

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: P837803

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1LO-40-120-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: P837803
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-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

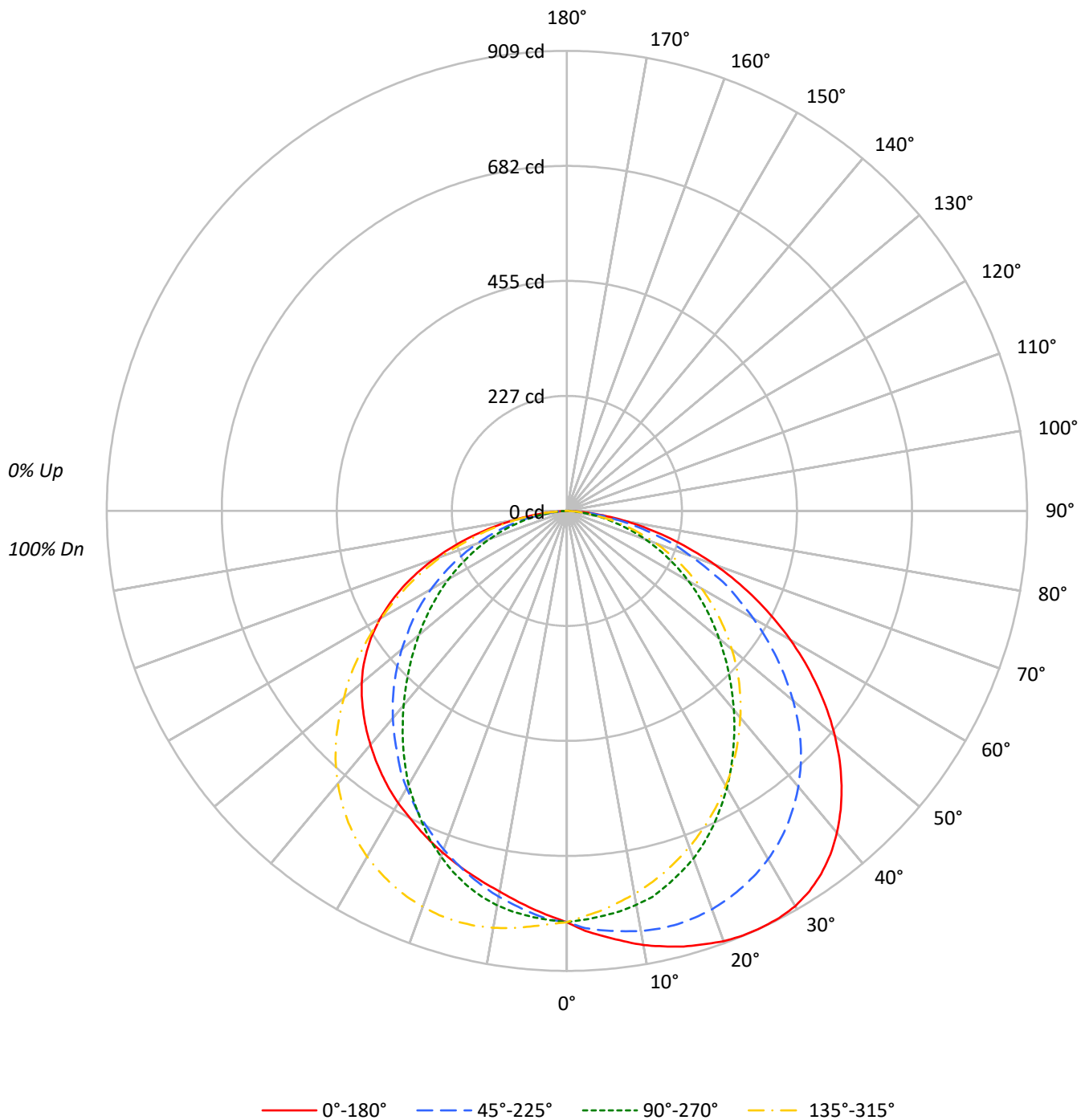
Lumens per Lamp: N/A
Luminaire Lumens: 2384.1 lumens
Efficiency: N/A
Efficacy: 101.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2187	2187	2187	2187
5°	2279	2171	2130	2175
10°	2381	2160	2087	2163
15°	2483	2132	2066	2133
20°	2591	2094	2057	2082
25°	2698	2035	2057	2014
30°	2802	1964	2071	1943
35°	2877	1884	2092	1854
40°	2915	1802	2121	1762
45°	2921	1721	2162	1677
50°	2893	1642	2215	1598
55°	2833	1569	2264	1525
60°	2744	1492	2294	1454
65°	2621	1405	2283	1372
70°	2449	1302	2201	1278
75°	2203	1160	2020	1155
80°	1869	972	1698	987
85°	1300	645	1078	661

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.2	3.2
10°-20°	223.4	9.4
20°-30°	342.4	14.4
30°-40°	416.3	17.5
40°-50°	432.8	18.2
50°-60°	391.0	16.4
60°-70°	297.2	12.5
70°-80°	165.7	7.0
80°-90°	38.1	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°	643.0	27.0
0°-40°	1059.3	44.4
0°-60°	1883.1	79.0
0°-90°	2384.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2384.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	813	813	813	813	813	
5°	844	804	789	805	844	81
15°	891	765	742	766	891	253
25°	909	685	693	678	909	420
35°	876	573	637	564	876	547
45°	768	452	568	441	768	591
55°	604	334	483	325	604	539
65°	412	221	358	216	412	407
75°	212	112	194	111	212	225
85°	42	21	35	21	42	53
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°	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6
2.5°	830.6	818.5	818.7	829.3	821.2	825.1	813.8	818.1	816.8	817.7	808.5
5°	843.7	830.6	830.4	839.5	830.4	832.2	817.7	820.6	816.4	813.8	803.7
7.5°	857.6	844.5	843.1	851.1	839.2	837.8	821.9	821.9	814.3	807.7	798.2
10°	871.2	857.7	856.0	862.1	847.3	843.0	823.6	820.6	810.5	800.7	790.4
12.5°	881.4	867.8	866.5	870.3	853.6	845.6	823.6	817.7	803.0	789.1	781.2
15°	891.1	877.1	873.5	875.4	856.2	845.6	821.0	811.9	792.9	774.7	765.4
17.5°	897.9	884.5	880.9	880.7	857.6	842.4	815.3	802.8	780.0	758.0	748.7
20°	904.8	891.3	886.7	883.3	857.2	838.0	806.9	790.1	763.5	738.9	731.1
22.5°	908.2	894.3	889.4	884.3	854.7	830.1	796.7	775.3	745.0	715.6	709.1
25°	908.7	894.5	889.2	881.8	849.8	820.6	783.4	757.5	723.5	690.9	685.4
27.5°	907.2	891.7	886.4	877.5	842.4	809.0	767.7	737.2	700.8	664.8	658.9
30°	901.9	886.2	881.1	869.5	832.0	794.8	750.5	714.6	675.6	637.3	632.2
32.5°	891.3	875.9	871.8	860.2	820.6	778.3	730.4	690.4	647.7	611.1	603.5
35°	875.7	860.4	857.7	845.6	804.7	758.6	708.4	663.8	618.1	580.8	573.4
37.5°	855.5	842.6	838.6	826.7	785.9	736.2	683.2	635.0	588.0	547.8	543.3
40°	829.9	817.7	814.7	804.1	764.1	711.4	655.9	605.3	556.9	519.6	513.1
42.5°	800.7	789.3	787.6	776.6	737.2	683.9	626.3	574.4	524.5	488.5	482.0
45°	767.5	756.5	756.1	745.7	707.8	653.4	595.2	543.1	492.8	455.5	452.1
47.5°	730.9	721.1	721.1	711.4	675.0	619.8	563.2	510.5	461.0	428.0	422.0
50°	691.1	681.8	679.0	674.3	638.8	583.3	529.4	478.6	429.5	398.1	392.2
52.5°	648.7	640.7	642.6	633.9	599.6	545.2	495.3	442.8	397.9	369.3	363.4
55°	603.9	592.6	594.3	591.0	558.6	505.9	457.0	413.2	366.8	339.9	334.4
57.5°	557.5	542.7	548.8	546.9	515.0	465.7	422.0	379.7	335.9	311.1	305.8
60°	509.9	495.7	501.9	500.2	470.3	425.6	385.7	346.5	305.2	282.6	277.3
62.5°	461.0	447.9	453.6	452.3	424.8	384.4	349.7	313.7	274.3	254.0	249.1
65°	411.7	399.2	404.3	403.4	378.0	347.3	312.8	279.8	243.2	225.6	220.6
67.5°	361.3	349.7	354.5	354.5	331.2	301.8	275.6	245.5	212.7	197.5	193.0
70°	311.3	300.4	304.6	304.2	284.5	260.6	238.1	211.2	181.8	169.3	165.5
72.5°	260.8	251.4	255.1	254.8	238.3	222.9	200.6	177.2	151.6	141.6	138.2
75°	211.9	203.0	206.6	206.2	192.8	178.4	163.4	144.1	122.1	115.1	111.6
77.5°	165.3	156.2	159.2	159.2	149.4	138.9	127.0	112.0	96.5	88.9	86.4
80°	120.6	116.2	114.7	114.9	108.2	101.4	95.3	80.9	69.6	64.4	62.7
82.5°	79.2	75.6	74.1	74.5	70.7	66.5	62.7	52.7	45.1	42.1	41.1
85°	42.1	39.4	38.1	39.0	38.3	36.0	34.1	27.3	22.6	21.4	20.9
87.5°	13.3	11.6	10.6	14.0	11.9	10.6	10.2	8.2	6.3	6.3	6.1
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6
2.5°	811.5	811.5	804.1	802.4	801.6	802.6	795.2	793.9	804.5	800.9	792.7
5°	805.0	804.7	794.2	792.3	792.3	791.2	782.9	781.0	791.6	788.6	779.6
7.5°	797.1	795.9	783.6	782.3	780.4	779.6	770.4	769.0	778.1	776.2	767.9
10°	787.4	786.3	771.7	770.7	768.7	767.1	758.4	757.5	766.8	763.7	757.1
12.5°	774.7	772.6	757.7	756.7	755.0	754.4	745.9	745.5	755.8	752.7	745.7
15°	758.0	756.3	739.6	740.0	740.2	740.2	733.4	733.0	743.1	741.7	734.2
17.5°	739.6	737.4	721.5	722.6	723.9	725.4	720.1	721.1	731.7	730.0	723.2
20°	718.8	716.5	701.0	704.2	707.0	710.1	706.7	709.3	719.2	718.4	713.3
22.5°	695.5	693.2	678.8	683.7	688.5	694.2	692.6	695.7	706.1	705.9	701.4
25°	667.0	667.6	654.9	661.0	668.9	676.9	677.5	682.4	694.0	692.8	688.7
27.5°	640.5	641.3	627.8	638.0	648.7	658.9	661.4	668.2	679.9	679.0	675.4
30°	612.6	613.6	600.5	614.5	627.4	639.9	645.2	654.5	666.5	666.5	662.7
32.5°	583.6	585.3	571.7	590.5	605.4	620.0	629.3	639.0	652.6	652.3	649.0
35°	553.9	555.8	543.3	567.2	582.1	599.9	611.5	624.4	636.5	636.7	634.3
37.5°	523.6	525.8	514.5	540.6	557.7	578.7	593.5	606.4	619.8	620.6	618.3
40°	493.4	495.9	486.0	511.2	532.8	556.3	573.4	588.6	603.4	603.7	602.2
42.5°	463.3	465.9	458.5	483.2	507.6	532.8	552.9	570.2	585.3	586.3	584.6
45°	433.9	436.2	430.9	457.8	481.3	508.8	531.9	551.4	566.8	568.1	567.5
47.5°	404.7	406.8	402.0	426.7	453.8	483.0	509.7	531.3	547.6	549.1	548.8
50°	376.1	377.8	372.7	398.4	425.4	456.5	484.3	509.3	527.5	529.1	528.9
52.5°	347.6	349.4	345.0	372.1	396.6	429.3	459.7	486.8	504.8	507.1	507.4
55°	320.2	320.9	317.5	343.5	367.2	401.5	436.4	462.7	480.7	482.6	483.7
57.5°	292.7	292.9	290.0	314.9	337.6	372.7	409.3	436.9	454.0	455.9	457.6
60°	265.4	265.2	262.0	286.0	307.8	342.5	380.6	408.1	424.6	426.3	428.6
62.5°	238.3	237.7	234.9	257.0	277.5	311.8	350.1	376.6	392.4	393.5	396.6
65°	211.4	210.8	208.1	228.6	247.2	280.0	317.5	342.7	356.9	358.5	357.9
67.5°	184.8	183.7	181.6	200.0	216.9	247.2	283.2	307.3	319.0	320.4	324.0
70°	158.3	157.0	152.2	171.7	186.5	213.6	247.2	268.6	278.5	279.8	279.2
72.5°	132.1	130.8	125.7	143.7	156.2	179.9	209.8	227.7	236.2	237.3	237.3
75°	106.7	106.0	102.7	116.4	126.8	146.1	171.5	186.3	193.0	194.3	193.9
77.5°	82.3	81.7	78.5	90.2	98.4	112.8	133.3	144.8	149.7	151.3	154.5
80°	59.0	58.8	53.6	65.2	68.8	80.9	95.9	104.8	107.5	109.6	111.8
82.5°	37.7	37.9	32.8	42.7	44.2	51.9	61.2	66.7	68.6	70.3	72.0
85°	18.4	19.1	16.3	22.6	22.7	26.7	30.7	32.8	33.6	34.9	36.4
87.5°	4.7	5.5	3.0	6.4	5.7	7.4	8.5	9.1	8.9	9.9	10.4
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°	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6
2.5°	795.4	801.4	798.4	808.3	812.1	806.0	816.6	816.8	809.2	818.1	823.1
5°	783.1	789.3	787.4	797.7	802.4	797.1	810.0	812.4	805.0	815.1	823.1
7.5°	770.5	777.9	775.5	785.9	791.6	787.4	801.3	805.2	799.5	810.5	821.2
10°	759.7	766.0	763.3	774.3	779.3	775.9	789.5	796.9	791.6	805.0	817.7
12.5°	749.1	754.2	751.2	760.3	765.0	760.7	777.4	784.2	780.4	794.4	810.7
15°	735.5	741.2	737.0	745.1	748.7	745.0	758.6	770.4	765.6	781.0	799.0
17.5°	725.1	728.3	722.6	729.0	731.1	726.0	739.8	751.4	748.0	764.7	785.5
20°	713.5	716.1	708.2	711.8	711.6	705.1	717.8	729.2	726.9	745.3	769.0
22.5°	700.6	701.9	692.6	693.4	693.0	682.4	693.8	705.3	704.4	723.0	749.5
25°	687.0	687.1	675.2	674.8	670.7	658.1	668.2	681.3	678.4	698.5	726.4
27.5°	673.5	671.6	657.2	653.8	647.1	632.2	641.1	652.8	651.1	670.8	701.7
30°	659.1	656.6	639.0	632.7	623.1	605.8	613.2	624.2	625.2	642.4	674.8
32.5°	645.4	639.2	619.7	610.6	598.4	578.3	582.3	593.5	595.0	612.5	645.8
35°	627.8	623.6	599.6	584.0	572.1	550.1	554.3	562.0	564.3	581.4	615.3
37.5°	611.1	604.5	578.9	559.9	544.6	521.5	522.6	530.6	532.8	550.1	583.6
40°	593.9	584.4	556.9	534.7	517.1	492.8	491.5	499.9	501.6	518.4	548.8
42.5°	575.5	564.1	533.2	509.0	488.7	464.0	461.4	468.6	470.5	487.0	516.7
45°	556.9	543.3	509.0	482.4	460.2	435.0	432.4	437.9	440.7	456.3	484.9
47.5°	537.2	521.3	483.9	454.4	431.4	406.2	403.0	408.5	410.8	426.1	453.2
50°	516.5	497.2	458.2	425.6	402.8	378.0	373.2	379.7	381.8	396.2	422.7
52.5°	493.8	472.4	430.7	396.6	373.8	350.1	344.4	350.7	353.1	367.2	391.6
55°	469.7	446.6	403.0	369.8	345.2	322.1	317.3	319.8	325.1	338.4	361.1
57.5°	442.6	419.7	373.8	340.1	316.4	294.2	290.2	292.5	297.4	310.3	330.8
60°	413.8	389.5	344.0	310.3	287.4	266.3	262.7	264.8	270.1	281.9	300.8
62.5°	385.4	358.1	313.3	279.8	258.9	239.4	238.5	237.7	242.6	254.0	270.7
65°	350.9	324.7	281.3	249.5	230.5	212.9	209.1	210.8	215.5	226.0	243.4
67.5°	313.9	290.2	248.5	219.1	202.3	186.5	183.3	184.1	189.0	198.1	213.3
70°	274.7	253.8	215.0	188.6	174.4	159.6	157.5	157.7	162.4	170.4	183.7
72.5°	233.5	214.8	181.0	158.5	146.7	136.1	134.2	131.9	136.3	143.1	154.5
75°	191.6	175.1	147.3	128.9	119.6	110.7	109.0	106.7	111.1	117.0	125.9
77.5°	149.4	136.1	114.5	100.3	93.1	86.4	84.9	82.5	86.8	91.2	98.2
80°	108.0	98.4	85.5	70.5	68.1	63.7	62.2	59.5	63.7	66.5	71.8
82.5°	69.8	63.3	55.9	45.5	45.1	41.9	41.1	38.1	41.9	43.6	47.6
85°	35.3	32.2	30.3	23.1	23.9	21.8	21.6	18.4	21.4	22.2	24.5
87.5°	10.0	10.6	9.5	5.7	7.2	6.8	6.8	4.9	6.8	6.8	7.8
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: P837803

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1LO-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	812.6	812.6	812.6	812.6	812.6	812.6	812.6	812.6
2.5°	813.4	816.6	817.4	817.2	819.3	830.6	826.8	830.6
5°	815.3	822.5	824.4	827.0	830.4	843.3	839.2	843.7
7.5°	816.4	827.2	831.4	836.5	842.0	856.4	853.0	857.6
10°	816.4	830.4	836.5	845.0	852.4	869.1	865.9	871.2
12.5°	813.0	831.0	839.5	851.5	861.0	879.0	877.6	881.4
15°	806.0	828.2	839.9	855.3	867.0	887.1	886.6	891.1
17.5°	796.5	823.2	837.5	856.8	871.6	894.1	895.5	897.9
20°	784.6	814.0	832.5	856.2	874.8	899.6	901.3	904.8
22.5°	768.8	802.8	825.1	853.8	875.2	901.9	904.9	908.2
25°	750.3	789.3	815.5	849.0	873.3	901.7	905.9	908.7
27.5°	729.0	771.9	803.1	841.4	868.0	898.7	903.8	907.2
30°	704.4	753.3	789.1	831.6	860.8	893.0	898.5	901.9
32.5°	679.0	732.8	772.4	818.9	850.3	883.9	888.6	891.3
35°	651.3	708.0	752.3	802.6	836.9	869.3	872.9	875.7
37.5°	621.2	681.1	729.4	784.2	817.9	849.0	852.2	855.5
40°	590.1	652.8	703.6	761.6	795.4	824.2	827.6	829.9
42.5°	558.8	621.6	676.1	735.1	768.7	796.3	798.4	800.7
45°	527.2	589.1	645.2	705.7	738.9	764.9	765.6	767.5
47.5°	494.9	555.6	611.3	672.2	705.0	728.7	729.4	730.9
50°	462.5	522.0	575.1	636.0	668.0	693.0	689.6	691.1
52.5°	430.7	486.8	541.0	596.9	628.6	650.7	651.7	648.7
55°	399.4	452.3	502.1	556.0	586.1	603.4	602.8	603.9
57.5°	367.7	417.4	463.1	512.4	541.8	558.1	561.5	557.5
60°	335.5	382.1	423.1	467.6	496.1	509.7	513.7	509.9
62.5°	303.5	346.3	383.5	422.3	448.7	465.6	465.2	461.0
65°	271.4	310.3	343.5	376.5	399.4	416.3	415.5	411.7
67.5°	241.9	273.9	303.7	330.4	350.3	361.9	365.8	361.3
70°	209.3	236.9	263.1	284.5	301.0	311.4	315.2	311.3
72.5°	176.7	200.2	218.6	239.2	251.9	260.6	264.6	260.8
75°	144.4	163.8	178.8	194.9	203.8	211.2	215.7	211.9
77.5°	113.2	128.1	140.1	151.8	162.1	163.8	167.8	165.3
80°	83.4	94.2	102.9	110.7	118.1	118.9	122.1	120.6
82.5°	55.5	62.7	65.0	73.2	77.9	77.1	80.4	79.2
85°	29.4	33.7	37.7	40.2	42.8	40.4	43.2	42.1
87.5°	9.9	10.4	9.1	12.9	14.2	12.1	13.8	13.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)