

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: P838147

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1HI-20-120-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: P838147
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-1HI-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

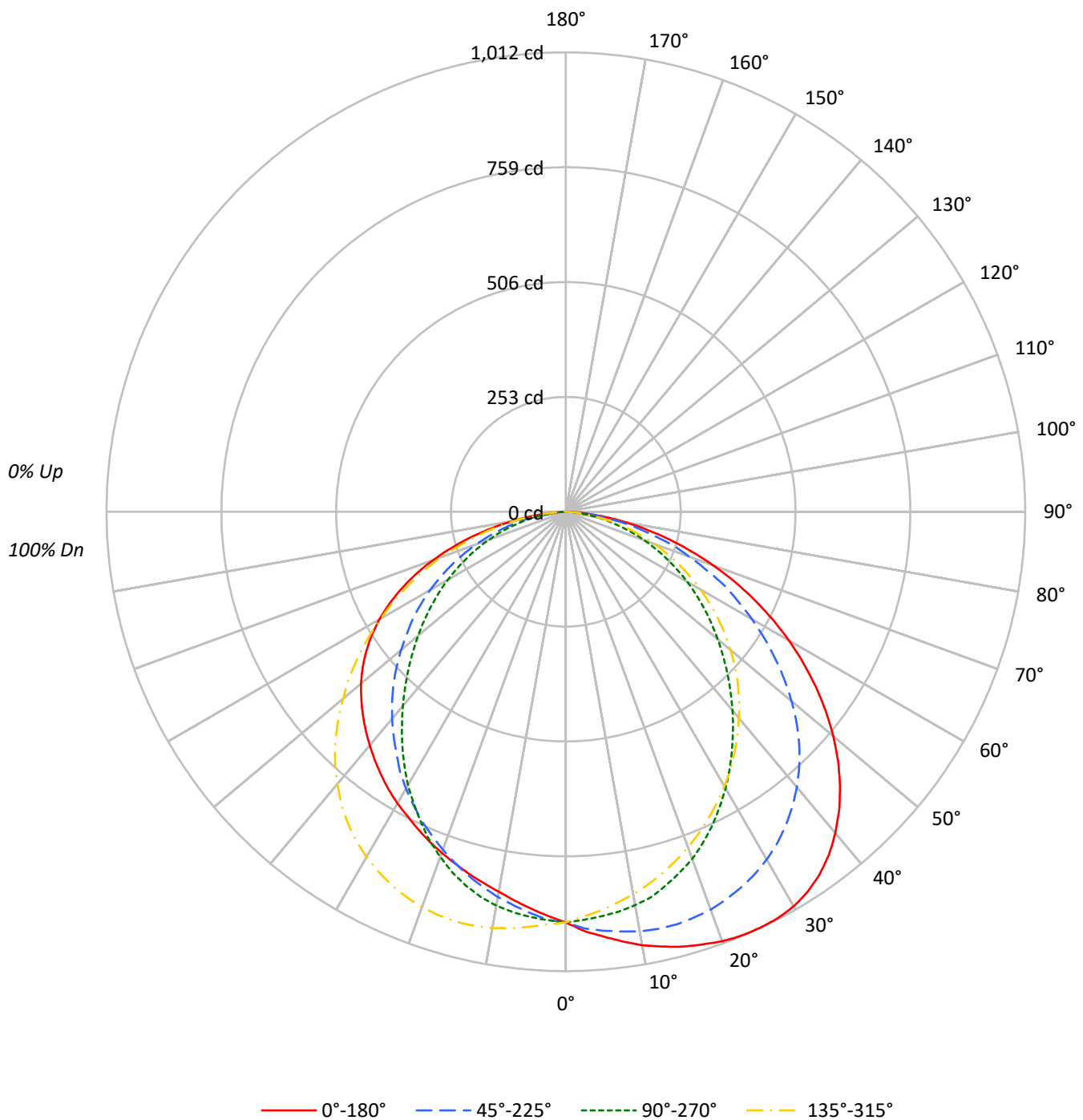
Lumens per Lamp: N/A
Luminaire Lumens: 2653.7 lumens
Efficiency: N/A
Efficacy: 60.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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°	1217	1217	1217	1217
5°	1268	1208	1185	1210
10°	1325	1202	1161	1204
15°	1382	1187	1150	1187
20°	1442	1165	1145	1159
25°	1502	1133	1145	1121
30°	1560	1093	1152	1081
35°	1601	1048	1164	1032
40°	1622	1003	1180	981
45°	1626	957	1203	933
50°	1610	914	1233	889
55°	1577	873	1260	849
60°	1527	831	1277	809
65°	1459	782	1270	764
70°	1363	725	1225	711
75°	1226	646	1124	643
80°	1040	541	945	549
85°	722	358	599	367

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.9	3.2
10°-20°	248.7	9.4
20°-30°	381.1	14.4
30°-40°	463.4	17.5
40°-50°	481.7	18.2
50°-60°	435.2	16.4
60°-70°	330.8	12.5
70°-80°	184.4	7.0
80°-90°	42.5	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°	715.7	27.0
0°-40°	1179.1	44.4
0°-60°	2096.0	79.0
0°-90°	2653.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2653.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	904	904	904	904	904	
5°	939	895	878	896	939	91
15°	992	852	826	852	992	281
25°	1012	763	771	755	1012	467
35°	975	638	709	628	975	609
45°	854	503	632	490	854	658
55°	672	372	537	362	672	600
65°	458	246	399	240	458	453
75°	236	124	216	124	236	251
85°	47	23	39	24	47	59
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°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5
2.5°	924.5	911.0	911.3	923.1	914.0	918.4	905.8	910.6	909.1	910.2	899.9
5°	939.1	924.5	924.3	934.5	924.3	926.2	910.2	913.4	908.7	905.8	894.6
7.5°	954.5	939.9	938.5	947.3	934.0	932.6	914.8	914.8	906.4	899.0	888.5
10°	969.7	954.7	952.8	959.6	943.1	938.3	916.7	913.4	902.2	891.2	879.8
12.5°	981.1	965.9	964.4	968.6	950.1	941.2	916.7	910.2	893.7	878.3	869.5
15°	991.9	976.2	972.2	974.3	953.0	941.2	913.8	903.7	882.6	862.3	852.0
17.5°	999.4	984.5	980.5	980.2	954.5	937.6	907.5	893.5	868.2	843.7	833.4
20°	1007.0	992.1	987.0	983.2	954.1	932.8	898.2	879.4	849.9	822.4	813.8
22.5°	1010.8	995.4	990.0	984.3	951.3	923.9	886.8	862.9	829.2	796.5	789.3
25°	1011.5	995.6	989.7	981.5	945.9	913.4	872.0	843.1	805.3	769.0	762.9
27.5°	1009.8	992.5	986.6	976.7	937.6	900.5	854.5	820.5	780.0	739.9	733.4
30°	1003.9	986.4	980.7	967.8	926.0	884.7	835.3	795.4	752.0	709.3	703.6
32.5°	992.1	975.0	970.3	957.5	913.4	866.3	812.9	768.4	720.9	680.2	671.8
35°	974.8	957.7	954.7	941.2	895.6	844.4	788.5	738.9	688.0	646.5	638.2
37.5°	952.2	937.8	933.4	920.1	874.8	819.5	760.4	706.8	654.5	609.8	604.7
40°	923.7	910.2	906.8	895.0	850.5	791.8	730.0	673.7	619.9	578.3	571.1
42.5°	891.2	878.6	876.7	864.4	820.5	761.2	697.1	639.3	583.8	543.7	536.5
45°	854.3	842.0	841.6	830.0	787.8	727.3	662.5	604.5	548.6	507.0	503.2
47.5°	813.6	802.6	802.6	791.8	751.3	689.9	626.8	568.2	513.1	476.4	469.7
50°	769.3	758.9	755.8	750.5	711.0	649.2	589.3	532.7	478.1	443.1	436.5
52.5°	722.0	713.1	715.2	705.5	667.4	606.8	551.3	492.9	442.9	411.0	404.5
55°	672.2	659.5	661.4	657.9	621.8	563.1	508.7	460.0	408.3	378.3	372.2
57.5°	620.5	604.1	610.8	608.7	573.3	518.4	469.7	422.6	373.9	346.2	340.3
60°	567.6	551.7	558.7	556.8	523.5	473.7	429.4	385.7	339.7	314.6	308.7
62.5°	513.1	498.6	504.9	503.4	472.8	427.9	389.3	349.2	305.3	282.7	277.2
65°	458.3	444.3	450.0	449.0	420.7	386.5	348.1	311.4	270.7	251.1	245.6
67.5°	402.1	389.3	394.5	394.5	368.6	335.9	306.8	273.2	236.7	219.8	214.8
70°	346.4	334.4	339.1	338.6	316.7	290.1	265.0	235.0	202.3	188.4	184.2
72.5°	290.3	279.8	284.0	283.6	265.2	248.1	223.2	197.3	168.8	157.6	153.8
75°	235.9	226.0	230.0	229.6	214.6	198.5	181.9	160.4	135.9	128.1	124.3
77.5°	184.0	173.9	177.2	177.2	166.3	154.7	141.4	124.7	107.4	99.0	96.2
80°	134.2	129.3	127.6	127.9	120.5	112.9	106.1	90.1	77.4	71.7	69.8
82.5°	88.2	84.2	82.5	82.9	78.7	74.1	69.8	58.7	50.2	46.8	45.8
85°	46.8	43.9	42.4	43.5	42.6	40.1	38.0	30.4	25.1	23.8	23.2
87.5°	14.8	12.9	11.8	15.6	13.3	11.8	11.4	9.1	7.0	7.0	6.8
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°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5
2.5°	903.2	903.2	895.0	893.1	892.3	893.3	885.1	883.6	895.4	891.4	882.3
5°	896.1	895.6	884.0	881.9	881.9	880.7	871.4	869.3	881.1	877.7	867.8
7.5°	887.2	885.9	872.2	870.7	868.6	867.8	857.5	856.0	866.1	864.0	854.7
10°	876.4	875.2	858.9	857.9	855.6	853.9	844.2	843.1	853.4	850.1	842.7
12.5°	862.3	860.0	843.3	842.3	840.4	839.7	830.2	829.8	841.2	837.8	830.0
15°	843.7	841.8	823.3	823.7	823.9	823.9	816.3	815.9	827.1	825.6	817.2
17.5°	823.3	820.7	803.0	804.3	805.8	807.4	801.5	802.6	814.4	812.5	804.9
20°	800.1	797.5	780.2	783.8	787.0	790.4	786.6	789.5	800.5	799.6	793.9
22.5°	774.1	771.6	755.5	761.0	766.3	772.6	770.9	774.3	785.9	785.7	780.7
25°	742.5	743.1	729.0	735.7	744.6	753.4	754.1	759.6	772.4	771.2	766.5
27.5°	712.9	713.8	698.8	710.2	722.0	733.4	736.1	743.7	756.8	755.8	751.7
30°	681.9	683.0	668.4	684.0	698.4	712.3	718.2	728.5	741.8	741.8	737.6
32.5°	649.6	651.5	636.3	657.2	673.9	690.1	700.5	711.2	726.4	726.0	722.4
35°	616.5	618.6	604.7	631.3	647.9	667.8	680.6	695.0	708.5	708.7	706.0
37.5°	582.7	585.3	572.6	601.7	620.7	644.1	660.6	674.9	689.9	690.8	688.2
40°	549.2	551.9	541.0	569.0	593.1	619.2	638.2	655.1	671.6	672.0	670.3
42.5°	515.7	518.6	510.4	537.8	565.0	593.1	615.4	634.6	651.5	652.6	650.7
45°	482.9	485.5	479.6	509.5	535.7	566.3	592.0	613.8	630.9	632.3	631.7
47.5°	450.5	452.8	447.5	474.9	505.1	537.6	567.3	591.4	609.5	611.2	610.8
50°	418.6	420.5	414.8	443.5	473.5	508.1	539.1	566.9	587.2	588.9	588.7
52.5°	387.0	388.8	384.0	414.2	441.4	477.9	511.6	541.8	561.9	564.4	564.8
55°	356.4	357.2	353.4	382.3	408.7	446.9	485.7	515.0	535.1	537.2	538.4
57.5°	325.8	326.0	322.8	350.4	375.8	414.8	455.5	486.3	505.3	507.4	509.3
60°	295.4	295.2	291.6	318.4	342.6	381.3	423.7	454.3	472.6	474.5	477.0
62.5°	265.2	264.6	261.4	286.1	308.9	347.1	389.7	419.2	436.7	438.0	441.4
65°	235.3	234.6	231.7	254.5	275.1	311.6	353.4	381.5	397.3	399.0	398.3
67.5°	205.7	204.4	202.1	222.6	241.4	275.1	315.2	342.0	355.1	356.6	360.6
70°	176.2	174.7	169.4	191.2	207.6	237.8	275.1	299.0	309.9	311.4	310.8
72.5°	147.1	145.6	139.9	159.9	173.9	200.2	233.6	253.4	262.9	264.2	264.2
75°	118.8	117.9	114.4	129.5	141.2	162.7	190.9	207.4	214.8	216.3	215.8
77.5°	91.6	90.9	87.3	100.4	109.5	125.5	148.3	161.2	166.7	168.4	172.0
80°	65.6	65.4	59.7	72.6	76.6	90.1	106.8	116.7	119.6	122.0	124.5
82.5°	42.0	42.2	36.5	47.5	49.2	57.8	68.1	74.3	76.4	78.3	80.2
85°	20.5	21.3	18.1	25.1	25.3	29.7	34.2	36.5	37.3	38.8	40.5
87.5°	5.3	6.1	3.4	7.2	6.3	8.2	9.5	10.1	9.9	11.0	11.6
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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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5
2.5°	885.3	892.1	888.7	899.6	903.9	897.1	908.9	909.1	900.7	910.6	916.1
5°	871.6	878.6	876.4	887.8	893.1	887.2	901.5	904.3	896.1	907.2	916.1
7.5°	857.7	865.9	863.1	874.8	881.1	876.4	891.8	896.3	889.9	902.2	914.0
10°	845.6	852.6	849.6	861.9	867.4	863.6	878.8	887.0	881.1	896.1	910.2
12.5°	833.8	839.5	836.1	846.3	851.5	846.7	865.3	872.9	868.6	884.2	902.4
15°	818.6	825.0	820.3	829.4	833.4	829.2	844.4	857.5	852.2	869.3	889.3
17.5°	807.0	810.6	804.3	811.5	813.8	808.1	823.5	836.4	832.6	851.1	874.3
20°	794.2	797.1	788.2	792.3	792.0	784.9	799.0	811.7	809.1	829.6	856.0
22.5°	779.8	781.3	770.9	771.8	771.4	759.6	772.2	785.1	784.0	804.7	834.2
25°	764.6	764.8	751.5	751.1	746.5	732.5	743.7	758.3	755.1	777.5	808.5
27.5°	749.6	747.5	731.5	727.7	720.3	703.6	713.6	726.6	724.7	746.7	781.1
30°	733.6	730.9	711.2	704.3	693.5	674.3	682.5	694.8	695.8	715.0	751.1
32.5°	718.4	711.4	689.7	679.6	666.1	643.7	648.2	660.6	662.3	681.7	718.8
35°	698.8	694.1	667.4	650.1	636.8	612.3	616.9	625.6	628.1	647.1	684.9
37.5°	680.2	672.8	644.4	623.3	606.2	580.4	581.7	590.6	593.1	612.3	649.6
40°	661.0	650.5	619.9	595.2	575.6	548.6	547.1	556.4	558.3	577.0	610.8
42.5°	640.6	627.9	593.5	566.5	543.9	516.5	513.5	521.6	523.7	542.0	575.2
45°	619.9	604.7	566.5	537.0	512.3	484.2	481.3	487.4	490.5	507.8	539.7
47.5°	597.9	580.2	538.7	505.7	480.2	452.1	448.6	454.7	457.2	474.3	504.5
50°	574.9	553.4	510.0	473.7	448.3	420.7	415.4	422.6	424.9	441.0	470.5
52.5°	549.6	525.8	479.4	441.4	416.1	389.7	383.4	390.3	393.1	408.7	435.9
55°	522.8	497.1	448.6	411.6	384.2	358.5	353.2	355.9	361.8	376.6	401.9
57.5°	492.7	467.1	416.1	378.5	352.1	327.5	323.0	325.6	331.0	345.4	368.2
60°	460.6	433.6	382.9	345.4	319.9	296.4	292.4	294.7	300.7	313.7	334.8
62.5°	428.9	398.6	348.8	311.4	288.2	266.5	265.4	264.6	270.1	282.7	301.3
65°	390.5	361.4	313.1	277.7	256.6	236.9	232.7	234.6	239.9	251.5	270.9
67.5°	349.4	323.0	276.6	243.9	225.1	207.6	204.0	204.9	210.4	220.5	237.4
70°	305.7	282.5	239.3	209.9	194.1	177.7	175.3	175.5	180.8	189.7	204.4
72.5°	259.9	239.0	201.5	176.4	163.3	151.5	149.4	146.8	151.7	159.3	172.0
75°	213.3	195.0	163.9	143.5	133.1	123.2	121.3	118.8	123.6	130.2	140.1
77.5°	166.3	151.5	127.4	111.6	103.6	96.2	94.5	91.8	96.6	101.5	109.3
80°	120.3	109.5	95.2	78.5	75.7	70.9	69.2	66.2	70.9	74.1	80.0
82.5°	77.6	70.5	62.2	50.6	50.2	46.6	45.8	42.4	46.6	48.5	53.0
85°	39.2	35.9	33.8	25.7	26.6	24.3	24.1	20.5	23.8	24.7	27.2
87.5°	11.2	11.8	10.5	6.3	8.0	7.6	7.6	5.5	7.6	7.6	8.7
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: P838147

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1HI-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5
2.5°	905.3	908.9	909.8	909.6	911.9	924.5	920.3	924.5
5°	907.5	915.5	917.6	920.5	924.3	938.7	934.0	939.1
7.5°	908.7	920.7	925.4	931.1	937.2	953.2	949.4	954.5
10°	908.7	924.3	931.1	940.6	948.8	967.4	963.8	969.7
12.5°	904.9	925.0	934.5	947.8	958.3	978.3	976.9	981.1
15°	897.1	921.8	934.9	952.0	965.1	987.4	986.8	991.9
17.5°	886.6	916.3	932.1	953.7	970.1	995.2	996.7	999.4
20°	873.3	906.0	926.7	953.0	973.7	1001.3	1003.2	1007.0
22.5°	855.8	893.5	918.4	950.3	974.1	1003.9	1007.3	1010.8
25°	835.1	878.6	907.7	945.0	972.0	1003.7	1008.3	1011.5
27.5°	811.5	859.1	894.0	936.6	966.1	1000.3	1006.0	1009.8
30°	784.0	838.5	878.3	925.6	958.1	994.0	1000.1	1003.9
32.5°	755.8	815.7	859.8	911.5	946.5	983.8	989.1	992.1
35°	725.0	788.0	837.4	893.3	931.5	967.6	971.6	974.8
37.5°	691.4	758.1	811.9	872.9	910.4	945.0	948.6	952.2
40°	656.8	726.6	783.2	847.7	885.3	917.4	921.2	923.7
42.5°	622.0	691.8	752.6	818.2	855.6	886.4	888.7	891.2
45°	586.8	655.7	718.2	785.5	822.4	851.3	852.2	854.3
47.5°	550.9	618.4	680.4	748.2	784.7	811.0	811.9	813.6
50°	514.8	581.1	640.1	707.9	743.5	771.4	767.6	769.3
52.5°	479.4	541.8	602.2	664.4	699.6	724.3	725.4	722.0
55°	444.5	503.4	558.9	618.8	652.4	671.6	670.9	672.2
57.5°	409.3	464.6	515.4	570.3	603.0	621.1	624.9	620.5
60°	373.4	425.4	470.9	520.5	552.2	567.3	571.8	567.6
62.5°	337.8	385.5	426.8	470.1	499.4	518.2	517.8	513.1
65°	302.1	345.4	382.3	419.0	444.5	463.3	462.5	458.3
67.5°	269.2	304.9	338.0	367.8	389.9	402.8	407.2	402.1
70°	232.9	263.7	292.9	316.7	335.0	346.7	350.9	346.4
72.5°	196.6	222.8	243.3	266.3	280.4	290.1	294.5	290.3
75°	160.8	182.3	199.0	216.9	226.8	235.0	240.1	235.9
77.5°	126.0	142.6	155.9	169.0	180.4	182.3	186.7	184.0
80°	92.8	104.9	114.6	123.2	131.4	132.3	135.9	134.2
82.5°	61.8	69.8	72.4	81.4	86.7	85.9	89.5	88.2
85°	32.7	37.6	42.0	44.7	47.7	44.9	48.1	46.8
87.5°	11.0	11.6	10.1	14.3	15.8	13.5	15.4	14.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)