

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: P332856-935

Luminaire Tested: **S124DIW-S1195D1340U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332856-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8195.2 lumens
Efficiency: N/A
Efficacy: 107.5 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

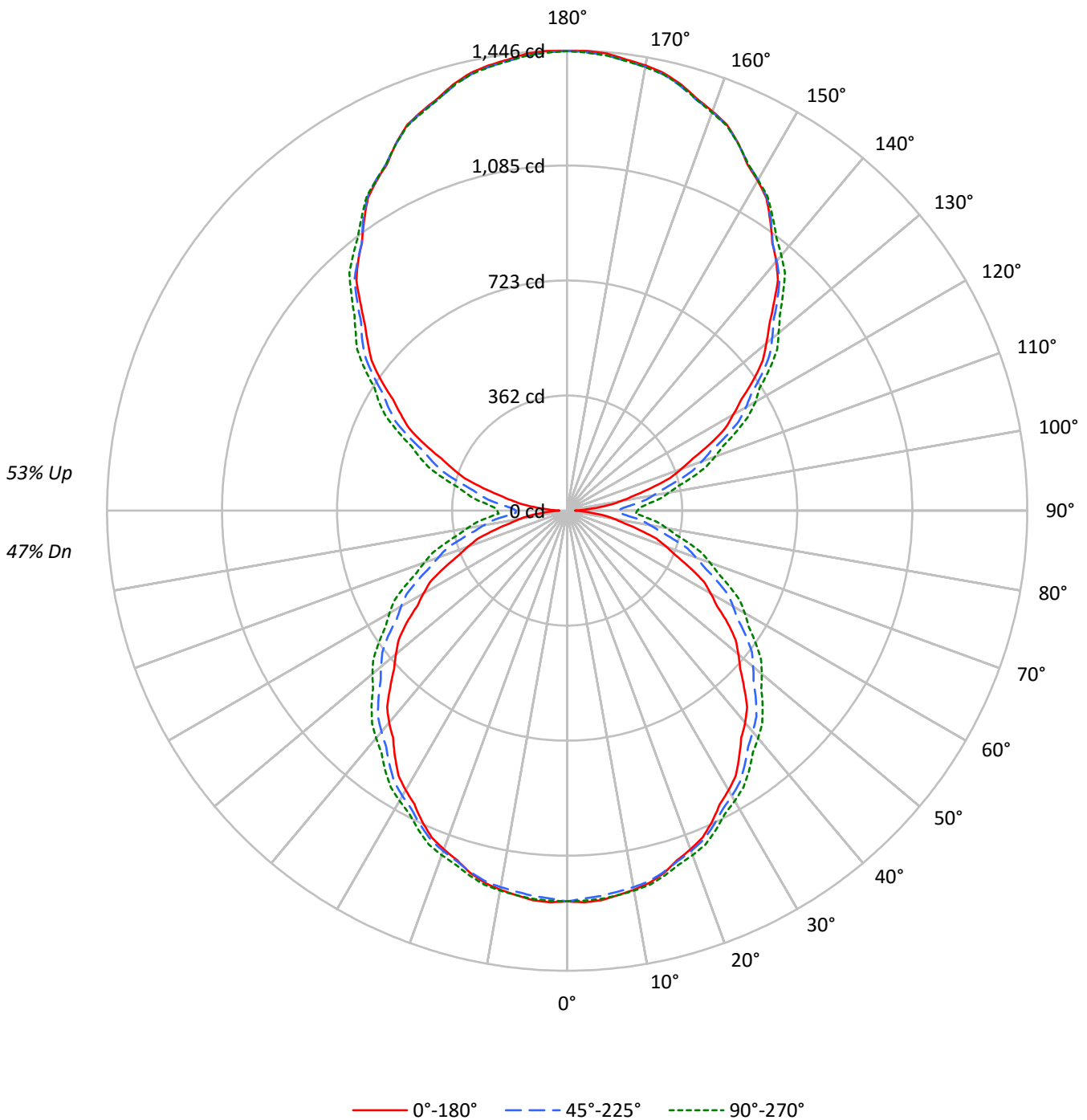
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82		67	67	67		54	54	54	47
1	96	91	87	83	88	84	80	77	70	68	65		58	56	54		46	45	43	38
2	87	79	73	67	80	73	67	62	61	57	53		50	47	44		40	38	36	31
3	79	69	62	56	72	64	57	52	53	48	44		44	40	37		35	32	30	26
4	72	61	53	47	66	56	49	44	47	42	37		39	35	31		31	28	26	22
5	66	54	46	40	61	50	43	37	42	36	32		35	30	27		28	25	22	19
6	61	49	40	34	56	45	37	32	38	32	28		31	27	23		25	22	19	16
7	56	44	36	30	51	40	33	28	34	28	24		28	24	21		23	20	17	14
8	52	40	32	26	48	37	30	25	31	25	21		26	22	18		21	18	15	13
9	49	36	28	23	44	33	27	22	28	23	19		24	19	16		19	16	14	11
10	45	33	26	21	42	31	24	20	26	21	17		22	18	15		18	15	12	10

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	1.4
10°-20°	333.1	4.1
20°-30°	503.7	6.1
30°-40°	609.4	7.4
40°-50°	644.3	7.9
50°-60°	606.4	7.4
60°-70°	503.1	6.1
70°-80°	353.4	4.3
80°-90°	204.1	2.5
90°-100°	213.8	2.6
100°-110°	369.9	4.5
110°-120°	537.7	6.6
120°-130°	664.6	8.1
130°-140°	723.4	8.8
140°-150°	699.7	8.5
150°-160°	586.0	7.2
160°-170°	389.9	4.8
170°-180°	136.5	1.7
0°-30°	953.1	11.6
0°-40°	1562.5	19.1
0°-60°	2813.1	34.3
0°-90°	3873.6	47.3
90°-120°	1121.5	13.7
90°-150°	3209.1	39.2
90°-180°	4322.0	52.7
0°-180°	8195.2	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°	25	93	161	205	220	19
95°	85	141	204	243	257	89
105°	272	303	356	393	408	290
115°	495	509	549	577	587	489
125°	714	715	746	769	776	637
135°	917	924	934	952	958	710
145°	1112	1115	1117	1123	1126	696
155°	1273	1273	1272	1276	1272	586
165°	1386	1382	1380	1386	1382	390
175°	1442	1436	1435	1442	1435	137
180°	1444	1444	1444	1444	1444	



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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°	41.3	54.4	67.4	80.4	93.4	106.8	120.6	134.4	148.2	162.0	171.1
90°	25.3	40.3	55.3	70.2	85.2	100.2	115.3	130.4	145.6	160.7	171.0
92.5°	44.8	58.9	73.0	87.1	101.3	115.6	130.2	144.6	159.2	173.7	183.2
95°	84.9	97.2	109.5	121.8	134.1	147.4	161.7	176.0	190.2	204.5	213.4
97.5°	133.3	143.7	154.2	164.6	175.1	187.5	202.0	216.5	230.8	245.3	254.2
100°	171.4	180.4	189.3	198.3	207.2	218.7	232.9	247.0	261.1	275.3	284.0
102.5°	212.6	219.9	227.3	234.6	242.0	252.5	266.2	279.9	293.7	307.4	316.1
105°	272.5	278.9	285.2	291.6	298.0	307.3	319.6	331.9	344.2	356.5	364.9
107.5°	338.1	343.5	348.8	354.0	359.4	367.5	378.3	389.2	400.0	410.9	419.0
110°	381.7	386.5	391.2	396.1	400.8	408.5	418.9	429.3	439.7	450.2	456.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	427.1	430.9	434.8	438.8	442.6	449.4	459.2	469.0	478.7	488.4	495.2
115°	495.1	497.8	500.6	503.3	506.1	512.1	521.4	530.6	539.9	549.2	555.7
117.5°	560.5	562.3	564.2	566.0	567.8	573.2	581.9	590.6	599.4	608.2	613.7
120°	603.1	605.0	607.0	608.9	610.8	615.8	623.9	632.1	640.2	648.2	653.2
122.5°	648.7	649.3	649.9	650.5	651.0	655.3	663.3	671.4	679.4	687.4	692.7
125°	714.5	714.3	713.9	713.6	713.3	716.9	724.3	731.7	739.1	746.4	751.7
127.5°	775.2	775.7	776.1	776.5	777.0	780.0	785.4	790.9	796.3	801.8	806.8
130°	817.0	817.4	817.9	818.4	818.8	821.5	826.3	831.2	836.1	841.0	846.0
132.5°	860.8	861.0	861.3	861.5	861.8	863.8	867.5	871.2	874.9	878.6	883.3
135°	917.2	918.8	920.2	921.7	923.3	925.1	927.1	929.3	931.4	933.6	938.0
137.5°	980.2	980.6	981.0	981.4	981.8	982.7	984.1	985.6	987.1	988.4	992.3
140°	1022.2	1022.4	1022.6	1022.8	1023.0	1023.2	1023.6	1023.8	1024.2	1024.4	1028.2
142.5°	1059.5	1060.0	1060.4	1060.8	1061.3	1061.3	1060.9	1060.5	1060.1	1059.8	1063.2
145°	1112.4	1113.1	1113.8	1114.5	1115.2	1115.6	1115.9	1116.1	1116.4	1116.6	1118.2
147.5°	1165.1	1166.0	1166.9	1167.8	1168.6	1169.0	1168.8	1168.6	1168.4	1168.2	1168.3
150°	1197.3	1198.0	1198.7	1199.4	1200.1	1200.3	1200.3	1200.3	1200.3	1200.3	1200.3
152.5°	1226.6	1227.1	1227.6	1228.1	1228.6	1229.1	1229.2	1229.4	1229.7	1229.9	1230.5
155°	1272.9	1272.9	1272.9	1272.9	1272.9	1272.8	1272.6	1272.3	1272.0	1271.9	1272.8
157.5°	1312.3	1311.8	1311.4	1310.9	1310.4	1310.2	1310.2	1310.1	1310.1	1310.0	1310.8
160°	1335.5	1335.2	1335.0	1334.7	1334.5	1334.2	1333.9	1333.8	1333.5	1333.3	1333.9
162.5°	1356.9	1356.2	1355.6	1355.0	1354.4	1353.9	1353.7	1353.4	1353.1	1352.9	1354.3
165°	1385.7	1385.0	1384.2	1383.5	1382.8	1382.2	1381.6	1381.1	1380.6	1380.1	1381.6
167.5°	1407.8	1406.8	1405.8	1404.7	1403.7	1403.2	1403.3	1403.3	1403.3	1403.3	1404.9
170°	1420.3	1419.1	1417.9	1416.6	1415.4	1414.9	1415.1	1415.4	1415.7	1415.8	1417.4
172.5°	1429.3	1428.2	1427.2	1426.2	1425.1	1424.6	1424.7	1424.7	1424.8	1424.8	1426.5
175°	1441.6	1440.3	1439.1	1437.9	1436.6	1435.8	1435.6	1435.4	1435.1	1434.9	1436.6
177.5°	1445.5	1444.6	1443.6	1442.6	1441.6	1441.1	1441.1	1441.1	1441.1	1441.1	1442.5
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8



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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°	180.2	189.4	198.5	204.5	207.3	210.1	212.9	215.7
90°	181.4	191.7	202.1	208.7	211.6	214.6	217.6	220.5
92.5°	192.8	202.2	211.8	217.9	220.7	223.3	226.1	228.9
95°	222.5	231.4	240.5	246.3	249.1	251.8	254.6	257.4
97.5°	263.1	272.0	280.9	286.6	289.3	291.9	294.5	297.1
100°	292.8	301.6	310.3	315.7	317.9	320.0	322.2	324.3
102.5°	324.8	333.5	342.2	347.8	350.3	352.9	355.5	358.1
105°	373.2	381.7	390.0	395.8	399.0	402.2	405.4	408.5
107.5°	427.2	435.5	443.7	448.8	451.0	453.1	455.3	457.4
110°	463.3	469.8	476.3	481.2	484.4	487.6	490.8	494.0



TEST NUMBER: P332856-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	501.9	508.5	515.2	519.9	522.5	525.0	527.6	530.2
115°	562.1	568.7	575.1	579.3	581.2	583.1	585.0	586.9
117.5°	619.2	624.7	630.3	634.0	635.9	637.8	639.8	641.8
120°	658.0	662.9	667.7	671.7	674.6	677.5	680.4	683.4
122.5°	697.9	703.3	708.5	711.8	713.1	714.4	715.7	717.0
125°	757.1	762.3	767.7	771.0	772.3	773.7	775.0	776.4
127.5°	811.8	816.8	821.8	825.2	826.9	828.5	830.3	831.9
130°	851.0	856.0	861.0	863.9	864.8	865.6	866.4	867.3
132.5°	888.1	892.9	897.6	900.7	902.2	903.6	905.0	906.5
135°	942.4	946.8	951.1	953.9	955.0	956.1	957.2	958.2
137.5°	996.1	999.9	1003.8	1006.4	1008.1	1009.8	1011.5	1013.1
140°	1031.9	1035.6	1039.3	1041.8	1043.1	1044.4	1045.7	1047.0
142.5°	1066.6	1070.1	1073.5	1075.8	1077.1	1078.3	1079.5	1080.8
145°	1119.8	1121.4	1122.9	1123.9	1124.5	1125.0	1125.4	1125.9
147.5°	1168.3	1168.4	1168.4	1168.8	1169.5	1170.3	1171.0	1171.7
150°	1200.3	1200.3	1200.3	1200.2	1200.0	1199.7	1199.5	1199.3
152.5°	1231.1	1231.7	1232.3	1232.2	1231.6	1230.9	1230.3	1229.6
155°	1273.8	1274.8	1275.8	1275.8	1274.8	1273.8	1272.8	1271.9
157.5°	1311.5	1312.3	1313.0	1312.9	1312.1	1311.2	1310.4	1309.6
160°	1334.7	1335.5	1336.2	1335.9	1334.7	1333.5	1332.2	1331.0
162.5°	1355.6	1356.9	1358.2	1358.3	1357.0	1355.8	1354.6	1353.3
165°	1383.1	1384.6	1386.1	1386.4	1385.3	1384.3	1383.4	1382.3
167.5°	1406.4	1407.8	1409.3	1409.3	1407.7	1406.2	1404.7	1403.2
170°	1418.8	1420.3	1421.9	1421.7	1420.0	1418.2	1416.5	1414.8
172.5°	1428.1	1429.9	1431.6	1431.5	1429.8	1428.1	1426.3	1424.6
175°	1438.3	1440.0	1441.8	1441.8	1440.0	1438.3	1436.6	1434.9
177.5°	1443.9	1445.3	1446.7	1446.6	1445.0	1443.4	1441.8	1440.2
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8

(END OF REPORT)