

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: P837824

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-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: P837824
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-LD4-2LO-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

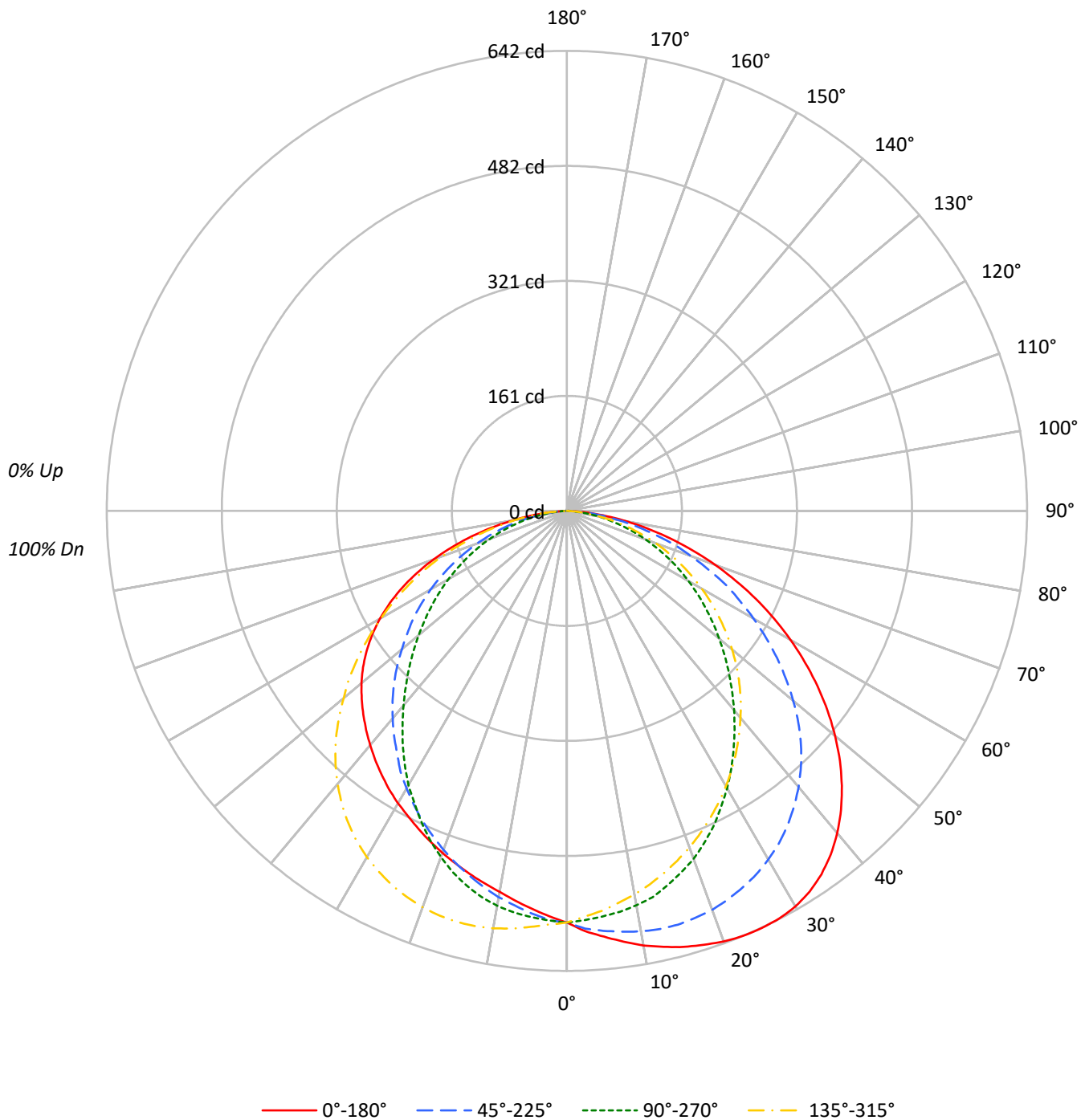
Lumens per Lamp: N/A
Luminaire Lumens: 1685.5 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-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°	1546	1546	1546	1546
5°	1611	1535	1506	1537
10°	1683	1527	1475	1529
15°	1755	1507	1461	1508
20°	1832	1480	1454	1472
25°	1908	1439	1454	1424
30°	1981	1389	1464	1373
35°	2034	1332	1479	1311
40°	2061	1274	1499	1246
45°	2065	1216	1528	1186
50°	2045	1161	1566	1130
55°	2003	1109	1601	1078
60°	1940	1055	1622	1028
65°	1854	993	1613	970
70°	1731	921	1556	903
75°	1557	820	1429	816
80°	1320	688	1201	697
85°	920	454	763	466

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	3.2
10°-20°	158.0	9.4
20°-30°	242.1	14.4
30°-40°	294.3	17.5
40°-50°	306.0	18.2
50°-60°	276.4	16.4
60°-70°	210.1	12.5
70°-80°	117.1	7.0
80°-90°	27.0	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°	454.6	27.0
0°-40°	748.9	44.4
0°-60°	1331.3	79.0
0°-90°	1685.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1685.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	574	574	574	574	574	
5°	596	568	558	569	596	58
15°	630	541	524	541	630	179
25°	642	485	490	480	642	297
35°	619	405	450	399	619	387
45°	543	320	402	312	543	418
55°	427	236	341	230	427	381
65°	291	156	253	152	291	288
75°	150	79	137	78	150	159
85°	30	15	25	15	30	37
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	587.2	578.7	578.8	586.3	580.5	583.4	575.3	578.4	577.5	578.1	571.6
5°	596.5	587.2	587.1	593.5	587.1	588.3	578.1	580.1	577.2	575.3	568.2
7.5°	606.3	597.0	596.1	601.7	593.3	592.3	581.1	581.1	575.7	571.0	564.3
10°	615.9	606.4	605.2	609.5	599.0	595.9	582.3	580.1	573.0	566.1	558.8
12.5°	623.2	613.5	612.6	615.2	603.5	597.8	582.3	578.1	567.7	557.9	552.3
15°	630.0	620.1	617.5	618.9	605.3	597.8	580.4	574.0	560.6	547.7	541.1
17.5°	634.8	625.3	622.8	622.6	606.3	595.5	576.4	567.5	551.5	535.9	529.3
20°	639.6	630.1	626.9	624.5	606.0	592.5	570.5	558.6	539.8	522.4	516.9
22.5°	642.0	632.3	628.8	625.2	604.3	586.8	563.3	548.1	526.7	505.9	501.3
25°	642.5	632.4	628.6	623.4	600.8	580.1	553.9	535.5	511.5	488.5	484.6
27.5°	641.4	630.4	626.6	620.3	595.5	572.0	542.7	521.2	495.4	470.0	465.8
30°	637.6	626.5	622.9	614.7	588.2	561.9	530.6	505.2	477.6	450.5	446.9
32.5°	630.1	619.3	616.3	608.1	580.1	550.3	516.3	488.1	457.9	432.1	426.7
35°	619.1	608.3	606.4	597.8	568.9	536.3	500.8	469.3	437.0	410.6	405.4
37.5°	604.8	595.7	592.9	584.4	555.6	520.5	483.0	448.9	415.7	387.3	384.1
40°	586.7	578.1	576.0	568.5	540.2	502.9	463.7	427.9	393.7	367.3	362.8
42.5°	566.1	558.0	556.8	549.0	521.2	483.5	442.8	406.1	370.8	345.3	340.8
45°	542.6	534.8	534.6	527.2	500.4	461.9	420.8	383.9	348.4	322.0	319.6
47.5°	516.7	509.8	509.8	502.9	477.2	438.2	398.1	360.9	325.9	302.6	298.3
50°	488.6	482.0	480.0	476.7	451.6	412.4	374.3	338.4	303.7	281.4	277.3
52.5°	458.6	453.0	454.3	448.1	423.9	385.4	350.2	313.1	281.3	261.1	256.9
55°	427.0	418.9	420.1	417.8	394.9	357.7	323.1	292.1	259.3	240.3	236.4
57.5°	394.1	383.7	388.0	386.6	364.1	329.3	298.3	268.4	237.5	219.9	216.2
60°	360.5	350.4	354.9	353.7	332.5	300.9	272.7	245.0	215.8	199.8	196.1
62.5°	325.9	316.7	320.7	319.8	300.3	271.8	247.3	221.8	193.9	179.6	176.1
65°	291.1	282.2	285.8	285.2	267.2	245.5	221.1	197.8	171.9	159.5	156.0
67.5°	255.4	247.3	250.6	250.6	234.1	213.3	194.9	173.5	150.4	139.6	136.4
70°	220.0	212.4	215.4	215.1	201.2	184.3	168.3	149.3	128.5	119.7	117.0
72.5°	184.4	177.7	180.4	180.1	168.5	157.6	141.8	125.3	107.2	100.1	97.7
75°	149.8	143.5	146.1	145.8	136.3	126.1	115.5	101.8	86.3	81.3	78.9
77.5°	116.9	110.4	112.6	112.6	105.6	98.2	89.8	79.2	68.2	62.9	61.1
80°	85.2	82.1	81.1	81.2	76.5	71.7	67.4	57.2	49.2	45.6	44.4
82.5°	56.0	53.5	52.4	52.7	50.0	47.0	44.4	37.3	31.9	29.8	29.1
85°	29.8	27.9	26.9	27.6	27.1	25.5	24.1	19.3	15.9	15.1	14.7
87.5°	9.4	8.2	7.5	9.9	8.4	7.5	7.2	5.8	4.4	4.4	4.3
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: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	573.7	573.7	568.5	567.3	566.7	567.4	562.2	561.2	568.7	566.2	560.4
5°	569.1	568.9	561.5	560.2	560.2	559.4	553.5	552.1	559.6	557.5	551.2
7.5°	563.5	562.7	554.0	553.1	551.7	551.2	544.6	543.7	550.1	548.8	542.9
10°	556.7	555.9	545.6	544.9	543.4	542.3	536.2	535.5	542.1	539.9	535.2
12.5°	547.7	546.2	535.6	535.0	533.8	533.4	527.3	527.1	534.3	532.2	527.2
15°	535.9	534.7	522.9	523.2	523.3	523.3	518.5	518.2	525.3	524.4	519.0
17.5°	522.9	521.3	510.0	510.9	511.8	512.9	509.1	509.8	517.3	516.1	511.3
20°	508.2	506.6	495.6	497.9	499.9	502.0	499.6	501.5	508.4	507.9	504.3
22.5°	491.7	490.1	479.9	483.4	486.7	490.8	489.7	491.8	499.2	499.1	495.8
25°	471.6	472.0	463.0	467.3	472.9	478.6	479.0	482.4	490.6	489.8	486.9
27.5°	452.8	453.4	443.8	451.1	458.6	465.8	467.6	472.4	480.7	480.0	477.5
30°	433.1	433.8	424.5	434.5	443.6	452.4	456.2	462.7	471.2	471.2	468.5
32.5°	412.6	413.8	404.2	417.4	428.0	438.4	444.9	451.8	461.4	461.1	458.9
35°	391.6	392.9	384.1	401.0	411.5	424.1	432.3	441.4	450.0	450.1	448.4
37.5°	370.1	371.7	363.7	382.2	394.3	409.1	419.6	428.7	438.2	438.8	437.1
40°	348.8	350.6	343.6	361.4	376.7	393.3	405.4	416.1	426.6	426.8	425.8
42.5°	327.5	329.4	324.2	341.6	358.9	376.7	390.9	403.1	413.8	414.5	413.3
45°	306.8	308.4	304.6	323.6	340.3	359.7	376.0	389.8	400.7	401.6	401.2
47.5°	286.1	287.6	284.2	301.7	320.8	341.5	360.4	375.6	387.2	388.2	388.0
50°	265.9	267.1	263.5	281.7	300.7	322.7	342.4	360.1	373.0	374.0	373.9
52.5°	245.8	247.0	243.9	263.1	280.4	303.5	325.0	344.1	356.9	358.5	358.7
55°	226.3	226.9	224.5	242.8	259.6	283.8	308.5	327.1	339.9	341.2	342.0
57.5°	206.9	207.0	205.0	222.6	238.7	263.5	289.3	308.9	321.0	322.3	323.5
60°	187.6	187.5	185.2	202.2	217.6	242.2	269.1	288.5	300.2	301.4	303.0
62.5°	168.5	168.1	166.0	181.7	196.2	220.4	247.5	266.3	277.4	278.2	280.4
65°	149.4	149.0	147.1	161.6	174.8	197.9	224.5	242.3	252.3	253.4	253.0
67.5°	130.7	129.9	128.4	141.4	153.3	174.8	200.2	217.2	225.5	226.5	229.0
70°	111.9	111.0	107.6	121.4	131.9	151.0	174.8	189.9	196.9	197.8	197.4
72.5°	93.4	92.5	88.8	101.6	110.4	127.2	148.4	160.9	167.0	167.8	167.8
75°	75.4	74.9	72.6	82.3	89.7	103.3	121.3	131.7	136.4	137.4	137.1
77.5°	58.2	57.8	55.5	63.8	69.6	79.7	94.2	102.4	105.9	106.9	109.2
80°	41.7	41.5	37.9	46.1	48.6	57.2	67.8	74.1	76.0	77.5	79.1
82.5°	26.7	26.8	23.2	30.2	31.2	36.7	43.3	47.2	48.5	49.7	50.9
85°	13.0	13.5	11.5	15.9	16.1	18.9	21.7	23.2	23.7	24.7	25.7
87.5°	3.4	3.9	2.1	4.6	4.0	5.2	6.0	6.4	6.3	7.0	7.4
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: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	562.3	566.6	564.5	571.4	574.1	569.8	577.3	577.5	572.1	578.4	581.9
5°	553.6	558.0	556.7	563.9	567.3	563.5	572.6	574.4	569.1	576.3	581.9
7.5°	544.8	550.0	548.2	555.6	559.6	556.7	566.5	569.3	565.3	573.0	580.5
10°	537.1	541.5	539.7	547.4	550.9	548.5	558.2	563.4	559.6	569.1	578.1
12.5°	529.6	533.2	531.1	537.5	540.9	537.8	549.6	554.4	551.7	561.6	573.2
15°	520.0	524.0	521.0	526.8	529.3	526.7	536.3	544.6	541.3	552.1	564.9
17.5°	512.6	514.9	510.9	515.4	516.9	513.3	523.0	531.2	528.8	540.6	555.3
20°	504.4	506.3	500.7	503.2	503.1	498.5	507.5	515.5	513.9	526.9	543.7
22.5°	495.3	496.2	489.7	490.2	489.9	482.4	490.5	498.7	498.0	511.1	529.9
25°	485.7	485.8	477.3	477.1	474.1	465.3	472.4	481.6	479.6	493.8	513.5
27.5°	476.1	474.8	464.6	462.2	457.5	446.9	453.2	461.5	460.3	474.3	496.1
30°	466.0	464.2	451.8	447.3	440.5	428.3	433.5	441.3	442.0	454.2	477.1
32.5°	456.3	451.9	438.1	431.7	423.1	408.9	411.7	419.6	420.7	433.0	456.6
35°	443.8	440.9	423.9	412.9	404.4	388.9	391.9	397.3	399.0	411.0	435.0
37.5°	432.1	427.4	409.3	395.9	385.0	368.7	369.5	375.1	376.7	388.9	412.6
40°	419.9	413.2	393.7	378.0	365.6	348.4	347.5	353.4	354.6	366.5	388.0
42.5°	406.9	398.8	377.0	359.8	345.5	328.1	326.2	331.3	332.6	344.3	365.3
45°	393.7	384.1	359.8	341.1	325.4	307.6	305.7	309.6	311.6	322.6	342.8
47.5°	379.8	368.5	342.1	321.2	305.0	287.2	284.9	288.8	290.4	301.3	320.4
50°	365.2	351.5	323.9	300.9	284.8	267.2	263.9	268.4	269.9	280.1	298.8
52.5°	349.1	334.0	304.5	280.4	264.3	247.5	243.5	247.9	249.7	259.6	276.9
55°	332.1	315.7	284.9	261.5	244.0	227.7	224.3	226.1	229.8	239.2	255.3
57.5°	312.9	296.7	264.3	240.4	223.7	208.0	205.2	206.8	210.3	219.4	233.9
60°	292.5	275.4	243.2	219.4	203.2	188.3	185.7	187.2	191.0	199.3	212.7
62.5°	272.4	253.1	221.5	197.8	183.1	169.3	168.6	168.1	171.5	179.6	191.4
65°	248.1	229.6	198.9	176.4	163.0	150.5	147.8	149.0	152.4	159.7	172.1
67.5°	221.9	205.2	175.7	154.9	143.0	131.9	129.6	130.1	133.6	140.0	150.8
70°	194.2	179.4	152.0	133.3	123.3	112.8	111.4	111.5	114.8	120.5	129.9
72.5°	165.1	151.8	128.0	112.0	103.7	96.2	94.9	93.3	96.4	101.2	109.2
75°	135.5	123.8	104.1	91.1	84.6	78.3	77.1	75.4	78.5	82.7	89.0
77.5°	105.6	96.2	80.9	70.9	65.8	61.1	60.0	58.3	61.4	64.5	69.4
80°	76.4	69.6	60.4	49.9	48.1	45.0	44.0	42.1	45.0	47.0	50.8
82.5°	49.3	44.8	39.5	32.2	31.9	29.6	29.1	26.9	29.6	30.8	33.6
85°	24.9	22.8	21.4	16.3	16.9	15.4	15.3	13.0	15.1	15.7	17.3
87.5°	7.1	7.5	6.7	4.0	5.1	4.8	4.8	3.5	4.8	4.8	5.5
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: P837824

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2LO-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	575.0	577.3	577.9	577.7	579.2	587.2	584.6	587.2
5°	576.4	581.5	582.8	584.7	587.1	596.2	593.3	596.5
7.5°	577.2	584.8	587.8	591.4	595.3	605.5	603.1	606.3
10°	577.2	587.1	591.4	597.4	602.7	614.4	612.2	615.9
12.5°	574.8	587.5	593.5	602.0	608.7	621.4	620.5	623.2
15°	569.8	585.5	593.8	604.7	613.0	627.2	626.8	630.0
17.5°	563.1	582.0	592.1	605.7	616.2	632.1	633.1	634.8
20°	554.7	575.4	588.6	605.3	618.5	636.0	637.2	639.6
22.5°	543.6	567.5	583.4	603.6	618.7	637.6	639.8	642.0
25°	530.4	558.0	576.5	600.2	617.4	637.5	640.4	642.5
27.5°	515.4	545.7	567.8	594.9	613.6	635.3	639.0	641.4
30°	498.0	532.6	557.9	587.9	608.5	631.3	635.2	637.6
32.5°	480.0	518.1	546.1	578.9	601.2	624.9	628.2	630.1
35°	460.5	500.5	531.9	567.4	591.7	614.6	617.1	619.1
37.5°	439.2	481.5	515.7	554.4	578.3	600.2	602.5	604.8
40°	417.2	461.5	497.5	538.5	562.3	582.7	585.1	586.7
42.5°	395.1	439.4	478.0	519.7	543.4	563.0	564.5	566.1
45°	372.7	416.5	456.2	498.9	522.4	540.7	541.3	542.6
47.5°	349.9	392.8	432.2	475.2	498.4	515.1	515.7	516.7
50°	327.0	369.1	406.6	449.6	472.3	489.9	487.5	488.6
52.5°	304.5	344.1	382.5	422.0	444.4	460.1	460.7	458.6
55°	282.4	319.8	355.0	393.1	414.4	426.6	426.2	427.0
57.5°	260.0	295.1	327.4	362.2	383.0	394.5	396.9	394.1
60°	237.2	270.2	299.1	330.6	350.7	360.4	363.2	360.5
62.5°	214.6	244.8	271.1	298.6	317.2	329.1	328.9	325.9
65°	191.9	219.4	242.8	266.1	282.4	294.3	293.8	291.1
67.5°	171.0	193.6	214.7	233.6	247.7	255.8	258.6	255.4
70°	147.9	167.5	186.0	201.2	212.8	220.2	222.9	220.0
72.5°	124.9	141.5	154.5	169.1	178.1	184.3	187.1	184.4
75°	102.1	115.8	126.4	137.8	144.1	149.3	152.5	149.8
77.5°	80.0	90.6	99.0	107.3	114.6	115.8	118.6	116.9
80°	59.0	66.6	72.8	78.3	83.5	84.0	86.3	85.2
82.5°	39.3	44.4	46.0	51.7	55.1	54.5	56.8	56.0
85°	20.8	23.9	26.7	28.4	30.3	28.5	30.6	29.8
87.5°	7.0	7.4	6.4	9.1	10.1	8.6	9.8	9.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)