

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: P331462-927

Luminaire Tested: **SA2XXDIP-C1005D1080U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331462-927  
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-C1005D1080U927-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

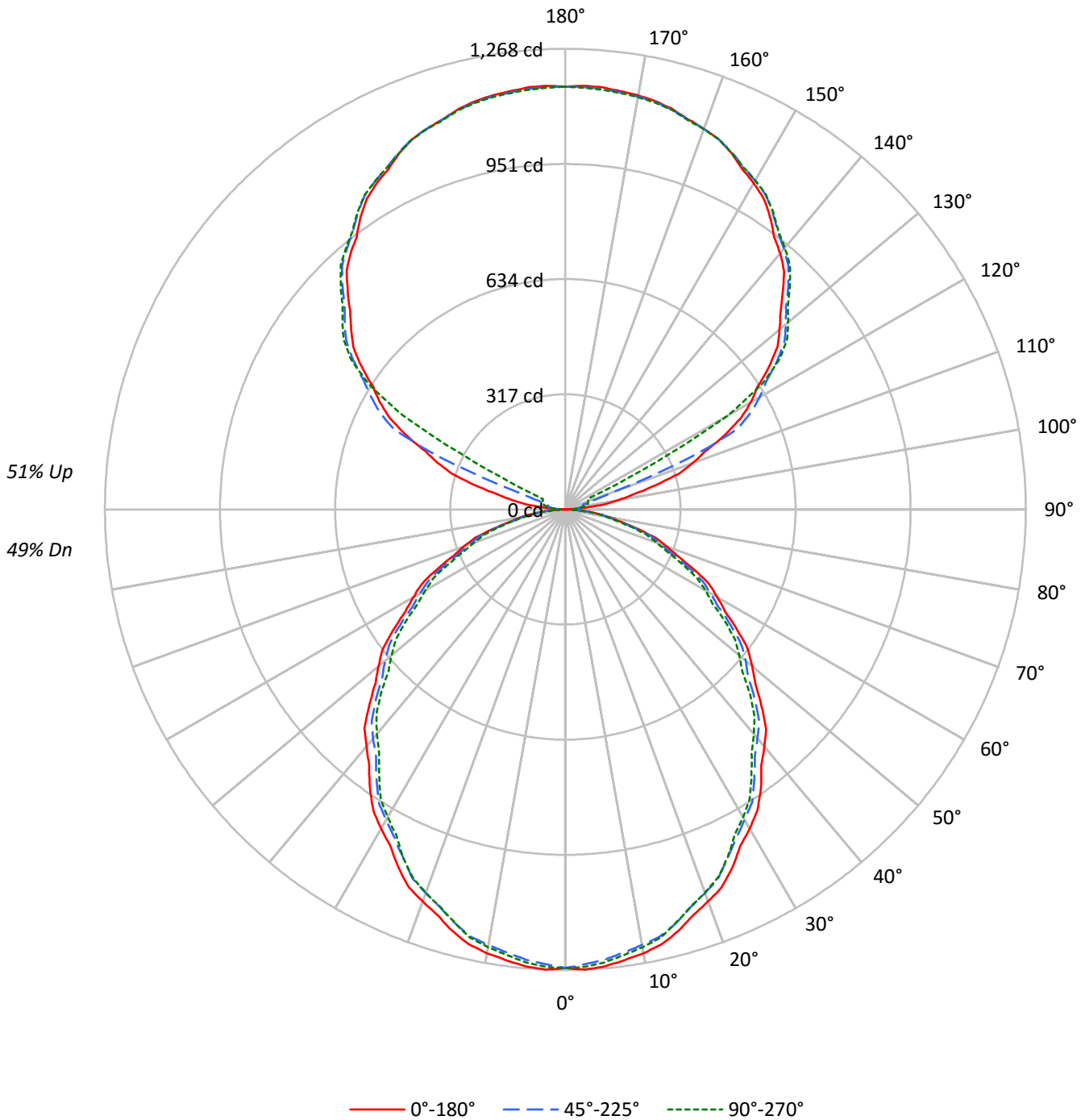
Lumens per Lamp: N/A  
Luminaire Lumens: 6625.7 lumens  
Efficiency: N/A  
Efficacy: 92.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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





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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	81	75	70	81	75	70	65	63	59	56	53	50	47	43	41	39	34
3	81	71	64	58	74	66	60	55	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	59	52	46	50	44	40	41	37	34	34	31	29	25
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	24	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	19	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12

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

	0°	45°	90°
0°	20386	20386	20386
5°	20464	20169	20285
10°	20341	19964	20064
15°	20090	19704	19686
20°	19734	19316	19295
25°	19379	18838	18838
30°	18921	18401	18243
35°	18496	17875	17611
40°	17962	17351	17015
45°	17438	16826	16411
50°	16865	16284	15707
55°	16268	15651	15071
60°	15603	14899	14347
65°	14888	14147	13498
70°	13983	13237	12609
75°	12726	12190	11890
80°	11288	10953	10386
85°	9207	8781	7873



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.7	1.8
10°-20°	334.1	5.0
20°-30°	491.0	7.4
30°-40°	570.4	8.6
40°-50°	569.8	8.6
50°-60°	496.9	7.5
60°-70°	367.4	5.5
70°-80°	208.1	3.1
80°-90°	58.8	0.9
90°-100°	38.8	0.6
100°-110°	142.4	2.1
110°-120°	380.6	5.7
120°-130°	628.2	9.5
130°-140°	668.1	10.1
140°-150°	620.9	9.4
150°-160°	499.2	7.5
160°-170°	321.7	4.9
170°-180°	110.7	1.7
0°-30°	943.8	14.2
0°-40°	1514.2	22.9
0°-60°	2580.8	39.0
0°-90°	3215.1	48.5
90°-120°	561.7	8.5
90°-150°	2478.9	37.4
90°-180°	3411.0	51.5
0°-180°	6625.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1263	1257	1244	1253	1252	120
15°	1202	1194	1179	1183	1178	338
25°	1088	1078	1057	1060	1057	500
35°	938	926	907	900	894	586
45°	764	755	737	724	719	589
55°	578	570	556	542	535	517
65°	390	382	370	360	353	385
75°	204	201	195	189	191	218
85°	50	49	47	44	42	57
90°	1	10	17	21	23	5
95°	55	29	33	37	36	67
105°	256	267	51	60	64	274
115°	484	499	520	148	69	477
125°	685	696	712	717	720	610
135°	847	860	868	876	875	654
145°	983	983	996	1002	998	614
155°	1082	1076	1085	1089	1083	498
165°	1140	1136	1138	1143	1138	322
175°	1166	1161	1162	1167	1160	111
180°	1164	1164	1164	1164	1164	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1268.4	1267.3	1266.3	1265.2	1264.1	1262.4	1260.0	1257.7	1255.3	1252.9	1255.1
5°	1262.6	1261.6	1260.4	1259.3	1258.3	1256.2	1253.3	1250.3	1247.4	1244.4	1246.6
7.5°	1251.4	1249.7	1248.1	1246.4	1244.8	1242.4	1239.4	1236.4	1233.3	1230.3	1232.5
10°	1240.7	1238.9	1237.0	1235.1	1233.2	1230.7	1227.4	1224.2	1220.9	1217.7	1219.9
12.5°	1226.2	1224.5	1222.8	1221.1	1219.5	1217.0	1213.8	1210.5	1207.4	1204.1	1205.6
15°	1201.9	1200.3	1198.7	1197.1	1195.4	1192.9	1189.4	1185.8	1182.3	1178.8	1180.0
17.5°	1170.8	1169.2	1167.6	1165.9	1164.3	1161.7	1158.2	1154.6	1151.0	1147.6	1148.7
20°	1148.5	1146.8	1145.3	1143.6	1142.0	1139.3	1135.5	1131.8	1128.0	1124.2	1125.0
22.5°	1126.2	1123.9	1121.7	1119.4	1117.1	1114.2	1110.6	1107.1	1103.5	1099.9	1100.1
25°	1087.8	1085.6	1083.5	1081.3	1079.2	1075.8	1071.2	1066.6	1062.0	1057.4	1058.0
27.5°	1044.1	1042.1	1040.2	1038.2	1036.3	1033.6	1029.9	1026.3	1022.7	1019.1	1018.3
30°	1014.9	1012.8	1010.6	1008.4	1006.3	1003.2	999.2	995.1	991.1	987.0	986.2
32.5°	983.9	982.1	980.4	978.7	976.9	974.0	969.7	965.4	961.2	956.9	955.5
35°	938.4	935.7	933.0	930.3	927.6	924.2	919.8	915.5	911.2	906.9	905.3
37.5°	887.2	884.9	882.5	880.1	877.7	874.4	870.1	865.8	861.4	857.1	855.1
40°	852.2	850.1	848.0	845.8	843.6	840.4	836.1	831.8	827.4	823.2	820.7
42.5°	818.2	816.1	814.0	811.8	809.6	806.4	802.1	797.7	793.4	789.1	786.5
45°	763.7	761.8	759.9	758.0	756.1	753.1	749.1	745.0	741.0	736.9	734.0
47.5°	709.2	707.5	705.7	703.9	702.1	699.1	694.9	690.7	686.5	682.3	679.1
50°	671.4	670.0	668.7	667.3	666.0	663.4	659.7	655.8	652.0	648.3	644.5
52.5°	634.5	632.7	630.9	629.2	627.3	624.6	621.1	617.5	614.0	610.5	607.3
55°	577.9	576.2	574.6	573.1	571.4	568.9	565.8	562.5	559.3	556.0	552.8
57.5°	521.1	519.8	518.5	517.2	515.9	513.5	509.9	506.4	502.8	499.2	496.1
60°	483.2	482.1	481.0	480.0	478.9	476.4	472.7	468.9	465.1	461.4	458.4
62.5°	446.3	444.6	442.8	441.1	439.3	437.0	434.1	431.3	428.3	425.4	422.6
65°	389.7	388.1	386.5	384.8	383.3	381.0	378.3	375.7	373.0	370.3	367.9
67.5°	332.2	330.9	329.5	328.3	327.0	325.1	322.7	320.3	317.8	315.4	313.5
70°	296.2	295.2	294.1	293.0	291.9	290.2	287.7	285.3	282.9	280.4	278.5
72.5°	259.3	258.3	257.1	256.1	255.0	253.7	252.2	250.6	249.0	247.4	245.5
75°	204.0	203.4	202.9	202.3	201.8	200.8	199.5	198.1	196.8	195.4	193.8
77.5°	154.4	153.5	152.6	151.7	150.8	150.0	149.5	148.9	148.4	147.9	147.0
80°	121.4	121.1	120.9	120.6	120.3	119.9	119.4	118.8	118.3	117.8	116.9
82.5°	90.3	90.3	90.2	90.2	90.1	89.9	89.6	89.3	89.0	88.6	87.6
85°	49.7	49.5	49.3	49.0	48.7	48.4	48.2	47.8	47.6	47.4	46.5
87.5°	17.7	17.7	17.6	17.6	17.6	17.5	17.3	17.3	17.1	17.0	16.5
90°	0.9	2.9	5.0	7.1	9.1	10.9	12.4	13.9	15.4	16.9	17.7
92.5°	17.0	16.8	16.6	16.5	16.2	16.6	17.3	18.1	18.8	19.6	20.0
95°	54.7	48.6	42.4	36.2	30.0	27.6	28.9	30.3	31.5	32.9	33.7
97.5°	108.6	91.3	73.8	56.4	39.1	31.8	34.9	37.9	41.0	44.0	44.7
100°	149.1	123.4	97.8	72.2	46.5	35.3	38.4	41.7	44.8	48.0	49.5
102.5°	193.5	188.1	182.7	177.2	171.8	155.8	129.2	102.6	76.0	49.4	51.3
105°	256.0	261.7	267.2	272.8	278.5	255.7	204.6	153.5	102.4	51.3	53.4
107.5°	327.3	331.8	336.3	340.8	345.4	317.0	255.7	194.5	133.2	71.9	69.8
110°	373.0	377.0	381.0	384.8	388.8	363.7	309.6	255.6	201.5	147.3	128.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	416.2	419.7	423.1	426.6	430.1	425.2	411.8	398.5	385.1	371.7	303.5
115°	484.3	487.4	490.6	493.8	496.9	500.9	505.6	510.2	514.9	519.6	432.9
117.5°	545.0	548.6	552.2	555.7	559.3	562.6	565.9	569.1	572.3	575.5	554.5
120°	589.5	592.3	595.1	597.9	600.7	603.8	607.2	610.5	613.9	617.3	619.5
122.5°	627.2	630.2	633.1	636.1	639.1	642.4	646.0	649.7	653.4	657.0	658.4
125°	684.7	687.1	689.5	692.0	694.3	697.4	700.9	704.5	708.1	711.6	712.9
127.5°	736.7	739.4	742.1	744.8	747.5	750.1	752.8	755.4	758.1	760.8	762.7
130°	769.7	772.7	775.7	778.7	781.6	784.2	786.2	788.3	790.4	792.4	794.5
132.5°	803.4	806.0	808.5	811.0	813.6	815.9	817.9	820.0	822.0	824.1	825.9
135°	847.2	850.2	853.2	856.2	859.1	861.5	863.2	864.8	866.6	868.2	870.1
137.5°	891.4	893.6	895.6	897.8	899.8	901.8	903.8	905.7	907.6	909.5	911.3
140°	920.4	921.9	923.4	925.0	926.5	928.2	930.3	932.3	934.4	936.4	938.1
142.5°	944.7	946.0	947.4	948.7	950.1	952.0	954.3	956.6	959.0	961.4	962.9
145°	982.8	982.5	982.4	982.2	982.0	983.5	986.7	989.8	993.1	996.2	997.5
147.5°	1016.0	1015.3	1014.5	1013.8	1013.1	1014.3	1017.5	1020.6	1023.7	1026.9	1027.9
150°	1037.5	1036.2	1034.9	1033.6	1032.3	1033.1	1036.1	1039.1	1042.1	1045.0	1046.2
152.5°	1055.7	1054.2	1052.7	1051.3	1049.9	1050.5	1053.4	1056.2	1059.1	1061.9	1063.0
155°	1082.1	1080.5	1078.8	1077.1	1075.4	1075.7	1077.9	1080.1	1082.4	1084.7	1085.8
157.5°	1102.9	1101.5	1100.0	1098.6	1097.2	1097.3	1098.8	1100.3	1101.9	1103.5	1104.8
160°	1115.0	1113.9	1112.7	1111.6	1110.5	1110.5	1111.6	1112.7	1113.9	1115.0	1116.1
162.5°	1125.8	1124.7	1123.5	1122.4	1121.3	1121.2	1122.1	1123.2	1124.1	1125.1	1126.3
165°	1140.3	1139.1	1138.0	1136.9	1135.8	1135.4	1136.0	1136.6	1137.2	1137.7	1139.0
167.5°	1151.0	1149.9	1148.7	1147.6	1146.5	1146.2	1146.8	1147.2	1147.8	1148.3	1149.6
170°	1157.1	1156.0	1154.8	1153.7	1152.6	1152.2	1152.6	1152.9	1153.3	1153.7	1155.0
172.5°	1161.1	1160.0	1158.9	1157.8	1156.7	1156.3	1156.7	1157.0	1157.4	1157.8	1159.0
175°	1166.3	1165.1	1163.7	1162.4	1161.1	1160.6	1161.0	1161.4	1161.7	1162.1	1163.5
177.5°	1167.2	1166.2	1165.1	1164.0	1163.0	1162.5	1162.7	1162.8	1163.0	1163.2	1164.2
180°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1257.2	1259.3	1261.6	1262.4	1261.9	1261.6	1261.1	1260.7
5°	1248.7	1250.9	1253.0	1253.9	1253.3	1252.8	1252.2	1251.6
7.5°	1234.6	1236.8	1239.0	1239.8	1239.1	1238.6	1237.9	1237.4
10°	1222.0	1224.2	1226.3	1227.0	1226.2	1225.3	1224.6	1223.8
12.5°	1207.1	1208.6	1210.1	1210.6	1210.0	1209.4	1208.8	1208.2
15°	1181.0	1182.1	1183.1	1183.0	1181.7	1180.4	1179.0	1177.7
17.5°	1150.0	1151.3	1152.5	1152.5	1151.1	1149.9	1148.6	1147.2
20°	1125.8	1126.6	1127.4	1127.3	1126.2	1125.1	1124.1	1123.0
22.5°	1100.3	1100.4	1100.6	1100.3	1099.7	1099.1	1098.4	1097.7
25°	1058.5	1059.1	1059.6	1059.6	1059.1	1058.5	1058.0	1057.4
27.5°	1017.5	1016.6	1015.8	1014.8	1013.5	1012.2	1010.9	1009.6
30°	985.4	984.6	983.8	982.9	981.8	980.6	979.6	978.5
32.5°	954.0	952.5	951.1	949.8	948.7	947.7	946.6	945.5
35°	903.6	902.1	900.4	899.0	897.6	896.3	894.8	893.5
37.5°	853.1	851.1	849.1	847.5	846.2	844.9	843.6	842.3
40°	818.2	815.9	813.4	811.7	810.6	809.5	808.4	807.3
42.5°	783.9	781.2	778.6	776.5	775.0	773.5	772.0	770.4
45°	731.0	728.0	725.1	723.0	721.9	720.9	719.8	718.7
47.5°	676.0	672.9	669.8	667.4	665.8	664.3	662.7	661.2
50°	640.7	637.0	633.2	630.7	629.3	628.0	626.6	625.3
52.5°	604.2	601.0	597.9	595.5	593.7	591.9	590.1	588.4
55°	549.5	546.3	543.1	540.8	539.5	538.1	536.8	535.4
57.5°	492.8	489.6	486.5	484.3	483.4	482.4	481.3	480.3
60°	455.4	452.4	449.5	447.6	446.8	446.0	445.1	444.3
62.5°	419.9	417.2	414.4	412.5	411.5	410.4	409.4	408.4
65°	365.4	363.0	360.6	358.7	357.4	356.0	354.7	353.3
67.5°	311.6	309.7	307.8	306.3	305.3	304.2	303.2	302.1
70°	276.6	274.8	272.9	271.4	270.3	269.3	268.2	267.1
72.5°	243.7	241.8	239.9	238.5	237.7	236.8	235.9	235.0
75°	192.3	190.6	189.0	188.5	189.0	189.5	190.0	190.6
77.5°	146.2	145.4	144.7	143.9	143.1	142.4	141.6	140.9
80°	116.1	115.3	114.5	113.8	113.3	112.8	112.3	111.7
82.5°	86.6	85.6	84.5	84.0	83.8	83.7	83.7	83.5
85°	45.7	44.9	44.1	43.6	43.3	43.0	42.8	42.5
87.5°	16.1	15.6	15.1	14.8	14.7	14.6	14.4	14.3
90°	18.7	19.6	20.6	21.2	21.6	22.0	22.3	22.7
92.5°	20.5	21.0	21.5	21.9	22.1	22.3	22.5	22.7
95°	34.7	35.6	36.6	37.0	36.8	36.6	36.4	36.2
97.5°	45.5	46.2	47.0	47.5	47.7	47.9	48.1	48.3
100°	51.0	52.5	54.0	54.9	55.3	55.7	56.1	56.4
102.5°	53.2	55.2	57.1	58.4	58.9	59.4	60.0	60.4
105°	55.5	57.5	59.6	61.0	61.8	62.5	63.2	64.0
107.5°	67.7	65.6	63.5	62.9	63.6	64.3	65.1	65.8
110°	110.0	91.3	72.5	63.5	64.2	65.0	65.8	66.5





TEST NUMBER: P331462-927

CATALOG NUMBER: SA2XXDIP-C1005D1080U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.2	166.9	98.6	64.8	65.4	66.0	66.6	67.2
115°	346.3	259.7	173.0	122.9	109.5	96.0	82.5	69.1
117.5°	533.6	512.6	491.7	459.1	414.8	370.5	326.2	281.9
120°	621.8	624.0	626.3	614.7	589.5	564.2	538.9	513.7
122.5°	659.7	661.1	662.4	660.6	655.8	650.9	645.9	641.0
125°	714.2	715.5	716.8	717.8	718.4	718.9	719.5	720.0
127.5°	764.6	766.5	768.4	769.4	769.5	769.7	769.8	769.8
130°	796.5	798.6	800.7	801.6	801.5	801.2	801.1	800.9
132.5°	827.6	829.4	831.2	831.9	831.7	831.6	831.4	831.2
135°	872.0	873.9	875.7	876.5	876.1	875.7	875.4	875.0
137.5°	913.1	915.0	916.8	917.4	916.8	916.2	915.5	914.9
140°	939.8	941.5	943.2	943.6	942.6	941.7	940.7	939.8
142.5°	964.4	966.0	967.5	967.8	966.9	965.9	965.0	964.1
145°	998.9	1000.1	1001.5	1001.6	1000.8	999.8	998.9	997.9
147.5°	1028.8	1029.8	1030.8	1030.9	1030.1	1029.3	1028.5	1027.7
150°	1047.3	1048.5	1049.6	1049.6	1048.7	1047.8	1046.9	1045.9
152.5°	1064.1	1065.3	1066.4	1066.4	1065.1	1063.9	1062.6	1061.4
155°	1086.9	1088.1	1089.2	1088.9	1087.4	1086.0	1084.5	1083.0
157.5°	1106.0	1107.3	1108.6	1108.5	1107.1	1105.6	1104.1	1102.6
160°	1117.2	1118.3	1119.4	1119.4	1118.1	1116.7	1115.5	1114.1
162.5°	1127.6	1128.9	1130.2	1130.0	1128.4	1126.8	1125.1	1123.6
165°	1140.3	1141.6	1143.0	1143.0	1141.6	1140.3	1139.0	1137.7
167.5°	1151.0	1152.2	1153.6	1153.3	1151.7	1150.0	1148.3	1146.6
170°	1156.3	1157.6	1159.0	1158.7	1157.1	1155.4	1153.7	1152.0
172.5°	1160.4	1161.7	1163.0	1162.8	1161.1	1159.4	1157.8	1156.0
175°	1164.7	1166.1	1167.4	1167.1	1165.2	1163.3	1161.5	1159.6
177.5°	1165.2	1166.3	1167.4	1167.2	1165.9	1164.5	1163.2	1161.8
180°	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8	1163.8

(END OF REPORT)