

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: P331427-935

Luminaire Tested: **SA2XXDIP-C1005D330U935-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331427-935
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: SA2XXDIP-C1005D330U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

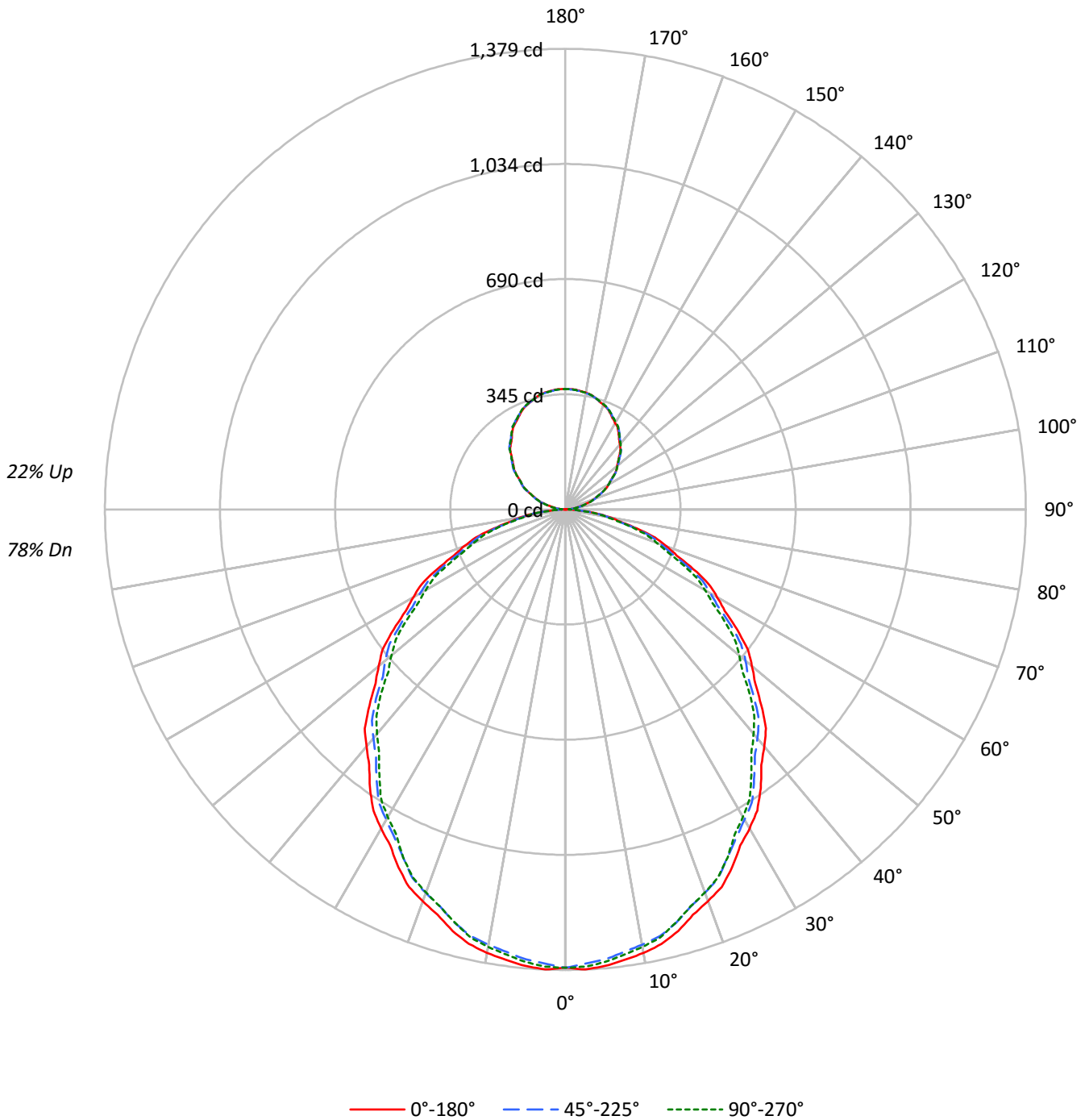
Lumens per Lamp: N/A
Luminaire Lumens: 4500.7 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 49.8
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



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Luminous Intensity Polar Plot





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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	114	114	114	114	108	108	108	108	99	99	99	90	90	90	81	81	81	78
1	104	99	95	92	99	95	91	88	87	84	81	79	77	75	72	70	69	65
2	95	87	80	75	90	83	77	72	76	71	67	69	66	63	63	61	58	55
3	86	76	69	63	82	73	66	61	67	61	57	61	57	53	56	53	49	46
4	79	68	60	53	75	65	57	52	60	53	49	55	50	46	50	46	43	40
5	73	61	52	46	69	58	50	45	54	47	42	49	44	40	45	41	37	35
6	67	55	46	40	64	52	45	39	48	42	37	45	39	35	41	37	33	30
7	62	49	41	35	59	48	40	34	44	37	33	41	35	31	38	33	29	27
8	58	45	37	31	55	43	36	31	40	34	29	37	32	28	35	30	26	24
9	54	41	33	28	52	40	33	28	37	31	26	34	29	25	32	27	24	22
10	51	38	31	25	48	37	30	25	34	28	24	32	27	23	30	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22157	22157	22157
5°	22242	21921	22049
10°	22109	21697	21807
15°	21835	21417	21396
20°	21448	20993	20972
25°	21063	20475	20475
30°	20566	19999	19827
35°	20103	19429	19141
40°	19524	18858	18493
45°	18952	18287	17838
50°	18329	17698	17071
55°	17681	17011	16380
60°	16956	16191	15594
65°	16180	15373	14670
70°	15196	14389	13704
75°	13830	13250	12926
80°	12273	11901	11288
85°	10022	9541	8540



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.0	2.9
10°-20°	363.1	8.1
20°-30°	533.7	11.9
30°-40°	619.9	13.8
40°-50°	619.3	13.8
50°-60°	540.0	12.0
60°-70°	399.3	8.9
70°-80°	226.2	5.0
80°-90°	62.3	1.4
90°-100°	22.8	0.5
100°-110°	70.9	1.6
110°-120°	121.3	2.7
120°-130°	159.5	3.5
130°-140°	179.0	4.0
140°-150°	175.5	3.9
150°-160°	147.2	3.3
160°-170°	97.6	2.2
170°-180°	34.1	0.8
0°-30°	1025.8	22.8
0°-40°	1645.7	36.6
0°-60°	2805.0	62.3
0°-90°	3492.7	77.6
90°-120°	215.0	4.8
90°-150°	729.0	16.2
90°-180°	1008.0	22.4
0°-180°	4500.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1372	1366	1352	1362	1360	130
15°	1306	1298	1281	1286	1280	368
25°	1182	1171	1149	1152	1149	544
35°	1020	1006	986	978	971	637
45°	830	820	801	787	781	640
55°	628	620	604	589	582	561
65°	424	415	402	391	384	419
75°	222	219	212	205	207	237
85°	54	53	52	48	46	62
90°	0	4	11	10	10	3
95°	16	19	20	19	19	18
105°	65	66	67	68	68	69
115°	122	123	123	123	122	120
125°	177	180	179	178	178	158
135°	229	232	233	233	232	177
145°	278	280	282	282	281	174
155°	318	319	320	321	320	146
165°	346	346	346	347	346	98
175°	360	359	358	360	359	34
180°	360	360	360	360	360	



TEST NUMBER: P331427-935

CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3
2.5°	1378.6	1377.4	1376.3	1375.1	1373.9	1372.1	1369.5	1366.9	1364.3	1361.8	1364.1
5°	1372.3	1371.1	1369.9	1368.7	1367.6	1365.4	1362.2	1358.9	1355.7	1352.5	1354.9
7.5°	1360.1	1358.3	1356.5	1354.7	1352.9	1350.3	1347.0	1343.8	1340.5	1337.2	1339.5
10°	1348.5	1346.5	1344.5	1342.4	1340.3	1337.6	1334.0	1330.5	1327.0	1323.4	1325.9
12.5°	1332.7	1330.8	1329.0	1327.2	1325.4	1322.8	1319.2	1315.7	1312.3	1308.7	1310.4
15°	1306.3	1304.6	1302.8	1301.1	1299.2	1296.5	1292.7	1288.8	1285.0	1281.3	1282.5
17.5°	1272.6	1270.7	1269.0	1267.2	1265.5	1262.7	1258.8	1254.9	1251.0	1247.2	1248.5
20°	1248.3	1246.5	1244.7	1242.9	1241.2	1238.3	1234.2	1230.1	1226.0	1221.8	1222.7
22.5°	1224.0	1221.5	1219.1	1216.6	1214.1	1211.0	1207.1	1203.2	1199.4	1195.5	1195.7
25°	1182.3	1179.9	1177.6	1175.3	1172.9	1169.2	1164.2	1159.3	1154.3	1149.3	1149.9
27.5°	1134.8	1132.6	1130.6	1128.4	1126.4	1123.3	1119.4	1115.4	1111.6	1107.6	1106.7
30°	1103.1	1100.8	1098.4	1096.1	1093.7	1090.4	1086.0	1081.6	1077.2	1072.7	1071.9
32.5°	1069.4	1067.5	1065.6	1063.7	1061.8	1058.6	1054.0	1049.3	1044.7	1040.0	1038.5
35°	1019.9	1017.0	1014.1	1011.2	1008.2	1004.4	999.7	995.1	990.4	985.7	984.0
37.5°	964.3	961.7	959.2	956.6	954.0	950.4	945.6	941.0	936.3	931.6	929.4
40°	926.3	923.9	921.6	919.3	916.9	913.4	908.7	904.0	899.3	894.7	892.0
42.5°	889.3	887.0	884.7	882.4	879.9	876.4	871.8	867.0	862.4	857.6	854.8
45°	830.0	827.9	825.9	823.8	821.7	818.6	814.2	809.8	805.4	800.9	797.7
47.5°	770.9	769.0	767.0	765.1	763.1	759.8	755.3	750.7	746.1	741.6	738.1
50°	729.7	728.2	726.8	725.3	723.8	721.0	717.0	712.8	708.7	704.6	700.5
52.5°	689.6	687.7	685.7	683.8	681.8	678.9	675.0	671.1	667.4	663.5	660.0
55°	628.1	626.3	624.6	622.8	621.0	618.4	614.9	611.4	607.9	604.3	600.8
57.5°	566.4	564.9	563.5	562.1	560.7	558.1	554.2	550.4	546.5	542.6	539.2
60°	525.1	524.0	522.8	521.7	520.5	517.8	513.8	509.6	505.5	501.4	498.2
62.5°	485.1	483.2	481.3	479.4	477.5	475.0	471.8	468.7	465.5	462.4	459.3
65°	423.5	421.8	420.1	418.3	416.6	414.1	411.2	408.3	405.4	402.4	399.8
67.5°	361.0	359.6	358.2	356.8	355.4	353.4	350.7	348.1	345.4	342.9	340.8
70°	321.9	320.8	319.6	318.5	317.3	315.4	312.7	310.0	307.5	304.8	302.7
72.5°	281.8	280.7	279.5	278.4	277.2	275.7	274.1	272.3	270.6	268.9	266.8
75°	221.7	221.1	220.5	219.9	219.3	218.3	216.8	215.3	213.9	212.4	210.7
77.5°	167.8	166.9	165.8	164.9	163.8	163.1	162.5	161.9	161.3	160.7	159.8
80°	132.0	131.6	131.4	131.0	130.8	130.4	129.8	129.2	128.5	128.0	127.1
82.5°	98.2	98.2	98.1	98.0	97.9	97.7	97.4	97.0	96.7	96.3	95.2
85°	54.1	53.8	53.6	53.2	53.0	52.6	52.3	52.0	51.7	51.5	50.5
87.5°	19.0	18.8	18.4	18.2	17.8	17.6	17.4	17.2	17.0	16.9	16.2
90°	0.3	1.1	1.9	2.8	3.5	4.7	6.2	7.7	9.1	10.7	10.5
92.5°	5.4	6.0	6.6	7.2	7.8	8.3	8.6	9.0	9.3	9.6	9.7
95°	15.8	16.5	17.1	17.8	18.5	18.9	19.0	19.2	19.4	19.5	19.5
97.5°	28.9	29.5	30.0	30.7	31.3	31.7	31.9	32.2	32.5	32.7	32.7
100°	38.7	39.2	39.7	40.3	40.8	41.2	41.3	41.6	41.8	42.0	42.0
102.5°	48.8	49.2	49.7	50.1	50.5	51.0	51.1	51.4	51.7	51.9	52.0
105°	65.4	65.6	65.8	66.0	66.2	66.4	66.6	66.6	66.8	66.9	67.1
107.5°	82.1	82.4	82.7	83.0	83.3	83.4	83.4	83.4	83.4	83.4	83.4
110°	92.8	93.2	93.6	94.0	94.4	94.6	94.6	94.6	94.6	94.6	94.6



TEST NUMBER: P331427-935

CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.4	104.9	105.3	105.6	106.1	106.2	106.2	106.2	106.1	106.1	105.9
115°	121.7	122.1	122.5	122.9	123.3	123.5	123.3	123.1	123.0	122.9	122.9
117.5°	138.8	139.4	139.9	140.4	141.0	141.1	140.7	140.3	139.9	139.6	139.4
120°	150.2	150.8	151.4	151.9	152.4	152.4	151.9	151.4	150.8	150.2	150.2
122.5°	160.7	161.4	162.0	162.6	163.3	163.5	163.1	162.7	162.3	162.0	161.8
125°	177.0	177.6	178.2	178.8	179.4	179.7	179.4	179.3	179.1	178.8	178.7
127.5°	193.0	193.7	194.5	195.2	196.0	196.2	196.0	195.8	195.5	195.3	195.0
130°	202.9	203.8	204.7	205.5	206.4	206.8	206.6	206.6	206.4	206.2	206.1
132.5°	214.1	214.8	215.5	216.2	217.0	217.3	217.3	217.4	217.4	217.4	217.1
135°	229.0	229.8	230.6	231.3	232.0	232.5	232.6	232.7	232.9	233.0	232.9
137.5°	244.8	245.4	246.0	246.7	247.3	247.6	247.8	248.0	248.1	248.3	248.3
140°	254.3	254.9	255.5	256.1	256.8	257.2	257.5	257.9	258.2	258.6	258.6
142.5°	264.1	264.7	265.3	265.9	266.5	266.9	267.1	267.3	267.6	267.8	267.9
145°	278.0	278.5	279.0	279.5	279.9	280.3	280.8	281.2	281.5	282.0	282.1
147.5°	290.5	291.1	291.6	292.2	292.7	293.2	293.4	293.8	294.0	294.3	294.5
150°	299.0	299.5	299.8	300.2	300.7	301.0	301.3	301.5	301.8	302.0	302.3
152.5°	306.6	306.9	307.4	307.8	308.2	308.6	308.8	309.2	309.5	309.9	310.1
155°	317.9	318.1	318.3	318.5	318.7	318.9	319.1	319.3	319.5	319.7	320.0
157.5°	327.5	327.7	327.8	328.0	328.1	328.2	328.4	328.5	328.6	328.7	329.2
160°	333.4	333.6	333.6	333.8	333.9	334.1	334.1	334.2	334.2	334.3	334.7
162.5°	338.7	338.8	338.8	338.8	338.9	338.9	339.0	339.1	339.1	339.1	339.7
165°	345.9	345.8	345.7	345.7	345.6	345.5	345.5	345.5	345.5	345.5	346.0
167.5°	351.8	351.6	351.5	351.2	351.0	350.9	350.9	350.9	350.9	350.9	351.3
170°	355.0	354.8	354.6	354.4	354.2	354.0	354.0	353.9	353.9	353.8	354.2
172.5°	357.1	357.0	356.8	356.5	356.4	356.2	356.2	356.1	356.0	355.9	356.5
175°	359.9	359.6	359.5	359.2	359.0	358.9	358.8	358.6	358.4	358.3	358.8
177.5°	360.9	360.8	360.6	360.5	360.3	360.2	360.1	360.0	359.8	359.7	360.1
180°	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5



TEST NUMBER: P331427-935

CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3
2.5°	1366.4	1368.7	1371.1	1372.1	1371.6	1371.1	1370.6	1370.2
5°	1357.2	1359.5	1361.8	1362.8	1362.2	1361.6	1361.0	1360.4
7.5°	1341.9	1344.2	1346.6	1347.5	1346.8	1346.2	1345.5	1344.9
10°	1328.2	1330.5	1332.8	1333.6	1332.7	1331.8	1330.9	1330.1
12.5°	1312.0	1313.6	1315.3	1315.8	1315.1	1314.5	1313.8	1313.2
15°	1283.6	1284.8	1285.9	1285.8	1284.4	1282.9	1281.4	1280.0
17.5°	1249.9	1251.3	1252.6	1252.6	1251.1	1249.7	1248.4	1246.9
20°	1223.7	1224.5	1225.4	1225.2	1224.1	1222.9	1221.8	1220.6
22.5°	1195.8	1196.0	1196.2	1195.9	1195.2	1194.6	1193.8	1193.1
25°	1150.5	1151.1	1151.7	1151.7	1151.1	1150.5	1149.9	1149.3
27.5°	1105.9	1104.9	1104.1	1102.9	1101.6	1100.1	1098.7	1097.3
30°	1071.0	1070.1	1069.3	1068.2	1067.0	1065.8	1064.7	1063.5
32.5°	1036.9	1035.3	1033.7	1032.3	1031.1	1030.0	1028.8	1027.6
35°	982.1	980.4	978.6	977.1	975.6	974.1	972.6	971.1
37.5°	927.2	925.1	922.9	921.1	919.7	918.3	916.9	915.5
40°	889.3	886.7	884.1	882.2	881.0	879.9	878.7	877.4
42.5°	852.0	849.0	846.2	844.0	842.3	840.7	839.0	837.3
45°	794.5	791.3	788.1	785.8	784.6	783.5	782.3	781.2
47.5°	734.8	731.3	728.0	725.4	723.7	722.0	720.3	718.6
50°	696.4	692.3	688.2	685.4	684.0	682.5	681.1	679.6
52.5°	656.7	653.2	649.9	647.2	645.2	643.3	641.4	639.5
55°	597.3	593.7	590.3	587.8	586.3	584.9	583.4	581.9
57.5°	535.6	532.2	528.7	526.4	525.4	524.3	523.1	522.0
60°	495.0	491.7	488.5	486.5	485.6	484.7	483.8	482.9
62.5°	456.4	453.4	450.4	448.3	447.2	446.1	445.0	443.8
65°	397.2	394.5	391.9	389.9	388.4	386.9	385.5	384.0
67.5°	338.7	336.7	334.6	332.9	331.8	330.6	329.5	328.3
70°	300.7	298.7	296.6	295.0	293.8	292.7	291.4	290.3
72.5°	264.8	262.8	260.7	259.2	258.3	257.4	256.4	255.5
75°	209.0	207.2	205.4	204.8	205.4	206.0	206.6	207.2
77.5°	158.9	158.1	157.2	156.4	155.5	154.7	153.9	153.1
80°	126.2	125.4	124.5	123.7	123.1	122.6	122.0	121.4
82.5°	94.1	93.0	91.9	91.3	91.1	91.0	90.9	90.7
85°	49.7	48.8	48.0	47.4	47.1	46.8	46.5	46.1
87.5°	15.4	14.7	13.9	13.5	13.3	13.1	12.8	12.7
90°	10.4	10.2	10.1	10.1	10.2	10.2	10.2	10.3
92.5°	9.7	9.7	9.8	9.8	9.8	9.8	9.8	9.8
95°	19.5	19.5	19.5	19.4	19.3	19.1	19.0	18.9
97.5°	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.6
100°	42.0	42.0	42.0	41.9	41.8	41.8	41.8	41.7
102.5°	52.1	52.1	52.2	52.2	52.1	52.0	52.0	51.9
105°	67.2	67.3	67.5	67.5	67.5	67.5	67.5	67.5
107.5°	83.5	83.6	83.6	83.5	83.2	82.9	82.6	82.2
110°	94.6	94.6	94.6	94.5	94.3	94.1	93.9	93.7



TEST NUMBER: P331427-935

CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	105.7	105.6	105.4	105.2	105.1	105.0	104.8	104.6
115°	122.8	122.7	122.6	122.5	122.3	122.1	121.9	121.7
117.5°	139.2	139.1	138.9	138.7	138.5	138.4	138.1	137.9
120°	150.2	150.2	150.2	150.2	150.0	149.7	149.6	149.4
122.5°	161.6	161.4	161.3	161.2	161.0	160.8	160.7	160.6
125°	178.5	178.2	178.1	177.9	177.9	177.8	177.7	177.6
127.5°	194.8	194.6	194.3	194.1	193.9	193.6	193.5	193.2
130°	206.0	205.9	205.7	205.5	205.3	204.9	204.7	204.4
132.5°	216.8	216.5	216.3	216.0	215.8	215.6	215.3	215.2
135°	232.9	232.8	232.7	232.6	232.4	232.2	232.0	231.8
137.5°	248.2	248.1	248.1	248.0	247.7	247.5	247.2	246.8
140°	258.6	258.6	258.6	258.4	258.1	257.9	257.6	257.4
142.5°	267.9	267.9	268.0	267.9	267.7	267.3	267.1	266.8
145°	282.1	282.1	282.2	282.1	281.9	281.6	281.4	281.0
147.5°	294.5	294.7	294.9	294.8	294.5	294.3	294.0	293.8
150°	302.5	302.6	302.9	302.9	302.6	302.5	302.3	302.0
152.5°	310.4	310.6	310.9	310.9	310.6	310.4	310.1	309.9
155°	320.4	320.7	321.1	321.2	320.9	320.7	320.6	320.3
157.5°	329.6	330.1	330.5	330.6	330.3	329.9	329.7	329.3
160°	335.1	335.5	336.0	336.0	335.7	335.4	335.2	334.9
162.5°	340.1	340.5	341.0	341.0	340.8	340.4	340.1	339.8
165°	346.5	347.0	347.4	347.5	347.2	346.8	346.5	346.2
167.5°	351.8	352.2	352.8	352.8	352.5	352.1	351.7	351.4
170°	354.7	355.2	355.7	355.7	355.3	354.9	354.5	354.0
172.5°	356.9	357.4	357.8	357.9	357.5	357.1	356.7	356.3
175°	359.3	359.7	360.2	360.2	359.9	359.5	359.0	358.6
177.5°	360.4	360.7	361.0	361.0	360.7	360.4	360.1	359.7
180°	360.5	360.5	360.5	360.5	360.5	360.5	360.5	360.5

(END OF REPORT)