

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: P331696

Luminaire Tested: **SA2XXRDIP-C675D925U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331696
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-C675D925U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 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: 6022.0 lumens
Efficiency: N/A
Efficacy: 115.8 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: Semi-Indirect

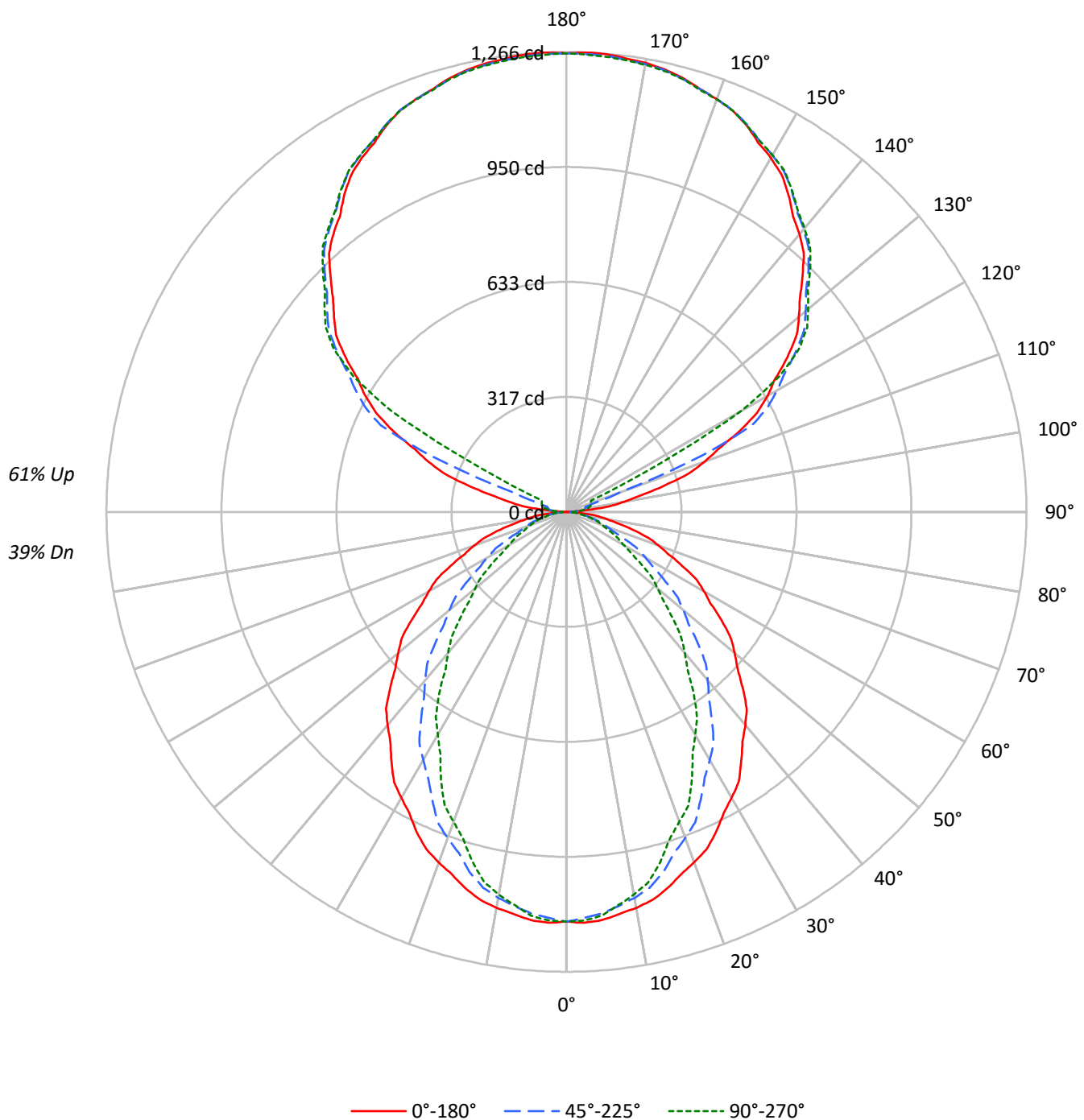
Input Watts (W): 52
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46
1	96	91	88	84	87	83	80	77	68	66	64	54	52	51	41	40	39
2	87	80	74	70	79	73	68	64	60	56	53	48	45	43	36	35	34
3	80	71	64	58	72	65	59	54	53	49	45	42	40	37	33	31	29
4	73	63	55	50	66	58	51	46	47	43	39	38	35	32	29	27	25
5	67	56	48	43	61	51	45	40	43	38	34	34	31	28	27	24	22
6	62	50	43	37	56	46	39	35	38	33	30	31	27	25	24	22	20
7	57	46	38	33	52	42	35	30	35	30	26	28	25	22	22	20	18
8	53	41	34	29	48	38	32	27	32	27	23	26	22	20	20	18	16
9	50	38	31	26	45	35	28	24	29	24	21	24	20	18	19	16	14
10	46	35	28	23	42	32	26	22	27	22	19	22	19	16	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18213	18213	18213
5°	18282	17985	18084
10°	18143	17690	17539
15°	17934	17167	16672
20°	17646	16417	15593
25°	17350	15567	14549
30°	16940	14693	13209
35°	16539	13742	12033
40°	16136	12760	10671
45°	15664	11654	9439
50°	15179	10540	8231
55°	14686	9340	7068
60°	14108	8076	5867
65°	13456	6785	5345
70°	12675	5589	4914
75°	11715	5097	4585
80°	10349	4556	4175
85°	8133	3594	3594

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	1.8
10°-20°	289.9	4.8
20°-30°	407.1	6.8
30°-40°	443.9	7.4
40°-50°	408.2	6.8
50°-60°	320.6	5.3
60°-70°	209.0	3.5
70°-80°	107.8	1.8
80°-90°	31.1	0.5
90°-100°	42.1	0.7
100°-110°	154.4	2.6
110°-120°	412.7	6.9
120°-130°	681.3	11.3
130°-140°	724.5	12.0
140°-150°	673.4	11.2
150°-160°	541.4	9.0
160°-170°	348.9	5.8
170°-180°	120.1	2.0
0°-30°	802.6	13.3
0°-40°	1246.6	20.7
0°-60°	1975.3	32.8
0°-90°	2323.2	38.6
90°-120°	609.2	10.1
90°-150°	2688.4	44.6
90°-180°	3699.0	61.4
0°-180°	6022.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1128	1122	1110	1118	1116	107
15°	1073	1060	1027	1008	997	302
25°	974	939	874	833	817	448
35°	839	785	697	635	610	525
45°	686	615	510	441	413	529
55°	522	440	332	273	251	466
65°	352	269	178	145	140	349
75°	188	118	82	75	74	199
85°	44	23	19	19	19	52
90°	1	11	18	23	25	5
95°	59	31	36	40	39	73
105°	278	290	56	65	69	297
115°	525	541	564	160	75	517
125°	742	755	772	778	781	662
135°	919	933	942	950	949	709
145°	1066	1066	1080	1086	1082	666
155°	1174	1166	1176	1181	1174	541
165°	1237	1232	1234	1240	1234	349
175°	1265	1259	1260	1266	1258	120
180°	1262	1262	1262	1262	1262	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1132.1	1131.2	1130.3	1129.4	1128.5	1127.0	1125.0	1123.0	1121.1	1119.1	1120.9
5°	1128.0	1126.9	1125.8	1124.6	1123.5	1121.5	1118.5	1115.6	1112.6	1109.7	1111.7
7.5°	1116.4	1115.0	1113.6	1112.2	1110.8	1108.3	1104.9	1101.5	1098.0	1094.6	1095.1
10°	1106.6	1105.0	1103.4	1101.8	1100.2	1097.2	1092.6	1088.1	1083.6	1079.0	1078.4
12.5°	1094.3	1092.4	1090.4	1088.5	1086.5	1082.7	1076.9	1071.1	1065.2	1059.4	1058.2
15°	1072.9	1070.4	1067.9	1065.4	1062.9	1057.8	1050.1	1042.4	1034.7	1027.0	1022.7
17.5°	1046.6	1042.8	1039.0	1035.1	1031.3	1024.5	1014.6	1004.7	994.8	984.9	979.8
20°	1027.0	1022.4	1017.9	1013.4	1008.8	1000.9	989.5	978.2	966.9	955.5	949.8
22.5°	1005.7	1000.7	995.6	990.5	985.4	976.5	963.7	950.9	938.1	925.3	918.0
25°	973.9	966.6	959.4	952.1	944.9	933.7	918.8	903.8	888.8	873.8	864.5
27.5°	935.5	927.6	919.7	911.8	903.9	891.5	874.7	857.8	840.9	824.0	813.2
30°	908.6	899.9	891.3	882.7	874.1	860.7	842.5	824.4	806.2	788.1	776.5
32.5°	882.4	872.3	862.3	852.2	842.1	827.8	809.3	790.8	772.3	753.8	740.6
35°	839.1	827.6	816.0	804.4	792.9	777.1	757.1	737.2	717.2	697.2	682.9
37.5°	795.9	783.1	770.4	757.7	745.0	728.0	706.8	685.5	664.2	642.9	627.2
40°	765.6	752.0	738.4	724.8	711.2	693.4	671.4	649.4	627.4	605.4	589.3
42.5°	734.6	720.3	705.9	691.6	677.3	658.7	636.0	613.3	590.5	567.8	551.1
45°	686.0	670.8	655.6	640.4	625.2	605.7	581.9	558.1	534.2	510.4	494.3
47.5°	638.6	622.5	606.4	590.3	574.2	553.9	529.3	504.7	480.1	455.5	439.5
50°	604.3	588.2	572.1	556.0	539.9	519.4	494.4	469.5	444.5	419.6	403.9
52.5°	570.9	554.0	537.2	520.4	503.5	482.9	458.5	434.1	409.7	385.3	370.2
55°	521.7	504.0	486.3	468.6	450.9	429.8	405.3	380.8	356.3	331.8	318.2
57.5°	471.2	453.1	434.9	416.8	398.6	377.8	354.2	330.7	307.1	283.6	271.1
60°	436.9	418.8	400.6	382.5	364.3	343.6	320.2	296.8	273.5	250.1	238.5
62.5°	403.4	385.3	367.1	349.0	330.8	310.6	288.4	266.1	243.8	221.5	210.5
65°	352.2	333.8	315.4	297.1	278.7	259.3	238.9	218.5	198.0	177.6	169.9
67.5°	302.8	284.5	266.3	248.1	229.8	211.5	193.1	174.8	156.4	138.0	134.5
70°	268.5	250.8	233.1	215.4	197.7	181.0	165.4	149.7	134.1	118.4	116.1
72.5°	235.8	218.8	201.9	184.9	167.9	153.2	140.6	128.0	115.5	102.9	101.0
75°	187.8	172.0	156.1	140.2	124.3	112.5	104.8	97.1	89.4	81.7	80.1
77.5°	140.7	126.7	112.8	98.9	85.0	76.1	72.4	68.7	65.0	61.3	60.3
80°	111.3	99.7	88.1	76.6	65.0	58.1	55.8	53.5	51.3	49.0	48.1
82.5°	84.3	75.3	66.3	57.2	48.2	42.9	41.4	39.8	38.3	36.8	36.2
85°	43.9	39.1	34.4	29.6	24.8	22.1	21.4	20.8	20.1	19.4	19.4
87.5°	13.2	12.2	11.2	10.2	9.2	8.9	9.2	9.5	9.9	10.2	10.2
90°	0.9	3.1	5.4	7.6	9.8	11.8	13.4	15.0	16.6	18.3	19.3
92.5°	18.4	18.2	18.0	17.8	17.6	17.9	18.8	19.6	20.4	21.2	21.7
95°	59.4	52.7	46.0	39.3	32.6	29.9	31.4	32.8	34.2	35.6	36.6
97.5°	117.8	98.9	80.1	61.2	42.3	34.5	37.8	41.1	44.4	47.7	48.5
100°	161.7	133.8	106.0	78.2	50.4	38.3	41.7	45.2	48.6	52.1	53.7
102.5°	209.9	204.0	198.1	192.2	186.3	169.0	140.1	111.2	82.4	53.5	55.6
105°	277.6	283.7	289.8	295.9	302.0	277.3	221.9	166.5	111.1	55.7	57.9
107.5°	354.9	359.8	364.7	369.6	374.6	343.8	277.3	210.9	144.4	78.0	75.7
110°	404.6	408.9	413.1	417.4	421.6	394.4	335.8	277.1	218.5	159.8	139.5

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	451.3	455.1	458.9	462.7	466.4	461.1	446.6	432.1	417.6	403.1	329.1
115°	525.1	528.6	532.0	535.5	538.9	543.2	548.3	553.4	558.4	563.5	469.5
117.5°	591.1	594.9	598.8	602.7	606.5	610.2	613.7	617.2	620.7	624.1	601.4
120°	639.3	642.3	645.4	648.4	651.5	654.8	658.5	662.1	665.8	669.4	671.9
122.5°	680.2	683.4	686.6	689.8	693.0	696.6	700.6	704.6	708.6	712.6	714.0
125°	742.5	745.1	747.8	750.4	753.1	756.3	760.2	764.0	767.9	771.7	773.2
127.5°	798.9	801.9	804.8	807.7	810.6	813.5	816.4	819.3	822.2	825.1	827.1
130°	834.8	838.0	841.2	844.5	847.7	850.5	852.7	854.9	857.2	859.4	861.6
132.5°	871.3	874.0	876.8	879.6	882.3	884.8	887.1	889.3	891.5	893.7	895.7
135°	918.8	922.0	925.3	928.5	931.8	934.3	936.1	938.0	939.8	941.6	943.6
137.5°	966.8	969.1	971.4	973.6	975.9	978.1	980.1	982.2	984.3	986.4	988.3
140°	998.2	999.9	1001.5	1003.1	1004.7	1006.7	1008.9	1011.1	1013.4	1015.6	1017.4
142.5°	1024.5	1026.0	1027.5	1028.9	1030.4	1032.4	1034.9	1037.5	1040.1	1042.6	1044.3
145°	1065.8	1065.6	1065.4	1065.2	1065.0	1066.6	1070.1	1073.5	1077.0	1080.4	1081.8
147.5°	1101.8	1101.0	1100.3	1099.5	1098.7	1100.0	1103.4	1106.9	1110.3	1113.7	1114.7
150°	1125.2	1123.8	1122.3	1120.9	1119.5	1120.4	1123.7	1126.9	1130.2	1133.4	1134.6
152.5°	1144.9	1143.3	1141.7	1140.2	1138.6	1139.3	1142.4	1145.5	1148.6	1151.7	1152.9
155°	1173.6	1171.8	1169.9	1168.1	1166.3	1166.6	1169.0	1171.5	1173.9	1176.3	1177.5
157.5°	1196.0	1194.5	1193.0	1191.4	1189.9	1190.0	1191.7	1193.4	1195.1	1196.8	1198.2
160°	1209.2	1208.0	1206.8	1205.5	1204.3	1204.3	1205.5	1206.8	1208.0	1209.2	1210.4
162.5°	1220.9	1219.7	1218.5	1217.2	1216.0	1215.9	1217.0	1218.0	1219.1	1220.2	1221.5
165°	1236.6	1235.4	1234.2	1232.9	1231.7	1231.4	1232.0	1232.6	1233.3	1233.9	1235.3
167.5°	1248.3	1247.1	1245.9	1244.6	1243.4	1243.1	1243.7	1244.2	1244.8	1245.4	1246.8
170°	1254.9	1253.6	1252.4	1251.2	1250.0	1249.6	1250.0	1250.4	1250.8	1251.2	1252.6
172.5°	1259.2	1258.0	1256.8	1255.6	1254.4	1254.0	1254.4	1254.8	1255.2	1255.6	1257.0
175°	1264.9	1263.5	1262.1	1260.6	1259.2	1258.7	1259.1	1259.5	1259.9	1260.3	1261.8
177.5°	1265.8	1264.7	1263.6	1262.4	1261.3	1260.8	1261.0	1261.1	1261.3	1261.4	1262.6
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1122.7	1124.5	1126.3	1127.0	1126.7	1126.3	1126.0	1125.6
5°	1113.7	1115.8	1117.8	1118.5	1117.8	1117.1	1116.5	1115.8
7.5°	1095.7	1096.3	1096.9	1096.6	1095.4	1094.3	1093.1	1091.9
10°	1077.7	1077.0	1076.3	1075.3	1073.9	1072.6	1071.2	1069.8
12.5°	1057.0	1055.8	1054.5	1052.8	1050.5	1048.3	1046.0	1043.7
15°	1018.4	1014.0	1009.7	1006.4	1004.2	1001.9	999.6	997.4
17.5°	974.7	969.5	964.4	959.9	956.0	952.1	948.2	944.3
20°	944.2	938.5	932.8	927.5	922.5	917.5	912.5	907.5
22.5°	910.7	903.4	896.1	890.6	886.8	883.1	879.4	875.7
25°	855.2	845.9	836.6	830.3	826.9	823.5	820.1	816.7
27.5°	802.3	791.5	780.7	772.5	767.1	761.7	756.3	750.9
30°	765.0	753.4	741.8	733.0	726.8	720.7	714.6	708.5
32.5°	727.4	714.2	701.0	691.5	685.7	680.0	674.2	668.5
35°	668.7	654.4	640.1	630.4	625.4	620.4	615.5	610.5
37.5°	611.4	595.7	580.0	569.2	563.5	557.8	552.1	546.4
40°	573.1	557.0	540.9	529.9	524.0	518.1	512.2	506.3
42.5°	534.5	517.8	501.2	490.0	484.3	478.6	472.9	467.1
45°	478.2	462.1	446.0	435.2	429.8	424.3	418.9	413.4
47.5°	423.5	407.5	391.4	381.0	376.0	371.1	366.1	361.2
50°	388.3	372.6	357.0	346.7	342.0	337.2	332.5	327.7
52.5°	355.1	339.9	324.8	315.1	310.7	306.3	301.9	297.5
55°	304.6	290.9	277.3	268.4	264.1	259.7	255.4	251.1
57.5°	258.6	246.2	233.7	225.6	222.0	218.4	214.7	211.1
60°	227.0	215.4	203.8	196.2	192.6	189.0	185.3	181.7
62.5°	199.5	188.4	177.4	170.8	168.6	166.5	164.3	162.1
65°	162.2	154.5	146.8	142.6	141.9	141.2	140.5	139.9
67.5°	130.9	127.4	123.9	121.7	121.0	120.3	119.6	118.8
70°	113.9	111.6	109.3	107.8	106.8	105.9	105.0	104.1
72.5°	99.1	97.2	95.3	94.1	93.5	93.0	92.4	91.9
75°	78.5	76.9	75.3	74.4	74.2	74.0	73.7	73.5
77.5°	59.4	58.5	57.6	57.0	56.6	56.3	55.9	55.5
80°	47.2	46.3	45.4	44.9	44.9	44.9	44.9	44.9
82.5°	35.7	35.1	34.6	34.3	34.3	34.3	34.3	34.3
85°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
87.5°	10.2	10.3	10.3	10.3	10.4	10.5	10.6	10.6
90°	20.3	21.3	22.3	23.0	23.4	23.8	24.3	24.7
92.5°	22.2	22.8	23.3	23.7	23.9	24.2	24.4	24.7
95°	37.6	38.7	39.7	40.1	39.9	39.7	39.5	39.3
97.5°	49.3	50.1	50.9	51.4	51.7	51.9	52.2	52.4
100°	55.3	56.9	58.6	59.6	60.0	60.4	60.8	61.2
102.5°	57.7	59.9	62.0	63.3	63.9	64.4	65.0	65.6
105°	60.2	62.4	64.6	66.2	67.0	67.8	68.6	69.4
107.5°	73.4	71.2	68.9	68.2	69.0	69.8	70.6	71.4
110°	119.2	98.9	78.6	68.9	69.7	70.5	71.3	72.2

TEST NUMBER: P331696

CATALOG NUMBER: SA2XXRDIP-C675D925U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.1	181.0	107.0	70.3	70.9	71.6	72.2	72.9
115°	375.6	281.6	187.6	133.3	118.7	104.1	89.5	74.9
117.5°	578.7	556.0	533.2	497.8	449.8	401.8	353.8	305.8
120°	674.3	676.8	679.2	666.7	639.3	611.9	584.5	557.1
122.5°	715.5	716.9	718.4	716.5	711.2	705.8	700.5	695.2
125°	774.6	776.0	777.4	778.4	779.0	779.6	780.3	780.9
127.5°	829.2	831.3	833.4	834.4	834.6	834.7	834.8	834.9
130°	863.9	866.1	868.3	869.4	869.2	868.9	868.7	868.5
132.5°	897.6	899.5	901.4	902.2	902.0	901.8	901.6	901.4
135°	945.7	947.7	949.7	950.5	950.1	949.7	949.3	948.9
137.5°	990.3	992.3	994.3	995.0	994.3	993.6	992.9	992.2
140°	1019.2	1021.1	1022.9	1023.3	1022.3	1021.3	1020.3	1019.2
142.5°	1045.9	1047.6	1049.3	1049.6	1048.6	1047.6	1046.6	1045.5
145°	1083.3	1084.7	1086.1	1086.3	1085.3	1084.3	1083.3	1082.3
147.5°	1115.8	1116.8	1117.9	1118.0	1117.1	1116.3	1115.4	1114.6
150°	1135.8	1137.1	1138.3	1138.4	1137.4	1136.3	1135.3	1134.3
152.5°	1154.1	1155.3	1156.5	1156.5	1155.1	1153.8	1152.5	1151.1
155°	1178.8	1180.0	1181.2	1181.0	1179.4	1177.7	1176.1	1174.5
157.5°	1199.5	1200.9	1202.3	1202.2	1200.6	1199.0	1197.4	1195.9
160°	1211.6	1212.9	1214.1	1214.0	1212.5	1211.1	1209.7	1208.3
162.5°	1222.9	1224.3	1225.7	1225.5	1223.8	1222.0	1220.3	1218.5
165°	1236.7	1238.1	1239.5	1239.5	1238.1	1236.7	1235.3	1233.9
167.5°	1248.2	1249.6	1251.1	1250.8	1249.0	1247.2	1245.4	1243.5
170°	1254.1	1255.5	1256.9	1256.7	1254.9	1253.0	1251.2	1249.4
172.5°	1258.4	1259.9	1261.3	1261.1	1259.2	1257.4	1255.6	1253.8
175°	1263.2	1264.6	1266.0	1265.7	1263.7	1261.7	1259.6	1257.6
177.5°	1263.7	1264.9	1266.0	1265.8	1264.4	1262.9	1261.4	1260.0
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2

(END OF REPORT)