

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: P331726-935

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331726-935
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-C865D925U935-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 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: 5783.9 lumens
Efficiency: N/A
Efficacy: 95.6 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

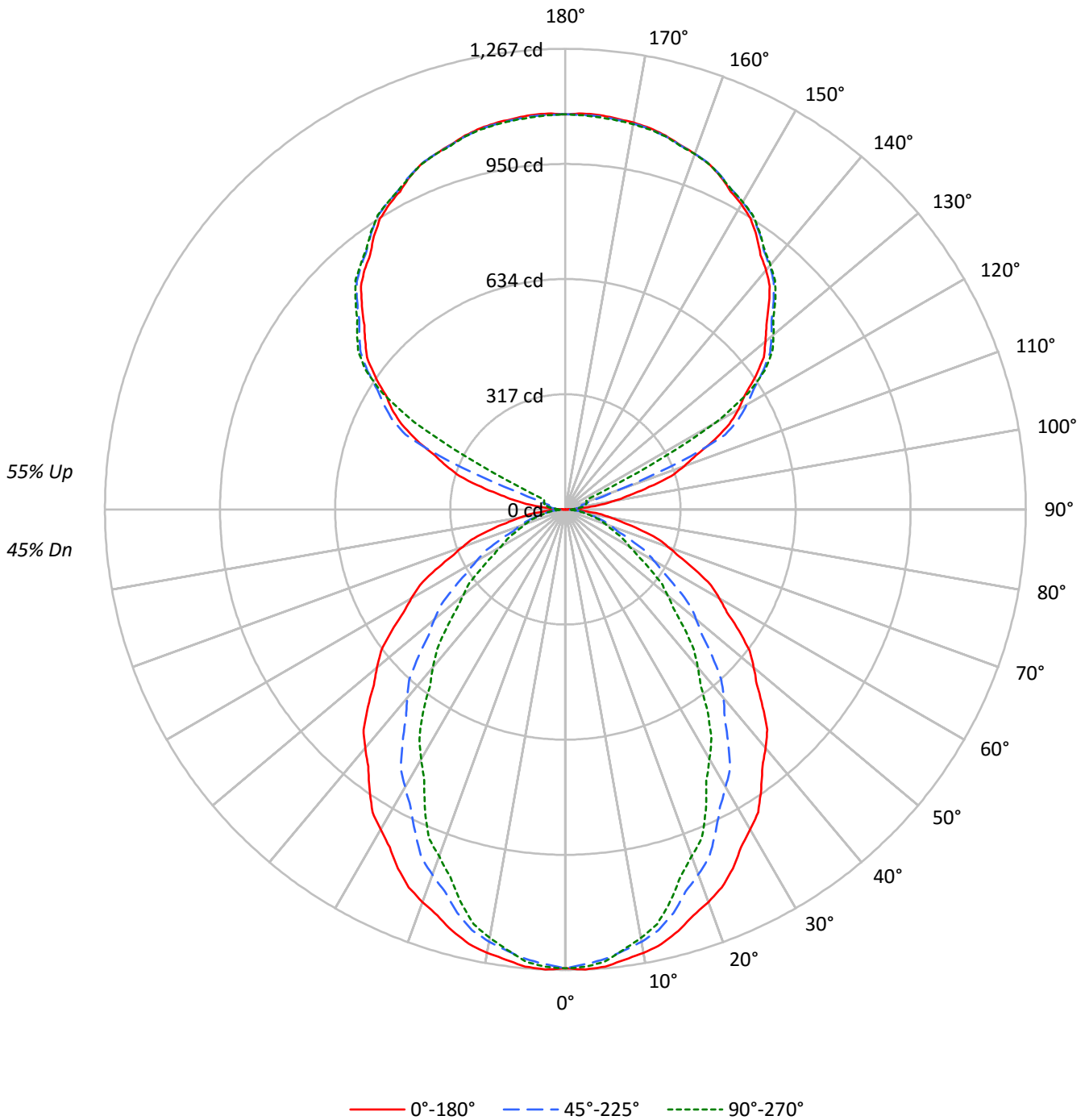
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39				
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	39	38	33				
3	81	72	65	60	74	66	60	55	56	51	48	46	43	40	37	35	33	29				
4	74	64	56	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25				
5	68	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22				
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	27	25	22	19				
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	17				
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16				
9	51	39	31	27	47	36	30	25	31	26	22	26	22	19	22	19	16	14				
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13				

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	2.0
10°-20°	324.5	5.6
20°-30°	455.6	7.9
30°-40°	496.8	8.6
40°-50°	456.8	7.9
50°-60°	358.8	6.2
60°-70°	233.9	4.0
70°-80°	120.6	2.1
80°-90°	34.0	0.6
90°-100°	36.2	0.6
100°-110°	132.9	2.3
110°-120°	355.3	6.1
120°-130°	586.6	10.1
130°-140°	623.8	10.8
140°-150°	579.8	10.0
150°-160°	466.2	8.1
160°-170°	300.4	5.2
170°-180°	103.4	1.8
0°-30°	898.3	15.5
0°-40°	1395.1	24.1
0°-60°	2210.7	38.2
0°-90°	2599.2	44.9
90°-120°	524.5	9.1
90°-150°	2314.7	40.0
90°-180°	3185.0	55.1
0°-180°	5783.9	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	9	16	20	21	4
95°	51	27	31	34	34	63
105°	239	249	48	56	60	255
115°	452	466	485	138	64	445
125°	639	650	664	670	672	570
135°	791	803	811	818	817	611
145°	918	918	930	935	932	574
155°	1010	1004	1013	1017	1011	465
165°	1065	1060	1062	1067	1062	301
175°	1089	1084	1085	1090	1083	104
180°	1087	1087	1087	1087	1087	



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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	13.5	12.3	11.0	9.8	9.3	9.6	9.9	10.2	10.4	10.4
90°	0.8	2.7	4.6	6.5	8.4	10.2	11.5	12.9	14.3	15.8	16.6
92.5°	15.8	15.7	15.5	15.3	15.2	15.4	16.2	16.9	17.6	18.3	18.7
95°	51.1	45.4	39.6	33.8	28.1	25.7	27.0	28.2	29.4	30.7	31.5
97.5°	101.4	85.2	69.0	52.7	36.4	29.7	32.5	35.4	38.2	41.1	41.8
100°	139.2	115.2	91.3	67.3	43.4	33.0	35.9	38.9	41.8	44.9	46.2
102.5°	180.7	175.6	170.6	165.5	160.4	145.5	120.6	95.7	70.9	46.1	47.9
105°	239.0	244.3	249.5	254.8	260.0	238.8	191.1	143.4	95.7	48.0	49.9
107.5°	305.6	309.8	314.0	318.2	322.5	296.0	238.8	181.6	124.3	67.2	65.2
110°	348.4	352.1	355.7	359.4	363.0	339.6	289.1	238.6	188.1	137.6	120.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	388.6	391.8	395.1	398.4	401.6	397.0	384.5	372.0	359.6	347.1	283.4
115°	452.1	455.1	458.1	461.1	464.0	467.7	472.1	476.5	480.8	485.2	404.2
117.5°	508.9	512.2	515.6	518.9	522.2	525.4	528.4	531.4	534.4	537.4	517.8
120°	550.4	553.0	555.7	558.3	560.9	563.8	567.0	570.1	573.3	576.4	578.5
122.5°	585.7	588.4	591.2	593.9	596.7	599.8	603.2	606.7	610.1	613.5	614.8
125°	639.3	641.5	643.9	646.1	648.4	651.2	654.5	657.8	661.2	664.4	665.7
127.5°	687.9	690.4	692.9	695.4	697.9	700.4	702.9	705.4	707.9	710.4	712.1
130°	718.8	721.5	724.3	727.1	729.9	732.3	734.2	736.1	738.0	739.9	741.8
132.5°	750.2	752.5	754.9	757.3	759.7	761.8	763.8	765.7	767.6	769.5	771.2
135°	791.1	793.8	796.7	799.4	802.3	804.4	806.0	807.6	809.2	810.7	812.4
137.5°	832.4	834.4	836.4	838.3	840.2	842.1	843.9	845.7	847.5	849.3	850.9
140°	859.5	860.9	862.3	863.7	865.0	866.8	868.7	870.6	872.5	874.4	876.0
142.5°	882.1	883.4	884.7	885.9	887.2	888.9	891.0	893.3	895.5	897.7	899.1
145°	917.7	917.5	917.3	917.1	917.0	918.3	921.4	924.3	927.3	930.2	931.4
147.5°	948.6	948.0	947.4	946.7	946.0	947.1	950.0	953.0	956.0	958.9	959.8
150°	968.8	967.6	966.3	965.1	963.9	964.7	967.5	970.3	973.1	975.9	976.9
152.5°	985.8	984.4	983.0	981.7	980.3	980.9	983.6	986.3	988.9	991.6	992.6
155°	1010.5	1008.9	1007.3	1005.7	1004.2	1004.4	1006.5	1008.7	1010.7	1012.8	1013.8
157.5°	1029.8	1028.5	1027.2	1025.8	1024.5	1024.6	1026.1	1027.5	1029.0	1030.4	1031.7
160°	1041.1	1040.1	1039.1	1037.9	1036.9	1036.9	1037.9	1039.1	1040.1	1041.1	1042.2
162.5°	1051.2	1050.2	1049.1	1048.0	1047.0	1046.9	1047.8	1048.7	1049.6	1050.6	1051.7
165°	1064.7	1063.7	1062.6	1061.5	1060.5	1060.2	1060.8	1061.3	1061.9	1062.4	1063.6
167.5°	1074.8	1073.8	1072.7	1071.6	1070.6	1070.3	1070.8	1071.3	1071.8	1072.3	1073.5
170°	1080.5	1079.3	1078.3	1077.3	1076.2	1075.9	1076.2	1076.6	1076.9	1077.3	1078.5
172.5°	1084.2	1083.1	1082.1	1081.1	1080.0	1079.7	1080.0	1080.4	1080.7	1081.1	1082.3
175°	1089.1	1087.9	1086.7	1085.4	1084.2	1083.7	1084.1	1084.4	1084.8	1085.1	1086.4
177.5°	1089.9	1088.9	1088.0	1086.9	1086.0	1085.5	1085.7	1085.8	1086.0	1086.1	1087.1
180°	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8



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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°	10.4	10.3	10.3	10.3	10.4	10.5	10.6	10.7
90°	17.5	18.3	19.2	19.8	20.1	20.5	20.9	21.3
92.5°	19.1	19.6	20.1	20.4	20.6	20.8	21.0	21.3
95°	32.4	33.3	34.2	34.5	34.4	34.2	34.0	33.8
97.5°	42.4	43.1	43.8	44.3	44.5	44.7	44.9	45.1
100°	47.6	49.0	50.5	51.3	51.7	52.0	52.3	52.7
102.5°	49.7	51.6	53.4	54.5	55.0	55.4	56.0	56.5
105°	51.8	53.7	55.6	57.0	57.7	58.4	59.1	59.8
107.5°	63.2	61.3	59.3	58.7	59.4	60.1	60.8	61.5
110°	102.6	85.2	67.7	59.3	60.0	60.7	61.4	62.2



TEST NUMBER: P331726-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	219.6	155.8	92.1	60.5	61.0	61.6	62.2	62.8
115°	323.4	242.5	161.5	114.8	102.2	89.6	77.1	64.5
117.5°	498.3	478.7	459.1	428.6	387.3	345.9	304.6	263.3
120°	580.6	582.7	584.8	574.0	550.4	526.8	503.3	479.7
122.5°	616.0	617.3	618.5	616.9	612.3	607.7	603.1	598.6
125°	666.9	668.1	669.3	670.2	670.7	671.2	671.8	672.4
127.5°	713.9	715.7	717.6	718.4	718.6	718.7	718.8	718.8
130°	743.8	745.7	747.6	748.6	748.4	748.1	748.0	747.8
132.5°	772.8	774.5	776.1	776.8	776.6	776.4	776.3	776.1
135°	814.2	816.0	817.7	818.4	818.0	817.7	817.3	817.0
137.5°	852.6	854.4	856.1	856.7	856.1	855.5	854.9	854.3
140°	877.5	879.2	880.7	881.1	880.2	879.3	878.5	877.5
142.5°	900.5	902.0	903.4	903.7	902.8	902.0	901.1	900.2
145°	932.7	933.9	935.1	935.3	934.4	933.6	932.7	931.9
147.5°	960.7	961.6	962.5	962.6	961.8	961.1	960.4	959.7
150°	977.9	979.0	980.1	980.2	979.3	978.4	977.5	976.6
152.5°	993.7	994.7	995.7	995.7	994.5	993.4	992.3	991.1
155°	1014.9	1016.0	1017.0	1016.8	1015.5	1014.0	1012.6	1011.2
157.5°	1032.8	1034.0	1035.2	1035.1	1033.7	1032.3	1031.0	1029.7
160°	1043.2	1044.3	1045.3	1045.3	1044.0	1042.8	1041.6	1040.3
162.5°	1052.9	1054.1	1055.3	1055.2	1053.7	1052.1	1050.7	1049.1
165°	1064.8	1066.0	1067.2	1067.2	1066.0	1064.8	1063.6	1062.4
167.5°	1074.7	1075.9	1077.2	1076.9	1075.4	1073.8	1072.3	1070.7
170°	1079.8	1081.0	1082.2	1082.0	1080.5	1078.8	1077.3	1075.7
172.5°	1083.5	1084.8	1086.0	1085.8	1084.2	1082.6	1081.1	1079.5
175°	1087.6	1088.8	1090.0	1089.8	1088.0	1086.3	1084.5	1082.8
177.5°	1088.0	1089.1	1090.0	1089.9	1088.6	1087.4	1086.1	1084.9
180°	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8

(END OF REPORT)