

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P838023

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

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P838023
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-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

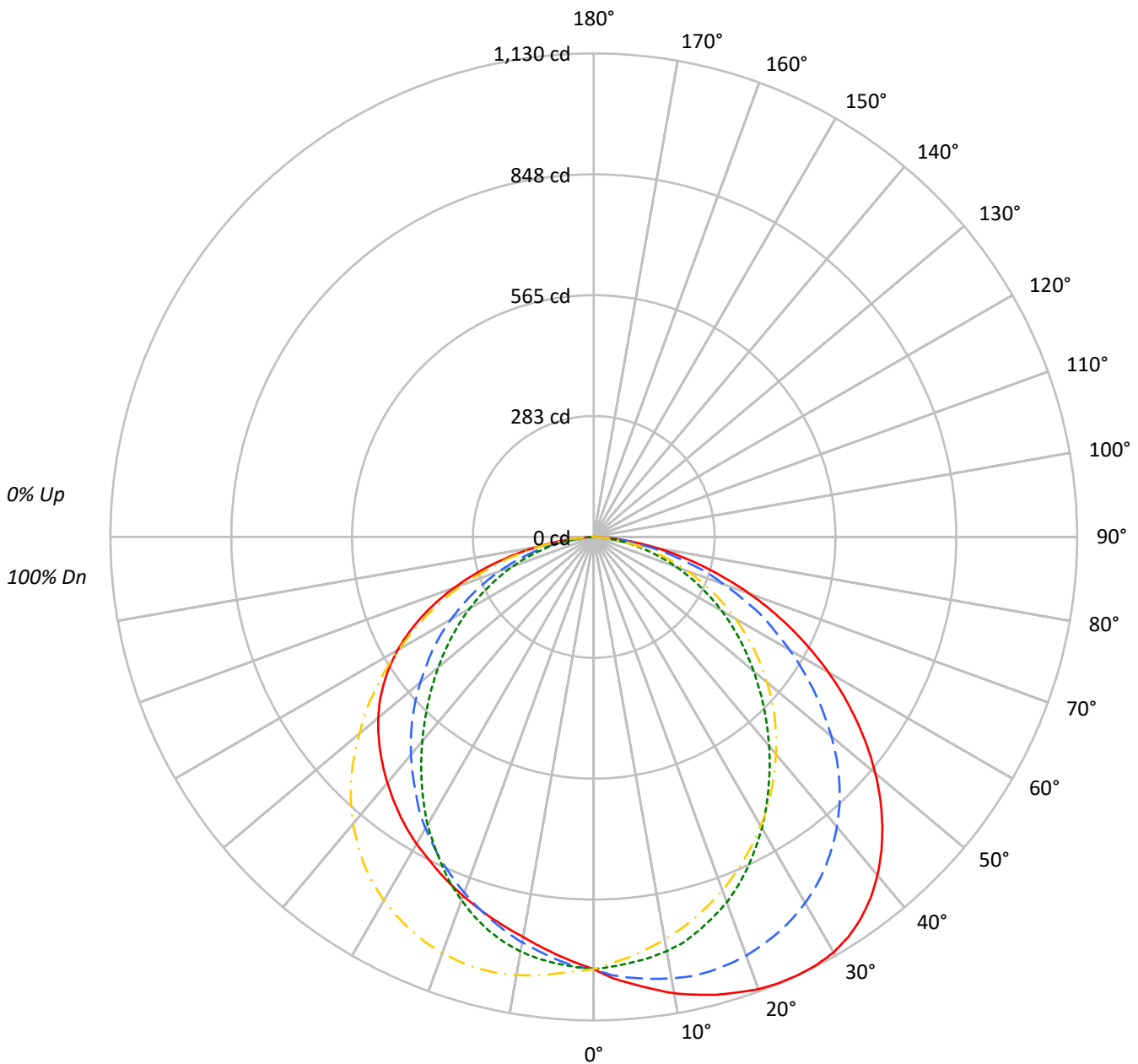
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2964.0 lumens
Efficiency: N/A
Efficacy: 89.0 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



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	61	61	61	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	2719	2719	2719	2719
5°	2833	2699	2648	2703
10°	2960	2685	2595	2689
15°	3086	2651	2569	2652
20°	3221	2603	2558	2588
25°	3354	2530	2557	2504
30°	3484	2442	2575	2415
35°	3576	2342	2600	2304
40°	3624	2241	2637	2190
45°	3631	2139	2688	2085
50°	3597	2041	2753	1987
55°	3522	1950	2815	1896
60°	3412	1856	2852	1807
65°	3259	1747	2837	1706
70°	3044	1618	2736	1589
75°	2740	1443	2511	1436
80°	2323	1209	2111	1227
85°	1615	800	1340	821



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.9	3.2
10°-20°	277.8	9.4
20°-30°	425.7	14.4
30°-40°	517.6	17.5
40°-50°	538.1	18.2
50°-60°	486.0	16.4
60°-70°	369.5	12.5
70°-80°	206.0	7.0
80°-90°	47.4	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°	799.3	27.0
0°-40°	1316.9	44.4
0°-60°	2341.0	79.0
0°-90°	2964.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2964.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1010	1010	1010	1010	1010	
5°	1049	999	980	1001	1049	101
15°	1108	952	922	952	1108	314
25°	1130	852	861	843	1130	522
35°	1089	713	792	702	1089	680
45°	954	562	706	548	954	735
55°	751	416	600	404	751	670
65°	512	274	446	268	512	506
75°	264	139	242	138	264	280
85°	52	26	43	27	52	66
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°	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3
2.5°	1032.6	1017.6	1017.8	1031.0	1020.9	1025.8	1011.7	1017.1	1015.4	1016.6	1005.1
5°	1048.9	1032.6	1032.4	1043.7	1032.4	1034.5	1016.6	1020.2	1015.0	1011.7	999.2
7.5°	1066.1	1049.8	1048.2	1058.1	1043.2	1041.6	1021.8	1021.8	1012.4	1004.1	992.3
10°	1083.1	1066.3	1064.2	1071.8	1053.4	1048.0	1023.9	1020.2	1007.7	995.4	982.7
12.5°	1095.8	1078.8	1077.2	1081.9	1061.2	1051.3	1023.9	1016.6	998.2	981.0	971.1
15°	1107.8	1090.4	1085.9	1088.3	1064.5	1051.3	1020.6	1009.3	985.7	963.1	951.6
17.5°	1116.3	1099.6	1095.1	1094.9	1066.1	1047.3	1013.6	998.0	969.7	942.4	930.8
20°	1124.8	1108.1	1102.4	1098.2	1065.6	1041.8	1003.2	982.2	949.2	918.6	908.9
22.5°	1129.0	1111.8	1105.7	1099.3	1062.6	1031.9	990.5	963.8	926.1	889.6	881.6
25°	1129.7	1112.1	1105.5	1096.3	1056.4	1020.2	974.0	941.7	899.5	859.0	852.1
27.5°	1127.8	1108.5	1101.9	1090.9	1047.3	1005.8	954.4	916.5	871.2	826.4	819.1
30°	1121.3	1101.7	1095.3	1081.0	1034.3	988.1	933.0	888.4	839.9	792.3	785.9
32.5°	1108.1	1089.0	1083.8	1069.4	1020.2	967.6	908.0	858.3	805.2	759.8	750.3
35°	1088.7	1069.6	1066.3	1051.3	1000.4	943.1	880.6	825.3	768.5	722.0	712.9
37.5°	1063.5	1047.5	1042.5	1027.7	977.0	915.3	849.3	789.4	731.0	681.0	675.4
40°	1031.7	1016.6	1012.8	999.7	949.9	884.4	815.4	752.4	692.4	645.9	637.9
42.5°	995.4	981.3	979.2	965.5	916.5	850.2	778.6	714.0	652.1	607.3	599.3
45°	954.2	940.5	940.0	927.1	879.9	812.3	740.0	675.2	612.7	566.3	562.0
47.5°	908.7	896.4	896.4	884.4	839.2	770.6	700.1	634.6	573.1	532.1	524.6
50°	859.2	847.7	844.1	838.2	794.2	725.1	658.2	595.0	534.0	494.9	487.6
52.5°	806.4	796.5	798.9	788.0	745.4	677.7	615.8	550.5	494.6	459.1	451.8
55°	750.8	736.7	738.8	734.8	694.5	629.0	568.2	513.7	456.0	422.5	415.7
57.5°	693.1	674.7	682.2	679.9	640.3	579.0	524.6	472.0	417.6	386.7	380.1
60°	633.9	616.2	624.0	621.9	584.7	529.0	479.6	430.8	379.4	351.4	344.8
62.5°	573.1	556.9	563.9	562.3	528.1	477.9	434.8	390.0	341.0	315.8	309.7
65°	511.8	496.3	502.7	501.5	469.9	431.7	388.8	347.8	302.3	280.4	274.3
67.5°	449.2	434.8	440.7	440.7	411.7	375.2	342.6	305.2	264.4	245.6	239.9
70°	386.9	373.5	378.7	378.2	353.7	324.0	296.0	262.5	226.0	210.4	205.7
72.5°	324.3	312.5	317.2	316.7	296.2	277.1	249.3	220.3	188.5	176.0	171.8
75°	263.5	252.4	256.9	256.4	239.7	221.8	203.1	179.1	151.8	143.0	138.8
77.5°	205.5	194.2	198.0	198.0	185.7	172.7	157.9	139.3	119.9	110.5	107.5
80°	149.9	144.5	142.6	142.8	134.6	126.1	118.5	100.6	86.5	80.1	78.0
82.5°	98.5	94.0	92.1	92.6	87.9	82.7	78.0	65.5	56.1	52.3	51.1
85°	52.3	49.0	47.4	48.5	47.6	44.8	42.4	33.9	28.0	26.6	25.9
87.5°	16.5	14.4	13.2	17.4	14.8	13.2	12.7	10.1	7.8	7.8	7.5
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°	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3
2.5°	1008.8	1008.8	999.7	997.5	996.6	997.8	988.6	986.9	1000.1	995.6	985.5
5°	1000.8	1000.4	987.4	985.0	985.0	983.6	973.3	970.9	984.1	980.3	969.3
7.5°	990.9	989.5	974.2	972.6	970.2	969.3	957.7	956.1	967.4	965.0	954.6
10°	978.9	977.5	959.4	958.2	955.6	953.7	942.9	941.7	953.2	949.5	941.2
12.5°	963.1	960.5	941.9	940.7	938.6	937.9	927.3	926.8	939.6	935.8	927.1
15°	942.4	940.3	919.5	920.0	920.2	920.2	911.8	911.3	923.8	922.1	912.7
17.5°	919.5	916.7	896.9	898.3	900.0	901.9	895.3	896.4	909.6	907.5	899.0
20°	893.6	890.8	871.5	875.5	879.0	882.8	878.5	881.8	894.1	893.1	886.8
22.5°	864.6	861.8	843.9	850.0	855.9	863.0	861.1	864.9	877.8	877.6	871.9
25°	829.3	830.0	814.2	821.7	831.6	841.5	842.2	848.4	862.7	861.3	856.1
27.5°	796.3	797.2	780.5	793.2	806.4	819.1	822.2	830.7	845.3	844.1	839.6
30°	761.6	762.8	746.6	764.0	780.0	795.6	802.2	813.7	828.6	828.6	823.9
32.5°	725.6	727.7	710.7	734.1	752.7	770.8	782.4	794.4	811.4	810.9	806.9
35°	688.6	690.9	675.4	705.1	723.7	745.9	760.2	776.3	791.3	791.6	788.5
37.5°	650.9	653.7	639.6	672.1	693.3	719.5	737.8	753.9	770.6	771.5	768.7
40°	613.4	616.5	604.2	635.6	662.4	691.7	712.9	731.7	750.1	750.6	748.7
42.5°	575.9	579.2	570.1	600.7	631.1	662.4	687.4	708.9	727.7	728.9	726.8
45°	539.4	542.2	535.6	569.1	598.3	632.5	661.3	685.5	704.6	706.3	705.6
47.5°	503.1	505.7	499.8	530.5	564.2	600.5	633.7	660.5	680.8	682.7	682.2
50°	467.5	469.7	463.3	495.3	528.8	567.5	602.1	633.2	655.8	657.7	657.5
52.5°	432.2	434.3	428.9	462.6	493.0	533.8	571.5	605.2	627.6	630.4	630.9
55°	398.0	399.0	394.7	427.0	456.5	499.1	542.5	575.2	597.6	600.0	601.4
57.5°	363.9	364.1	360.6	391.4	419.7	463.3	508.8	543.2	564.4	566.8	568.9
60°	329.9	329.7	325.7	355.6	382.7	425.8	473.2	507.4	527.9	530.0	532.8
62.5°	296.2	295.5	292.0	319.5	345.0	387.7	435.3	468.2	487.8	489.2	493.0
65°	262.8	262.0	258.8	284.2	307.3	348.1	394.7	426.1	443.7	445.6	444.9
67.5°	229.8	228.4	225.8	248.6	269.6	307.3	352.1	382.0	396.6	398.3	402.7
70°	196.8	195.1	189.2	213.5	231.9	265.6	307.3	333.9	346.2	347.8	347.1
72.5°	164.3	162.6	156.2	178.6	194.2	223.6	260.9	283.0	293.6	295.0	295.0
75°	132.7	131.7	127.7	144.7	157.7	181.7	213.3	231.6	239.9	241.5	241.1
77.5°	102.3	101.6	97.6	112.2	122.3	140.2	165.7	180.0	186.2	188.1	192.1
80°	73.3	73.1	66.7	81.1	85.5	100.6	119.2	130.3	133.6	136.2	139.0
82.5°	46.9	47.1	40.8	53.0	54.9	64.6	76.1	83.0	85.3	87.4	89.5
85°	22.9	23.8	20.3	28.0	28.3	33.2	38.2	40.8	41.7	43.4	45.2
87.5°	5.9	6.8	3.8	8.0	7.1	9.2	10.6	11.3	11.1	12.3	13.0
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°	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3
2.5°	988.8	996.4	992.6	1004.8	1009.5	1002.0	1015.2	1015.4	1006.0	1017.1	1023.2
5°	973.5	981.3	978.9	991.6	997.5	990.9	1007.0	1010.0	1000.8	1013.3	1023.2
7.5°	957.9	967.1	964.1	977.0	984.1	978.9	996.1	1001.1	994.0	1007.7	1020.9
10°	944.5	952.3	949.0	962.7	968.8	964.5	981.5	990.7	984.1	1000.8	1016.6
12.5°	931.3	937.7	933.9	945.2	951.1	945.7	966.4	974.9	970.2	987.6	1007.9
15°	914.3	921.4	916.2	926.4	930.8	926.1	943.1	957.7	951.8	970.9	993.3
17.5°	901.4	905.4	898.3	906.3	908.9	902.6	919.8	934.1	929.9	950.6	976.6
20°	887.0	890.3	880.4	884.9	884.7	876.6	892.4	906.6	903.7	926.6	956.1
22.5°	871.0	872.6	861.1	862.0	861.6	848.4	862.5	876.9	875.7	898.8	931.8
25°	854.0	854.3	839.4	838.9	833.8	818.2	830.7	846.9	843.4	868.4	903.0
27.5°	837.3	834.9	817.0	812.8	804.5	785.9	797.0	811.6	809.5	834.0	872.4
30°	819.4	816.3	794.4	786.6	774.6	753.2	762.3	776.0	777.2	798.6	838.9
32.5°	802.4	794.6	770.4	759.0	744.0	719.0	723.9	737.8	739.7	761.4	802.9
35°	780.5	775.3	745.4	726.1	711.2	683.9	689.1	698.7	701.5	722.8	764.9
37.5°	759.8	751.5	719.7	696.1	677.0	648.3	649.7	659.6	662.4	683.9	725.6
40°	738.3	726.5	692.4	664.8	642.9	612.7	611.1	621.4	623.5	644.5	682.2
42.5°	715.5	701.3	662.9	632.7	607.5	576.9	573.6	582.5	584.9	605.4	642.4
45°	692.4	675.4	632.7	599.7	572.2	540.8	537.5	544.4	547.9	567.2	602.8
47.5°	667.8	648.1	601.6	564.9	536.4	505.0	501.0	507.8	510.7	529.8	563.5
50°	642.2	618.1	569.6	529.0	500.8	469.9	464.0	472.0	474.6	492.5	525.5
52.5°	613.9	587.3	535.4	493.0	464.7	435.3	428.2	436.0	439.0	456.5	486.9
55°	584.0	555.2	501.0	459.8	429.1	400.4	394.5	397.6	404.1	420.6	448.9
57.5°	550.3	521.7	464.7	422.8	393.3	365.7	360.8	363.6	369.7	385.8	411.2
60°	514.4	484.3	427.7	385.8	357.3	331.1	326.6	329.2	335.8	350.4	374.0
62.5°	479.1	445.2	389.5	347.8	321.9	297.6	296.5	295.5	301.6	315.8	336.5
65°	436.2	403.7	349.7	310.1	286.6	264.6	259.9	262.0	267.9	280.9	302.6
67.5°	390.2	360.8	308.9	272.4	251.4	231.9	227.9	228.8	234.9	246.3	265.1
70°	341.5	315.5	267.2	234.5	216.8	198.4	195.8	196.1	202.0	211.9	228.4
72.5°	290.3	267.0	225.1	197.0	182.4	169.2	166.8	164.0	169.4	177.9	192.1
75°	238.2	217.7	183.1	160.2	148.7	137.6	135.5	132.7	138.1	145.4	156.5
77.5°	185.7	169.2	142.3	124.7	115.7	107.5	105.6	102.5	107.9	113.4	122.1
80°	134.3	122.3	106.3	87.7	84.6	79.2	77.3	74.0	79.2	82.7	89.3
82.5°	86.7	78.7	69.5	56.6	56.1	52.1	51.1	47.4	52.1	54.2	59.1
85°	43.8	40.1	37.7	28.8	29.7	27.1	26.9	22.9	26.6	27.6	30.4
87.5°	12.5	13.2	11.8	7.1	9.0	8.5	8.5	6.1	8.5	8.5	9.7
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: P838023

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

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3	1010.3
2.5°	1011.2	1015.2	1016.1	1015.9	1018.5	1032.6	1027.9	1032.6
5°	1013.6	1022.5	1024.9	1028.2	1032.4	1048.4	1043.2	1048.9
7.5°	1015.0	1028.4	1033.6	1039.9	1046.8	1064.7	1060.5	1066.1
10°	1015.0	1032.4	1039.9	1050.6	1059.7	1080.5	1076.5	1083.1
12.5°	1010.7	1033.1	1043.7	1058.6	1070.3	1092.7	1091.1	1095.8
15°	1002.0	1029.6	1044.2	1063.3	1077.9	1102.9	1102.2	1107.8
17.5°	990.2	1023.5	1041.1	1065.2	1083.5	1111.6	1113.2	1116.3
20°	975.4	1011.9	1035.0	1064.5	1087.6	1118.4	1120.5	1124.8
22.5°	955.8	998.0	1025.8	1061.4	1088.0	1121.3	1125.0	1129.0
25°	932.7	981.3	1013.8	1055.5	1085.7	1121.0	1126.2	1129.7
27.5°	906.3	959.6	998.5	1046.1	1079.1	1117.2	1123.6	1127.8
30°	875.7	936.5	981.0	1033.8	1070.1	1110.2	1117.0	1121.3
32.5°	844.1	911.0	960.3	1018.0	1057.2	1098.9	1104.8	1108.1
35°	809.7	880.2	935.3	997.8	1040.4	1080.7	1085.2	1088.7
37.5°	772.2	846.7	906.8	974.9	1016.9	1055.5	1059.5	1063.5
40°	733.6	811.6	874.8	946.9	988.8	1024.6	1028.9	1031.7
42.5°	694.7	772.7	840.6	913.9	955.6	990.0	992.6	995.4
45°	655.4	732.4	802.2	877.3	918.6	950.9	951.8	954.2
47.5°	615.3	690.7	760.0	835.6	876.4	905.9	906.8	908.7
50°	575.0	649.0	715.0	790.6	830.5	861.6	857.3	859.2
52.5°	535.4	605.2	672.6	742.1	781.4	809.0	810.2	806.4
55°	496.5	562.3	624.3	691.2	728.6	750.1	749.4	750.8
57.5°	457.2	518.9	575.7	637.0	673.5	693.8	698.0	693.1
60°	417.1	475.1	526.0	581.4	616.7	633.7	638.6	633.9
62.5°	377.3	430.5	476.7	525.0	557.8	578.8	578.3	573.1
65°	337.5	385.8	427.0	468.0	496.5	517.5	516.6	511.8
67.5°	300.7	340.5	377.5	410.7	435.5	449.9	454.8	449.2
70°	260.2	294.6	327.1	353.7	374.2	387.2	391.9	386.9
72.5°	219.6	248.9	271.7	297.4	313.2	324.0	329.0	324.3
75°	179.6	203.6	222.2	242.3	253.3	262.5	268.2	263.5
77.5°	140.7	159.3	174.1	188.8	201.5	203.6	208.6	205.5
80°	103.7	117.1	128.0	137.6	146.8	147.8	151.8	149.9
82.5°	69.0	78.0	80.8	91.0	96.9	95.9	99.9	98.5
85°	36.5	41.9	46.9	50.0	53.3	50.2	53.7	52.3
87.5°	12.3	13.0	11.3	16.0	17.7	15.1	17.2	16.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)