

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: P332850-940

Luminaire Tested: **S124DIW-S1195D1050U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332850-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S1195D1050U940-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7578.6 lumens  
Efficiency: N/A  
Efficacy: 112.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

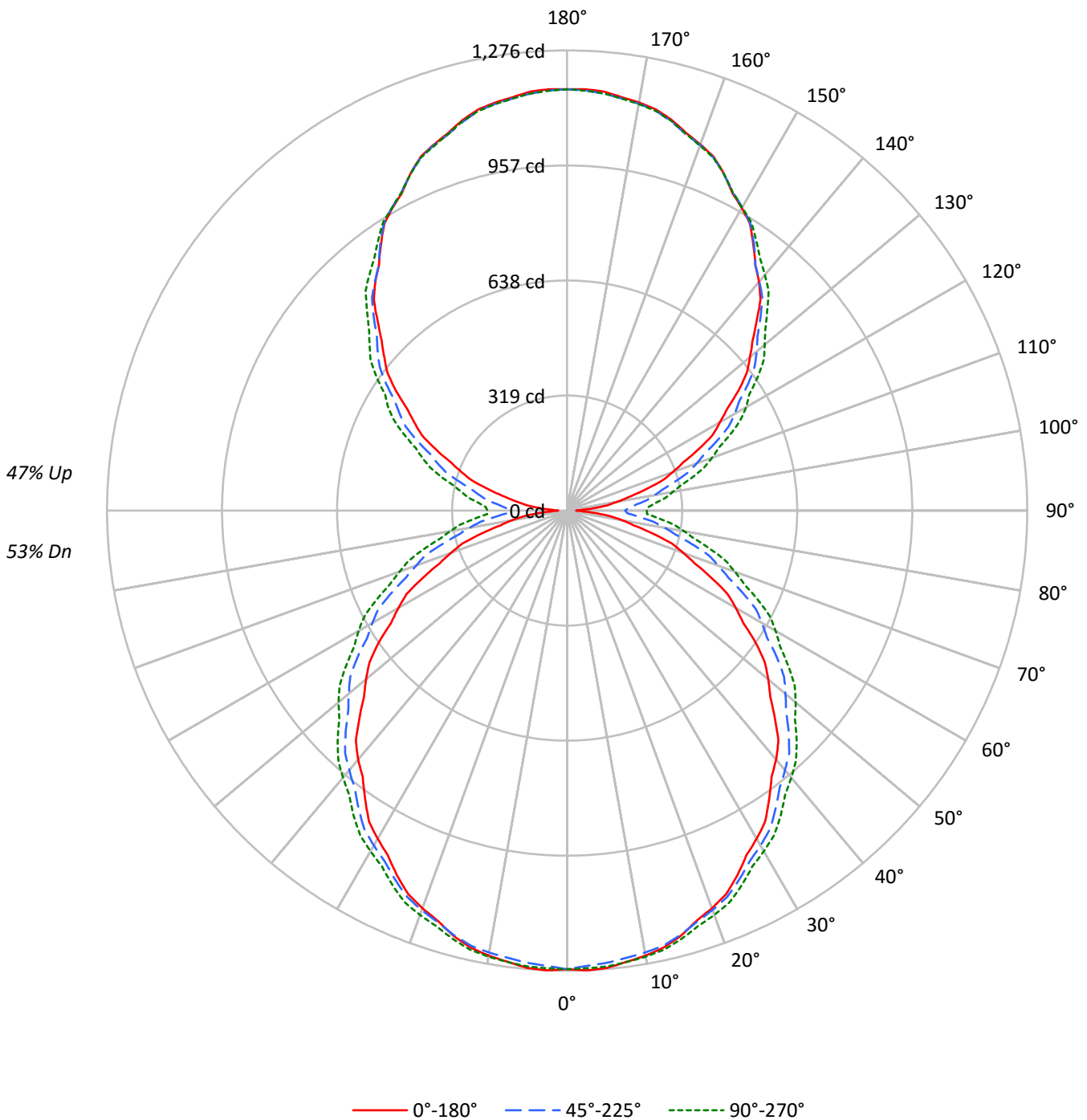
Input Watts (W): 67.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20						20								20		
RC	80					70						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		71	71	71		59	59	59	53
1	97	93	88	84		90	86	82	79		73	70	68		61	59	57		50	49	48	42
2	88	80	74	68		81	74	68	64		63	59	55		53	50	47		44	41	39	35
3	80	70	62	56		74	65	58	53		55	50	46		46	43	39		38	35	33	29
4	73	62	53	47		67	57	50	44		49	43	39		41	37	33		34	31	28	24
5	67	55	46	40		62	51	43	38		44	38	33		37	32	29		30	27	24	21
6	62	49	41	35		57	46	38	33		39	33	29		33	28	25		28	24	21	18
7	57	44	36	30		52	41	34	29		36	30	25		30	25	22		25	21	19	16
8	53	40	32	27		49	37	30	25		32	26	22		28	23	19		23	19	17	14
9	49	37	29	24		45	34	27	22		30	24	20		25	21	17		21	18	15	13
10	46	34	26	21		42	31	25	20		27	22	18		23	19	16		20	16	14	12

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

	0°	45°	90°
0°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.4	1.6
10°-20°	345.0	4.6
20°-30°	521.7	6.9
30°-40°	631.2	8.3
40°-50°	667.3	8.8
50°-60°	628.0	8.3
60°-70°	521.0	6.9
70°-80°	366.0	4.8
80°-90°	210.4	2.8
90°-100°	199.9	2.6
100°-110°	319.2	4.2
110°-120°	448.4	5.9
120°-130°	545.2	7.2
130°-140°	588.5	7.8
140°-150°	566.7	7.5
150°-160°	474.1	6.3
160°-170°	315.4	4.2
170°-180°	110.5	1.5
0°-30°	987.1	13.0
0°-40°	1618.2	21.4
0°-60°	2913.5	38.4
0°-90°	4010.8	52.9
90°-120°	967.4	12.8
90°-150°	2667.8	35.2
90°-180°	3568.0	47.1
0°-180°	7578.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	26	92	161	206	221	18
95°	73	128	192	232	246	75
105°	223	254	309	346	361	238
115°	402	417	459	488	498	397
125°	579	580	613	637	644	516
135°	743	748	758	778	785	575
145°	900	902	903	911	914	563
155°	1030	1030	1029	1032	1029	474
165°	1121	1118	1116	1121	1118	316
175°	1166	1162	1161	1166	1161	111
180°	1168	1168	1168	1168	1168	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	42.7	56.0	69.4	82.8	96.1	109.9	124.0	138.2	152.4	166.6	176.0
90°	25.5	40.4	55.2	70.1	85.0	100.0	115.2	130.5	145.6	160.9	171.2
92.5°	41.0	54.9	68.8	82.8	96.7	111.0	125.7	140.4	155.2	169.9	179.6
95°	72.7	85.0	97.2	109.4	121.7	135.0	149.4	163.8	178.2	192.5	201.7
97.5°	111.5	121.9	132.3	142.8	153.2	165.7	180.1	194.7	209.1	223.6	232.6
100°	142.1	151.1	160.2	169.2	178.3	189.8	204.0	218.1	232.3	246.5	255.4
102.5°	175.4	182.9	190.5	198.0	205.5	216.2	229.9	243.6	257.3	271.1	279.9
105°	223.3	229.8	236.4	242.9	249.4	259.0	271.4	283.9	296.5	309.0	317.4
107.5°	276.3	281.7	287.1	292.6	298.0	306.3	317.5	328.8	339.9	351.2	359.4
110°	311.3	316.1	320.9	325.8	330.6	338.5	349.4	360.3	371.1	382.0	388.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	347.8	351.8	355.7	359.7	363.7	370.9	381.0	391.3	401.4	411.7	418.7
115°	402.4	405.3	408.1	410.9	413.8	420.1	429.8	439.5	449.2	459.0	465.7
117.5°	455.2	457.1	459.0	460.8	462.7	468.2	477.3	486.5	495.7	504.8	510.7
120°	489.5	491.2	493.0	494.7	496.5	501.7	510.2	518.8	527.4	536.0	541.3
122.5°	526.4	526.9	527.4	527.9	528.4	532.9	541.3	549.7	558.0	566.4	572.0
125°	579.3	579.0	578.7	578.4	578.0	581.8	589.4	597.2	604.8	612.6	618.2
127.5°	628.4	628.7	628.9	629.2	629.5	632.5	638.3	644.0	649.8	655.5	660.8
130°	661.9	662.2	662.5	662.7	663.1	665.8	670.7	675.8	680.9	686.0	691.3
132.5°	697.3	697.4	697.6	697.7	697.9	699.8	703.7	707.6	711.5	715.4	720.4
135°	742.7	743.9	745.1	746.3	747.5	749.2	751.4	753.7	755.8	758.0	762.8
137.5°	793.6	793.9	794.2	794.3	794.6	795.4	796.8	798.3	799.6	801.0	805.1
140°	827.6	827.7	827.8	827.9	828.0	828.1	828.5	828.8	829.1	829.4	833.3
142.5°	857.6	857.9	858.2	858.5	858.9	858.9	858.5	858.2	857.8	857.5	861.0
145°	900.3	900.7	901.3	901.7	902.2	902.5	902.8	902.9	903.1	903.3	905.0
147.5°	942.9	943.5	944.1	944.9	945.5	945.7	945.6	945.4	945.2	945.0	945.1
150°	968.9	969.4	969.9	970.4	970.8	971.1	971.1	971.1	971.1	971.1	971.1
152.5°	992.3	992.7	993.2	993.6	994.0	994.3	994.4	994.6	994.8	995.0	995.4
155°	1029.8	1029.8	1029.8	1029.8	1029.8	1029.7	1029.5	1029.3	1029.1	1028.9	1029.7
157.5°	1061.6	1061.2	1060.9	1060.5	1060.2	1060.0	1059.9	1059.9	1059.8	1059.8	1060.4
160°	1080.4	1080.2	1080.0	1079.8	1079.6	1079.4	1079.1	1079.0	1078.8	1078.6	1079.1
162.5°	1097.7	1097.3	1096.7	1096.2	1095.6	1095.3	1095.1	1094.9	1094.7	1094.5	1095.6
165°	1121.1	1120.4	1119.8	1119.3	1118.7	1118.1	1117.8	1117.3	1117.0	1116.5	1117.8
167.5°	1138.9	1138.1	1137.3	1136.4	1135.6	1135.1	1135.2	1135.2	1135.2	1135.3	1136.5
170°	1149.1	1148.1	1147.0	1146.0	1145.0	1144.6	1144.9	1145.0	1145.2	1145.4	1146.7
172.5°	1156.3	1155.4	1154.6	1153.8	1152.9	1152.5	1152.5	1152.6	1152.6	1152.6	1154.1
175°	1166.2	1165.2	1164.2	1163.2	1162.2	1161.6	1161.4	1161.2	1161.0	1160.8	1162.2
177.5°	1169.5	1168.7	1167.9	1167.1	1166.3	1165.8	1165.8	1165.8	1165.8	1165.8	1167.0
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	185.4	194.8	204.3	210.4	213.3	216.2	219.0	221.9
90°	181.6	192.0	202.3	209.0	212.0	214.9	217.8	220.8
92.5°	189.2	198.9	208.5	214.7	217.5	220.3	223.0	225.8
95°	210.8	220.0	229.1	235.1	238.0	240.9	243.6	246.5
97.5°	241.7	250.7	259.7	265.6	268.3	271.0	273.8	276.4
100°	264.3	273.2	282.2	287.8	290.0	292.2	294.4	296.7
102.5°	288.8	297.7	306.5	312.3	314.9	317.4	320.1	322.7
105°	326.0	334.5	343.0	348.8	352.0	355.1	358.3	361.4
107.5°	367.8	376.1	384.5	389.8	392.0	394.3	396.5	398.8
110°	395.7	402.6	409.5	414.5	417.6	420.7	423.9	427.0





TEST NUMBER: P332850-940

CATALOG NUMBER: S124DIW-S1195D1050U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	425.6	432.5	439.4	444.3	446.9	449.6	452.2	454.9
115°	472.5	479.3	486.0	490.4	492.4	494.5	496.4	498.5
117.5°	516.6	522.5	528.4	532.4	534.6	536.7	538.8	540.9
120°	546.6	552.0	557.2	561.4	564.4	567.3	570.2	573.1
122.5°	577.7	583.4	589.0	592.6	594.1	595.7	597.3	598.8
125°	623.8	629.5	635.0	638.6	640.1	641.6	643.1	644.5
127.5°	666.1	671.5	676.7	680.3	682.1	683.9	685.7	687.6
130°	696.6	701.9	707.1	710.3	711.4	712.6	713.6	714.7
132.5°	725.5	730.5	735.6	738.9	740.4	742.0	743.6	745.2
135°	767.4	772.0	776.7	779.7	781.0	782.3	783.5	784.9
137.5°	809.2	813.3	817.4	820.3	822.0	823.8	825.5	827.2
140°	837.2	841.2	845.1	847.7	849.1	850.4	851.9	853.2
142.5°	864.6	868.2	871.7	874.1	875.5	876.7	878.1	879.3
145°	906.8	908.5	910.2	911.3	912.0	912.7	913.3	914.0
147.5°	945.3	945.4	945.5	945.9	946.7	947.5	948.3	949.1
150°	971.1	971.1	971.1	971.0	970.8	970.6	970.4	970.2
152.5°	995.9	996.4	996.8	996.8	996.3	995.8	995.2	994.8
155°	1030.6	1031.4	1032.2	1032.2	1031.4	1030.6	1029.7	1028.9
157.5°	1061.0	1061.6	1062.2	1062.2	1061.5	1060.8	1060.2	1059.4
160°	1079.8	1080.4	1081.0	1080.8	1079.8	1078.8	1077.8	1076.7
162.5°	1096.6	1097.7	1098.9	1098.9	1097.9	1096.9	1095.8	1094.8
165°	1118.9	1120.2	1121.3	1121.5	1120.7	1119.9	1119.1	1118.3
167.5°	1137.7	1138.9	1140.1	1140.1	1138.9	1137.6	1136.4	1135.1
170°	1147.8	1149.1	1150.2	1150.1	1148.8	1147.4	1145.9	1144.5
172.5°	1155.4	1156.7	1158.2	1158.1	1156.7	1155.3	1153.9	1152.4
175°	1163.6	1165.0	1166.4	1166.4	1165.0	1163.6	1162.2	1160.8
177.5°	1168.1	1169.2	1170.4	1170.3	1168.9	1167.7	1166.4	1165.1
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1

(END OF REPORT)