

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: io LED

Report Number: P397284

Luminaire Tested: **4VRVT2-LD5-8-DR-W-UNV-LG52-CD1-WL-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P397284  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-14)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: 4VRVT2-LD5-8-DR-W-UNV-LG52-CD1-WL-U  
Description:  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6094.4 lumens  
Efficiency: N/A  
Efficacy: 43.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.59 / 1.58  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')  
CIE Type: Direct

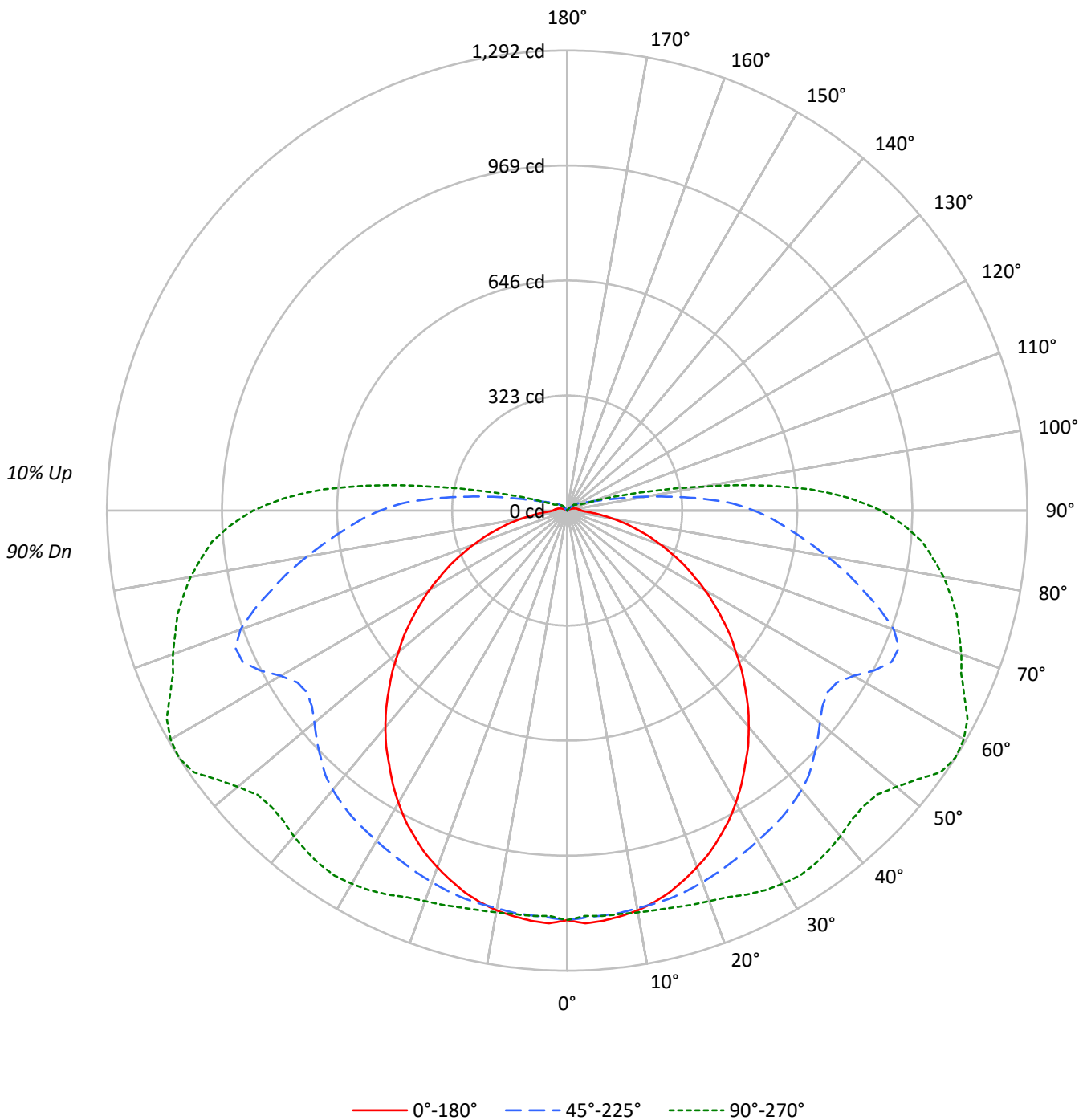
Input Watts (W): 139.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90
1	101	94	88	83	97	91	85	80	85	80	76	79	75	72	74	71	68	65
2	90	79	71	63	86	77	69	62	71	64	59	66	61	56	62	57	53	50
3	81	68	58	50	77	66	57	49	61	53	47	57	50	45	53	47	43	40
4	73	59	49	41	70	57	48	40	53	45	39	50	43	37	46	40	35	33
5	67	52	42	35	64	51	41	34	47	39	33	44	37	31	41	35	30	27
6	62	47	37	30	59	45	36	29	42	34	28	40	32	27	37	31	26	23
7	57	42	33	26	55	41	32	25	38	30	24	36	29	24	34	27	23	20
8	53	38	29	23	51	37	28	22	35	27	22	33	26	21	31	25	20	18
9	49	35	26	20	47	34	26	20	32	24	19	30	23	19	28	22	18	16
10	46	32	24	18	44	31	23	18	30	22	17	28	21	17	26	20	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5940	5940	5940
5°	5975	5784	5758
10°	5940	5683	5677
15°	5873	5628	5665
20°	5775	5571	5720
25°	5664	5535	5870
30°	5523	5542	6052
35°	5345	5596	6198
40°	5179	5654	6291
45°	4969	5661	6441
50°	4744	5664	6941
55°	4540	5830	7812
60°	4322	6580	8423
65°	4080	7844	8772
70°	3800	8546	9286
75°	3488	8632	10078
80°	3124	8827	11053
85°	2766	9279	12334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.3	1.8
10°-20°	319.9	5.2
20°-30°	507.6	8.3
30°-40°	656.7	10.8
40°-50°	743.4	12.2
50°-60°	816.2	13.4
60°-70°	866.2	14.2
70°-80°	812.0	13.3
80°-90°	656.7	10.8
90°-100°	406.9	6.7
100°-110°	127.6	2.1
110°-120°	40.6	0.7
120°-130°	21.1	0.3
130°-140°	8.8	0.1
140°-150°	1.4	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	936.7	15.4
0°-40°	1593.5	26.1
0°-60°	3153.1	51.7
0°-90°	5488.0	90.1
90°-120°	575.1	9.4
90°-150°	606.4	9.9
90°-180°	606.0	9.9
0°-180°	6094.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1150	1150	1150	1150	1150	
5°	1156	1152	1141	1146	1142	110
15°	1110	1114	1126	1151	1154	313
25°	1012	1035	1090	1163	1190	466
35°	871	927	1051	1176	1212	546
45°	707	795	979	1120	1175	546
55°	533	650	891	1188	1280	477
65°	362	517	1005	1198	1230	358
75°	201	503	858	1051	1133	214
85°	68	340	629	904	1001	69
90°	38	254	525	784	882	22
95°	34	176	382	598	685	26
105°	22	62	120	158	172	24
115°	11	29	54	47	40	11
125°	4	10	34	34	29	4
135°	2	0	14	20	19	1
145°	1	0	0	4	4	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CATALOG NUMBER: 4VRVT2-LD5-8-DR-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7
2.5°	1160.1	1158.5	1156.1	1155.3	1154.5	1154.5	1155.3	1153.7	1151.3	1147.3	1144.1
5°	1156.1	1154.5	1152.1	1150.5	1152.1	1152.1	1152.9	1151.3	1148.1	1144.9	1140.9
7.5°	1148.9	1147.3	1144.9	1144.9	1144.1	1144.9	1144.9	1144.9	1143.3	1141.7	1139.3
10°	1140.1	1137.7	1136.9	1136.1	1136.9	1138.5	1138.5	1139.3	1137.7	1135.3	1133.7
12.5°	1126.5	1125.7	1123.3	1124.1	1124.9	1127.3	1128.9	1130.5	1131.3	1130.5	1130.5
15°	1109.7	1108.1	1107.3	1108.9	1113.7	1114.5	1116.1	1120.1	1121.7	1124.9	1126.5
17.5°	1088.1	1088.1	1088.1	1091.3	1096.9	1098.5	1101.7	1105.7	1109.7	1113.7	1119.3
20°	1065.7	1065.7	1065.7	1069.7	1076.1	1080.9	1084.1	1089.7	1096.1	1104.9	1110.5
22.5°	1041.6	1040.0	1040.0	1044.0	1053.7	1056.1	1062.5	1073.7	1083.3	1093.7	1100.9
25°	1012.0	1010.4	1012.8	1018.4	1029.6	1035.2	1042.4	1055.3	1064.9	1079.3	1090.5
27.5°	982.4	980.0	983.2	990.4	1005.6	1012.0	1020.8	1036.0	1047.2	1063.3	1080.9
30°	947.2	947.2	951.2	960.8	976.0	984.8	994.4	1012.8	1028.0	1048.0	1070.5
32.5°	911.2	909.6	916.8	927.2	947.2	957.6	968.0	988.8	1008.0	1033.6	1060.9
35°	871.2	872.0	879.2	892.8	916.8	927.2	938.4	962.4	988.0	1019.2	1051.2
37.5°	834.4	832.8	842.4	860.8	884.0	896.0	908.0	937.6	966.4	1001.6	1038.4
40°	793.6	794.4	803.2	824.0	848.0	861.6	875.2	909.6	944.0	981.6	1024.0
42.5°	752.0	752.8	764.8	787.2	813.6	828.8	845.6	881.6	920.8	962.4	1005.6
45°	707.2	708.8	723.2	749.6	776.0	795.2	813.6	852.8	896.8	938.4	979.2
47.5°	664.8	667.2	685.6	709.6	740.0	760.0	780.0	824.8	868.0	910.4	953.6
50°	618.4	625.6	641.6	668.8	703.2	722.4	744.8	791.2	836.8	882.4	926.4
52.5°	577.6	580.8	600.8	627.2	664.0	686.4	707.2	756.8	804.8	852.0	903.2
55°	532.8	537.6	559.2	586.4	624.8	649.6	672.8	722.4	775.2	828.0	891.2
57.5°	488.8	494.4	517.6	545.6	588.0	610.4	637.6	689.6	747.2	815.2	898.4
60°	447.2	451.2	472.8	504.8	548.8	574.4	602.4	662.4	732.8	824.0	928.0
62.5°	402.4	409.6	429.6	465.6	516.0	542.4	574.4	644.8	738.4	852.8	972.0
65°	362.4	368.0	390.4	430.4	484.0	516.8	553.6	645.6	764.8	891.2	1004.8
67.5°	320.0	329.6	352.8	396.8	460.0	499.2	546.4	662.4	797.6	919.2	1008.0
70°	279.2	288.8	318.4	370.4	445.6	495.2	552.0	688.0	818.4	915.2	976.0
72.5°	240.8	250.4	288.0	348.8	440.8	499.2	564.0	700.0	806.4	871.2	920.0
75°	200.8	214.4	260.8	334.4	440.0	503.2	568.8	680.0	757.6	812.0	858.4
77.5°	166.4	183.2	236.8	320.8	433.6	491.2	541.6	628.0	694.4	748.0	801.6
80°	128.8	152.0	215.2	303.2	404.0	449.6	491.2	561.6	627.2	684.0	740.8
82.5°	96.0	124.8	189.6	274.4	356.8	395.2	433.6	499.2	560.8	620.0	684.0
85°	68.0	97.6	162.4	235.2	306.4	340.0	374.4	438.4	499.2	562.4	628.8
87.5°	48.0	76.0	133.6	198.4	262.4	290.4	322.4	383.2	447.2	509.6	579.2
90°	38.4	60.8	111.2	167.2	224.0	253.6	282.4	340.8	399.2	460.0	524.8
92.5°	36.8	50.4	92.0	140.8	190.4	216.0	241.6	294.4	348.0	402.4	464.0
95°	33.6	40.8	71.2	112.8	154.4	176.0	198.4	240.8	287.2	332.8	382.4
97.5°	31.2	33.6	55.2	88.0	121.6	136.8	153.6	189.6	222.4	257.6	296.0
100°	28.0	28.8	41.6	65.6	92.8	106.4	120.8	144.8	169.6	197.6	224.0
102.5°	25.6	25.6	32.8	49.6	69.6	80.0	90.4	111.2	128.8	147.2	162.4
105°	22.4	22.4	26.4	37.6	53.6	62.4	70.4	84.8	99.2	111.2	120.0
107.5°	20.0	19.2	20.8	30.4	43.2	49.6	56.8	68.0	78.4	86.4	93.6
110°	16.8	16.8	16.8	24.8	35.2	40.8	46.4	56.0	64.8	70.4	73.6



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CATALOG NUMBER: 4VRVT2-LD5-8-DR-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	13.6	13.6	13.6	20.0	28.8	34.4	39.2	48.0	55.2	60.0	62.4
115°	11.2	11.2	10.4	15.2	24.0	28.8	32.8	41.6	48.0	52.0	54.4
117.5°	8.8	8.8	8.8	11.2	19.2	23.2	28.0	35.2	42.4	46.4	48.8
120°	7.2	7.2	6.4	7.2	14.4	18.4	22.4	30.4	36.8	40.8	43.2
122.5°	5.6	5.6	4.8	4.8	10.4	13.6	17.6	24.8	31.2	35.2	38.4
125°	4.0	4.0	4.0	3.2	6.4	9.6	13.6	20.0	25.6	30.4	33.6
127.5°	3.2	3.2	3.2	2.4	3.2	5.6	8.8	15.2	20.8	24.8	28.0
130°	2.4	2.4	2.4	1.6	1.6	3.2	5.6	10.4	15.2	19.2	23.2
132.5°	2.4	2.4	1.6	1.6	0.8	0.8	2.4	6.4	11.2	14.4	17.6
135°	1.6	1.6	1.6	0.8	0.8	0.0	0.0	3.2	7.2	10.4	13.6
137.5°	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.8	4.0	6.4	8.8
140°	1.6	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.8	3.2	5.6
142.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
145°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7	1149.7
2.5°	1142.5	1143.3	1144.9	1144.9	1144.1	1144.1	1143.3	1142.5	1140.9	1139.3
5°	1140.9	1142.5	1144.9	1145.7	1145.7	1144.9	1144.9	1144.9	1144.1	1142.5
7.5°	1140.1	1142.5	1144.9	1145.7	1146.5	1146.5	1145.7	1144.9	1143.3	1142.5
10°	1136.1	1140.9	1143.3	1145.7	1147.3	1147.3	1148.1	1148.1	1146.5	1145.7
12.5°	1134.5	1140.1	1144.1	1147.3	1149.7	1149.7	1151.3	1152.9	1148.1	1148.9
15°	1131.3	1139.3	1145.7	1149.7	1151.3	1152.1	1153.7	1154.5	1152.9	1153.7
17.5°	1127.3	1137.7	1144.1	1149.7	1150.5	1152.9	1157.7	1160.1	1160.1	1160.9
20°	1121.7	1133.7	1142.5	1151.3	1154.5	1156.9	1161.7	1166.5	1164.9	1166.5
22.5°	1115.3	1128.9	1141.7	1152.1	1156.1	1160.9	1168.9	1173.7	1176.1	1175.3
25°	1109.7	1127.3	1142.5	1158.5	1163.3	1169.7	1179.3	1185.7	1188.1	1189.7
27.5°	1103.3	1124.9	1145.7	1163.3	1171.3	1179.3	1191.3	1198.5	1200.9	1201.7
30°	1098.5	1125.7	1147.3	1168.1	1176.9	1185.7	1198.5	1205.7	1208.9	1209.7
32.5°	1093.7	1122.5	1147.3	1169.7	1178.5	1186.5	1201.7	1212.9	1215.3	1215.3
35°	1087.3	1116.1	1144.1	1167.3	1176.1	1184.9	1201.7	1210.5	1212.9	1212.1
37.5°	1076.1	1108.1	1136.9	1157.7	1166.5	1174.5	1191.3	1200.9	1204.9	1204.1
40°	1060.1	1092.9	1120.9	1144.1	1152.1	1160.9	1178.5	1186.5	1192.1	1193.7
42.5°	1040.8	1073.7	1101.7	1124.9	1135.3	1145.7	1163.3	1172.1	1178.5	1180.1
45°	1016.8	1050.4	1080.9	1108.1	1120.1	1130.5	1152.1	1167.3	1173.7	1175.3
47.5°	992.0	1030.4	1064.9	1097.7	1112.9	1128.9	1152.9	1172.1	1180.9	1180.1
50°	968.8	1015.2	1058.5	1101.7	1121.7	1140.1	1170.5	1191.3	1201.7	1206.5
52.5°	957.6	1015.2	1072.9	1124.1	1147.3	1167.3	1203.3	1227.3	1239.3	1239.3
55°	963.2	1037.6	1104.1	1163.3	1188.1	1209.7	1240.9	1264.1	1274.5	1280.1
57.5°	988.8	1075.3	1146.5	1202.5	1225.7	1244.1	1272.9	1284.1	1295.3	1292.1
60°	1032.0	1114.5	1177.7	1226.5	1242.5	1252.1	1270.5	1280.1	1285.7	1285.7
62.5°	1068.1	1142.5	1186.5	1215.3	1229.7	1237.7	1252.9	1260.1	1267.3	1267.3
65°	1084.1	1132.9	1166.5	1192.1	1198.5	1208.1	1218.5	1225.7	1232.1	1230.5
67.5°	1064.9	1100.1	1126.5	1149.7	1157.7	1167.3	1180.1	1190.5	1196.1	1197.7
70°	1016.8	1050.4	1075.3	1104.1	1116.1	1128.1	1150.5	1165.7	1174.5	1177.7
72.5°	960.8	996.0	1034.4	1067.3	1085.7	1099.3	1124.1	1140.1	1152.1	1153.7
75°	903.2	947.2	991.2	1032.8	1051.2	1070.5	1098.5	1116.9	1130.5	1132.9
77.5°	851.2	901.6	956.0	1000.8	1023.2	1040.0	1070.5	1088.1	1102.5	1103.3
80°	799.2	858.4	913.6	960.0	982.4	1004.0	1032.8	1056.1	1068.1	1073.7
82.5°	748.8	809.6	868.8	922.4	942.4	963.2	996.0	1018.4	1032.0	1036.8
85°	699.2	765.6	827.2	879.2	904.0	924.8	960.0	980.8	996.8	1000.8
87.5°	647.2	712.0	773.6	824.8	850.4	868.8	904.8	926.4	942.4	945.6
90°	591.2	652.0	712.0	760.0	784.0	804.0	842.4	862.4	874.4	881.6
92.5°	521.6	580.0	635.2	682.4	707.2	721.6	757.6	779.2	792.0	795.2
95°	435.2	484.8	534.4	576.8	598.4	620.0	644.0	664.8	682.4	684.8
97.5°	336.0	377.6	418.4	460.0	473.6	486.4	506.4	528.0	544.0	543.2
100°	250.4	274.4	303.2	324.8	335.2	349.6	368.8	381.6	383.2	388.0
102.5°	180.0	196.8	208.8	224.8	229.6	242.4	248.8	257.6	259.2	263.2
105°	130.4	139.2	148.0	154.4	158.4	159.2	164.0	170.4	172.0	172.0
107.5°	97.6	102.4	103.2	105.6	107.2	108.0	111.2	112.0	112.8	112.8
110°	76.8	77.6	76.0	76.0	75.2	75.2	74.4	73.6	72.8	72.8





TEST NUMBER: P397284

CATALOG NUMBER: 4VRVT2-LD5-8-DR-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	62.4	62.4	60.8	58.4	56.8	56.0	53.6	52.0	51.2	51.2
115°	54.4	52.8	51.2	48.8	47.2	46.4	44.0	42.4	40.8	40.0
117.5°	48.8	48.0	45.6	44.0	42.4	41.6	39.2	36.8	36.0	35.2
120°	44.0	43.2	42.4	40.0	39.2	38.4	36.0	34.4	32.8	32.8
122.5°	39.2	39.2	38.4	36.8	36.0	35.2	33.6	32.0	31.2	30.4
125°	35.2	35.2	35.2	34.4	33.6	32.8	31.2	30.4	29.6	28.8
127.5°	29.6	31.2	31.2	31.2	30.4	30.4	29.6	28.0	27.2	27.2
130°	24.8	26.4	27.2	27.2	27.2	27.2	26.4	25.6	24.8	24.8
132.5°	20.0	22.4	23.2	24.0	24.0	24.0	23.2	23.2	22.4	22.4
135°	16.0	17.6	19.2	20.0	20.0	20.0	20.0	20.0	19.2	19.2
137.5°	12.0	12.8	14.4	15.2	16.0	16.0	16.0	16.0	16.0	16.0
140°	7.2	8.8	10.4	11.2	12.0	12.0	12.0	12.0	12.0	12.0
142.5°	4.0	4.8	6.4	7.2	8.0	8.0	8.0	8.0	8.0	8.0
145°	0.8	1.6	3.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0
147.5°	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)