

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: P837749

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1LO-40-120-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: P837749
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-LD4-1LO-40-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

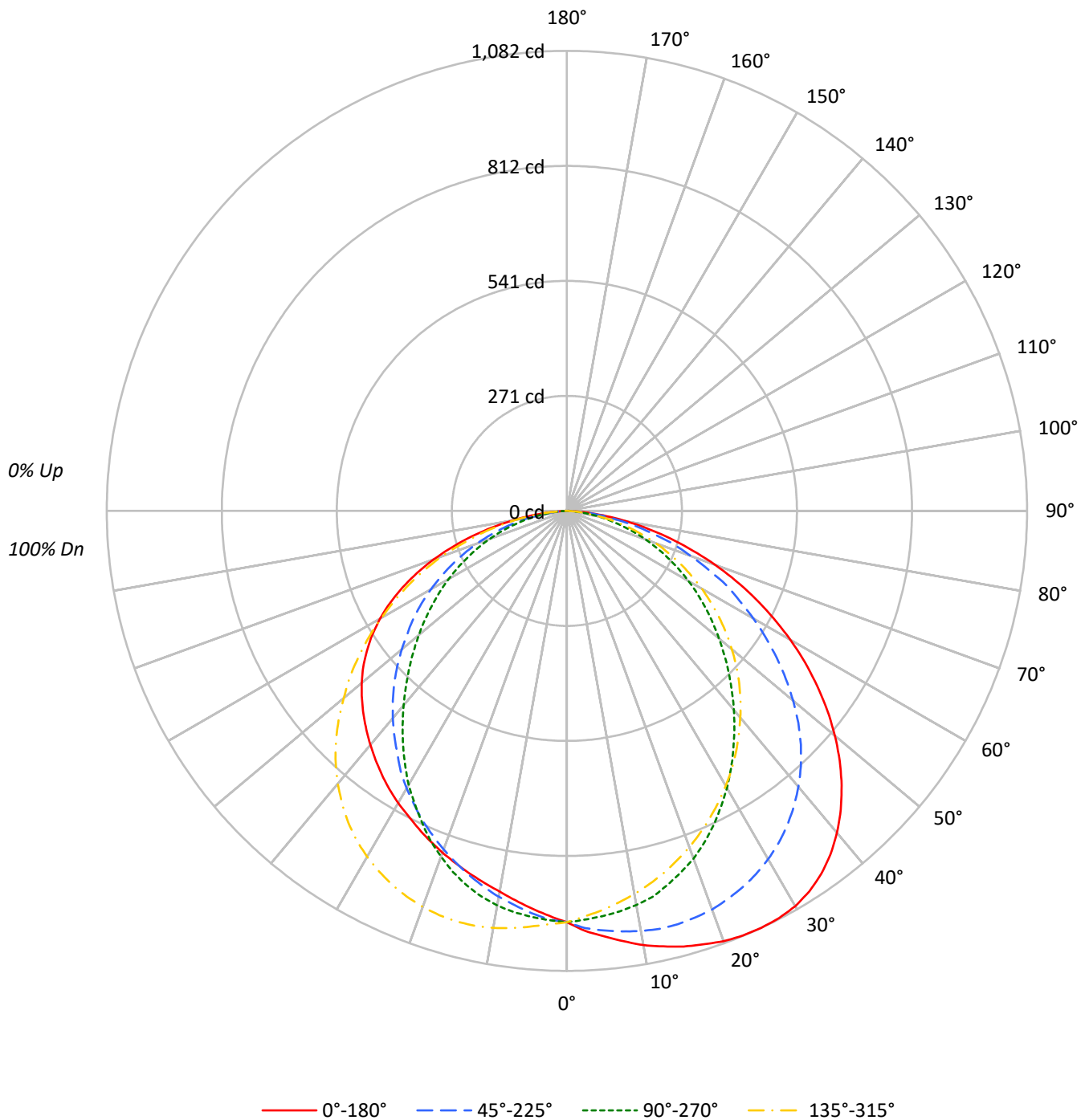
Lumens per Lamp: N/A
Luminaire Lumens: 2838.3 lumens
Efficiency: N/A
Efficacy: 121.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	2603	2603	2603	2603
5°	2713	2585	2536	2589
10°	2834	2571	2484	2575
15°	2955	2539	2460	2539
20°	3084	2493	2449	2478
25°	3212	2423	2449	2398
30°	3336	2339	2465	2312
35°	3425	2242	2490	2207
40°	3470	2146	2525	2098
45°	3477	2048	2574	1997
50°	3445	1955	2637	1903
55°	3373	1868	2695	1816
60°	3267	1777	2731	1731
65°	3121	1673	2717	1634
70°	2915	1550	2621	1522
75°	2623	1382	2405	1375
80°	2224	1158	2021	1175
85°	1547	766	1281	787

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.8	3.2
10°-20°	266.0	9.4
20°-30°	407.6	14.4
30°-40°	495.6	17.5
40°-50°	515.2	18.2
50°-60°	465.4	16.4
60°-70°	353.8	12.5
70°-80°	197.3	7.0
80°-90°	45.4	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°	765.4	27.0
0°-40°	1261.1	44.4
0°-60°	2241.7	79.0
0°-90°	2838.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2838.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	967	967	967	967	967	
5°	1004	957	939	958	1004	97
15°	1061	911	883	911	1061	301
25°	1082	816	825	808	1082	500
35°	1043	683	758	672	1043	651
45°	914	538	676	525	914	703
55°	719	398	574	387	719	642
65°	490	263	427	257	490	484
75°	252	133	231	132	252	268
85°	50	25	42	26	50	63
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°	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4
2.5°	988.9	974.4	974.6	987.3	977.6	982.3	968.8	974.0	972.4	973.5	962.4
5°	1004.4	988.9	988.6	999.5	988.6	990.7	973.5	976.9	971.9	968.8	956.8
7.5°	1020.9	1005.3	1003.7	1013.2	999.0	997.4	978.5	978.5	969.4	961.5	950.3
10°	1037.1	1021.1	1019.1	1026.3	1008.7	1003.5	980.5	976.9	964.9	953.2	941.0
12.5°	1049.3	1033.1	1031.5	1036.0	1016.2	1006.7	980.5	973.5	955.9	939.4	930.0
15°	1060.8	1044.1	1039.9	1042.1	1019.3	1006.7	977.3	966.5	943.9	922.3	911.2
17.5°	1069.0	1052.9	1048.7	1048.4	1020.9	1002.8	970.6	955.7	928.6	902.4	891.4
20°	1077.1	1061.1	1055.6	1051.6	1020.4	997.7	960.6	940.6	909.0	879.6	870.4
22.5°	1081.1	1064.7	1058.8	1052.7	1017.5	988.2	948.5	923.0	886.9	851.9	844.2
25°	1081.8	1064.9	1058.6	1049.8	1011.6	976.9	932.7	901.7	861.4	822.5	816.0
27.5°	1080.0	1061.5	1055.2	1044.6	1002.8	963.1	913.9	877.6	834.3	791.4	784.4
30°	1073.7	1055.0	1048.9	1035.1	990.4	946.2	893.4	850.7	804.3	758.7	752.6
32.5°	1061.1	1042.8	1037.8	1024.1	976.9	926.6	869.5	821.9	771.1	727.5	718.5
35°	1042.6	1024.3	1021.1	1006.7	957.9	903.1	843.3	790.3	735.9	691.4	682.6
37.5°	1018.4	1003.1	998.3	984.1	935.6	876.5	813.3	756.0	700.0	652.2	646.7
40°	987.9	973.5	969.9	957.3	909.6	846.9	780.8	720.5	663.0	618.5	610.9
42.5°	953.2	939.7	937.6	924.5	877.6	814.2	745.6	683.8	624.4	581.5	573.9
45°	913.7	900.6	900.2	887.8	842.6	777.9	708.6	646.5	586.7	542.3	538.2
47.5°	870.2	858.4	858.4	846.9	803.6	737.9	670.4	607.7	548.8	509.5	502.3
50°	822.8	811.7	808.3	802.7	760.5	694.4	630.3	569.8	511.4	473.9	466.9
52.5°	772.2	762.7	765.0	754.6	713.8	649.0	589.7	527.1	473.7	439.6	432.6
55°	719.0	705.4	707.5	703.6	665.0	602.3	544.1	491.9	436.7	404.6	398.1
57.5°	663.7	646.1	653.3	651.0	613.1	554.5	502.3	452.0	399.9	370.3	364.0
60°	607.0	590.1	597.6	595.5	559.9	506.6	459.2	412.5	363.3	336.5	330.1
62.5°	548.8	533.2	540.0	538.4	505.7	457.6	416.3	373.5	326.5	302.4	296.5
65°	490.1	475.2	481.3	480.2	450.0	413.4	372.3	333.1	289.5	268.5	262.7
67.5°	430.1	416.3	422.0	422.0	394.2	359.3	328.1	292.2	253.2	235.1	229.7
70°	370.5	357.7	362.6	362.2	338.7	310.3	283.4	251.4	216.4	201.5	197.0
72.5°	310.5	299.2	303.7	303.3	283.7	265.4	238.8	211.0	180.5	168.6	164.5
75°	252.3	241.7	246.0	245.5	229.5	212.3	194.5	171.5	145.3	137.0	132.9
77.5°	196.8	185.9	189.6	189.6	177.8	165.4	151.2	133.4	114.9	105.8	102.9
80°	143.5	138.3	136.5	136.8	128.9	120.7	113.5	96.4	82.8	76.7	74.7
82.5°	94.3	90.0	88.2	88.7	84.2	79.2	74.7	62.7	53.7	50.1	49.0
85°	50.1	46.9	45.4	46.5	45.6	42.9	40.6	32.5	26.9	25.5	24.8
87.5°	15.8	13.8	12.6	16.7	14.2	12.6	12.2	9.7	7.4	7.4	7.2
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°	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4
2.5°	966.1	966.1	957.3	955.2	954.3	955.5	946.7	945.1	957.7	953.4	943.7
5°	958.4	957.9	945.5	943.3	943.3	941.9	932.0	929.7	942.4	938.8	928.1
7.5°	948.9	947.6	932.9	931.3	929.1	928.1	917.1	915.5	926.3	924.1	914.2
10°	937.4	936.0	918.7	917.5	915.1	913.3	902.9	901.7	912.8	909.2	901.3
12.5°	922.3	919.8	902.0	900.8	898.8	898.1	888.0	887.5	899.7	896.1	887.8
15°	902.4	900.4	880.5	881.0	881.2	881.2	873.1	872.6	884.6	883.0	874.0
17.5°	880.5	877.8	858.9	860.2	861.8	863.6	857.3	858.4	871.1	869.0	860.9
20°	855.7	853.0	834.5	838.3	841.7	845.3	841.3	844.4	856.2	855.3	849.2
22.5°	828.0	825.2	808.1	814.0	819.6	826.4	824.6	828.2	840.6	840.4	835.0
25°	794.1	794.8	779.7	786.9	796.4	805.8	806.5	812.4	826.1	824.8	819.8
27.5°	762.5	763.4	747.4	759.6	772.2	784.4	787.3	795.5	809.5	808.3	804.0
30°	729.3	730.5	714.9	731.6	746.9	761.8	768.2	779.2	793.4	793.4	788.9
32.5°	694.8	696.8	680.6	702.9	720.8	738.1	749.2	760.7	777.0	776.5	772.7
35°	659.4	661.6	646.7	675.2	693.0	714.2	728.0	743.3	757.8	758.0	755.1
37.5°	623.3	626.0	612.4	643.6	663.9	688.9	706.5	721.9	737.9	738.8	736.1
40°	587.4	590.3	578.6	608.6	634.3	662.3	682.6	700.7	718.3	718.7	716.9
42.5°	551.5	554.7	545.9	575.2	604.3	634.3	658.3	678.8	696.8	698.0	695.9
45°	516.5	519.2	512.9	545.0	573.0	605.7	633.2	656.5	674.7	676.3	675.6
47.5°	481.8	484.3	478.6	508.0	540.2	575.0	606.8	632.5	651.9	653.7	653.3
50°	447.7	449.7	443.7	474.3	506.4	543.4	576.6	606.4	628.0	629.8	629.6
52.5°	413.9	415.9	410.7	443.0	472.1	511.1	547.2	579.5	600.9	603.6	604.1
55°	381.1	382.0	378.0	408.9	437.1	478.0	519.5	550.8	572.3	574.5	575.9
57.5°	348.4	348.6	345.3	374.8	401.9	443.7	487.2	520.2	540.5	542.7	544.7
60°	315.9	315.7	311.9	340.5	366.5	407.8	453.1	485.9	505.5	507.5	510.2
62.5°	283.7	283.0	279.6	306.0	330.4	371.2	416.8	448.4	467.1	468.5	472.1
65°	251.6	250.9	247.8	272.1	294.3	333.3	378.0	408.0	424.9	426.7	426.1
67.5°	220.0	218.7	216.2	238.1	258.2	294.3	337.1	365.8	379.8	381.4	385.7
70°	188.4	186.8	181.2	204.4	222.1	254.3	294.3	319.8	331.5	333.1	332.4
72.5°	157.3	155.7	149.6	171.1	185.9	214.2	249.8	271.0	281.2	282.5	282.5
75°	127.0	126.1	122.3	138.6	151.0	174.0	204.2	221.8	229.7	231.3	230.9
77.5°	97.9	97.3	93.4	107.4	117.1	134.3	158.6	172.4	178.3	180.1	183.9
80°	70.2	70.0	63.9	77.6	81.9	96.4	114.2	124.8	128.0	130.4	133.1
82.5°	44.9	45.1	39.0	50.8	52.6	61.8	72.9	79.4	81.7	83.7	85.8
85°	21.9	22.8	19.4	26.9	27.1	31.8	36.6	39.0	39.9	41.5	43.3
87.5°	5.6	6.5	3.6	7.7	6.8	8.8	10.2	10.8	10.6	11.7	12.4
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°	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4
2.5°	946.9	954.1	950.5	962.2	966.7	959.5	972.2	972.4	963.4	974.0	979.8
5°	932.2	939.7	937.4	949.6	955.2	948.9	964.3	967.2	958.4	970.3	979.8
7.5°	917.3	926.1	923.2	935.6	942.4	937.4	953.9	958.6	951.8	964.9	977.6
10°	904.5	911.9	908.7	921.8	927.7	923.6	939.9	948.7	942.4	958.4	973.5
12.5°	891.8	897.9	894.3	905.1	910.8	905.6	925.4	933.6	929.1	945.8	965.2
15°	875.6	882.3	877.4	887.1	891.4	886.9	903.1	917.1	911.4	929.7	951.2
17.5°	863.2	867.0	860.2	867.9	870.4	864.3	880.8	894.5	890.5	910.3	935.1
20°	849.4	852.6	843.1	847.4	847.1	839.5	854.6	868.1	865.4	887.3	915.5
22.5°	834.0	835.6	824.6	825.5	825.0	812.4	825.9	839.7	838.6	860.7	892.3
25°	817.8	818.0	803.8	803.4	798.4	783.5	795.5	811.0	807.6	831.6	864.7
27.5°	801.8	799.5	782.4	778.3	770.4	752.6	763.2	777.2	775.1	798.6	835.4
30°	784.6	781.7	760.7	753.3	741.8	721.2	730.0	743.1	744.2	764.8	803.4
32.5°	768.4	760.9	737.7	726.9	712.4	688.5	693.2	706.5	708.4	729.1	768.8
35°	747.4	742.4	713.8	695.3	681.0	654.9	659.8	669.1	671.8	692.1	732.5
37.5°	727.5	719.6	689.2	666.6	648.3	620.8	622.2	631.6	634.3	654.9	694.8
40°	707.0	695.7	663.0	636.6	615.6	586.7	585.1	595.1	597.1	617.2	653.3
42.5°	685.1	671.6	634.8	605.9	581.8	552.4	549.3	557.8	560.1	579.7	615.2
45°	663.0	646.7	605.9	574.3	547.9	517.9	514.7	521.3	524.7	543.2	577.2
47.5°	639.5	620.6	576.1	540.9	513.6	483.6	479.8	486.3	489.0	507.3	539.6
50°	614.9	591.9	545.4	506.6	479.5	450.0	444.3	452.0	454.5	471.6	503.2
52.5°	587.9	562.4	512.7	472.1	445.0	416.8	410.0	417.5	420.4	437.1	466.2
55°	559.2	531.7	479.8	440.3	410.9	383.4	377.8	380.7	387.0	402.8	429.9
57.5°	526.9	499.6	445.0	404.8	376.6	350.2	345.5	348.2	354.1	369.4	393.8
60°	492.6	463.7	409.6	369.4	342.1	317.1	312.8	315.3	321.6	335.6	358.1
62.5°	458.8	426.3	373.0	333.1	308.3	285.0	283.9	283.0	288.8	302.4	322.2
65°	417.7	386.6	334.9	297.0	274.4	253.4	248.9	250.9	256.6	269.0	289.8
67.5°	373.7	345.5	295.8	260.9	240.8	222.1	218.2	219.1	225.0	235.8	253.9
70°	327.0	302.2	255.9	224.5	207.6	190.0	187.5	187.8	193.4	202.9	218.7
72.5°	278.0	255.7	215.5	188.7	174.7	162.0	159.8	157.1	162.3	170.4	183.9
75°	228.1	208.5	175.3	153.5	142.4	131.8	129.8	127.0	132.2	139.2	149.8
77.5°	177.8	162.0	136.3	119.4	110.8	102.9	101.1	98.2	103.4	108.5	116.9
80°	128.6	117.1	101.8	83.9	81.0	75.8	74.0	70.9	75.8	79.2	85.5
82.5°	83.0	75.4	66.6	54.2	53.7	49.9	49.0	45.4	49.9	51.9	56.6
85°	42.0	38.4	36.1	27.5	28.4	26.0	25.7	21.9	25.5	26.4	29.1
87.5°	12.0	12.6	11.3	6.8	8.6	8.1	8.1	5.9	8.1	8.1	9.3
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: P837749

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	967.4	967.4	967.4	967.4	967.4	967.4	967.4	967.4
2.5°	968.3	972.2	973.1	972.8	975.3	988.9	984.3	988.9
5°	970.6	979.1	981.4	984.6	988.6	1004.0	999.0	1004.4
7.5°	971.9	984.8	989.8	995.8	1002.4	1019.5	1015.5	1020.9
10°	971.9	988.6	995.8	1006.0	1014.8	1034.7	1030.8	1037.1
12.5°	967.9	989.3	999.5	1013.7	1025.0	1046.4	1044.8	1049.3
15°	959.5	985.9	999.9	1018.2	1032.2	1056.1	1055.4	1060.8
17.5°	948.2	980.1	997.0	1020.0	1037.6	1064.4	1066.0	1069.0
20°	934.0	969.0	991.1	1019.3	1041.4	1071.0	1073.0	1077.1
22.5°	915.3	955.7	982.3	1016.4	1041.9	1073.7	1077.3	1081.1
25°	893.2	939.7	970.8	1010.7	1039.6	1073.5	1078.4	1081.8
27.5°	867.9	918.9	956.1	1001.7	1033.3	1069.9	1076.0	1080.0
30°	838.6	896.8	939.4	990.0	1024.7	1063.1	1069.6	1073.7
32.5°	808.3	872.4	919.6	974.9	1012.3	1052.3	1057.9	1061.1
35°	775.4	842.8	895.7	955.5	996.3	1034.9	1039.2	1042.6
37.5°	739.5	810.8	868.3	933.6	973.7	1010.7	1014.6	1018.4
40°	702.5	777.2	837.7	906.7	946.9	981.2	985.2	987.9
42.5°	665.3	739.9	804.9	875.1	915.1	948.0	950.5	953.2
45°	627.6	701.4	768.2	840.1	879.6	910.5	911.4	913.7
47.5°	589.2	661.4	727.8	800.2	839.2	867.4	868.3	870.2
50°	550.6	621.5	684.7	757.1	795.2	825.0	821.0	822.8
52.5°	512.7	579.5	644.0	710.6	748.3	774.7	775.8	772.2
55°	475.5	538.4	597.8	661.9	697.7	718.3	717.6	719.0
57.5°	437.8	496.9	551.3	610.0	644.9	664.3	668.4	663.7
60°	399.4	454.9	503.7	556.7	590.6	606.8	611.5	607.0
62.5°	361.3	412.3	456.5	502.8	534.1	554.2	553.8	548.8
65°	323.1	369.4	408.9	448.2	475.5	495.6	494.7	490.1
67.5°	287.9	326.1	361.5	393.3	417.0	430.8	435.5	430.1
70°	249.1	282.1	313.2	338.7	358.4	370.8	375.3	370.5
72.5°	210.3	238.3	260.2	284.8	299.9	310.3	315.0	310.5
75°	172.0	195.0	212.8	232.0	242.6	251.4	256.8	252.3
77.5°	134.7	152.5	166.8	180.8	192.9	195.0	199.7	196.8
80°	99.3	112.2	122.5	131.8	140.6	141.5	145.3	143.5
82.5°	66.1	74.7	77.4	87.1	92.7	91.8	95.7	94.3
85°	35.0	40.2	44.9	47.8	51.0	48.1	51.5	50.1
87.5°	11.7	12.4	10.8	15.3	16.9	14.4	16.5	15.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)