

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: P397290

Luminaire Tested: **4VRVT2-LD5-8-DR100-W-UNV-LG52-CD1-WL-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P397290  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1710-355-15)  
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-DR100-W-UNV-LG52-CD1-WL-U  
Description:  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6095.0 lumens  
Efficiency: N/A  
Efficacy: 43.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.58 / 1.57  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 4.17' x H: 0.17')  
CIE Type: Semi-Direct

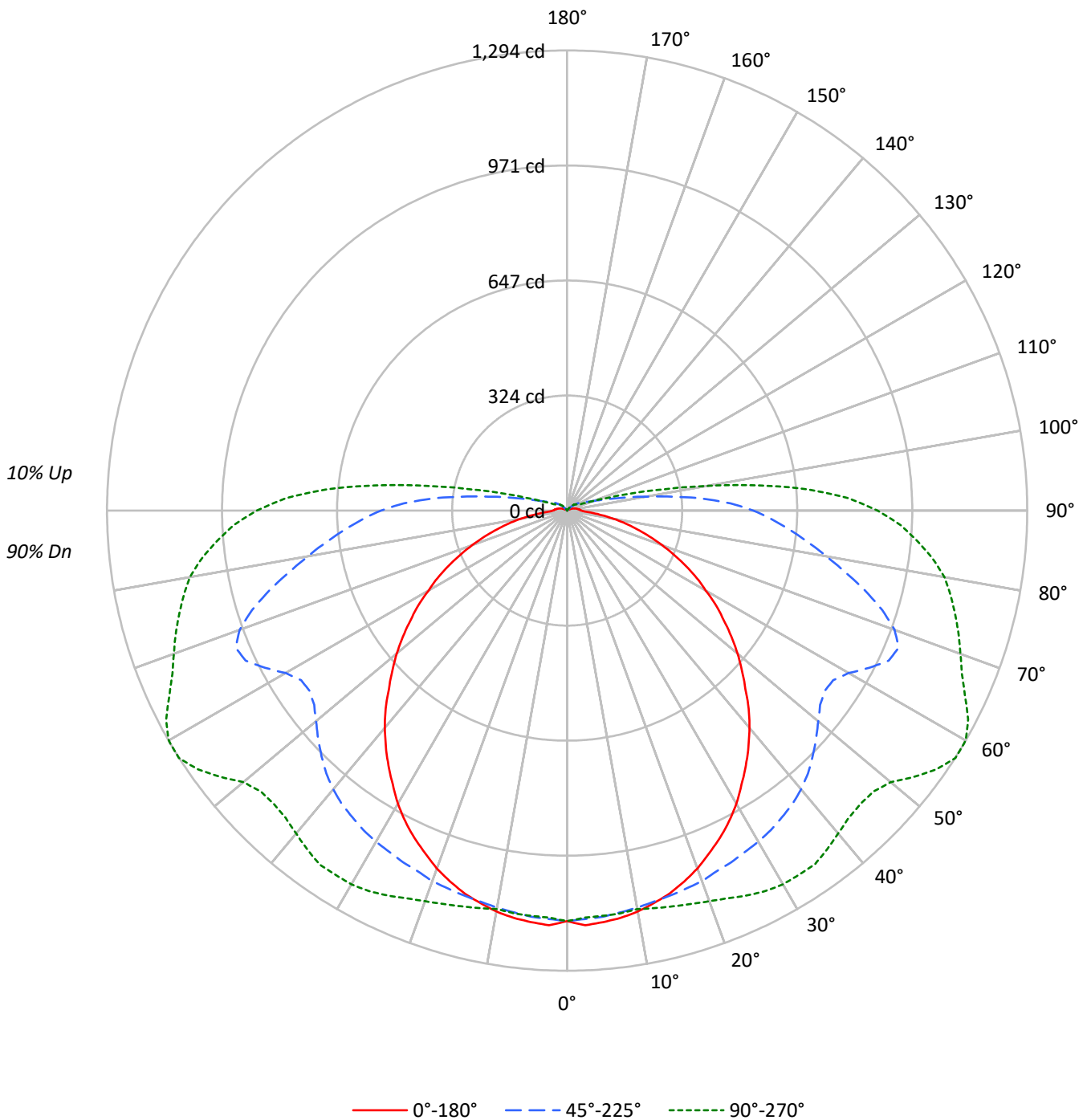
Input Watts (W): 139.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	5964	5964	5964
5°	6004	5811	5765
10°	5964	5683	5637
15°	5898	5599	5657
20°	5805	5562	5731
25°	5686	5539	5893
30°	5551	5566	6072
35°	5375	5604	6211
40°	5205	5650	6249
45°	4980	5647	6392
50°	4800	5635	6834
55°	4581	5783	7739
60°	4353	6478	8475
65°	4144	7787	8801
70°	3865	8581	9279
75°	3543	8712	10049
80°	3221	8817	11093
85°	2766	9290	12186



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.5	1.8
10°-20°	319.6	5.2
20°-30°	507.9	8.3
30°-40°	656.5	10.8
40°-50°	740.8	12.2
50°-60°	812.2	13.3
60°-70°	866.7	14.2
70°-80°	812.4	13.3
80°-90°	654.3	10.7
90°-100°	407.4	6.7
100°-110°	132.1	2.2
110°-120°	43.1	0.7
120°-130°	22.1	0.4
130°-140°	9.1	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°	936.9	15.4
0°-40°	1593.4	26.1
0°-60°	3146.4	51.6
0°-90°	5479.9	89.9
90°-120°	582.6	9.6
90°-150°	615.2	10.1
90°-180°	615.0	10.1
0°-180°	6095.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1154	1154	1154	1154	1154	
5°	1162	1158	1146	1148	1144	110
15°	1114	1114	1121	1150	1152	314
25°	1016	1030	1091	1168	1194	468
35°	876	926	1053	1174	1214	548
45°	709	796	977	1111	1166	549
55°	538	652	884	1174	1268	482
65°	368	516	998	1208	1234	364
75°	204	499	866	1048	1130	217
85°	68	342	630	892	989	70
90°	39	255	523	777	873	22
95°	34	178	385	602	682	27
105°	23	64	127	165	184	24
115°	11	29	58	51	44	12
125°	5	10	34	35	30	4
135°	2	0	14	21	20	2
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



TEST NUMBER: P397290

CATALOG NUMBER: 4VRVT2-LD5-8-DR100-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4
2.5°	1167.2	1164.0	1161.6	1161.6	1161.6	1160.8	1160.8	1160.0	1158.4	1153.6	1149.6
5°	1161.6	1160.0	1157.6	1157.6	1157.6	1157.6	1157.6	1156.0	1152.8	1149.6	1146.4
7.5°	1155.2	1153.6	1150.4	1151.2	1148.8	1149.6	1148.8	1147.2	1146.4	1144.0	1140.0
10°	1144.8	1143.2	1140.0	1140.8	1139.2	1140.0	1140.0	1140.8	1139.2	1136.8	1133.6
12.5°	1130.4	1129.6	1128.0	1127.2	1128.8	1130.4	1131.2	1129.6	1128.0	1127.2	1126.4
15°	1114.4	1112.8	1111.2	1112.0	1114.4	1114.4	1116.8	1116.8	1116.8	1117.6	1120.8
17.5°	1093.6	1092.8	1091.2	1092.8	1094.4	1095.2	1098.4	1100.0	1100.8	1107.2	1114.4
20°	1071.2	1069.6	1068.0	1069.6	1072.0	1075.2	1078.4	1083.2	1090.4	1100.8	1108.8
22.5°	1043.2	1042.4	1041.6	1043.2	1047.2	1052.0	1057.6	1068.0	1079.2	1090.4	1097.6
25°	1016.0	1014.4	1013.6	1016.8	1024.8	1029.6	1036.8	1050.4	1063.2	1077.6	1091.2
27.5°	985.6	980.8	984.8	988.0	998.4	1004.8	1013.6	1031.2	1045.6	1061.6	1082.4
30°	952.0	949.6	949.6	956.8	970.4	980.0	990.4	1010.4	1027.2	1049.6	1075.2
32.5°	912.8	913.6	915.2	924.8	943.2	954.4	963.2	986.4	1008.0	1036.0	1065.6
35°	876.0	874.4	878.4	892.0	912.8	925.6	937.6	962.4	989.6	1020.8	1052.8
37.5°	837.6	836.0	841.6	857.6	880.0	893.6	907.2	938.4	969.6	1004.8	1040.8
40°	797.6	797.6	804.0	821.6	846.4	860.8	876.8	912.0	946.4	984.8	1023.2
42.5°	756.0	754.4	762.4	786.4	814.4	828.8	848.0	884.8	924.0	962.4	1002.4
45°	708.8	715.2	723.2	747.2	776.0	796.0	818.4	857.6	897.6	938.4	976.8
47.5°	667.2	672.0	683.2	708.8	742.4	760.8	784.8	826.4	869.6	908.8	949.6
50°	625.6	628.0	643.2	668.8	704.0	727.2	750.4	792.8	835.2	880.0	921.6
52.5°	582.4	583.2	601.6	626.4	668.0	691.2	712.8	757.6	803.2	849.6	896.8
55°	537.6	540.0	559.2	586.4	630.4	652.0	676.0	722.4	772.0	824.8	884.0
57.5°	496.8	499.2	517.6	547.2	592.8	616.0	639.2	689.6	744.0	809.6	887.2
60°	450.4	456.8	473.6	507.2	553.6	576.8	604.0	660.0	728.0	815.2	913.6
62.5°	411.2	412.8	432.0	468.8	517.6	543.2	572.8	640.8	730.4	840.0	957.6
65°	368.0	372.0	392.0	433.6	485.6	516.0	551.2	638.4	752.8	883.2	997.6
67.5°	324.8	331.2	355.2	400.8	460.8	497.6	542.4	655.2	788.8	916.0	1008.8
70°	284.0	292.0	319.2	372.0	444.0	490.4	548.0	680.0	813.6	918.4	980.0
72.5°	243.2	254.4	289.6	350.4	437.6	495.2	560.8	695.2	808.0	880.0	928.8
75°	204.0	216.8	262.4	333.6	436.8	499.2	565.6	680.8	760.8	820.8	866.4
77.5°	168.8	184.0	236.8	320.0	431.2	489.6	543.2	632.0	698.4	754.4	800.8
80°	132.8	152.8	214.4	302.4	404.0	450.4	494.4	568.8	628.8	685.6	740.0
82.5°	98.4	124.8	190.4	276.0	357.6	399.2	433.6	501.6	562.4	621.6	684.0
85°	68.0	98.4	161.6	235.2	305.6	341.6	375.2	440.0	500.0	562.4	629.6
87.5°	47.2	77.6	134.4	199.2	264.0	294.4	324.8	387.2	447.2	508.8	577.6
90°	39.2	61.6	112.0	168.8	226.4	255.2	284.0	340.8	400.0	459.2	523.2
92.5°	36.8	51.2	92.0	141.6	193.6	217.6	243.2	296.0	348.8	405.6	460.0
95°	34.4	40.8	72.8	112.8	156.8	177.6	199.2	240.8	288.8	335.2	384.8
97.5°	31.2	33.6	56.0	88.0	123.2	140.8	156.8	190.4	228.0	263.2	298.4
100°	28.8	28.8	42.4	67.2	95.2	108.0	121.6	149.6	174.4	200.8	225.6
102.5°	25.6	25.6	32.8	50.4	72.8	83.2	95.2	114.4	132.8	151.2	168.8
105°	23.2	22.4	26.4	39.2	55.2	64.0	72.8	88.8	103.2	115.2	127.2
107.5°	20.0	20.0	21.6	31.2	44.0	51.2	57.6	71.2	82.4	91.2	97.6
110°	16.8	16.8	17.6	24.8	36.0	41.6	48.0	58.4	67.2	74.4	78.4



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CATALOG NUMBER: 4VRVT2-LD5-8-DR100-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	14.4	14.4	13.6	20.0	29.6	35.2	40.0	49.6	57.6	62.4	65.6
115°	11.2	11.2	11.2	15.2	24.0	28.8	33.6	42.4	50.4	55.2	57.6
117.5°	9.6	9.6	8.8	11.2	19.2	24.0	28.0	36.8	43.2	48.8	51.2
120°	7.2	7.2	7.2	7.2	14.4	19.2	23.2	31.2	37.6	42.4	44.8
122.5°	5.6	5.6	5.6	4.8	10.4	14.4	18.4	25.6	32.0	36.8	40.0
125°	4.8	4.0	4.0	4.0	6.4	9.6	13.6	20.0	25.6	31.2	34.4
127.5°	4.0	3.2	3.2	3.2	3.2	5.6	8.8	15.2	20.8	25.6	28.8
130°	3.2	2.4	2.4	2.4	1.6	3.2	5.6	10.4	16.0	20.0	23.2
132.5°	2.4	2.4	1.6	1.6	0.8	0.8	2.4	6.4	11.2	15.2	18.4
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	3.2	6.4	9.6
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°	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4	1154.4
2.5°	1149.6	1150.4	1151.2	1151.2	1150.4	1150.4	1149.6	1148.0	1146.4	1145.6
5°	1144.0	1146.4	1148.0	1148.0	1148.0	1147.2	1147.2	1146.4	1144.8	1144.0
7.5°	1139.2	1143.2	1144.8	1144.0	1144.0	1144.0	1144.0	1144.8	1143.2	1142.4
10°	1134.4	1137.6	1140.8	1141.6	1142.4	1141.6	1141.6	1140.0	1139.2	1137.6
12.5°	1129.6	1135.2	1140.0	1144.0	1144.0	1144.0	1145.6	1148.0	1147.2	1144.8
15°	1125.6	1135.2	1140.8	1147.2	1149.6	1152.0	1152.8	1154.4	1152.0	1152.0
17.5°	1123.2	1136.0	1144.0	1150.4	1151.2	1154.4	1159.2	1161.6	1160.8	1160.0
20°	1119.2	1134.4	1145.6	1151.2	1155.2	1159.2	1165.6	1167.2	1168.8	1168.8
22.5°	1114.4	1131.2	1142.4	1155.2	1161.6	1165.6	1174.4	1179.2	1180.8	1180.0
25°	1110.4	1129.6	1146.4	1161.6	1168.0	1172.8	1184.0	1192.8	1194.4	1194.4
27.5°	1106.4	1128.8	1148.8	1168.8	1176.8	1182.4	1193.6	1202.4	1205.6	1206.4
30°	1102.4	1127.2	1151.2	1171.2	1180.8	1186.4	1199.2	1207.2	1213.7	1213.7
32.5°	1095.2	1125.6	1149.6	1171.2	1179.2	1188.8	1200.8	1209.6	1214.5	1213.7
35°	1088.0	1116.0	1143.2	1164.8	1173.6	1183.2	1197.6	1208.0	1211.2	1214.5
37.5°	1076.0	1105.6	1132.8	1154.4	1167.2	1175.2	1188.0	1196.0	1202.4	1200.8
40°	1060.0	1089.6	1117.6	1138.4	1149.6	1159.2	1173.6	1180.8	1186.4	1185.6
42.5°	1036.8	1070.4	1096.8	1119.2	1131.2	1140.8	1158.4	1164.8	1171.2	1172.0
45°	1013.6	1046.4	1076.0	1100.0	1111.2	1122.4	1144.0	1156.0	1164.0	1166.4
47.5°	985.6	1022.4	1056.0	1088.8	1104.8	1119.2	1141.6	1158.4	1167.2	1168.8
50°	962.4	1008.0	1049.6	1088.0	1108.0	1124.0	1154.4	1174.4	1184.0	1188.0
52.5°	948.8	1004.0	1058.4	1108.0	1132.0	1152.0	1189.6	1212.0	1228.1	1229.7
55°	951.2	1020.8	1088.8	1150.4	1174.4	1199.2	1233.7	1254.5	1268.1	1268.1
57.5°	975.2	1058.4	1136.8	1193.6	1217.7	1236.9	1268.9	1282.5	1292.1	1294.5
60°	1018.4	1106.4	1174.4	1224.1	1240.1	1255.3	1272.9	1288.1	1292.1	1293.7
62.5°	1060.8	1136.0	1189.6	1224.1	1233.7	1246.5	1259.3	1268.1	1271.3	1271.3
65°	1083.2	1139.2	1172.0	1197.6	1208.0	1212.0	1225.7	1228.9	1236.1	1234.5
67.5°	1069.6	1105.6	1132.0	1153.6	1161.6	1169.6	1185.6	1193.6	1200.0	1201.6
70°	1023.2	1052.0	1080.0	1107.2	1117.6	1131.2	1150.4	1165.6	1172.8	1176.8
72.5°	966.4	1000.8	1036.8	1069.6	1086.4	1099.2	1123.2	1143.2	1150.4	1154.4
75°	908.0	948.8	990.4	1030.4	1048.0	1064.8	1093.6	1112.8	1125.6	1129.6
77.5°	849.6	899.2	949.6	995.2	1016.8	1034.4	1067.2	1088.0	1103.2	1104.8
80°	795.2	854.4	910.4	959.2	980.8	1001.6	1034.4	1058.4	1066.4	1077.6
82.5°	747.2	808.8	865.6	916.8	940.8	959.2	993.6	1018.4	1030.4	1036.8
85°	695.2	759.2	816.8	867.2	892.0	914.4	946.4	969.6	986.4	988.8
87.5°	642.4	706.4	765.6	817.6	842.4	863.2	896.8	919.2	934.4	939.2
90°	586.4	647.2	704.0	756.0	776.8	798.4	830.4	856.0	872.0	872.8
92.5°	519.2	577.6	629.6	678.4	703.2	719.2	749.6	776.0	787.2	792.0
95°	433.6	487.2	536.8	577.6	602.4	616.8	646.4	665.6	678.4	681.6
97.5°	340.0	381.6	421.6	457.6	476.0	488.0	512.0	528.8	548.0	543.2
100°	256.0	279.2	308.0	331.2	344.8	352.8	370.4	381.6	392.8	399.2
102.5°	185.6	203.2	216.0	228.0	237.6	245.6	259.2	263.2	266.4	274.4
105°	136.0	144.8	152.0	160.8	164.8	167.2	172.8	176.8	176.8	184.0
107.5°	102.4	106.4	109.6	114.4	114.4	116.8	116.8	117.6	120.0	118.4
110°	80.8	81.6	82.4	81.6	82.4	81.6	80.8	80.0	80.0	79.2





TEST NUMBER: P397290

CATALOG NUMBER: 4VRVT2-LD5-8-DR100-W-UNV-LG52-CD1-WL-U

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	67.2	66.4	65.6	63.2	62.4	60.8	60.0	58.4	56.8	56.8
115°	57.6	56.8	55.2	52.8	51.2	49.6	48.8	46.4	44.8	44.0
117.5°	51.2	50.4	48.8	46.4	45.6	44.0	42.4	40.0	38.4	37.6
120°	46.4	46.4	44.8	42.4	41.6	40.8	38.4	36.8	35.2	34.4
122.5°	41.6	41.6	40.8	39.2	38.4	37.6	36.0	34.4	32.8	32.8
125°	36.0	36.8	36.8	36.0	35.2	34.4	33.6	32.0	31.2	30.4
127.5°	31.2	32.0	32.8	32.8	32.0	32.0	30.4	29.6	28.8	28.8
130°	25.6	28.0	28.8	28.8	28.8	28.8	28.0	27.2	26.4	26.4
132.5°	20.8	22.4	24.0	24.8	24.8	24.8	24.0	24.0	23.2	23.2
135°	16.0	17.6	19.2	20.0	20.8	20.8	20.8	20.8	20.0	20.0
137.5°	12.0	13.6	15.2	16.0	16.0	16.8	16.8	16.8	16.0	16.0
140°	7.2	9.6	10.4	11.2	12.0	12.0	12.8	12.8	12.0	12.0
142.5°	4.0	5.6	6.4	7.2	8.0	8.0	8.8	8.0	8.0	8.0
145°	0.8	1.6	3.2	4.0	4.0	4.0	4.0	4.8	4.0	4.0
147.5°	0.0	0.0	0.0	0.0	0.0	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)