

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: P332843-935

Luminaire Tested: **S124DIW-S1195D770U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332843-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D770U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6830.9 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

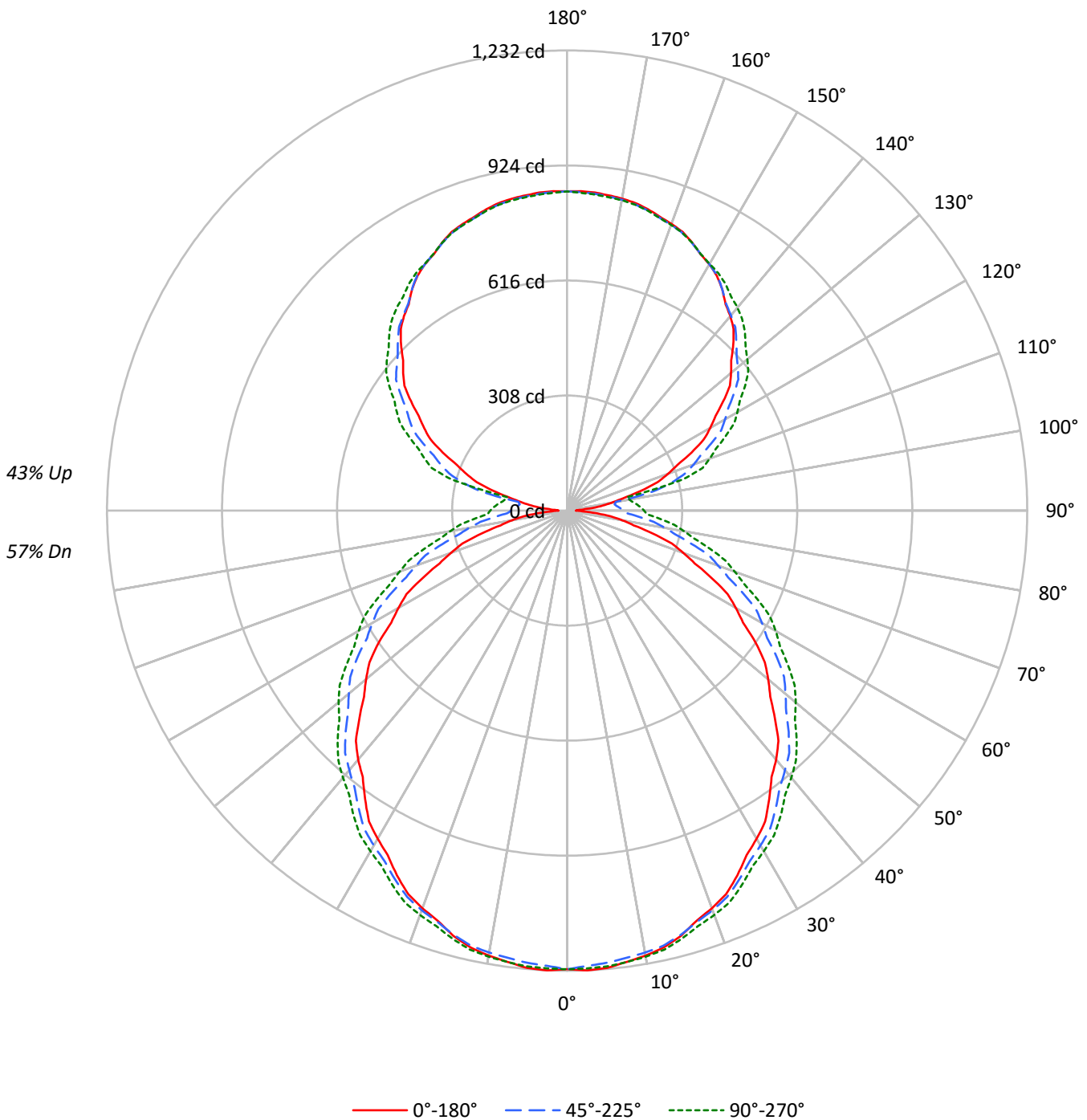
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332843-935

CATALOG NUMBER: S124DIW-S1195D770U935-4F0-1E-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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	98	93	89	85	91	87	83	80	75	72	69	63	61	59	53	52	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	44	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	35	36	32	30	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	29	26	22
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	20
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	40	32	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	1.7
10°-20°	333.1	4.9
20°-30°	503.7	7.4
30°-40°	609.4	8.9
40°-50°	644.3	9.4
50°-60°	606.4	8.9
60°-70°	503.1	7.4
70°-80°	353.4	5.2
80°-90°	202.2	3.0
90°-100°	147.8	2.2
100°-110°	274.1	4.0
110°-120°	415.4	6.1
120°-130°	485.8	7.1
130°-140°	498.5	7.3
140°-150°	455.6	6.7
150°-160°	365.1	5.3
160°-170°	235.5	3.4
170°-180°	81.2	1.2
0°-30°	953.1	14.0
0°-40°	1562.5	22.9
0°-60°	2813.1	41.2
0°-90°	3871.8	56.7
90°-120°	837.4	12.3
90°-150°	2277.3	33.3
90°-180°	2959.0	43.3
0°-180°	6830.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	24	86	150	192	206	16
95°	53	78	134	173	188	59
105°	205	237	290	327	318	215
115°	367	383	425	455	466	362
125°	510	513	545	572	582	456
135°	629	629	641	663	673	485
145°	724	724	724	733	740	452
155°	792	792	791	793	791	365
165°	835	832	832	837	832	236
175°	854	851	851	856	849	81
180°	854	854	854	854	854	



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CATALOG NUMBER: S124DIW-S1195D770U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	41.1	53.9	66.6	79.4	92.2	105.4	119.0	132.6	146.2	159.8	168.8
90°	23.9	37.7	51.5	65.3	79.0	93.1	107.4	121.7	135.9	150.2	159.9
92.5°	28.9	40.0	51.1	62.2	73.3	85.9	100.2	114.5	128.8	143.1	152.6
95°	53.0	58.3	63.5	68.8	74.0	83.0	95.7	108.3	121.0	133.7	142.8
97.5°	90.8	102.5	114.3	126.0	137.6	141.7	138.3	134.8	131.4	127.9	136.0
100°	119.9	130.4	140.9	151.4	162.0	163.3	155.7	148.0	140.3	132.6	138.4
102.5°	153.7	162.6	171.3	180.2	189.1	198.0	207.2	216.3	225.3	234.5	216.5
105°	204.7	211.7	218.7	225.7	232.6	242.1	254.1	266.1	278.1	290.2	299.0
107.5°	254.4	259.8	265.4	270.8	276.2	284.7	296.4	308.1	319.7	331.4	339.5
110°	287.1	291.8	296.5	301.2	305.9	314.0	325.5	337.1	348.7	360.2	367.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	318.7	323.3	327.9	332.3	336.9	344.5	355.1	365.8	376.3	386.9	393.6
115°	367.4	370.6	373.8	376.9	380.1	386.5	396.1	405.8	415.4	425.1	432.0
117.5°	412.5	414.7	417.0	419.2	421.4	427.2	436.6	446.1	455.5	464.9	471.2
120°	442.1	443.6	445.1	446.6	448.1	453.1	461.8	470.6	479.3	488.0	494.4
122.5°	470.7	471.2	471.8	472.3	472.9	477.4	485.9	494.6	503.1	511.7	518.0
125°	510.4	510.7	510.9	511.2	511.4	515.2	522.6	529.9	537.4	544.7	550.9
127.5°	549.0	548.8	548.6	548.5	548.3	551.5	558.0	564.6	571.1	577.6	583.0
130°	572.9	572.7	572.6	572.5	572.3	574.9	580.1	585.5	590.8	596.1	601.8
132.5°	595.9	595.9	595.8	595.8	595.7	598.0	602.4	606.8	611.3	615.7	621.1
135°	629.0	629.0	628.8	628.6	628.5	629.8	632.5	635.2	637.9	640.6	645.8
137.5°	659.6	659.4	659.1	658.8	658.7	659.4	661.0	662.6	664.3	666.0	670.8
140°	679.6	679.5	679.5	679.5	679.5	679.8	680.4	681.0	681.6	682.1	686.6
142.5°	696.4	696.8	697.2	697.8	698.2	698.4	698.4	698.4	698.4	698.4	702.1
145°	723.6	723.7	723.8	723.9	724.0	724.1	724.1	724.1	724.1	724.1	726.1
147.5°	745.5	745.9	746.4	746.9	747.3	747.5	747.4	747.3	747.1	747.0	747.3
150°	761.3	761.6	761.8	762.1	762.3	762.4	762.2	762.1	762.0	761.8	761.8
152.5°	773.4	773.9	774.3	774.6	775.1	775.1	774.8	774.6	774.4	774.1	774.3
155°	791.9	792.0	792.1	792.3	792.5	792.3	791.9	791.4	791.0	790.6	791.2
157.5°	807.6	807.5	807.4	807.4	807.3	806.9	806.5	806.0	805.5	805.0	805.7
160°	816.7	816.3	816.0	815.5	815.1	814.8	814.7	814.5	814.3	814.2	815.1
162.5°	824.9	824.4	823.9	823.4	822.8	822.4	822.3	822.2	822.0	821.9	822.8
165°	835.3	834.6	833.9	833.2	832.5	832.2	832.2	832.2	832.2	832.2	833.3
167.5°	843.5	842.7	842.1	841.3	840.5	840.2	840.1	840.0	839.9	839.8	841.0
170°	848.1	847.2	846.4	845.5	844.7	844.3	844.5	844.6	844.7	844.9	846.0
172.5°	851.2	850.3	849.5	848.6	847.7	847.4	847.6	847.7	847.8	848.0	849.1
175°	854.5	853.6	852.8	852.0	851.1	850.8	850.8	851.0	851.2	851.3	852.6
177.5°	856.0	855.2	854.5	853.6	852.8	852.6	852.8	853.0	853.3	853.4	854.4
180°	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	177.9	186.9	196.0	201.8	204.6	207.3	210.1	212.8
90°	169.6	179.3	189.0	195.3	197.9	200.7	203.5	206.1
92.5°	162.0	171.4	180.9	186.9	189.4	191.9	194.4	196.9
95°	151.9	161.0	170.0	176.1	179.0	181.8	184.8	187.6
97.5°	144.1	152.2	160.3	165.7	168.5	171.3	174.1	176.8
100°	144.3	150.1	155.9	160.0	162.3	164.5	166.9	169.1
102.5°	198.4	180.4	162.3	154.5	156.9	159.3	161.7	164.1
105°	308.0	316.9	325.8	328.9	326.2	323.6	320.9	318.2
107.5°	347.7	355.8	363.9	369.4	372.1	374.9	377.6	380.3
110°	374.8	382.1	389.4	394.5	397.4	400.3	403.1	406.0



TEST NUMBER: P332843-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	400.4	407.1	413.8	418.7	421.6	424.6	427.7	430.6
115°	439.1	446.1	453.1	457.7	459.8	461.9	464.1	466.2
117.5°	477.5	483.8	490.1	494.4	496.8	499.2	501.6	503.9
120°	500.8	507.2	513.6	517.9	520.0	522.2	524.3	526.5
122.5°	524.3	530.5	536.7	540.9	542.8	544.8	546.6	548.5
125°	557.2	563.4	569.6	573.7	575.7	577.6	579.6	581.6
127.5°	588.4	593.8	599.3	603.0	604.9	606.8	608.8	610.8
130°	607.4	613.0	618.7	622.4	624.2	626.1	627.9	629.7
132.5°	626.5	632.0	637.3	640.9	642.6	644.3	646.0	647.7
135°	651.0	656.2	661.3	665.0	667.1	669.2	671.3	673.4
137.5°	675.5	680.3	685.1	688.2	689.7	691.0	692.5	694.0
140°	691.0	695.3	699.7	702.7	704.4	706.1	707.7	709.5
142.5°	705.9	709.7	713.5	716.1	717.4	718.7	720.0	721.3
145°	728.1	730.0	732.0	733.7	735.3	736.8	738.3	739.8
147.5°	747.7	748.0	748.4	749.2	750.3	751.4	752.5	753.6
150°	761.8	761.8	761.8	761.9	762.1	762.2	762.3	762.4
152.5°	774.6	774.7	775.0	775.1	775.0	774.9	774.8	774.7
155°	791.7	792.3	792.8	792.9	792.5	792.0	791.6	791.3
157.5°	806.5	807.3	808.0	808.0	807.3	806.5	805.7	805.0
160°	816.0	816.7	817.6	817.6	816.7	816.0	815.1	814.2
162.5°	823.6	824.4	825.3	825.3	824.3	823.3	822.3	821.4
165°	834.4	835.5	836.6	836.6	835.3	834.1	832.8	831.5
167.5°	842.3	843.5	844.8	844.7	843.3	841.9	840.4	839.0
170°	847.1	848.3	849.5	849.3	847.9	846.4	845.1	843.6
172.5°	850.2	851.4	852.5	852.3	850.8	849.3	847.7	846.2
175°	853.9	855.1	856.4	856.2	854.5	852.8	851.1	849.4
177.5°	855.3	856.2	857.1	856.9	855.5	854.1	852.8	851.4
180°	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5

(END OF REPORT)