

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: P331727-935

Luminaire Tested: **SA2XXRDIP-C865D925U935-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331727-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C865D925U935-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

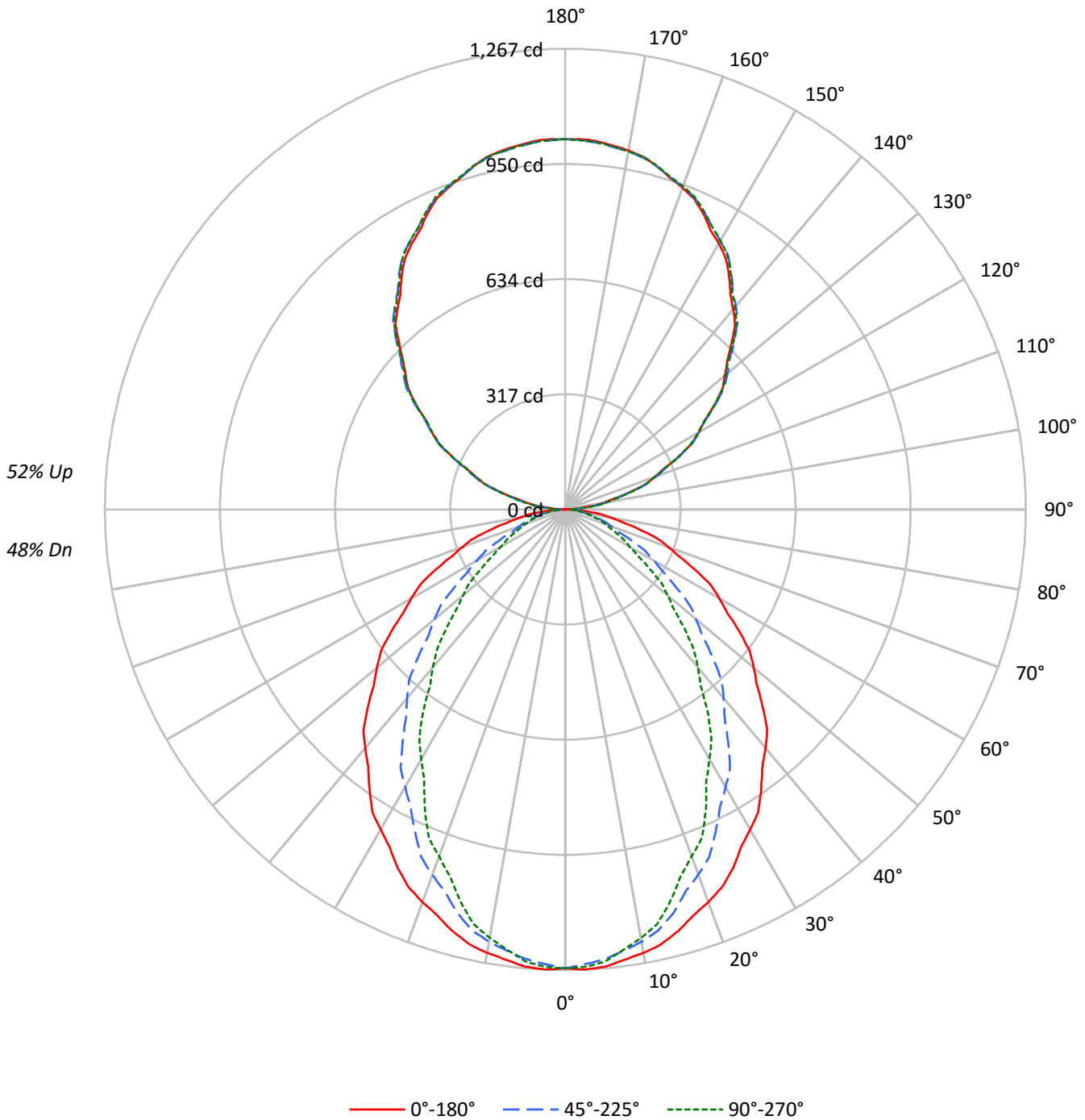
Lumens per Lamp: N/A  
Luminaire Lumens: 5447.7 lumens  
Efficiency: N/A  
Efficacy: 90.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 60.5  
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: P331727-935  
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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	98	98	98	98	82	82	82	67	67	67	54	54	54	48				48
1	98	94	90	87	90	86	83	80	73	70	68	60	58	57	48	47	46				41	
2	89	82	76	71	82	76	71	67	64	60	57	53	51	48	43	41	40				35	
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	39	36	34				30	
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30				26	
5	69	58	50	44	63	54	47	42	46	40	36	38	34	31	32	29	26				23	
6	64	52	44	38	59	48	41	36	41	36	32	35	31	28	29	26	24				21	
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21				18	
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19				17	
9	51	39	32	27	47	37	30	26	32	26	23	27	23	20	23	20	17				15	
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16				14	

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

	0°	45°	90°
0°	20384	20384	20384
5°	20462	20128	20238
10°	20305	19799	19630
15°	20072	19211	18658
20°	19747	18374	17452
25°	19417	17423	16283
30°	18957	16444	14783
35°	18510	15380	13466
40°	18061	14280	11944
45°	17532	13045	10565
50°	16990	11796	9211
55°	16434	10452	7910
60°	15791	9038	6568
65°	15060	7595	5979
70°	14186	6255	5500
75°	13119	5702	5128
80°	11576	5095	4677
85°	9114	4020	4020



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.2	2.2
10°-20°	324.5	6.0
20°-30°	455.6	8.4
30°-40°	496.8	9.1
40°-50°	456.8	8.4
50°-60°	358.8	6.6
60°-70°	233.9	4.3
70°-80°	120.6	2.2
80°-90°	35.4	0.6
90°-100°	64.5	1.2
100°-110°	200.4	3.7
110°-120°	342.5	6.3
120°-130°	450.4	8.3
130°-140°	505.6	9.3
140°-150°	495.7	9.1
150°-160°	415.8	7.6
160°-170°	275.8	5.1
170°-180°	96.4	1.8
0°-30°	898.3	16.5
0°-40°	1395.1	25.6
0°-60°	2210.7	40.6
0°-90°	2600.6	47.7
90°-120°	607.4	11.2
90°-150°	2059.1	37.8
90°-180°	2847.0	52.3
0°-180°	5447.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1262	1256	1242	1251	1249	120
15°	1201	1187	1149	1128	1116	338
25°	1090	1051	978	933	914	501
35°	939	878	780	711	683	587
45°	768	689	571	493	463	593
55°	584	493	371	305	281	521
65°	394	301	199	162	156	391
75°	210	133	91	84	82	223
85°	49	26	22	22	22	58
90°	1	12	30	28	29	4
95°	45	53	55	55	53	51
105°	185	187	189	191	191	195
115°	344	348	347	346	344	340
125°	500	507	505	503	502	447
135°	647	656	658	657	655	500
145°	785	791	796	797	794	490
155°	898	900	903	907	905	413
165°	977	976	976	982	978	275
175°	1016	1014	1012	1018	1013	97
180°	1018	1018	1018	1018	1018	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1267.0	1266.0	1265.0	1263.9	1263.0	1261.4	1259.1	1256.9	1254.6	1252.4	1254.5
5°	1262.5	1261.2	1259.9	1258.6	1257.4	1255.1	1251.8	1248.5	1245.2	1241.9	1244.1
7.5°	1249.4	1247.8	1246.3	1244.7	1243.1	1240.4	1236.6	1232.7	1228.8	1224.9	1225.6
10°	1238.5	1236.7	1234.9	1233.1	1231.3	1228.0	1222.9	1217.8	1212.7	1207.6	1206.9
12.5°	1224.8	1222.5	1220.4	1218.2	1216.0	1211.7	1205.1	1198.7	1192.1	1185.7	1184.3
15°	1200.8	1198.0	1195.2	1192.4	1189.6	1183.9	1175.3	1166.7	1158.0	1149.3	1144.5
17.5°	1171.3	1167.0	1162.8	1158.5	1154.3	1146.6	1135.5	1124.4	1113.4	1102.3	1096.6
20°	1149.3	1144.3	1139.2	1134.1	1129.0	1120.2	1107.4	1094.8	1082.1	1069.4	1063.0
22.5°	1125.6	1119.9	1114.2	1108.5	1102.9	1092.9	1078.5	1064.2	1049.9	1035.5	1027.3
25°	1089.9	1081.8	1073.7	1065.6	1057.5	1045.0	1028.2	1011.5	994.7	978.0	967.6
27.5°	1047.0	1038.1	1029.3	1020.5	1011.7	997.8	978.9	960.0	941.1	922.2	910.1
30°	1016.8	1007.2	997.6	987.9	978.3	963.3	943.0	922.6	902.3	882.0	869.1
32.5°	987.6	976.3	965.0	953.7	942.5	926.5	905.8	885.0	864.4	843.6	828.9
35°	939.1	926.2	913.3	900.3	887.3	869.7	847.3	825.0	802.7	780.3	764.3
37.5°	890.7	876.5	862.3	848.0	833.8	814.8	791.0	767.2	743.4	719.5	701.9
40°	856.9	841.6	826.4	811.1	795.9	776.0	751.4	726.8	702.1	677.5	659.4
42.5°	822.2	806.1	790.1	774.0	757.9	737.2	711.8	686.3	660.9	635.4	616.8
45°	767.8	750.7	733.7	716.7	699.7	677.9	651.3	624.6	597.9	571.3	553.2
47.5°	714.7	696.7	678.7	660.6	642.7	619.8	592.4	564.8	537.3	509.8	491.9
50°	676.4	658.3	640.3	622.2	604.2	581.3	553.4	525.4	497.5	469.6	452.0
52.5°	638.9	620.0	601.2	582.4	563.5	540.4	513.2	485.8	458.5	431.2	414.2
55°	583.8	564.0	544.2	524.4	504.6	481.0	453.6	426.1	398.7	371.3	356.1
57.5°	527.4	507.0	486.7	466.4	446.2	422.8	396.4	370.1	343.7	317.4	303.4
60°	489.0	468.6	448.4	428.1	407.8	384.5	358.3	332.2	306.1	279.9	267.0
62.5°	451.5	431.2	410.9	390.5	370.2	347.7	322.7	297.8	272.9	247.9	235.6
65°	394.2	373.6	353.0	332.4	311.9	290.2	267.3	244.5	221.6	198.8	190.2
67.5°	338.9	318.5	298.1	277.6	257.2	236.7	216.2	195.6	175.0	154.5	150.5
70°	300.5	280.7	260.9	241.1	221.3	202.6	185.1	167.6	150.1	132.5	130.0
72.5°	263.9	245.0	225.9	207.0	188.0	171.4	157.4	143.3	129.2	115.2	113.0
75°	210.3	192.4	174.7	156.9	139.1	126.0	117.3	108.7	100.0	91.4	89.6
77.5°	157.5	141.8	126.2	110.6	95.1	85.2	81.0	76.9	72.8	68.5	67.5
80°	124.5	111.6	98.7	85.7	72.8	65.0	62.4	59.9	57.3	54.8	53.8
82.5°	94.4	84.3	74.1	64.1	54.0	48.0	46.3	44.6	42.9	41.2	40.6
85°	49.2	43.8	38.5	33.1	27.8	24.8	24.0	23.2	22.5	21.7	21.7
87.5°	14.8	13.6	12.5	11.3	10.2	10.0	10.8	11.6	12.5	13.3	13.1
90°	0.9	3.2	5.4	7.7	10.0	13.3	17.5	21.7	25.8	30.0	29.7
92.5°	15.3	17.0	18.7	20.3	22.0	23.3	24.4	25.3	26.3	27.3	27.4
95°	44.7	46.6	48.5	50.4	52.3	53.5	53.8	54.2	54.6	55.0	55.0
97.5°	81.6	83.3	85.0	86.7	88.3	89.5	90.3	91.0	91.7	92.5	92.5
100°	109.1	110.6	112.2	113.7	115.2	116.3	116.8	117.4	118.0	118.6	118.6
102.5°	138.0	139.2	140.4	141.6	142.8	143.9	144.6	145.3	146.0	146.8	146.9
105°	184.8	185.3	185.9	186.5	187.0	187.5	187.9	188.3	188.6	189.0	189.4
107.5°	231.8	232.6	233.5	234.4	235.2	235.6	235.6	235.6	235.6	235.6	235.7
110°	262.1	263.2	264.3	265.5	266.7	267.3	267.3	267.3	267.3	267.3	267.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	295.1	296.2	297.4	298.5	299.6	300.1	300.0	299.8	299.7	299.5	299.1
115°	343.7	344.8	345.9	347.2	348.3	348.6	348.3	347.9	347.5	347.2	347.0
117.5°	392.2	393.6	395.2	396.7	398.3	398.5	397.4	396.3	395.3	394.3	393.7
120°	424.5	426.0	427.5	429.0	430.6	430.6	429.0	427.5	426.0	424.5	424.5
122.5°	454.0	455.8	457.7	459.5	461.3	461.8	460.6	459.6	458.6	457.4	457.0
125°	500.1	501.8	503.5	505.2	507.0	507.6	507.0	506.4	505.8	505.2	504.6
127.5°	544.9	547.1	549.3	551.5	553.6	554.4	553.7	553.0	552.3	551.6	551.0
130°	573.1	575.6	578.1	580.6	583.1	584.1	583.7	583.3	583.0	582.6	582.2
132.5°	604.8	606.7	608.8	610.8	612.9	613.9	614.0	614.1	614.1	614.2	613.4
135°	647.0	649.1	651.2	653.3	655.4	656.7	657.0	657.4	657.8	658.1	658.0
137.5°	691.6	693.2	694.9	696.6	698.4	699.5	700.0	700.5	701.0	701.5	701.4
140°	718.3	720.1	721.8	723.5	725.2	726.5	727.5	728.4	729.4	730.4	730.4
142.5°	745.8	747.5	749.2	751.0	752.7	753.9	754.5	755.2	755.8	756.5	756.6
145°	785.3	786.7	788.0	789.4	790.7	791.9	793.1	794.2	795.4	796.5	796.7
147.5°	820.5	822.2	823.8	825.4	827.0	828.2	829.0	829.7	830.4	831.2	831.6
150°	844.6	845.8	846.9	848.1	849.2	850.2	850.9	851.7	852.5	853.3	853.8
152.5°	865.9	867.1	868.2	869.4	870.6	871.6	872.5	873.4	874.3	875.2	876.0
155°	897.9	898.5	899.1	899.7	900.2	900.8	901.4	901.9	902.5	903.0	904.0
157.5°	925.2	925.6	926.0	926.3	926.8	927.1	927.5	927.8	928.2	928.5	929.8
160°	941.8	942.1	942.5	942.9	943.2	943.6	943.7	943.9	944.1	944.3	945.5
162.5°	956.8	956.9	957.0	957.1	957.2	957.3	957.5	957.7	957.9	958.0	959.3
165°	977.0	976.8	976.5	976.4	976.2	976.1	976.1	976.1	976.1	976.1	977.4
167.5°	993.8	993.2	992.6	992.0	991.5	991.2	991.2	991.1	991.1	991.0	992.4
170°	1002.7	1002.1	1001.6	1001.0	1000.4	1000.1	999.9	999.7	999.4	999.3	1000.7
172.5°	1008.9	1008.3	1007.8	1007.2	1006.6	1006.3	1006.1	1005.8	1005.6	1005.5	1006.9
175°	1016.5	1015.9	1015.3	1014.8	1014.2	1013.7	1013.3	1013.0	1012.5	1012.2	1013.5
177.5°	1019.6	1019.1	1018.6	1018.2	1017.7	1017.4	1017.0	1016.8	1016.4	1016.2	1017.0
180°	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1256.5	1258.5	1260.5	1261.4	1260.9	1260.5	1260.2	1259.7
5°	1246.5	1248.7	1251.0	1251.8	1251.0	1250.3	1249.5	1248.7
7.5°	1226.3	1226.9	1227.6	1227.3	1226.0	1224.7	1223.3	1222.0
10°	1206.1	1205.3	1204.5	1203.4	1201.9	1200.4	1198.9	1197.3
12.5°	1182.9	1181.6	1180.2	1178.3	1175.7	1173.2	1170.6	1168.1
15°	1139.7	1134.9	1130.1	1126.4	1123.9	1121.3	1118.8	1116.2
17.5°	1090.8	1085.0	1079.3	1074.3	1069.9	1065.6	1061.2	1056.8
20°	1056.7	1050.3	1044.0	1038.0	1032.4	1026.8	1021.2	1015.7
22.5°	1019.3	1011.1	1002.9	996.7	992.6	988.3	984.2	980.1
25°	957.2	946.8	936.3	929.2	925.4	921.6	917.8	914.0
27.5°	897.9	885.8	873.7	864.6	858.6	852.5	846.4	840.4
30°	856.1	843.2	830.2	820.3	813.5	806.6	799.8	792.9
32.5°	814.1	799.3	784.5	773.9	767.5	761.0	754.6	748.1
35°	748.3	732.4	716.4	705.6	700.0	694.4	688.8	683.2
37.5°	684.3	666.7	649.1	637.1	630.7	624.2	617.9	611.5
40°	641.4	623.5	605.4	593.1	586.5	579.9	573.3	566.7
42.5°	598.2	579.5	560.9	548.4	542.0	535.6	529.2	522.8
45°	535.2	517.2	499.1	487.1	481.0	474.9	468.8	462.7
47.5°	473.9	456.0	438.1	426.4	420.9	415.3	409.7	404.2
50°	434.5	417.0	399.5	388.1	382.7	377.4	372.0	366.7
52.5°	397.4	380.5	363.5	352.7	347.7	342.8	337.9	332.9
55°	340.9	325.6	310.4	300.3	295.5	290.7	285.9	281.0
57.5°	289.5	275.5	261.6	252.5	248.5	244.4	240.3	236.3
60°	254.0	241.1	228.1	219.6	215.5	211.5	207.4	203.4
62.5°	223.3	210.9	198.5	191.1	188.7	186.3	183.8	181.4
65°	181.5	172.9	164.3	159.5	158.8	158.1	157.3	156.5
67.5°	146.5	142.6	138.6	136.2	135.4	134.6	133.8	133.0
70°	127.4	124.9	122.3	120.6	119.6	118.6	117.5	116.5
72.5°	110.9	108.7	106.6	105.3	104.6	104.0	103.4	102.8
75°	87.8	86.1	84.3	83.3	83.0	82.7	82.5	82.2
77.5°	66.6	65.5	64.5	63.8	63.4	62.9	62.6	62.2
80°	52.8	51.8	50.8	50.3	50.3	50.3	50.3	50.3
82.5°	40.0	39.3	38.7	38.4	38.4	38.4	38.4	38.4
85°	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
87.5°	12.7	12.5	12.2	12.1	12.1	12.1	12.2	12.2
90°	29.3	28.9	28.6	28.4	28.7	28.8	29.0	29.2
92.5°	27.5	27.6	27.6	27.7	27.7	27.7	27.8	27.8
95°	55.0	55.0	55.0	54.8	54.4	54.1	53.6	53.3
97.5°	92.5	92.5	92.5	92.5	92.4	92.4	92.3	92.3
100°	118.6	118.6	118.6	118.5	118.3	118.1	117.9	117.7
102.5°	147.1	147.2	147.4	147.3	147.1	147.0	146.8	146.6
105°	189.8	190.2	190.5	190.7	190.7	190.7	190.7	190.7
107.5°	235.9	236.1	236.2	235.8	235.0	234.1	233.2	232.3
110°	267.3	267.3	267.3	266.9	266.4	265.8	265.2	264.7





TEST NUMBER: P331727-935

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	298.6	298.2	297.7	297.2	296.9	296.4	296.0	295.6
115°	346.7	346.6	346.4	345.9	345.4	344.8	344.2	343.7
117.5°	393.3	392.9	392.4	391.8	391.3	390.7	390.1	389.6
120°	424.5	424.5	424.5	424.2	423.6	423.0	422.5	421.9
122.5°	456.5	456.1	455.6	455.2	454.8	454.3	453.9	453.5
125°	504.1	503.5	502.9	502.6	502.4	502.1	502.0	501.8
127.5°	550.3	549.6	548.9	548.2	547.6	547.0	546.4	545.8
130°	581.8	581.4	581.0	580.5	579.7	578.9	578.2	577.4
132.5°	612.5	611.7	610.8	610.1	609.5	608.9	608.3	607.7
135°	657.8	657.6	657.4	657.0	656.4	655.9	655.3	654.7
137.5°	701.2	701.0	700.9	700.4	699.6	698.9	698.1	697.3
140°	730.4	730.4	730.4	730.0	729.2	728.4	727.7	726.9
142.5°	756.8	756.9	757.1	756.8	756.0	755.3	754.5	753.7
145°	796.9	797.1	797.3	797.0	796.3	795.5	794.7	793.9
147.5°	832.1	832.5	832.9	832.8	832.1	831.3	830.6	829.8
150°	854.4	855.0	855.5	855.5	855.0	854.4	853.8	853.3
152.5°	876.7	877.4	878.1	878.1	877.4	876.7	876.0	875.2
155°	905.0	905.9	906.9	907.1	906.5	905.9	905.3	904.7
157.5°	931.1	932.4	933.7	933.8	933.0	932.0	931.1	930.2
160°	946.6	947.7	948.9	949.1	948.3	947.5	946.8	946.0
162.5°	960.6	961.9	963.2	963.5	962.5	961.6	960.7	959.8
165°	978.8	980.1	981.5	981.6	980.7	979.7	978.8	977.8
167.5°	993.7	995.1	996.3	996.5	995.6	994.5	993.6	992.6
170°	1001.9	1003.3	1004.6	1004.7	1003.6	1002.5	1001.3	1000.1
172.5°	1008.1	1009.5	1010.8	1010.9	1009.8	1008.7	1007.5	1006.3
175°	1014.9	1016.2	1017.5	1017.6	1016.5	1015.3	1014.2	1013.1
177.5°	1018.0	1018.9	1019.8	1019.8	1018.9	1018.0	1017.0	1016.2
180°	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2

(END OF REPORT)