

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: P331459-940

Luminaire Tested: **SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331459-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

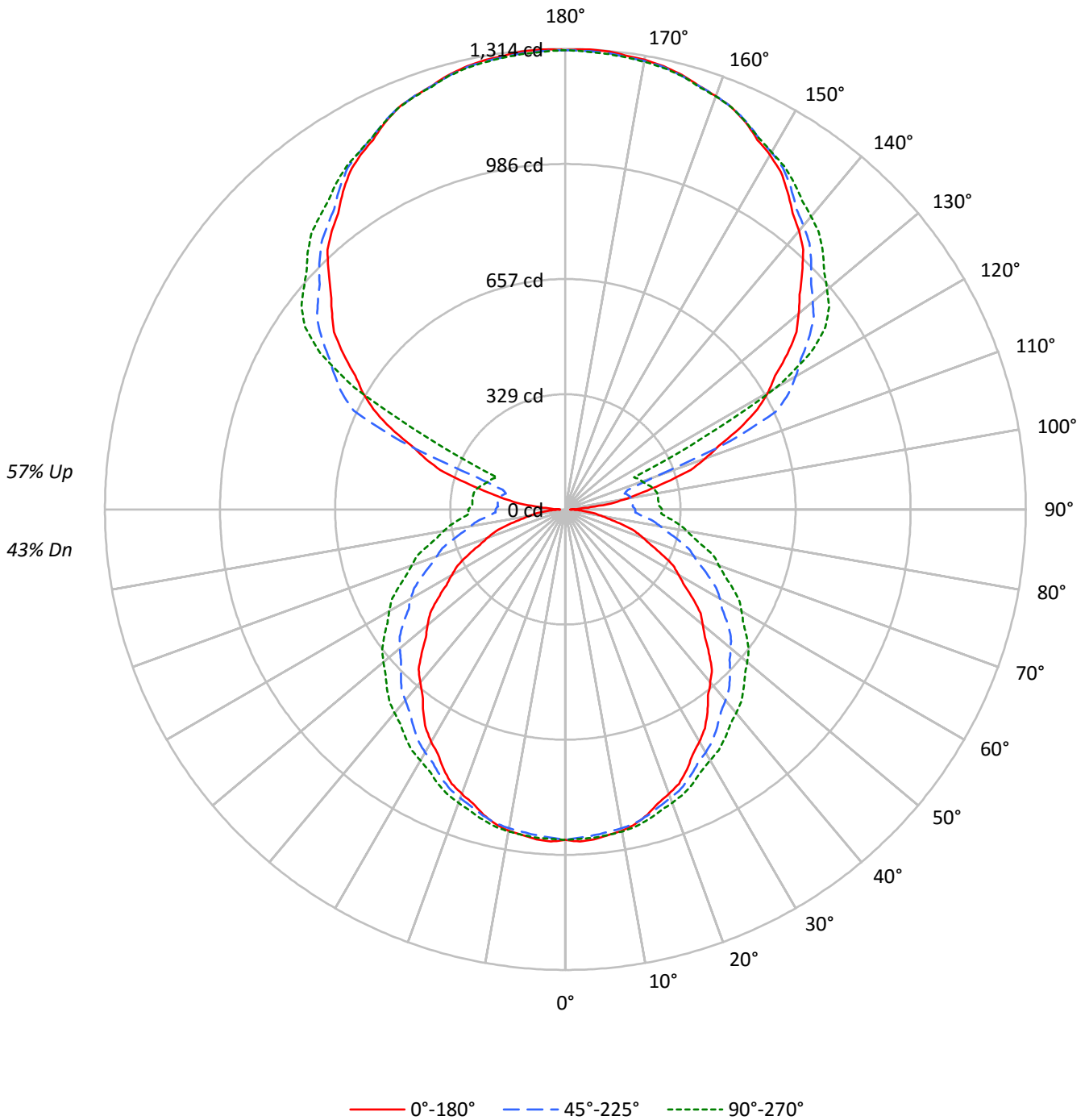
Lumens per Lamp: N/A
Luminaire Lumens: 7439.7 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 71.7
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: P331459-940
CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331459-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43
1	95	90	86	82	86	82	79	75	68	65	62	54	52	51	42	41	39	34
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15224	15224	15224
5°	15300	14656	14600
10°	15203	14222	14063
15°	14994	13763	13496
20°	14728	13272	12952
25°	14466	12799	12457
30°	14098	12312	11962
35°	13725	11842	11611
40°	13332	11442	11262
45°	12960	11082	10962
50°	12561	10760	10668
55°	12143	10411	10368
60°	11628	10049	10051
65°	11095	9625	9675
70°	10498	9170	9268
75°	9730	8725	8894
80°	8523	8267	8514
85°	7361	7873	8218



TEST NUMBER: P331459-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.3	1.2
10°-20°	256.2	3.4
20°-30°	388.3	5.2
30°-40°	472.9	6.4
40°-50°	508.8	6.8
50°-60°	494.1	6.6
60°-70°	431.4	5.8
70°-80°	332.1	4.5
80°-90°	226.1	3.0
90°-100°	197.3	2.7
100°-110°	272.4	3.7
110°-120°	502.4	6.8
120°-130°	748.4	10.1
130°-140°	769.3	10.3
140°-150°	702.0	9.4
150°-160°	562.0	7.6
160°-170°	362.1	4.9
170°-180°	124.6	1.7
0°-30°	733.8	9.9
0°-40°	1206.7	16.2
0°-60°	2209.5	29.7
0°-90°	3199.2	43.0
90°-120°	972.1	13.1
90°-150°	3191.8	42.9
90°-180°	4241.0	57.0
0°-180°	7439.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	946	941	933	941	940	90
15°	902	904	905	916	916	254
25°	820	830	842	858	862	377
35°	706	730	756	785	795	441
45°	579	617	664	705	720	447
55°	444	495	564	612	631	397
65°	303	371	451	505	525	301
75°	168	245	332	389	409	178
85°	49	134	221	277	298	53
90°	15	105	199	256	277	12
95°	73	109	194	248	266	84
105°	295	349	175	231	252	316
115°	550	585	667	288	216	541
125°	773	788	848	889	906	690
135°	955	971	992	1029	1040	738
145°	1106	1106	1121	1136	1138	692
155°	1218	1211	1221	1226	1219	561
165°	1284	1278	1281	1287	1281	362
175°	1313	1307	1308	1314	1305	125
180°	1310	1310	1310	1310	1310	



TEST NUMBER: P331459-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	948.4	947.7	946.9	946.2	945.5	944.2	942.5	940.8	939.1	937.5	938.7
5°	945.7	944.8	943.9	942.9	942.0	940.7	938.9	937.0	935.2	933.4	935.2
7.5°	937.2	936.6	935.9	935.4	934.8	933.8	932.4	930.9	929.6	928.2	930.3
10°	930.7	930.1	929.4	928.8	928.2	927.5	926.6	925.6	924.7	923.8	926.2
12.5°	919.7	919.8	920.0	920.1	920.2	919.9	919.3	918.6	917.9	917.2	919.7
15°	902.0	902.6	903.1	903.7	904.4	904.6	904.6	904.6	904.6	904.6	907.4
17.5°	879.0	880.3	881.5	882.8	884.0	885.2	886.2	887.2	888.1	889.1	892.0
20°	863.7	865.2	866.7	868.3	869.8	871.1	872.4	873.5	874.8	876.0	879.3
22.5°	847.3	849.0	850.8	852.6	854.3	856.0	857.7	859.4	861.1	862.8	866.2
25°	819.9	822.1	824.2	826.3	828.5	830.9	833.6	836.3	839.1	841.8	845.4
27.5°	787.1	790.6	794.1	797.5	801.0	804.3	807.5	810.7	814.0	817.3	821.8
30°	765.3	769.2	773.2	777.1	781.0	785.1	789.0	792.9	796.8	800.8	805.7
32.5°	741.2	745.6	750.1	754.6	758.9	763.5	768.2	772.8	777.6	782.2	787.8
35°	706.5	711.7	716.8	722.0	727.2	732.6	738.4	744.1	749.9	755.7	762.4
37.5°	668.8	674.8	680.7	686.6	692.6	699.3	706.8	714.3	721.8	729.2	736.6
40°	643.6	650.3	657.0	663.7	670.4	677.8	686.0	694.2	702.4	710.6	718.5
42.5°	619.6	626.2	632.9	639.6	646.3	654.3	663.8	673.2	682.6	692.1	700.6
45°	579.4	587.6	595.8	604.0	612.2	621.6	632.3	642.9	653.5	664.1	673.6
47.5°	539.8	548.8	557.7	566.6	575.5	586.2	598.7	611.1	623.6	636.0	645.9
50°	512.5	521.9	531.3	540.7	550.1	561.7	575.3	589.0	602.6	616.4	626.7
52.5°	486.2	496.1	506.0	515.9	525.8	538.0	552.3	566.8	581.1	595.6	606.1
55°	444.2	455.0	466.0	477.0	487.9	501.2	517.0	532.8	548.6	564.4	575.3
57.5°	402.6	414.9	427.2	439.6	451.9	466.1	482.2	498.3	514.4	530.5	542.2
60°	373.1	386.1	399.2	412.2	425.3	440.5	457.8	475.1	492.4	509.7	521.3
62.5°	346.9	360.3	373.9	387.4	401.0	416.4	433.7	451.0	468.4	485.7	497.9
65°	303.4	318.3	333.1	348.0	362.9	379.3	397.3	415.1	433.0	450.9	463.4
67.5°	263.5	279.0	294.5	310.1	325.7	342.6	361.0	379.3	397.6	416.0	428.6
70°	235.1	250.8	266.6	282.4	298.2	315.5	334.4	353.2	372.0	390.8	403.9
72.5°	208.8	225.1	241.4	257.6	273.9	291.6	310.7	329.8	348.8	367.9	380.7
75°	168.1	185.1	202.1	219.1	236.1	254.3	273.8	293.2	312.6	332.1	345.1
77.5°	128.8	146.5	164.3	182.1	199.9	218.6	238.4	258.2	277.9	297.7	310.7
80°	102.5	121.0	139.6	158.1	176.6	195.7	215.4	235.2	254.9	274.6	287.4
82.5°	80.6	98.9	117.2	135.5	153.7	172.9	192.9	212.9	232.8	252.8	265.6
85°	49.2	68.0	86.9	105.7	124.5	143.7	163.1	182.5	202.0	221.4	234.2
87.5°	27.0	45.6	64.1	82.7	101.2	120.4	140.2	160.0	179.7	199.5	212.0
90°	14.6	34.5	54.5	74.4	94.3	114.9	136.0	157.1	178.3	199.4	212.6
92.5°	31.7	47.9	64.1	80.3	96.5	114.3	133.9	153.5	173.0	192.5	205.0
95°	72.6	79.9	87.2	94.5	101.8	115.4	135.0	154.7	174.4	194.1	206.7
97.5°	131.9	124.9	118.1	111.2	104.2	111.3	132.2	153.1	174.0	194.9	207.0
100°	177.4	159.7	142.1	124.5	106.8	108.3	128.9	149.5	170.1	190.6	203.6
102.5°	226.3	230.4	234.6	238.8	242.9	238.3	224.9	211.4	198.0	184.6	197.8
105°	295.0	310.1	325.3	340.4	355.5	342.2	300.5	258.8	217.0	175.3	188.3
107.5°	375.0	387.1	399.2	411.3	423.5	402.6	348.8	295.0	241.1	187.3	195.1
110°	425.4	435.9	446.4	456.9	467.3	449.6	403.7	357.7	311.7	265.6	254.3



TEST NUMBER: P331459-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	473.9	483.0	492.0	501.0	510.0	514.1	513.2	512.3	511.4	510.5	443.4
115°	550.5	557.4	564.4	571.3	578.2	591.1	610.1	629.0	647.9	666.9	578.5
117.5°	617.6	623.8	630.0	636.1	642.4	653.5	669.9	686.1	702.3	718.6	704.0
120°	667.6	672.0	676.4	680.7	685.2	695.3	711.2	727.2	743.2	759.0	770.1
122.5°	710.2	713.9	717.7	721.6	725.4	735.0	750.6	766.2	781.7	797.3	807.0
125°	773.4	776.1	778.9	781.6	784.3	792.6	806.3	820.0	833.7	847.5	857.1
127.5°	832.0	834.7	837.4	840.2	842.9	849.7	860.5	871.3	882.2	893.0	902.7
130°	869.2	872.2	875.3	878.3	881.4	887.3	896.0	904.6	913.4	922.0	931.7
132.5°	907.0	909.6	912.2	914.7	917.3	922.2	929.4	936.7	943.9	951.2	960.2
135°	955.0	958.3	961.7	965.1	968.5	972.6	977.6	982.5	987.4	992.4	1000.9
137.5°	1004.9	1007.1	1009.4	1011.7	1014.1	1016.9	1020.4	1023.9	1027.3	1030.9	1038.5
140°	1037.4	1038.8	1040.2	1041.6	1042.9	1045.2	1048.0	1051.0	1053.9	1056.9	1063.5
142.5°	1064.8	1066.0	1067.2	1068.4	1069.6	1071.6	1074.3	1077.2	1080.0	1082.7	1088.3
145°	1106.3	1106.0	1105.8	1105.6	1105.4	1107.1	1110.6	1114.2	1117.8	1121.4	1124.7
147.5°	1143.6	1142.8	1142.0	1141.2	1140.4	1141.7	1145.3	1148.8	1152.4	1155.9	1157.3
150°	1167.9	1166.4	1164.9	1163.4	1162.0	1162.9	1166.3	1169.7	1173.0	1176.3	1177.7
152.5°	1188.3	1186.7	1185.0	1183.4	1181.8	1182.5	1185.7	1188.9	1192.1	1195.3	1196.6
155°	1218.1	1216.2	1214.3	1212.4	1210.5	1210.9	1213.4	1215.8	1218.4	1220.9	1222.2
157.5°	1241.4	1239.8	1238.2	1236.6	1235.0	1235.1	1236.9	1238.6	1240.4	1242.2	1243.6
160°	1255.1	1253.8	1252.5	1251.2	1250.0	1250.0	1251.2	1252.5	1253.8	1255.1	1256.3
162.5°	1267.2	1266.0	1264.6	1263.4	1262.1	1262.0	1263.1	1264.3	1265.3	1266.4	1267.8
165°	1283.5	1282.2	1280.9	1279.7	1278.4	1278.1	1278.7	1279.4	1280.1	1280.7	1282.1
167.5°	1295.7	1294.4	1293.1	1291.8	1290.6	1290.2	1290.8	1291.4	1292.0	1292.6	1294.1
170°	1302.4	1301.2	1299.9	1298.7	1297.4	1297.0	1297.4	1297.8	1298.2	1298.7	1300.1
172.5°	1307.0	1305.7	1304.5	1303.2	1302.0	1301.5	1302.0	1302.3	1302.8	1303.2	1304.7
175°	1312.9	1311.4	1309.9	1308.5	1307.0	1306.4	1306.9	1307.3	1307.7	1308.1	1309.7
177.5°	1313.8	1312.7	1311.4	1310.3	1309.1	1308.6	1308.8	1308.9	1309.1	1309.3	1310.5
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0



TEST NUMBER: P331459-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	939.9	941.1	942.4	942.7	942.2	941.7	941.2	940.8
5°	937.0	938.9	940.7	941.4	941.1	940.8	940.5	940.2
7.5°	932.6	934.8	936.9	937.9	937.5	937.3	936.9	936.7
10°	928.6	931.1	933.5	934.6	934.2	934.0	933.7	933.4
12.5°	922.1	924.5	926.9	928.0	927.7	927.4	927.1	926.8
15°	910.2	912.8	915.6	916.9	916.5	916.2	915.9	915.6
17.5°	894.8	897.7	900.5	902.0	902.0	902.0	902.0	902.0
20°	882.6	886.0	889.3	891.0	891.0	891.0	891.0	891.0
22.5°	869.5	872.9	876.2	878.2	878.6	879.1	879.6	880.1
25°	849.1	852.7	856.4	858.6	859.6	860.5	861.4	862.3
27.5°	826.4	831.1	835.7	838.3	839.0	839.6	840.3	841.0
30°	810.6	815.4	820.3	823.1	824.0	824.9	825.9	826.8
32.5°	793.4	799.0	804.6	808.2	809.9	811.5	813.2	814.8
35°	769.1	775.8	782.5	786.8	789.0	791.1	793.3	795.3
37.5°	744.0	751.4	758.8	763.7	765.9	768.2	770.4	772.7
40°	726.4	734.3	742.2	747.5	750.3	753.0	755.7	758.5
42.5°	709.3	717.9	726.6	732.2	734.9	737.7	740.4	743.2
45°	683.0	692.4	701.8	708.0	711.1	714.1	717.1	720.1
47.5°	655.7	665.5	675.4	682.0	685.3	688.7	692.0	695.4
50°	636.9	647.3	657.6	664.5	667.8	671.1	674.5	677.8
52.5°	616.7	627.2	637.8	644.9	648.5	652.1	655.7	659.2
55°	586.3	597.2	608.1	615.5	619.5	623.5	627.4	631.3
57.5°	554.1	565.9	577.7	585.5	589.5	593.5	597.5	601.5
60°	532.8	544.4	555.9	563.8	568.0	572.3	576.6	580.8
62.5°	510.2	522.5	534.8	542.9	546.9	550.9	554.9	558.9
65°	475.9	488.3	500.8	509.0	512.9	516.8	520.8	524.8
67.5°	441.1	453.7	466.3	474.7	478.8	482.9	487.1	491.2
70°	417.0	430.0	443.1	451.4	455.0	458.7	462.4	466.0
72.5°	393.5	406.4	419.1	427.8	432.1	436.5	440.9	445.2
75°	358.2	371.2	384.3	392.8	396.7	400.7	404.7	408.6
77.5°	323.6	336.6	349.6	358.3	362.5	366.8	371.0	375.2
80°	300.1	313.0	325.7	334.2	338.5	342.7	347.0	351.2
82.5°	278.3	291.1	303.8	312.2	316.2	320.2	324.2	328.2
85°	246.9	259.7	272.4	280.9	285.2	289.4	293.6	297.9
87.5°	224.7	237.3	249.9	258.2	262.2	266.1	270.1	274.0
90°	225.8	239.0	252.2	260.8	264.8	268.9	273.0	277.1
92.5°	217.5	229.9	242.4	250.5	254.4	258.3	262.3	266.1
95°	219.3	231.9	244.5	252.5	255.9	259.4	262.8	266.3
97.5°	219.0	231.1	243.2	251.2	255.0	258.9	262.7	266.5
100°	216.5	229.4	242.4	250.7	254.5	258.2	262.0	265.7
102.5°	210.9	224.1	237.3	245.8	249.8	253.7	257.6	261.5
105°	201.3	214.2	227.1	235.7	239.9	244.1	248.3	252.4
107.5°	203.0	210.8	218.6	224.6	228.8	233.0	237.2	241.4
110°	243.0	231.6	220.3	216.7	220.9	225.1	229.3	233.4



TEST NUMBER: P331459-940

CATALOG NUMBER: SA2XXDIP-C1005D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	376.3	309.2	242.0	210.4	214.5	218.5	222.5	226.5
115°	490.0	401.6	313.2	263.1	251.2	239.4	227.6	215.8
117.5°	689.4	674.8	660.2	629.5	582.7	536.0	489.3	442.6
120°	781.1	792.2	803.2	796.1	771.1	745.9	720.9	695.8
122.5°	816.8	826.6	836.3	839.9	837.2	834.6	831.9	829.3
125°	866.8	876.5	886.2	892.7	896.1	899.4	902.8	906.2
127.5°	912.3	922.0	931.7	937.9	940.8	943.5	946.4	949.1
130°	941.3	950.9	960.5	966.4	968.6	970.8	973.0	975.3
132.5°	969.2	978.2	987.2	992.8	995.1	997.3	999.5	1001.7
135°	1009.3	1017.8	1026.3	1031.5	1033.5	1035.5	1037.6	1039.6
137.5°	1046.2	1053.8	1061.5	1066.0	1067.3	1068.7	1070.1	1071.4
140°	1070.3	1077.1	1083.9	1087.6	1088.4	1089.1	1089.9	1090.7
142.5°	1094.0	1099.6	1105.2	1108.2	1108.8	1109.3	1109.8	1110.4
145°	1128.0	1131.3	1134.6	1136.5	1136.9	1137.4	1137.8	1138.4
147.5°	1158.6	1159.9	1161.3	1161.8	1161.7	1161.5	1161.4	1161.2
150°	1178.9	1180.2	1181.4	1181.5	1180.4	1179.5	1178.4	1177.3
152.5°	1197.8	1199.2	1200.4	1200.3	1198.9	1197.6	1196.1	1194.8
155°	1223.4	1224.8	1226.0	1225.7	1224.1	1222.4	1220.8	1219.1
157.5°	1245.0	1246.4	1247.9	1247.8	1246.2	1244.5	1242.9	1241.2
160°	1257.6	1258.8	1260.1	1260.0	1258.6	1257.0	1255.6	1254.1
162.5°	1269.3	1270.7	1272.2	1271.9	1270.2	1268.4	1266.5	1264.7
165°	1283.6	1285.0	1286.6	1286.6	1285.0	1283.6	1282.1	1280.7
167.5°	1295.6	1297.0	1298.5	1298.2	1296.4	1294.5	1292.6	1290.7
170°	1301.6	1303.1	1304.6	1304.3	1302.4	1300.6	1298.7	1296.7
172.5°	1306.2	1307.6	1309.1	1308.9	1307.0	1305.1	1303.2	1301.3
175°	1311.1	1312.6	1314.0	1313.8	1311.6	1309.5	1307.4	1305.3
177.5°	1311.6	1312.8	1314.0	1313.8	1312.3	1310.8	1309.3	1307.8
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0

(END OF REPORT)