

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: P331758-940

Luminaire Tested: **SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331758-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
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-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6330.3 lumens  
Efficiency: N/A  
Efficacy: 94.8 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

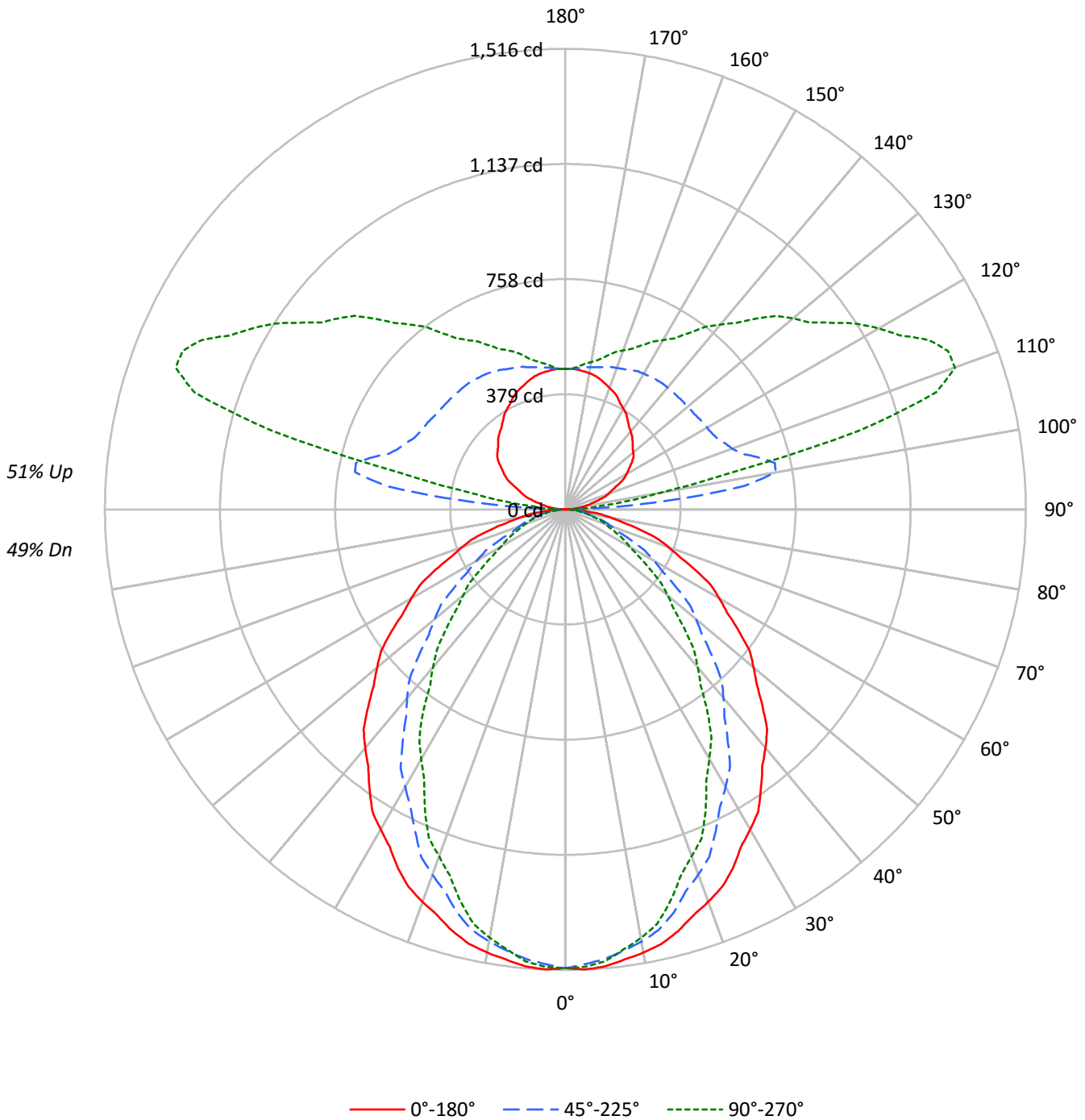
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	99	99	99	83	83	83	69	69	69	55	55	55	49				
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48	42				
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41	36				
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35	31				
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31	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	37	42	36	32	36	31	28	30	27	24	21				
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22	19				
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20	17				
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	16				
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	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



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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	8.6
30°-40°	594.3	9.4
40°-50°	546.4	8.6
50°-60°	429.2	6.8
60°-70°	279.8	4.4
70°-80°	144.3	2.3
80°-90°	41.6	0.7
90°-100°	185.0	2.9
100°-110°	627.9	9.9
110°-120°	667.1	10.5
120°-130°	549.1	8.7
130°-140°	441.0	7.0
140°-150°	333.2	5.3
150°-160°	234.2	3.7
160°-170°	137.9	2.2
170°-180°	44.9	0.7
0°-30°	1074.4	17.0
0°-40°	1668.7	26.4
0°-60°	2644.3	41.8
0°-90°	3110.0	49.1
90°-120°	1480.0	23.4
90°-150°	2803.4	44.3
90°-180°	3220.0	50.9
0°-180°	6330.3	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	12	30	29	29	4
95°	31	77	349	132	102	33
105°	109	164	659	1179	1003	115
115°	191	242	552	1139	1320	190
125°	267	316	530	922	1071	237
135°	313	374	524	775	887	242
145°	358	411	522	647	708	224
155°	407	439	506	573	595	187
165°	443	457	485	514	522	125
175°	462	462	466	472	471	44
180°	463	463	463	463	463	



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**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	16.2	15.1	13.5	11.9	11.4	12.3	13.6	14.6	14.8	14.4
90°	0.9	3.6	7.1	8.9	10.7	13.4	17.8	24.0	29.3	30.2	29.3
92.5°	10.9	15.7	22.1	25.9	32.0	40.4	60.5	88.8	114.0	115.7	97.7
95°	31.1	34.7	43.6	51.6	65.9	87.2	128.1	205.5	308.8	348.8	305.2
97.5°	50.7	55.6	65.0	77.0	93.5	117.6	169.1	277.0	448.5	595.6	624.7
100°	68.5	71.2	79.2	93.5	111.3	136.2	183.3	291.9	484.1	703.0	831.3
102.5°	84.9	86.9	94.9	109.1	127.6	152.6	196.2	292.7	470.6	706.6	908.1
105°	108.6	112.2	118.3	131.7	151.3	176.2	218.0	297.2	444.1	659.4	896.2
107.5°	134.2	137.1	143.1	155.4	174.8	199.9	240.5	309.5	430.9	608.9	818.1
110°	151.3	154.9	160.2	171.7	190.5	216.2	255.4	319.5	428.1	584.7	768.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	166.9	170.5	176.6	187.4	205.4	231.9	269.7	330.2	428.7	569.0	734.8
115°	191.4	195.8	201.2	211.8	229.6	253.6	291.9	346.2	432.5	551.8	692.4
117.5°	216.6	220.2	225.5	235.0	252.0	277.0	312.4	363.3	438.9	543.4	665.7
120°	232.3	235.9	241.2	249.1	267.0	291.9	326.6	374.7	443.2	538.4	651.5
122.5°	247.3	250.0	255.4	264.1	282.0	307.6	340.1	384.6	448.2	535.6	639.4
125°	267.0	269.7	275.0	285.7	303.4	328.4	360.4	400.5	455.7	530.4	622.1
127.5°	282.7	286.2	293.6	305.4	322.5	348.1	379.3	415.3	463.3	527.4	606.1
130°	291.9	295.4	304.3	316.8	334.7	359.5	390.7	424.5	469.0	525.9	595.4
132.5°	300.4	304.7	314.3	327.5	346.0	371.0	400.6	433.7	474.7	525.2	586.8
135°	313.3	316.8	327.5	340.8	361.3	386.2	414.7	445.9	481.4	524.1	574.9
137.5°	325.4	329.7	340.3	354.5	374.9	398.0	426.1	455.1	487.5	524.0	566.5
140°	334.7	338.2	348.8	363.1	382.7	405.8	432.5	460.1	490.4	523.3	561.6
142.5°	343.8	346.7	356.7	371.0	389.8	411.5	437.5	464.4	492.5	523.3	556.6
145°	357.8	361.3	370.2	383.6	401.4	421.0	445.0	469.9	494.8	521.5	550.0
147.5°	372.7	375.4	383.9	396.2	411.0	428.5	451.0	473.0	495.5	518.4	543.2
150°	382.7	385.3	392.4	404.0	417.4	433.4	453.9	474.3	494.8	516.2	537.5
152.5°	392.6	393.9	401.0	411.2	423.8	438.4	456.7	475.0	493.4	512.6	532.5
155°	406.7	407.6	413.0	422.8	432.5	445.9	461.0	476.1	491.2	506.4	523.3
157.5°	418.5	419.4	423.7	432.1	440.0	451.2	464.0	476.1	487.1	500.0	514.6
160°	426.3	427.2	430.7	437.8	445.0	454.8	465.5	476.1	485.0	495.7	508.2
162.5°	434.1	433.5	437.1	442.8	449.2	456.9	466.2	475.4	482.9	492.1	502.5
165°	443.2	442.3	444.1	449.4	453.9	459.2	467.3	473.5	478.8	485.0	493.0
167.5°	450.7	449.6	451.2	454.6	457.8	461.2	467.1	472.3	474.7	478.8	483.8
170°	455.7	453.9	454.8	457.4	459.2	461.9	466.4	470.8	472.6	475.2	478.8
172.5°	458.5	457.4	456.9	459.6	460.7	462.6	465.7	468.7	469.8	471.0	473.9
175°	461.9	461.0	460.1	461.9	461.9	462.8	464.6	466.4	465.5	466.4	467.3
177.5°	463.5	462.1	461.4	462.8	462.8	462.8	463.5	464.9	463.5	462.8	463.5
180°	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8



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**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°	14.0	13.4	13.5	13.6	13.6	13.6	13.6	13.6
90°	28.4	26.7	28.4	29.3	29.3	29.3	29.3	29.3
92.5°	77.6	66.6	59.1	53.6	52.9	50.0	50.7	49.3
95°	233.2	178.9	141.5	121.9	110.4	103.3	100.6	101.5
97.5°	544.1	445.1	348.8	284.6	242.1	220.2	207.1	199.7
100°	812.5	702.1	580.2	472.6	398.7	360.4	334.7	318.6
102.5°	988.4	963.5	874.3	760.2	679.9	614.6	582.4	560.7
105°	1081.3	1181.9	1193.5	1164.0	1108.8	1053.7	1015.4	1003.0
107.5°	1014.4	1165.8	1258.4	1301.5	1308.4	1305.4	1297.7	1281.2
110°	956.7	1116.0	1229.9	1302.9	1341.1	1358.1	1366.1	1365.2





TEST NUMBER: P331758-940

CATALOG NUMBER: SA2XXRDIP-C1005D925U940-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	904.0	1056.9	1178.7	1262.3	1315.5	1343.8	1359.0	1363.8
115°	839.2	976.2	1092.9	1184.5	1247.7	1288.6	1311.8	1319.8
117.5°	790.4	910.8	1016.5	1102.5	1166.9	1210.1	1234.6	1241.3
120°	766.2	876.6	970.9	1052.0	1114.2	1156.0	1181.9	1190.8
122.5°	747.0	848.1	937.5	1010.7	1066.5	1107.6	1130.6	1138.1
125°	719.1	810.7	889.0	955.8	1007.5	1041.3	1063.5	1070.6
127.5°	691.5	774.5	848.3	909.9	954.9	986.6	1005.8	1011.6
130°	673.7	750.2	820.6	879.3	922.9	953.1	970.9	978.0
132.5°	656.6	727.5	792.0	847.2	890.1	920.4	936.7	943.2
135°	632.8	691.5	750.2	800.0	838.3	867.7	883.7	887.3
137.5°	613.7	662.8	709.4	752.9	787.8	813.1	827.2	832.5
140°	601.6	644.4	685.3	724.4	752.9	776.1	789.4	794.7
142.5°	591.7	627.9	663.2	696.0	723.0	744.0	755.9	757.0
145°	577.6	607.0	634.5	660.3	681.7	696.9	705.7	708.4
147.5°	566.7	589.9	611.4	630.3	647.9	660.0	666.0	667.6
150°	558.9	578.5	597.2	613.1	626.5	637.2	642.6	643.5
152.5°	551.1	569.2	585.1	599.0	609.4	618.7	622.6	622.8
155°	540.2	554.5	567.8	577.6	587.4	593.6	597.2	595.4
157.5°	527.5	539.5	550.7	558.4	565.3	570.4	572.0	572.0
160°	519.7	529.5	539.3	545.5	551.8	556.2	557.1	557.1
162.5°	511.9	520.2	528.6	533.4	539.7	542.7	543.6	542.9
165°	500.2	506.4	512.6	516.2	519.7	523.3	523.3	522.4
167.5°	488.9	493.7	498.0	501.2	502.8	504.8	504.6	503.5
170°	483.2	485.9	489.5	491.2	492.1	494.8	493.9	492.1
172.5°	476.8	478.8	481.6	482.7	483.6	484.8	483.9	482.9
175°	469.9	470.8	471.7	472.6	472.6	473.5	472.6	470.8
177.5°	464.9	464.9	465.7	465.7	465.7	465.7	464.9	463.5
180°	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8

(END OF REPORT)