

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: P837841

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837841
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-LD4-1HI-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

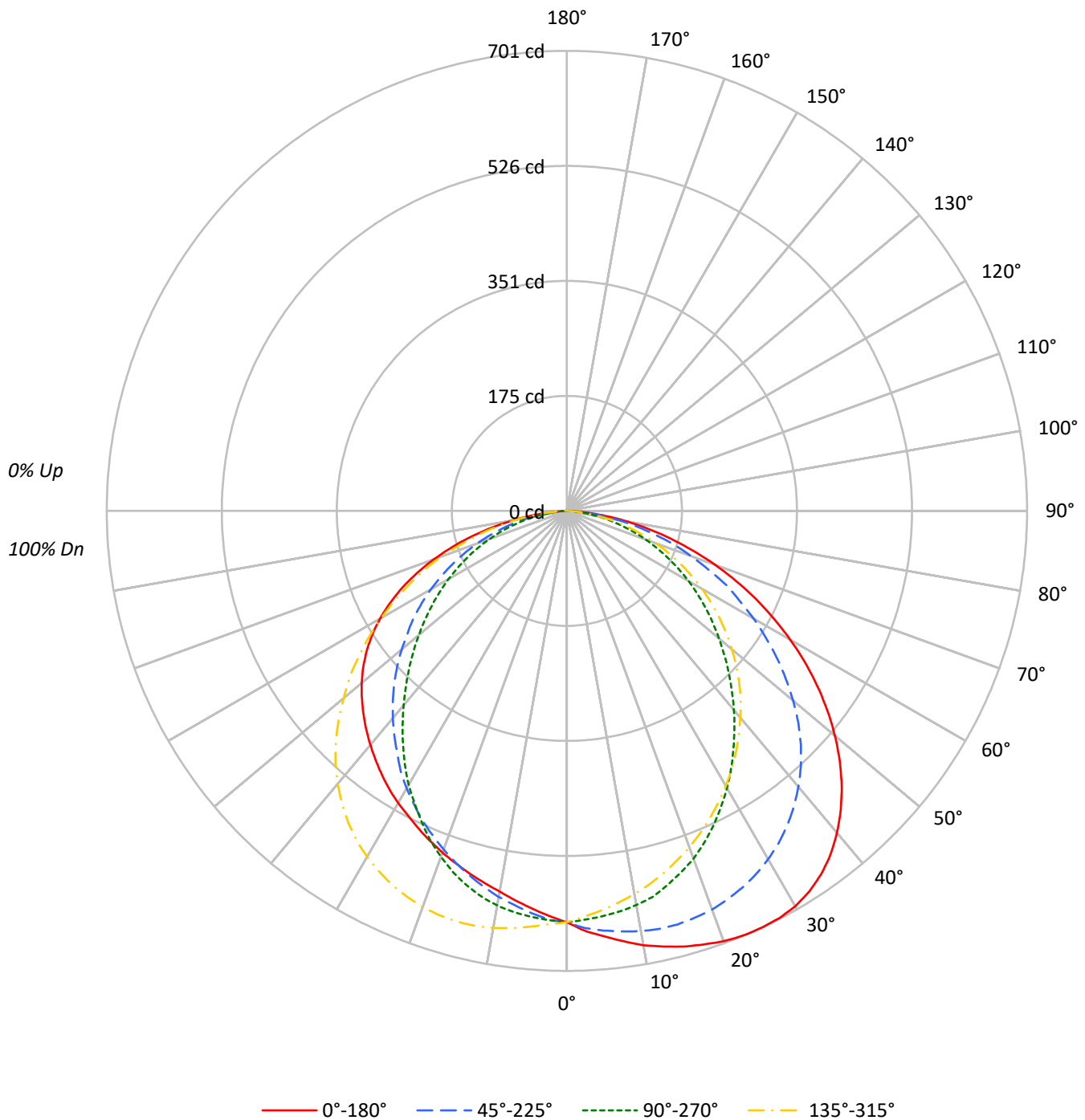
Lumens per Lamp: N/A
Luminaire Lumens: 1839.1 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 22
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: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-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°	1687	1687	1687	1687
5°	1758	1675	1643	1677
10°	1836	1666	1610	1668
15°	1915	1645	1594	1645
20°	1999	1615	1587	1606
25°	2081	1570	1587	1554
30°	2162	1515	1597	1498
35°	2219	1453	1614	1430
40°	2249	1390	1636	1359
45°	2253	1327	1668	1294
50°	2232	1266	1708	1233
55°	2186	1210	1747	1177
60°	2117	1151	1770	1122
65°	2022	1084	1761	1059
70°	1889	1005	1698	986
75°	1700	895	1559	891
80°	1441	750	1309	761
85°	1003	497	831	509

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	3.2
10°-20°	172.3	9.4
20°-30°	264.1	14.4
30°-40°	321.2	17.5
40°-50°	333.9	18.2
50°-60°	301.6	16.4
60°-70°	229.3	12.5
70°-80°	127.8	7.0
80°-90°	29.4	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°	496.0	27.0
0°-40°	817.1	44.4
0°-60°	1452.6	79.0
0°-90°	1839.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1839.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	627	627	627	627	627	
5°	651	620	608	621	651	63
15°	687	590	572	591	687	195
25°	701	529	534	523	701	324
35°	676	442	491	435	676	422
45°	592	349	438	340	592	456
55°	466	258	372	251	466	416
65°	318	170	276	166	318	314
75°	164	86	150	86	164	174
85°	32	16	27	16	32	41
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9
2.5°	640.8	631.4	631.5	639.7	633.4	636.5	627.7	631.1	630.1	630.8	623.6
5°	650.8	640.8	640.6	647.6	640.6	641.9	630.8	633.0	629.8	627.7	620.0
7.5°	661.5	651.4	650.4	656.5	647.3	646.3	634.0	634.0	628.2	623.1	615.7
10°	672.0	661.7	660.3	665.0	653.6	650.3	635.3	633.0	625.3	617.6	609.8
12.5°	679.9	669.4	668.4	671.3	658.4	652.3	635.3	630.8	619.4	608.7	602.6
15°	687.4	676.6	673.8	675.3	660.5	652.3	633.3	626.3	611.7	597.6	590.5
17.5°	692.7	682.3	679.5	679.4	661.5	649.8	628.9	619.3	601.7	584.7	577.6
20°	697.9	687.5	684.0	681.4	661.2	646.5	622.5	609.5	589.0	570.0	564.0
22.5°	700.6	689.9	686.1	682.1	659.3	640.3	614.6	598.1	574.7	552.0	547.0
25°	701.0	690.0	685.9	680.2	655.5	633.0	604.3	584.3	558.1	533.0	528.7
27.5°	699.8	687.8	683.7	676.9	649.8	624.1	592.2	568.7	540.6	512.8	508.3
30°	695.7	683.6	679.6	670.7	641.8	613.1	578.9	551.3	521.1	491.6	487.7
32.5°	687.5	675.7	672.5	663.6	633.0	600.4	563.4	532.5	499.6	471.4	465.6
35°	675.6	663.7	661.7	652.3	620.7	585.2	546.4	512.1	476.8	448.0	442.3
37.5°	659.9	650.0	646.9	637.7	606.2	567.9	527.0	489.8	453.6	422.6	419.1
40°	640.2	630.8	628.5	620.3	589.4	548.8	505.9	466.9	429.6	400.8	395.8
42.5°	617.6	608.9	607.6	599.1	568.7	527.6	483.1	443.1	404.6	376.8	371.8
45°	592.1	583.6	583.3	575.2	546.0	504.0	459.1	418.9	380.2	351.4	348.7
47.5°	563.8	556.2	556.2	548.8	520.7	478.2	434.4	393.8	355.6	330.2	325.5
50°	533.1	526.0	523.8	520.1	492.8	449.9	408.4	369.2	331.3	307.1	302.5
52.5°	500.4	494.2	495.7	489.0	462.5	420.5	382.1	341.6	306.9	284.8	280.3
55°	465.9	457.1	458.4	455.9	430.9	390.3	352.5	318.8	282.9	262.2	257.9
57.5°	430.0	418.6	423.3	421.9	397.3	359.3	325.5	292.9	259.1	240.0	235.9
60°	393.3	382.4	387.2	385.9	362.8	328.3	297.6	267.3	235.4	218.0	213.9
62.5°	355.6	345.5	349.9	348.9	327.7	296.5	269.8	242.0	211.6	195.9	192.1
65°	317.6	307.9	311.9	311.2	291.6	267.9	241.3	215.8	187.6	174.0	170.2
67.5°	278.7	269.8	273.4	273.4	255.5	232.8	212.6	189.4	164.1	152.4	148.9
70°	240.1	231.8	235.0	234.7	219.5	201.1	183.7	162.9	140.2	130.6	127.7
72.5°	201.2	193.9	196.8	196.5	183.8	172.0	154.7	136.7	117.0	109.2	106.6
75°	163.5	156.6	159.4	159.1	148.7	137.6	126.0	111.1	94.2	88.8	86.1
77.5°	127.5	120.5	122.8	122.8	115.2	107.2	98.0	86.4	74.4	68.6	66.7
80°	93.0	89.6	88.5	88.6	83.5	78.2	73.6	62.4	53.7	49.7	48.4
82.5°	61.1	58.3	57.2	57.5	54.5	51.3	48.4	40.7	34.8	32.5	31.7
85°	32.5	30.4	29.4	30.1	29.5	27.8	26.3	21.1	17.4	16.5	16.1
87.5°	10.2	8.9	8.2	10.8	9.2	8.2	7.9	6.3	4.8	4.8	4.7
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: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9
2.5°	626.0	626.0	620.3	619.0	618.4	619.1	613.4	612.4	620.6	617.8	611.5
5°	621.0	620.7	612.7	611.2	611.2	610.3	603.9	602.4	610.6	608.3	601.4
7.5°	614.9	614.0	604.5	603.5	602.0	601.4	594.3	593.2	600.2	598.8	592.4
10°	607.4	606.5	595.3	594.5	592.9	591.8	585.0	584.3	591.5	589.1	584.0
12.5°	597.6	596.0	584.5	583.7	582.4	582.0	575.4	575.1	583.0	580.7	575.2
15°	584.7	583.4	570.6	570.9	571.0	571.0	565.7	565.4	573.2	572.2	566.3
17.5°	570.6	568.8	556.5	557.4	558.4	559.6	555.5	556.2	564.4	563.1	557.8
20°	554.5	552.7	540.7	543.2	545.4	547.8	545.1	547.2	554.8	554.2	550.2
22.5°	536.5	534.7	523.6	527.4	531.1	535.5	534.3	536.6	544.7	544.5	541.0
25°	514.6	515.0	505.2	509.9	516.0	522.2	522.6	526.4	535.3	534.4	531.2
27.5°	494.1	494.7	484.3	492.2	500.4	508.3	510.2	515.4	524.5	523.8	521.0
30°	472.6	473.3	463.2	474.1	484.0	493.7	497.7	504.9	514.1	514.1	511.2
32.5°	450.2	451.5	441.0	455.5	467.0	478.3	485.5	492.9	503.4	503.2	500.7
35°	427.3	428.7	419.1	437.5	449.1	462.8	471.7	481.7	491.0	491.2	489.3
37.5°	403.9	405.6	396.9	417.0	430.2	446.4	457.8	467.8	478.2	478.7	477.0
40°	380.6	382.5	374.9	394.4	411.0	429.2	442.3	454.0	465.4	465.7	464.6
42.5°	357.4	359.4	353.7	372.7	391.6	411.0	426.5	439.8	451.5	452.3	451.0
45°	334.7	336.5	332.4	353.1	371.3	392.5	410.3	425.4	437.2	438.2	437.8
47.5°	312.2	313.8	310.1	329.1	350.1	372.6	393.2	409.9	422.4	423.6	423.3
50°	290.1	291.4	287.5	307.4	328.1	352.1	373.6	392.9	406.9	408.1	408.0
52.5°	268.2	269.5	266.1	287.0	305.9	331.2	354.6	375.5	389.4	391.1	391.4
55°	247.0	247.6	244.9	265.0	283.2	309.7	336.6	356.9	370.8	372.3	373.2
57.5°	225.8	225.9	223.7	242.9	260.4	287.5	315.7	337.0	350.2	351.7	353.0
60°	204.7	204.6	202.1	220.7	237.5	264.2	293.6	314.8	327.5	328.9	330.6
62.5°	183.8	183.4	181.2	198.3	214.1	240.5	270.1	290.5	302.7	303.6	305.9
65°	163.0	162.6	160.6	176.3	190.7	216.0	244.9	264.4	275.3	276.5	276.1
67.5°	142.6	141.7	140.1	154.3	167.3	190.7	218.5	237.0	246.1	247.1	249.9
70°	122.1	121.1	117.4	132.5	143.9	164.8	190.7	207.2	214.8	215.8	215.4
72.5°	101.9	100.9	96.9	110.8	120.5	138.8	161.9	175.6	182.2	183.1	183.1
75°	82.3	81.7	79.3	89.8	97.8	112.7	132.3	143.7	148.9	149.9	149.6
77.5°	63.5	63.0	60.5	69.6	75.9	87.0	102.8	111.7	115.5	116.7	119.2
80°	45.5	45.3	41.4	50.3	53.1	62.4	74.0	80.9	82.9	84.5	86.3
82.5°	29.1	29.2	25.3	32.9	34.1	40.1	47.2	51.5	52.9	54.2	55.6
85°	14.2	14.8	12.6	17.4	17.5	20.6	23.7	25.3	25.9	26.9	28.1
87.5°	3.7	4.2	2.3	5.0	4.4	5.7	6.6	7.0	6.9	7.6	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

TEST NUMBER: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9
2.5°	613.6	618.2	615.9	623.5	626.4	621.7	629.9	630.1	624.2	631.1	634.9
5°	604.1	608.9	607.4	615.3	619.0	614.9	624.8	626.7	621.0	628.8	634.9
7.5°	594.4	600.1	598.2	606.2	610.6	607.4	618.1	621.2	616.8	625.3	633.4
10°	586.1	590.9	588.8	597.3	601.1	598.5	609.0	614.7	610.6	621.0	630.8
12.5°	577.9	581.8	579.5	586.5	590.2	586.8	599.7	604.9	602.0	612.8	625.4
15°	567.3	571.7	568.5	574.8	577.6	574.7	585.2	594.3	590.6	602.4	616.3
17.5°	559.3	561.8	557.4	562.4	564.0	560.0	570.7	579.6	577.0	589.9	606.0
20°	550.4	552.4	546.3	549.1	548.9	544.0	553.7	562.5	560.8	575.0	593.2
22.5°	540.4	541.5	534.3	534.9	534.6	526.4	535.2	544.1	543.4	557.7	578.2
25°	529.9	530.1	520.8	520.6	517.3	507.7	515.4	525.5	523.3	538.8	560.3
27.5°	519.5	518.1	507.0	504.3	499.2	487.7	494.5	503.6	502.3	517.5	541.3
30°	508.4	506.5	492.9	488.1	480.6	467.3	473.0	481.5	482.2	495.6	520.6
32.5°	497.9	493.1	478.0	471.0	461.6	446.1	449.2	457.8	459.0	472.4	498.2
35°	484.3	481.1	462.5	450.5	441.3	424.3	427.6	433.6	435.3	448.5	474.6
37.5°	471.4	466.3	446.6	431.9	420.1	402.3	403.1	409.3	411.0	424.3	450.2
40°	458.1	450.8	429.6	412.5	398.9	380.2	379.2	385.6	386.9	399.9	423.3
42.5°	443.9	435.2	411.3	392.6	377.0	358.0	355.9	361.5	362.9	375.6	398.6
45°	429.6	419.1	392.6	372.1	355.0	335.6	333.5	337.8	340.0	352.0	374.0
47.5°	414.4	402.1	373.3	350.5	332.8	313.4	310.9	315.1	316.9	328.7	349.6
50°	398.5	383.5	353.4	328.3	310.7	291.6	287.9	292.9	294.5	305.6	326.1
52.5°	380.9	364.4	332.2	305.9	288.4	270.1	265.7	270.5	272.4	283.2	302.1
55°	362.3	344.5	310.9	285.3	266.3	248.4	244.8	246.7	250.8	261.0	278.6
57.5°	341.4	323.7	288.4	262.3	244.0	226.9	223.9	225.6	229.4	239.4	255.2
60°	319.2	300.5	265.4	239.4	221.7	205.4	202.7	204.3	208.4	217.4	232.1
62.5°	297.3	276.2	241.7	215.8	199.7	184.7	183.9	183.4	187.2	195.9	208.8
65°	270.7	250.5	217.0	192.4	177.8	164.2	161.3	162.6	166.3	174.3	187.8
67.5°	242.1	223.9	191.7	169.0	156.0	143.9	141.4	142.0	145.8	152.8	164.5
70°	211.9	195.8	165.8	145.5	134.5	123.1	121.5	121.7	125.3	131.5	141.7
72.5°	180.1	165.7	139.6	122.2	113.2	105.0	103.5	101.8	105.1	110.4	119.2
75°	147.8	135.1	113.6	99.4	92.3	85.4	84.1	82.3	85.7	90.2	97.1
77.5°	115.2	105.0	88.3	77.4	71.8	66.7	65.5	63.6	67.0	70.3	75.7
80°	83.3	75.9	65.9	54.4	52.5	49.1	48.0	45.9	49.1	51.3	55.4
82.5°	53.8	48.8	43.1	35.1	34.8	32.3	31.7	29.4	32.3	33.6	36.7
85°	27.2	24.9	23.4	17.8	18.4	16.8	16.7	14.2	16.5	17.1	18.9
87.5°	7.7	8.2	7.3	4.4	5.6	5.3	5.3	3.8	5.3	5.3	6.0
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: P837841

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	626.9	626.9	626.9	626.9	626.9	626.9	626.9	626.9
2.5°	627.4	629.9	630.5	630.4	632.0	640.8	637.8	640.8
5°	628.9	634.5	635.9	638.0	640.6	650.5	647.3	650.8
7.5°	629.8	638.1	641.3	645.3	649.5	660.6	658.0	661.5
10°	629.8	640.6	645.3	651.9	657.6	670.4	668.0	672.0
12.5°	627.2	641.0	647.6	656.8	664.1	678.0	677.0	679.9
15°	621.7	638.9	647.9	659.8	668.8	684.3	683.9	687.4
17.5°	614.4	635.0	646.0	660.9	672.3	689.7	690.8	692.7
20°	605.2	627.9	642.2	660.5	674.8	694.0	695.3	697.9
22.5°	593.1	619.3	636.5	658.6	675.1	695.7	698.1	700.6
25°	578.8	608.9	629.1	654.9	673.7	695.6	698.8	701.0
27.5°	562.4	595.4	619.6	649.1	669.6	693.2	697.2	699.8
30°	543.4	581.1	608.7	641.5	664.0	688.9	693.1	695.7
32.5°	523.8	565.3	595.9	631.7	656.0	681.8	685.5	687.5
35°	502.4	546.1	580.4	619.1	645.6	670.6	673.4	675.6
37.5°	479.2	525.4	562.7	604.9	631.0	654.9	657.4	659.9
40°	455.2	503.6	542.8	587.5	613.6	635.8	638.4	640.2
42.5°	431.1	479.5	521.6	567.1	592.9	614.3	615.9	617.6
45°	406.6	454.5	497.7	544.4	570.0	590.0	590.6	592.1
47.5°	381.8	428.6	471.6	518.5	543.8	562.1	562.7	563.8
50°	356.8	402.7	443.6	490.6	515.3	534.6	532.0	533.1
52.5°	332.2	375.5	417.3	460.5	484.9	502.0	502.7	500.4
55°	308.1	348.9	387.3	428.9	452.1	465.4	465.0	465.9
57.5°	283.7	322.0	357.2	395.2	417.9	430.5	433.1	430.0
60°	258.8	294.8	326.4	360.7	382.7	393.2	396.3	393.3
62.5°	234.1	267.2	295.8	325.8	346.1	359.1	358.8	355.6
65°	209.4	239.4	265.0	290.4	308.1	321.1	320.5	317.6
67.5°	186.6	211.3	234.3	254.9	270.2	279.1	282.2	278.7
70°	161.4	182.8	203.0	219.5	232.2	240.2	243.2	240.1
72.5°	136.3	154.4	168.6	184.5	194.3	201.1	204.1	201.2
75°	111.4	126.3	137.9	150.3	157.2	162.9	166.4	163.5
77.5°	87.3	98.8	108.1	117.1	125.0	126.3	129.4	127.5
80°	64.3	72.7	79.4	85.4	91.1	91.7	94.2	93.0
82.5°	42.8	48.4	50.2	56.4	60.1	59.5	62.0	61.1
85°	22.7	26.0	29.1	31.0	33.0	31.1	33.3	32.5
87.5°	7.6	8.0	7.0	9.9	11.0	9.4	10.7	10.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)