

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: P331702-935

Luminaire Tested: **SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331702-935  
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-C675D1080U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5707.6 lumens  
Efficiency: N/A  
Efficacy: 100.3 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: Semi-Indirect

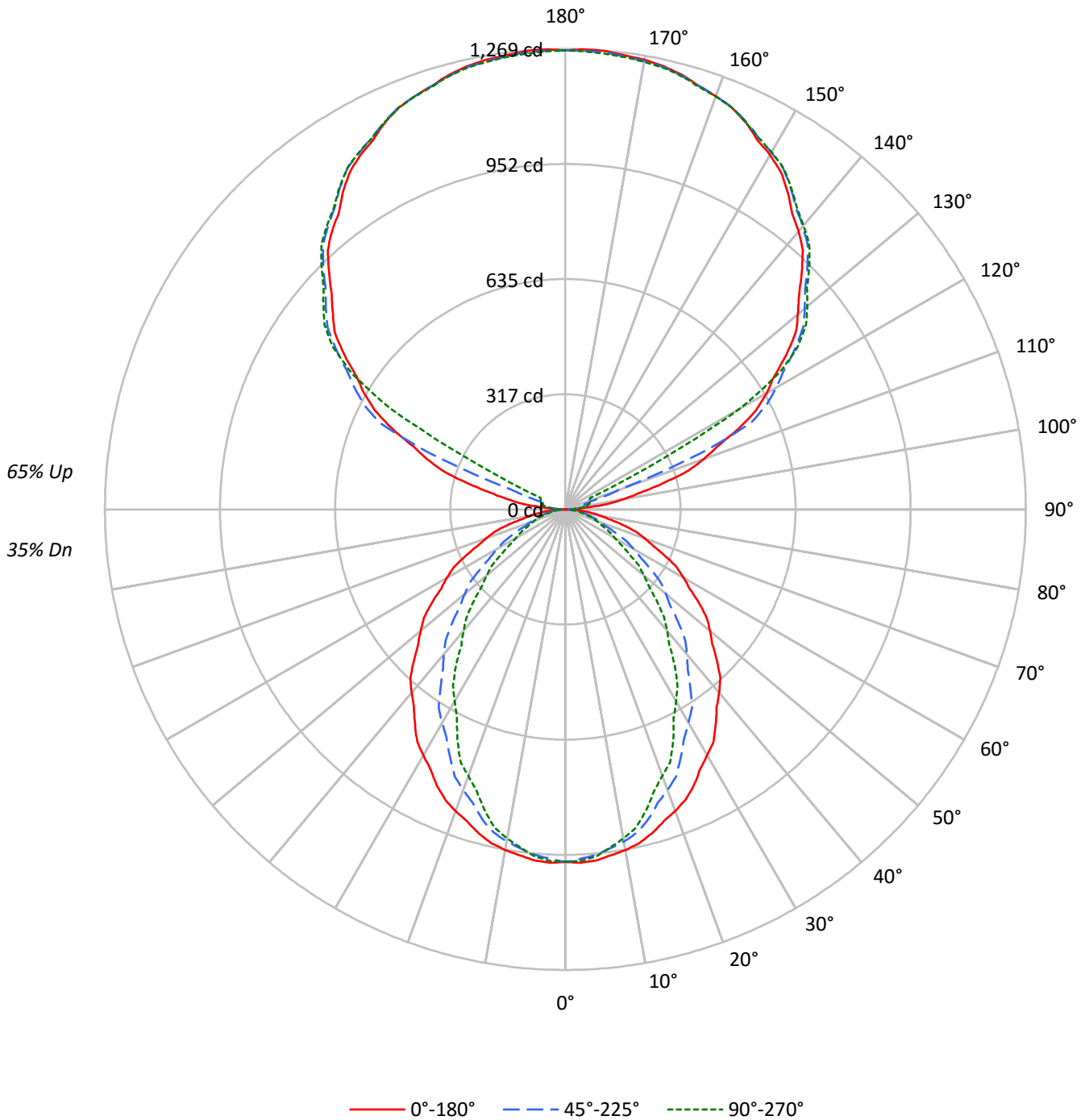
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

**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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35				
1	95	91	87	84	86	82	79	76	66	64	62	51	50	49	38	37	36	30				
2	87	80	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26				
3	79	70	63	58	71	64	58	53	52	47	44	41	38	35	30	28	27	22				
4	72	62	55	49	65	57	50	45	46	41	38	36	33	30	27	25	23	19				
5	67	56	48	42	60	51	44	39	41	36	33	33	29	27	25	22	21	17				
6	61	50	42	37	55	46	39	34	37	32	29	30	26	23	22	20	18	15				
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	21	18	16	14				
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	17	15	12				
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11				
10	46	34	27	23	41	31	25	21	26	21	18	21	18	15	16	14	12	10				

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

	0°	45°	90°
0°	15681	15681	15681
5°	15741	15486	15571
10°	15621	15231	15101
15°	15442	14780	14355
20°	15192	14136	13426
25°	14938	13402	12527
30°	14585	12652	11373
35°	14241	11832	10360
40°	13894	10985	9187
45°	13486	10035	8127
50°	13069	9075	7086
55°	12645	8042	6086
60°	12148	6952	5050
65°	11584	5841	4604
70°	10914	4810	4230
75°	10087	4386	3949
80°	8908	3924	3598
85°	7003	3094	3094



TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.9	1.6
10°-20°	249.6	4.4
20°-30°	350.5	6.1
30°-40°	382.2	6.7
40°-50°	351.5	6.2
50°-60°	276.0	4.8
60°-70°	180.0	3.2
70°-80°	92.8	1.6
80°-90°	27.2	0.5
90°-100°	42.2	0.7
100°-110°	154.7	2.7
110°-120°	413.6	7.2
120°-130°	682.8	12.0
130°-140°	726.1	12.7
140°-150°	674.9	11.8
150°-160°	542.6	9.5
160°-170°	349.7	6.1
170°-180°	120.4	2.1
0°-30°	691.1	12.1
0°-40°	1073.3	18.8
0°-60°	1700.8	29.8
0°-90°	2000.7	35.1
90°-120°	610.5	10.7
90°-150°	2694.3	47.2
90°-180°	3707.0	64.9
0°-180°	5707.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	971	966	956	963	961	92
15°	924	913	884	868	859	260
25°	838	809	752	718	703	385
35°	722	676	600	547	526	452
45°	591	530	440	379	356	456
55°	449	379	286	235	216	401
65°	303	232	153	125	120	300
75°	162	102	70	64	63	171
85°	38	20	17	17	17	45
90°	1	11	18	23	25	4
95°	60	31	36	40	39	73
105°	278	290	56	66	70	297
115°	526	542	565	161	75	518
125°	744	756	773	780	783	663
135°	921	935	944	952	951	711
145°	1068	1068	1083	1089	1085	668
155°	1176	1169	1179	1184	1177	542
165°	1239	1234	1237	1242	1237	350
175°	1268	1262	1263	1269	1260	121
180°	1265	1265	1265	1265	1265	



TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2
2.5°	974.7	974.0	973.2	972.4	971.6	970.3	968.6	966.9	965.3	963.5	965.1
5°	971.2	970.3	969.3	968.3	967.3	965.6	963.0	960.5	957.9	955.5	957.2
7.5°	961.2	960.0	958.8	957.6	956.4	954.2	951.3	948.4	945.4	942.5	942.9
10°	952.8	951.4	950.0	948.6	947.3	944.7	940.7	936.9	933.0	929.0	928.5
12.5°	942.2	940.6	938.8	937.2	935.5	932.2	927.2	922.2	917.1	912.1	911.1
15°	923.8	921.6	919.5	917.3	915.2	910.8	904.1	897.5	890.9	884.2	880.5
17.5°	901.1	897.9	894.6	891.2	887.9	882.1	873.6	865.0	856.5	848.0	843.6
20°	884.2	880.3	876.4	872.5	868.6	861.8	852.0	842.2	832.5	822.7	817.8
22.5°	865.9	861.6	857.2	852.8	848.4	840.8	829.7	818.7	807.7	796.7	790.4
25°	838.5	832.2	826.0	819.8	813.6	803.9	791.1	778.2	765.3	752.3	744.3
27.5°	805.5	798.7	791.9	785.1	778.3	767.6	753.1	738.6	724.0	709.5	700.2
30°	782.3	774.8	767.4	760.0	752.6	741.1	725.4	709.8	694.1	678.6	668.6
32.5°	759.7	751.1	742.4	733.7	725.0	712.7	696.8	680.9	665.0	649.0	637.7
35°	722.5	712.6	702.6	692.6	682.7	669.1	651.9	634.7	617.5	600.3	588.0
37.5°	685.3	674.2	663.3	652.4	641.4	626.8	608.6	590.2	571.9	553.5	540.0
40°	659.2	647.5	635.8	624.1	612.3	597.0	578.1	559.1	540.2	521.2	507.4
42.5°	632.5	620.2	607.8	595.5	583.2	567.1	547.6	528.1	508.4	488.9	474.5
45°	590.6	577.6	564.5	551.4	538.3	521.5	501.0	480.5	459.9	439.5	425.6
47.5°	549.8	536.0	522.1	508.2	494.4	476.9	455.7	434.5	413.4	392.2	378.4
50°	520.3	506.4	492.6	478.7	464.9	447.2	425.7	404.2	382.7	361.3	347.8
52.5°	491.5	477.0	462.5	448.1	433.5	415.8	394.8	373.8	352.8	331.7	318.7
55°	449.2	433.9	418.7	403.5	388.2	370.1	349.0	327.9	306.8	285.7	274.0
57.5°	405.7	390.1	374.4	358.9	343.2	325.3	305.0	284.7	264.4	244.2	233.4
60°	376.2	360.6	344.9	329.3	313.7	295.8	275.7	255.5	235.5	215.3	205.3
62.5°	347.3	331.7	316.1	300.5	284.8	267.4	248.3	229.1	209.9	190.7	181.2
65°	303.2	287.4	271.6	255.8	240.0	223.3	205.7	188.1	170.5	152.9	146.3
67.5°	260.7	245.0	229.3	213.6	197.9	182.1	166.3	150.5	134.7	118.8	115.8
70°	231.2	215.9	200.7	185.5	170.2	155.8	142.4	128.9	115.5	101.9	100.0
72.5°	203.0	188.4	173.8	159.2	144.6	131.9	121.1	110.2	99.4	88.6	87.0
75°	161.7	148.1	134.4	120.7	107.0	96.9	90.2	83.6	77.0	70.3	69.0
77.5°	121.1	109.1	97.1	85.2	73.2	65.5	62.3	59.2	56.0	52.8	51.9
80°	95.8	85.8	75.9	66.0	56.0	50.0	48.0	46.1	44.2	42.2	41.4
82.5°	72.6	64.8	57.1	49.2	41.5	36.9	35.6	34.3	33.0	31.7	31.2
85°	37.8	33.7	29.6	25.5	21.4	19.0	18.4	17.9	17.3	16.7	16.7
87.5°	11.5	10.6	9.8	9.0	8.3	8.0	8.4	8.6	9.0	9.3	9.3
90°	0.9	3.2	5.4	7.7	9.9	11.8	13.4	15.1	16.7	18.3	19.3
92.5°	18.5	18.3	18.1	17.9	17.7	18.0	18.8	19.6	20.4	21.3	21.8
95°	59.5	52.8	46.1	39.3	32.6	30.0	31.4	32.9	34.3	35.7	36.7
97.5°	118.0	99.2	80.2	61.3	42.4	34.6	37.9	41.2	44.5	47.8	48.6
100°	162.0	134.1	106.2	78.4	50.5	38.3	41.8	45.3	48.7	52.2	53.8
102.5°	210.3	204.4	198.5	192.6	186.8	169.4	140.4	111.5	82.6	53.6	55.8
105°	278.3	284.4	290.4	296.5	302.6	277.9	222.4	166.9	111.3	55.8	58.0
107.5°	355.7	360.6	365.5	370.4	375.4	344.6	277.9	211.4	144.7	78.2	75.9
110°	405.4	409.7	414.1	418.3	422.6	395.3	336.5	277.8	219.0	160.1	139.8



TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	452.4	456.2	459.9	463.6	467.4	462.1	447.5	433.1	418.5	404.0	329.8
115°	526.3	529.8	533.2	536.7	540.1	544.4	549.5	554.6	559.6	564.7	470.5
117.5°	592.4	596.2	600.1	604.0	607.9	611.5	615.0	618.5	622.0	625.5	602.7
120°	640.7	643.8	646.8	649.9	652.9	656.3	660.0	663.6	667.3	670.9	673.3
122.5°	681.7	684.9	688.1	691.4	694.6	698.2	702.1	706.1	710.2	714.1	715.6
125°	744.2	746.7	749.4	752.1	754.7	757.9	761.8	765.7	769.6	773.4	774.8
127.5°	800.7	803.7	806.6	809.5	812.4	815.3	818.2	821.0	824.0	826.9	829.0
130°	836.5	839.8	843.1	846.4	849.5	852.3	854.5	856.8	859.0	861.3	863.5
132.5°	873.1	876.0	878.7	881.5	884.2	886.7	889.0	891.2	893.5	895.7	897.6
135°	920.8	924.0	927.3	930.6	933.8	936.3	938.1	940.0	941.8	943.7	945.7
137.5°	968.9	971.2	973.4	975.8	978.0	980.2	982.3	984.4	986.4	988.5	990.5
140°	1000.4	1002.0	1003.7	1005.3	1006.9	1008.8	1011.1	1013.3	1015.5	1017.8	1019.6
142.5°	1026.7	1028.2	1029.7	1031.1	1032.6	1034.7	1037.2	1039.7	1042.3	1044.9	1046.5
145°	1068.2	1067.9	1067.7	1067.6	1067.3	1068.9	1072.4	1075.8	1079.3	1082.8	1084.2
147.5°	1104.2	1103.5	1102.7	1101.9	1101.1	1102.4	1105.9	1109.2	1112.7	1116.1	1117.1
150°	1127.7	1126.2	1124.8	1123.3	1122.0	1122.8	1126.1	1129.4	1132.6	1135.8	1137.1
152.5°	1147.4	1145.8	1144.2	1142.6	1141.1	1141.8	1144.9	1148.0	1151.1	1154.2	1155.4
155°	1176.1	1174.3	1172.5	1170.6	1168.8	1169.2	1171.6	1174.0	1176.5	1178.9	1180.1
157.5°	1198.7	1197.1	1195.6	1194.0	1192.5	1192.6	1194.3	1195.9	1197.7	1199.4	1200.8
160°	1211.9	1210.7	1209.4	1208.2	1206.9	1206.9	1208.2	1209.4	1210.7	1211.9	1213.1
162.5°	1223.6	1222.4	1221.1	1219.9	1218.7	1218.6	1219.6	1220.7	1221.8	1222.8	1224.2
165°	1239.3	1238.0	1236.8	1235.6	1234.4	1234.1	1234.7	1235.4	1236.0	1236.6	1237.9
167.5°	1251.0	1249.8	1248.5	1247.3	1246.1	1245.8	1246.4	1246.9	1247.5	1248.1	1249.5
170°	1257.6	1256.4	1255.2	1254.0	1252.8	1252.3	1252.8	1253.1	1253.5	1254.0	1255.3
172.5°	1262.0	1260.8	1259.6	1258.4	1257.1	1256.7	1257.1	1257.5	1257.9	1258.4	1259.7
175°	1267.7	1266.3	1264.8	1263.4	1262.0	1261.5	1261.9	1262.3	1262.7	1263.1	1264.6
177.5°	1268.6	1267.5	1266.3	1265.2	1264.0	1263.5	1263.7	1263.9	1264.0	1264.2	1265.3
180°	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9



TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2
2.5°	966.6	968.2	969.7	970.3	970.1	969.7	969.5	969.1
5°	958.9	960.7	962.4	963.0	962.4	961.8	961.3	960.7
7.5°	943.4	943.9	944.4	944.2	943.1	942.2	941.2	940.1
10°	927.9	927.3	926.7	925.8	924.6	923.5	922.3	921.1
12.5°	910.1	909.0	907.9	906.5	904.5	902.6	900.6	898.6
15°	876.8	873.1	869.4	866.5	864.6	862.6	860.7	858.8
17.5°	839.2	834.7	830.3	826.5	823.1	819.8	816.4	813.0
20°	813.0	808.0	803.1	798.6	794.3	790.0	785.7	781.4
22.5°	784.1	777.8	771.5	766.8	763.5	760.3	757.2	754.0
25°	736.3	728.3	720.3	714.9	712.0	709.0	706.1	703.2
27.5°	690.8	681.5	672.2	665.1	660.5	655.8	651.2	646.5
30°	658.7	648.7	638.7	631.1	625.8	620.5	615.3	610.0
32.5°	626.3	614.9	603.6	595.4	590.4	585.5	580.5	575.6
35°	575.8	563.4	551.1	542.8	538.5	534.2	529.9	525.6
37.5°	526.4	512.9	499.4	490.1	485.2	480.3	475.4	470.5
40°	493.4	479.6	465.7	456.2	451.2	446.1	441.0	435.9
42.5°	460.2	445.8	431.5	421.9	417.0	412.1	407.2	402.2
45°	411.7	397.9	384.0	374.7	370.1	365.3	360.7	355.9
47.5°	364.6	350.9	337.0	328.0	323.7	319.5	315.2	311.0
50°	334.3	320.8	307.4	298.5	294.5	290.3	286.3	282.1
52.5°	305.7	292.7	279.7	271.3	267.5	263.7	259.9	256.1
55°	262.3	250.5	238.8	231.1	227.4	223.6	219.9	216.2
57.5°	222.7	212.0	201.2	194.2	191.1	188.0	184.9	181.8
60°	195.4	185.5	175.5	168.9	165.8	162.7	159.5	156.4
62.5°	171.8	162.2	152.7	147.1	145.2	143.4	141.5	139.6
65°	139.7	133.0	126.4	122.8	122.2	121.6	121.0	120.5
67.5°	112.7	109.7	106.7	104.8	104.2	103.6	103.0	102.3
70°	98.1	96.1	94.1	92.8	92.0	91.2	90.4	89.6
72.5°	85.3	83.7	82.1	81.0	80.5	80.1	79.6	79.1
75°	67.6	66.2	64.8	64.1	63.9	63.7	63.5	63.3
77.5°	51.1	50.4	49.6	49.1	48.7	48.5	48.1	47.8
80°	40.6	39.9	39.1	38.7	38.7	38.7	38.7	38.7
82.5°	30.7	30.2	29.8	29.5	29.5	29.5	29.5	29.5
85°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
87.5°	9.4	9.4	9.5	9.6	9.6	9.7	9.8	9.9
90°	20.3	21.4	22.4	23.1	23.5	23.9	24.3	24.7
92.5°	22.3	22.8	23.3	23.8	24.0	24.2	24.5	24.7
95°	37.7	38.7	39.8	40.2	40.0	39.8	39.5	39.3
97.5°	49.4	50.2	51.1	51.6	51.8	52.1	52.3	52.5
100°	55.4	57.1	58.7	59.7	60.1	60.5	61.0	61.3
102.5°	57.9	60.0	62.1	63.5	64.0	64.6	65.2	65.7
105°	60.3	62.5	64.7	66.3	67.2	67.9	68.7	69.6
107.5°	73.6	71.3	69.1	68.4	69.1	69.9	70.8	71.5
110°	119.5	99.2	78.8	69.1	69.8	70.7	71.5	72.3





TEST NUMBER: P331702-935

CATALOG NUMBER: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.6	181.4	107.2	70.4	71.1	71.7	72.4	73.0
115°	376.3	282.2	188.0	133.6	119.0	104.4	89.7	75.1
117.5°	580.0	557.2	534.4	498.9	450.8	402.7	354.6	306.4
120°	675.8	678.2	680.7	668.1	640.7	613.2	585.7	558.4
122.5°	717.0	718.5	720.0	718.0	712.7	707.4	702.1	696.7
125°	776.3	777.7	779.1	780.2	780.8	781.4	782.0	782.6
127.5°	831.0	833.1	835.2	836.3	836.4	836.5	836.6	836.7
130°	865.7	868.0	870.2	871.2	871.1	870.8	870.6	870.5
132.5°	899.5	901.5	903.4	904.2	904.0	903.8	903.6	903.4
135°	947.7	949.8	951.7	952.6	952.2	951.7	951.4	951.0
137.5°	992.5	994.5	996.4	997.1	996.4	995.7	995.1	994.4
140°	1021.5	1023.3	1025.1	1025.5	1024.5	1023.5	1022.4	1021.5
142.5°	1048.2	1049.9	1051.5	1051.9	1050.9	1049.8	1048.9	1047.8
145°	1085.6	1087.0	1088.5	1088.6	1087.7	1086.7	1085.6	1084.6
147.5°	1118.2	1119.3	1120.3	1120.4	1119.6	1118.7	1117.8	1117.0
150°	1138.3	1139.5	1140.7	1140.8	1139.8	1138.8	1137.8	1136.8
152.5°	1156.6	1157.9	1159.1	1159.0	1157.6	1156.3	1154.9	1153.7
155°	1181.3	1182.6	1183.8	1183.5	1181.9	1180.3	1178.7	1177.1
157.5°	1202.1	1203.5	1204.9	1204.8	1203.2	1201.6	1200.1	1198.4
160°	1214.3	1215.5	1216.7	1216.6	1215.2	1213.8	1212.4	1210.9
162.5°	1225.5	1226.9	1228.4	1228.1	1226.4	1224.7	1222.9	1221.2
165°	1239.4	1240.8	1242.3	1242.3	1240.8	1239.4	1237.9	1236.6
167.5°	1250.9	1252.3	1253.8	1253.5	1251.7	1249.9	1248.1	1246.2
170°	1256.8	1258.2	1259.6	1259.4	1257.6	1255.8	1254.0	1252.1
172.5°	1261.2	1262.6	1264.0	1263.9	1262.0	1260.2	1258.4	1256.5
175°	1265.9	1267.4	1268.8	1268.5	1266.4	1264.4	1262.4	1260.3
177.5°	1266.4	1267.6	1268.8	1268.6	1267.1	1265.7	1264.2	1262.7
180°	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9	1264.9

(END OF REPORT)