

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: NEO-RAY

Report Number: P331599

Luminaire Tested: **S122DIW-S1005D970U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331599
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D970U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7907.4 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

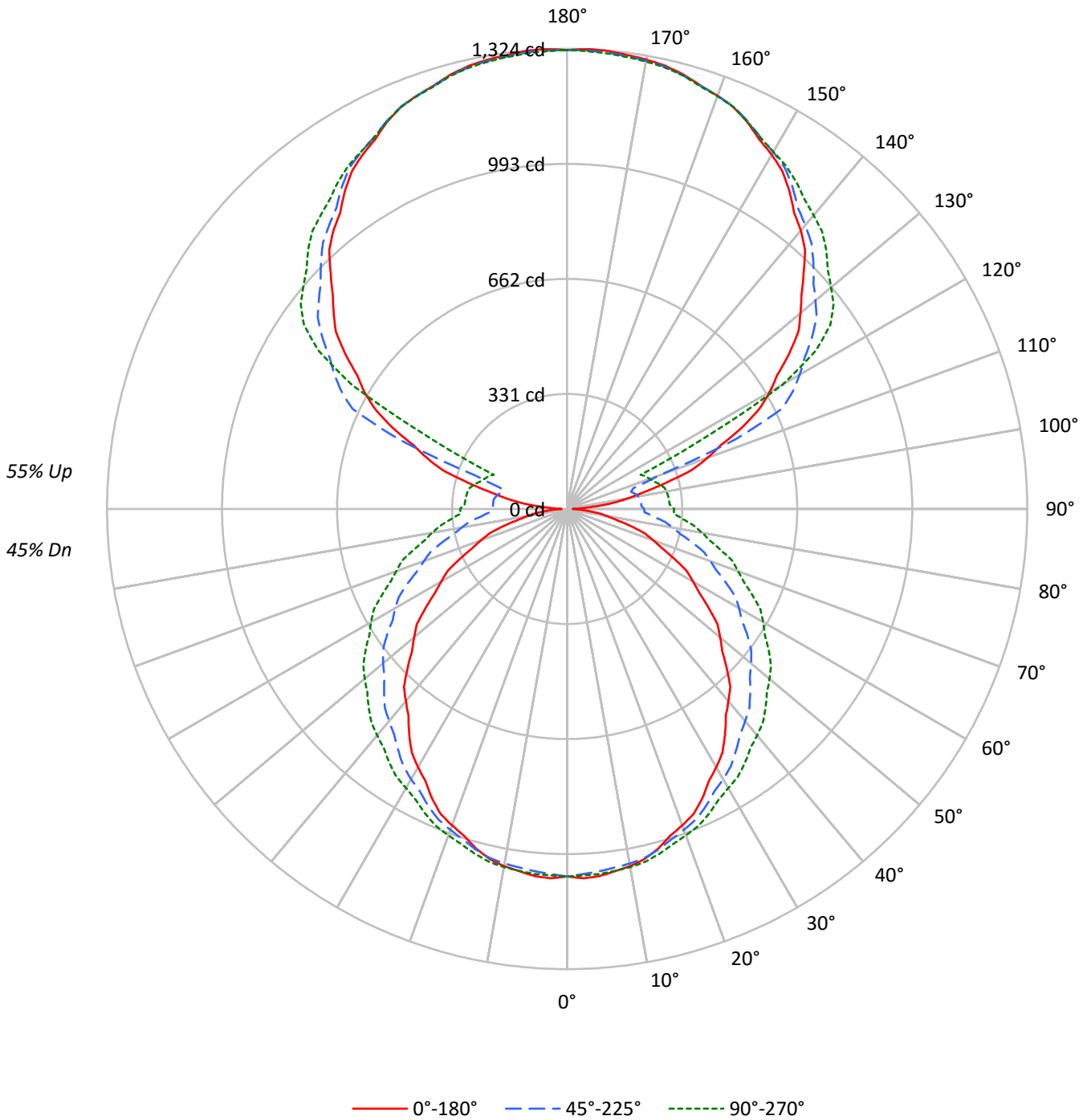
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	95	90	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	35	34	29
3	78	68	61	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	25	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	11
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.2	1.3
10°-20°	287.3	3.6
20°-30°	435.4	5.5
30°-40°	530.3	6.7
40°-50°	570.5	7.2
50°-60°	554.1	7.0
60°-70°	483.8	6.1
70°-80°	372.4	4.7
80°-90°	253.2	3.2
90°-100°	216.2	2.7
100°-110°	287.3	3.6
110°-120°	514.9	6.5
120°-130°	759.1	9.6
130°-140°	777.5	9.8
140°-150°	707.9	9.0
150°-160°	566.5	7.2
160°-170°	365.0	4.6
170°-180°	125.6	1.6
0°-30°	822.9	10.4
0°-40°	1353.3	17.1
0°-60°	2477.9	31.3
0°-90°	3587.3	45.4
90°-120°	1018.4	12.9
90°-150°	3262.9	41.3
90°-180°	4320.0	54.6
0°-180°	7907.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	116	221	285	308	13
95°	74	118	214	274	294	86
105°	298	357	190	252	275	319
115°	556	592	682	304	233	546
125°	780	795	860	906	924	696
135°	963	979	1002	1042	1054	744
145°	1115	1115	1130	1146	1149	698
155°	1228	1220	1231	1236	1229	566
165°	1294	1289	1291	1297	1291	365
175°	1323	1317	1319	1324	1316	126
180°	1320	1320	1320	1320	1320	



TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.2	51.0	71.8	92.5	113.3	134.7	156.9	179.0	201.1	223.3	237.4
90°	16.3	38.4	60.5	82.5	104.6	127.4	150.9	174.4	197.9	221.4	236.1
92.5°	33.4	51.6	69.8	87.9	106.1	126.1	147.9	169.8	191.6	213.4	227.3
95°	74.4	83.4	92.4	101.4	110.4	125.8	147.7	169.7	191.6	213.5	227.5
97.5°	134.0	128.5	123.0	117.5	111.9	120.7	143.8	166.8	189.9	212.9	226.4
100°	179.9	163.4	146.9	130.4	113.9	117.0	139.7	162.4	185.0	207.7	222.0
102.5°	229.1	234.4	239.8	245.1	250.5	247.3	235.7	224.0	212.3	200.7	215.2
105°	298.1	314.4	330.6	346.9	363.1	351.1	310.9	270.6	230.3	190.1	204.3
107.5°	378.7	391.7	404.8	417.8	430.8	411.1	358.5	306.0	253.4	200.8	209.9
110°	429.4	440.7	452.0	463.2	474.5	457.8	413.1	368.5	323.8	279.1	268.8



TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	478.4	488.0	497.7	507.4	517.0	522.2	522.9	523.6	524.4	525.1	458.5
115°	555.6	562.9	570.3	577.6	585.0	599.0	619.6	640.2	660.9	681.5	593.4
117.5°	623.0	629.5	636.0	642.5	649.0	661.1	678.9	696.8	714.6	732.4	718.7
120°	673.5	678.0	682.6	687.1	691.7	702.7	720.1	737.5	755.0	772.4	784.5
122.5°	716.3	720.2	724.1	728.0	731.9	742.3	759.3	776.2	793.2	810.2	821.0
125°	779.9	782.7	785.4	788.2	791.0	799.8	814.7	829.7	844.6	859.5	870.2
127.5°	839.0	841.7	844.4	847.1	849.8	857.1	868.9	880.7	892.5	904.3	914.9
130°	876.4	879.5	882.5	885.6	888.6	894.9	904.4	913.9	923.4	932.9	943.4
132.5°	914.6	917.2	919.7	922.3	924.8	930.0	937.9	945.7	953.6	961.4	971.3
135°	962.8	966.2	969.6	973.0	976.4	980.7	986.1	991.4	996.7	1002.0	1011.3
137.5°	1013.1	1015.4	1017.7	1020.0	1022.3	1025.3	1029.0	1032.6	1036.3	1039.9	1048.3
140°	1045.9	1047.3	1048.6	1050.0	1051.4	1053.5	1056.6	1059.6	1062.6	1065.6	1073.0
142.5°	1073.4	1074.6	1075.8	1077.0	1078.2	1080.2	1083.0	1085.8	1088.6	1091.4	1097.5
145°	1115.1	1114.9	1114.7	1114.5	1114.3	1116.0	1119.6	1123.2	1126.8	1130.4	1133.9
147.5°	1152.8	1151.9	1151.1	1150.3	1149.5	1150.9	1154.5	1158.0	1161.6	1165.2	1166.6
150°	1177.2	1175.7	1174.2	1172.8	1171.3	1172.2	1175.6	1179.0	1182.4	1185.8	1187.1
152.5°	1197.9	1196.2	1194.5	1192.9	1191.2	1192.0	1195.2	1198.5	1201.7	1204.9	1206.2
155°	1227.9	1225.9	1224.0	1222.1	1220.2	1220.5	1223.1	1225.6	1228.2	1230.7	1232.0
157.5°	1251.4	1249.8	1248.1	1246.5	1244.9	1245.0	1246.8	1248.6	1250.3	1252.1	1253.6
160°	1265.1	1263.9	1262.6	1261.3	1260.0	1260.0	1261.3	1262.6	1263.9	1265.1	1266.4
162.5°	1277.4	1276.1	1274.8	1273.5	1272.3	1272.2	1273.3	1274.4	1275.5	1276.6	1278.0
165°	1293.8	1292.5	1291.2	1290.0	1288.7	1288.4	1289.0	1289.6	1290.3	1290.9	1292.4
167.5°	1306.0	1304.7	1303.5	1302.2	1300.9	1300.6	1301.2	1301.8	1302.4	1303.0	1304.4
170°	1312.9	1311.6	1310.4	1309.1	1307.8	1307.4	1307.8	1308.2	1308.7	1309.1	1310.6
172.5°	1317.5	1316.2	1314.9	1313.7	1312.4	1312.0	1312.4	1312.8	1313.2	1313.7	1315.2
175°	1323.4	1321.9	1320.4	1319.0	1317.5	1316.9	1317.4	1317.8	1318.2	1318.6	1320.1
177.5°	1324.4	1323.2	1322.0	1320.8	1319.6	1319.1	1319.3	1319.4	1319.6	1319.8	1321.0
180°	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5



TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	251.5	265.6	279.7	289.0	293.4	297.9	302.3	306.8
90°	250.8	265.5	280.1	289.7	294.3	298.8	303.3	307.8
92.5°	241.2	255.1	269.0	278.2	282.5	286.8	291.2	295.5
95°	241.5	255.5	269.5	278.5	282.3	286.2	290.1	294.0
97.5°	239.8	253.3	266.7	275.6	279.9	284.1	288.4	292.7
100°	236.3	250.6	264.9	274.2	278.3	282.5	286.7	290.8
102.5°	229.7	244.3	258.8	268.3	272.6	276.9	281.3	285.6
105°	218.6	232.9	247.1	256.5	261.1	265.7	270.3	274.9
107.5°	219.0	228.0	237.1	243.9	248.5	253.1	257.7	262.3
110°	258.4	248.1	237.7	234.9	239.5	244.1	248.7	253.3



TEST NUMBER: P331599

CATALOG NUMBER: S122DIW-S1005D970U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	391.9	325.4	258.8	227.7	232.2	236.6	241.0	245.4
115°	505.3	417.2	329.1	279.3	267.8	256.2	244.7	233.1
117.5°	705.0	691.3	677.6	647.4	600.6	553.8	507.1	460.3
120°	796.6	808.7	820.8	814.4	789.4	764.5	739.6	714.7
122.5°	831.8	842.6	853.3	857.6	855.2	852.8	850.5	848.1
125°	880.9	891.6	902.3	909.4	913.2	916.9	920.6	924.3
127.5°	925.5	936.1	946.7	953.6	956.7	959.9	963.0	966.1
130°	953.9	964.4	974.9	981.4	983.9	986.4	989.0	991.5
132.5°	981.2	991.1	1001.0	1007.2	1009.7	1012.3	1014.8	1017.3
135°	1020.6	1029.8	1039.1	1044.9	1047.2	1049.5	1051.8	1054.1
137.5°	1056.6	1065.0	1073.3	1078.3	1079.9	1081.5	1083.1	1084.7
140°	1080.3	1087.7	1095.1	1099.2	1100.2	1101.2	1102.2	1103.2
142.5°	1103.6	1109.7	1115.8	1119.3	1120.0	1120.7	1121.4	1122.1
145°	1137.5	1141.0	1144.5	1146.6	1147.2	1147.9	1148.5	1149.2
147.5°	1167.9	1169.3	1170.7	1171.3	1171.3	1171.2	1171.1	1171.0
150°	1188.4	1189.6	1190.9	1191.0	1190.0	1188.9	1187.8	1186.8
152.5°	1207.5	1208.7	1210.0	1210.0	1208.6	1207.2	1205.8	1204.4
155°	1233.3	1234.5	1235.8	1235.6	1233.9	1232.2	1230.5	1228.8
157.5°	1255.0	1256.5	1257.9	1257.8	1256.1	1254.5	1252.8	1251.2
160°	1267.7	1268.9	1270.2	1270.1	1268.6	1267.1	1265.7	1264.2
162.5°	1279.5	1280.9	1282.4	1282.2	1280.3	1278.5	1276.7	1274.9
165°	1293.9	1295.4	1296.9	1296.9	1295.4	1293.9	1292.4	1290.9
167.5°	1305.9	1307.4	1308.9	1308.7	1306.8	1304.9	1303.0	1301.1
170°	1312.1	1313.5	1315.0	1314.8	1312.9	1311.0	1309.1	1307.2
172.5°	1316.6	1318.1	1319.6	1319.4	1317.5	1315.6	1313.7	1311.8
175°	1321.6	1323.1	1324.6	1324.3	1322.1	1320.0	1317.9	1315.8
177.5°	1322.2	1323.3	1324.5	1324.4	1322.8	1321.3	1319.8	1318.3
180°	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5	1320.5

(END OF REPORT)