

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: P838021

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P838021
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-50-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

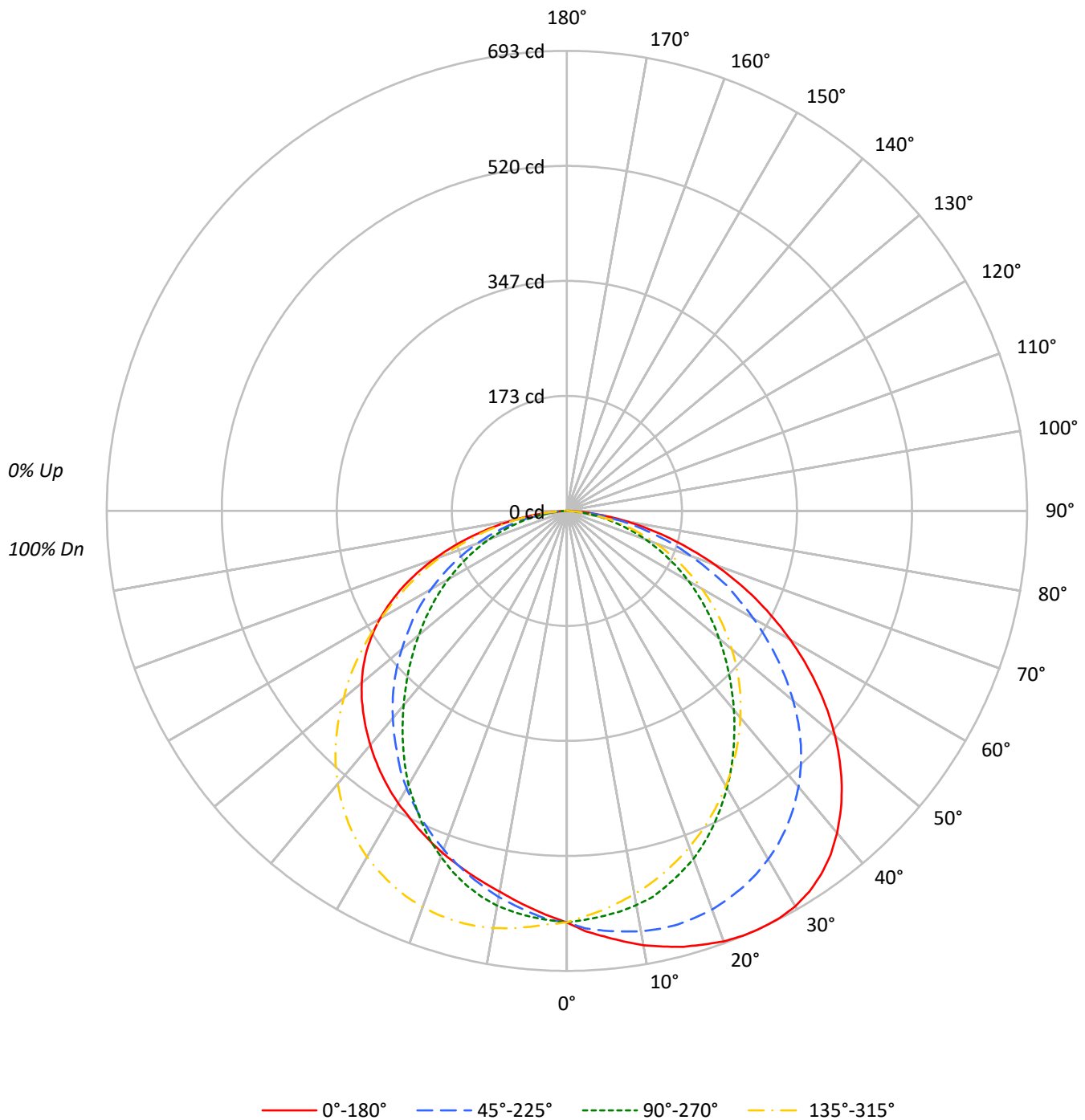
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1818.5 lumens
Efficiency: N/A
Efficacy: 82.7 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: P838021
CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P838021

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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°	1668	1668	1668	1668
5°	1738	1656	1625	1659
10°	1816	1647	1592	1650
15°	1894	1626	1576	1627
20°	1976	1597	1569	1588
25°	2058	1552	1569	1537
30°	2137	1498	1579	1482
35°	2194	1437	1595	1414
40°	2224	1375	1618	1344
45°	2228	1312	1649	1279
50°	2207	1252	1689	1219
55°	2161	1196	1727	1164
60°	2093	1138	1750	1109
65°	1999	1072	1741	1047
70°	1868	993	1679	975
75°	1680	886	1541	881
80°	1426	742	1296	753
85°	991	491	821	503

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P838021

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.8	3.2
10°-20°	170.4	9.4
20°-30°	261.2	14.4
30°-40°	317.6	17.5
40°-50°	330.1	18.2
50°-60°	298.2	16.4
60°-70°	226.7	12.5
70°-80°	126.4	6.9
80°-90°	29.1	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°	490.4	27.0
0°-40°	808.0	44.4
0°-60°	1436.3	79.0
0°-90°	1818.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1818.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	620	620	620	620	620	
5°	644	613	602	614	644	62
15°	680	584	566	584	680	193
25°	693	523	528	518	693	320
35°	668	437	486	430	668	417
45°	585	345	433	336	585	451
55°	461	255	368	248	461	411
65°	314	168	273	164	314	310
75°	162	85	148	85	162	172
85°	32	16	27	16	32	40
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°	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8
2.5°	633.6	624.3	624.4	632.5	626.3	629.4	620.7	624.0	623.0	623.7	616.6
5°	643.5	633.6	633.4	640.3	633.4	634.7	623.7	625.9	622.7	620.7	613.0
7.5°	654.1	644.1	643.1	649.2	640.1	639.0	626.9	626.9	621.1	616.1	608.8
10°	664.5	654.2	652.9	657.6	646.3	643.0	628.2	625.9	618.2	610.7	602.9
12.5°	672.3	661.9	660.9	663.8	651.0	645.0	628.2	623.7	612.4	601.9	595.8
15°	679.7	669.0	666.2	667.7	653.1	645.0	626.2	619.2	604.8	590.9	583.8
17.5°	684.9	674.6	671.9	671.7	654.1	642.5	621.8	612.3	595.0	578.2	571.1
20°	690.1	679.8	676.3	673.7	653.8	639.2	615.5	602.6	582.4	563.6	557.6
22.5°	692.7	682.1	678.4	674.5	651.9	633.1	607.7	591.3	568.2	545.8	540.9
25°	693.1	682.3	678.2	672.6	648.2	625.9	597.6	577.7	551.9	527.0	522.8
27.5°	692.0	680.1	676.1	669.3	642.5	617.1	585.6	562.3	534.5	507.0	502.6
30°	687.9	675.9	672.0	663.2	634.6	606.2	572.4	545.1	515.3	486.1	482.2
32.5°	679.8	668.1	664.9	656.1	625.9	593.6	557.1	526.6	494.0	466.1	460.3
35°	668.0	656.3	654.2	645.0	613.7	578.6	540.3	506.3	471.5	443.0	437.4
37.5°	652.5	642.7	639.6	630.5	599.4	561.6	521.1	484.3	448.5	417.8	414.4
40°	633.0	623.7	621.4	613.3	582.8	542.6	500.2	461.6	424.8	396.3	391.4
42.5°	610.7	602.0	600.7	592.3	562.3	521.6	477.7	438.1	400.1	372.6	367.7
45°	585.4	577.0	576.7	568.8	539.9	498.4	454.0	414.2	375.9	347.4	344.8
47.5°	557.5	550.0	550.0	542.6	514.9	472.8	429.5	389.4	351.6	326.5	321.8
50°	527.1	520.1	517.9	514.3	487.2	444.9	403.8	365.1	327.6	303.6	299.1
52.5°	494.8	488.7	490.1	483.5	457.3	415.8	377.8	337.7	303.5	281.6	277.2
55°	460.6	452.0	453.3	450.8	426.1	385.9	348.6	315.2	279.8	259.2	255.0
57.5°	425.2	413.9	418.6	417.1	392.8	355.2	321.8	289.6	256.2	237.3	233.2
60°	388.9	378.1	382.9	381.5	358.7	324.6	294.2	264.3	232.8	215.6	211.5
62.5°	351.6	341.6	346.0	345.0	324.0	293.2	266.8	239.3	209.2	193.7	190.0
65°	314.0	304.5	308.4	307.7	288.3	264.9	238.6	213.4	185.5	172.1	168.3
67.5°	275.6	266.8	270.4	270.4	252.6	230.2	210.2	187.2	162.2	150.7	147.2
70°	237.4	229.2	232.3	232.1	217.0	198.8	181.6	161.1	138.7	129.1	126.2
72.5°	198.9	191.7	194.6	194.3	181.7	170.0	153.0	135.2	115.7	108.0	105.4
75°	161.6	154.8	157.6	157.3	147.0	136.1	124.6	109.9	93.1	87.8	85.2
77.5°	126.1	119.1	121.4	121.4	113.9	106.0	96.9	85.4	73.6	67.8	65.9
80°	92.0	88.6	87.5	87.6	82.6	77.4	72.7	61.7	53.1	49.2	47.9
82.5°	60.4	57.7	56.5	56.8	53.9	50.7	47.9	40.2	34.4	32.1	31.4
85°	32.1	30.1	29.1	29.8	29.2	27.5	26.0	20.8	17.2	16.3	15.9
87.5°	10.1	8.8	8.1	10.7	9.1	8.1	7.8	6.2	4.8	4.8	4.6
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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CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8
2.5°	619.0	619.0	613.3	612.0	611.4	612.2	606.5	605.5	613.6	610.9	604.6
5°	614.0	613.7	605.8	604.3	604.3	603.5	597.1	595.7	603.8	601.5	594.7
7.5°	608.0	607.1	597.7	596.7	595.2	594.7	587.6	586.6	593.5	592.1	585.7
10°	600.6	599.7	588.6	587.9	586.3	585.1	578.5	577.7	584.8	582.5	577.5
12.5°	590.9	589.3	577.9	577.2	575.9	575.4	568.9	568.6	576.4	574.1	568.8
15°	578.2	576.9	564.2	564.4	564.6	564.6	559.4	559.1	566.8	565.7	560.0
17.5°	564.2	562.4	550.3	551.1	552.2	553.3	549.3	550.0	558.1	556.8	551.6
20°	548.3	546.5	534.7	537.1	539.3	541.6	539.0	541.0	548.5	548.0	544.1
22.5°	530.5	528.7	517.7	521.5	525.1	529.5	528.3	530.6	538.6	538.4	534.9
25°	508.8	509.2	499.5	504.2	510.2	516.3	516.7	520.5	529.3	528.4	525.3
27.5°	488.5	489.1	478.9	486.7	494.8	502.6	504.4	509.6	518.6	517.9	515.1
30°	467.3	468.0	458.0	468.7	478.6	488.1	492.2	499.2	508.3	508.3	505.5
32.5°	445.2	446.5	436.1	450.4	461.8	472.9	480.0	487.4	497.8	497.5	495.0
35°	422.5	423.9	414.4	432.6	444.0	457.6	466.4	476.2	485.5	485.6	483.8
37.5°	399.3	401.1	392.4	412.3	425.4	441.4	452.7	462.5	472.8	473.4	471.6
40°	376.3	378.2	370.7	389.9	406.4	424.3	437.4	448.9	460.2	460.5	459.3
42.5°	353.4	355.4	349.7	368.5	387.2	406.4	421.7	434.9	446.5	447.2	445.9
45°	330.9	332.7	328.6	349.2	367.1	388.1	405.7	420.6	432.3	433.3	432.9
47.5°	308.7	310.3	306.7	325.5	346.1	368.4	388.8	405.3	417.7	418.9	418.6
50°	286.8	288.1	284.2	303.9	324.4	348.2	369.4	388.5	402.4	403.5	403.4
52.5°	265.2	266.5	263.1	283.8	302.5	327.5	350.6	371.3	385.0	386.8	387.0
55°	244.2	244.8	242.2	262.0	280.1	306.2	332.8	352.9	366.7	368.1	369.0
57.5°	223.2	223.4	221.2	240.1	257.5	284.2	312.1	333.3	346.3	347.7	349.0
60°	202.4	202.3	199.8	218.2	234.8	261.3	290.3	311.3	323.9	325.2	326.9
62.5°	181.7	181.3	179.1	196.1	211.7	237.8	267.0	287.3	299.3	300.1	302.5
65°	161.2	160.8	158.7	174.4	188.5	213.5	242.2	261.4	272.2	273.4	273.0
67.5°	141.0	140.1	138.5	152.5	165.4	188.5	216.0	234.4	243.3	244.3	247.1
70°	120.7	119.7	116.1	131.0	142.3	162.9	188.5	204.9	212.4	213.4	213.0
72.5°	100.8	99.8	95.9	109.6	119.1	137.2	160.1	173.6	180.1	181.0	181.0
75°	81.4	80.8	78.4	88.8	96.7	111.5	130.8	142.1	147.2	148.2	147.9
77.5°	62.7	62.3	59.9	68.8	75.0	86.0	101.6	110.5	114.2	115.4	117.8
80°	45.0	44.8	40.9	49.7	52.5	61.7	73.2	80.0	82.0	83.6	85.3
82.5°	28.8	28.9	25.0	32.5	33.7	39.6	46.7	50.9	52.3	53.6	54.9
85°	14.0	14.6	12.4	17.2	17.3	20.4	23.4	25.0	25.6	26.6	27.8
87.5°	3.6	4.2	2.3	4.9	4.3	5.6	6.5	6.9	6.8	7.5	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

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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8
2.5°	606.7	611.3	609.0	616.5	619.4	614.8	622.9	623.0	617.2	624.0	627.8
5°	597.3	602.0	600.6	608.4	612.0	608.0	617.8	619.7	614.0	621.7	627.8
7.5°	587.7	593.4	591.5	599.4	603.8	600.6	611.1	614.2	609.8	618.2	626.3
10°	579.5	584.3	582.2	590.6	594.4	591.8	602.2	607.8	603.8	614.0	623.7
12.5°	571.4	575.3	573.0	579.9	583.5	580.2	592.9	598.1	595.2	605.9	618.4
15°	561.0	565.3	562.1	568.3	571.1	568.2	578.6	587.6	584.0	595.7	609.4
17.5°	553.0	555.5	551.1	556.1	557.6	553.7	564.3	573.1	570.5	583.2	599.1
20°	544.2	546.2	540.2	542.9	542.8	537.8	547.5	556.2	554.5	568.5	586.6
22.5°	534.4	535.4	528.3	528.9	528.6	520.5	529.2	538.0	537.3	551.4	571.7
25°	524.0	524.1	515.0	514.7	511.5	502.0	509.6	519.6	517.5	532.8	554.0
27.5°	513.7	512.2	501.3	498.7	493.6	482.2	489.0	497.9	496.6	511.7	535.2
30°	502.7	500.8	487.4	482.6	475.2	462.1	467.7	476.1	476.8	490.0	514.7
32.5°	492.3	487.5	472.6	465.7	456.4	441.1	444.2	452.7	453.8	467.1	492.6
35°	478.9	475.7	457.3	445.5	436.3	419.6	422.8	428.7	430.4	443.4	469.3
37.5°	466.1	461.1	441.5	427.1	415.4	397.7	398.6	404.7	406.4	419.6	445.2
40°	453.0	445.7	424.8	407.9	394.4	375.9	374.9	381.3	382.6	395.4	418.6
42.5°	438.9	430.3	406.7	388.2	372.7	353.9	351.9	357.4	358.8	371.4	394.1
45°	424.8	414.4	388.2	368.0	351.0	331.8	329.8	334.0	336.2	348.0	369.8
47.5°	409.7	397.6	369.1	346.6	329.1	309.8	307.4	311.6	313.3	325.0	345.7
50°	394.0	379.2	349.5	324.6	307.2	288.3	284.7	289.6	291.2	302.2	322.4
52.5°	376.6	360.3	328.5	302.5	285.1	267.0	262.7	267.5	269.4	280.1	298.7
55°	358.3	340.6	307.4	282.1	263.3	245.6	242.0	243.9	248.0	258.1	275.4
57.5°	337.6	320.1	285.1	259.4	241.3	224.4	221.4	223.1	226.8	236.7	252.3
60°	315.6	297.1	262.4	236.7	219.2	203.1	200.4	202.0	206.0	215.0	229.4
62.5°	293.9	273.1	239.0	213.4	197.5	182.6	181.9	181.3	185.1	193.7	206.5
65°	267.6	247.7	214.6	190.3	175.8	162.4	159.5	160.8	164.4	172.3	185.6
67.5°	239.4	221.4	189.5	167.1	154.3	142.3	139.8	140.4	144.1	151.1	162.7
70°	209.5	193.6	164.0	143.9	133.0	121.7	120.1	120.3	123.9	130.0	140.1
72.5°	178.1	163.8	138.1	120.9	111.9	103.8	102.4	100.6	104.0	109.2	117.8
75°	146.2	133.6	112.3	98.3	91.2	84.4	83.1	81.4	84.7	89.2	96.0
77.5°	113.9	103.8	87.3	76.5	71.0	65.9	64.8	62.9	66.2	69.5	74.9
80°	82.4	75.0	65.2	53.8	51.9	48.6	47.4	45.4	48.6	50.7	54.8
82.5°	53.2	48.3	42.7	34.7	34.4	32.0	31.4	29.1	32.0	33.3	36.3
85°	26.9	24.6	23.1	17.6	18.2	16.6	16.5	14.0	16.3	16.9	18.7
87.5°	7.7	8.1	7.2	4.3	5.5	5.2	5.2	3.8	5.2	5.2	5.9
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: P838021

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	619.8	619.8	619.8	619.8	619.8	619.8	619.8	619.8
2.5°	620.4	622.9	623.4	623.3	624.9	633.6	630.7	633.6
5°	621.8	627.3	628.8	630.8	633.4	643.2	640.1	643.5
7.5°	622.7	631.0	634.1	638.0	642.2	653.2	650.6	654.1
10°	622.7	633.4	638.0	644.5	650.2	662.9	660.4	664.5
12.5°	620.1	633.8	640.3	649.5	656.7	670.4	669.4	672.3
15°	614.8	631.7	640.6	652.3	661.3	676.6	676.2	679.7
17.5°	607.5	627.9	638.8	653.5	664.8	682.0	683.0	684.9
20°	598.4	620.8	635.0	653.1	667.2	686.2	687.5	690.1
22.5°	586.4	612.3	629.4	651.2	667.5	687.9	690.2	692.7
25°	572.3	602.0	622.0	647.6	666.1	687.8	691.0	693.1
27.5°	556.1	588.7	612.6	641.8	662.0	685.5	689.4	692.0
30°	537.3	574.6	601.9	634.3	656.5	681.1	685.3	687.9
32.5°	517.9	558.9	589.2	624.6	648.6	674.2	677.8	679.8
35°	496.8	540.0	573.8	612.2	638.3	663.0	665.8	668.0
37.5°	473.8	519.5	556.3	598.1	623.9	647.6	650.0	652.5
40°	450.1	497.9	536.7	580.9	606.7	628.6	631.2	633.0
42.5°	426.2	474.1	515.7	560.7	586.3	607.4	609.0	610.7
45°	402.1	449.4	492.2	538.3	563.6	583.4	584.0	585.4
47.5°	377.5	423.8	466.3	512.7	537.7	555.8	556.3	557.5
50°	352.8	398.2	438.7	485.1	509.5	528.6	526.0	527.1
52.5°	328.5	371.3	412.6	455.3	479.4	496.3	497.1	494.8
55°	304.6	345.0	383.0	424.1	447.0	460.2	459.8	460.6
57.5°	280.5	318.4	353.2	390.8	413.2	425.6	428.2	425.2
60°	255.9	291.5	322.7	356.7	378.4	388.8	391.8	388.9
62.5°	231.5	264.1	292.5	322.1	342.2	355.1	354.8	351.6
65°	207.0	236.7	262.0	287.1	304.6	317.5	316.9	314.0
67.5°	184.5	208.9	231.6	252.0	267.2	276.0	279.0	275.6
70°	159.6	180.7	200.7	217.0	229.6	237.5	240.4	237.4
72.5°	134.7	152.7	166.7	182.5	192.1	198.8	201.8	198.9
75°	110.2	124.9	136.3	148.6	155.4	161.1	164.5	161.6
77.5°	86.3	97.7	106.8	115.8	123.6	124.9	128.0	126.1
80°	63.6	71.9	78.5	84.4	90.1	90.7	93.1	92.0
82.5°	42.4	47.9	49.6	55.8	59.4	58.8	61.3	60.4
85°	22.4	25.7	28.8	30.7	32.7	30.8	33.0	32.1
87.5°	7.5	8.0	6.9	9.8	10.8	9.3	10.6	10.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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