

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: P837722

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1LO-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: P837722
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-27-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

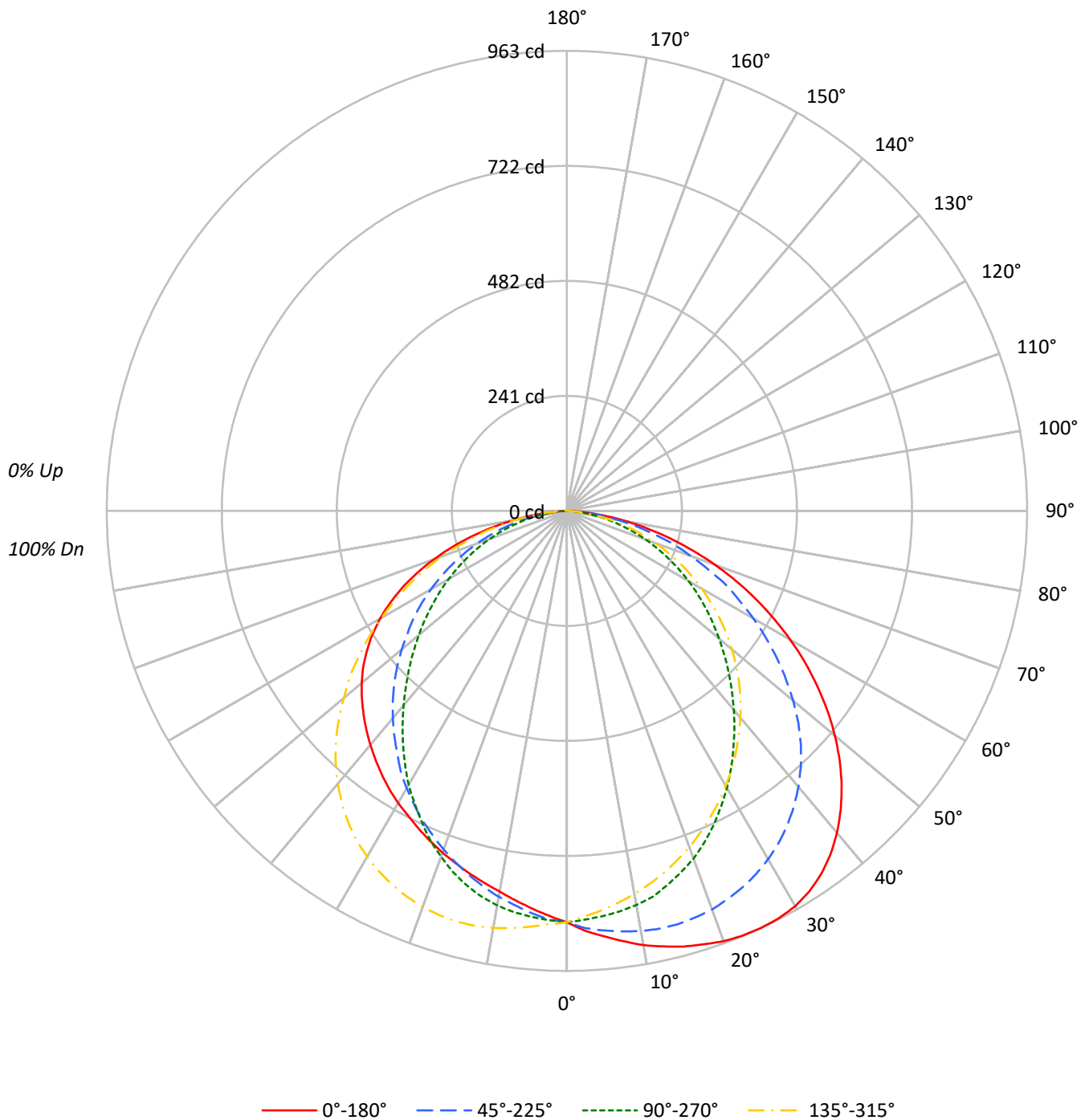
Lumens per Lamp: N/A
Luminaire Lumens: 2526.1 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

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°	2317	2317	2317	2317
5°	2415	2300	2257	2304
10°	2522	2288	2211	2292
15°	2630	2259	2189	2260
20°	2745	2218	2180	2206
25°	2859	2156	2180	2134
30°	2969	2081	2194	2058
35°	3048	1996	2216	1964
40°	3089	1910	2247	1867
45°	3095	1823	2291	1777
50°	3066	1739	2346	1693
55°	3002	1662	2399	1616
60°	2908	1581	2431	1540
65°	2777	1489	2418	1454
70°	2595	1379	2332	1354
75°	2334	1230	2141	1224
80°	1979	1031	1799	1046
85°	1377	682	1142	701

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	3.2
10°-20°	236.7	9.4
20°-30°	362.8	14.4
30°-40°	441.1	17.5
40°-50°	458.6	18.2
50°-60°	414.2	16.4
60°-70°	314.9	12.5
70°-80°	175.6	7.0
80°-90°	40.4	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°	681.2	27.0
0°-40°	1122.4	44.4
0°-60°	1995.2	79.0
0°-90°	2526.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2526.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	861	861	861	861	861	
5°	894	852	836	853	894	86
15°	944	811	786	811	944	268
25°	963	726	734	719	963	445
35°	928	608	675	598	928	580
45°	813	479	602	467	813	626
55°	640	354	511	344	640	571
65°	436	234	380	228	436	431
75°	224	118	206	118	224	239
85°	45	22	37	23	45	56
90°	0	0	0	0	0	

TEST NUMBER: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0
2.5°	880.1	867.2	867.4	878.7	870.0	874.3	862.2	866.8	865.4	866.4	856.6
5°	893.9	880.1	879.9	889.5	879.9	881.7	866.4	869.4	865.0	862.2	851.6
7.5°	908.6	894.7	893.3	901.8	889.1	887.7	870.8	870.8	862.8	855.8	845.7
10°	923.1	908.8	907.0	913.4	897.8	893.1	872.6	869.4	858.8	848.3	837.5
12.5°	933.9	919.4	918.0	922.1	904.4	895.9	872.6	866.4	850.8	836.1	827.7
15°	944.1	929.3	925.5	927.5	907.2	895.9	869.8	860.2	840.1	820.8	811.0
17.5°	951.4	937.1	933.3	933.1	908.6	892.5	863.8	850.6	826.5	803.2	793.3
20°	958.6	944.3	939.5	935.9	908.2	887.9	855.0	837.1	809.0	782.9	774.6
22.5°	962.2	947.6	942.3	936.9	905.6	879.5	844.1	821.4	789.3	758.2	751.3
25°	962.8	947.8	942.1	934.3	900.4	869.4	830.1	802.6	766.6	732.1	726.2
27.5°	961.2	944.7	939.1	929.7	892.5	857.2	813.4	781.1	742.5	704.3	698.1
30°	955.6	938.9	933.5	921.3	881.5	842.1	795.1	757.2	715.8	675.2	669.8
32.5°	944.3	928.1	923.7	911.4	869.4	824.6	773.8	731.5	686.3	647.5	639.5
35°	927.9	911.6	908.8	895.9	852.6	803.8	750.5	703.3	654.9	615.4	607.5
37.5°	906.4	892.7	888.5	875.9	832.7	780.1	723.8	672.8	623.0	580.4	575.6
40°	879.3	866.4	863.2	852.0	809.6	753.8	694.9	641.3	590.1	550.5	543.7
42.5°	848.3	836.3	834.5	822.8	781.1	724.6	663.6	608.5	555.7	517.6	510.7
45°	813.2	801.5	801.1	790.1	749.9	692.3	630.6	575.4	522.2	482.6	479.0
47.5°	774.4	764.0	764.0	753.8	715.2	656.7	596.7	540.9	488.4	453.5	447.1
50°	732.3	722.4	719.4	714.4	676.8	618.0	560.9	507.1	455.1	421.8	415.5
52.5°	687.3	678.8	680.8	671.6	635.3	577.6	524.8	469.2	421.6	391.2	385.0
55°	639.9	627.8	629.6	626.2	591.9	536.0	484.2	437.8	388.6	360.1	354.3
57.5°	590.7	575.0	581.4	579.4	545.7	493.5	447.1	402.3	355.9	329.6	324.0
60°	540.3	525.2	531.8	530.0	498.3	450.9	408.7	367.1	323.4	299.5	293.8
62.5°	488.4	474.6	480.6	479.2	450.1	407.3	370.5	332.4	290.6	269.1	263.9
65°	436.2	423.0	428.4	427.4	400.5	367.9	331.4	296.4	257.7	239.0	233.8
67.5°	382.8	370.5	375.6	375.6	350.9	319.7	292.0	260.1	225.3	209.3	204.5
70°	329.8	318.3	322.7	322.3	301.5	276.2	252.3	223.7	192.6	179.3	175.3
72.5°	276.4	266.3	270.3	269.9	252.5	236.2	212.5	187.8	160.7	150.0	146.4
75°	224.5	215.1	218.9	218.5	204.3	189.0	173.1	152.6	129.3	121.9	118.3
77.5°	175.1	165.5	168.7	168.7	158.3	147.2	134.6	118.7	102.2	94.2	91.6
80°	127.7	123.1	121.5	121.7	114.7	107.4	101.0	85.8	73.7	68.3	66.5
82.5°	84.0	80.1	78.5	78.9	74.9	70.5	66.5	55.8	47.8	44.6	43.6
85°	44.6	41.8	40.4	41.4	40.6	38.2	36.2	28.9	23.9	22.7	22.1
87.5°	14.1	12.3	11.2	14.9	12.7	11.2	10.8	8.6	6.6	6.6	6.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0
2.5°	859.8	859.8	852.0	850.2	849.3	850.4	842.5	841.1	852.4	848.5	839.9
5°	853.0	852.6	841.5	839.5	839.5	838.3	829.5	827.5	838.7	835.5	826.1
7.5°	844.5	843.3	830.3	828.9	826.9	826.1	816.2	814.8	824.4	822.4	813.6
10°	834.3	833.1	817.6	816.6	814.4	812.8	803.6	802.6	812.4	809.2	802.2
12.5°	820.8	818.6	802.8	801.8	799.9	799.3	790.3	789.9	800.7	797.5	790.1
15°	803.2	801.3	783.7	784.1	784.3	784.3	777.0	776.6	787.3	785.9	777.9
17.5°	783.7	781.3	764.4	765.6	767.0	768.6	763.0	764.0	775.2	773.4	766.2
20°	761.6	759.2	742.7	746.1	749.1	752.3	748.7	751.5	762.0	761.2	755.8
22.5°	736.9	734.5	719.2	724.4	729.4	735.5	733.9	737.1	748.1	747.9	743.1
25°	706.8	707.4	693.9	700.3	708.8	717.2	717.8	723.0	735.3	734.1	729.6
27.5°	678.6	679.4	665.2	676.0	687.3	698.1	700.7	708.0	720.4	719.4	715.6
30°	649.1	650.1	636.3	651.1	664.8	678.0	683.7	693.5	706.2	706.2	702.1
32.5°	618.4	620.2	605.7	625.6	641.5	656.9	666.8	677.0	691.5	691.1	687.7
35°	586.9	588.9	575.6	600.9	616.8	635.7	647.9	661.6	674.4	674.6	672.0
37.5°	554.7	557.1	545.1	572.8	590.9	613.2	628.8	642.5	656.7	657.5	655.1
40°	522.8	525.4	515.0	541.7	564.6	589.5	607.5	623.6	639.3	639.7	638.1
42.5°	490.9	493.7	485.8	511.9	537.8	564.6	585.8	604.1	620.2	621.2	619.4
45°	459.7	462.1	456.5	485.0	509.9	539.1	563.6	584.2	600.5	601.9	601.3
47.5°	428.8	431.0	426.0	452.1	480.8	511.7	540.1	563.0	580.2	581.8	581.4
50°	398.5	400.3	394.9	422.2	450.7	483.6	513.1	539.7	558.9	560.5	560.3
52.5°	368.3	370.1	365.5	394.2	420.2	454.9	487.0	515.8	534.8	537.2	537.6
55°	339.2	340.0	336.4	363.9	389.0	425.4	462.3	490.2	509.3	511.3	512.5
57.5°	310.1	310.3	307.3	333.6	357.7	394.9	433.6	462.9	481.0	483.0	484.8
60°	281.2	281.0	277.6	303.1	326.2	362.9	403.3	432.4	449.9	451.7	454.1
62.5°	252.5	251.9	248.8	272.3	294.0	330.4	371.0	399.1	415.7	416.9	420.2
65°	223.9	223.3	220.5	242.2	261.9	296.6	336.4	363.1	378.2	379.8	379.2
67.5°	195.8	194.6	192.4	211.9	229.8	261.9	300.1	325.6	338.0	339.4	343.2
70°	167.7	166.3	161.3	182.0	197.6	226.3	261.9	284.6	295.0	296.4	295.8
72.5°	140.0	138.6	133.2	152.2	165.5	190.6	222.3	241.2	250.2	251.5	251.5
75°	113.1	112.3	108.9	123.3	134.4	154.8	181.8	197.4	204.5	205.9	205.5
77.5°	87.2	86.6	83.1	95.6	104.2	119.5	141.2	153.4	158.7	160.3	163.7
80°	62.5	62.3	56.8	69.1	72.9	85.8	101.6	111.1	113.9	116.1	118.5
82.5°	40.0	40.2	34.7	45.2	46.8	55.0	64.9	70.7	72.7	74.5	76.3
85°	19.5	20.3	17.3	23.9	24.1	28.3	32.5	34.7	35.5	37.0	38.6
87.5°	5.0	5.8	3.2	6.8	6.0	7.8	9.0	9.6	9.4	10.4	11.0
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: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0
2.5°	842.7	849.1	845.9	856.4	860.4	854.0	865.2	865.4	857.4	866.8	872.0
5°	829.7	836.3	834.3	845.1	850.2	844.5	858.2	860.8	853.0	863.6	872.0
7.5°	816.4	824.2	821.6	832.7	838.7	834.3	848.9	853.2	847.1	858.8	870.0
10°	805.0	811.6	808.8	820.4	825.7	822.0	836.5	844.3	838.7	853.0	866.4
12.5°	793.7	799.1	795.9	805.6	810.6	806.0	823.6	830.9	826.9	841.7	859.0
15°	779.3	785.3	780.9	789.5	793.3	789.3	803.8	816.2	811.2	827.5	846.5
17.5°	768.2	771.6	765.6	772.4	774.6	769.2	783.9	796.1	792.5	810.2	832.3
20°	756.0	758.8	750.3	754.2	754.0	747.1	760.6	772.6	770.2	789.7	814.8
22.5°	742.3	743.7	733.9	734.7	734.3	723.0	735.1	747.3	746.3	766.0	794.1
25°	727.8	728.0	715.4	715.0	710.6	697.3	708.0	721.8	718.8	740.1	769.6
27.5°	713.6	711.6	696.3	692.7	685.7	669.8	679.2	691.7	689.9	710.8	743.5
30°	698.3	695.7	677.0	670.4	660.2	641.9	649.7	661.4	662.4	680.6	715.0
32.5°	683.9	677.2	656.5	646.9	634.0	612.8	617.0	628.8	630.4	648.9	684.3
35°	665.2	660.8	635.3	618.8	606.1	582.8	587.3	595.5	597.9	616.0	651.9
37.5°	647.5	640.5	613.4	593.3	577.0	552.5	553.7	562.1	564.6	582.8	618.4
40°	629.2	619.2	590.1	566.6	547.9	522.2	520.8	529.6	531.4	549.3	581.4
42.5°	609.7	597.7	565.0	539.3	517.8	491.7	488.8	496.5	498.5	516.0	547.5
45°	590.1	575.6	539.3	511.1	487.6	460.9	458.1	463.9	467.0	483.4	513.7
47.5°	569.2	552.3	512.7	481.4	457.1	430.4	427.0	432.8	435.2	451.5	480.2
50°	547.3	526.8	485.4	450.9	426.8	400.5	395.5	402.3	404.5	419.8	447.9
52.5°	523.2	500.5	456.3	420.2	396.1	371.0	364.9	371.6	374.2	389.0	414.9
55°	497.7	473.2	427.0	391.8	365.7	341.2	336.2	338.8	344.4	358.5	382.6
57.5°	469.0	444.7	396.1	360.3	335.2	311.7	307.5	309.9	315.1	328.8	350.5
60°	438.4	412.7	364.5	328.8	304.5	282.2	278.4	280.6	286.2	298.6	318.7
62.5°	408.3	379.4	332.0	296.4	274.3	253.7	252.7	251.9	257.1	269.1	286.8
65°	371.8	344.0	298.0	264.3	244.2	225.5	221.5	223.3	228.4	239.4	257.9
67.5°	332.6	307.5	263.3	232.2	214.3	197.6	194.2	195.0	200.2	209.9	225.9
70°	291.0	268.9	227.8	199.8	184.8	169.1	166.9	167.1	172.1	180.6	194.6
72.5°	247.4	227.6	191.8	167.9	155.4	144.2	142.2	139.8	144.4	151.6	163.7
75°	203.0	185.6	156.1	136.6	126.7	117.3	115.5	113.1	117.7	123.9	133.4
77.5°	158.3	144.2	121.3	106.2	98.6	91.6	90.0	87.4	92.0	96.6	104.0
80°	114.5	104.2	90.6	74.7	72.1	67.5	65.9	63.1	67.5	70.5	76.1
82.5°	73.9	67.1	59.2	48.2	47.8	44.4	43.6	40.4	44.4	46.2	50.4
85°	37.4	34.1	32.1	24.5	25.3	23.1	22.9	19.5	22.7	23.5	25.9
87.5°	10.6	11.2	10.0	6.0	7.6	7.2	7.2	5.2	7.2	7.2	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

TEST NUMBER: P837722

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	861.0	861.0	861.0	861.0	861.0	861.0	861.0	861.0
2.5°	861.8	865.2	866.0	865.8	868.0	880.1	876.1	880.1
5°	863.8	871.4	873.5	876.3	879.9	893.5	889.1	893.9
7.5°	865.0	876.5	880.9	886.3	892.1	907.4	903.8	908.6
10°	865.0	879.9	886.3	895.3	903.2	920.8	917.4	923.1
12.5°	861.4	880.5	889.5	902.2	912.2	931.3	929.9	933.9
15°	854.0	877.5	889.9	906.2	918.6	939.9	939.3	944.1
17.5°	843.9	872.2	887.3	907.8	923.5	947.4	948.8	951.4
20°	831.3	862.4	882.1	907.2	926.9	953.2	955.0	958.6
22.5°	814.6	850.6	874.3	904.6	927.3	955.6	958.8	962.2
25°	794.9	836.3	864.0	899.6	925.3	955.4	959.8	962.8
27.5°	772.4	817.8	851.0	891.5	919.6	952.2	957.6	961.2
30°	746.3	798.1	836.1	881.1	912.0	946.2	952.0	955.6
32.5°	719.4	776.4	818.4	867.6	901.0	936.5	941.5	944.3
35°	690.1	750.1	797.1	850.4	886.7	921.0	924.9	927.9
37.5°	658.2	721.6	772.8	830.9	866.6	899.6	903.0	906.4
40°	625.2	691.7	745.5	807.0	842.7	873.2	876.9	879.3
42.5°	592.1	658.6	716.4	778.9	814.4	843.7	845.9	848.3
45°	558.5	624.2	683.7	747.7	782.9	810.4	811.2	813.2
47.5°	524.4	588.7	647.7	712.2	746.9	772.0	772.8	774.4
50°	490.0	553.1	609.3	673.8	707.8	734.3	730.7	732.3
52.5°	456.3	515.8	573.2	632.4	666.0	689.5	690.5	687.3
55°	423.2	479.2	532.0	589.1	621.0	639.3	638.7	639.9
57.5°	389.6	442.2	490.7	542.9	574.0	591.3	594.9	590.7
60°	355.5	404.9	448.3	495.5	525.6	540.1	544.3	540.3
62.5°	321.5	366.9	406.3	447.5	475.4	493.3	492.9	488.4
65°	287.6	328.8	363.9	398.9	423.2	441.0	440.2	436.2
67.5°	256.3	290.2	321.7	350.1	371.2	383.4	387.6	382.8
70°	221.7	251.0	278.8	301.5	318.9	330.0	334.0	329.8
72.5°	187.2	212.1	231.6	253.5	266.9	276.2	280.4	276.4
75°	153.0	173.5	189.4	206.5	215.9	223.7	228.6	224.5
77.5°	119.9	135.8	148.4	160.9	171.7	173.5	177.7	175.1
80°	88.4	99.8	109.1	117.3	125.1	125.9	129.3	127.7
82.5°	58.8	66.5	68.9	77.5	82.5	81.7	85.2	84.0
85°	31.1	35.7	40.0	42.6	45.4	42.8	45.8	44.6
87.5°	10.4	11.0	9.6	13.7	15.1	12.9	14.7	14.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)