

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: P332197-935

Luminaire Tested: **S123DIW-S1000D1030U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332197-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1030U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6626.2 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

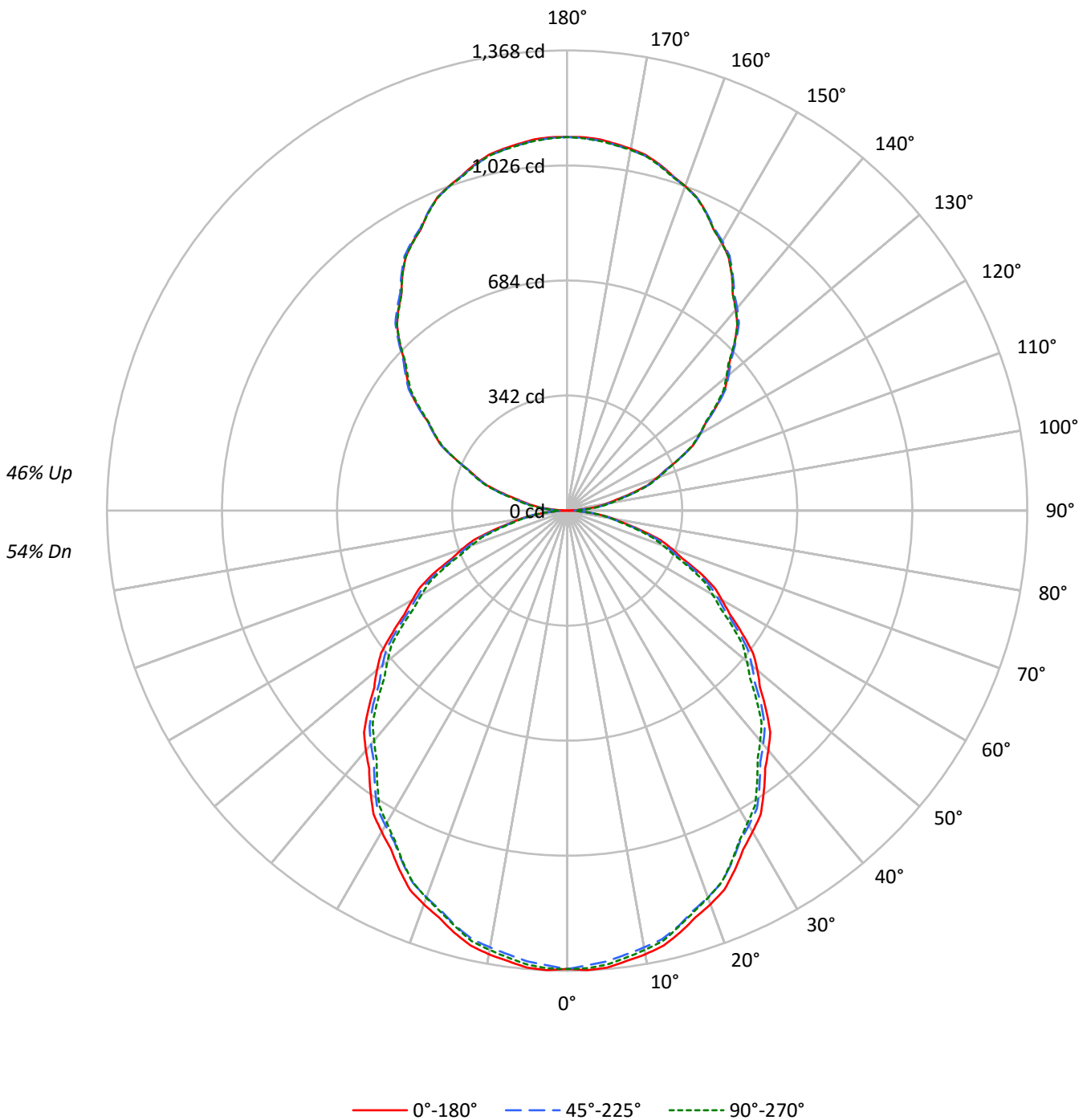
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	38
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	32	54	43	36	31	37	32	27	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	22	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14670	14670	14670
5°	14738	14536	14638
10°	14641	14410	14499
15°	14469	14247	14273
20°	14269	14014	14027
25°	14001	13737	13709
30°	13706	13430	13326
35°	13397	13104	12935
40°	13075	12745	12546
45°	12718	12415	12113
50°	12363	12010	11675
55°	11898	11590	11237
60°	11427	11102	10747
65°	11013	10565	10236
70°	10401	9958	9514
75°	9503	9162	8771
80°	8573	8207	8133
85°	7534	7237	6941



TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.4	1.9
10°-20°	362.5	5.5
20°-30°	535.5	8.1
30°-40°	625.5	9.4
40°-50°	628.8	9.5
50°-60°	552.4	8.3
60°-70°	411.5	6.2
70°-80°	234.5	3.5
80°-90°	70.6	1.1
90°-100°	72.4	1.1
100°-110°	216.5	3.3
110°-120°	368.3	5.6
120°-130°	484.4	7.3
130°-140°	544.4	8.2
140°-150°	535.2	8.1
150°-160°	450.5	6.8
160°-170°	299.9	4.5
170°-180°	105.0	1.6
0°-30°	1026.3	15.5
0°-40°	1651.8	24.9
0°-60°	2833.0	42.8
0°-90°	3549.6	53.6
90°-120°	657.1	9.9
90°-150°	2221.1	33.5
90°-180°	3077.0	46.4
0°-180°	6626.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1363	1363	1363	1363	1363	
5°	1364	1358	1345	1356	1355	129
15°	1298	1293	1278	1287	1281	366
25°	1179	1171	1157	1158	1154	543
35°	1020	1012	997	990	984	638
45°	836	830	816	802	796	645
55°	634	632	618	605	599	568
65°	432	426	415	406	402	427
75°	228	224	220	215	211	244
85°	61	59	59	56	56	67
90°	1	10	21	24	26	6
95°	52	58	65	68	68	58
105°	196	198	206	206	208	210
115°	371	373	372	372	372	367
125°	543	545	544	540	536	484
135°	704	709	708	705	703	542
145°	854	856	858	857	854	533
155°	978	978	979	982	976	450
165°	1065	1063	1062	1067	1062	300
175°	1108	1104	1104	1109	1104	105
180°	1110	1110	1110	1110	1110	



TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9
2.5°	1367.5	1366.8	1365.9	1365.0	1364.3	1362.6	1360.4	1358.1	1355.8	1353.5	1355.6
5°	1364.0	1362.7	1361.4	1360.1	1358.8	1356.8	1353.9	1351.0	1348.2	1345.3	1347.9
7.5°	1350.7	1349.4	1348.1	1346.8	1345.5	1343.3	1340.4	1337.4	1334.5	1331.5	1333.8
10°	1339.5	1338.2	1336.8	1335.5	1334.2	1331.9	1328.5	1325.1	1321.7	1318.4	1320.7
12.5°	1324.4	1323.4	1322.2	1321.1	1320.1	1317.9	1314.7	1311.6	1308.4	1305.2	1306.9
15°	1298.4	1297.4	1296.3	1295.3	1294.3	1292.0	1288.7	1285.3	1281.9	1278.5	1280.6
17.5°	1268.2	1266.8	1265.5	1264.1	1262.7	1260.4	1257.0	1253.6	1250.3	1246.8	1248.3
20°	1245.7	1244.1	1242.6	1241.0	1239.4	1236.9	1233.6	1230.2	1226.8	1223.4	1224.4
22.5°	1220.4	1218.8	1217.3	1215.6	1214.1	1211.7	1208.2	1204.9	1201.5	1198.1	1198.9
25°	1178.9	1177.3	1175.8	1174.2	1172.6	1170.2	1166.7	1163.4	1160.0	1156.6	1156.8
27.5°	1134.6	1133.1	1131.5	1130.1	1128.5	1125.9	1122.3	1118.7	1115.0	1111.4	1111.6
30°	1102.7	1101.4	1100.1	1098.8	1097.5	1095.0	1091.4	1087.7	1084.1	1080.5	1080.5
32.5°	1070.8	1069.1	1067.4	1065.7	1063.9	1061.7	1058.9	1056.1	1053.3	1050.4	1049.0
35°	1019.5	1018.0	1016.4	1014.9	1013.2	1010.8	1007.4	1004.0	1000.7	997.2	995.7
37.5°	967.0	965.0	963.0	961.0	959.1	956.4	953.0	949.5	946.1	942.6	940.7
40°	930.5	928.8	927.3	925.7	924.2	921.6	917.9	914.3	910.7	907.0	904.9
42.5°	893.9	892.1	890.4	888.6	886.8	884.1	880.5	876.8	873.1	869.5	867.5
45°	835.5	834.5	833.4	832.4	831.4	829.1	825.8	822.3	819.0	815.6	812.5
47.5°	777.7	776.1	774.6	773.1	771.6	769.2	766.1	762.9	759.7	756.6	753.5
50°	738.3	736.9	735.6	734.3	733.1	730.7	727.3	723.9	720.6	717.2	714.3
52.5°	697.0	696.1	695.3	694.4	693.4	691.2	687.7	684.1	680.4	676.8	674.4
55°	634.0	633.7	633.4	633.2	632.9	631.1	627.8	624.3	621.0	617.6	614.7
57.5°	573.9	573.1	572.2	571.4	570.4	568.6	565.9	563.2	560.5	557.8	555.3
60°	530.8	530.5	530.3	530.0	529.8	528.1	525.0	521.9	518.8	515.7	513.2
62.5°	492.4	491.7	491.0	490.3	489.7	487.8	484.7	481.6	478.5	475.3	472.9
65°	432.4	431.1	429.8	428.5	427.2	425.2	422.7	420.1	417.4	414.8	412.8
67.5°	368.9	367.7	366.6	365.5	364.3	362.7	360.8	358.8	356.8	354.8	353.0
70°	330.5	328.9	327.4	325.8	324.3	322.6	321.1	319.5	318.0	316.4	314.6
72.5°	290.2	289.0	287.8	286.7	285.6	284.1	282.3	280.6	278.8	277.0	275.4
75°	228.5	227.5	226.4	225.4	224.4	223.4	222.7	221.9	221.1	220.3	219.0
77.5°	173.9	173.3	172.7	172.2	171.6	170.8	170.0	169.0	168.1	167.1	166.3
80°	138.3	137.5	136.7	136.0	135.2	134.5	134.0	133.5	132.9	132.4	132.2
82.5°	103.6	103.4	103.3	103.1	103.0	102.8	102.7	102.6	102.5	102.5	101.9
85°	61.0	60.4	59.9	59.4	58.9	58.6	58.6	58.6	58.6	58.6	58.0
87.5°	24.5	24.3	24.1	23.8	23.6	23.6	23.9	24.2	24.5	24.8	24.8
90°	0.9	2.8	4.7	6.7	8.6	10.8	13.3	15.9	18.4	20.9	21.7
92.5°	21.1	22.4	23.8	25.1	26.3	27.7	29.2	30.7	32.0	33.5	34.1
95°	51.5	52.8	54.2	55.5	56.9	58.4	59.9	61.5	63.0	64.6	65.3
97.5°	91.4	92.4	93.4	94.5	95.5	96.5	97.6	98.8	99.9	101.0	101.9
100°	118.6	119.8	121.0	122.1	123.3	124.3	125.4	126.3	127.3	128.2	128.8
102.5°	150.1	150.8	151.4	152.1	152.8	153.8	155.1	156.4	157.6	158.9	159.5
105°	196.3	196.7	197.1	197.4	197.9	198.9	200.6	202.3	204.1	205.9	205.9
107.5°	250.0	250.2	250.5	250.7	250.9	251.4	252.1	252.8	253.5	254.2	254.8
110°	283.5	283.9	284.3	284.6	285.1	285.4	285.9	286.2	286.6	287.0	287.7



TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	318.4	318.7	318.8	319.1	319.3	319.4	319.5	319.6	319.7	319.8	320.7
115°	370.7	371.3	371.9	372.5	373.1	373.2	372.7	372.4	372.0	371.6	371.8
117.5°	423.4	423.8	424.2	424.6	425.0	424.9	424.4	423.9	423.4	422.9	422.8
120°	456.2	457.4	458.6	459.7	460.9	461.0	459.9	459.0	458.1	457.1	456.8
122.5°	490.4	491.3	492.1	492.9	493.8	494.0	493.5	493.0	492.5	492.0	491.5
125°	542.6	543.1	543.7	544.3	544.9	545.0	544.6	544.2	543.8	543.5	542.7
127.5°	590.7	591.9	593.2	594.4	595.6	596.1	595.6	595.2	594.8	594.3	593.3
130°	622.8	624.4	625.9	627.5	629.0	629.5	629.0	628.4	627.8	627.2	626.4
132.5°	654.9	656.4	658.0	659.6	661.2	661.7	661.2	660.8	660.4	660.0	659.0
135°	704.0	705.1	706.3	707.4	708.6	709.0	708.9	708.7	708.5	708.3	707.5
137.5°	749.3	750.3	751.2	752.2	753.2	753.9	754.4	754.9	755.4	756.0	755.1
140°	780.7	781.7	782.6	783.6	784.5	785.1	785.3	785.6	785.7	785.9	785.7
142.5°	809.3	810.3	811.2	812.2	813.2	813.8	814.2	814.5	814.9	815.3	815.0
145°	853.9	854.4	854.7	855.1	855.5	856.0	856.6	857.2	857.7	858.3	858.2
147.5°	893.0	893.7	894.4	895.2	895.9	896.5	897.0	897.6	898.1	898.6	898.6
150°	920.2	920.7	921.0	921.4	921.8	922.2	922.6	923.0	923.3	923.8	923.8
152.5°	942.6	943.1	943.7	944.3	944.8	945.1	945.4	945.6	945.9	946.1	946.4
155°	977.8	977.8	977.8	977.8	977.8	977.9	978.1	978.4	978.5	978.7	979.5
157.5°	1007.9	1007.6	1007.4	1007.1	1006.9	1006.9	1007.0	1007.2	1007.4	1007.5	1008.3
160°	1026.7	1026.3	1025.9	1025.5	1025.1	1024.9	1024.9	1024.9	1024.9	1024.9	1025.9
162.5°	1043.4	1042.9	1042.3	1041.8	1041.3	1041.0	1041.2	1041.4	1041.6	1041.7	1042.7
165°	1065.1	1064.5	1063.9	1063.3	1062.7	1062.5	1062.5	1062.5	1062.5	1062.5	1063.6
167.5°	1082.4	1081.6	1080.8	1080.0	1079.3	1078.9	1079.1	1079.3	1079.4	1079.5	1080.7
170°	1092.1	1091.3	1090.5	1089.8	1089.0	1088.6	1088.6	1088.6	1088.6	1088.6	1089.9
172.5°	1099.8	1099.0	1098.2	1097.4	1096.7	1096.3	1096.3	1096.3	1096.3	1096.3	1097.5
175°	1107.8	1107.1	1106.3	1105.5	1104.7	1104.3	1104.3	1104.3	1104.3	1104.3	1105.5
177.5°	1111.1	1110.5	1109.9	1109.2	1108.6	1108.4	1108.4	1108.4	1108.4	1108.4	1109.2
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4



TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9
2.5°	1357.6	1359.8	1361.8	1362.8	1362.5	1362.4	1362.1	1361.9
5°	1350.5	1353.1	1355.7	1356.8	1356.2	1355.7	1355.2	1354.7
7.5°	1336.2	1338.5	1340.8	1341.9	1341.5	1341.3	1340.9	1340.6
10°	1323.0	1325.3	1327.7	1328.6	1328.1	1327.6	1327.1	1326.5
12.5°	1308.6	1310.4	1312.1	1312.8	1312.5	1312.2	1311.8	1311.6
15°	1282.6	1284.7	1286.9	1287.1	1285.6	1283.9	1282.4	1280.8
17.5°	1249.7	1251.2	1252.7	1253.1	1252.6	1252.0	1251.4	1250.9
20°	1225.5	1226.6	1227.6	1227.7	1226.9	1226.2	1225.4	1224.6
22.5°	1199.8	1200.6	1201.4	1201.4	1200.4	1199.4	1198.4	1197.4
25°	1157.1	1157.4	1157.7	1157.4	1156.6	1155.8	1155.0	1154.3
27.5°	1111.8	1112.0	1112.2	1111.8	1110.9	1109.8	1108.9	1107.8
30°	1080.5	1080.5	1080.5	1079.5	1077.7	1075.9	1074.1	1072.2
32.5°	1047.5	1046.1	1044.7	1043.4	1042.4	1041.4	1040.4	1039.4
35°	994.1	992.6	991.0	989.5	988.3	987.0	985.7	984.4
37.5°	938.9	937.0	935.1	933.8	933.0	932.1	931.3	930.5
40°	902.8	900.8	898.7	897.1	896.0	895.0	894.0	892.9
42.5°	865.3	863.2	861.2	859.6	858.6	857.6	856.5	855.5
45°	809.3	806.2	803.1	800.9	799.6	798.3	797.0	795.7
47.5°	750.4	747.3	744.2	742.2	741.0	739.9	738.7	737.5
50°	711.4	708.6	705.7	703.5	702.0	700.3	698.8	697.2
52.5°	671.9	669.5	667.1	665.0	663.5	661.9	660.4	658.8
55°	611.8	609.0	606.1	604.0	602.7	601.4	600.1	598.8
57.5°	552.7	550.2	547.6	545.5	544.1	542.5	541.1	539.5
60°	510.9	508.6	506.3	504.5	503.1	501.8	500.5	499.2
62.5°	470.6	468.3	465.9	464.3	463.4	462.5	461.7	460.8
65°	410.7	408.5	406.5	405.1	404.3	403.6	402.7	401.9
67.5°	351.2	349.4	347.6	346.1	345.0	343.9	342.8	341.7
70°	312.7	310.9	309.1	307.5	306.3	305.0	303.7	302.3
72.5°	273.8	272.2	270.5	269.4	268.7	268.0	267.4	266.7
75°	217.7	216.4	215.1	214.0	213.3	212.5	211.7	210.9
77.5°	165.3	164.5	163.6	163.2	163.2	163.2	163.2	163.2
80°	131.9	131.6	131.4	131.2	131.2	131.2	131.2	131.2
82.5°	101.5	101.0	100.6	100.2	100.0	99.8	99.6	99.4
85°	57.5	57.0	56.5	56.2	56.2	56.2	56.2	56.2
87.5°	24.7	24.6	24.6	24.6	24.7	24.8	24.9	24.9
90°	22.5	23.2	24.0	24.6	25.0	25.4	25.7	26.2
92.5°	34.7	35.4	36.0	36.2	35.9	35.7	35.5	35.2
95°	66.1	66.9	67.7	68.0	68.0	68.0	68.0	68.0
97.5°	102.8	103.7	104.6	105.0	104.9	104.9	104.8	104.7
100°	129.4	130.0	130.5	131.0	131.4	131.8	132.2	132.6
102.5°	160.1	160.7	161.3	161.5	161.4	161.4	161.3	161.2
105°	205.9	205.9	205.9	206.0	206.5	206.8	207.2	207.6
107.5°	255.5	256.1	256.7	256.8	256.7	256.4	256.1	255.9
110°	288.5	289.3	290.1	290.2	289.9	289.5	289.1	288.7



TEST NUMBER: P332197-935

CATALOG NUMBER: S123DIW-S1000D1030U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.7	322.5	323.5	323.9	323.8	323.7	323.7	323.6
115°	372.0	372.2	372.4	372.4	372.2	372.0	371.8	371.6
117.5°	422.8	422.8	422.8	422.4	421.9	421.4	420.8	420.3
120°	456.7	456.5	456.3	456.0	455.6	455.2	454.9	454.4
122.5°	490.9	490.4	490.0	489.4	488.9	488.4	487.8	487.2
125°	541.9	541.1	540.4	539.6	538.8	538.0	537.3	536.5
127.5°	592.2	591.2	590.0	589.0	588.1	587.3	586.3	585.5
130°	625.6	624.8	624.1	623.0	621.6	620.3	619.0	617.6
132.5°	658.1	657.2	656.3	655.3	654.2	653.2	652.1	651.1
135°	706.7	705.9	705.2	704.6	704.2	703.9	703.4	703.1
137.5°	754.3	753.5	752.7	751.9	751.1	750.4	749.7	749.0
140°	785.6	785.3	785.1	784.4	783.0	781.7	780.3	778.9
142.5°	814.9	814.7	814.5	813.8	812.8	811.8	810.7	809.7
145°	858.0	857.7	857.6	857.0	856.3	855.5	854.7	853.9
147.5°	898.6	898.6	898.6	898.0	896.9	895.7	894.6	893.4
150°	923.8	923.8	923.8	923.2	922.0	920.8	919.7	918.5
152.5°	946.7	947.0	947.4	947.0	946.0	944.9	943.9	943.0
155°	980.2	981.0	981.8	981.5	980.2	978.8	977.5	976.1
157.5°	1009.1	1010.0	1010.7	1010.6	1009.5	1008.5	1007.4	1006.3
160°	1026.9	1027.9	1028.8	1028.9	1028.1	1027.3	1026.6	1025.8
162.5°	1043.6	1044.6	1045.6	1045.4	1044.2	1042.9	1041.7	1040.4
165°	1064.8	1065.9	1067.1	1067.0	1065.7	1064.3	1062.9	1061.6
167.5°	1081.9	1083.1	1084.3	1084.3	1083.1	1081.9	1080.7	1079.5
170°	1091.3	1092.7	1094.1	1094.1	1092.7	1091.3	1089.9	1088.6
172.5°	1098.7	1099.9	1101.1	1101.0	1099.7	1098.3	1096.9	1095.6
175°	1106.6	1107.8	1109.0	1108.9	1107.5	1106.1	1104.8	1103.5
177.5°	1110.2	1111.1	1112.1	1112.0	1110.9	1109.8	1108.7	1107.7
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4

(END OF REPORT)