

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: P331756-940

Luminaire Tested: **SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331756-940  
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: SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

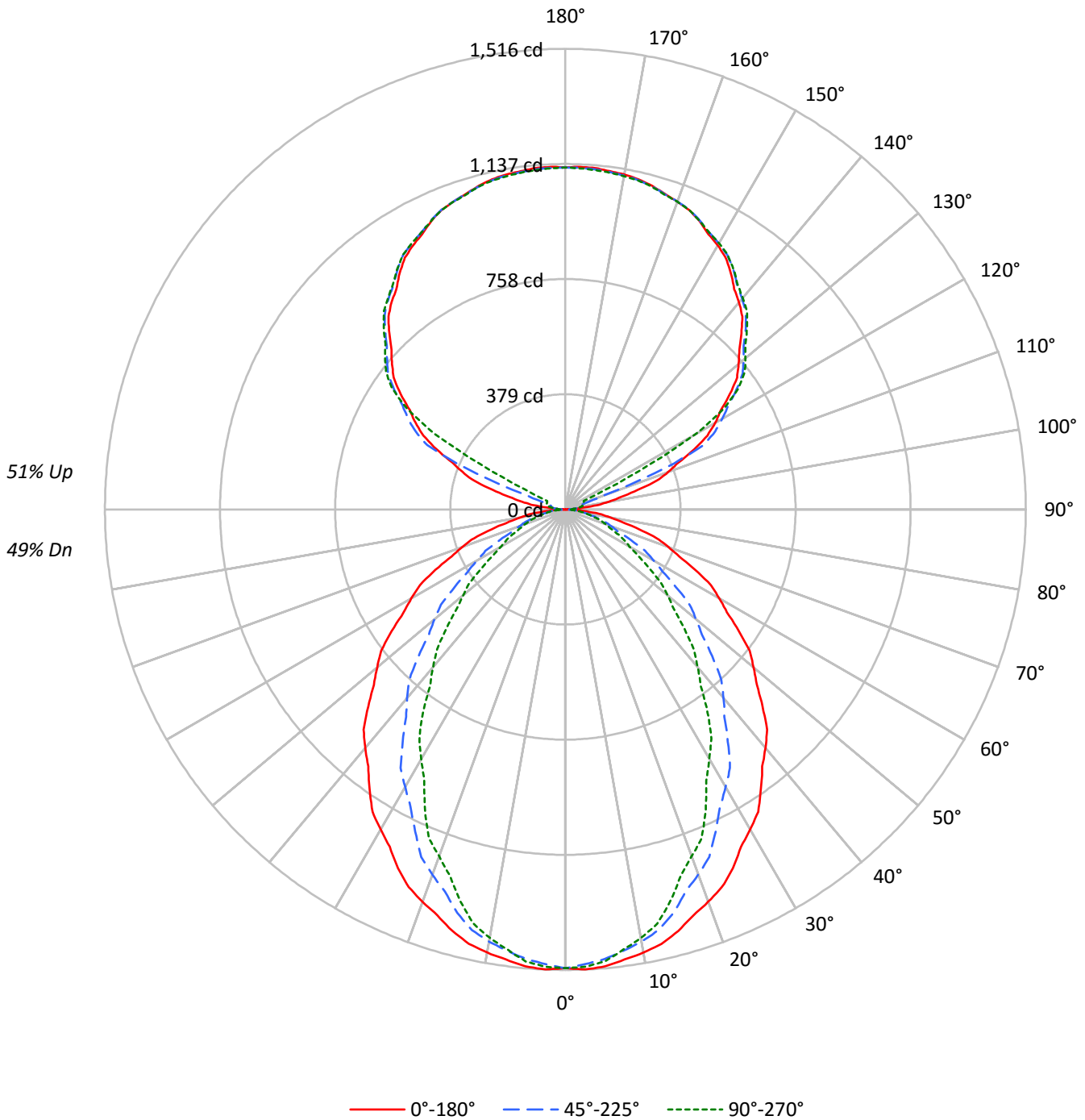
Lumens per Lamp: N/A  
Luminaire Lumens: 6406.9 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 66.8  
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	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49				
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	49	48	47	42				
2	90	82	77	72	82	76	71	67	65	61	58	54	51	49	44	42	40	36				
3	82	73	66	60	75	67	61	56	57	53	49	48	45	42	39	37	35	31				
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27				
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24				
6	64	52	44	39	59	49	42	36	42	36	32	35	31	28	29	26	24	21				
7	59	47	39	34	54	44	37	32	38	32	29	32	28	25	27	24	21	19				
8	55	43	35	30	51	40	33	29	35	29	25	30	25	22	25	22	19	17				
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	15				
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14				

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

	0°	45°	90°
0°	24380	24380	24380
5°	24473	24076	24209
10°	24287	23682	23481
15°	24008	22980	22318
20°	23622	21978	20874
25°	23225	20838	19475
30°	22676	19669	17682
35°	22141	18398	16109
40°	21602	17081	14286
45°	20970	15602	12638
50°	20321	14109	11017
55°	19657	12504	9464
60°	18887	10811	7857
65°	18010	9085	7156
70°	16966	7482	6581
75°	15689	6818	6138
80°	13845	6100	5588
85°	10893	4798	4798



TEST NUMBER: P331756-940

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.3	2.2
10°-20°	388.1	6.1
20°-30°	545.0	8.5
30°-40°	594.3	9.3
40°-50°	546.4	8.5
50°-60°	429.2	6.7
60°-70°	279.8	4.4
70°-80°	144.3	2.3
80°-90°	40.2	0.6
90°-100°	37.5	0.6
100°-110°	137.7	2.1
110°-120°	368.0	5.7
120°-130°	607.5	9.5
130°-140°	646.1	10.1
140°-150°	600.5	9.4
150°-160°	482.8	7.5
160°-170°	311.1	4.9
170°-180°	107.1	1.7
0°-30°	1074.4	16.8
0°-40°	1668.7	26.0
0°-60°	2644.3	41.3
0°-90°	3108.6	48.5
90°-120°	543.2	8.5
90°-150°	2397.3	37.4
90°-180°	3298.0	51.5
0°-180°	6406.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1510	1510	1510	1510	1510	
5°	1510	1503	1486	1497	1494	143
15°	1436	1419	1375	1350	1335	404
25°	1304	1257	1170	1116	1093	599
35°	1123	1051	933	850	817	703
45°	918	824	683	590	554	709
55°	698	589	444	365	336	624
65°	471	360	238	194	187	467
75°	252	158	109	100	98	266
85°	59	31	26	26	26	69
90°	1	10	16	20	22	5
95°	53	28	32	36	35	65
105°	248	258	50	58	62	265
115°	468	482	502	143	67	461
125°	662	673	688	694	696	590
135°	819	832	840	847	846	633
145°	950	950	963	969	965	594
155°	1046	1040	1049	1053	1047	482
165°	1103	1098	1100	1105	1100	311
175°	1128	1123	1124	1129	1121	107
180°	1126	1126	1126	1126	1126	



TEST NUMBER: P331756-940

CATALOG NUMBER: SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1515.6	1514.3	1513.1	1511.9	1510.6	1508.7	1506.0	1503.4	1500.7	1498.1	1500.5
5°	1510.0	1508.5	1507.0	1505.5	1504.0	1501.3	1497.3	1493.3	1489.4	1485.5	1488.2
7.5°	1494.5	1492.6	1490.8	1488.8	1486.9	1483.7	1479.1	1474.4	1469.9	1465.3	1466.1
10°	1481.4	1479.3	1477.1	1475.0	1472.8	1468.7	1462.7	1456.6	1450.5	1444.5	1443.6
12.5°	1465.0	1462.3	1459.7	1457.1	1454.6	1449.3	1441.5	1433.8	1426.0	1418.3	1416.6
15°	1436.3	1432.9	1429.6	1426.2	1422.9	1416.0	1405.8	1395.4	1385.1	1374.8	1369.0
17.5°	1401.0	1395.9	1390.8	1385.7	1380.6	1371.5	1358.2	1345.0	1331.7	1318.5	1311.6
20°	1374.8	1368.7	1362.6	1356.6	1350.5	1339.9	1324.6	1309.5	1294.3	1279.1	1271.5
22.5°	1346.3	1339.5	1332.8	1326.0	1319.1	1307.2	1290.0	1272.9	1255.8	1238.7	1228.9
25°	1303.7	1294.0	1284.2	1274.5	1264.8	1250.0	1229.9	1209.9	1189.8	1169.7	1157.4
27.5°	1252.3	1241.8	1231.2	1220.7	1210.1	1193.5	1170.9	1148.3	1125.7	1103.1	1088.6
30°	1216.3	1204.7	1193.2	1181.6	1170.1	1152.2	1127.8	1103.6	1079.3	1055.0	1039.5
32.5°	1181.2	1167.8	1154.3	1140.9	1127.3	1108.2	1083.4	1058.6	1033.8	1009.1	991.4
35°	1123.3	1107.9	1092.3	1076.8	1061.4	1040.3	1013.5	986.9	960.1	933.4	914.3
37.5°	1065.4	1048.4	1031.4	1014.3	997.4	974.6	946.1	917.7	889.1	860.7	839.6
40°	1024.9	1006.7	988.5	970.3	952.1	928.2	898.8	869.3	839.8	810.4	788.8
42.5°	983.4	964.2	945.0	925.8	906.6	881.8	851.4	820.9	790.5	760.1	737.8
45°	918.4	898.0	877.6	857.3	837.0	810.8	778.9	747.1	715.2	683.3	661.7
47.5°	854.9	833.4	811.8	790.2	768.7	741.5	708.6	675.6	642.7	609.8	588.4
50°	809.0	787.5	765.9	744.3	722.7	695.3	661.9	628.5	595.0	561.7	540.7
52.5°	764.2	741.6	719.2	696.6	674.0	646.5	613.8	581.1	548.4	515.8	495.5
55°	698.3	674.7	650.9	627.2	603.6	575.3	542.5	509.7	477.0	444.2	425.9
57.5°	630.8	606.5	582.2	557.9	533.6	505.7	474.2	442.6	411.2	379.6	362.9
60°	584.9	560.6	536.3	512.0	487.7	459.9	428.6	397.3	366.0	334.8	319.3
62.5°	540.1	515.8	491.5	467.2	442.9	415.8	386.0	356.1	326.4	296.6	281.8
65°	471.4	446.8	422.3	397.7	373.1	347.1	319.8	292.5	265.1	237.8	227.5
67.5°	405.3	380.9	356.5	332.1	307.6	283.1	258.6	234.0	209.4	184.8	180.0
70°	359.4	335.7	312.0	288.4	264.7	242.4	221.4	200.5	179.5	158.5	155.5
72.5°	315.7	292.9	270.3	247.5	224.8	205.0	188.2	171.4	154.5	137.8	135.2
75°	251.5	230.2	208.9	187.7	166.4	150.6	140.3	130.0	119.7	109.3	107.2
77.5°	188.3	169.7	151.1	132.4	113.7	101.9	96.9	91.9	86.9	82.0	80.8
80°	148.9	133.5	118.0	102.5	87.0	77.8	74.7	71.7	68.7	65.6	64.4
82.5°	112.9	100.8	88.7	76.6	64.6	57.4	55.4	53.3	51.3	49.2	48.5
85°	58.8	52.3	46.0	39.6	33.3	29.6	28.7	27.8	26.8	25.9	25.9
87.5°	17.7	16.1	14.5	13.0	11.5	10.9	11.1	11.4	11.7	12.0	11.9
90°	0.8	2.8	4.8	6.8	8.7	10.5	11.9	13.4	14.8	16.3	17.2
92.5°	16.4	16.2	16.1	15.9	15.7	16.0	16.8	17.5	18.2	18.9	19.4
95°	53.0	47.0	41.0	35.0	29.1	26.7	28.0	29.2	30.5	31.7	32.6
97.5°	105.0	88.2	71.4	54.6	37.7	30.8	33.7	36.6	39.6	42.5	43.2
100°	144.2	119.3	94.5	69.7	44.9	34.2	37.2	40.3	43.3	46.5	47.9
102.5°	187.2	181.9	176.6	171.4	166.1	150.7	124.9	99.2	73.5	47.7	49.6
105°	247.5	253.0	258.4	263.9	269.3	247.3	197.9	148.5	99.1	49.7	51.6
107.5°	316.5	320.8	325.2	329.6	334.0	306.6	247.3	188.1	128.8	69.6	67.5
110°	360.8	364.6	368.4	372.2	375.9	351.7	299.4	247.1	194.8	142.5	124.4



TEST NUMBER: P331756-940

CATALOG NUMBER: SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	402.4	405.8	409.2	412.6	415.9	411.2	398.2	385.3	372.4	359.4	293.5
115°	468.2	471.4	474.4	477.5	480.5	484.4	488.9	493.5	497.9	502.5	418.7
117.5°	527.1	530.5	534.0	537.4	540.8	544.1	547.2	550.4	553.5	556.5	536.3
120°	570.1	572.7	575.5	578.2	580.9	583.9	587.2	590.4	593.7	596.9	599.1
122.5°	606.5	609.4	612.2	615.1	618.0	621.2	624.7	628.3	631.9	635.4	636.7
125°	662.1	664.4	666.8	669.1	671.5	674.4	677.9	681.3	684.7	688.1	689.5
127.5°	712.4	715.1	717.6	720.2	722.8	725.4	728.0	730.6	733.2	735.8	737.5
130°	744.4	747.3	750.1	753.0	755.9	758.4	760.4	762.3	764.4	766.3	768.3
132.5°	776.9	779.4	781.9	784.3	786.8	789.0	791.0	793.0	795.0	796.9	798.7
135°	819.3	822.2	825.1	828.0	830.9	833.1	834.7	836.4	838.0	839.6	841.4
137.5°	862.1	864.2	866.2	868.2	870.2	872.2	874.0	875.8	877.7	879.6	881.3
140°	890.1	891.6	893.0	894.5	895.9	897.7	899.6	901.6	903.7	905.6	907.2
142.5°	913.6	914.9	916.2	917.5	918.8	920.6	922.8	925.1	927.5	929.7	931.2
145°	950.4	950.2	950.0	949.9	949.7	951.1	954.2	957.3	960.4	963.4	964.7
147.5°	982.5	981.8	981.1	980.4	979.7	980.9	983.9	987.0	990.1	993.1	994.0
150°	1003.4	1002.1	1000.8	999.5	998.3	999.1	1002.0	1004.9	1007.8	1010.7	1011.7
152.5°	1020.9	1019.5	1018.1	1016.7	1015.3	1015.9	1018.7	1021.5	1024.2	1027.0	1028.1
155°	1046.5	1044.9	1043.2	1041.6	1040.0	1040.3	1042.4	1044.6	1046.8	1048.9	1050.0
157.5°	1066.5	1065.1	1063.8	1062.4	1061.0	1061.1	1062.7	1064.2	1065.7	1067.2	1068.4
160°	1078.3	1077.2	1076.1	1075.0	1073.9	1073.9	1075.0	1076.1	1077.2	1078.3	1079.3
162.5°	1088.7	1087.6	1086.5	1085.4	1084.3	1084.2	1085.2	1086.1	1087.1	1088.1	1089.2
165°	1102.7	1101.6	1100.5	1099.4	1098.3	1098.1	1098.6	1099.1	1099.7	1100.3	1101.5
167.5°	1113.1	1112.1	1111.0	1109.8	1108.8	1108.5	1109.0	1109.5	1110.0	1110.5	1111.8
170°	1119.0	1117.8	1116.8	1115.7	1114.6	1114.3	1114.6	1115.0	1115.4	1115.7	1117.0
172.5°	1122.8	1121.8	1120.7	1119.6	1118.6	1118.2	1118.6	1118.9	1119.3	1119.6	1120.9
175°	1127.9	1126.7	1125.4	1124.1	1122.8	1122.4	1122.8	1123.1	1123.5	1123.8	1125.2
177.5°	1128.7	1127.7	1126.8	1125.7	1124.7	1124.3	1124.4	1124.5	1124.7	1124.8	1125.9
180°	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5



TEST NUMBER: P331756-940

CATALOG NUMBER: SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1502.9	1505.3	1507.8	1508.7	1508.2	1507.8	1507.3	1506.8
5°	1490.9	1493.7	1496.4	1497.3	1496.4	1495.5	1494.6	1493.7
7.5°	1466.8	1467.6	1468.4	1468.0	1466.4	1464.8	1463.3	1461.7
10°	1442.6	1441.7	1440.8	1439.5	1437.6	1435.8	1434.0	1432.2
12.5°	1415.0	1413.3	1411.7	1409.3	1406.3	1403.3	1400.3	1397.2
15°	1363.2	1357.5	1351.7	1347.3	1344.3	1341.2	1338.2	1335.2
17.5°	1304.8	1297.9	1291.0	1285.0	1279.8	1274.5	1269.3	1264.1
20°	1263.9	1256.3	1248.8	1241.6	1234.9	1228.2	1221.6	1214.9
22.5°	1219.1	1209.3	1199.5	1192.1	1187.2	1182.2	1177.2	1172.2
25°	1144.9	1132.5	1120.0	1111.5	1106.9	1102.3	1097.8	1093.2
27.5°	1074.1	1059.5	1045.0	1034.1	1026.9	1019.7	1012.4	1005.2
30°	1024.0	1008.5	993.0	981.2	973.0	964.8	956.6	948.4
32.5°	973.7	956.1	938.3	925.7	918.0	910.3	902.5	894.8
35°	895.1	876.0	856.8	843.9	837.2	830.5	823.9	817.3
37.5°	818.5	797.5	776.3	762.0	754.4	746.7	739.0	731.4
40°	767.2	745.6	724.2	709.4	701.5	693.6	685.7	677.8
42.5°	715.5	693.2	670.9	655.9	648.3	640.6	633.0	625.4
45°	640.2	618.6	597.0	582.6	575.3	568.0	560.7	553.5
47.5°	566.9	545.5	524.0	510.0	503.4	496.8	490.1	483.5
50°	519.8	498.8	477.9	464.1	457.8	451.4	445.1	438.6
52.5°	475.3	455.0	434.9	421.8	415.9	410.0	404.1	398.2
55°	407.7	389.5	371.2	359.3	353.5	347.7	342.0	336.2
57.5°	346.3	329.5	312.8	302.0	297.2	292.3	287.5	282.6
60°	303.8	288.4	272.9	262.7	257.8	253.0	248.1	243.3
62.5°	267.1	252.3	237.6	228.6	225.8	222.8	219.9	217.0
65°	217.1	206.8	196.4	190.8	189.9	189.0	188.2	187.3
67.5°	175.3	170.6	165.8	162.9	162.0	161.0	160.1	159.1
70°	152.5	149.5	146.4	144.3	143.0	141.8	140.6	139.4
72.5°	132.7	130.1	127.5	125.9	125.2	124.5	123.7	123.0
75°	105.0	103.0	100.9	99.6	99.3	99.0	98.7	98.4
77.5°	79.5	78.4	77.1	76.2	75.8	75.3	74.8	74.4
80°	63.1	62.0	60.7	60.1	60.1	60.1	60.1	60.1
82.5°	47.7	47.0	46.3	45.9	45.9	45.9	45.9	45.9
85°	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
87.5°	11.9	11.9	11.8	11.8	11.9	11.9	11.9	12.0
90°	18.1	19.0	19.9	20.5	20.9	21.2	21.7	22.0
92.5°	19.8	20.3	20.8	21.1	21.3	21.6	21.8	22.0
95°	33.5	34.5	35.4	35.8	35.6	35.4	35.2	35.0
97.5°	44.0	44.7	45.4	45.8	46.1	46.3	46.5	46.7
100°	49.3	50.7	52.3	53.1	53.5	53.9	54.2	54.6
102.5°	51.5	53.4	55.3	56.4	57.0	57.4	58.0	58.5
105°	53.7	55.6	57.6	59.0	59.7	60.5	61.2	61.9
107.5°	65.5	63.5	61.4	60.8	61.5	62.2	63.0	63.7
110°	106.3	88.2	70.1	61.4	62.2	62.9	63.6	64.4





TEST NUMBER: P331756-940

CATALOG NUMBER: SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	227.5	161.4	95.4	62.7	63.2	63.8	64.4	65.0
115°	334.9	251.1	167.3	118.9	105.8	92.8	79.8	66.8
117.5°	516.0	495.8	475.5	443.9	401.1	358.3	315.5	272.7
120°	601.3	603.5	605.6	594.5	570.1	545.6	521.2	496.8
122.5°	638.0	639.3	640.6	638.9	634.2	629.4	624.6	619.9
125°	690.7	692.0	693.2	694.1	694.6	695.2	695.8	696.3
127.5°	739.4	741.3	743.2	744.0	744.2	744.3	744.4	744.5
130°	770.3	772.3	774.3	775.3	775.1	774.8	774.6	774.5
132.5°	800.4	802.1	803.8	804.5	804.3	804.1	804.0	803.8
135°	843.3	845.1	846.9	847.6	847.2	846.9	846.5	846.1
137.5°	883.1	884.8	886.6	887.3	886.6	886.0	885.4	884.8
140°	908.8	910.5	912.1	912.5	911.6	910.7	909.8	908.8
142.5°	932.6	934.2	935.7	935.9	935.0	934.2	933.3	932.3
145°	966.0	967.2	968.5	968.7	967.8	966.9	966.0	965.1
147.5°	995.0	995.9	996.8	996.9	996.1	995.4	994.6	993.9
150°	1012.8	1014.0	1015.0	1015.1	1014.2	1013.3	1012.4	1011.5
152.5°	1029.1	1030.2	1031.3	1031.3	1030.0	1028.9	1027.7	1026.4
155°	1051.1	1052.2	1053.3	1053.1	1051.7	1050.2	1048.7	1047.3
157.5°	1069.6	1070.9	1072.1	1072.0	1070.6	1069.2	1067.7	1066.4
160°	1080.4	1081.6	1082.6	1082.5	1081.2	1080.0	1078.7	1077.5
162.5°	1090.5	1091.7	1093.0	1092.8	1091.3	1089.7	1088.2	1086.5
165°	1102.8	1104.0	1105.3	1105.3	1104.0	1102.8	1101.5	1100.3
167.5°	1113.0	1114.3	1115.6	1115.4	1113.7	1112.1	1110.5	1108.8
170°	1118.3	1119.5	1120.8	1120.6	1119.0	1117.3	1115.7	1114.1
172.5°	1122.1	1123.5	1124.7	1124.5	1122.8	1121.2	1119.6	1118.0
175°	1126.4	1127.7	1128.9	1128.6	1126.9	1125.1	1123.2	1121.4
177.5°	1126.9	1127.9	1128.9	1128.7	1127.5	1126.1	1124.8	1123.6
180°	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5	1125.5

(END OF REPORT)