

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: P332194-830

Luminaire Tested: **S123DIW-S1000D1030U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332194-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S1000D1030U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7846.9 lumens  
Efficiency: N/A  
Efficacy: 128.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

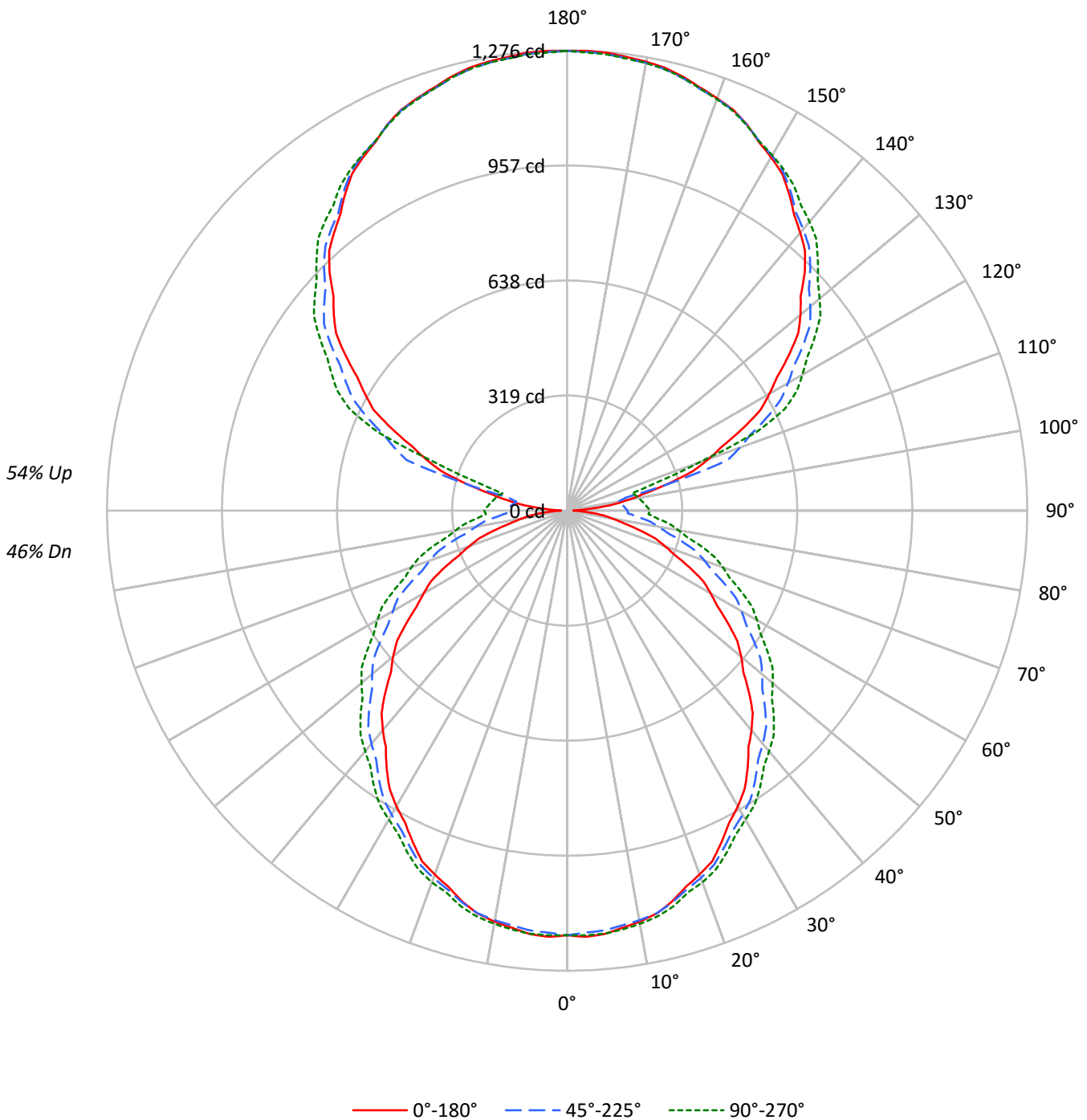
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-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	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	21	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10

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

	0°	45°	90°
0°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.6	1.4
10°-20°	318.2	4.1
20°-30°	476.0	6.1
30°-40°	568.4	7.2
40°-50°	594.7	7.6
50°-60°	558.1	7.1
60°-70°	466.1	5.9
70°-80°	333.5	4.3
80°-90°	202.5	2.6
90°-100°	171.1	2.2
100°-110°	312.5	4.0
110°-120°	591.6	7.5
120°-130°	710.3	9.1
130°-140°	737.3	9.4
140°-150°	678.1	8.6
150°-160°	544.3	6.9
160°-170°	351.3	4.5
170°-180°	121.1	1.5
0°-30°	905.9	11.5
0°-40°	1474.3	18.8
0°-60°	2627.1	33.5
0°-90°	3629.2	46.2
90°-120°	1075.2	13.7
90°-150°	3201.0	40.8
90°-180°	4218.0	53.8
0°-180°	7846.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	18	90	168	213	230	14
95°	72	86	156	201	216	82
105°	292	330	304	180	185	309
115°	536	559	611	650	666	529
125°	750	759	798	826	838	670
135°	931	936	954	978	983	717
145°	1073	1078	1080	1092	1098	671
155°	1180	1179	1180	1184	1179	544
165°	1245	1242	1241	1248	1242	352
175°	1274	1270	1270	1276	1270	121
180°	1274	1274	1274	1274	1274	



TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.3	48.9	63.5	78.1	92.7	107.6	122.7	137.8	152.9	168.0	177.9
90°	17.6	33.7	49.8	65.9	81.9	98.6	115.8	133.1	150.4	167.7	178.2
92.5°	33.3	45.2	57.3	69.3	81.3	95.5	111.9	128.3	144.6	161.0	171.8
95°	71.8	74.4	76.8	79.4	81.8	91.2	107.5	123.8	140.1	156.4	166.6
97.5°	128.7	134.8	141.0	147.1	153.3	155.4	153.6	151.8	150.1	148.3	158.4
100°	171.5	184.8	198.2	211.5	224.9	221.7	202.0	182.3	162.6	142.9	152.8
102.5°	220.5	231.8	243.0	254.2	265.4	259.6	236.7	213.7	190.7	167.8	170.6
105°	292.4	301.5	310.7	319.8	329.0	330.3	323.6	316.9	310.2	303.5	274.3
107.5°	366.9	374.7	382.3	389.9	397.7	408.8	423.4	438.0	452.6	467.2	447.6
110°	416.7	423.5	430.3	437.2	443.9	454.2	467.9	481.6	495.3	509.1	509.5



TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	465.1	470.9	476.6	482.3	488.0	497.6	510.9	524.1	537.3	550.6	557.9
115°	535.6	540.3	545.0	549.7	554.3	562.8	575.0	587.1	599.3	611.4	620.4
117.5°	604.8	608.5	612.2	615.9	619.5	626.6	637.3	647.8	658.5	669.0	677.5
120°	647.0	650.4	653.7	657.0	660.3	666.9	677.0	687.0	697.1	707.1	715.3
122.5°	690.9	693.2	695.5	697.8	700.1	706.2	715.9	725.7	735.4	745.2	752.6
125°	749.9	751.5	753.2	754.9	756.6	762.0	771.1	780.1	789.3	798.4	804.8
127.5°	808.1	809.5	811.0	812.4	813.8	818.4	826.2	834.1	842.0	849.8	856.1
130°	844.5	845.9	847.3	848.7	850.1	854.0	860.6	867.1	873.7	880.2	886.5
132.5°	878.4	880.0	881.6	883.2	884.9	888.3	893.5	898.7	904.0	909.2	915.2
135°	931.2	932.3	933.2	934.2	935.2	937.6	941.6	945.7	949.6	953.6	959.3
137.5°	976.5	977.8	979.2	980.5	981.9	983.7	986.0	988.2	990.4	992.7	998.2
140°	1005.7	1007.0	1008.2	1009.6	1010.8	1012.2	1013.6	1015.1	1016.6	1018.1	1023.2
142.5°	1033.8	1034.8	1035.9	1036.9	1037.9	1038.8	1039.6	1040.4	1041.2	1042.0	1046.5
145°	1072.9	1074.1	1075.3	1076.5	1077.7	1078.5	1078.9	1079.3	1079.8	1080.2	1082.9
147.5°	1108.6	1109.6	1110.5	1111.4	1112.5	1113.1	1113.5	1114.0	1114.4	1114.8	1116.0
150°	1131.3	1131.9	1132.6	1133.2	1133.8	1134.3	1134.7	1135.2	1135.6	1136.0	1136.4
152.5°	1151.8	1152.1	1152.4	1152.6	1152.9	1153.2	1153.5	1153.7	1154.0	1154.2	1155.0
155°	1180.5	1180.1	1179.7	1179.3	1178.8	1178.7	1178.9	1179.1	1179.4	1179.6	1180.6
157.5°	1202.9	1202.9	1202.8	1202.8	1202.7	1202.6	1202.4	1202.1	1201.9	1201.7	1203.0
160°	1216.5	1216.3	1216.1	1215.9	1215.7	1215.4	1215.2	1215.0	1214.8	1214.7	1215.9
162.5°	1229.4	1228.8	1228.3	1227.8	1227.2	1226.8	1226.6	1226.4	1226.2	1226.0	1227.4
165°	1244.9	1244.3	1243.7	1243.0	1242.4	1242.0	1241.7	1241.5	1241.3	1241.1	1242.8
167.5°	1257.0	1256.2	1255.4	1254.5	1253.7	1253.2	1253.2	1253.2	1253.2	1253.2	1254.9
170°	1263.9	1263.0	1262.2	1261.3	1260.5	1260.1	1260.1	1260.1	1260.1	1260.1	1261.7
172.5°	1268.4	1267.3	1266.4	1265.4	1264.3	1263.9	1264.0	1264.2	1264.4	1264.6	1266.3
175°	1274.2	1273.2	1272.1	1271.1	1270.1	1269.6	1269.8	1270.1	1270.3	1270.5	1272.0
177.5°	1275.7	1274.9	1274.1	1273.3	1272.4	1272.1	1272.2	1272.4	1272.5	1272.7	1274.1
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2



TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	187.7	197.6	207.5	213.9	216.8	219.7	222.6	225.6
90°	188.8	199.3	209.8	216.7	220.0	223.3	226.5	229.8
92.5°	182.6	193.4	204.2	211.0	214.0	216.8	219.7	222.5
95°	177.0	187.3	197.6	204.2	207.0	209.9	212.7	215.6
97.5°	168.6	178.8	189.0	195.6	198.7	201.7	204.7	207.8
100°	162.8	172.7	182.7	189.2	192.2	195.3	198.3	201.4
102.5°	173.4	176.2	179.0	182.1	185.3	188.5	191.7	195.0
105°	245.1	215.7	186.5	173.4	176.3	179.4	182.4	185.3
107.5°	427.9	408.2	388.6	366.0	340.4	314.8	289.3	263.7
110°	510.0	510.5	511.0	497.3	469.5	441.7	413.9	386.1





TEST NUMBER: P332194-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	565.2	572.5	579.9	581.5	577.8	573.9	570.0	566.2
115°	629.2	638.2	647.1	653.2	656.3	659.5	662.6	665.7
117.5°	686.0	694.5	702.9	708.3	710.8	713.1	715.6	717.9
120°	723.6	731.8	740.1	745.2	747.2	749.1	751.2	753.2
122.5°	760.2	767.7	775.1	780.0	782.1	784.3	786.5	788.6
125°	811.2	817.7	824.1	828.5	830.9	833.3	835.7	838.1
127.5°	862.4	868.7	875.1	879.0	880.5	882.0	883.5	885.0
130°	892.8	899.0	905.3	909.1	910.3	911.6	912.9	914.2
132.5°	921.2	927.3	933.3	937.0	938.4	939.7	941.0	942.4
135°	965.1	970.8	976.7	979.9	980.7	981.5	982.3	983.1
137.5°	1003.7	1009.2	1014.7	1017.9	1019.0	1020.0	1021.0	1022.0
140°	1028.3	1033.4	1038.6	1041.6	1042.6	1043.7	1044.6	1045.7
142.5°	1051.0	1055.5	1060.0	1062.6	1063.5	1064.3	1065.2	1066.0
145°	1085.6	1088.3	1091.0	1092.9	1094.0	1095.1	1096.4	1097.5
147.5°	1117.0	1118.1	1119.3	1119.8	1119.9	1119.9	1120.0	1120.0
150°	1136.9	1137.3	1137.7	1137.9	1137.8	1137.7	1137.7	1137.6
152.5°	1155.7	1156.5	1157.3	1157.2	1156.3	1155.5	1154.6	1153.8
155°	1181.7	1182.7	1183.8	1183.6	1182.4	1181.2	1179.9	1178.6
157.5°	1204.3	1205.5	1206.7	1206.5	1204.9	1203.3	1201.6	1200.0
160°	1217.1	1218.4	1219.7	1219.6	1218.0	1216.6	1215.1	1213.6
162.5°	1228.8	1230.3	1231.7	1231.7	1230.5	1229.2	1227.9	1226.5
165°	1244.4	1246.1	1247.8	1247.9	1246.5	1245.0	1243.5	1242.1
167.5°	1256.6	1258.3	1260.0	1260.0	1258.3	1256.6	1254.9	1253.2
170°	1263.4	1265.1	1266.8	1266.8	1265.1	1263.4	1261.7	1260.1
172.5°	1268.0	1269.6	1271.3	1271.2	1269.4	1267.5	1265.6	1263.9
175°	1273.4	1274.9	1276.4	1276.3	1274.6	1272.9	1271.2	1269.5
177.5°	1275.4	1276.8	1278.1	1278.0	1276.3	1274.6	1272.9	1271.2
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2

(END OF REPORT)