

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: P331459-935

Luminaire Tested: **SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331459-935  
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: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

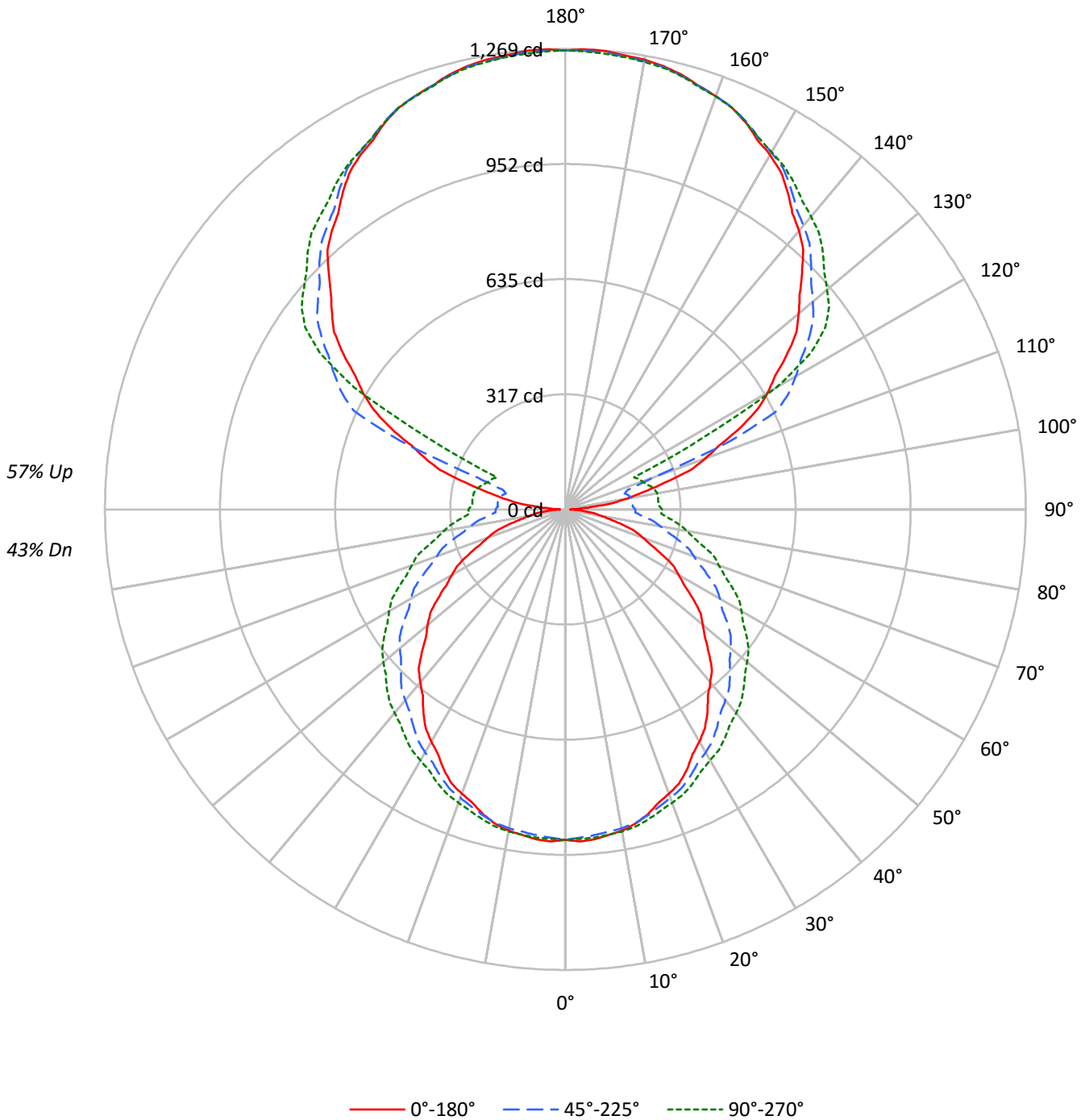
Lumens per Lamp: N/A  
Luminaire Lumens: 7183.5 lumens  
Efficiency: N/A  
Efficacy: 100.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 71.7  
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



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### Luminous Intensity Polar Plot





TEST NUMBER: P331459-935

CATALOG NUMBER: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D

**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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43
1	95	90	86	82	86	82	79	75	68	65	62	54	52	51	42	41	39	34
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

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

	0°	45°	90°
0°	14699	14699	14699
5°	14772	14150	14097
10°	14679	13733	13578
15°	14477	13289	13032
20°	14222	12815	12506
25°	13968	12358	12028
30°	13612	11889	11549
35°	13253	11434	11211
40°	12874	11047	10874
45°	12515	10702	10584
50°	12128	10388	10300
55°	11724	10052	10011
60°	11226	9702	9705
65°	10711	9294	9342
70°	10136	8856	8949
75°	9394	8423	8587
80°	8224	7984	8220
85°	7107	7603	7937



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.3	1.2
10°-20°	247.4	3.4
20°-30°	374.9	5.2
30°-40°	456.6	6.4
40°-50°	491.2	6.8
50°-60°	477.0	6.6
60°-70°	416.5	5.8
70°-80°	320.7	4.5
80°-90°	218.3	3.0
90°-100°	190.5	2.7
100°-110°	263.0	3.7
110°-120°	485.1	6.8
120°-130°	722.7	10.1
130°-140°	742.8	10.3
140°-150°	677.8	9.4
150°-160°	542.6	7.6
160°-170°	349.7	4.9
170°-180°	120.4	1.7
0°-30°	708.5	9.9
0°-40°	1165.2	16.2
0°-60°	2133.4	29.7
0°-90°	3089.0	43.0
90°-120°	938.6	13.1
90°-150°	3081.9	42.9
90°-180°	4094.0	57.0
0°-180°	7183.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	913	909	901	909	908	87
15°	871	873	874	885	884	245
25°	792	801	813	828	833	364
35°	682	705	730	758	768	426
45°	560	596	641	681	695	432
55°	429	478	545	591	610	383
65°	293	358	435	488	507	291
75°	162	237	321	375	394	172
85°	48	129	214	267	288	51
90°	14	101	192	248	268	12
95°	70	105	187	240	257	81
105°	285	337	169	223	244	305
115°	532	565	644	278	208	523
125°	747	761	818	859	875	666
135°	922	937	958	993	1004	712
145°	1068	1068	1083	1096	1099	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: P331459-935

CATALOG NUMBER: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	915.8	915.1	914.3	913.6	912.9	911.7	910.1	908.4	906.8	905.2	906.4
5°	913.1	912.2	911.4	910.4	909.6	908.3	906.5	904.7	903.0	901.2	903.0
7.5°	904.9	904.3	903.7	903.2	902.6	901.6	900.3	898.9	897.6	896.2	898.3
10°	898.6	898.0	897.4	896.8	896.2	895.5	894.7	893.7	892.9	892.0	894.3
12.5°	888.0	888.1	888.3	888.4	888.5	888.2	887.6	886.9	886.3	885.6	888.0
15°	870.9	871.5	872.0	872.6	873.2	873.5	873.5	873.5	873.5	873.5	876.2
17.5°	848.7	850.0	851.2	852.4	853.6	854.7	855.7	856.6	857.6	858.5	861.3
20°	834.0	835.4	836.9	838.4	839.8	841.1	842.3	843.4	844.6	845.8	849.0
22.5°	818.1	819.8	821.5	823.2	824.9	826.6	828.2	829.8	831.5	833.1	836.4
25°	791.7	793.8	795.8	797.9	800.0	802.3	804.9	807.5	810.2	812.8	816.3
27.5°	760.0	763.4	766.7	770.1	773.4	776.6	779.7	782.8	785.9	789.1	793.5
30°	738.9	742.7	746.6	750.4	754.1	758.0	761.8	765.6	769.4	773.3	777.9
32.5°	715.7	720.0	724.3	728.6	732.8	737.2	741.8	746.2	750.8	755.3	760.7
35°	682.2	687.2	692.2	697.2	702.1	707.4	713.0	718.5	724.1	729.7	736.2
37.5°	645.8	651.5	657.3	663.0	668.7	675.2	682.4	689.7	696.9	704.1	711.3
40°	621.5	627.9	634.4	640.8	647.3	654.4	662.4	670.3	678.2	686.1	693.8
42.5°	598.3	604.7	611.1	617.6	624.1	631.8	640.9	650.1	659.1	668.2	676.5
45°	559.5	567.4	575.3	583.2	591.2	600.2	610.5	620.8	631.0	641.3	650.4
47.5°	521.2	529.9	538.5	547.1	555.7	566.0	578.1	590.0	602.1	614.1	623.6
50°	494.8	503.9	513.0	522.1	531.2	542.3	555.5	568.7	581.9	595.1	605.1
52.5°	469.5	479.1	488.6	498.2	507.7	519.4	533.3	547.3	561.1	575.1	585.2
55°	428.9	439.4	450.0	460.5	471.1	484.0	499.2	514.4	529.7	544.9	555.5
57.5°	388.7	400.6	412.5	424.5	436.4	450.0	465.6	481.1	496.7	512.2	523.6
60°	360.2	372.8	385.5	398.0	410.7	425.3	442.0	458.7	475.4	492.1	503.3
62.5°	334.9	347.9	361.0	374.1	387.2	402.1	418.8	435.5	452.3	469.0	480.8
65°	292.9	307.3	321.7	336.0	350.4	366.3	383.6	400.8	418.1	435.4	447.5
67.5°	254.4	269.4	284.4	299.5	314.4	330.8	348.5	366.3	383.9	401.7	413.8
70°	227.0	242.2	257.4	272.7	287.9	304.6	322.9	341.0	359.2	377.4	389.9
72.5°	201.6	217.3	233.1	248.7	264.5	281.5	300.0	318.4	336.8	355.2	367.6
75°	162.3	178.7	195.1	211.5	228.0	245.6	264.3	283.1	301.9	320.6	333.2
77.5°	124.3	141.5	158.7	175.8	193.0	211.1	230.2	249.3	268.3	287.4	300.0
80°	98.9	116.8	134.7	152.7	170.5	189.0	208.0	227.1	246.2	265.2	277.5
82.5°	77.8	95.5	113.1	130.8	148.4	166.9	186.2	205.5	224.8	244.1	256.4
85°	47.5	65.7	83.9	102.0	120.2	138.7	157.5	176.2	195.0	213.8	226.1
87.5°	26.1	44.0	61.9	79.8	97.7	116.2	135.3	154.5	173.5	192.6	204.7
90°	14.1	33.3	52.6	71.8	91.1	110.9	131.3	151.7	172.1	192.5	205.3
92.5°	30.7	46.2	61.9	77.5	93.2	110.4	129.3	148.2	167.0	185.9	197.9
95°	70.1	77.1	84.2	91.3	98.3	111.4	130.4	149.4	168.4	187.4	199.6
97.5°	127.3	120.6	114.0	107.4	100.7	107.5	127.6	147.8	168.0	188.2	199.8
100°	171.3	154.2	137.2	120.2	103.1	104.6	124.5	144.4	164.3	184.1	196.6
102.5°	218.5	222.5	226.5	230.6	234.5	230.1	217.1	204.1	191.1	178.2	191.0
105°	284.8	299.5	314.1	328.6	343.3	330.5	290.2	249.9	209.6	169.3	181.8
107.5°	362.1	373.8	385.5	397.2	408.9	388.7	336.8	284.8	232.8	180.8	188.4
110°	410.8	420.9	431.0	441.2	451.3	434.1	389.8	345.3	300.9	256.5	245.6



TEST NUMBER: P331459-935

CATALOG NUMBER: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.6	466.3	475.0	483.7	492.4	496.4	495.5	494.6	493.8	492.9	428.1
115°	531.6	538.2	544.9	551.6	558.3	570.8	589.1	607.3	625.6	643.9	558.5
117.5°	596.3	602.3	608.3	614.2	620.3	631.0	646.8	662.5	678.1	693.9	679.8
120°	644.6	648.8	653.1	657.3	661.6	671.3	686.7	702.1	717.6	732.9	743.6
122.5°	685.7	689.3	693.0	696.7	700.4	709.7	724.8	739.8	754.8	769.8	779.2
125°	746.7	749.4	752.1	754.7	757.3	765.3	778.5	791.8	805.0	818.3	827.6
127.5°	803.3	806.0	808.6	811.2	813.9	820.4	830.9	841.3	851.8	862.2	871.6
130°	839.2	842.1	845.2	848.1	851.0	856.7	865.1	873.5	881.9	890.3	899.6
132.5°	875.8	878.3	880.8	883.2	885.7	890.4	897.4	904.4	911.4	918.4	927.1
135°	922.1	925.3	928.6	931.9	935.1	939.1	943.9	948.6	953.4	958.2	966.4
137.5°	970.3	972.4	974.7	976.9	979.1	981.9	985.2	988.6	992.0	995.4	1002.7
140°	1001.7	1003.1	1004.4	1005.7	1007.0	1009.2	1011.9	1014.8	1017.6	1020.5	1026.9
142.5°	1028.1	1029.2	1030.4	1031.6	1032.8	1034.7	1037.3	1040.1	1042.8	1045.4	1050.9
145°	1068.2	1067.9	1067.7	1067.6	1067.3	1068.9	1072.4	1075.8	1079.3	1082.8	1086.0
147.5°	1104.2	1103.5	1102.7	1101.9	1101.1	1102.4	1105.9	1109.2	1112.7	1116.1	1117.4
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: P331459-935

CATALOG NUMBER: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	907.5	908.7	909.9	910.2	909.7	909.3	908.8	908.4
5°	904.7	906.5	908.3	909.0	908.7	908.4	908.1	907.8
7.5°	900.4	902.6	904.7	905.6	905.3	905.0	904.7	904.4
10°	896.6	899.1	901.4	902.4	902.1	901.8	901.6	901.2
12.5°	890.4	892.7	895.0	896.0	895.8	895.4	895.2	894.9
15°	878.8	881.4	884.1	885.3	884.9	884.7	884.3	884.1
17.5°	864.0	866.8	869.5	870.9	870.9	870.9	870.9	870.9
20°	852.2	855.5	858.7	860.3	860.3	860.3	860.3	860.3
22.5°	839.6	842.8	846.0	847.9	848.3	848.9	849.3	849.8
25°	819.8	823.4	826.9	829.1	830.0	830.9	831.7	832.6
27.5°	798.0	802.5	806.9	809.4	810.1	810.7	811.4	812.0
30°	782.6	787.3	792.0	794.8	795.7	796.5	797.5	798.3
32.5°	766.1	771.5	776.9	780.3	782.0	783.5	785.1	786.7
35°	742.6	749.1	755.5	759.7	761.8	763.9	765.9	767.9
37.5°	718.4	725.6	732.7	737.4	739.5	741.8	743.9	746.1
40°	701.4	709.0	716.6	721.8	724.4	727.0	729.7	732.4
42.5°	684.8	693.2	701.5	707.0	709.6	712.3	714.9	717.6
45°	659.4	668.6	677.6	683.6	686.6	689.5	692.4	695.3
47.5°	633.1	642.6	652.1	658.5	661.7	665.0	668.1	671.4
50°	615.0	625.0	635.0	641.6	644.8	648.0	651.3	654.4
52.5°	595.5	605.6	615.9	622.7	626.1	629.6	633.1	636.5
55°	566.1	576.6	587.2	594.3	598.1	602.0	605.8	609.6
57.5°	535.0	546.4	557.8	565.3	569.2	573.1	577.0	580.8
60°	514.4	525.6	536.7	544.4	548.5	552.6	556.7	560.8
62.5°	492.7	504.5	516.3	524.2	528.1	531.9	535.8	539.7
65°	459.5	471.5	483.5	491.5	495.2	499.0	502.9	506.7
67.5°	425.9	438.1	450.2	458.3	462.3	466.2	470.3	474.2
70°	402.6	415.2	427.8	435.8	439.4	442.9	446.4	450.0
72.5°	380.0	392.4	404.7	413.0	417.2	421.5	425.7	429.9
75°	345.9	358.4	371.1	379.3	383.1	386.9	390.7	394.5
77.5°	312.5	325.0	337.6	345.9	350.0	354.1	358.3	362.3
80°	289.8	302.2	314.5	322.7	326.8	330.9	335.0	339.1
82.5°	268.7	281.0	293.3	301.4	305.3	309.2	313.1	316.9
85°	238.4	250.7	263.0	271.2	275.3	279.5	283.5	287.7
87.5°	217.0	229.1	241.3	249.3	253.1	256.9	260.8	264.6
90°	218.0	230.7	243.5	251.8	255.7	259.7	263.6	267.5
92.5°	210.0	222.0	234.0	241.9	245.6	249.4	253.2	256.9
95°	211.7	223.9	236.1	243.8	247.1	250.5	253.7	257.1
97.5°	211.5	223.2	234.8	242.5	246.2	249.9	253.7	257.4
100°	209.1	221.5	234.0	242.1	245.7	249.3	253.0	256.6
102.5°	203.6	216.4	229.1	237.4	241.2	245.0	248.7	252.5
105°	194.3	206.8	219.3	227.6	231.6	235.7	239.7	243.7
107.5°	196.0	203.5	211.1	216.9	220.9	225.0	229.0	233.1
110°	234.6	223.6	212.7	209.2	213.3	217.3	221.4	225.4





TEST NUMBER: P331459-935

CATALOG NUMBER: SA2XXDIP-C1005D1080U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	363.3	298.5	233.7	203.2	207.1	210.9	214.8	218.7
115°	473.1	387.8	302.4	254.0	242.5	231.2	219.7	208.4
117.5°	665.6	651.5	637.5	607.9	562.7	517.5	472.4	427.3
120°	754.2	764.9	775.5	768.7	744.5	720.2	696.0	671.8
122.5°	788.7	798.1	807.5	811.0	808.4	805.8	803.2	800.7
125°	837.0	846.3	855.7	861.9	865.2	868.4	871.7	874.9
127.5°	880.9	890.3	899.6	905.6	908.4	911.0	913.8	916.4
130°	908.9	918.2	927.4	933.2	935.2	937.4	939.5	941.7
132.5°	935.8	944.5	953.2	958.6	960.8	962.9	965.1	967.2
135°	974.6	982.7	990.9	996.0	997.9	999.9	1001.9	1003.8
137.5°	1010.1	1017.5	1024.9	1029.2	1030.5	1031.9	1033.2	1034.5
140°	1033.5	1040.0	1046.5	1050.2	1050.9	1051.6	1052.4	1053.1
142.5°	1056.3	1061.7	1067.1	1070.1	1070.6	1071.1	1071.6	1072.1
145°	1089.2	1092.4	1095.5	1097.3	1097.8	1098.2	1098.6	1099.2
147.5°	1118.7	1120.0	1121.3	1121.8	1121.7	1121.5	1121.4	1121.2
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)