6	301.0	299.8	298.9	305.1	319.4	340.3
65°	441.2	408.3	353.7	313.6	289.8	267.6	262.9	265.0	271.0	284.1	306.0
67.5°	394.7	364.9	312.5	275.5	254.3	234.5	230.5	231.4	237.6	249.1	268.1
70°	345.3	319.1	270.3	237.1	219.3	200.7	198.1	198.3	204.3	214.3	230.9
72.5°	293.6	270.0	227.6	199.2	184.5	171.1	168.7	165.9	171.4	179.9	194.2
75°	241.0	220.2	185.2	162.1	150.4	139.2	137.0	134.2	139.7	147.1	158.3
77.5°	187.8	171.1	144.0	126.1	117.0	108.7	106.8	103.7	109.2	114.6	123.5
80°	135.9	123.7	107.5	88.7	85.6	80.1	78.2	74.8	80.1	83.7	90.3
82.5°	87.7	79.6	70.3	57.2	56.7	52.7	51.7	47.9	52.7	54.8	59.8
85°	44.3	40.5	38.1	29.1	30.0	27.4	27.2	23.1	26.9	27.9	30.7
87.5°	12.6	13.3	11.9	7.2	9.1	8.6	8.6	6.2	8.6	8.6	9.8
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: P837843

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7
2.5°	1022.7	1026.7	1027.7	1027.5	1030.1	1044.4	1039.6	1044.4
5°	1025.1	1034.1	1036.5	1039.9	1044.1	1060.3	1055.1	1060.8
7.5°	1026.5	1040.1	1045.3	1051.8	1058.7	1076.8	1072.5	1078.2
10°	1026.5	1044.1	1051.8	1062.5	1071.8	1092.8	1088.7	1095.4
12.5°	1022.2	1044.9	1055.6	1070.6	1082.5	1105.2	1103.5	1108.3
15°	1013.4	1041.3	1056.1	1075.4	1090.1	1115.4	1114.7	1120.4
17.5°	1001.5	1035.1	1053.0	1077.3	1095.9	1124.2	1125.9	1129.0
20°	986.5	1023.4	1046.8	1076.6	1099.9	1131.1	1133.3	1137.6
22.5°	966.7	1009.3	1037.5	1073.5	1100.4	1134.0	1137.8	1141.9
25°	943.3	992.4	1025.3	1067.5	1098.0	1133.8	1139.0	1142.6
27.5°	916.6	970.5	1009.8	1058.0	1091.3	1129.9	1136.4	1140.7
30°	885.6	947.1	992.2	1045.6	1082.3	1122.8	1129.7	1134.0
32.5°	853.7	921.4	971.2	1029.6	1069.2	1111.4	1117.3	1120.6
35°	818.9	890.2	945.9	1009.1	1052.2	1093.0	1097.5	1101.1
37.5°	781.0	856.3	917.1	986.0	1028.4	1067.5	1071.5	1075.6
40°	741.9	820.8	884.7	957.6	1000.0	1036.3	1040.6	1043.4
42.5°	702.6	781.5	850.1	924.3	966.4	1001.2	1003.9	1006.7
45°	662.8	740.7	811.3	887.3	929.0	961.7	962.6	965.0
47.5°	622.3	698.6	768.6	845.1	886.4	916.2	917.1	919.0
50°	581.5	656.4	723.1	799.6	839.9	871.3	867.1	869.0
52.5°	541.5	612.0	680.2	750.5	790.3	818.2	819.4	815.6
55°	502.2	568.7	631.3	699.0	736.9	758.6	757.9	759.3
57.5°	462.4	524.8	582.2	644.2	681.2	701.7	705.9	700.9
60°	421.9	480.5	532.0	588.0	623.7	640.9	645.9	641.1
62.5°	381.6	435.4	482.1	531.0	564.1	585.3	584.9	579.6
65°	341.3	390.2	431.9	473.3	502.2	523.4	522.4	517.7
67.5°	304.1	344.4	381.8	415.4	440.4	455.0	460.0	454.3
70°	263.1	297.9	330.8	357.7	378.5	391.6	396.3	391.3
72.5°	222.1	251.7	274.8	300.8	316.7	327.7	332.7	327.9
75°	181.6	205.9	224.7	245.0	256.2	265.5	271.2	266.5
77.5°	142.3	161.1	176.1	190.9	203.8	205.9	210.9	207.8
80°	104.9	118.5	129.4	139.2	148.5	149.4	153.5	151.6
82.5°	69.8	78.9	81.7	92.0	98.0	97.0	101.1	99.6
85°	36.9	42.4	47.4	50.5	53.9	50.8	54.3	52.9
87.5°	12.4	13.1	11.4	16.2	17.9	15.3	17.4	16.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)