

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: P837826

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2HI-20-120-EDD**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837826
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-LD4-2HI-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

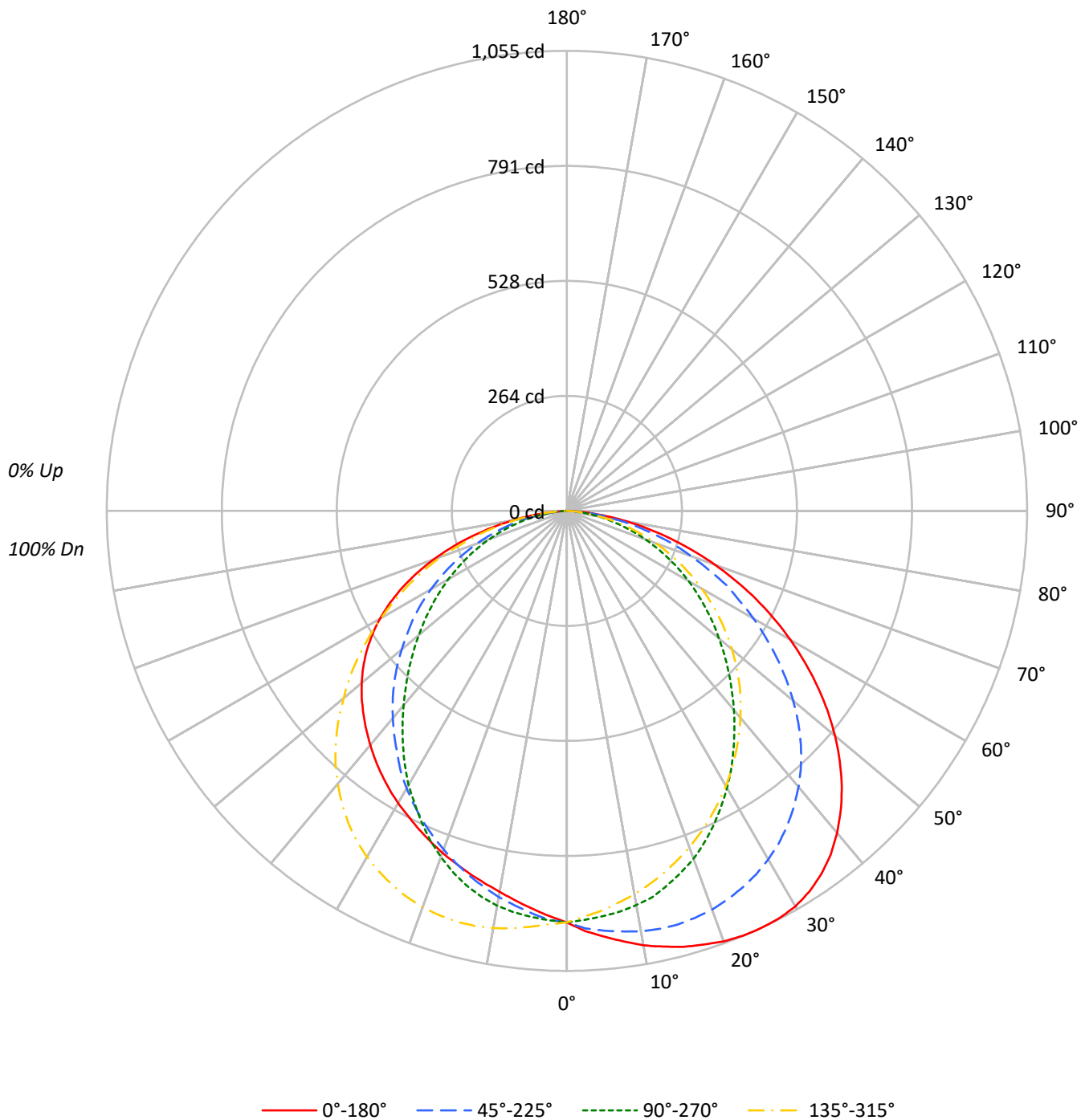
Lumens per Lamp: N/A
Luminaire Lumens: 2768.5 lumens
Efficiency: N/A
Efficacy: 62.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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



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°	2539	2539	2539	2539
5°	2646	2521	2474	2525
10°	2764	2508	2423	2512
15°	2883	2476	2400	2477
20°	3009	2431	2389	2418
25°	3133	2363	2389	2339
30°	3254	2281	2405	2256
35°	3341	2188	2429	2153
40°	3385	2093	2463	2046
45°	3392	1998	2511	1948
50°	3360	1906	2572	1856
55°	3290	1822	2629	1771
60°	3187	1733	2664	1688
65°	3044	1631	2650	1594
70°	2843	1512	2556	1484
75°	2559	1347	2346	1341
80°	2170	1130	1971	1147
85°	1510	747	1250	769

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	3.2
10°-20°	259.4	9.4
20°-30°	397.6	14.4
30°-40°	483.5	17.5
40°-50°	502.6	18.2
50°-60°	454.0	16.4
60°-70°	345.2	12.5
70°-80°	192.4	7.0
80°-90°	44.3	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°	746.6	27.0
0°-40°	1230.1	44.4
0°-60°	2186.7	79.0
0°-90°	2768.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2768.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	944	944	944	944	944	
5°	980	933	916	935	980	94
15°	1035	889	861	889	1035	293
25°	1055	796	804	788	1055	487
35°	1017	666	739	655	1017	635
45°	891	525	660	512	891	686
55°	701	388	560	378	701	626
65°	478	256	416	250	478	472
75°	246	130	226	129	246	261
85°	49	24	40	25	49	62
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°	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6
2.5°	964.6	950.5	950.7	963.0	953.6	958.2	945.0	950.0	948.5	949.6	938.8
5°	979.7	964.6	964.3	974.9	964.3	966.3	949.6	952.9	948.0	945.0	933.3
7.5°	995.8	980.6	979.1	988.3	974.5	972.9	954.4	954.4	945.6	937.9	926.9
10°	1011.7	996.0	994.1	1001.1	983.9	978.9	956.4	952.9	941.2	929.8	917.9
12.5°	1023.5	1007.7	1006.2	1010.6	991.2	981.9	956.4	949.6	932.4	916.4	907.1
15°	1034.8	1018.5	1014.3	1016.5	994.3	981.9	953.3	942.8	920.8	899.6	888.8
17.5°	1042.7	1027.1	1022.9	1022.7	995.8	978.2	946.7	932.2	905.8	880.3	869.5
20°	1050.6	1035.0	1029.7	1025.7	995.4	973.1	937.0	917.5	886.6	858.0	849.0
22.5°	1054.6	1038.5	1032.8	1026.9	992.5	963.9	925.2	900.3	865.1	830.9	823.5
25°	1055.2	1038.7	1032.6	1024.0	986.8	952.9	909.7	879.6	840.2	802.3	795.9
27.5°	1053.5	1035.4	1029.3	1018.9	978.2	939.5	891.5	856.0	813.8	772.0	765.1
30°	1047.3	1029.1	1023.1	1009.7	966.1	923.0	871.4	829.8	784.5	740.0	734.1
32.5°	1035.0	1017.2	1012.3	998.9	952.9	903.8	848.1	801.7	752.1	709.7	700.9
35°	1016.9	999.1	996.0	981.9	934.4	880.9	822.6	770.9	717.8	674.4	665.9
37.5°	993.4	978.4	973.8	959.9	912.6	854.9	793.3	737.4	682.8	636.1	630.9
40°	963.7	949.6	946.1	933.7	887.3	826.1	761.6	702.8	646.7	603.3	595.9
42.5°	929.8	916.6	914.6	901.8	856.0	794.2	727.3	667.0	609.1	567.2	559.8
45°	891.3	878.5	878.1	865.9	821.9	758.7	691.2	630.6	572.3	528.9	525.0
47.5°	848.8	837.3	837.3	826.1	783.8	719.8	654.0	592.8	535.3	497.0	490.0
50°	802.5	791.8	788.5	783.0	741.8	677.3	614.8	555.8	498.8	462.2	455.4
52.5°	753.2	744.0	746.2	736.1	696.2	633.1	575.2	514.2	462.0	428.8	422.0
55°	701.3	688.1	690.1	686.3	648.7	587.5	530.7	479.9	425.9	394.7	388.3
57.5°	647.4	630.2	637.2	635.0	598.1	540.8	490.0	440.9	390.0	361.2	355.1
60°	592.1	575.6	582.9	580.9	546.1	494.2	447.9	402.4	354.4	328.2	322.0
62.5°	535.3	520.1	526.7	525.2	493.3	446.4	406.1	364.3	318.5	295.0	289.2
65°	478.1	463.6	469.5	468.4	438.9	403.3	363.2	324.9	282.4	261.9	256.2
67.5°	419.5	406.1	411.6	411.6	384.5	350.4	320.1	285.1	247.0	229.4	224.1
70°	361.4	348.9	353.7	353.3	330.4	302.7	276.5	245.2	211.1	196.6	192.2
72.5°	302.9	291.9	296.3	295.8	276.7	258.9	232.9	205.8	176.1	164.4	160.5
75°	246.1	235.7	239.9	239.5	223.9	207.1	189.7	167.3	141.8	133.6	129.6
77.5°	191.9	181.4	184.9	184.9	173.5	161.3	147.5	130.1	112.0	103.2	100.4
80°	140.0	134.9	133.2	133.4	125.7	117.8	110.7	94.0	80.8	74.8	72.9
82.5°	92.0	87.8	86.1	86.5	82.1	77.3	72.9	61.2	52.4	48.9	47.8
85°	48.9	45.8	44.2	45.3	44.5	41.8	39.6	31.7	26.2	24.9	24.2
87.5°	15.4	13.4	12.3	16.3	13.9	12.3	11.9	9.5	7.3	7.3	7.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6
2.5°	942.3	942.3	933.7	931.8	930.9	932.0	923.4	921.9	934.2	930.0	920.5
5°	934.8	934.4	922.3	920.1	920.1	918.8	909.1	906.9	919.2	915.7	905.3
7.5°	925.6	924.3	910.0	908.4	906.2	905.3	894.6	893.0	903.6	901.4	891.7
10°	914.4	913.0	896.1	895.0	892.6	890.8	880.7	879.6	890.4	886.9	879.2
12.5°	899.6	897.2	879.8	878.7	876.7	876.1	866.2	865.7	877.6	874.1	865.9
15°	880.3	878.3	858.9	859.3	859.6	859.6	851.6	851.2	862.9	861.3	852.5
17.5°	858.9	856.3	837.8	839.1	840.6	842.4	836.2	837.3	849.7	847.7	839.7
20°	834.7	832.0	814.0	817.7	821.0	824.6	820.6	823.7	835.1	834.2	828.3
22.5°	807.6	805.0	788.2	794.0	799.5	806.1	804.3	807.8	819.9	819.7	814.4
25°	774.6	775.3	760.5	767.6	776.8	786.0	786.7	792.4	805.9	804.5	799.7
27.5°	743.8	744.7	729.0	740.9	753.2	765.1	768.0	775.9	789.6	788.5	784.3
30°	711.4	712.5	697.3	713.6	728.6	743.1	749.3	760.1	773.9	773.9	769.5
32.5°	677.7	679.7	663.9	685.7	703.1	720.0	730.8	742.0	757.9	757.4	753.7
35°	643.2	645.4	630.9	658.6	676.0	696.7	710.1	725.1	739.2	739.4	736.5
37.5°	608.0	610.6	597.4	627.8	647.6	672.0	689.2	704.2	719.8	720.7	718.0
40°	573.0	575.8	564.4	593.7	618.8	646.0	665.9	683.5	700.6	701.1	699.3
42.5°	538.0	541.0	532.5	561.1	589.5	618.8	642.1	662.1	679.7	680.8	678.8
45°	503.8	506.5	500.3	531.6	558.9	590.8	617.7	640.3	658.2	659.7	659.0
47.5°	470.0	472.4	466.9	495.5	527.0	560.9	591.9	617.0	635.9	637.7	637.2
50°	436.7	438.7	432.8	462.7	493.9	530.0	562.4	591.5	612.6	614.3	614.1
52.5°	403.7	405.7	400.6	432.1	460.5	498.6	533.8	565.3	586.2	588.8	589.3
55°	371.8	372.7	368.7	398.9	426.4	466.2	506.7	537.3	558.2	560.4	561.7
57.5°	339.9	340.1	336.8	365.6	392.0	432.8	475.2	507.4	527.2	529.4	531.4
60°	308.2	307.9	304.2	332.2	357.5	397.8	442.0	473.9	493.1	495.0	497.7
62.5°	276.7	276.0	272.7	298.5	322.3	362.1	406.6	437.4	455.6	457.0	460.5
65°	245.4	244.8	241.7	265.5	287.0	325.1	368.7	398.0	414.5	416.2	415.6
67.5°	214.6	213.3	210.9	232.2	251.8	287.0	328.9	356.8	370.5	372.0	376.2
70°	183.8	182.3	176.8	199.4	216.6	248.1	287.0	311.9	323.4	324.9	324.2
72.5°	153.4	151.9	145.9	166.8	181.4	208.9	243.7	264.4	274.3	275.6	275.6
75°	123.9	123.0	119.3	135.2	147.3	169.7	199.2	216.4	224.1	225.6	225.2
77.5°	95.5	94.9	91.1	104.8	114.2	131.0	154.7	168.2	173.9	175.7	179.4
80°	68.5	68.2	62.3	75.7	79.9	94.0	111.4	121.7	124.8	127.2	129.9
82.5°	43.8	44.0	38.1	49.5	51.3	60.3	71.1	77.5	79.7	81.7	83.6
85°	21.4	22.2	18.9	26.2	26.4	31.0	35.7	38.1	39.0	40.5	42.3
87.5°	5.5	6.4	3.5	7.5	6.6	8.6	9.9	10.6	10.3	11.4	12.1
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°	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6
2.5°	923.6	930.7	927.1	938.6	943.0	935.9	948.3	948.5	939.7	950.0	955.8
5°	909.3	916.6	914.4	926.3	931.8	925.6	940.6	943.4	934.8	946.5	955.8
7.5°	894.8	903.4	900.5	912.6	919.2	914.4	930.4	935.1	928.5	941.2	953.6
10°	882.2	889.5	886.4	899.2	904.9	900.9	916.8	925.4	919.2	934.8	949.6
12.5°	869.9	875.8	872.3	882.9	888.4	883.3	902.7	910.6	906.2	922.5	941.4
15°	854.1	860.7	855.8	865.3	869.5	865.1	880.9	894.6	889.1	906.9	927.8
17.5°	842.0	845.7	839.1	846.6	849.0	843.1	859.1	872.5	868.6	888.0	912.2
20°	828.5	831.6	822.4	826.5	826.3	818.8	833.6	846.8	844.2	865.5	893.0
22.5°	813.6	815.1	804.3	805.2	804.8	792.4	805.6	819.1	818.0	839.5	870.3
25°	797.7	797.9	784.1	783.6	778.8	764.2	775.9	791.1	787.8	811.1	843.5
27.5°	782.1	779.9	763.1	759.2	751.5	734.1	744.4	758.1	756.1	779.0	814.9
30°	765.3	762.5	742.0	734.8	723.5	703.5	712.1	724.8	725.9	746.0	783.6
32.5°	749.5	742.2	719.6	709.0	694.9	671.6	676.2	689.2	691.0	711.2	749.9
35°	729.0	724.2	696.2	678.2	664.3	638.8	643.6	652.6	655.3	675.1	714.5
37.5°	709.7	702.0	672.2	650.2	632.4	605.5	606.9	616.1	618.8	638.8	677.7
40°	689.6	678.6	646.7	621.0	600.5	572.3	570.8	580.5	582.4	602.0	637.2
42.5°	668.3	655.1	619.2	591.0	567.5	538.8	535.8	544.1	546.3	565.5	600.0
45°	646.7	630.9	591.0	560.2	534.4	505.2	502.1	508.5	511.8	529.8	563.1
47.5°	623.8	605.3	562.0	527.6	501.0	471.7	468.0	474.4	477.0	494.8	526.3
50°	599.8	577.4	532.0	494.2	467.8	438.9	433.4	440.9	443.3	460.0	490.9
52.5°	573.4	548.5	500.1	460.5	434.1	406.6	400.0	407.2	410.1	426.4	454.8
55°	545.5	518.6	468.0	429.5	400.8	374.0	368.5	371.3	377.5	392.9	419.3
57.5°	514.0	487.3	434.1	394.9	367.4	341.6	337.0	339.6	345.4	360.3	384.1
60°	480.5	452.3	399.5	360.3	333.7	309.3	305.1	307.5	313.7	327.3	349.3
62.5°	447.5	415.8	363.9	324.9	300.7	278.0	276.9	276.0	281.8	295.0	314.3
65°	407.4	377.1	326.7	289.7	267.7	247.2	242.8	244.8	250.3	262.4	282.6
67.5°	364.5	337.0	288.6	254.5	234.9	216.6	212.9	213.7	219.5	230.0	247.6
70°	319.0	294.7	249.6	219.0	202.5	185.3	182.9	183.1	188.6	197.9	213.3
72.5°	271.2	249.4	210.2	184.0	170.4	158.0	155.8	153.2	158.3	166.2	179.4
75°	222.5	203.4	171.0	149.7	138.9	128.5	126.6	123.9	129.0	135.8	146.2
77.5°	173.5	158.0	133.0	116.4	108.1	100.4	98.6	95.8	100.8	105.9	114.0
80°	125.5	114.2	99.3	81.9	79.0	74.0	72.2	69.1	74.0	77.3	83.4
82.5°	81.0	73.5	64.9	52.8	52.4	48.6	47.8	44.2	48.6	50.6	55.2
85°	40.9	37.4	35.2	26.9	27.7	25.3	25.1	21.4	24.9	25.8	28.4
87.5°	11.7	12.3	11.0	6.6	8.4	7.9	7.9	5.7	7.9	7.9	9.0
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: P837826

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

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	943.6	943.6	943.6	943.6	943.6	943.6	943.6	943.6
2.5°	944.5	948.3	949.1	948.9	951.3	964.6	960.2	964.6
5°	946.7	955.1	957.3	960.4	964.3	979.3	974.5	979.7
7.5°	948.0	960.6	965.4	971.4	977.8	994.5	990.5	995.8
10°	948.0	964.3	971.4	981.3	989.9	1009.2	1005.5	1011.7
12.5°	944.1	965.0	974.9	988.8	999.8	1020.7	1019.1	1023.5
15°	935.9	961.7	975.3	993.2	1006.8	1030.2	1029.5	1034.8
17.5°	924.9	956.0	972.5	994.9	1012.1	1038.3	1039.8	1042.7
20°	911.1	945.2	966.8	994.3	1015.8	1044.7	1046.7	1050.6
22.5°	892.8	932.2	958.2	991.4	1016.3	1047.3	1050.8	1054.6
25°	871.2	916.6	946.9	985.9	1014.1	1047.1	1051.9	1055.2
27.5°	846.6	896.3	932.6	977.1	1007.9	1043.6	1049.5	1053.5
30°	818.0	874.7	916.4	965.7	999.6	1037.0	1043.4	1047.3
32.5°	788.5	851.0	897.0	950.9	987.4	1026.4	1031.9	1035.0
35°	756.3	822.1	873.6	932.0	971.8	1009.5	1013.6	1016.9
37.5°	721.3	790.9	847.0	910.6	949.8	985.9	989.7	993.4
40°	685.2	758.1	817.1	884.4	923.6	957.1	961.0	963.7
42.5°	648.9	721.8	785.2	853.6	892.6	924.7	927.1	929.8
45°	612.1	684.1	749.3	819.5	858.0	888.2	889.1	891.3
47.5°	574.7	645.2	709.9	780.5	818.6	846.1	847.0	848.8
50°	537.1	606.2	667.8	738.5	775.7	804.8	800.8	802.5
52.5°	500.1	565.3	628.2	693.2	729.9	755.7	756.8	753.2
55°	463.8	525.2	583.1	645.6	680.6	700.6	700.0	701.3
57.5°	427.0	484.7	537.7	595.0	629.1	648.0	652.0	647.4
60°	389.6	443.8	491.3	543.0	576.0	591.9	596.5	592.1
62.5°	352.4	402.2	445.3	490.4	521.0	540.6	540.2	535.3
65°	315.2	360.3	398.9	437.2	463.8	483.4	482.5	478.1
67.5°	280.9	318.1	352.6	383.7	406.8	420.2	424.8	419.5
70°	243.0	275.1	305.5	330.4	349.5	361.7	366.1	361.4
72.5°	205.1	232.4	253.8	277.8	292.5	302.7	307.3	302.9
75°	167.7	190.2	207.6	226.3	236.6	245.2	250.5	246.1
77.5°	131.4	148.8	162.7	176.3	188.2	190.2	194.8	191.9
80°	96.9	109.4	119.5	128.5	137.1	138.0	141.8	140.0
82.5°	64.5	72.9	75.5	85.0	90.5	89.6	93.3	92.0
85°	34.1	39.2	43.8	46.7	49.7	46.9	50.2	48.9
87.5°	11.4	12.1	10.6	15.0	16.5	14.1	16.1	15.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)