

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: P331751-935

Luminaire Tested: **SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331751-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

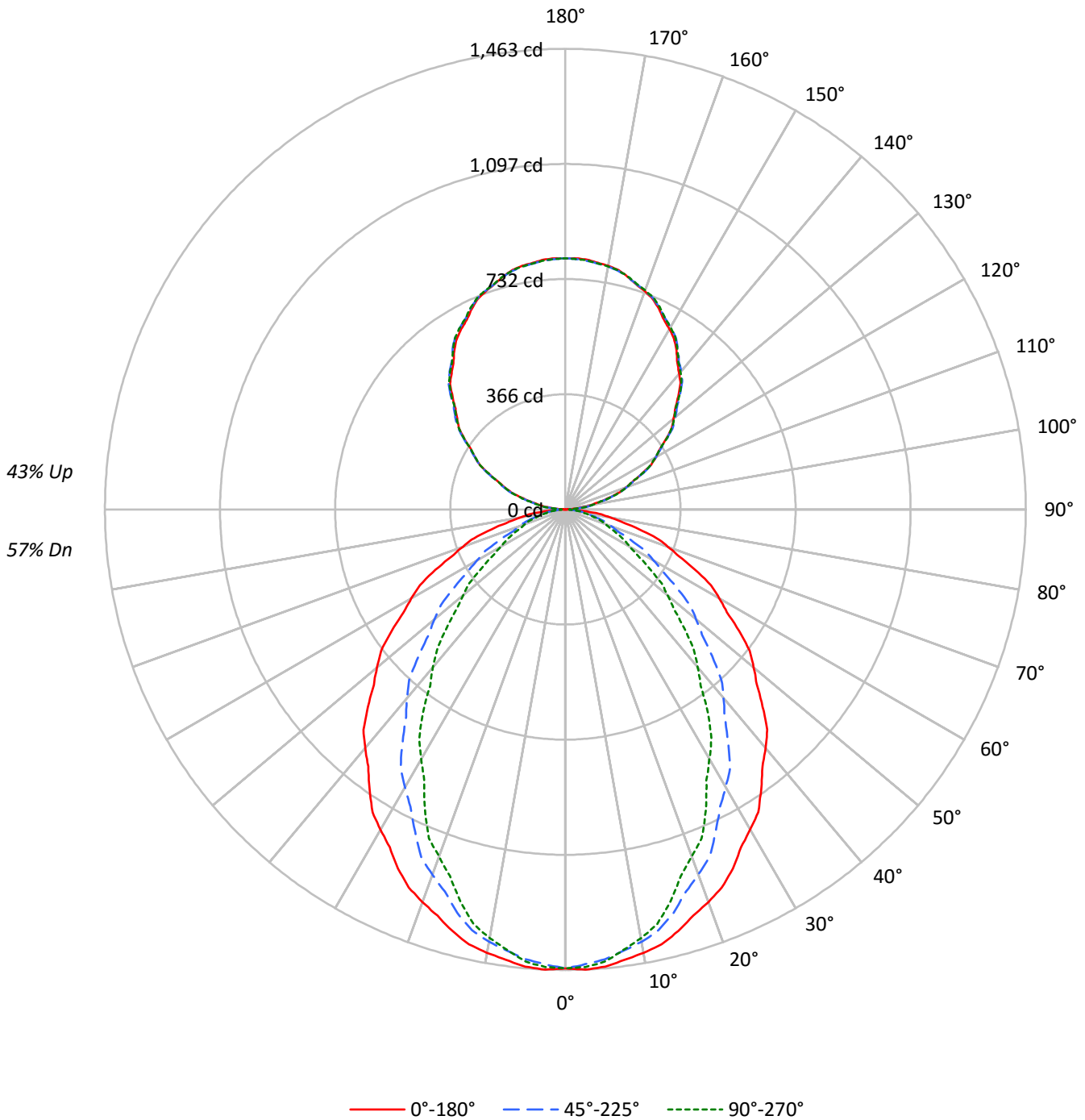
Lumens per Lamp: N/A
Luminaire Lumens: 5232.0 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.7
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: P331751-935
CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P331751-935

CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	100	96	92	89	93	89	86	83	77	75	73	67	65	63	56	55	54	49
2	91	84	78	73	85	79	74	69	69	65	61	59	56	54	50	48	46	42
3	84	75	67	62	78	70	64	59	61	56	52	53	49	46	45	42	40	36
4	77	66	59	53	72	62	55	50	55	49	45	47	43	40	41	38	35	32
5	71	60	52	46	66	56	49	44	49	44	39	43	38	35	37	34	31	28
6	66	54	46	40	61	51	43	38	45	39	35	39	34	31	34	30	28	25
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	27	25	22
8	57	44	37	31	53	42	35	30	37	32	28	33	28	25	29	25	22	20
9	53	41	33	28	49	38	32	27	34	29	25	30	26	23	26	23	20	18
10	49	37	30	26	46	35	29	25	32	26	23	28	24	21	25	21	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23541	23541	23541
5°	23631	23246	23376
10°	23451	22866	22673
15°	23181	22188	21549
20°	22807	21220	20155
25°	22425	20122	18805
30°	21895	18990	17074
35°	21378	17763	15554
40°	20858	16493	13793
45°	20247	15066	12202
50°	19623	13622	10638
55°	18978	12073	9137
60°	18235	10440	7585
65°	17391	8772	6907
70°	16386	7227	6354
75°	15147	6588	5926
80°	13371	5895	5393
85°	10504	4650	4650



TEST NUMBER: P331751-935

CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.5	2.6
10°-20°	374.7	7.2
20°-30°	526.2	10.1
30°-40°	573.8	11.0
40°-50°	527.6	10.1
50°-60°	414.4	7.9
60°-70°	270.2	5.2
70°-80°	139.3	2.7
80°-90°	39.3	0.8
90°-100°	50.5	1.0
100°-110°	157.0	3.0
110°-120°	268.3	5.1
120°-130°	352.8	6.7
130°-140°	396.0	7.6
140°-150°	388.3	7.4
150°-160°	325.7	6.2
160°-170°	216.0	4.1
170°-180°	75.5	1.4
0°-30°	1037.4	19.8
0°-40°	1611.3	30.8
0°-60°	2553.2	48.8
0°-90°	3002.0	57.4
90°-120°	475.8	9.1
90°-150°	1612.8	30.8
90°-180°	2230.0	42.6
0°-180°	5232.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1458	1458	1458	1458	1458	
5°	1458	1451	1434	1445	1442	138
15°	1387	1371	1327	1303	1289	390
25°	1259	1214	1130	1077	1056	579
35°	1085	1015	901	821	789	678
45°	887	796	660	570	534	684
55°	674	569	429	353	325	602
65°	455	348	230	187	181	451
75°	243	153	106	97	95	257
85°	57	30	25	25	25	67
90°	1	9	24	22	23	4
95°	35	41	43	43	42	40
105°	145	147	148	149	149	153
115°	269	273	272	271	269	266
125°	392	397	396	394	393	350
135°	507	514	516	515	513	391
145°	615	620	624	624	622	384
155°	703	705	707	710	709	324
165°	765	765	764	769	766	216
175°	796	794	793	797	794	76
180°	798	798	798	798	798	



TEST NUMBER: P331751-935

CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0
2.5°	1463.4	1462.2	1460.9	1459.8	1458.6	1456.7	1454.1	1451.6	1449.1	1446.5	1448.8
5°	1458.0	1456.6	1455.1	1453.6	1452.2	1449.6	1445.7	1441.9	1438.1	1434.3	1436.9
7.5°	1443.0	1441.2	1439.4	1437.5	1435.7	1432.6	1428.1	1423.7	1419.3	1414.8	1415.6
10°	1430.4	1428.3	1426.2	1424.2	1422.1	1418.2	1412.3	1406.4	1400.6	1394.7	1393.9
12.5°	1414.5	1412.0	1409.5	1407.0	1404.5	1399.4	1391.9	1384.4	1376.9	1369.4	1367.8
15°	1386.8	1383.5	1380.4	1377.1	1373.9	1367.3	1357.4	1347.4	1337.4	1327.4	1321.9
17.5°	1352.7	1347.8	1342.9	1338.0	1333.1	1324.2	1311.4	1298.6	1285.8	1273.1	1266.4
20°	1327.4	1321.5	1315.7	1309.8	1304.0	1293.7	1279.0	1264.4	1249.7	1235.0	1227.7
22.5°	1299.9	1293.4	1286.9	1280.3	1273.7	1262.1	1245.6	1229.1	1212.5	1196.0	1186.5
25°	1258.8	1249.4	1240.0	1230.6	1221.2	1206.9	1187.6	1168.2	1148.8	1129.5	1117.5
27.5°	1209.2	1199.0	1188.8	1178.6	1168.4	1152.4	1130.6	1108.7	1086.9	1065.1	1051.1
30°	1174.4	1163.2	1152.1	1140.9	1129.8	1112.5	1089.0	1065.6	1042.2	1018.6	1003.7
32.5°	1140.6	1127.6	1114.6	1101.6	1088.5	1070.1	1046.1	1022.2	998.2	974.3	957.3
35°	1084.6	1069.7	1054.7	1039.7	1024.8	1004.4	978.6	952.9	927.0	901.2	882.8
37.5°	1028.7	1012.3	995.8	979.4	963.0	941.1	913.5	886.1	858.5	831.0	810.7
40°	989.6	972.1	954.4	936.9	919.3	896.2	867.8	839.4	810.9	782.5	761.6
42.5°	949.5	931.0	912.5	893.9	875.4	851.4	822.1	792.6	763.3	733.9	712.4
45°	886.7	867.0	847.4	827.8	808.1	782.9	752.1	721.3	690.5	659.8	638.9
47.5°	825.4	804.7	783.9	763.0	742.2	715.9	684.2	652.3	620.5	588.8	568.1
50°	781.2	760.3	739.5	718.7	697.8	671.3	639.1	606.8	574.5	542.3	522.1
52.5°	737.9	716.1	694.4	672.6	650.8	624.2	592.6	561.1	529.5	498.0	478.5
55°	674.2	651.4	628.5	605.6	582.8	555.5	523.8	492.1	460.5	428.9	411.2
57.5°	609.1	585.7	562.1	538.7	515.2	488.3	457.9	427.4	397.0	366.5	350.4
60°	564.7	541.3	517.8	494.4	470.9	444.1	413.9	383.7	353.4	323.3	308.3
62.5°	521.5	498.0	474.6	451.1	427.7	401.5	372.7	343.9	315.1	286.4	272.1
65°	455.2	431.4	407.8	384.0	360.2	335.2	308.8	282.4	256.0	229.6	219.6
67.5°	391.3	367.8	344.2	320.6	297.0	273.4	249.7	225.9	202.2	178.4	173.8
70°	347.1	324.2	301.3	278.4	255.5	234.0	213.8	193.6	173.3	153.1	150.2
72.5°	304.8	282.8	261.0	239.0	217.1	197.9	181.8	165.5	149.2	133.0	130.5
75°	242.8	222.2	201.7	181.2	160.7	145.4	135.4	125.5	115.5	105.6	103.5
77.5°	181.8	163.8	145.9	127.9	109.8	98.4	93.6	88.8	83.9	79.2	78.0
80°	143.8	128.9	113.9	98.9	84.0	75.1	72.2	69.2	66.3	63.4	62.2
82.5°	109.0	97.3	85.7	74.0	62.3	55.4	53.5	51.5	49.5	47.5	46.8
85°	56.7	50.5	44.4	38.2	32.1	28.6	27.7	26.9	25.9	25.1	25.1
87.5°	17.0	15.5	13.9	12.5	10.9	10.5	11.2	11.9	12.5	13.2	12.8
90°	0.7	2.5	4.3	6.0	7.8	10.4	13.7	17.0	20.2	23.6	23.2
92.5°	12.0	13.3	14.6	15.9	17.2	18.3	19.0	19.8	20.7	21.4	21.4
95°	35.0	36.5	38.0	39.5	41.0	41.8	42.2	42.4	42.8	43.0	43.0
97.5°	64.0	65.3	66.6	67.8	69.2	70.2	70.7	71.3	71.8	72.4	72.4
100°	85.5	86.7	87.8	89.0	90.2	91.1	91.5	92.0	92.4	92.9	92.9
102.5°	108.1	109.0	110.0	111.0	111.9	112.7	113.2	113.8	114.3	114.9	115.0
105°	144.7	145.2	145.6	146.0	146.5	146.9	147.1	147.5	147.7	148.1	148.4
107.5°	181.6	182.3	182.9	183.6	184.2	184.5	184.5	184.5	184.5	184.5	184.7
110°	205.3	206.1	207.1	207.9	208.9	209.3	209.3	209.3	209.3	209.3	209.3



TEST NUMBER: P331751-935

CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	231.1	232.0	232.9	233.8	234.7	235.1	235.0	234.9	234.7	234.6	234.3
115°	269.2	270.1	271.0	271.9	272.8	273.1	272.8	272.5	272.2	271.9	271.7
117.5°	307.1	308.3	309.5	310.7	311.9	312.1	311.3	310.5	309.6	308.8	308.4
120°	332.4	333.6	334.8	336.0	337.3	337.3	336.0	334.8	333.6	332.4	332.4
122.5°	355.6	357.1	358.5	359.9	361.4	361.6	360.8	360.0	359.1	358.3	357.9
125°	391.7	393.0	394.3	395.7	397.1	397.5	397.1	396.6	396.1	395.7	395.3
127.5°	426.8	428.5	430.2	432.0	433.6	434.2	433.7	433.2	432.6	432.0	431.5
130°	448.9	450.8	452.8	454.7	456.7	457.4	457.2	456.8	456.6	456.3	456.0
132.5°	473.6	475.3	476.8	478.4	480.0	480.8	480.9	481.0	481.0	481.0	480.4
135°	506.8	508.4	510.1	511.7	513.3	514.3	514.6	514.9	515.2	515.5	515.4
137.5°	541.7	542.9	544.3	545.7	547.0	547.9	548.3	548.6	549.1	549.4	549.3
140°	562.7	564.0	565.3	566.6	568.0	569.0	569.8	570.6	571.3	572.0	572.0
142.5°	584.2	585.5	586.9	588.2	589.5	590.5	591.0	591.5	592.0	592.5	592.6
145°	615.1	616.1	617.3	618.3	619.3	620.3	621.2	622.1	622.9	623.9	624.1
147.5°	642.7	643.9	645.2	646.4	647.7	648.7	649.3	649.9	650.5	651.1	651.3
150°	661.6	662.5	663.3	664.3	665.1	665.9	666.5	667.1	667.7	668.3	668.7
152.5°	678.2	679.2	680.0	681.0	681.8	682.6	683.4	684.1	684.8	685.5	686.0
155°	703.3	703.7	704.2	704.6	705.1	705.5	705.9	706.5	706.9	707.3	708.1
157.5°	724.7	725.0	725.3	725.6	725.9	726.2	726.4	726.7	726.9	727.2	728.2
160°	737.6	737.9	738.2	738.5	738.8	739.0	739.2	739.3	739.5	739.6	740.5
162.5°	749.4	749.5	749.6	749.6	749.7	749.8	749.9	750.1	750.3	750.4	751.4
165°	765.2	765.1	764.9	764.7	764.6	764.5	764.5	764.5	764.5	764.5	765.6
167.5°	778.3	777.9	777.5	777.1	776.6	776.4	776.4	776.3	776.3	776.2	777.3
170°	785.4	785.0	784.5	784.0	783.6	783.3	783.2	783.0	782.8	782.6	783.8
172.5°	790.2	789.8	789.4	788.8	788.4	788.2	788.0	787.8	787.7	787.6	788.6
175°	796.2	795.7	795.2	794.8	794.4	794.0	793.7	793.4	793.1	792.8	793.8
177.5°	798.6	798.2	797.9	797.5	797.1	796.9	796.6	796.3	796.1	795.9	796.6
180°	797.5	797.5	797.5	797.5	797.5	797.5	797.5	797.5	797.5	797.5	797.5



TEST NUMBER: P331751-935

CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0
2.5°	1451.1	1453.5	1455.9	1456.7	1456.3	1455.9	1455.3	1454.9
5°	1439.6	1442.3	1444.8	1445.7	1444.8	1444.0	1443.1	1442.3
7.5°	1416.3	1417.0	1417.8	1417.5	1415.9	1414.4	1412.9	1411.4
10°	1392.9	1392.1	1391.2	1389.9	1388.1	1386.4	1384.6	1382.9
12.5°	1366.2	1364.6	1363.0	1360.8	1357.9	1355.0	1352.0	1349.1
15°	1316.3	1310.7	1305.1	1300.9	1298.0	1295.0	1292.1	1289.2
17.5°	1259.8	1253.2	1246.6	1240.7	1235.7	1230.6	1225.5	1220.6
20°	1220.4	1213.1	1205.7	1198.9	1192.4	1185.9	1179.5	1173.0
22.5°	1177.2	1167.7	1158.2	1151.1	1146.3	1141.5	1136.7	1131.9
25°	1105.4	1093.5	1081.4	1073.2	1068.8	1064.4	1060.0	1055.6
27.5°	1037.1	1023.0	1009.0	998.5	991.5	984.6	977.6	970.6
30°	988.8	973.8	958.8	947.4	939.5	931.6	923.7	915.8
32.5°	940.2	923.2	906.0	893.8	886.4	878.9	871.4	864.0
35°	864.3	845.8	827.3	814.9	808.4	801.9	795.5	789.1
37.5°	790.3	770.0	749.6	735.7	728.4	721.0	713.6	706.2
40°	740.8	720.0	699.2	685.0	677.3	669.7	662.1	654.4
42.5°	690.9	669.3	647.8	633.4	625.9	618.5	611.2	603.8
45°	618.1	597.3	576.4	562.6	555.5	548.5	541.4	534.4
47.5°	547.3	526.7	505.9	492.4	486.0	479.7	473.2	466.8
50°	501.9	481.6	461.4	448.2	442.0	435.8	429.7	423.5
52.5°	458.9	439.4	419.9	407.3	401.6	395.9	390.2	384.5
55°	393.6	376.1	358.4	346.9	341.3	335.7	330.2	324.6
57.5°	334.3	318.1	302.0	291.6	287.0	282.2	277.6	272.9
60°	293.3	278.4	263.5	253.7	248.9	244.3	239.5	234.9
62.5°	257.9	243.6	229.4	220.8	218.0	215.2	212.3	209.6
65°	209.7	199.7	189.7	184.3	183.4	182.5	181.7	180.8
67.5°	169.3	164.7	160.1	157.3	156.4	155.5	154.5	153.6
70°	147.2	144.3	141.4	139.3	138.1	136.9	135.8	134.6
72.5°	128.1	125.6	123.1	121.6	120.9	120.2	119.4	118.7
75°	101.4	99.4	97.4	96.2	95.9	95.6	95.3	95.0
77.5°	76.8	75.7	74.5	73.6	73.2	72.8	72.2	71.8
80°	61.0	59.8	58.6	58.0	58.0	58.0	58.0	58.0
82.5°	46.1	45.4	44.7	44.3	44.3	44.3	44.3	44.3
85°	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
87.5°	12.6	12.3	12.0	11.9	11.9	11.9	12.0	12.0
90°	23.0	22.6	22.4	22.3	22.5	22.6	22.7	22.9
92.5°	21.5	21.6	21.6	21.7	21.7	21.8	21.8	21.8
95°	43.0	43.0	43.0	43.0	42.6	42.4	42.0	41.8
97.5°	72.4	72.4	72.4	72.4	72.4	72.3	72.3	72.2
100°	92.9	92.9	92.9	92.8	92.6	92.5	92.4	92.2
102.5°	115.2	115.3	115.5	115.4	115.3	115.1	114.9	114.8
105°	148.7	149.0	149.3	149.4	149.4	149.4	149.4	149.4
107.5°	184.8	184.9	185.0	184.8	184.1	183.4	182.7	182.0
110°	209.3	209.3	209.3	209.1	208.6	208.2	207.8	207.2



TEST NUMBER: P331751-935

CATALOG NUMBER: SA2XXRDIP-C1005D725U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	233.8	233.5	233.2	232.8	232.5	232.1	231.9	231.5
115°	271.6	271.5	271.3	271.0	270.5	270.1	269.7	269.2
117.5°	308.1	307.7	307.3	306.9	306.5	306.0	305.6	305.1
120°	332.4	332.4	332.4	332.3	331.7	331.3	330.9	330.5
122.5°	357.6	357.2	356.9	356.5	356.2	355.9	355.5	355.2
125°	394.9	394.3	393.9	393.6	393.5	393.3	393.2	393.0
127.5°	431.0	430.4	429.9	429.4	429.0	428.4	428.0	427.5
130°	455.7	455.4	455.1	454.6	454.0	453.5	452.9	452.3
132.5°	479.7	479.1	478.5	477.9	477.3	476.9	476.4	476.0
135°	515.2	515.1	514.9	514.6	514.2	513.8	513.2	512.8
137.5°	549.2	549.1	549.0	548.6	548.0	547.4	546.8	546.2
140°	572.0	572.0	572.0	571.7	571.2	570.6	570.0	569.4
142.5°	592.7	592.9	593.0	592.7	592.1	591.5	591.0	590.4
145°	624.1	624.3	624.5	624.2	623.6	623.0	622.4	621.8
147.5°	651.7	652.0	652.4	652.3	651.7	651.1	650.6	650.0
150°	669.2	669.6	670.1	670.1	669.6	669.2	668.7	668.3
152.5°	686.6	687.3	687.8	687.8	687.3	686.6	686.0	685.5
155°	708.8	709.6	710.3	710.5	710.0	709.6	709.1	708.7
157.5°	729.3	730.3	731.3	731.4	730.7	730.0	729.3	728.6
160°	741.4	742.4	743.2	743.4	742.8	742.2	741.6	741.0
162.5°	752.4	753.5	754.5	754.6	753.9	753.2	752.4	751.7
165°	766.6	767.7	768.7	768.9	768.1	767.3	766.6	765.9
167.5°	778.3	779.4	780.4	780.6	779.8	779.0	778.3	777.5
170°	784.8	785.8	786.9	787.0	786.1	785.1	784.3	783.3
172.5°	789.6	790.7	791.7	791.8	790.9	790.0	789.1	788.2
175°	794.9	795.9	796.9	797.0	796.2	795.2	794.4	793.5
177.5°	797.3	798.1	798.7	798.7	798.1	797.3	796.6	795.9
180°	797.5	797.5	797.5	797.5	797.5	797.5	797.5	797.5

(END OF REPORT)