

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: P332194-940

Luminaire Tested: **S123DIW-S1000D1030U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332194-940  
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-S1000D1030U940-4F0-1E-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: 7423.7 lumens  
Efficiency: N/A  
Efficacy: 121.3 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

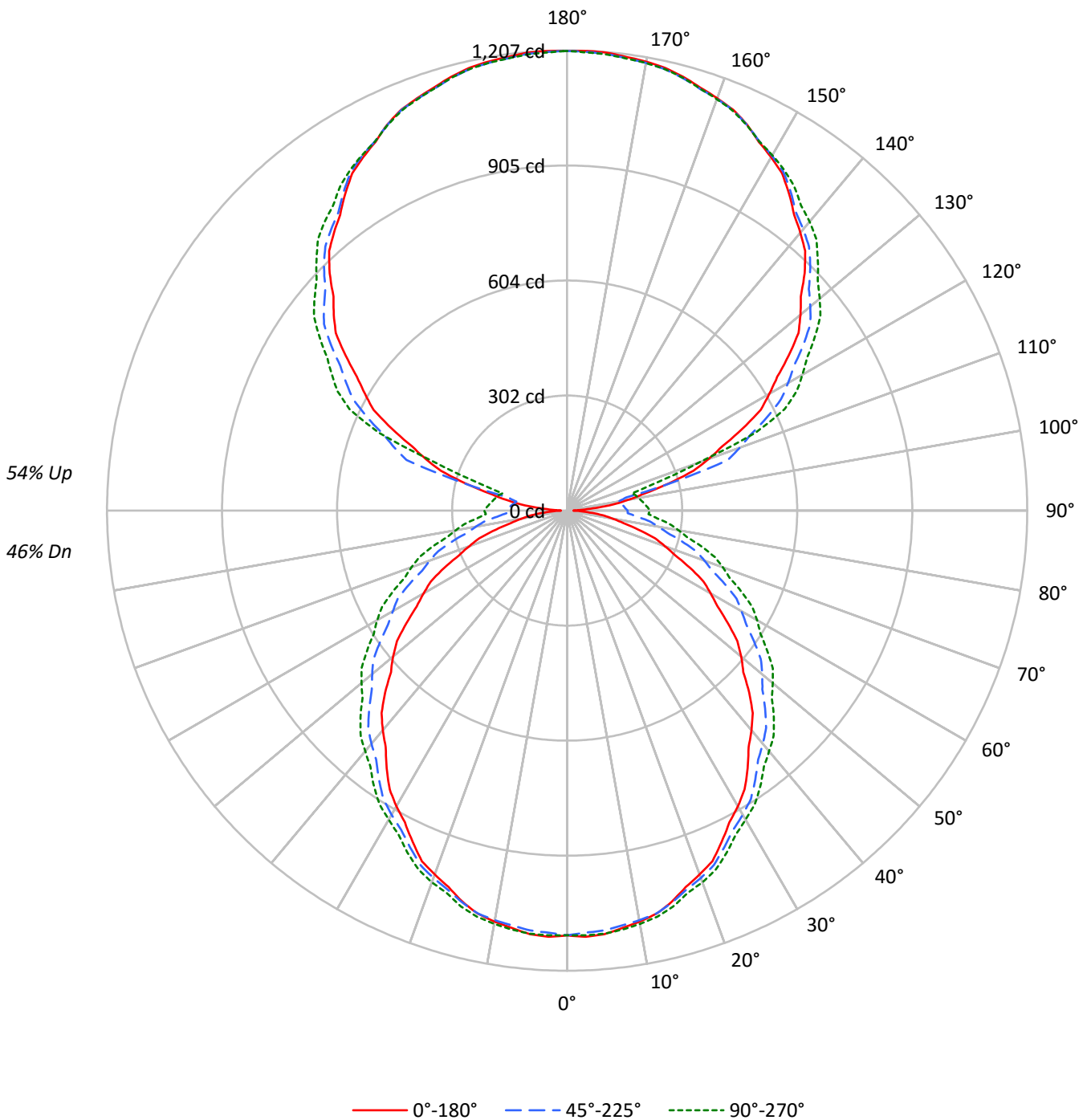
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-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°	11992	11992	11992
5°	12030	11690	11697
10°	11922	11421	11364
15°	11768	11114	11000
20°	11548	10767	10600
25°	11278	10365	10179
30°	10999	10002	9754
35°	10689	9620	9413
40°	10391	9273	9048
45°	10062	8938	8757
50°	9737	8608	8436
55°	9378	8270	8147
60°	9028	7928	7850
65°	8670	7563	7499
70°	8127	7150	7138
75°	7448	6679	6770
80°	6658	6216	6350
85°	5935	5899	6108



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.6	1.4
10°-20°	301.1	4.1
20°-30°	450.3	6.1
30°-40°	537.8	7.2
40°-50°	562.6	7.6
50°-60°	528.0	7.1
60°-70°	441.0	5.9
70°-80°	315.5	4.3
80°-90°	191.5	2.6
90°-100°	161.9	2.2
100°-110°	295.7	4.0
110°-120°	559.7	7.5
120°-130°	672.0	9.1
130°-140°	697.5	9.4
140°-150°	641.6	8.6
150°-160°	515.0	6.9
160°-170°	332.3	4.5
170°-180°	114.5	1.5
0°-30°	857.0	11.5
0°-40°	1394.8	18.8
0°-60°	2485.4	33.5
0°-90°	3433.4	46.2
90°-120°	1017.2	13.7
90°-150°	3028.4	40.8
90°-180°	3990.0	53.7
0°-180°	7423.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1115	1113	1106	1115	1114	106
15°	1062	1065	1064	1076	1075	299
25°	959	970	975	989	990	442
35°	825	844	860	878	884	516
45°	675	704	734	757	767	520
55°	515	555	598	630	641	461
65°	356	403	456	491	505	351
75°	193	250	311	349	365	206
85°	60	120	184	224	238	62
90°	17	85	159	202	217	13
95°	68	82	148	190	204	78
105°	277	312	287	170	175	293
115°	507	528	578	615	630	500
125°	709	718	755	782	793	634
135°	881	886	902	926	930	678
145°	1015	1020	1022	1033	1038	635
155°	1117	1115	1116	1120	1115	514
165°	1178	1175	1174	1181	1175	333
175°	1206	1201	1202	1208	1201	115
180°	1206	1206	1206	1206	1206	



TEST NUMBER: P332194-940

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1119.0	1118.4	1117.7	1117.0	1116.4	1115.2	1113.5	1111.8	1110.0	1108.3	1110.0
5°	1115.4	1114.8	1114.3	1113.7	1113.2	1112.1	1110.5	1108.8	1107.2	1105.6	1107.8
7.5°	1104.4	1104.6	1104.7	1104.7	1104.8	1104.1	1102.6	1101.0	1099.4	1097.9	1100.5
10°	1094.8	1095.3	1095.8	1096.4	1096.9	1096.4	1095.1	1093.8	1092.4	1091.1	1093.8
12.5°	1083.1	1083.8	1084.6	1085.3	1086.1	1086.0	1085.1	1084.1	1083.3	1082.4	1084.9
15°	1061.9	1062.7	1063.5	1064.3	1065.1	1065.4	1065.1	1064.9	1064.6	1064.3	1067.1
17.5°	1035.3	1036.9	1038.5	1040.1	1041.7	1042.5	1042.4	1042.2	1042.1	1042.1	1044.5
20°	1015.8	1017.4	1019.0	1020.7	1022.3	1023.4	1024.0	1024.5	1025.0	1025.6	1028.0
22.5°	995.4	997.0	998.7	1000.3	1001.9	1003.1	1003.9	1004.6	1005.4	1006.1	1009.1
25°	958.8	961.4	964.2	966.9	969.6	971.3	972.1	972.9	973.7	974.6	978.0
27.5°	921.9	925.0	928.0	931.1	934.2	936.6	938.3	940.0	941.7	943.5	946.6
30°	895.6	899.2	902.7	906.2	909.7	912.5	914.7	916.9	919.0	921.1	924.4
32.5°	866.6	870.5	874.4	878.3	882.3	885.6	888.5	891.3	894.1	896.9	900.4
35°	825.3	829.6	833.9	838.2	842.6	846.4	850.0	853.5	856.9	860.5	864.5
37.5°	781.6	786.5	791.3	796.1	801.0	805.6	809.9	814.2	818.5	822.9	827.4
40°	752.4	757.3	762.1	767.0	771.9	777.0	782.4	787.8	793.2	798.6	803.2
42.5°	720.4	726.4	732.3	738.2	744.1	749.9	755.5	761.2	766.8	772.4	777.4
45°	674.8	681.3	687.8	694.2	700.7	707.3	714.0	720.8	727.5	734.2	739.4
47.5°	627.0	634.3	641.7	649.0	656.3	663.9	671.5	679.3	687.0	694.7	700.4
50°	595.9	603.4	611.0	618.6	626.1	634.1	642.4	650.8	659.2	667.5	673.7
52.5°	562.8	570.9	578.9	586.8	594.9	603.4	612.7	621.9	631.1	640.3	646.8
55°	514.6	523.5	532.4	541.3	550.2	559.5	569.2	578.9	588.6	598.3	605.6
57.5°	467.5	476.8	486.1	495.3	504.6	514.6	525.2	535.8	546.4	557.1	564.4
60°	434.5	444.2	453.9	463.6	473.3	483.7	494.7	505.9	516.9	528.0	535.5
62.5°	403.4	413.3	423.3	433.2	443.1	454.0	465.7	477.3	489.0	500.8	508.3
65°	355.6	366.1	376.7	387.2	397.7	408.8	420.7	432.6	444.4	456.4	464.4
67.5°	307.0	318.3	329.4	340.5	351.7	363.4	375.4	387.5	399.6	411.7	420.5
70°	273.0	284.6	296.2	307.9	319.5	331.7	344.6	357.7	370.6	383.5	392.2
72.5°	242.0	253.6	265.2	276.8	288.4	300.9	314.2	327.6	341.0	354.4	363.2
75°	193.0	205.6	218.3	231.0	243.7	256.7	270.3	283.7	297.2	310.7	319.6
77.5°	150.3	163.0	175.8	188.6	201.3	214.5	228.2	241.7	255.4	268.9	278.3
80°	120.1	133.4	146.6	159.8	173.0	186.6	200.6	214.7	228.7	242.7	251.9
82.5°	93.9	107.4	120.8	134.2	147.7	161.5	175.8	189.9	204.2	218.5	227.7
85°	59.5	72.9	86.4	100.0	113.4	127.3	141.6	155.9	170.1	184.5	193.7
87.5°	32.5	46.3	60.1	73.9	87.7	101.8	116.1	130.4	144.6	158.9	168.3
90°	16.7	31.9	47.1	62.3	77.5	93.3	109.6	125.9	142.3	158.6	168.6
92.5°	31.5	42.8	54.2	65.5	77.0	90.3	105.8	121.4	136.8	152.3	162.6
95°	67.9	70.4	72.7	75.1	77.4	86.3	101.7	117.1	132.5	147.9	157.7
97.5°	121.7	127.5	133.4	139.2	145.0	147.0	145.3	143.7	142.0	140.3	149.9
100°	162.3	174.9	187.5	200.1	212.8	209.7	191.1	172.5	153.8	135.2	144.5
102.5°	208.6	219.3	229.9	240.5	251.1	245.6	223.9	202.2	180.4	158.7	161.4
105°	276.6	285.3	293.9	302.6	311.3	312.5	306.1	299.8	293.5	287.1	259.5
107.5°	347.1	354.5	361.7	368.9	376.2	386.7	400.6	414.4	428.2	442.0	423.5
110°	394.2	400.6	407.1	413.6	420.0	429.7	442.6	455.7	468.6	481.6	482.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	440.1	445.5	450.9	456.3	461.7	470.7	483.3	495.8	508.4	520.9	527.8
115°	506.8	511.1	515.6	520.0	524.4	532.4	543.9	555.4	566.9	578.5	586.9
117.5°	572.2	575.7	579.2	582.6	586.1	592.8	602.9	612.9	622.9	632.9	641.0
120°	612.1	615.3	618.4	621.5	624.6	631.0	640.5	650.0	659.5	669.0	676.7
122.5°	653.6	655.9	658.0	660.1	662.4	668.1	677.3	686.5	695.7	705.0	712.0
125°	709.4	711.0	712.6	714.2	715.8	720.9	729.5	738.1	746.7	755.4	761.4
127.5°	764.6	765.9	767.2	768.6	769.9	774.3	781.7	789.1	796.6	804.0	809.9
130°	799.0	800.3	801.6	802.9	804.2	808.0	814.2	820.4	826.6	832.8	838.7
132.5°	831.0	832.5	834.0	835.5	837.1	840.3	845.3	850.2	855.2	860.1	865.9
135°	881.0	882.0	882.9	883.9	884.8	887.1	890.8	894.7	898.4	902.1	907.6
137.5°	923.8	925.1	926.4	927.6	929.0	930.7	932.8	934.9	937.0	939.1	944.3
140°	951.5	952.7	953.9	955.1	956.3	957.6	958.9	960.4	961.8	963.2	968.0
142.5°	978.0	979.0	980.0	981.0	982.0	982.8	983.6	984.3	985.1	985.8	990.1
145°	1015.0	1016.2	1017.4	1018.4	1019.6	1020.3	1020.7	1021.1	1021.5	1021.9	1024.5
147.5°	1048.8	1049.7	1050.6	1051.5	1052.5	1053.1	1053.5	1053.9	1054.3	1054.7	1055.8
150°	1070.3	1070.9	1071.5	1072.1	1072.6	1073.2	1073.5	1074.0	1074.3	1074.8	1075.1
152.5°	1089.7	1089.9	1090.2	1090.5	1090.7	1091.0	1091.3	1091.5	1091.7	1092.0	1092.7
155°	1116.9	1116.4	1116.1	1115.7	1115.3	1115.2	1115.4	1115.5	1115.8	1116.0	1117.0
157.5°	1138.0	1138.0	1137.9	1137.9	1137.8	1137.7	1137.6	1137.3	1137.1	1136.9	1138.1
160°	1150.9	1150.7	1150.5	1150.3	1150.1	1149.9	1149.7	1149.5	1149.3	1149.1	1150.3
162.5°	1163.1	1162.5	1162.1	1161.5	1161.0	1160.7	1160.5	1160.3	1160.0	1159.8	1161.2
165°	1177.8	1177.1	1176.6	1176.0	1175.4	1175.0	1174.7	1174.6	1174.4	1174.2	1175.8
167.5°	1189.2	1188.5	1187.7	1186.9	1186.1	1185.6	1185.6	1185.6	1185.6	1185.6	1187.2
170°	1195.7	1194.9	1194.1	1193.3	1192.5	1192.1	1192.1	1192.1	1192.1	1192.1	1193.6
172.5°	1200.0	1199.0	1198.1	1197.1	1196.1	1195.8	1195.9	1196.1	1196.2	1196.4	1198.0
175°	1205.5	1204.5	1203.5	1202.6	1201.6	1201.1	1201.3	1201.6	1201.8	1201.9	1203.4
177.5°	1206.9	1206.1	1205.4	1204.6	1203.8	1203.5	1203.6	1203.8	1203.9	1204.1	1205.4
180°	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1111.8	1113.5	1115.2	1116.0	1115.7	1115.5	1115.4	1115.1
5°	1109.9	1112.1	1114.3	1115.2	1114.9	1114.6	1114.4	1114.1
7.5°	1103.2	1106.0	1108.7	1109.8	1109.6	1109.2	1108.8	1108.6
10°	1096.4	1099.1	1101.9	1103.0	1102.4	1101.9	1101.4	1100.8
12.5°	1087.3	1089.8	1092.3	1093.2	1092.7	1092.2	1091.6	1091.1
15°	1069.8	1072.5	1075.1	1076.4	1076.1	1075.8	1075.6	1075.3
17.5°	1046.9	1049.4	1051.8	1052.8	1052.4	1052.0	1051.7	1051.2
20°	1030.4	1032.8	1035.3	1036.6	1036.9	1037.1	1037.4	1037.7
22.5°	1012.3	1015.3	1018.4	1019.8	1019.7	1019.6	1019.4	1019.2
25°	981.6	985.1	988.6	990.3	990.3	990.3	990.3	990.3
27.5°	949.5	952.5	955.6	957.2	957.4	957.6	957.9	958.1
30°	927.6	930.9	934.1	935.8	935.8	935.8	935.8	935.8
32.5°	903.8	907.2	910.7	912.8	913.4	914.0	914.7	915.3
35°	868.5	872.6	876.6	879.2	880.3	881.4	882.4	883.5
37.5°	832.1	836.6	841.2	843.9	844.8	845.6	846.5	847.4
40°	807.7	812.3	816.9	819.7	820.8	821.9	823.0	824.0
42.5°	782.4	787.4	792.5	795.7	797.2	798.7	800.2	801.7
45°	744.5	749.7	754.7	758.4	760.5	762.7	764.9	767.0
47.5°	706.2	712.0	717.7	721.5	723.2	724.9	726.5	728.2
50°	679.9	686.1	692.3	696.3	698.3	700.2	702.0	703.9
52.5°	653.2	659.6	666.0	670.4	672.7	675.0	677.3	679.7
55°	612.9	620.2	627.5	632.1	634.4	636.5	638.6	640.8
57.5°	571.8	579.1	586.4	591.4	593.9	596.4	599.0	601.5
60°	543.1	550.6	558.1	563.4	566.4	569.4	572.3	575.2
62.5°	515.9	523.4	530.9	536.1	538.9	541.6	544.4	547.2
65°	472.5	480.6	488.7	494.1	496.8	499.4	502.2	504.9
67.5°	429.4	438.2	447.0	452.6	454.9	457.2	459.4	461.6
70°	400.7	409.4	418.0	423.7	426.4	429.1	431.8	434.5
72.5°	372.1	380.9	389.8	395.6	398.2	400.9	403.7	406.4
75°	328.5	337.4	346.3	352.4	355.6	358.8	362.0	365.3
77.5°	287.8	297.1	306.5	312.5	314.9	317.4	319.9	322.4
80°	261.1	270.3	279.4	285.3	288.0	290.7	293.5	296.1
82.5°	236.8	245.9	255.1	261.1	263.8	266.4	269.1	271.9
85°	202.8	212.0	221.1	227.1	229.8	232.5	235.1	237.9
87.5°	177.5	186.9	196.3	202.3	205.1	207.9	210.6	213.4
90°	178.6	188.5	198.5	205.0	208.1	211.2	214.3	217.4
92.5°	172.7	183.0	193.2	199.7	202.4	205.1	207.9	210.5
95°	167.5	177.2	186.9	193.1	195.8	198.6	201.3	203.9
97.5°	159.5	169.2	178.8	185.0	188.0	190.8	193.7	196.6
100°	154.0	163.4	172.8	179.0	181.8	184.8	187.6	190.6
102.5°	164.1	166.7	169.3	172.3	175.3	178.3	181.4	184.5
105°	231.8	204.1	176.5	164.1	166.8	169.7	172.5	175.3
107.5°	404.8	386.2	367.7	346.3	322.1	297.8	273.7	249.5
110°	482.5	483.0	483.4	470.5	444.2	417.9	391.6	365.2





TEST NUMBER: P332194-940

CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	534.8	541.6	548.6	550.2	546.6	543.0	539.3	535.7
115°	595.3	603.8	612.2	618.0	620.9	623.9	626.9	629.8
117.5°	649.0	657.0	665.0	670.1	672.4	674.7	677.0	679.2
120°	684.6	692.3	700.2	705.0	706.9	708.7	710.7	712.6
122.5°	719.2	726.3	733.3	737.9	739.9	742.0	744.0	746.1
125°	767.5	773.6	779.6	783.8	786.0	788.4	790.6	792.9
127.5°	815.9	821.9	827.9	831.6	833.0	834.5	835.9	837.3
130°	844.6	850.5	856.5	860.1	861.2	862.5	863.7	864.9
132.5°	871.6	877.3	883.0	886.4	887.8	889.0	890.3	891.6
135°	913.0	918.5	924.0	927.0	927.8	928.5	929.3	930.1
137.5°	949.6	954.8	960.0	963.0	964.0	965.0	965.9	966.9
140°	972.9	977.7	982.6	985.4	986.4	987.4	988.3	989.3
142.5°	994.3	998.5	1002.8	1005.3	1006.1	1006.9	1007.7	1008.5
145°	1027.1	1029.6	1032.2	1033.9	1035.0	1036.1	1037.2	1038.3
147.5°	1056.8	1057.8	1058.9	1059.4	1059.5	1059.5	1059.6	1059.6
150°	1075.6	1075.9	1076.4	1076.6	1076.5	1076.4	1076.4	1076.3
152.5°	1093.4	1094.1	1094.8	1094.8	1094.0	1093.1	1092.3	1091.5
155°	1117.9	1118.9	1120.0	1119.8	1118.7	1117.5	1116.2	1115.1
157.5°	1139.3	1140.5	1141.7	1141.5	1140.0	1138.4	1136.8	1135.3
160°	1151.5	1152.7	1153.9	1153.8	1152.4	1151.0	1149.6	1148.2
162.5°	1162.5	1164.0	1165.3	1165.3	1164.1	1162.9	1161.6	1160.4
165°	1177.3	1178.9	1180.5	1180.6	1179.3	1177.9	1176.4	1175.1
167.5°	1188.8	1190.4	1192.0	1192.0	1190.4	1188.8	1187.2	1185.6
170°	1195.2	1196.9	1198.5	1198.5	1196.9	1195.2	1193.6	1192.1
172.5°	1199.6	1201.1	1202.7	1202.7	1201.0	1199.2	1197.4	1195.7
175°	1204.7	1206.1	1207.6	1207.5	1205.9	1204.3	1202.7	1201.0
177.5°	1206.7	1207.9	1209.2	1209.1	1207.5	1205.9	1204.3	1202.7
180°	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5	1205.5

(END OF REPORT)