

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: iO LED

Report Number: P1212244

Luminaire Tested: 4VT3-LD5-5-W-UNV-L830-CD1-U

Issue Date: 10/16/2019

Test Information

Test Method: LM-79-2019
Report Number: P1212244
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1709-268-9-R2)
Test Lab: INNOVATIONS CENTER(G3)
Issue Date: 10/16/2019
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: iO LED
Catalog Number: 4VT3-LD5-5-W-UNV-L830-CD1-U
Description: 4FT VT3 WIDE APPLICATION
Light Source: -
Ballast/Driver: -

Summary

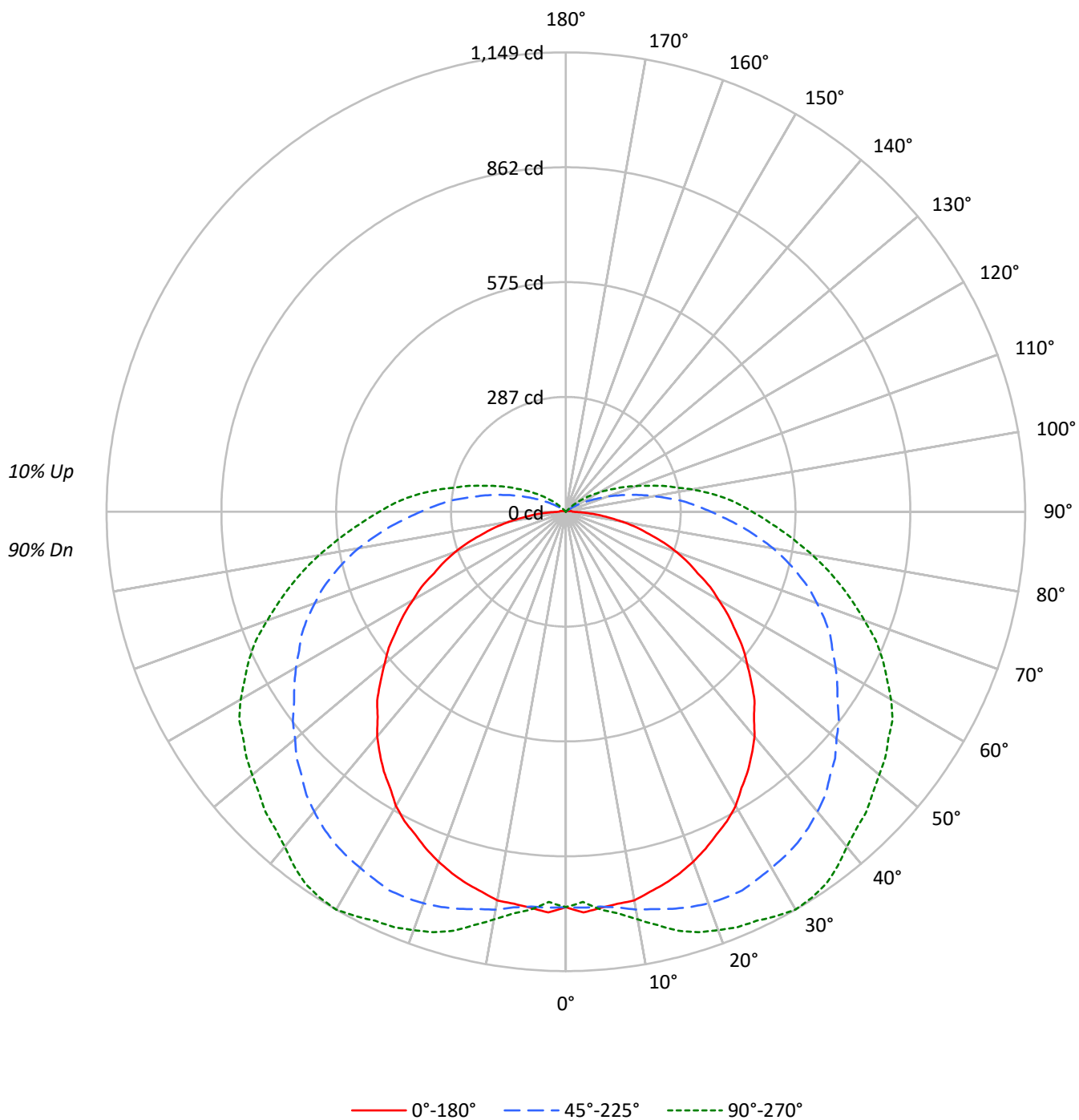
Lumens per Lamp: N/A
Luminaire Lumens: 5051.9 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.67 / 1.66
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.17')
CIE Type: Semi-Direct

Input Watts (W): 43.6
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: 24 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	30	10
RCR																	
0	117	117	117	117	113	113	113	113	105	105	105	99	99	99	93	93	93
1	103	96	91	86	99	93	88	83	87	83	79	81	78	74	76	73	70
2	92	82	74	67	88	79	72	65	74	67	62	69	64	59	64	60	56
3	83	71	61	54	79	68	60	53	64	56	50	59	53	48	55	50	46
4	75	62	52	44	72	60	51	44	56	48	42	52	46	40	49	43	38
5	69	55	45	38	66	53	44	37	50	42	35	46	40	34	43	38	33
6	63	49	39	32	61	47	38	32	44	36	31	42	35	29	39	33	28
7	58	44	35	28	56	43	34	28	40	32	27	38	31	26	36	29	25
8	54	40	31	25	52	39	30	24	37	29	24	34	28	23	33	26	22
9	51	36	28	22	49	35	27	22	33	26	21	32	25	20	30	24	20
10	47	33	25	20	45	33	25	19	31	24	19	29	23	18	28	22	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6387	6387	6387
5°	6425	6255	6254
10°	6426	6281	6343
15°	6362	6343	6552
20°	6306	6432	6680
25°	6228	6498	6779
30°	6186	6500	6960
35°	6076	6537	6995
40°	5979	6541	6903
45°	5852	6503	6930
50°	5665	6471	6965
55°	5496	6460	7062
60°	5319	6534	7168
65°	5101	6676	7193
70°	4995	6789	7150
75°	4658	6930	7125
80°	4314	7072	7135
85°	3684	7188	7204

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 7532 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.5	1.9
10°-20°	290.9	5.8
20°-30°	475.0	9.4
30°-40°	619.0	12.3
40°-50°	694.9	13.8
50°-60°	710.4	14.1
60°-70°	667.1	13.2
70°-80°	563.9	11.2
80°-90°	417.6	8.3
90°-100°	273.3	5.4
100°-110°	150.7	3.0
110°-120°	68.2	1.4
120°-130°	22.7	0.5
130°-140°	2.8	0.1
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°	861.4	17.1
0°-40°	1480.4	29.3
0°-60°	2885.6	57.1
0°-90°	4534.2	89.8
90°-120°	492.2	9.7
90°-150°	517.7	10.2
90°-180°	518.0	10.3
0°-180°	5051.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	989	989	989	989	989	
5°	995	994	991	999	998	95
15°	962	985	1028	1074	1085	272
25°	891	947	1045	1113	1129	412
35°	793	872	1010	1116	1136	496
45°	667	767	934	1033	1062	513
55°	517	639	830	951	986	464
65°	364	502	730	848	874	364
75°	216	378	601	694	712	230
85°	73	254	443	526	542	74
90°	19	190	363	446	466	13
95°	14	136	296	372	399	11
105°	7	42	163	230	250	8
115°	4	4	68	125	138	3
125°	1	1	14	51	62	1
135°	1	0	0	4	10	0
145°	0	0	0	0	0	0
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: 4VT3-LD5-5-W-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9
2.5°	1003.1	991.2	991.7	990.0	990.0	996.9	995.2	990.6	991.7	989.5	991.2
5°	994.6	988.9	989.5	992.8	992.3	993.5	994.6	991.7	996.9	995.2	991.2
7.5°	988.9	984.3	985.5	980.9	990.0	992.3	992.3	990.6	995.7	997.4	998.0
10°	987.1	978.6	982.1	975.3	984.3	994.6	992.8	999.1	1003.1	1007.1	1010.5
12.5°	973.5	970.1	968.4	973.5	986.0	994.1	988.9	993.5	1004.2	1011.6	1017.9
15°	962.1	961.0	960.4	965.6	971.3	984.9	986.6	998.5	1013.4	1017.3	1028.1
17.5°	947.9	944.6	946.8	950.8	969.0	977.5	985.5	994.1	1014.5	1022.4	1036.6
20°	931.4	929.1	936.5	941.7	958.8	969.0	978.6	992.3	1007.7	1027.0	1042.3
22.5°	912.6	911.5	917.7	928.0	950.3	959.9	966.7	985.5	1009.4	1025.3	1044.7
25°	891.0	891.0	897.9	914.4	940.5	947.4	958.2	974.6	996.9	1017.3	1044.7
27.5°	872.8	872.8	879.1	895.6	917.2	935.4	949.0	961.0	990.0	1012.8	1036.6
30°	849.5	852.4	857.5	872.8	899.5	915.5	928.0	951.4	979.2	1004.2	1028.7
32.5°	818.2	819.3	832.4	851.2	878.5	894.5	911.5	934.8	971.3	986.6	1020.8
35°	793.2	793.2	805.1	824.4	859.7	871.7	888.1	915.5	947.9	975.8	1010.5
37.5°	764.1	764.8	780.6	806.8	834.7	850.0	866.0	896.2	928.6	957.6	996.3
40°	734.0	738.5	746.5	772.7	805.7	824.4	838.1	872.3	913.8	942.2	979.2
42.5°	696.5	701.5	715.8	742.5	774.4	800.5	817.1	847.2	885.9	924.0	961.0
45°	667.4	670.2	683.9	710.7	746.5	767.0	783.5	821.6	862.0	899.5	934.3
47.5°	628.8	635.0	648.7	678.8	716.9	739.7	753.9	791.5	834.7	870.6	913.3
50°	591.8	596.8	616.3	643.5	685.6	705.0	724.3	761.9	810.8	848.9	883.7
52.5°	558.2	562.2	579.3	611.7	648.7	674.3	689.6	733.4	781.8	819.9	860.9
55°	517.2	526.9	544.0	576.4	618.5	638.9	653.8	699.8	748.8	793.2	829.6
57.5°	481.4	491.0	508.7	542.8	583.8	603.1	626.4	672.0	716.9	763.5	805.1
60°	441.5	451.8	471.7	509.2	550.2	570.1	590.0	639.5	687.9	731.7	779.5
62.5°	406.9	414.2	438.1	469.4	511.6	534.8	557.0	606.0	663.4	708.3	752.2
65°	363.6	378.9	400.6	437.6	479.0	501.8	526.3	576.4	627.6	677.6	729.5
67.5°	330.5	339.7	365.3	400.0	444.4	471.7	493.9	550.2	602.0	651.5	700.4
70°	294.8	303.3	328.3	365.3	412.0	435.8	466.0	519.5	576.9	623.6	668.0
72.5°	257.2	267.4	291.3	329.4	380.6	408.5	434.1	491.6	550.8	593.5	637.8
75°	215.7	231.0	258.9	295.9	348.2	377.8	403.4	464.3	517.2	561.1	601.4
77.5°	180.9	192.9	224.2	269.7	322.6	349.3	376.7	434.7	487.1	527.4	565.0
80°	143.4	159.9	187.7	235.6	289.1	316.9	345.4	400.0	450.1	490.4	526.9
82.5°	106.4	121.2	155.9	205.4	260.0	286.7	310.6	364.2	412.5	452.9	484.2
85°	73.4	87.0	125.7	175.8	227.6	254.3	278.2	332.3	376.1	409.7	443.3
87.5°	41.0	59.2	99.0	146.3	197.4	223.0	244.7	295.3	336.2	372.1	401.2
90°	18.8	37.5	72.9	118.3	165.6	190.1	212.8	258.3	300.5	331.8	363.0
92.5°	16.0	22.8	54.1	95.0	140.6	162.7	185.5	228.2	265.2	300.5	328.3
95°	14.2	15.3	35.3	73.4	113.8	136.0	156.4	197.4	232.8	265.7	296.5
97.5°	12.5	12.5	21.6	51.7	90.5	108.7	128.1	167.8	200.8	232.2	258.9
100°	10.3	10.8	12.5	33.5	65.5	83.0	102.5	137.1	170.1	199.7	223.6
102.5°	9.1	9.1	9.7	20.5	44.9	60.9	78.0	108.7	141.7	167.8	193.4
105°	7.4	7.9	7.9	10.8	30.2	42.1	56.3	85.9	113.2	139.4	162.7
107.5°	6.3	6.3	6.3	6.8	18.2	27.3	38.7	62.6	88.7	113.8	135.4
110°	5.1	5.1	5.1	5.7	8.5	16.0	25.0	44.4	67.2	91.1	109.8

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	4.0	4.6	4.6	4.6	5.1	7.4	14.2	31.8	48.9	69.4	87.0
115°	3.5	3.5	3.5	3.5	4.0	4.0	5.7	18.8	35.3	51.2	68.3
117.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	9.1	23.4	37.0	51.2
120°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3.5	12.5	25.6	37.0
122.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.5	14.2	25.0
125°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	4.6	14.2
127.5°	1.1	1.1	1.1	1.1	0.6	0.6	0.6	0.6	0.6	1.1	5.1
130°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.6
132.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	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°	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9	988.9
2.5°	981.5	986.0	991.7	994.1	989.5	993.5	993.5	987.8	988.4	977.0
5°	986.6	995.2	1003.1	998.5	999.1	998.5	1004.8	1000.3	998.5	998.5
7.5°	1000.3	1007.7	1009.4	1014.5	1014.0	1019.6	1014.5	1019.1	1017.3	1013.4
10°	1014.5	1017.9	1022.4	1036.1	1037.3	1035.0	1043.6	1036.6	1037.3	1035.5
12.5°	1021.3	1040.7	1041.2	1054.9	1052.1	1060.6	1061.8	1064.0	1064.6	1058.9
15°	1037.9	1051.5	1062.3	1073.6	1073.6	1080.5	1086.8	1086.1	1086.8	1085.0
17.5°	1048.6	1069.7	1077.1	1086.8	1090.7	1098.1	1101.6	1107.3	1105.6	1102.7
20°	1056.6	1072.5	1089.0	1099.3	1097.5	1106.7	1115.8	1106.7	1113.0	1113.5
22.5°	1054.3	1079.3	1091.3	1104.4	1109.5	1113.0	1120.3	1127.2	1127.2	1124.3
25°	1056.1	1077.6	1095.9	1108.9	1113.0	1120.9	1130.6	1132.8	1136.3	1128.8
27.5°	1053.2	1078.2	1097.5	1111.8	1111.8	1128.8	1132.8	1142.6	1145.4	1140.2
30°	1054.3	1076.5	1094.7	1117.5	1122.6	1131.7	1141.9	1148.8	1147.6	1148.8
32.5°	1046.4	1072.0	1093.1	1117.5	1125.5	1130.6	1142.6	1143.7	1142.6	1144.8
35°	1032.7	1064.0	1095.9	1108.9	1115.8	1126.0	1128.8	1134.5	1144.2	1135.7
37.5°	1024.1	1054.9	1072.0	1092.4	1099.9	1108.4	1114.6	1115.8	1117.5	1116.9
40°	1008.3	1037.3	1052.6	1073.6	1076.5	1090.2	1086.1	1091.8	1097.0	1093.6
42.5°	991.2	1014.5	1035.0	1049.8	1056.6	1060.0	1070.8	1073.1	1079.3	1075.4
45°	964.4	989.5	1011.6	1027.6	1033.3	1044.7	1049.8	1053.7	1060.0	1062.3
47.5°	942.8	967.8	990.6	1014.0	1012.8	1025.9	1035.5	1033.8	1039.0	1041.2
50°	913.8	944.6	972.4	988.9	994.6	1007.1	1011.1	1022.4	1027.6	1023.6
52.5°	890.5	924.0	941.7	969.0	975.8	986.0	997.4	998.5	1009.4	1007.7
55°	866.6	896.7	925.1	942.8	950.8	963.9	971.8	976.4	980.9	985.5
57.5°	836.4	875.1	899.0	921.2	929.7	938.3	950.3	955.9	965.6	969.0
60°	813.0	852.9	872.8	898.4	907.0	916.6	925.1	930.3	937.6	939.4
62.5°	788.0	823.9	848.4	872.3	880.2	888.1	897.9	906.4	909.2	905.2
65°	759.1	795.5	817.6	841.5	847.8	863.1	860.3	868.8	872.3	874.5
67.5°	731.7	772.1	789.2	803.4	818.2	816.5	827.9	827.3	834.2	838.6
70°	699.3	731.1	747.1	768.1	772.1	777.3	786.3	788.6	792.6	794.8
72.5°	665.8	698.7	712.9	727.8	737.4	736.8	743.1	747.7	752.8	753.4
75°	632.7	654.4	672.0	686.2	693.6	694.7	702.7	701.5	713.5	711.8
77.5°	594.6	618.5	629.9	644.1	650.3	656.6	660.6	664.0	665.8	670.2
80°	549.7	578.1	586.6	602.0	606.5	613.4	615.0	622.5	625.3	627.0
82.5°	511.6	530.3	543.4	558.7	569.0	567.9	575.3	579.8	583.2	583.2
85°	468.9	490.4	502.4	516.0	525.7	527.4	534.8	534.8	539.4	541.7
87.5°	424.5	450.7	460.3	475.1	486.0	484.2	489.3	496.1	498.5	502.4
90°	385.2	406.3	422.2	436.5	446.1	447.2	452.9	458.6	459.7	466.5
92.5°	353.3	371.0	388.1	402.8	406.3	410.8	415.9	425.1	426.7	433.6
95°	316.3	338.0	351.7	366.4	372.1	375.6	381.3	388.1	393.8	398.8
97.5°	282.8	302.1	316.9	328.3	336.2	338.6	346.0	350.5	354.5	360.2
100°	246.9	264.0	279.9	293.0	299.3	301.0	309.0	312.3	315.8	320.9
102.5°	214.0	234.4	243.5	257.8	262.8	265.7	271.4	278.8	279.4	281.0
105°	180.4	200.2	213.3	223.6	229.9	232.2	237.8	245.8	246.4	250.3
107.5°	154.2	171.3	184.4	195.2	201.5	203.7	208.3	211.1	215.1	216.2
110°	128.6	143.9	157.0	166.2	171.3	175.8	180.9	185.5	187.7	188.3

TEST NUMBER: P1212244

CATALOG NUMBER: 4VT3-LD5-5-W-UNV-L830-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	104.1	118.9	130.3	141.7	146.3	149.6	154.8	160.5	163.3	163.3
115°	83.7	97.3	109.3	118.3	124.6	126.3	130.9	135.4	137.7	137.7
117.5°	64.3	78.5	89.3	97.3	101.8	104.1	109.8	114.3	116.1	117.2
120°	48.9	60.3	70.5	79.1	81.9	85.9	89.9	93.9	96.2	96.2
122.5°	35.9	46.0	53.5	60.9	66.0	67.2	72.3	76.8	78.0	79.1
125°	24.5	33.0	40.4	46.7	50.6	51.7	55.8	59.8	60.9	62.0
127.5°	12.5	21.0	27.9	34.2	37.0	39.2	42.7	46.0	47.3	47.8
130°	3.5	9.7	16.5	22.2	24.5	26.2	30.2	32.4	34.7	34.2
132.5°	0.0	1.7	5.7	10.8	12.5	14.8	18.2	20.5	21.6	22.8
135°	0.0	0.0	0.6	2.2	3.5	4.6	6.8	9.7	9.7	9.7
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	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
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)