

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: P837936

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3STD-20-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837936
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-LD4-3STD-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

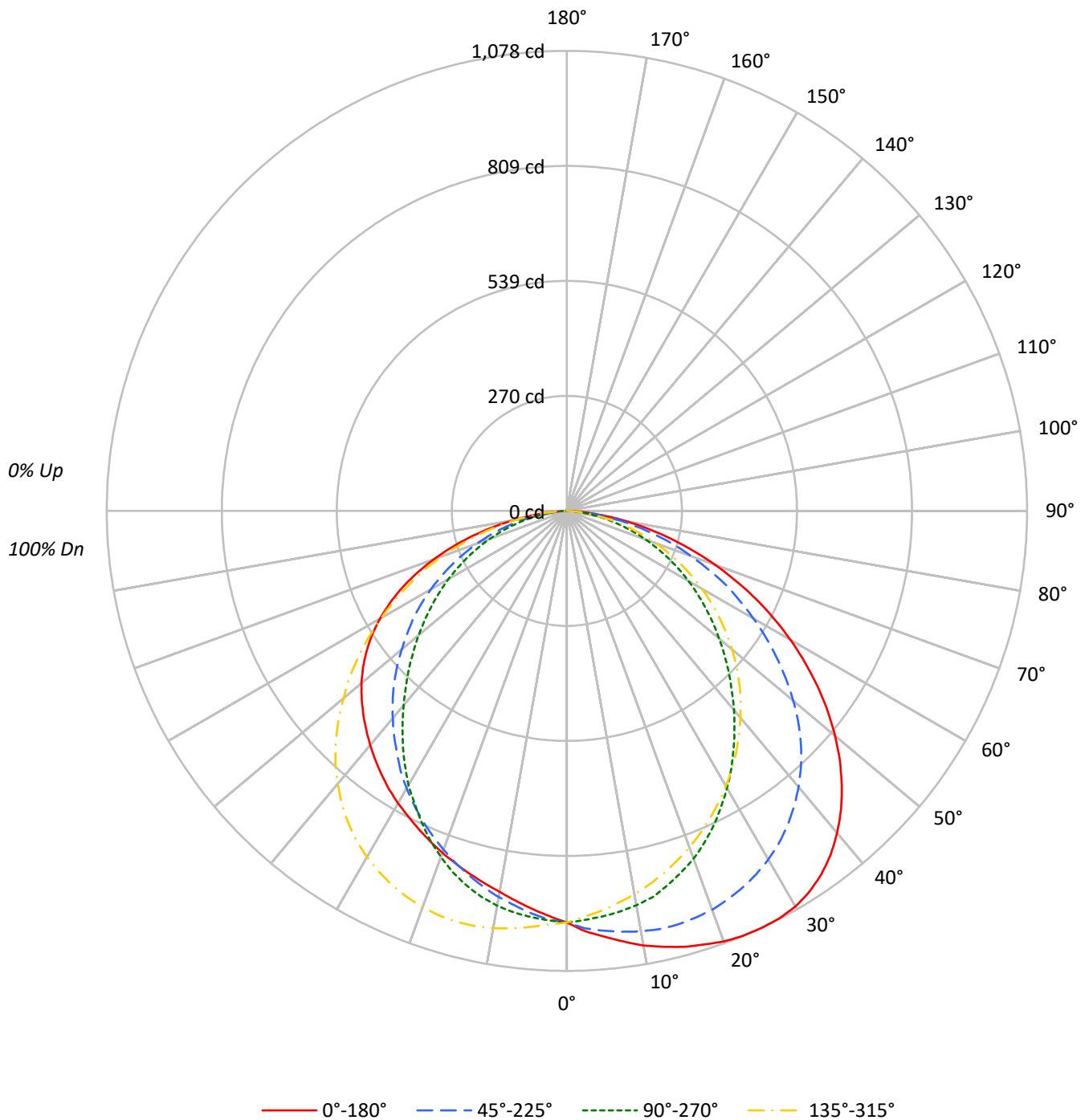
Lumens per Lamp: N/A
Luminaire Lumens: 2829.7 lumens
Efficiency: N/A
Efficacy: 56.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 50
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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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°	2595	2595	2595	2595
5°	2705	2577	2528	2581
10°	2825	2564	2477	2567
15°	2946	2531	2452	2532
20°	3075	2485	2442	2471
25°	3202	2415	2442	2391
30°	3326	2331	2458	2306
35°	3415	2236	2483	2200
40°	3460	2139	2517	2091
45°	3467	2042	2566	1991
50°	3434	1949	2629	1897
55°	3363	1862	2687	1810
60°	3257	1771	2723	1725
65°	3112	1668	2709	1629
70°	2906	1545	2613	1517
75°	2615	1378	2398	1370
80°	2218	1155	2015	1172
85°	1541	763	1278	784

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.6	3.2
10°-20°	265.2	9.4
20°-30°	406.4	14.4
30°-40°	494.1	17.5
40°-50°	513.7	18.2
50°-60°	464.0	16.4
60°-70°	352.8	12.5
70°-80°	196.7	7.0
80°-90°	45.3	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°	763.1	27.0
0°-40°	1257.3	44.4
0°-60°	2235.0	79.0
0°-90°	2829.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2829.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	964	964	964	964	964	
5°	1001	954	936	956	1001	97
15°	1058	908	880	909	1058	300
25°	1078	814	822	805	1078	498
35°	1039	681	756	670	1039	649
45°	911	537	674	523	911	701
55°	717	397	573	386	717	640
65°	489	262	425	256	489	483
75°	252	132	231	132	252	267
85°	50	25	41	25	50	63
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°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	985.9	971.5	971.7	984.3	974.6	979.3	965.8	971.0	969.4	970.6	959.5
5°	1001.4	985.9	985.6	996.4	985.6	987.7	970.6	973.9	969.0	965.8	953.9
7.5°	1017.8	1002.3	1000.7	1010.2	996.0	994.4	975.5	975.5	966.5	958.6	947.4
10°	1034.0	1018.0	1016.0	1023.2	1005.7	1000.5	977.5	973.9	962.0	950.3	938.2
12.5°	1046.2	1030.0	1028.4	1032.9	1013.1	1003.6	977.5	970.6	953.0	936.6	927.1
15°	1057.6	1041.0	1036.7	1039.0	1016.2	1003.6	974.4	963.6	941.1	919.5	908.5
17.5°	1065.7	1049.8	1045.5	1045.3	1017.8	999.8	967.6	952.8	925.8	899.7	888.7
20°	1073.8	1057.9	1052.5	1048.4	1017.4	994.6	957.7	937.7	906.2	877.0	867.7
22.5°	1077.9	1061.5	1055.6	1049.5	1014.4	985.2	945.6	920.2	884.2	849.3	841.6
25°	1078.5	1061.7	1055.4	1046.6	1008.6	973.9	929.8	899.0	858.7	820.0	813.5
27.5°	1076.8	1058.3	1052.0	1041.4	999.8	960.2	911.2	874.9	831.7	789.0	782.0
30°	1070.5	1051.8	1045.7	1032.0	987.4	943.3	890.7	848.2	801.8	756.4	750.3
32.5°	1057.9	1039.6	1034.7	1021.0	973.9	923.8	866.8	819.4	768.8	725.3	716.3
35°	1039.4	1021.2	1018.0	1003.6	955.0	900.4	840.7	787.9	733.7	689.3	680.6
37.5°	1015.3	1000.0	995.3	981.1	932.8	873.8	810.8	753.7	697.9	650.2	644.8
40°	985.0	970.6	967.0	954.4	906.9	844.3	778.4	718.4	661.0	616.7	609.0
42.5°	950.3	936.8	934.8	921.7	874.9	811.7	743.3	681.7	622.5	579.8	572.1
45°	910.9	897.9	897.4	885.1	840.1	775.5	706.4	644.6	584.9	540.6	536.6
47.5°	867.5	855.8	855.8	844.3	801.2	735.7	668.4	605.9	547.1	508.0	500.8
50°	820.3	809.2	805.9	800.3	758.2	692.3	628.4	568.1	509.8	472.5	465.5
52.5°	769.9	760.4	762.7	752.3	711.6	647.0	587.9	525.6	472.2	438.3	431.3
55°	716.8	703.3	705.3	701.5	663.0	600.5	542.4	490.5	435.3	403.4	396.9
57.5°	661.7	644.1	651.3	649.1	611.3	552.8	500.8	450.6	398.7	369.2	362.9
60°	605.2	588.3	595.7	593.7	558.2	505.1	457.8	411.3	362.2	335.4	329.1
62.5°	547.1	531.6	538.4	536.8	504.2	456.3	415.1	372.3	325.5	301.5	295.6
65°	488.7	473.8	479.9	478.8	448.6	412.2	371.2	332.1	288.6	267.7	261.9
67.5°	428.8	415.1	420.7	420.7	393.0	358.2	327.1	291.3	252.4	234.4	229.0
70°	369.4	356.6	361.5	361.1	337.7	309.3	282.6	250.6	215.8	200.9	196.4
72.5°	309.6	298.3	302.8	302.4	282.8	264.6	238.0	210.4	180.0	168.1	164.0
75°	251.5	241.0	245.2	244.8	228.8	211.7	193.9	171.0	144.9	136.6	132.5
77.5°	196.2	185.4	189.0	189.0	177.3	164.9	150.7	133.0	114.5	105.5	102.6
80°	143.1	137.9	136.1	136.3	128.5	120.4	113.2	96.1	82.6	76.5	74.5
82.5°	94.0	89.8	88.0	88.4	83.9	79.0	74.5	62.5	53.5	49.9	48.8
85°	49.9	46.8	45.2	46.3	45.4	42.7	40.5	32.4	26.8	25.4	24.7
87.5°	15.7	13.7	12.6	16.6	14.2	12.6	12.1	9.7	7.4	7.4	7.2
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°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	963.1	963.1	954.4	952.3	951.4	952.6	943.8	942.2	954.8	950.5	940.9
5°	955.5	955.0	942.7	940.4	940.4	939.1	929.2	926.9	939.5	935.9	925.3
7.5°	946.0	944.7	930.1	928.5	926.2	925.3	914.3	912.7	923.5	921.3	911.4
10°	934.6	933.2	915.9	914.8	912.3	910.5	900.1	899.0	910.0	906.4	898.6
12.5°	919.5	917.0	899.2	898.1	896.1	895.4	885.3	884.8	897.0	893.4	885.1
15°	899.7	897.7	877.9	878.3	878.5	878.5	870.4	870.0	881.9	880.3	871.3
17.5°	877.9	875.2	856.3	857.6	859.2	861.0	854.7	855.8	868.4	866.4	858.3
20°	853.1	850.4	832.0	835.8	839.2	842.8	838.7	841.9	853.6	852.7	846.6
22.5°	825.4	822.7	805.7	811.5	817.1	823.9	822.1	825.7	838.0	837.8	832.4
25°	791.7	792.4	777.3	784.5	794.0	803.4	804.1	809.9	823.6	822.3	817.3
27.5°	760.2	761.1	745.1	757.3	769.9	782.0	785.0	793.1	807.0	805.9	801.6
30°	727.1	728.3	712.7	729.4	744.7	759.5	765.8	776.9	791.0	791.0	786.5
32.5°	692.7	694.7	678.5	700.8	718.6	735.9	746.9	758.4	774.6	774.2	770.3
35°	657.4	659.6	644.8	673.1	690.9	712.1	725.8	741.1	755.5	755.7	752.8
37.5°	621.4	624.1	610.6	641.6	661.9	686.9	704.4	719.7	735.7	736.6	733.9
40°	585.6	588.5	576.8	606.8	632.4	660.3	680.6	698.6	716.1	716.6	714.8
42.5°	549.8	553.0	544.2	573.5	602.5	632.4	656.3	676.7	694.7	695.9	693.8
45°	515.0	517.7	511.4	543.3	571.2	603.8	631.3	654.5	672.7	674.3	673.6
47.5°	480.3	482.8	477.2	506.4	538.6	573.2	605.0	630.6	650.0	651.8	651.3
50°	446.4	448.4	442.3	472.9	504.9	541.7	574.8	604.5	626.1	627.9	627.7
52.5°	412.6	414.6	409.5	441.6	470.7	509.6	545.6	577.7	599.1	601.8	602.3
55°	380.0	380.9	376.8	407.7	435.8	476.5	517.9	549.2	570.5	572.8	574.1
57.5°	347.4	347.6	344.2	373.7	400.7	442.3	485.7	518.6	538.8	541.1	543.1
60°	315.0	314.7	310.9	339.5	365.4	406.5	451.8	484.4	504.0	506.0	508.7
62.5°	282.8	282.1	278.7	305.1	329.4	370.1	415.5	447.0	465.7	467.1	470.7
65°	250.9	250.2	247.0	271.3	293.4	332.3	376.8	406.8	423.6	425.4	424.8
67.5°	219.4	218.0	215.5	237.4	257.4	293.4	336.1	364.7	378.6	380.2	384.5
70°	187.9	186.3	180.7	203.8	221.4	253.6	293.4	318.8	330.5	332.1	331.4
72.5°	156.8	155.2	149.2	170.5	185.4	213.5	249.1	270.2	280.3	281.7	281.7
75°	126.7	125.8	121.9	138.1	150.5	173.5	203.6	221.2	229.0	230.6	230.2
77.5°	97.6	97.0	93.1	107.1	116.8	133.9	158.2	171.9	177.7	179.5	183.4
80°	70.0	69.7	63.7	77.4	81.7	96.1	113.8	124.4	127.6	130.0	132.7
82.5°	44.8	45.0	38.9	50.6	52.4	61.6	72.7	79.2	81.4	83.5	85.5
85°	21.8	22.7	19.3	26.8	27.0	31.7	36.4	38.9	39.8	41.4	43.2
87.5°	5.6	6.5	3.6	7.6	6.7	8.8	10.1	10.8	10.6	11.7	12.4
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°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	944.0	951.2	947.6	959.3	963.8	956.6	969.2	969.4	960.4	971.0	976.9
5°	929.4	936.8	934.6	946.7	952.3	946.0	961.3	964.3	955.5	967.4	976.9
7.5°	914.5	923.3	920.4	932.8	939.5	934.6	951.0	955.7	949.0	962.0	974.6
10°	901.7	909.1	906.0	919.0	924.9	920.8	937.0	945.8	939.5	955.5	970.6
12.5°	889.1	895.2	891.6	902.4	908.0	902.8	922.6	930.7	926.2	942.9	962.2
15°	872.9	879.7	874.7	884.4	888.7	884.2	900.4	914.3	908.7	926.9	948.3
17.5°	860.5	864.4	857.6	865.3	867.7	861.7	878.1	891.8	887.8	907.6	932.3
20°	846.8	850.0	840.5	844.8	844.6	836.9	852.0	865.5	862.8	884.6	912.7
22.5°	831.5	833.1	822.1	823.0	822.5	809.9	823.4	837.1	836.0	858.1	889.6
25°	815.3	815.5	801.4	800.9	796.0	781.1	793.1	808.6	805.2	829.0	862.1
27.5°	799.4	797.1	780.0	776.0	768.1	750.3	760.9	774.8	772.8	796.2	832.9
30°	782.3	779.3	758.4	751.0	739.5	719.0	727.8	740.9	742.0	762.5	800.9
32.5°	766.1	758.6	735.5	724.7	710.3	686.4	691.1	704.4	706.2	726.9	766.5
35°	745.1	740.2	711.6	693.2	679.0	652.9	657.8	667.1	669.8	690.0	730.3
37.5°	725.3	717.5	687.1	664.6	646.4	618.9	620.3	629.7	632.4	652.9	692.7
40°	704.9	693.6	661.0	634.7	613.7	584.9	583.4	593.3	595.3	615.3	651.3
42.5°	683.0	669.5	632.9	604.1	580.0	550.7	547.6	556.1	558.4	578.0	613.3
45°	661.0	644.8	604.1	572.6	546.2	516.3	513.2	519.7	523.1	541.5	575.5
47.5°	637.6	618.7	574.4	539.3	512.1	482.1	478.3	484.8	487.5	505.8	537.9
50°	613.1	590.1	543.8	505.1	478.1	448.6	443.0	450.6	453.1	470.2	501.7
52.5°	586.1	560.6	511.2	470.7	443.7	415.5	408.8	416.2	419.1	435.8	464.8
55°	557.5	530.1	478.3	438.9	409.7	382.2	376.6	379.5	385.8	401.6	428.6
57.5°	525.3	498.1	443.7	403.6	375.5	349.2	344.4	347.1	353.0	368.3	392.6
60°	491.1	462.3	408.3	368.3	341.1	316.1	311.8	314.3	320.6	334.5	357.0
62.5°	457.4	425.0	371.9	332.1	307.3	284.1	283.0	282.1	288.0	301.5	321.3
65°	416.4	385.4	333.9	296.1	273.6	252.7	248.2	250.2	255.8	268.2	288.9
67.5°	372.6	344.4	294.9	260.1	240.1	221.4	217.6	218.5	224.3	235.1	253.1
70°	326.0	301.2	255.1	223.9	207.0	189.4	187.0	187.2	192.8	202.3	218.0
72.5°	277.2	254.9	214.9	188.1	174.1	161.5	159.3	156.6	161.8	169.9	183.4
75°	227.5	207.9	174.8	153.0	142.0	131.4	129.4	126.7	131.8	138.8	149.4
77.5°	177.3	161.5	135.9	119.0	110.5	102.6	100.8	97.9	103.0	108.2	116.5
80°	128.2	116.8	101.5	83.7	80.8	75.6	73.8	70.6	75.6	79.0	85.3
82.5°	82.8	75.1	66.4	54.0	53.5	49.7	48.8	45.2	49.7	51.7	56.5
85°	41.8	38.2	36.0	27.4	28.3	25.9	25.6	21.8	25.4	26.3	29.0
87.5°	11.9	12.6	11.2	6.7	8.5	8.1	8.1	5.8	8.1	8.1	9.2
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: P837936

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3STD-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	964.5	964.5	964.5	964.5	964.5	964.5	964.5	964.5
2.5°	965.4	969.2	970.1	969.9	972.4	985.9	981.4	985.9
5°	967.6	976.2	978.4	981.6	985.6	1000.9	996.0	1001.4
7.5°	969.0	981.8	986.8	992.8	999.4	1016.5	1012.4	1017.8
10°	969.0	985.6	992.8	1003.0	1011.7	1031.5	1027.7	1034.0
12.5°	964.9	986.3	996.4	1010.6	1021.9	1043.2	1041.7	1046.2
15°	956.6	982.9	996.9	1015.1	1029.1	1052.9	1052.2	1057.6
17.5°	945.4	977.1	994.0	1016.9	1034.5	1061.2	1062.8	1065.7
20°	931.2	966.1	988.1	1016.2	1038.3	1067.8	1069.8	1073.8
22.5°	912.5	952.8	979.3	1013.3	1038.7	1070.5	1074.1	1077.9
25°	890.5	936.8	967.9	1007.7	1036.5	1070.2	1075.2	1078.5
27.5°	865.3	916.1	953.2	998.7	1030.2	1066.6	1072.7	1076.8
30°	836.0	894.1	936.6	987.0	1021.6	1059.9	1066.4	1070.5
32.5°	805.9	869.8	916.8	971.9	1009.3	1049.1	1054.7	1057.9
35°	773.0	840.3	892.9	952.6	993.3	1031.8	1036.0	1039.4
37.5°	737.3	808.4	865.7	930.7	970.8	1007.7	1011.5	1015.3
40°	700.4	774.8	835.1	904.0	944.0	978.2	982.3	985.0
42.5°	663.2	737.7	802.5	872.5	912.3	945.1	947.6	950.3
45°	625.7	699.2	765.8	837.6	877.0	907.8	908.7	910.9
47.5°	587.4	659.4	725.6	797.8	836.7	864.8	865.7	867.5
50°	548.9	619.6	682.6	754.8	792.8	822.5	818.5	820.3
52.5°	511.2	577.7	642.1	708.5	746.0	772.4	773.5	769.9
55°	474.0	536.8	596.0	659.9	695.6	716.1	715.4	716.8
57.5°	436.5	495.4	549.6	608.1	643.0	662.3	666.4	661.7
60°	398.2	453.6	502.2	555.0	588.8	605.0	609.7	605.2
62.5°	360.2	411.0	455.1	501.3	532.5	552.5	552.1	547.1
65°	322.2	368.3	407.7	446.8	474.0	494.1	493.2	488.7
67.5°	287.1	325.1	360.4	392.1	415.8	429.5	434.2	428.8
70°	248.4	281.2	312.3	337.7	357.3	369.6	374.1	369.4
72.5°	209.7	237.6	259.4	283.9	299.0	309.3	314.1	309.6
75°	171.4	194.4	212.2	231.3	241.9	250.6	256.0	251.5
77.5°	134.3	152.1	166.3	180.2	192.4	194.4	199.1	196.2
80°	99.0	111.8	122.2	131.4	140.2	141.1	144.9	143.1
82.5°	65.9	74.5	77.2	86.8	92.5	91.6	95.4	94.0
85°	34.9	40.0	44.8	47.7	50.8	47.9	51.3	49.9
87.5°	11.7	12.4	10.8	15.3	16.9	14.4	16.4	15.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)