

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: P332030-830

Luminaire Tested: **S123DIP-S1000D1025U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332030-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D1025U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7822.6 lumens  
Efficiency: N/A  
Efficacy: 129.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

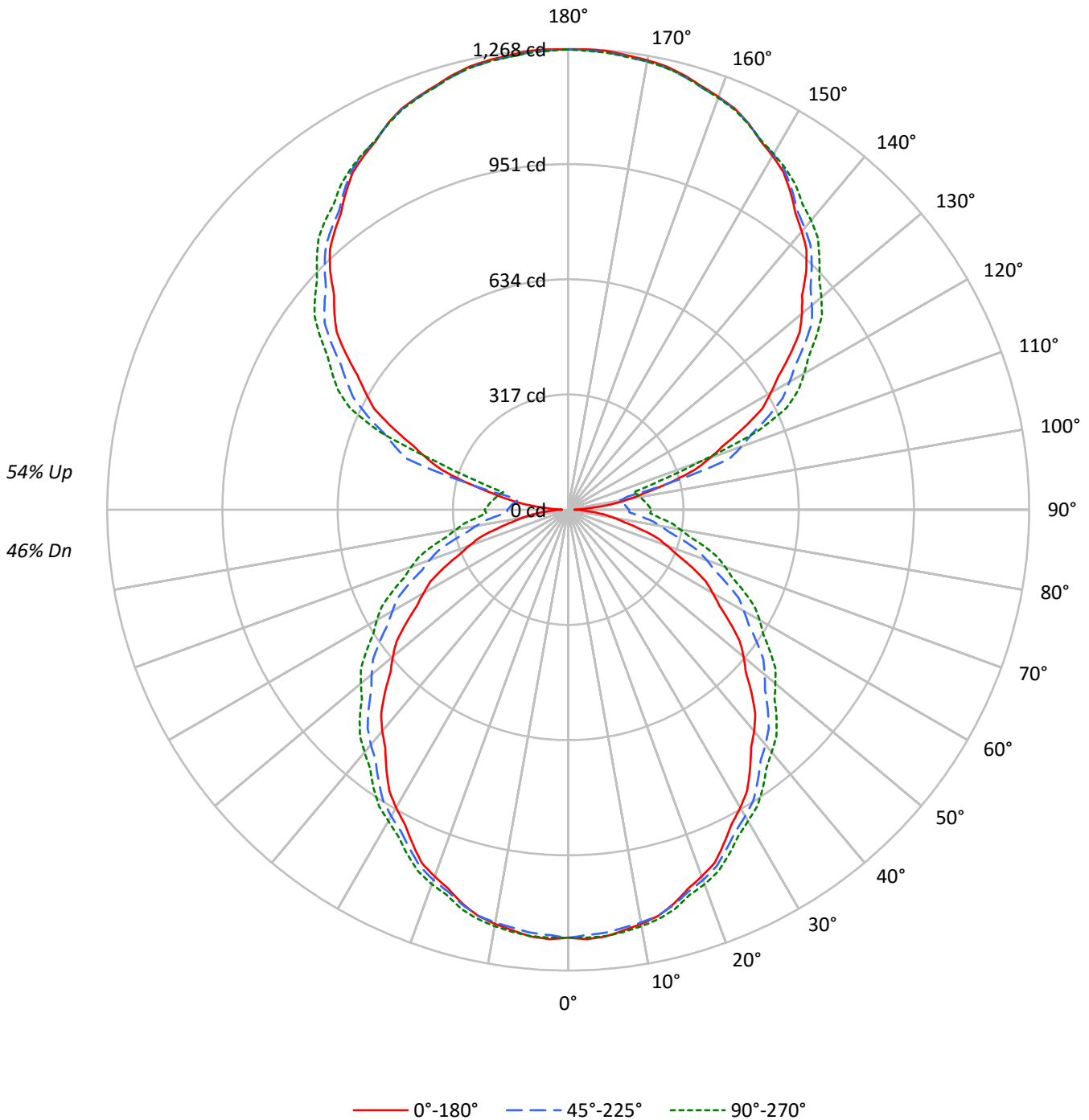
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332030-830

CATALOG NUMBER: S123DIP-S1000D1025U830-4F0-1E-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	31	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
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	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	15	12	10

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

	0°	45°	90°
0°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.6	1.4
10°-20°	318.2	4.1
20°-30°	476.0	6.1
30°-40°	568.4	7.3
40°-50°	594.7	7.6
50°-60°	558.1	7.1
60°-70°	466.1	6.0
70°-80°	333.5	4.3
80°-90°	202.4	2.6
90°-100°	170.8	2.2
100°-110°	311.1	4.0
110°-120°	588.3	7.5
120°-130°	706.1	9.0
130°-140°	732.8	9.4
140°-150°	673.9	8.6
150°-160°	540.9	6.9
160°-170°	349.1	4.5
170°-180°	120.3	1.5
0°-30°	905.9	11.6
0°-40°	1474.3	18.8
0°-60°	2627.1	33.6
0°-90°	3629.1	46.4
90°-120°	1070.2	13.7
90°-150°	3183.1	40.7
90°-180°	4193.0	53.6
0°-180°	7822.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	18	90	168	213	230	14
95°	72	86	156	201	215	82
105°	291	328	302	180	185	308
115°	532	555	608	647	662	526
125°	745	755	794	822	833	666
135°	926	931	948	972	977	712
145°	1066	1071	1074	1085	1091	667
155°	1173	1171	1172	1176	1171	540
165°	1237	1234	1233	1240	1234	349
175°	1266	1262	1262	1268	1262	120
180°	1266	1266	1266	1266	1266	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.3	48.9	63.5	78.1	92.7	107.6	122.7	137.8	152.9	168.0	177.8
90°	17.6	33.6	49.8	65.8	81.8	98.5	115.7	133.0	150.2	167.6	178.0
92.5°	33.2	45.1	57.2	69.2	81.2	95.4	111.8	128.1	144.5	160.8	171.6
95°	71.5	74.1	76.6	79.2	81.7	91.0	107.4	123.7	139.9	156.2	166.5
97.5°	127.9	134.1	140.3	146.5	152.7	154.9	153.2	151.5	149.8	148.1	158.3
100°	170.5	183.9	197.2	210.5	223.8	220.6	201.1	181.6	162.1	142.6	152.6
102.5°	219.1	230.5	241.7	252.9	264.1	258.4	235.5	212.8	190.1	167.4	170.2
105°	290.6	299.7	308.9	318.0	327.2	328.5	321.9	315.4	308.8	302.3	273.2
107.5°	364.8	372.4	380.0	387.7	395.3	406.4	421.0	435.6	450.3	464.9	445.4
110°	414.2	420.9	427.7	434.5	441.3	451.6	465.3	479.0	492.7	506.4	506.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	462.3	468.0	473.7	479.5	485.2	494.6	507.9	521.1	534.4	547.6	555.0
115°	532.3	537.0	541.7	546.4	551.0	559.4	571.6	583.7	595.9	608.0	616.9
117.5°	601.2	604.7	608.4	612.1	615.8	622.8	633.5	644.0	654.7	665.2	673.7
120°	643.0	646.3	649.6	652.9	656.2	662.9	672.9	683.0	693.0	703.0	711.2
122.5°	686.6	688.9	691.3	693.5	695.8	701.8	711.5	721.3	731.0	740.8	748.3
125°	745.2	746.9	748.6	750.2	751.9	757.2	766.4	775.5	784.6	793.7	800.1
127.5°	803.1	804.6	806.0	807.3	808.7	813.3	821.1	829.0	836.9	844.7	851.0
130°	839.2	840.7	842.1	843.5	844.8	848.8	855.4	861.9	868.4	875.0	881.2
132.5°	872.9	874.5	876.1	877.7	879.3	882.8	888.0	893.2	898.4	903.7	909.7
135°	925.5	926.4	927.5	928.4	929.3	931.8	935.9	939.8	943.8	947.7	953.5
137.5°	970.3	971.8	973.1	974.5	975.8	977.6	979.9	982.0	984.3	986.6	992.0
140°	999.5	1000.7	1002.0	1003.2	1004.5	1005.9	1007.3	1008.8	1010.3	1011.8	1016.9
142.5°	1027.3	1028.3	1029.4	1030.4	1031.4	1032.4	1033.1	1034.0	1034.7	1035.6	1040.0
145°	1066.3	1067.4	1068.7	1069.8	1071.0	1071.8	1072.2	1072.6	1073.0	1073.5	1076.1
147.5°	1101.6	1102.7	1103.6	1104.6	1105.5	1106.2	1106.6	1107.0	1107.5	1107.9	1109.0
150°	1124.3	1124.9	1125.5	1126.1	1126.7	1127.3	1127.7	1128.1	1128.5	1129.0	1129.4
152.5°	1144.5	1144.9	1145.2	1145.5	1145.8	1146.0	1146.2	1146.5	1146.8	1147.0	1147.7
155°	1173.2	1172.7	1172.3	1172.0	1171.5	1171.4	1171.6	1171.8	1172.1	1172.2	1173.3
157.5°	1195.3	1195.3	1195.3	1195.2	1195.2	1195.0	1194.9	1194.7	1194.5	1194.2	1195.5
160°	1208.9	1208.7	1208.5	1208.3	1208.1	1207.9	1207.7	1207.5	1207.2	1207.0	1208.3
162.5°	1221.7	1221.2	1220.6	1220.1	1219.6	1219.2	1219.0	1218.7	1218.5	1218.3	1219.7
165°	1237.2	1236.5	1235.9	1235.3	1234.6	1234.3	1234.0	1233.8	1233.6	1233.4	1235.0
167.5°	1249.2	1248.4	1247.5	1246.7	1245.9	1245.4	1245.4	1245.4	1245.4	1245.4	1247.1
170°	1255.9	1255.1	1254.3	1253.5	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9
172.5°	1260.5	1259.5	1258.5	1257.4	1256.5	1256.0	1256.2	1256.4	1256.5	1256.7	1258.4
175°	1266.3	1265.3	1264.2	1263.2	1262.2	1261.7	1261.9	1262.2	1262.3	1262.5	1264.0
177.5°	1267.8	1267.0	1266.1	1265.3	1264.5	1264.1	1264.3	1264.5	1264.6	1264.8	1266.1
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	187.7	197.6	207.4	213.8	216.7	219.6	222.6	225.6
90°	188.6	199.2	209.6	216.6	219.8	223.1	226.4	229.6
92.5°	182.5	193.2	204.1	210.8	213.8	216.6	219.5	222.3
95°	176.7	187.1	197.4	204.0	206.8	209.6	212.5	215.4
97.5°	168.4	178.5	188.7	195.4	198.4	201.4	204.5	207.5
100°	162.5	172.5	182.4	188.9	192.0	195.0	198.1	201.1
102.5°	173.1	175.9	178.8	181.8	185.0	188.2	191.5	194.7
105°	244.2	215.2	186.2	173.1	176.2	179.1	182.1	185.1
107.5°	425.8	406.4	386.9	364.5	339.0	313.7	288.3	262.9
110°	507.5	507.9	508.4	494.9	467.3	439.7	412.1	384.5





TEST NUMBER: P332030-830

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	562.3	569.6	576.9	578.6	574.9	571.0	567.2	563.5
115°	625.8	634.8	643.8	649.8	652.9	656.0	659.1	662.2
117.5°	682.2	690.6	699.1	704.6	706.9	709.3	711.7	714.1
120°	719.4	727.7	735.9	741.0	743.0	745.1	747.1	749.0
122.5°	755.8	763.3	770.8	775.6	777.8	780.0	782.1	784.3
125°	806.5	812.9	819.4	823.7	826.1	828.6	830.9	833.4
127.5°	857.3	863.7	870.0	873.8	875.4	876.9	878.4	880.0
130°	887.4	893.7	899.9	903.7	905.0	906.3	907.6	908.9
132.5°	915.7	921.7	927.7	931.4	932.8	934.2	935.6	936.9
135°	959.2	965.0	970.7	974.0	974.9	975.6	976.5	977.2
137.5°	997.6	1003.1	1008.5	1011.8	1012.9	1013.8	1014.8	1015.9
140°	1022.0	1027.1	1032.3	1035.3	1036.3	1037.3	1038.3	1039.3
142.5°	1044.5	1049.0	1053.5	1056.1	1057.0	1057.8	1058.7	1059.5
145°	1078.8	1081.6	1084.2	1086.2	1087.3	1088.4	1089.6	1090.7
147.5°	1110.1	1111.2	1112.3	1112.9	1113.0	1113.0	1113.0	1113.1
150°	1129.8	1130.2	1130.7	1130.8	1130.8	1130.7	1130.7	1130.6
152.5°	1148.5	1149.2	1150.0	1150.0	1149.1	1148.3	1147.5	1146.6
155°	1174.3	1175.4	1176.4	1176.3	1175.1	1173.8	1172.5	1171.3
157.5°	1196.7	1198.0	1199.3	1199.1	1197.4	1195.8	1194.2	1192.6
160°	1209.6	1210.8	1212.0	1211.9	1210.5	1209.0	1207.6	1206.1
162.5°	1221.2	1222.6	1224.0	1224.1	1222.8	1221.4	1220.2	1218.9
165°	1236.7	1238.4	1240.1	1240.2	1238.7	1237.3	1235.8	1234.4
167.5°	1248.8	1250.5	1252.1	1252.1	1250.5	1248.8	1247.1	1245.4
170°	1255.6	1257.3	1258.9	1258.9	1257.3	1255.6	1253.9	1252.2
172.5°	1260.1	1261.7	1263.4	1263.3	1261.5	1259.6	1257.8	1255.9
175°	1265.5	1267.0	1268.4	1268.3	1266.6	1265.0	1263.3	1261.6
177.5°	1267.4	1268.9	1270.2	1270.0	1268.3	1266.7	1265.0	1263.3
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3

(END OF REPORT)