

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: P837969

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-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: P837969
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-LD4-2STD-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

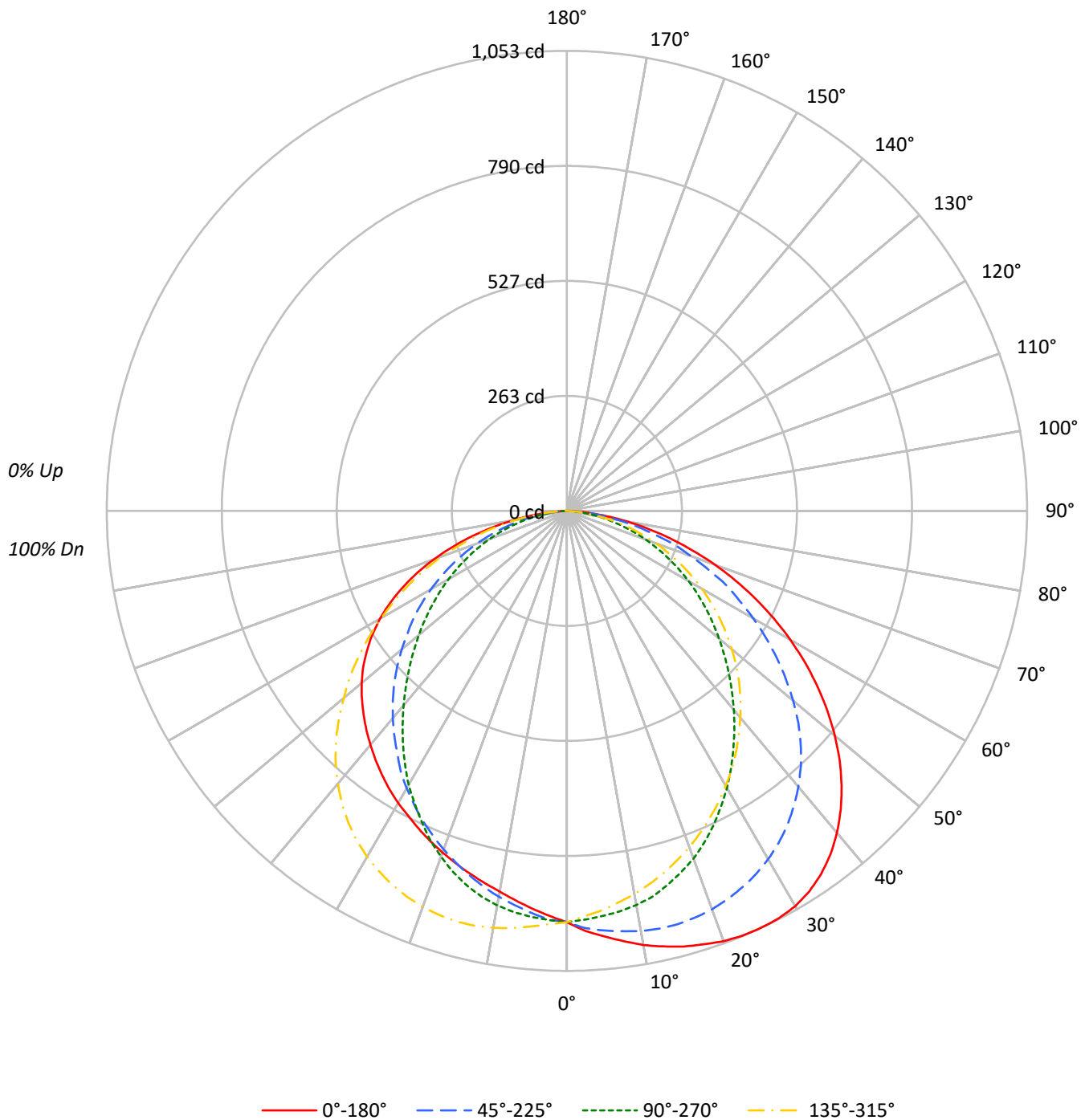
Lumens per Lamp: N/A
Luminaire Lumens: 2761.9 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	2533	2533	2533	2533
5°	2640	2515	2468	2519
10°	2758	2502	2417	2506
15°	2876	2470	2394	2471
20°	3001	2426	2383	2412
25°	3126	2358	2383	2333
30°	3246	2275	2399	2250
35°	3333	2182	2423	2147
40°	3377	2088	2457	2041
45°	3384	1993	2504	1943
50°	3352	1902	2566	1852
55°	3282	1818	2623	1767
60°	3179	1729	2658	1684
65°	3037	1628	2644	1590
70°	2837	1508	2550	1481
75°	2552	1344	2340	1338
80°	2165	1127	1967	1144
85°	1504	747	1247	766



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.4	3.2
10°-20°	258.8	9.4
20°-30°	396.6	14.4
30°-40°	482.3	17.5
40°-50°	501.4	18.2
50°-60°	452.9	16.4
60°-70°	344.3	12.5
70°-80°	192.0	7.0
80°-90°	44.2	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°	744.8	27.0
0°-40°	1227.1	44.4
0°-60°	2181.4	79.0
0°-90°	2761.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2761.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	941	941	941	941	941	
5°	977	931	914	933	977	94
15°	1032	887	859	887	1032	293
25°	1053	794	803	786	1053	486
35°	1014	664	738	654	1014	634
45°	889	524	658	510	889	685
55°	700	387	559	377	700	625
65°	477	256	415	250	477	471
75°	246	129	225	129	246	261
85°	49	24	40	25	49	61
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°	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4
2.5°	962.2	948.2	948.4	960.7	951.3	955.9	942.7	947.7	946.2	947.3	936.5
5°	977.4	962.2	962.0	972.6	962.0	964.0	947.3	950.6	945.8	942.7	931.1
7.5°	993.4	978.3	976.7	986.0	972.1	970.6	952.1	952.1	943.4	935.7	924.7
10°	1009.2	993.6	991.7	998.7	981.6	976.5	954.1	950.6	939.0	927.5	915.7
12.5°	1021.1	1005.3	1003.7	1008.1	988.8	979.6	954.1	947.3	930.2	914.1	904.9
15°	1032.3	1016.0	1011.9	1014.1	991.9	979.6	951.0	940.5	918.5	897.5	886.7
17.5°	1040.2	1024.6	1020.4	1020.2	993.4	975.9	944.4	930.0	903.6	878.1	867.4
20°	1048.1	1032.5	1027.2	1023.3	993.0	970.8	934.8	915.2	884.5	856.0	847.0
22.5°	1052.0	1036.0	1030.3	1024.4	990.1	961.6	922.9	898.1	863.0	828.9	821.5
25°	1052.7	1036.2	1030.1	1021.5	984.4	950.6	907.6	877.5	838.2	800.4	794.0
27.5°	1051.0	1032.9	1026.8	1016.5	975.9	937.2	889.3	854.0	811.8	770.1	763.3
30°	1044.8	1026.6	1020.6	1007.3	963.8	920.7	869.4	827.8	782.6	738.3	732.3
32.5°	1032.5	1014.7	1009.9	996.5	950.6	901.6	846.1	799.7	750.3	708.0	699.2
35°	1014.5	996.7	993.6	979.6	932.2	878.8	820.6	769.0	716.1	672.8	664.3
37.5°	991.0	976.1	971.5	957.6	910.4	852.9	791.4	735.6	681.2	634.6	629.3
40°	961.4	947.3	943.8	931.5	885.2	824.1	759.8	701.1	645.2	601.9	594.4
42.5°	927.5	914.4	912.4	899.7	854.0	792.3	725.5	665.4	607.6	565.9	558.4
45°	889.1	876.4	875.9	863.9	819.9	756.9	689.5	629.1	570.9	527.7	523.7
47.5°	846.7	835.3	835.3	824.1	782.0	718.1	652.4	591.4	534.0	495.8	488.8
50°	800.6	789.9	786.6	781.1	740.0	675.7	613.3	554.5	497.6	461.1	454.3
52.5°	751.4	742.2	744.4	734.3	694.6	631.5	573.8	513.0	460.9	427.8	421.0
55°	699.6	686.4	688.4	684.7	647.1	586.1	529.4	478.7	424.9	393.7	387.4
57.5°	645.8	628.7	635.7	633.5	596.6	539.5	488.8	439.8	389.1	360.3	354.2
60°	590.7	574.2	581.5	579.5	544.8	493.0	446.9	401.4	353.5	327.4	321.3
62.5°	534.0	518.9	525.5	523.9	492.1	445.3	405.1	363.4	317.7	294.2	288.5
65°	476.9	462.5	468.4	467.3	437.9	402.3	362.3	324.1	281.7	261.3	255.6
67.5°	418.5	405.1	410.6	410.6	383.6	349.6	319.3	284.4	246.4	228.8	223.5
70°	360.6	348.0	352.9	352.4	329.6	301.9	275.8	244.6	210.6	196.1	191.7
72.5°	302.2	291.2	295.6	295.1	276.0	258.2	232.3	205.3	175.7	164.0	160.1
75°	245.5	235.2	239.4	238.9	223.3	206.6	189.3	166.9	141.4	133.3	129.3
77.5°	191.5	180.9	184.5	184.5	173.0	161.0	147.1	129.8	111.8	103.0	100.1
80°	139.7	134.6	132.9	133.1	125.4	117.5	110.5	93.8	80.6	74.7	72.7
82.5°	91.8	87.6	85.9	86.3	81.9	77.1	72.7	61.0	52.3	48.7	47.7
85°	48.7	45.7	44.1	45.2	44.4	41.7	39.5	31.6	26.1	24.8	24.2
87.5°	15.4	13.4	12.3	16.2	13.8	12.3	11.9	9.4	7.2	7.2	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°	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4
2.5°	940.1	940.1	931.5	929.5	928.6	929.7	921.2	919.6	931.9	927.8	918.3
5°	932.6	932.2	920.1	917.9	917.9	916.6	906.9	904.7	917.0	913.5	903.2
7.5°	923.4	922.1	907.8	906.2	904.0	903.2	892.4	890.9	901.4	899.2	889.6
10°	912.2	910.9	893.9	892.8	890.4	888.7	878.6	877.5	888.2	884.7	877.0
12.5°	897.5	895.0	877.7	876.6	874.6	874.0	864.1	863.6	875.5	872.0	863.9
15°	878.1	876.2	856.8	857.3	857.5	857.5	849.6	849.1	860.8	859.2	850.5
17.5°	856.8	854.2	835.8	837.1	838.6	840.4	834.2	835.3	847.6	845.6	837.7
20°	832.7	830.0	812.0	815.8	819.1	822.6	818.6	821.7	833.1	832.2	826.3
22.5°	805.7	803.0	786.3	792.1	797.5	804.1	802.4	805.9	818.0	817.7	812.5
25°	772.7	773.4	758.7	765.7	774.9	784.2	784.8	790.5	803.9	802.6	797.8
27.5°	742.0	742.9	727.3	739.1	751.4	763.3	766.1	774.0	787.7	786.6	782.4
30°	709.7	710.8	695.7	711.9	726.8	741.3	747.5	758.2	772.1	772.1	767.7
32.5°	676.1	678.1	662.3	684.0	701.4	718.3	729.0	740.2	756.0	755.6	751.9
35°	641.6	643.8	629.3	657.0	674.4	695.0	708.4	723.3	737.4	737.6	734.7
37.5°	606.5	609.1	596.0	626.3	646.0	670.4	687.5	702.5	718.1	718.9	716.3
40°	571.6	574.4	563.0	592.2	617.3	644.5	664.3	681.8	699.0	699.4	697.6
42.5°	536.7	539.7	531.2	559.7	588.1	617.3	640.5	660.5	678.1	679.2	677.2
45°	502.6	505.3	499.1	530.3	557.5	589.4	616.2	638.8	656.6	658.1	657.4
47.5°	468.8	471.2	465.7	494.3	525.7	559.5	590.5	615.5	634.4	636.1	635.7
50°	435.7	437.6	431.7	461.6	492.8	528.8	561.0	590.0	611.1	612.9	612.7
52.5°	402.7	404.7	399.7	431.1	459.4	497.4	532.5	563.9	584.8	587.4	587.8
55°	370.9	371.8	367.8	397.9	425.3	465.1	505.5	536.0	556.9	559.1	560.4
57.5°	339.0	339.3	336.0	364.7	391.1	431.7	474.1	506.2	525.9	528.1	530.1
60°	307.4	307.2	303.5	331.4	356.6	396.8	440.9	472.8	491.9	493.9	496.5
62.5°	276.0	275.4	272.1	297.8	321.5	361.2	405.6	436.3	454.5	455.9	459.4
65°	244.8	244.2	241.1	264.8	286.3	324.3	367.8	397.0	413.5	415.2	414.6
67.5°	214.1	212.8	210.4	231.7	251.2	286.3	328.1	356.0	369.6	371.1	375.3
70°	183.4	181.8	176.3	198.9	216.1	247.5	286.3	311.2	322.6	324.1	323.5
72.5°	153.1	151.5	145.6	166.4	180.9	208.4	243.1	263.7	273.6	274.9	274.9
75°	123.6	122.7	119.0	134.8	146.9	169.3	198.7	215.9	223.5	225.1	224.6
77.5°	95.3	94.6	90.9	104.5	114.0	130.7	154.4	167.8	173.5	175.2	179.0
80°	68.3	68.1	62.1	75.5	79.7	93.8	111.1	121.4	124.5	126.9	129.6
82.5°	43.7	43.9	38.0	49.4	51.2	60.2	70.9	77.3	79.5	81.5	83.4
85°	21.3	22.2	18.9	26.1	26.4	31.0	35.6	38.0	38.9	40.4	42.2
87.5°	5.5	6.4	3.5	7.5	6.6	8.6	9.9	10.5	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°	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4
2.5°	921.4	928.4	924.9	936.3	940.7	933.7	946.0	946.2	937.4	947.7	953.5
5°	907.1	914.4	912.2	924.0	929.5	923.4	938.3	941.2	932.6	944.2	953.5
7.5°	892.6	901.2	898.3	910.4	917.0	912.2	928.2	932.8	926.2	939.0	951.3
10°	880.1	887.4	884.3	897.0	902.7	898.8	914.6	923.1	917.0	932.6	947.3
12.5°	867.8	873.7	870.2	880.8	886.3	881.2	900.5	908.4	904.0	920.3	939.2
15°	852.0	858.6	853.8	863.2	867.4	863.0	878.8	892.4	886.9	904.7	925.6
17.5°	839.9	843.7	837.1	844.5	847.0	841.0	857.1	870.4	866.5	885.8	910.0
20°	826.5	829.6	820.4	824.6	824.3	816.9	831.6	844.8	842.1	863.4	890.9
22.5°	811.6	813.1	802.4	803.3	802.8	790.5	803.7	817.1	816.0	837.5	868.3
25°	795.8	796.0	782.2	781.7	776.9	762.4	774.0	789.2	785.9	809.2	841.5
27.5°	780.2	778.0	761.3	757.4	749.7	732.3	742.6	756.3	754.3	777.1	812.9
30°	763.5	760.7	740.2	733.0	721.8	701.8	710.4	723.1	724.2	744.2	781.7
32.5°	747.7	740.5	717.8	707.3	693.2	670.0	674.6	687.5	689.3	709.5	748.1
35°	727.3	722.4	694.6	676.6	662.7	637.2	642.1	651.1	653.7	673.5	712.8
37.5°	708.0	700.3	670.6	648.7	630.9	604.1	605.4	614.6	617.3	637.2	676.1
40°	688.0	677.0	645.2	619.5	599.0	570.9	569.4	579.1	581.0	600.6	635.7
42.5°	666.7	653.5	617.7	589.6	566.1	537.6	534.5	542.8	545.0	564.1	598.6
45°	645.2	629.3	589.6	558.9	533.2	504.0	500.9	507.2	510.5	528.5	561.7
47.5°	622.3	603.9	560.6	526.4	499.8	470.6	466.8	473.2	475.8	493.6	525.0
50°	598.4	576.0	530.7	493.0	466.6	437.9	432.4	439.8	442.3	458.9	489.7
52.5°	572.0	547.2	498.9	459.4	433.0	405.6	399.0	406.2	409.1	425.3	453.7
55°	544.1	517.4	466.8	428.4	399.9	373.1	367.6	370.4	376.6	392.0	418.3
57.5°	512.7	486.2	433.0	393.9	366.5	340.8	336.2	338.8	344.5	359.5	383.2
60°	479.4	451.3	398.6	359.5	332.9	308.5	304.3	306.8	312.9	326.5	348.5
62.5°	446.4	414.8	363.0	324.1	300.0	277.3	276.2	275.4	281.1	294.2	313.6
65°	406.5	376.2	325.9	289.0	267.0	246.6	242.2	244.2	249.7	261.7	282.0
67.5°	363.6	336.2	287.9	253.8	234.3	216.1	212.3	213.2	218.9	229.5	247.0
70°	318.2	294.0	249.0	218.5	202.0	184.9	182.5	182.7	188.2	197.4	212.8
72.5°	270.5	248.8	209.7	183.6	170.0	157.7	155.5	152.8	157.9	165.8	179.0
75°	222.0	202.9	170.6	149.3	138.6	128.2	126.3	123.6	128.7	135.5	145.8
77.5°	173.0	157.7	132.6	116.2	107.8	100.1	98.4	95.5	100.6	105.6	113.7
80°	125.2	114.0	99.0	81.7	78.8	73.8	72.0	69.0	73.8	77.1	83.2
82.5°	80.8	73.3	64.8	52.7	52.3	48.5	47.7	44.1	48.5	50.5	55.1
85°	40.8	37.3	35.1	26.8	27.7	25.3	25.0	21.3	24.8	25.7	28.3
87.5°	11.6	12.3	11.0	6.6	8.3	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: P837969

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-2STD-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	941.4	941.4	941.4	941.4	941.4	941.4	941.4	941.4
2.5°	942.3	946.0	946.9	946.6	949.1	962.2	957.8	962.2
5°	944.4	952.8	955.0	958.1	962.0	976.9	972.1	977.4
7.5°	945.8	958.3	963.1	969.0	975.4	992.1	988.1	993.4
10°	945.8	962.0	969.0	978.9	987.5	1006.8	1003.1	1009.2
12.5°	941.8	962.7	972.6	986.4	997.4	1018.2	1016.7	1021.1
15°	933.7	959.4	973.0	990.8	1004.4	1027.7	1027.0	1032.3
17.5°	922.7	953.7	970.1	992.5	1009.7	1035.8	1037.3	1040.2
20°	908.9	942.9	964.4	991.9	1013.4	1042.2	1044.1	1048.1
22.5°	890.7	930.0	955.9	989.0	1013.8	1044.8	1048.3	1052.0
25°	869.1	914.4	944.7	983.5	1011.6	1044.6	1049.4	1052.7
27.5°	844.5	894.2	930.4	974.8	1005.5	1041.1	1047.0	1051.0
30°	816.0	872.6	914.1	963.3	997.2	1034.5	1040.8	1044.8
32.5°	786.6	848.9	894.8	948.6	985.1	1023.9	1029.4	1032.5
35°	754.5	820.2	871.5	929.7	969.5	1007.0	1011.2	1014.5
37.5°	719.6	789.0	845.0	908.4	947.5	983.5	987.3	991.0
40°	683.6	756.3	815.1	882.3	921.4	954.8	958.7	961.4
42.5°	647.3	720.0	783.3	851.6	890.4	922.5	924.9	927.5
45°	610.7	682.5	747.5	817.5	856.0	886.0	886.9	889.1
47.5°	573.3	643.6	708.2	778.7	816.6	844.1	845.0	846.7
50°	535.8	604.7	666.2	736.7	773.8	802.8	798.9	800.6
52.5°	498.9	563.9	626.7	691.5	728.2	753.8	754.9	751.4
55°	462.7	523.9	581.7	644.1	679.0	699.0	698.3	699.6
57.5°	426.0	483.5	536.5	593.5	627.6	646.5	650.4	645.8
60°	388.7	442.7	490.1	541.7	574.7	590.5	595.1	590.7
62.5°	351.6	401.2	444.2	489.2	519.8	539.3	538.9	534.0
65°	314.5	359.5	397.9	436.1	462.7	482.2	481.3	476.9
67.5°	280.2	317.3	351.8	382.7	405.8	419.2	423.8	418.5
70°	242.4	274.5	304.8	329.6	348.7	360.8	365.2	360.6
72.5°	204.7	231.9	253.2	277.1	291.8	301.9	306.5	302.2
75°	167.3	189.7	207.1	225.7	236.1	244.6	249.9	245.5
77.5°	131.1	148.4	162.3	175.9	187.7	189.7	194.3	191.5
80°	96.6	109.1	119.2	128.2	136.8	137.7	141.4	139.7
82.5°	64.3	72.7	75.3	84.8	90.3	89.4	93.1	91.8
85°	34.0	39.1	43.7	46.6	49.6	46.8	50.1	48.7
87.5°	11.4	12.1	10.5	14.9	16.5	14.1	16.0	15.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)