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An Experimental Study of the Aerodynamics of a NACA0012 Airfoil With a Simulated Glaze Ice Accretion – Volume II

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AN EXPERIMENTAL STUDY OF THE AERODYNAMICS OF A NACA 0012 AIRFOIL WITH A SIMULATED GLAZE ICE ACCRETION
VOL. II

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ABSTRACT

This is the second volume of a report documenting the effect of a simulated ice accretion on the aerodynamic performance of a NACA 0012 airfoil. Both an experimentally measured and a computer generated ice shape are studied. The purpose of this report is to present the results of the measurements, not an analysis of the data. Surface pressure, integrated lift and pitching moment data are presented as well as drag from a wake survey. A split hot film probe was used to document the flow-field about the airfoil with simulated ice. Data in the separation bubbles, reattached boundary layer and wake are presented. Both tabulated and graphical data are presented in the paper. The data are also available on computer disk for easy access.

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NOMENCLATURE

Symbol	Description
c	Airfoil chord length
C_d	Airfoil drag coefficient
C_l	Airfoil lift coefficient
C_m	Airfoil moment coefficient
C_p	Airfoil pressure coefficient
MACH	Mach number
R_e	Reynolds number
U_e	Boundary-layer edge velocity
U_∞	Tunnel velocity
x	Airfoil x coordinate, nondimensionalized by c
y	Airfoil y coordinate, or coordinate out from airfoil surface, nondimensionalized by c
α	Airfoil angle of attack
δ^*	Boundary-layer displacement thickness, nondimensionalized by c
θ	Boundary-layer momentum thickness, nondimensionalized by c

Subscripts

u	Uncorrected data

I. INTRODUCTION

This report is a continuation of NASA Contractor's Report 179571 (Ref. 1). Ref. 1 documented the effect of a simulated ice accretion on the aerodynamics of a NACA 0012 airfoil. Detailed surface pressure distributions, lift, drag and moment coefficient data were presented for the NACA 0012 airfoil, with and without simulated ice. Ref. 1 also presented some preliminary velocity profile measurements on an earlier NACA 0012 model.

The remaining NACA 0012 data are contained in this report. The effect of surface roughness on the simulated ice accretion is shown through surface pressures, C_l, C_d and C_m data. A split hot-film probe was used to measure the velocity profiles in the upper and lower surface separation bubbles, in the boundary layer downstream of reattachment, and in the airfoil wake. These data are reported here as well. An additional ice shape generated by the LEWICE code[2] was built and tested on this model. Surface pressure, lift, drag and moment data from this ice shape are presented.

All the measurements reported here were taken in the Ohio State University's 3 by 5 foot subsonic wind tunnel. This research was supported by NASA Lewis under grant NAG 3-28. The preparation of this report was completed at the University of Illinois and supported in part by grant NAG 3-1134, also from NASA Lewis.

II. EXPERIMENTAL PROCEDURES AND RESULTS

These data have been analyzed and the experimental procedures described in several other papers. Two of these AIAA papers[3,4] are reproduced in Appendix C. The Masters theses by Spring[5] and Khodadoust[6] are also good references with regards to these data. These theses were too large to include in Appendix C, but are available as NASA Contractor's Reports. A complete description of the experimental procedures is also included in Ref. 1. Therefore, no detailed description of the experiment or data reduction will be included here.

All data in this report was taken on a NACA 0012 airfoil with or without a simulated ice accretion. Table 1 gives the coordinates for this model without ice and Table 2 with the simulated ice accretion. Note that the model used here is referred to as model No. 2 in Ref. 1. For the rough ice accretion tests, cloth-backed sandpaper was applied to the ice shape from x/c = .085 on the lower surface to x/c = .015 on the upper surface. Two roughness sizes were used: a 60-grit paper with a nominal roughness size of 0.012 inches, k/c = 0.00057, and a grit number of 36 where k/c = 0.0011.

The data in this report are organized as described below. In Section III Tables containing the run summaries are given. The run summaries act as an index for finding data in this report. For the runs where surface pressure measurements were taken; C_p, C_l, C_d and C_m are given for each run. With the u subscript, e.g. C_{l_u}, represents the raw, measured value. Without the subscript, e.g. C_l, is the value corrected for tunnel wall effects[7]. Mach number and Reynolds number are also given for each run. A plot of the surface pressure coefficient versus X/C is given for each of these runs in Section IV. The plots are in run number order. Note that right-side-up triangles represent upper-surface pressures and upside-down triangles are lower surface pressures. For many pressure runs, plots of the measured wake surveys are given. The pressure and wake plots are uncorrected with regards to wall interference.

Runs during which split-film velocity profiles were taken appear differently in Sections III and IV. The run summaries in Section III document each run by giving α, X/C, R_e and U_∞. The boundary-layer parameters U_e, δ^*/C and θ/C are determined from the measurements and presented. For runs where reverse flow is measured Y_{stag}/C and Y_{sep}/C are also given. The calculation of these parameters is explained in Appendix C or the references. Plots of the measured velocity profiles are found in Section IV. Note that the coordinate y in these plots is measured out from the airfoil surface, perpendicular to the tunnel axis (or free-stream velocity direction). This was due to the orientation of the probe traversing mechanism. A zero value of y corresponds to the model surface, except for measurements in the wake where y = 0 always corresponds to the trailing edge.

Also contained in this report are Appendices A, B and C. Appendix C contains copies of references 3 and 4 as discussed earlier. Appendix A contains the pressure data on the NACA 0012 with the LEWICE shape. The format is the same as Sections III and IV, but the data were placed here to minimize confusion with the other ice shape. A 5 1/4 high density disk is available upon request and contains, in ASCII format, the run summaries and the numerical data contained in all the plots. Appendix B gives the format used for these data on the disk.

TABLE 1. COORDINATES FOR THE NACA 0012 MODEL

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
1	0.00000	0.00000	0.00000	0.00000
2	0.00309	0.00967	0.00309	-0.00967
3	0.00621	0.01356	0.00621	-0.01356
4	0.01380	0.01984	0.02230	-0.02481
5	0.02230	0.02481	0.04080	-0.03256
6	0.03140	0.02899	0.08000	-0.04307
7	0.04080	0.03256	0.12000	-0.04988
8	0.05000	0.03555	0.16000	-0.05442
9	0.06000	0.03838	0.20000	-0.05738
10	0.07000	0.04086	0.24000	-0.05913
11	0.08000	0.04307	0.28000	-0.05993
12	0.09000	0.04505	0.32000	-0.05993
13	0.10000	0.04683	0.36000	-0.05926
14	0.11000	0.04843	0.40000	-0.05803
15	0.12000	0.04988	0.44000	-0.05631
16	0.13000	0.05119	0.50000	-0.05294
17	0.14000	0.05238	0.56000	-0.04878
18	0.15000	0.05345	0.60000	-0.04563
19	0.16000	0.05442	0.65000	-0.04132
20	0.17000	0.05529	0.70000	-0.03664
21	0.18000	0.05607	0.75000	-0.03160
22	0.19000	0.05676	0.80000	-0.02623
23	0.20000	0.05738	0.85000	-0.02053
24	0.21000	0.05792	0.90000	-0.01448
25	0.22000	0.05839	0.95000	-0.00807
26	0.23000	0.05879	0.97500	-0.00471
27	0.24000	0.05913	1.00000	0.00000
28	0.25000	0.05941		
29	0.26000	0.05864		
30	0.27000	0.05981		
31	0.28000	0.05993		
32	0.29000	0.06000		
33	0.30000	0.06002		

TABLE 1. (Continued)

No.	X_{upper}	Y_{upper}
33	0.30000	0.06002
34	0.31000	0.05999
35	0.32000	0.05993
36	0.33000	0.05982
37	0.34000	0.05967
38	0.35000	0.05949
39	0.36000	0.05926
40	0.37000	0.05900
41	0.38000	0.05871
42	0.39000	0.05839
43	0.40000	0.05803
44	0.42000	0.05723
45	0.44000	0.05631
46	0.47000	0.05473
47	0.50000	0.05294
48	0.53000	0.05095
49	0.56000	0.04878
50	0.60000	0.04563
51	0.65000	0.04132
52	0.70000	0.03664
53	0.75000	0.03160
54	0.80000	0.02623
55	0.85000	0.02053
56	0.90000	0.01448
57	0.95000	0.00807
58	0.97500	0.00471
59	1.00000	0.00000

TABLE 2. COORDINATES FOR THE NACA 0012 MODEL ICED CONFIGURATION

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
1	-0.02660	0.01690*	-0.02660	0.01690
2	-0.02450	0.02870*	-0.02220	0.00390
3	-0.02080	0.03060*	-0.01750	-0.00700
4	-0.01000	0.02880	-0.01070	-0.01840
5	-0.00010	0.02680	-0.00360	-0.02840
6	0.01000	0.02500	0.00590	-0.03930
7	0.02210	0.02670	0.01500	-0.04740
8	0.03110	0.03000	0.02580	-0.05330**
9	0.04070	0.03330	0.03000	-0.05300**
10	0.04910	0.03610	0.03970	-0.05030
11	0.05950	0.03900	0.04950	-0.04730
12	0.06940	0.04140	0.06000	-0.04410
13	0.07940	0.04350	0.06950	-0.04210
14	0.08910	0.04550	0.07930	-0.04360
15	0.09900	0.04720	0.10940	-0.04870
16	0.10970	0.04870	0.11930	-0.0500
17	0.11970	0.05000	0.12900	-0.05110
18	0.12969	0.05140	0.14000	-0.05200
19	0.14000	0.05240	0.16000	-0.05442
20	0.16000	0.05442	0.2000	-0.05738
21	0.17000	0.05500	0.24000	-0.05913
22	0.18000	0.05607	0.28000	-0.05993
23	0.19000	0.05676	0.32000	-0.05993
24	0.20000	0.05738	0.36000	-0.05926
25	0.21000	0.05792	0.40000	-0.05803
26	0.22000	0.05839	0.44000	-0.05631
27	0.23000	0.05879	0.50000	-0.05294
28	0.24000	0.05913	0.56000	-0.04878
29	0.25000	0.05941	0.60000	-0.04563
30	0.26000	0.05864	0.70000	-0.03664
31	0.28000	0.05993	0.75000	-0.03160
32	0.30000	0.06002	0.85000	-0.02053

TABLE 2. (Continued)

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
33	0.32000	0.05993	0.90000	-0.01448
34	0.34000	0.05967	0.95000	-0.00807
35	0.36000	0.05926	0.97500	-0.00471
36	0.38000	0.05871	1.00000	0.00000
37	0.40000	0.05800		
38	0.42000	0.05700		
39	0.44000	0.05631		
40	0.47000	0.05473		
41	0.50000	0.05294		
42	0.53000	0.05095		
43	0.56000	0.04878		
44	0.60000	0.04563		
45	0.70000	0.03664		
46	0.75000	0.03160		
47	0.80000	0.02623		
48	0.85000	0.02053		
49	0.90000	0.01448		
50	0.95000	0.00807		
51	0.97500	0.00471		
52	1.00000	0.00000		

* Note: Upper surface horn radius of curvature, $(r/c)_u = 0.00595$.

** Note: Lower surface horn radius of curvature, $(r/c)_l = 0.01042$.

SECTION III:

RUN SUMMARIES

NACA 0012 MODEL - GLAZE ICE CONFIGURATION

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1118	0.00	-0.01	-0.002	-0.001	0.0269	0.0262	-.0075	-.0074	0.125	1.51
1119	2.00	2.05	0.187	0.178	0.0291	0.0283	0.0023	0.0036	0.130	1.50
1120	4.00	4.12	0.386	0.366	0.0402	0.0390	0.0131	0.0156	0.126	1.50
1121	6.00	6.17	0.555	0.523	0.0701	0.0677	0.0136	0.0171	0.125	1.48
1122	8.00	8.10	0.589	0.551	0.1114	0.1066	-.0592	-.0529	0.121	1.46
1123	-2.00	-2.06	-0.186	-0.177	0.0342	0.0333	-.0109	-.0120	0.124	1.50
1124	-4.00	-4.11	-0.378	-0.359	--	--	-.0103	-.0128	0.126	1.50
1125	-6.00	-6.13	-0.540	-0.507	0.0936	0.0899	0.0197	0.0153	0.122	1.48
1126	-8.00	-8.10	-0.600	-0.559	0.1204	0.1150	0.0541	0.0479	0.121	1.47

NACA 0012 MODEL - GLAZE ICE CONFIGURATION, 60 GRIT ROUGHNESS

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1149	4.00	4.12	0.396	0.375	0.0455	0.0442	0.0135	0.0160	0.122	1.56
1150	0.00	-0.01	-0.012	-0.012	0.0300	0.0292	-.0103	-.0102	0.121	1.62
1151	6.00	6.15	0.563	0.529	0.0829	0.0798	-.0019	0.0021	0.121	1.58
1152	1.00	1.01	0.072	0.069	0.0298	0.0289	-.0054	-.0048	0.121	1.62
1153	2.00	2.05	0.174	0.165	0.0318	0.0309	-.0006	0.0007	0.122	1.62
1154	3.00	3.08	0.273	0.259	0.0354	0.0344	0.0048	0.0066	0.122	1.61
1155	4.00	4.12	0.392	0.371	0.0448	0.0435	0.0142	0.0167	0.122	1.62
1156	5.00	5.15	0.474	0.448	0.0587	0.0567	0.0519	0.0189	0.122	1.61
1157	6.00	6.15	0.582	0.545	0.0923	0.0887	-.0119	-.0074	0.122	1.59
1158	7.00	7.12	0.598	0.556	0.1281	0.1222	-.0390	-.0333	0.121	1.56
1159	8.00	8.09	0.554	0.516	--	--	-.0595	-.0534	0.119	1.57
1160	9.00	9.06	0.480	0.447	--	--	-.0625	-.0567	0.119	1.56
1161	0.00	-0.02	-0.037	-0.035	0.0306	0.0298	-.0083	-.0084	0.121	1.61
1162	-1.00	-1.06	-0.116	-0.110	0.0332	0.0323	-.0215	-.0218	0.121	1.60
1163	-2.00	-2.09	-0.238	-0.226	0.0377	0.0366	-.0188	-.0201	0.120	1.60
1164	-1.00	-1.05	-0.125	-0.118	0.0328	0.0319	-.0176	-.0182	0.121	1.62
1166	-3.00	-3.11	-0.334	-0.317	0.0436	0.0423	-.0186	-.0205	0.120	1.60
1167	-4.00	-4.14	-0.405	-0.383	0.0526	0.0509	-.0228	-.02522	0.120	1.60
1168	-5.00	-5.15	-0.497	-0.469	0.0668	0.0645	-.0122	-.0154	0.118	1.60
1169	-6.00	-6.12	-0.558	-0.523	0.0985	0.0945	0.0254	0.0207	0.118	1.59
1170	-7.00	-7.10	-0.533	-0.497	0.1193	0.1140	0.0435	0.0382	0.117	1.57
1171	-8.00	-8.06	-0.477	-0.442	0.1504	0.1428	0.0630	0.0570	0.117	1.56

NACA 0012 MODEL - GLAZE ICE CONFIGURATION, 36 GRIT ROUGHNESS

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $\times 10^{-6}$
1172	6.00	6.15	0.541	0.517	--	--	0.0042	0.0080	0.121	1.55
1173	0.00	-0.01	-0.017	-0.016	0.0298	0.0290	-.0093	-.0092	0.120	1.57
1174	1.00	1.01	0.073	0.070	0.0294	0.0286	-.0052	-.0045	0.121	1.58
1175	2.00	2.05	0.182	0.173	0.0316	0.0308	0.0012	0.0025	0.121	1.56
1176	3.00	3.09	0.306	0.291	0.0362	0.0352	0.0064	0.0084	0.122	1.56
1177	4.00	4.11	0.370	0.351	0.0432	0.0419	0.0111	0.0135	0.122	1.57
1178	5.00	5.15	0.481	0.454	0.0564	0.0546	0.0160	0.0190	0.122	1.58
1179	6.00	6.15	0.542	0.510	0.0794	0.0765	0.0033	0.0070	0.121	1.60
1180	7.00	7.13	0.589	0.551	0.1101	0.1054	-.0280	-.0229	0.120	1.57
1181	8.00	8.10	0.553	0.516	--	--	-.0433	-.0379	0.119	1.57
1182	9.00	9.05	0.477	0.446	--	--	-.0697	-.0639	0.118	1.54
1184	0.00	-0.01	0.006	0.006	0.0296	0.0288	-.0071	-.0069	0.121	1.59
1185	-1.00	-1.03	-0.087	-0.083	0.0322	0.0313	-.0084	-.0089	0.120	1.56
1186	-2.00	-2.07	-0.184	-0.174	--	--	-.0175	-.0185	0.122	1.61
1187	-2.00	-2.07	--	--	0.0392	0.0380	--	--	0.120	1.61
1188	-3.00	-3.11	-0.304	-0.288	0.0439	0.0426	-.0232	-.0248	0.119	1.61
1189	-4.00	-4.12	-0.389	-0.368	0.0525	0.0509	-.0134	-.0158	0.119	1.60
1190	-5.00	-5.14	-0.483	-0.455	0.0745	0.0718	-.0066	-.0098	0.119	1.60
1191	-6.00	-6.12	-0.528	-0.495	0.1010	0.0969	0.0231	0.0186	0.118	1.59
1192	-7.00	-7.08	-0.525	-0.489	0.1280	0.1221	0.0556	0.0498	0.118	1.55
1193	-8.00	-8.06	-0.470	-0.437	0.1411	0.1342	0.0639	0.0580	0.117	1.57

NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES[1]

RUN	α_u (deg)	X/C	R_e x10^{-6}	U_∞	U_e (ft/s)	δ^*/C	θ/C x10^3	Y_{stag}/C	Y_{sep}/C
					UPPER SURFACE				
1218	0.00	-0.02	1.51	132.9	166.3	0.00256	0.08368	0.001206	0.001294
1219	0.00	0.00	1.54	134.7	170.8	0.01379	2.06816	0.009277	0.013129
1220	0.00	0.02	1.52	133.4	174.4	0.01938	3.59458	0.011610	0.018316
1221	0.00	0.04	1.51	132.5	170.7	0.01329	3.07344	0.006240	0.011052
1222	0.00	0.06	1.51	132.5	159.9	0.00849	2.29566	0.001769	0.003223
1223	0.00	0.08	1.52	132.2	151.0	0.00501	2.60386	--	--
1224	0.00	0.10	1.51	131.6	151.0	0.00388	2.42981	--	--
1225	0.00	0.12	1.50	130.7	151.0	0.00302	1.93082	--	--
1226	0.00	0.30	1.51	130.8	153.1	0.00260	1.75967	--	--
1227	0.00	0.60	1.52	131.7	143.4	0.00377	2.63889	--	--
					LOWER SURFACE				
1228	0.00	0.03	1.58	133.9	165.1	0.00274	0.20916	0.002090	0.002163
1229	0.00	0.04	1.58	133.6	169.9	0.01038	1.17907	0.007456	0.009837
1230	0.00	0.06	1.58	133.8	176.3	0.02194	2.69767	0.015746	0.020972
1231	0.00	0.08	1.54	133.2	182.5	0.02581	3.87665	0.016286	0.024223
1232	0.00	0.10	1.53	132.2	184.4	0.02421	4.89539	0.012915	0.021599
1233	0.00	0.12	1.52	132.2	180.3	0.02174	4.94855	0.010273	0.018256
1234	0.00	0.14	1.51	132.8	179.1	0.01932	4.46379	0.008019	0.014209
1235	0.00	0.16	1.50	132.6	170.0	0.01587	3.93228	0.004049	0.006794
1236	0.00	0.20	1.50	132.1	159.5	0.01114	4.93231	--	--
1237	0.00	0.32	1.51	132.5	153.9	0.00635	4.41128	--	--
1238	0.00	0.60	1.51	132.6	142.9	0.00585	4.36459	--	--
					LOWER SURFACE				
1240	2.00	0.03	1.58	133.3	149.9	0.00277	0.19498	0.001936	0.002248
1241	2.00	0.04	1.57	132.7	153.7	0.00869	1.01987	0.006457	0.008171
1242	2.00	0.06	1.57	132.8	159.1	0.01933	2.67214	0.012980	0.018183
1243	2.00	0.08	1.56	131.7	159.7	0.02223	3.95914	0.012943	0.020362
1244	2.00	0.10	1.56	131.9	157.0	0.01904	4.15164	0.009676	0.016275
1245	2.00	0.12	1.54	130.8	153.4	0.01550	3.59228	0.006314	0.011235
1246	2.00	0.14	1.55	130.9	145.6	0.01298	3.33829	0.002634	0.004886
1247	2.00	0.16	1.54	130.6	139.5	0.00952	4.00359	--	--
1248	2.00	0.20	1.52	129.8	141.3	0.00634	3.90459	--	--
1249	2.00	0.32	1.52	129.8	142.9	0.00413	2.98002	--	--
1250	2.00	0.60	1.52	129.6	138.7	0.00469	3.47950	--	--

[1] Each data point represents the average of 2,000 samples at 2 Khz with a 1Khz low-pass filter.

NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES[1]

RUN	α_u (deg)	X/C	R_e $x10^{-6}$	U_∞	U_e (ft/s)	δ^*/C	θ/C $x10^3$	Y_{stag}/C	Y_{sep}/C
					LOWER SURFACE				
1251	4.00	0.03	1.49	127.1	140.4	0.00322	0.28970	0.002246	0.002420
1252	4.00	0.04	1.50	127.7	144.5	0.00790	1.04821	0.005119	0.007175
1253	4.00	0.06	1.49	127.3	148.7	0.01784	2.55881	0.011402	0.016488
1254	4.00	0.08	1.50	127.7	150.1	0.01876	3.48887	0.009945	0.016482
1255	4.00	0.10	1.50	127.8	145.9	0.01531	3.64209	0.006255	0.011989
1256	4.00	0.12	1.50	128.0	137.3	0.01163	2.93611	0.002925	0.005636
1257	4.00	0.14	1.49	127.6	133.5	0.00906	3.66426	--	--
1258	4.00	0.16	1.49	127.8	131.9	0.00657	3.61518	--	--
1259	4.00	0.20	1.50	128.3	133.2	0.00447	2.96064	--	--
1260	4.00	0.32	1.51	128.8	137.9	0.00325	2.32106	--	--
1261	4.00	0.60	1.52	129.3	135.6	0.00377	2.74562	--	--
					LOWER SURFACE				
1263	4.00	0.04	1.54	131.1	143.1	0.00703	1.02225	0.003531	0.005215
1264	4.00	0.06	1.55	131.7	147.7	0.01578	2.26427	0.009532	0.014213
1265	4.00	0.08	1.54	131.0	148.0	0.01985	3.66746	0.010630	0.017507
1266	4.00	0.10	1.54	130.9	143.3	0.01607	3.61896	0.006585	0.012288
1267	4.00	0.12	1.53	130.5	137.8	0.01302	3.24311	0.003728	0.006543
1268	4.00	0.14	1.54	130.9	133.8	0.01052	3.82705	--	--
1269	4.00	0.16	1.53	130.7	132.0	0.00773	4.04689	--	--
1270	4.00	0.20	1.54	131.0	132.4	0.00519	3.38527	--	--
1271	4.00	0.32	1.53	131.0	135.9	0.00361	2.58847	--	--
1272	4.00	0.60	1.54	131.1	134.6	0.00391	2.85567	--	--
					UPPER SURFACE				
1276	4.00	0.02	1.56	132.3	191.7	0.03078	3.87014	0.022805	0.029965
1277	4.00	0.04	1.56	132.8	191.7	0.03146	5.29906	0.021205	0.030443
1278	4.00	0.06	1.56	132.1	191.9	0.02927	5.96122	0.017012	0.027360
1279	4.00	0.08	1.56	132.3	190.4	0.02739	6.15397	0.014398	0.024604
1280	4.00	0.10	1.56	132.3	184.6	0.02467	5.49842	0.011652	0.019969
1281	4.00	0.12	1.55	131.3	179.7	0.02243	5.08189	0.008697	0.015248
1282	4.00	0.14	1.56	132.1	173.6	0.01996	5.17859	0.003021	0.005853
1283	4.00	0.16	1.55	131.7	170.1	0.01718	6.06629	--	--
1284	4.00	0.18	1.55	132.0	166.3	0.01533	6.70712	--	--
1285	4.00	0.20	1.55	131.6	164.1	0.01415	6.93622	--	--
1286	4.00	0.30	1.55	131.8	156.8	0.01103	7.10135	--	--
1287	4.00	0.60	1.53	130.4	145.1	0.01363	9.75852	--	--

[1] Each data point represents the average of 2,000 samples at 2Khz with a 1Khz low-pass filter.

NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES[1]

RUN	α_u (deg)	X/C	R_e x10^{-6}	U_∞	U_e (ft/s)	δ^*/C	θ/C x10^3	Y_{stag}/C	Y_{sep}/C
					UPPER SURFACE				
1288	4.00	-0.02	1.51	129.7	146.1	0.00443	1.17114	0.002467	0.003133
1289	4.00	0.00	1.52	129.8	173.2	0.02067	2.43574	0.015509	0.019987
1290	4.00	0.02	1.52	130.4	184.5	0.03148	4.08657	0.022612	0.030640
1291	4.00	0.04	1.52	130.0	190.8	0.02962	4.84494	0.018890	0.028245
1292	4.00	0.06	1.52	130.0	194.2	0.02896	5.69942	0.016327	0.026883
1293	4.00	0.08	1.52	130.2	195.1	0.02658	5.77973	0.013564	0.023495
1294	4.00	0.10	1.52	130.3	191.9	0.02469	5.51482	0.011552	0.020470
1295	4.00	0.12	1.53	131.1	185.7	0.02242	5.00107	0.008816	0.016217
1296	4.00	0.14	1.53	130.8	179.5	0.02016	4.81829	0.005341	0.009662
1297	4.00	0.16	1.54	131.2	173.0	0.01743	5.38042	--	--
1298	4.00	0.18	1.54	131.2	166.5	0.01545	6.07596	--	--
1299	4.00	0.20	1.54	131.0	163.1	0.01404	6.48157	--	--
1300	4.00	0.30	1.55	131.5	156.1	0.01040	6.78434	--	--
1301	4.00	0.60	1.53	130.3	144.2	0.01352	9.85275	--	--
					UPPER SURFACE				
1302	2.00	-0.02	1.54	130.5	138.7	0.00325	0.61470	0.002111	0.002150
1303	2.00	0.00	1.54	131.2	165.2	0.01823	2.57040	0.013138	0.017587
1304	2.00	0.02	1.54	131.2	177.9	0.02532	3.95163	0.017222	0.024493
1305	2.00	0.04	1.53	130.8	179.5	0.02191	4.48966	0.012344	0.020434
1306	2.00	0.06	1.54	131.3	176.5	0.01763	4.04237	0.008360	0.015040
1307	2.00	0.08	1.54	131.4	168.3	0.01321	3.10815	0.004641	0.008096
1308	2.00	0.10	1.54	131.1	160.9	0.01016	3.47808	--	--
1309	2.00	0.12	1.54	131.2	156.8	0.00806	3.91730	--	--
1310	2.00	0.14	1.53	130.8	154.1	0.00637	3.67451	--	--
1311	2.00	0.16	1.54	130.9	154.1	0.00527	3.29312	--	--
1312	2.00	0.30	1.55	131.9	153.8	0.00457	3.27906	--	--
1313	2.00	0.60	1.54	131.8	143.4	0.00631	4.70146	--	--

[1] Each data point represents the average of 2,000 samples at 2Khz with a 1Khz low-pass filter.

NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES[1]

RUN	α_u (deg)	X/C	R_e x10^{-6}	U_∞	U_e (ft/s)	δ^*/C	θ/C x10^3	Y_{stag}/C	Y_{sep}/C
					UPPER SURFACE				
1344	6.00	-0.02	1.53	130.2	129.3	0.00552	1.06619	0.003710	0.004770
1346	6.00	0.02	1.53	129.8	167.3	0.03805	4.53448	0.028434	0.037064
1347	6.00	0.00	1.53	130.3	155.1	0.02531	2.94743	0.019326	0.024635
1348	6.00	0.04	1.53	130.1	171.7	0.03948	5.47956	0.027536	0.038037
1349	6.00	0.06	1.52	129.0	174.9	0.04108	6.49270	0.026288	0.039096
1350	6.00	0.08	1.52	129.0	179.5	0.04222	7.29865	0.025410	0.039702
1351	6.00	0.10	1.51	128.3	180.3	0.04390	8.03802	0.025263	0.040887
1352	6.00	0.12	1.51	128.0	182.7	0.04541	8.59370	0.025835	0.041558
1353	6.00	0.14	1.50	127.4	184.2	0.04620	9.11629	0.023625	0.041200
1354	6.00	0.16	1.48	126.1	183.3	0.04706	9.61884	0.023138	0.041395
1355	6.00	0.18	1.49	126.5	181.9	0.04821	9.88036	0.024241	0.041712
1356	6.00	0.20	1.49	126.3	180.7	0.04969	10.23559	0.023714	0.041902
1357	6.00	0.22	1.47	124.9	179.6	0.05007	10.14880	0.022834	0.040868
1358	6.00	0.24	1.46	124.1	176.1	0.05009	10.48751	0.020869	0.038888
1359	6.00	0.26	1.47	124.8	173.8	0.04966	10.33775	0.019498	0.036108
1360	6.00	0.28	1.46	124.3	172.2	0.04948	10.36652	0.018550	0.032963
1361	6.00	0.30	1.47	124.3	168.3	0.04942	10.80872	0.015084	0.029309
1362	6.00	0.34	1.46	124.0	163.7	0.04752	11.56415	0.006308	0.015349
1363	6.00	0.38	1.46	123.3	155.7	0.04856	15.38423	--	--
1364	6.00	0.42	1.46	123.4	154.5	0.04852	15.08397	--	--
1365	6.00	0.47	1.46	123.7	151.4	0.04865	17.42703	--	--
1366	6.00	0.53	1.45	123.0	145.0	0.04900	19.35245	--	--
1367	6.00	0.60	1.46	123.2	140.6	0.05055	21.83168	--	--

[1] Each data point represents the average of 2,000 samples at 2 Khz with a 10 Khz low-pass filter.

NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES[1]

RUN	α (deg)	X/C	R_e x10^{-6}	U_∞ (ft/s)	U_e (ft/s)	$\delta*/C$	θ/C
				WAKE			
1850	0.00	1.80	1.57	138.4	135.7	0.01766	14.82117
1852	2.00	1.80	1.57	138.7	136.6	0.01930	16.24803
1856	4.00	1.80	1.61	138.6	128.4	0.02605	21.60597
1858	6.00	1.80	1.59	136.9	127.6	0.04478	36.59986
1859	-4.00	1.80	1.61	138.2	127.6	0.03064	25.74941
1860	-4.00	1.60	1.62	139.3	126.8	0.03235	26.47818
1862	0.00	1.60	1.62	139.5	129.0	0.01860	15.41965
1863	2.00	1.60	1.62	139.3	128.8	0.01883	15.56903
1864	4.00	1.60	1.62	139.6	129.2	0.02679	21.92687
1865	6.00	1.60	1.60	138.0	129.2	0.04913	38.81922
1866	6.00	1.40	1.60	137.6	129.5	0.05351	40.39152
1867	4.00	1.40	1.62	139.2	129.1	0.02857	22.81225
1868	2.00	1.40	1.63	139.9	127.8	0.01942	15.73106
1869	0.00	1.40	1.62	139.5	127.6	0.01858	15.04000
1870	-4.00	1.40	1.62	139.0	128.0	0.00061	0.01775
1872	0.00	1.20	1.62	139.5	126.0	0.02084	16.16307
1873	2.00	1.20	1.62	139.7	126.3	0.02176	17.05751
1874	4.00	1.20	1.62	139.2	126.9	0.03085	23.57301
1876	6.00	1.20	1.60	137.8	128.3	0.05827	40.11375
				UPPER SURFACE			
1879	2.00	1.00	1.62	139.5	127.1	0.03332	22.36647
1880	4.00	1.00	1.62	139.2	128.7	0.04187	28.15812
1881	6.00	1.00	1.60	138.0	132.1	0.07399	42.70959
				WAKE			
1885	6.00	1.20	1.55	138.3	143.0	0.06079	42.16321
1886	6.00	1.40	1.54	137.8	143.3	0.05282	39.78783
1887	6.00	1.60	1.60	138.0	130.0	0.04946	39.10095
1888	6.00	1.80	1.60	138.1	130.5	0.04718	38.47595

[1] Each data point represents the average of 2,000 samples at 2 Khz with a 1 Khz low-pass filter.

NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES[1]

RUN	α (deg)	X/C	R_e x10^{-6}	U_∞ (ft/s)	U_e (ft/s)	δ*/C	θ/C
			UPPER SURFACE				
1892	0.00	0.60	1.63	140.5	146.5	0.00415	2.88285
1893	2.00	0.60	1.63	140.3	150.2	0.00691	5.11234
1894	4.00	0.60	1.62	139.8	149.3	0.01338	9.70465
1895	6.00	0.60	1.61	138.9	150.3	0.03779	20.83421
1897	-4.00	0.60	1.68	139.3	127.6	0.00222	1.35198
1899	-4.00	0.80	1.67	142.1	137.5	0.00301	1.92959
1900	0.00	0.80	1.68	143.1	138.7	0.00523	3.66435
1901	2.00	0.80	1.67	142.3	139.9	0.00899	6.57726
1902	4.00	0.80	1.69	142.1	136.6	0.01634	11.82204
1903	6.00	0.80	1.68	141.1	137.4	0.04488	26.15406
1904	6.00	0.90	1.67	140.9	135.1	0.05363	30.77714
1905	4.00	0.90	1.68	141.7	134.0	0.02379	16.58441
1906	2.00	0.90	1.70	142.7	133.0	0.01236	9.06991
1907	0.00	0.90	1.69	141.8	131.5	0.00710	5.07290
1908	-4.00	0.90	1.70	143.1	131.7	0.00366	2.44436
1909	-4.00	1.00	1.70	142.8	128.2	0.00531	3.42559
1910	0.00	1.00	1.70	143.3	127.7	0.01021	6.78563
1911	2.00	1.00	1.70	143.4	129.2	0.01650	11.08343
1912	4.00	1.00	1.69	142.0	132.6	0.03153	20.27576
1913	6.00	1.00	1.68	141.3	133.7	0.06266	33.91847

[1] Each data point represents the average of 2,000 samples at 2 Khz with a 1 Khz low-pass filter.

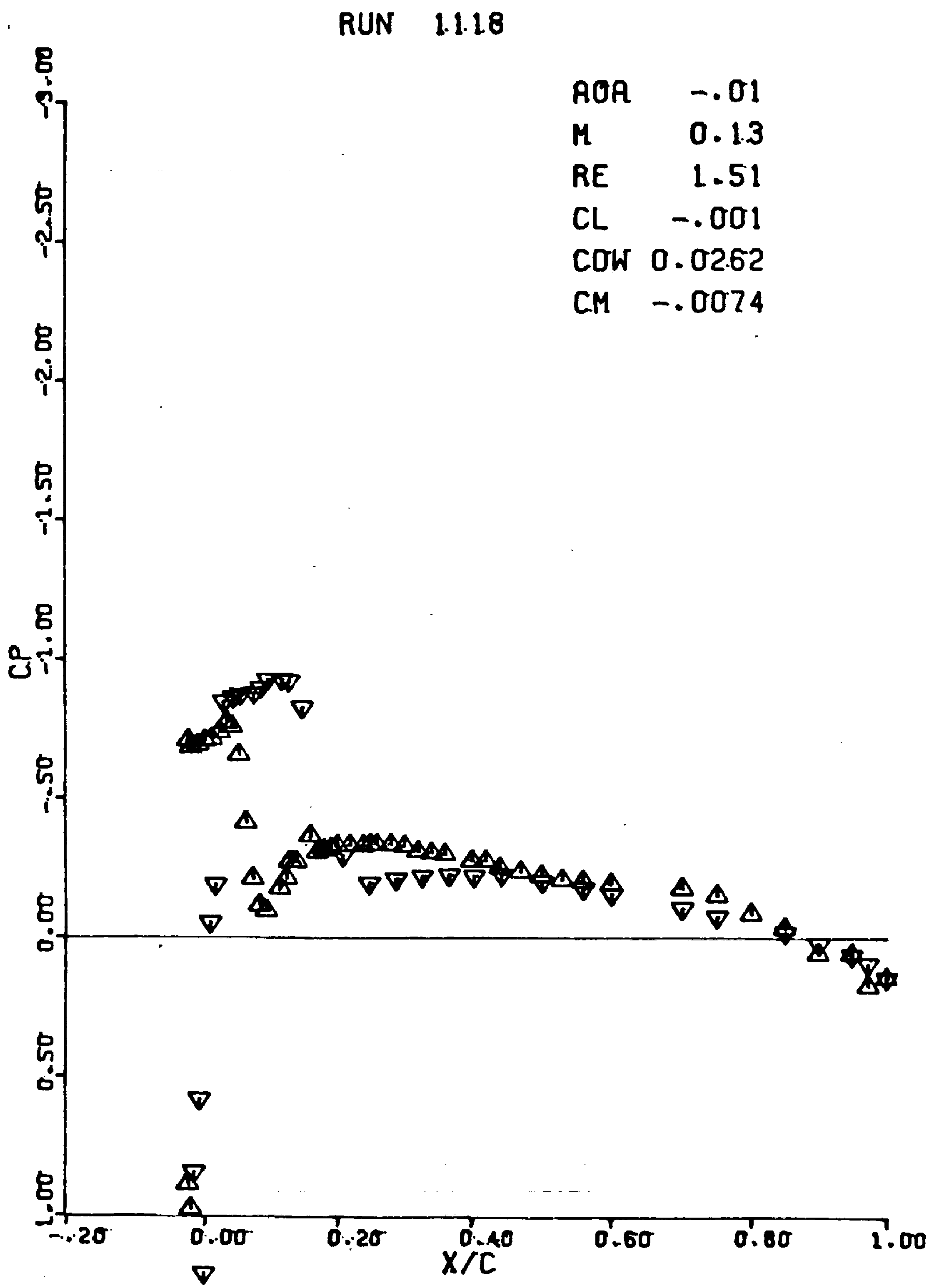
NACA 0012 MODEL NO. 2 - GLAZE ICE CONFIGURATION
SPLIT FILM VELOCITY PROFILES

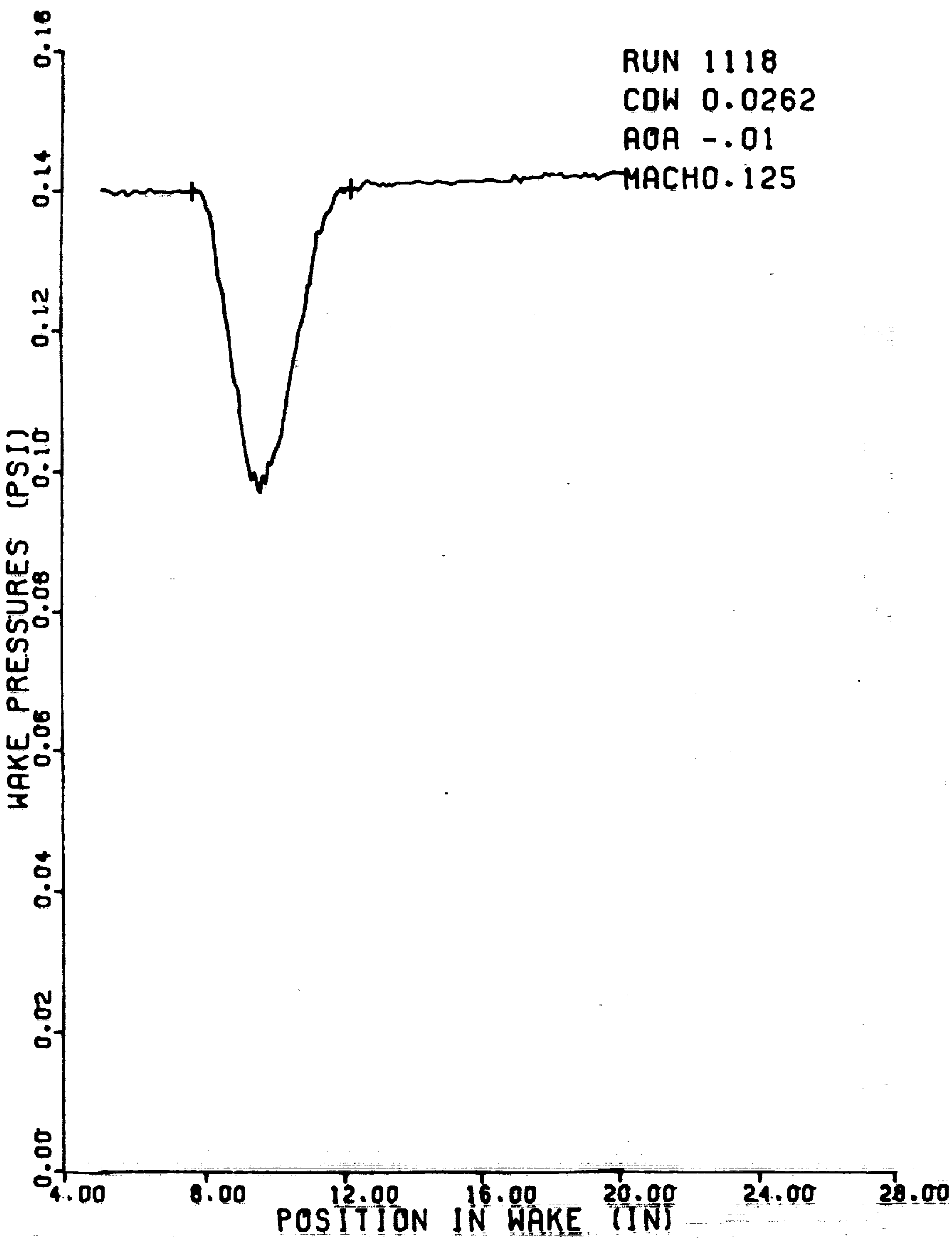
RUN	α_u (deg)	X/C	Re $x10^{-6}$	U_∞ (ft/s)	U_e (ft/s)	δ^*/C	θ/C $x10^3$	Y-stag/C	Y-sep/C
1915[1]	10.00	0.04	1.60	136.2	143.9	0.04301	5.61951	0.031715	0.041692
1916[1]	8.00	0.04	1.61	137.0	149.4	0.03819	5.54065	0.027111	0.036917
1917[1]	4.00	0.04	1.66	141.1	152.6	0.03111	5.63747	0.020469	0.030256
1925[1]	4.00	0.20	1.66	141.1	153.8	0.01028	5.29112	--	--
1926[1]	10.00	0.20	1.59	135.6	153.6	0.08171	16.99286	0.048324	0.075894
1927[1]	10.00	0.50	1.59	135.3	152.1	0.15801	37.35664	0.086952	0.014530
1928[2]	0.00	0.00	1.58	140.5	157.3	0.01498	2.42523	0.009900	0.014389
1929[2]	2.00	0.00	1.58	140.1	167.6	0.01900	2.84426	0.013405	0.018421
1930[2]	4.00	0.00	1.57	139.9	167.8	0.02160	2.85243	0.015521	0.020875
1931[1]	4.00	0.00	1.58	140.5	168.2	0.02140	2.85181	0.015495	0.020761
1932[1]	4.00	0.04	1.58	140.4	169.7	0.03048	5.48212	0.019727	0.029523
1933[2]	4.00	0.04	1.61	139.8	157.7	0.03034	5.50181	0.019266	0.093628
1934[2]	6.00	0.04	1.61	139.5	157.5	0.03824	5.97609	0.026889	0.037162
1935[1]	6.00	0.04	1.61	139.3	157.4	0.03792	5.83559	0.025946	0.036672
1936[1]	8.00	0.04	1.58	136.9	148.5	0.04254	5.92125	0.030666	0.040896
1937[2]	8.00	0.04	1.56	135.4	149.7	0.04242	5.81611	0.030615	0.040379
1938[2]	10.00	0.04	1.56	135.1	134.9	0.04315	6.07493	0.031773	0.041806
1939[1]	10.00	0.04	1.55	134.3	135.6	0.04270	5.88866	0.031190	0.041149
1940[2]	2.00	0.04	1.62	140.0	158.1	0.02038	4.65249	0.011004	0.018897
1941[2]	0.00	0.04	1.63	140.9	152.3	0.01232	2.82245	0.004958	0.009337
1942[2]	4.00	0.08	1.62	140.2	158.4	0.02501	5.90061	0.012873	0.022778
1944[1]	4.00	0.08	1.55	138.9	170.7	0.02568	6.32683	0.013113	0.023166
1946[1]	4.00	0.12	1.55	138.6	171.0	0.02081	4.64299	0.008902	0.015849
1947[2]	4.00	0.12	1.55	139.1	171.0	0.01958	4.55180	0.007755	0.014023
1948[2]	4.00	0.16	1.56	139.6	171.0	0.01539	5.00079	--	--
1949[1]	4.00	0.16	1.55	138.5	171.0	0.01500	5.11705	--	--
1950[1]	4.00	0.20	1.55	138.5	170.7	0.01223	6.16270	--	--
1951[2]	4.00	0.20	1.56	140.1	170.8	0.01223	6.10086	--	--
1952[2]	10.00	0.20	1.49	133.7	164.9	0.08371	17.95642	0.048933	0.079398
1953[1]	10.00	0.20	1.49	133.4	164.1	0.08275	18.25781	0.048211	0.078107
1954[1]	10.00	0.50	1.50	134.1	169.0	0.15810	36.94591	0.084156	0.144860
1955[2]	10.00	0.50	1.49	133.8	168.2	0.15927	36.00207	0.088328	0.147131

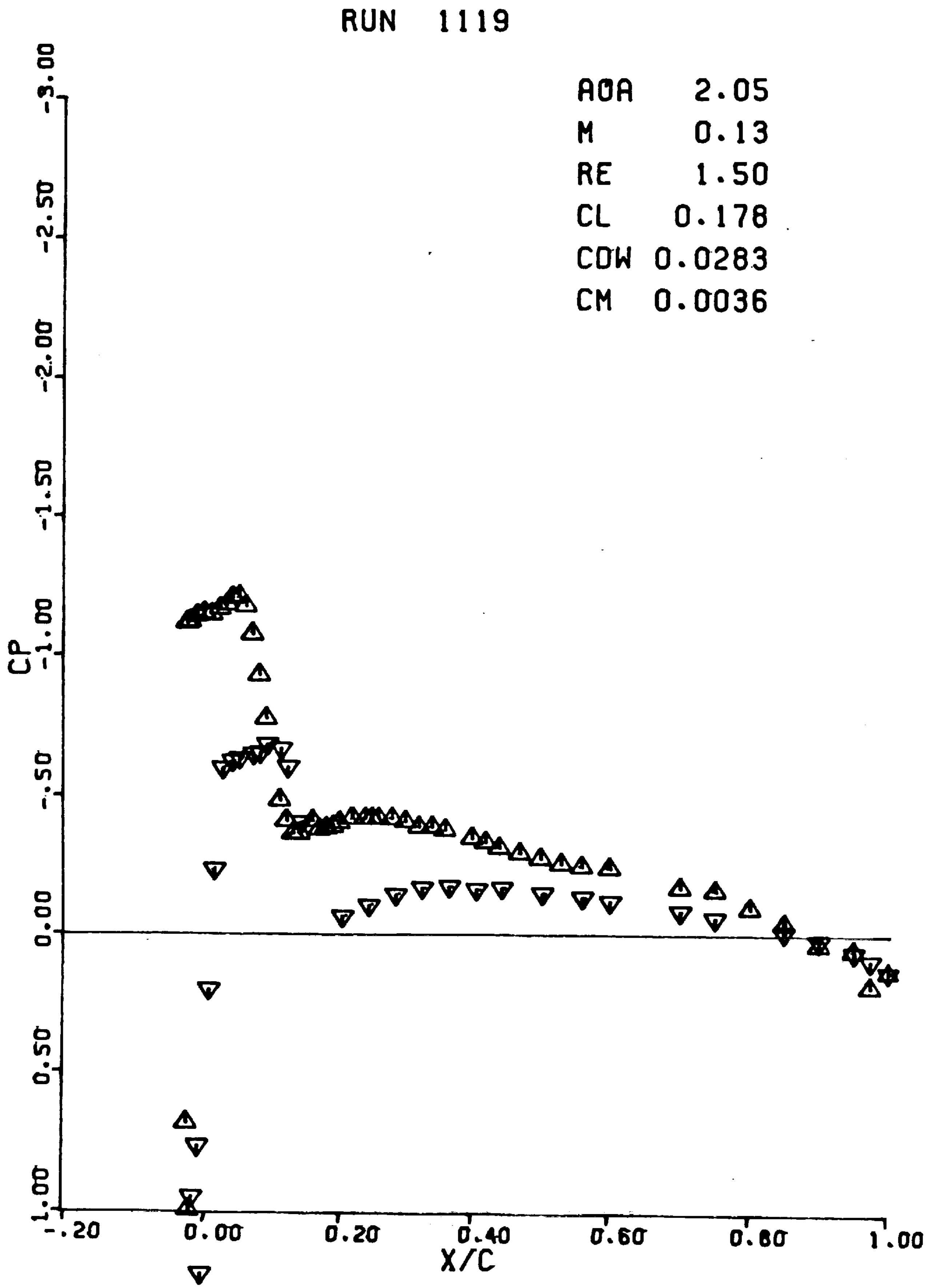
[1] Each data point represents the average of 10,000 samples at 2 Khz with a 1 Khz low-pass filter.
[2] Each data point represents the average of 10,000 samples at 10 Khz with a 5Khz low-pass filter.

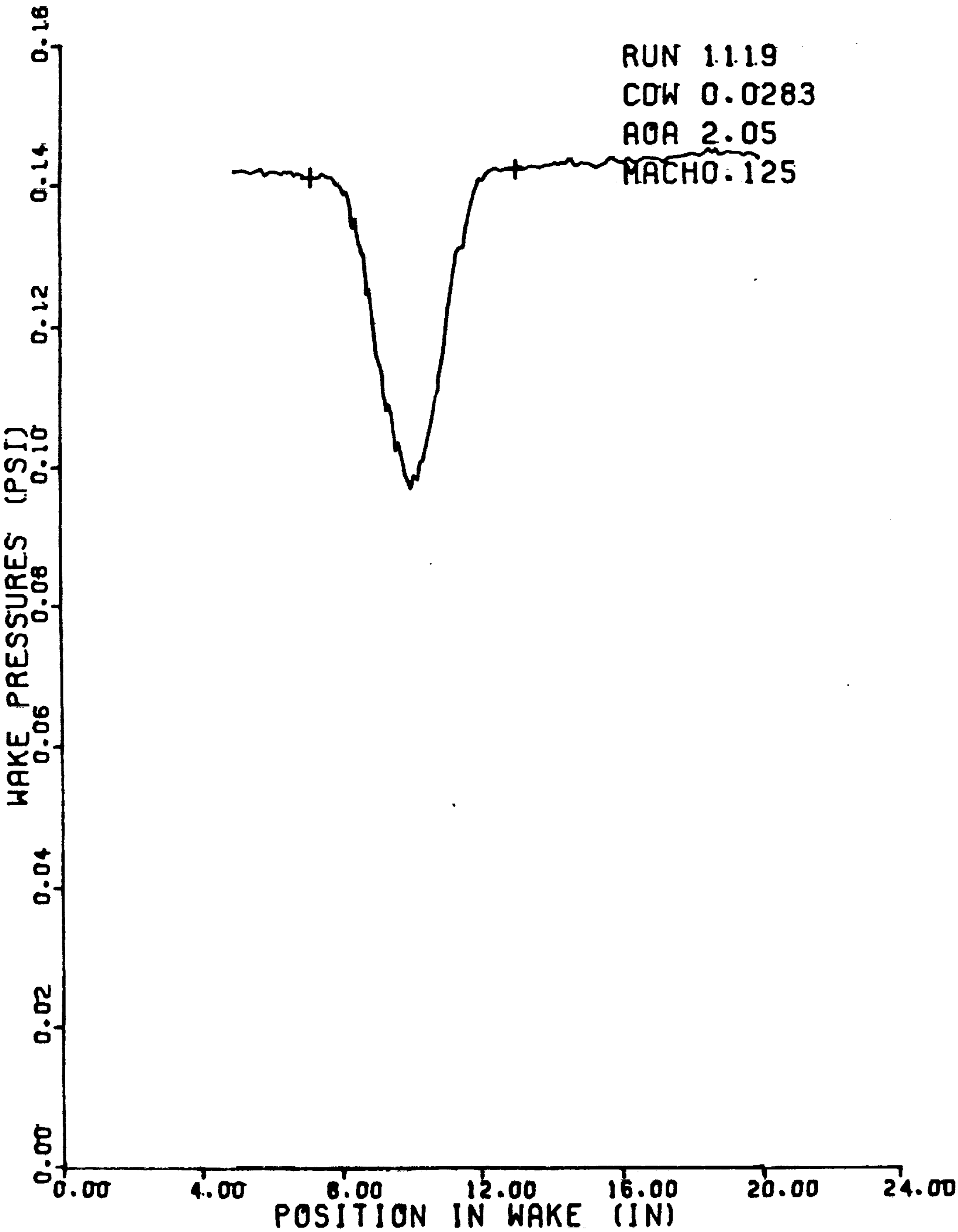
SECTION IV:

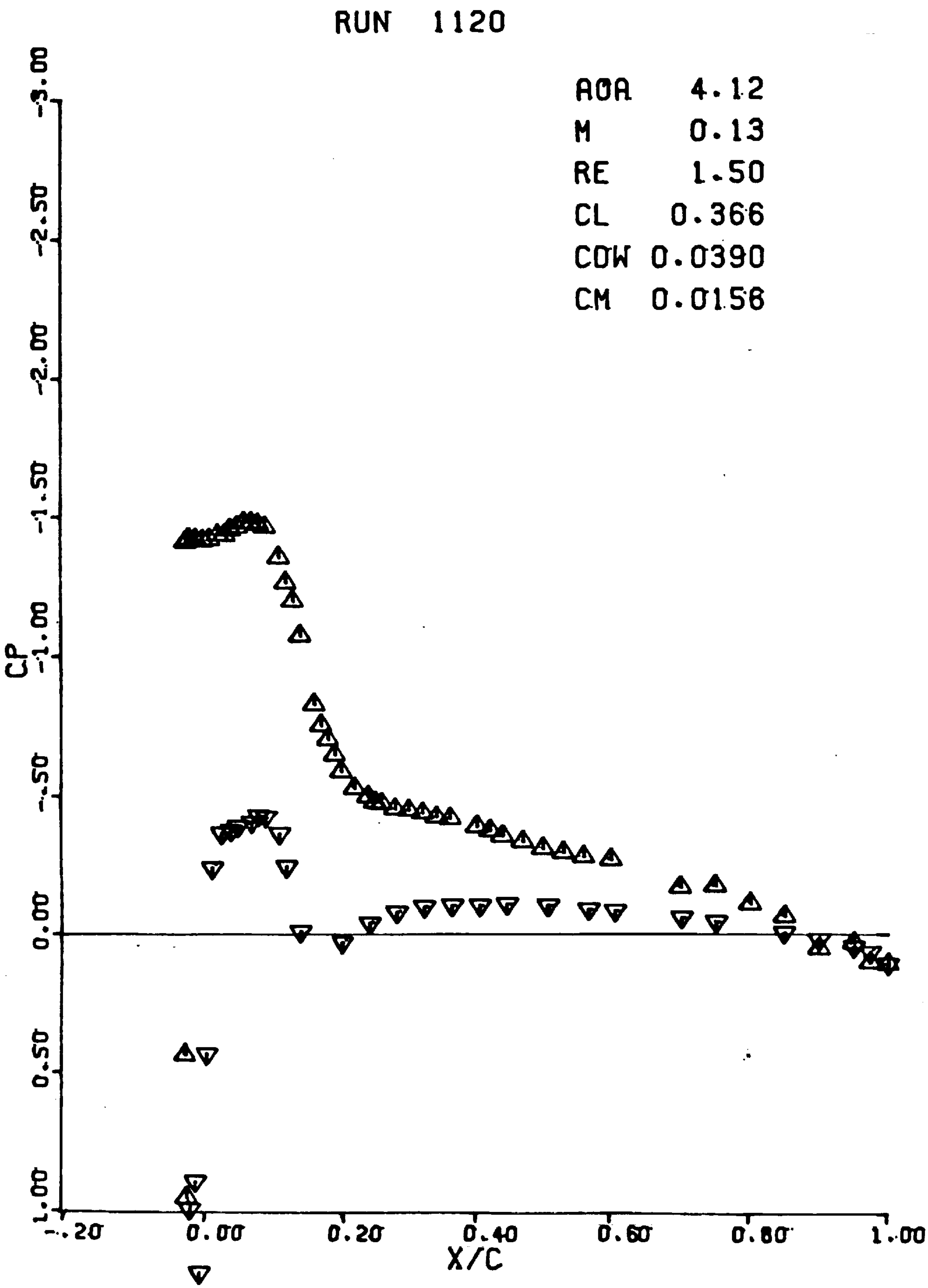
DATA PLOTS

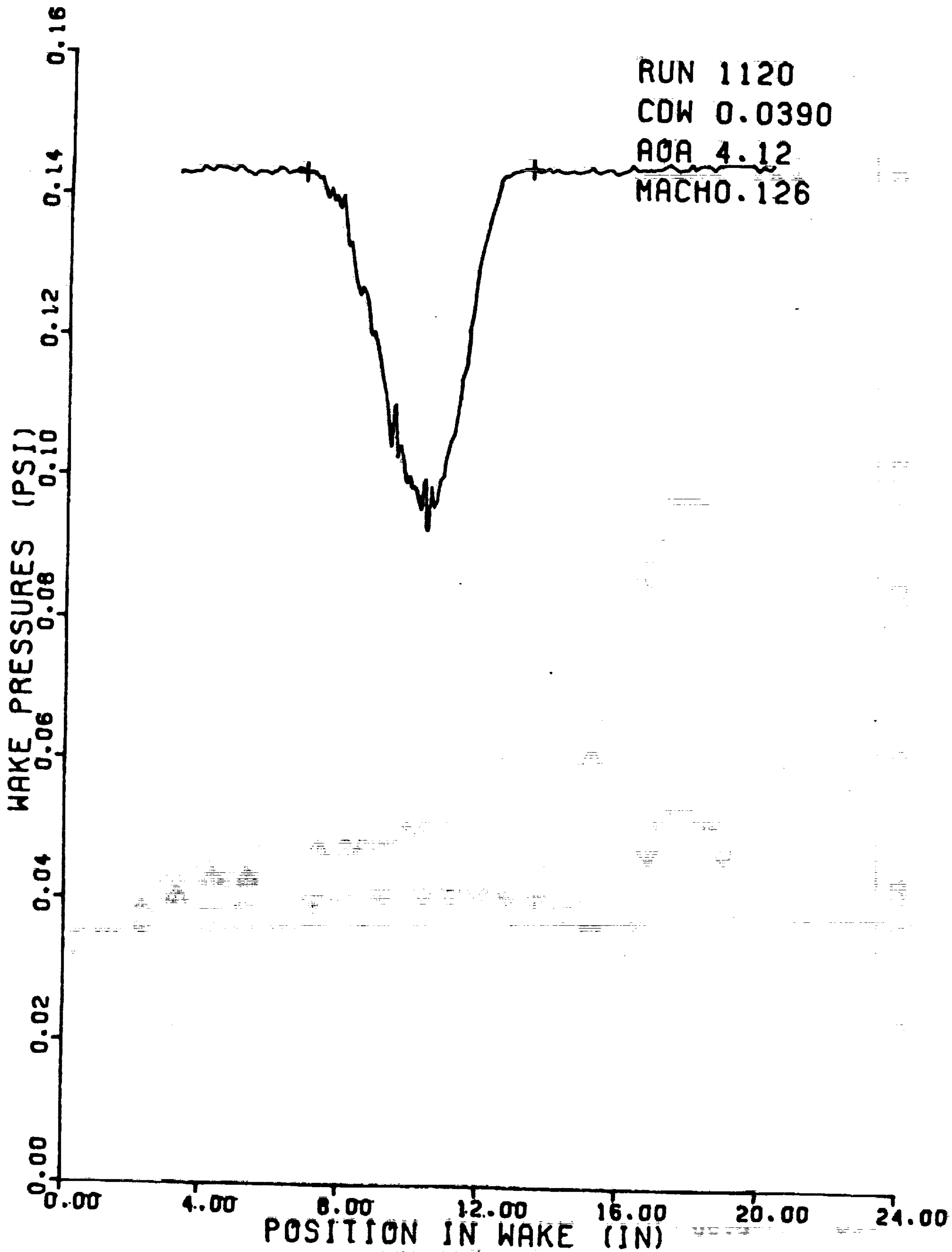

RUN 1118
AOA -.01
M 0.13
RE 1.51
CL -.001
CDW 0.0262
CM -.0074
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

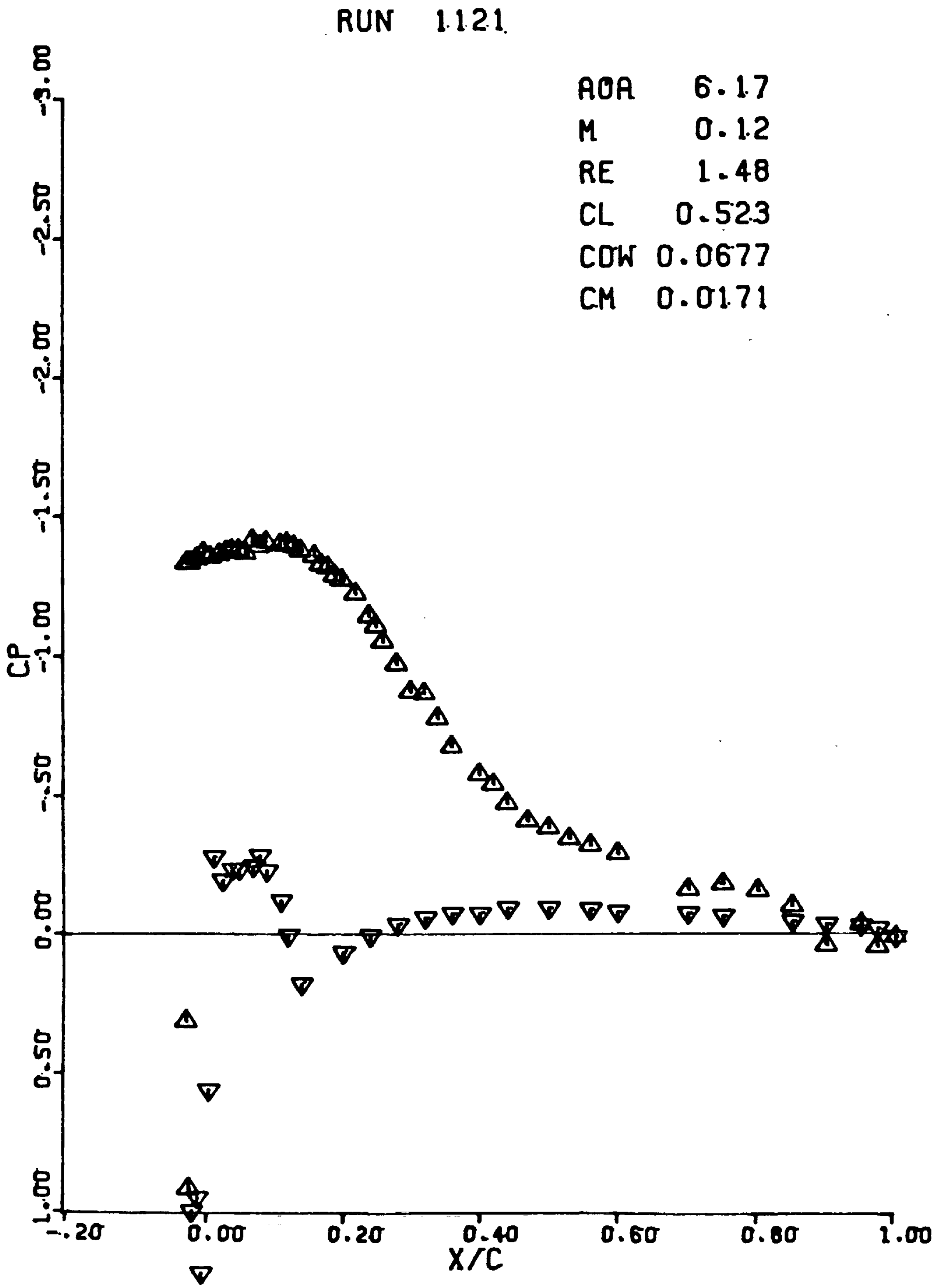

RUN 1118
CDW 0.0262
AOA -.01
MACH0.125
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
4.00
8.00
12.00
16.00
20.00
24.00
28.00
POSITION IN WAKE (IN)

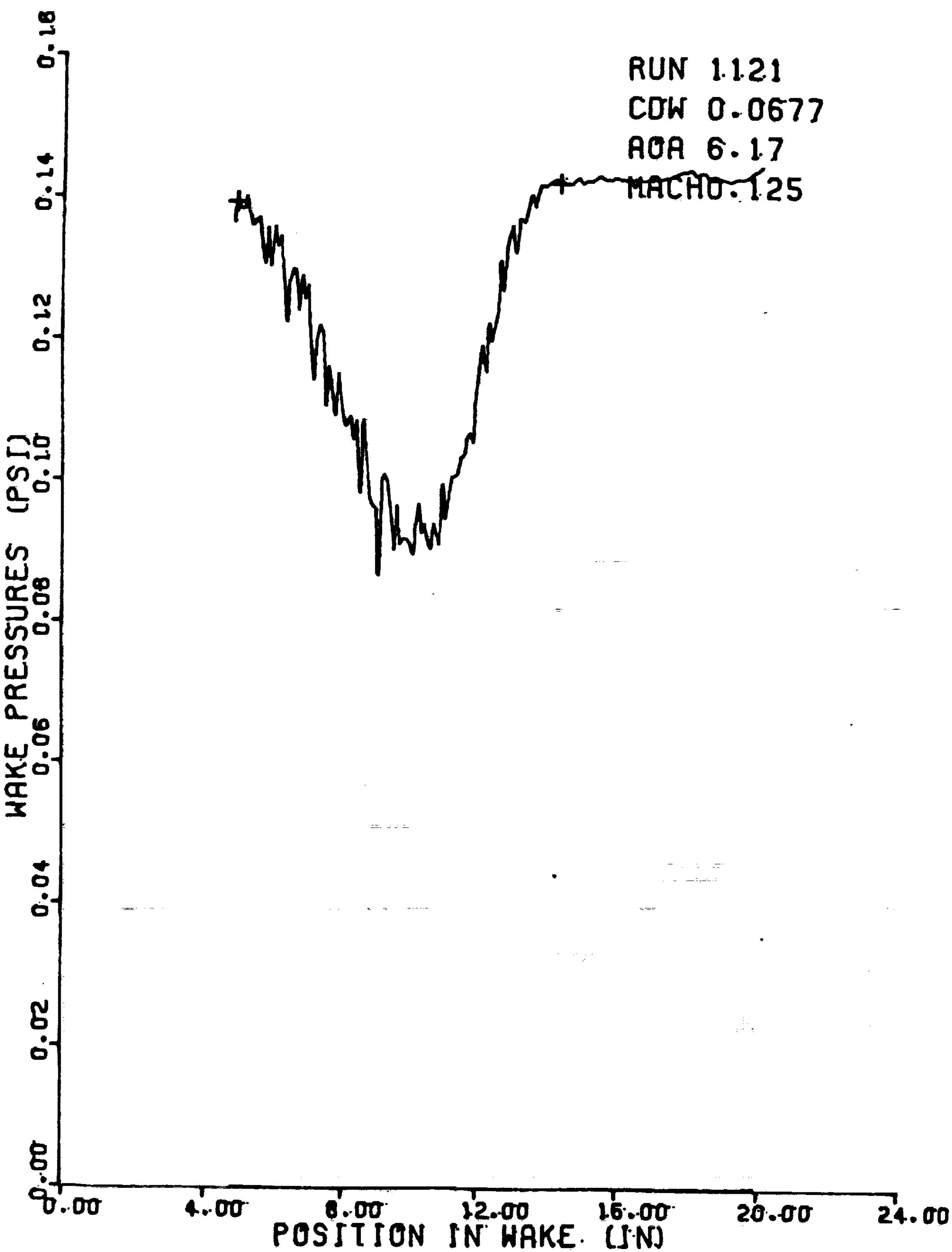

RUN 1119
AOA 2.05
M 0.13
RE 1.50
CL 0.178
CDW 0.0283
CM 0.0036
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1119
CDW 0.0283
AOA 2.05
MACH0.125
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

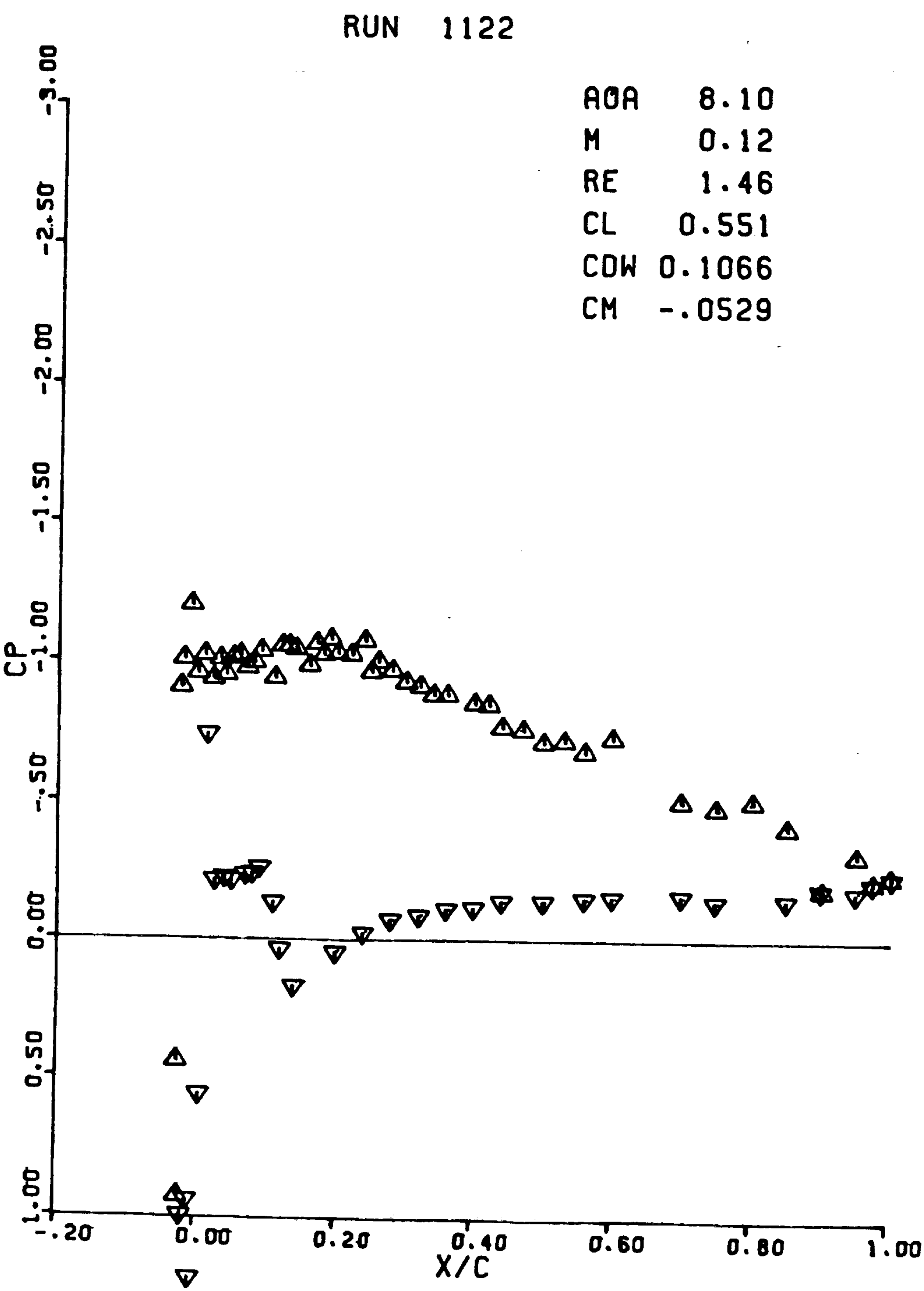

RUN 1120
AOA 4.12
M 0.13
RE 1.50
CL 0.366
CDW 0.0390
CM 0.0156
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

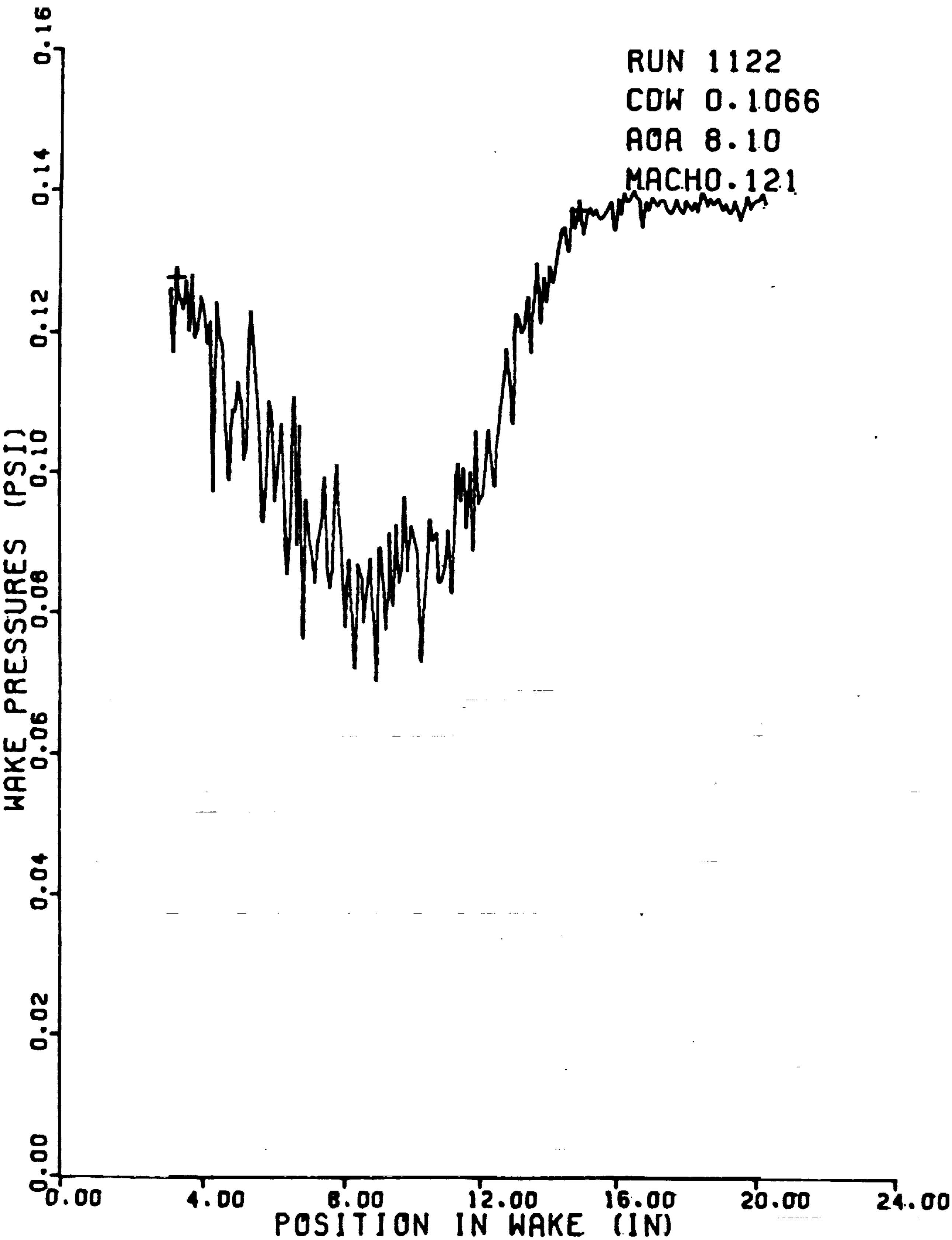

RUN 1120
CDW 0.0390
AOA 4.12
MACH0.126
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

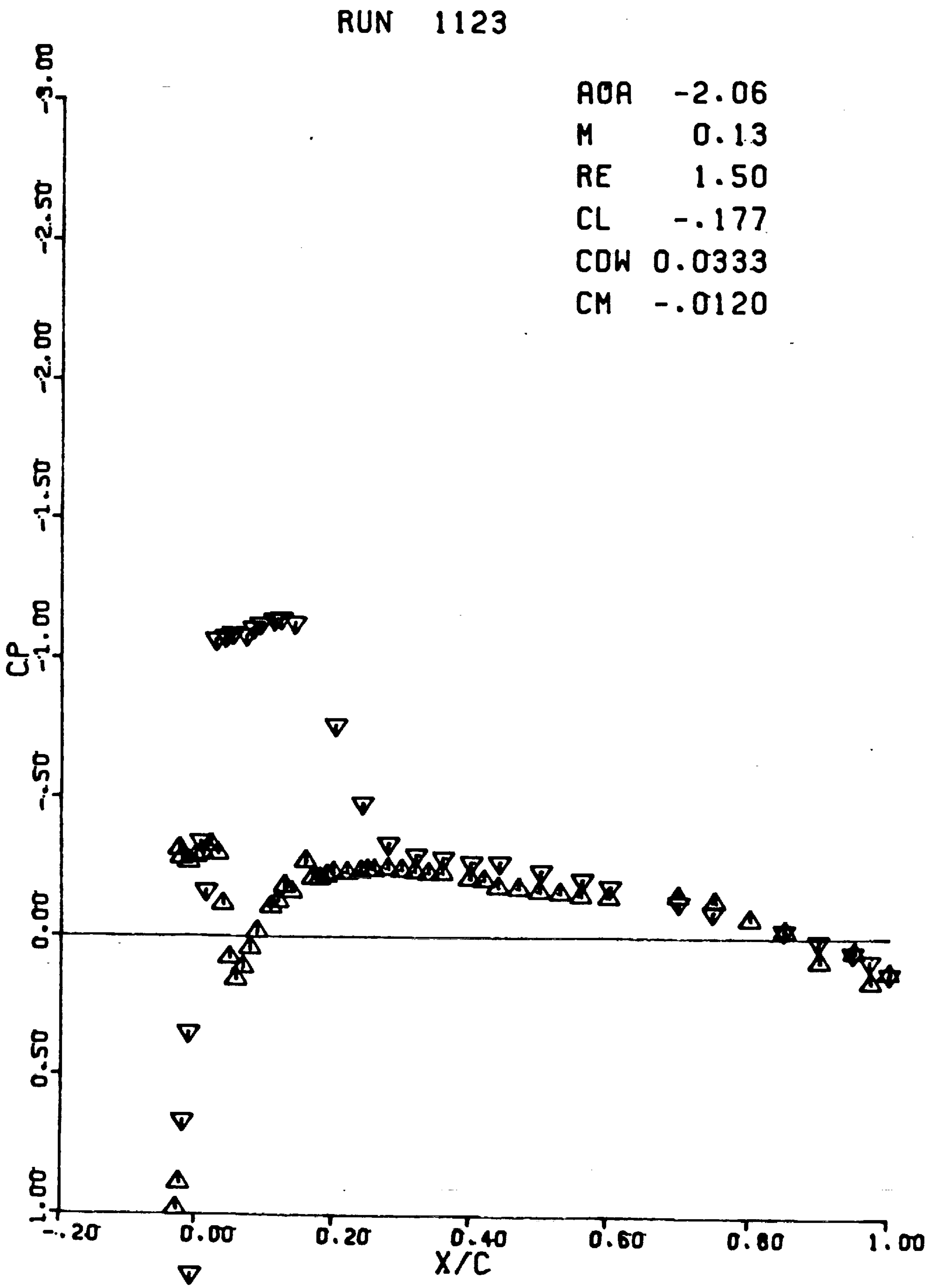

RUN 1121
AOA 6.17
M 0.12
RE 1.48
CL 0.523
CDW 0.0677
CM 0.0171
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C



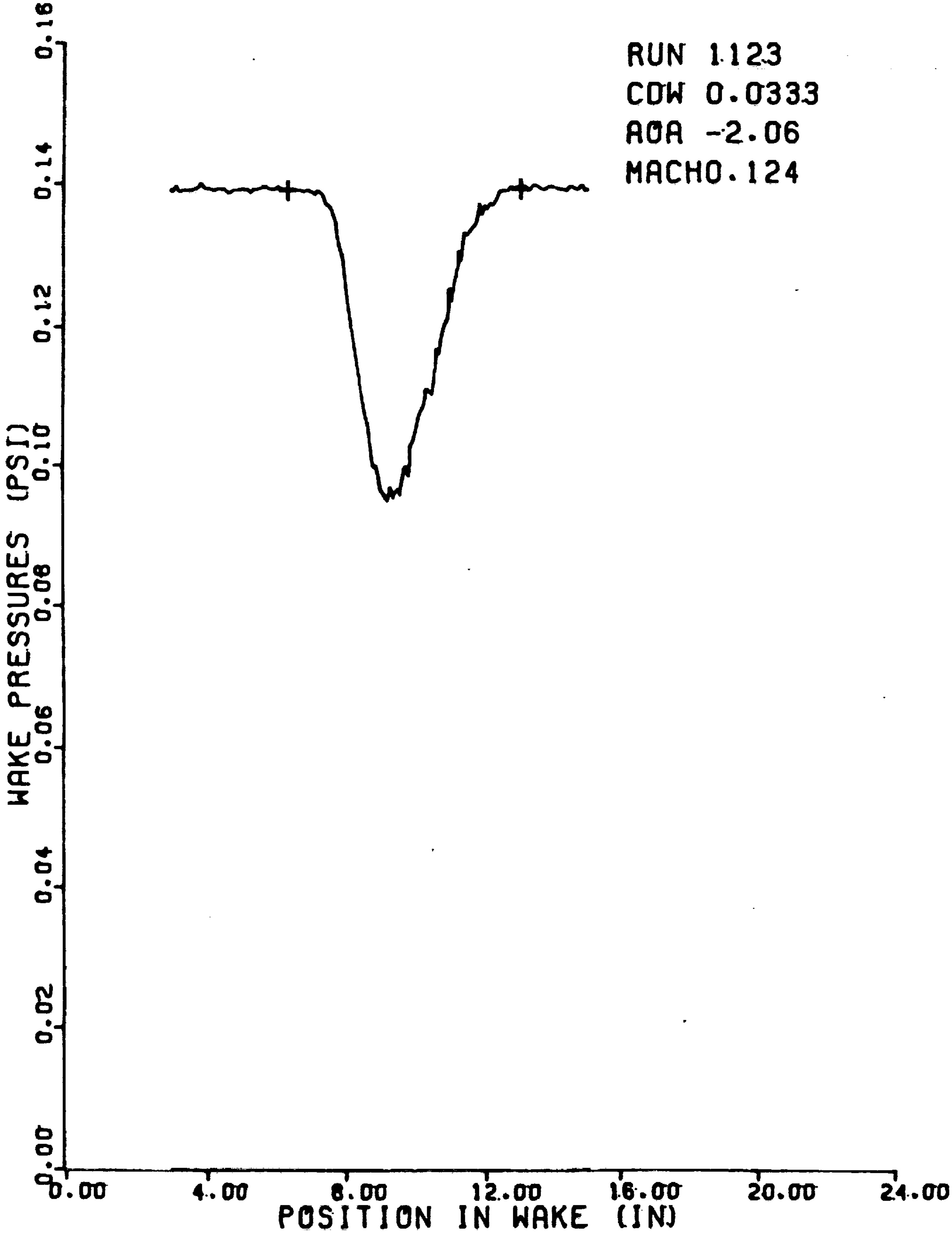
RUN 1.1.21
CDW 0.0677
AOA 6.17
MACH0.125
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

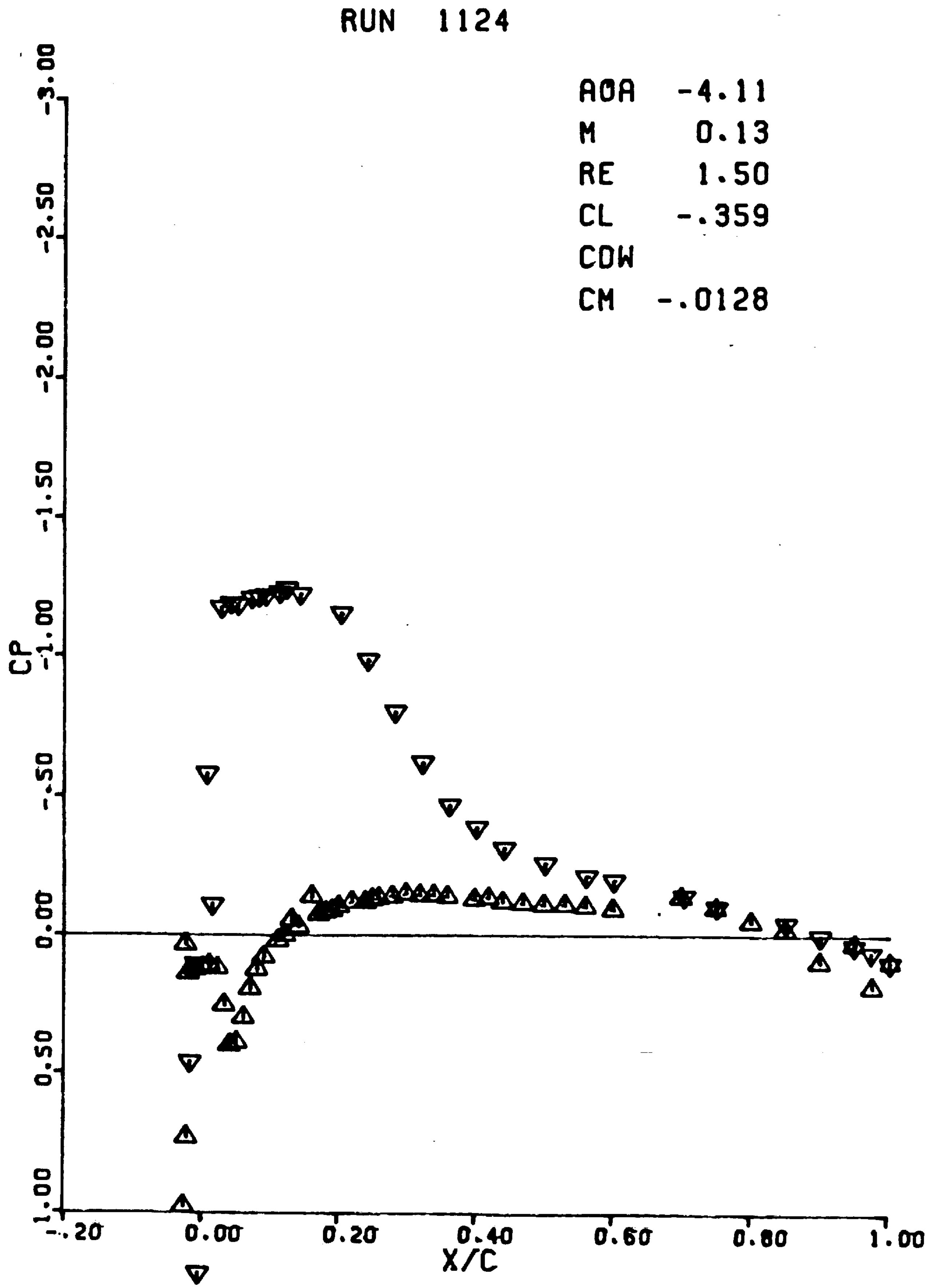

RUN 1122
AOA 8.10
M 0.12
RE 1.46
CL 0.551
CDW 0.1066
CM -.0529
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

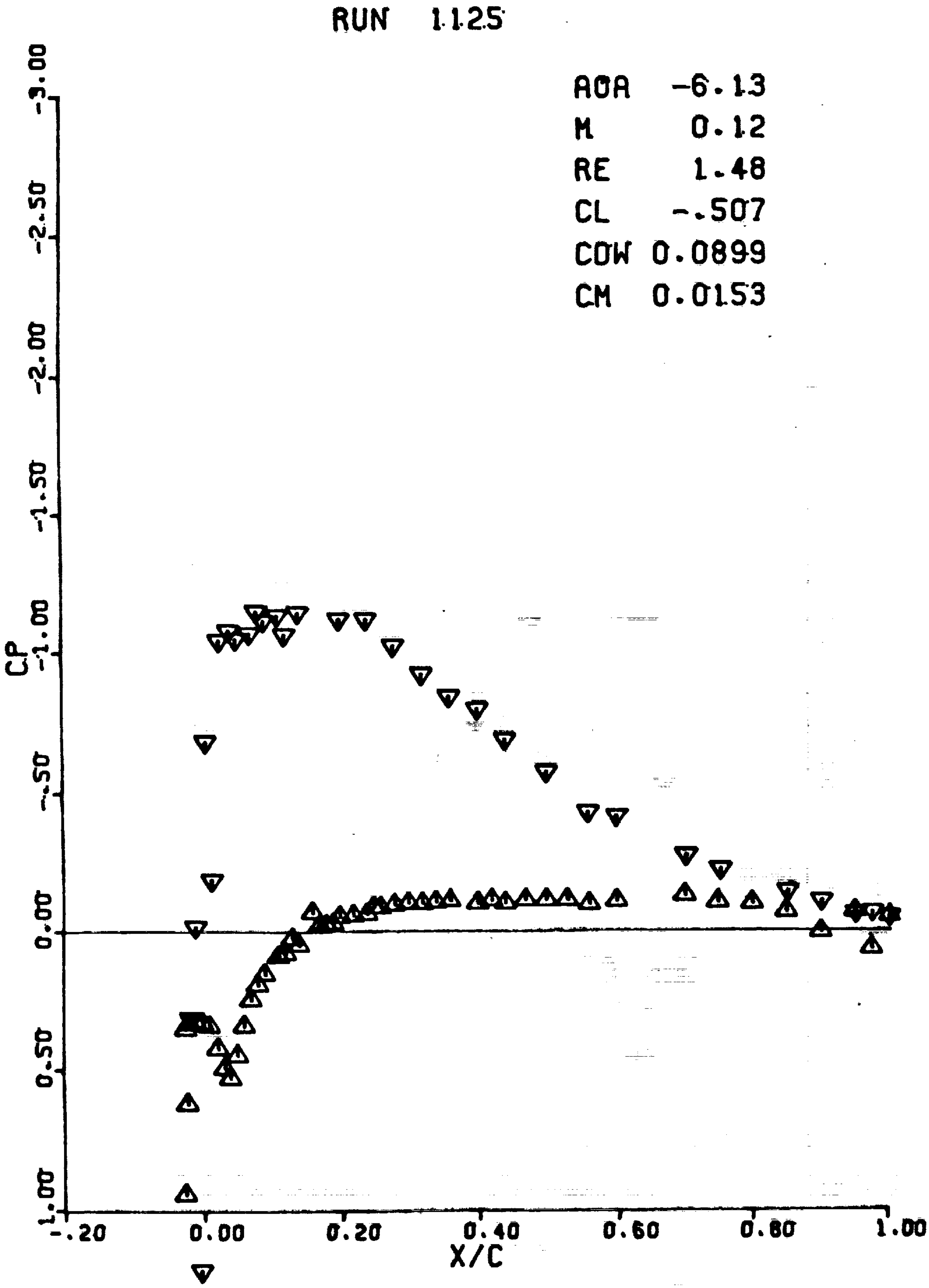

RUN 1122
CDW 0.1066
AOA 8.10
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)



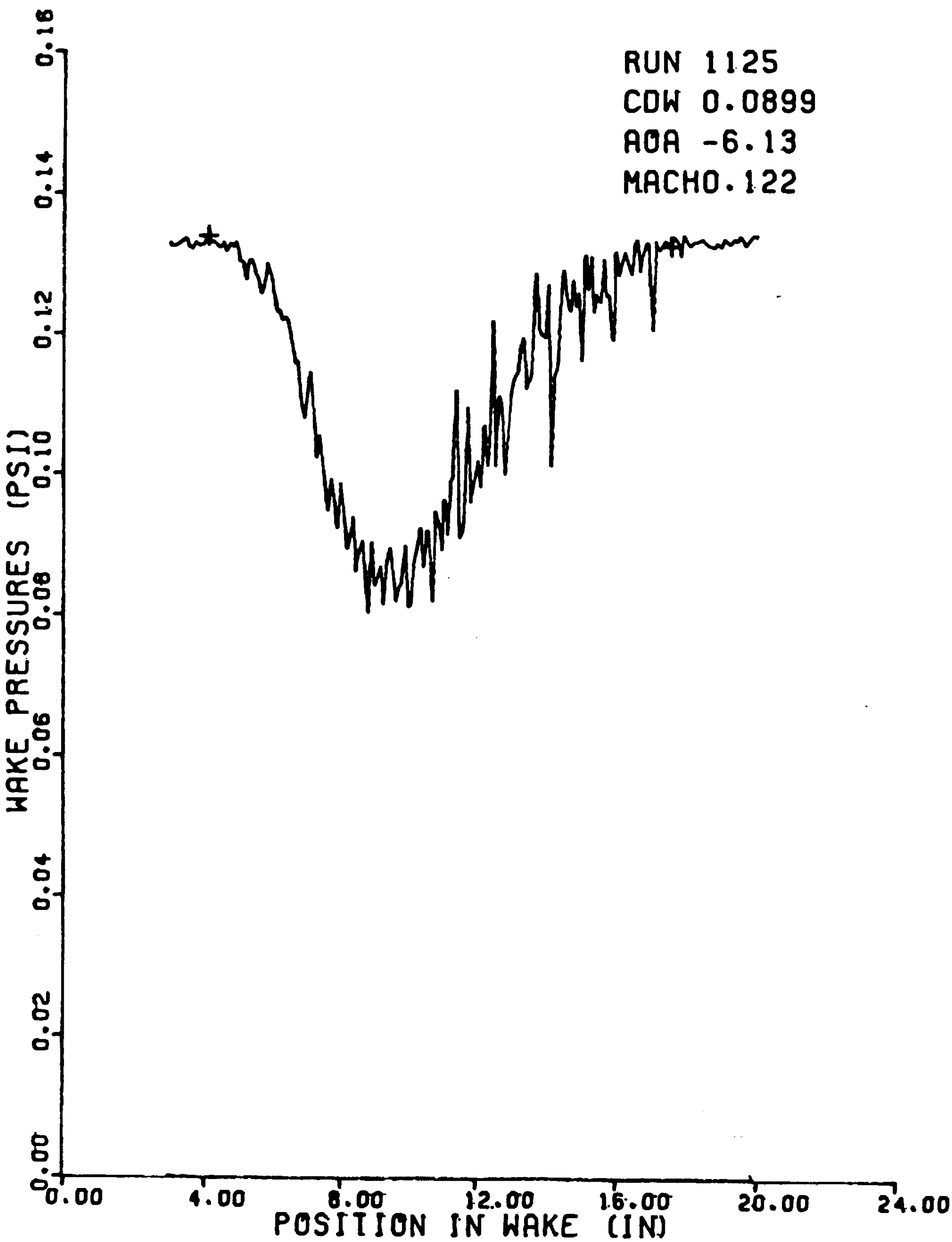
RUN 1123
AOA -2.06
M 0.13
RE 1.50
CL -.177
CDW 0.0333
CM -.0120
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

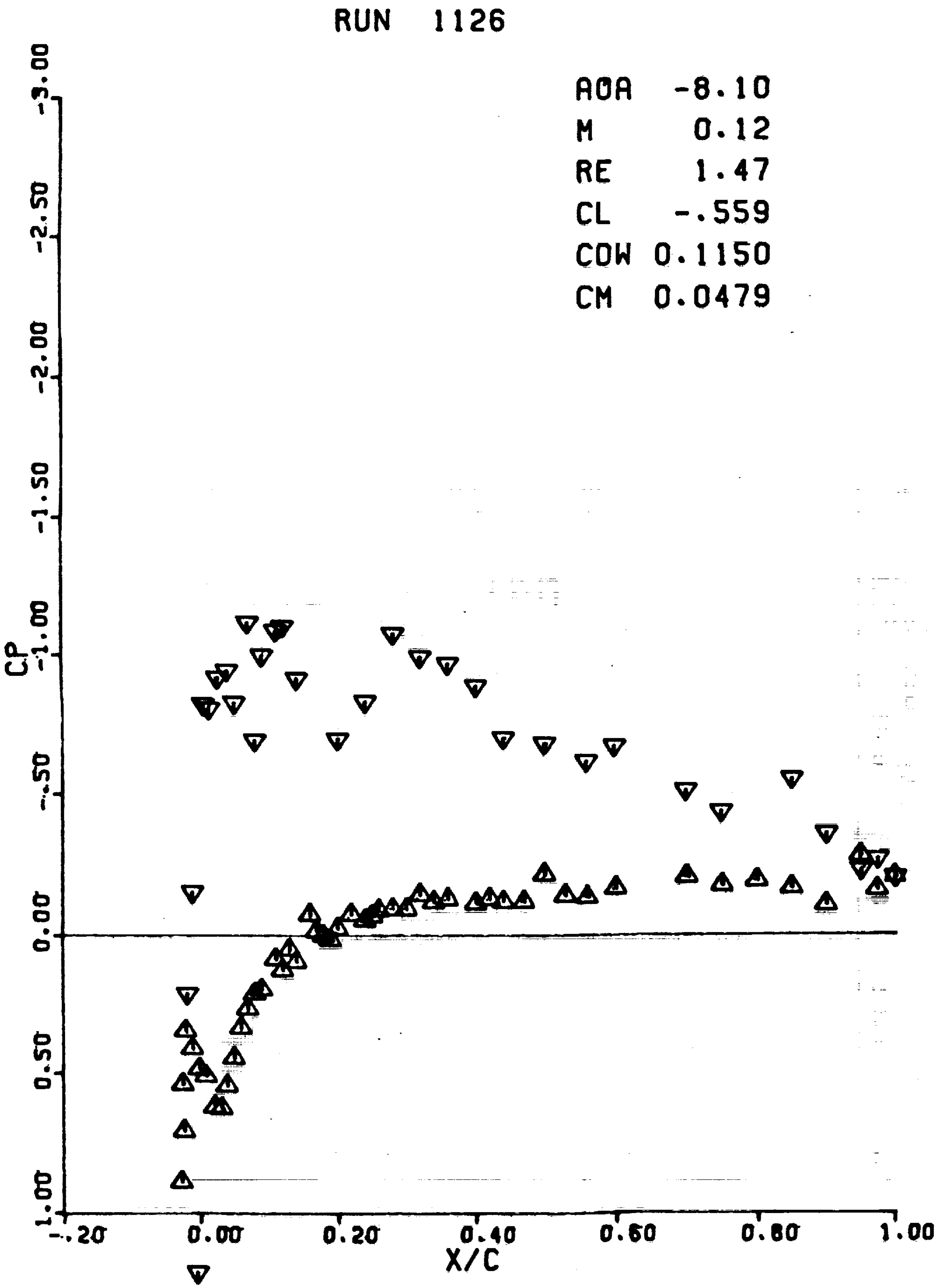

RUN 1123
CDW 0.0333
AOA -2.06
MACH0.124
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1124
AOA -4.11
M 0.13
RE 1.50
CL -.359
CDW
CM -.0128
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

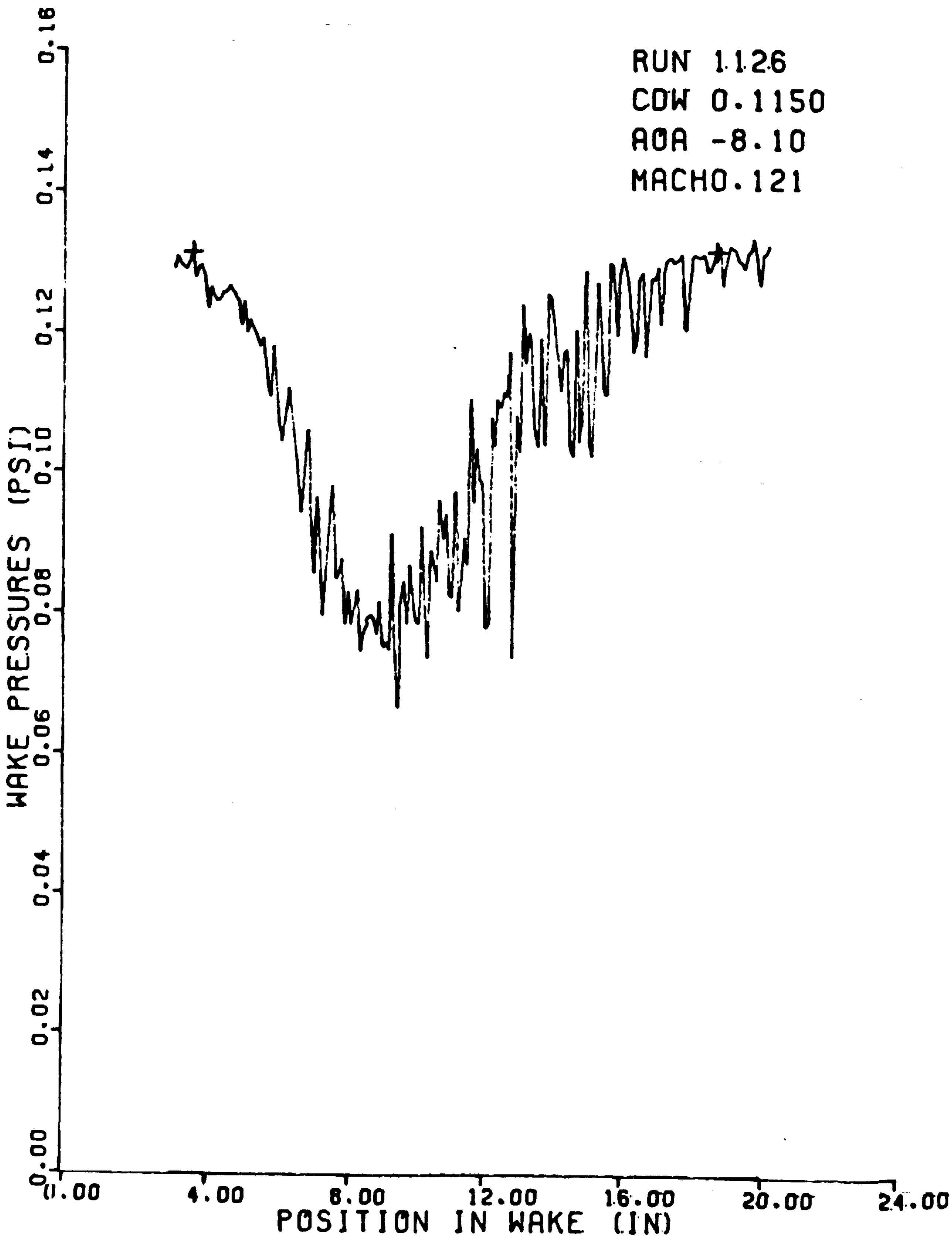


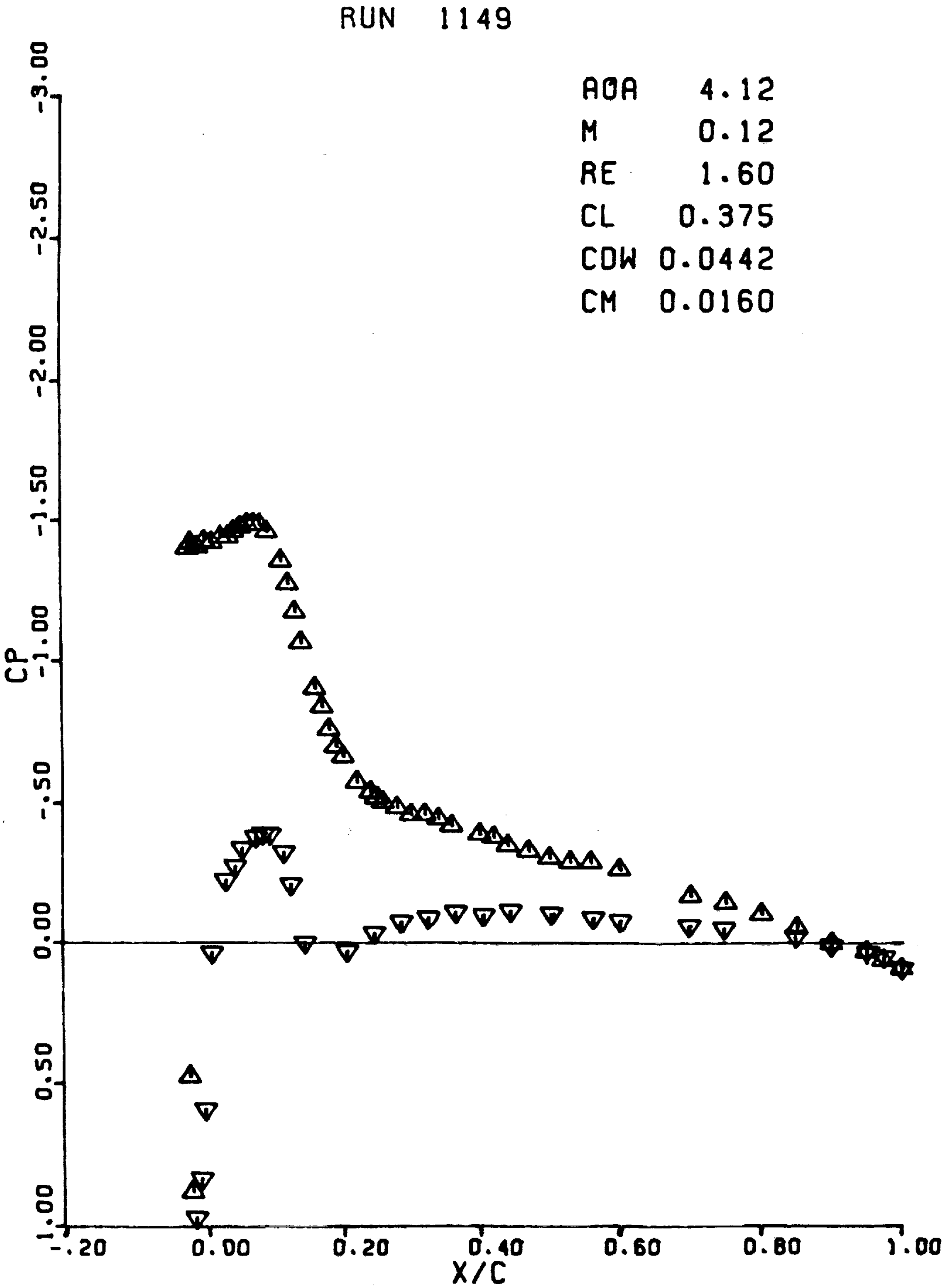
RUN 1125
AOA -6.13
M 0.12
RE 1.48
CL -.507
CDW 0.0899
CM 0.0153
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

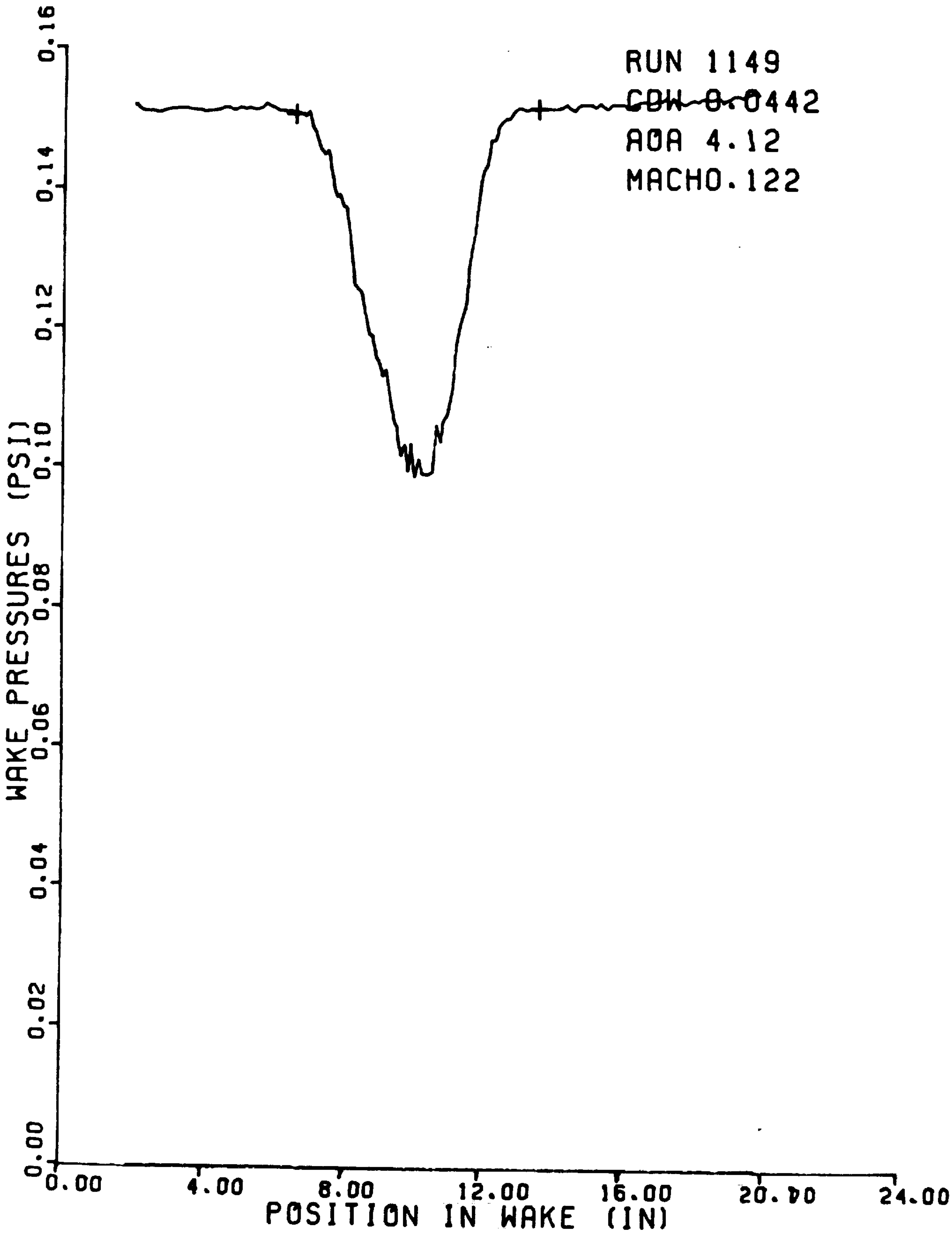

RUN 1125
CDW 0.0899
AOA -6.13
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

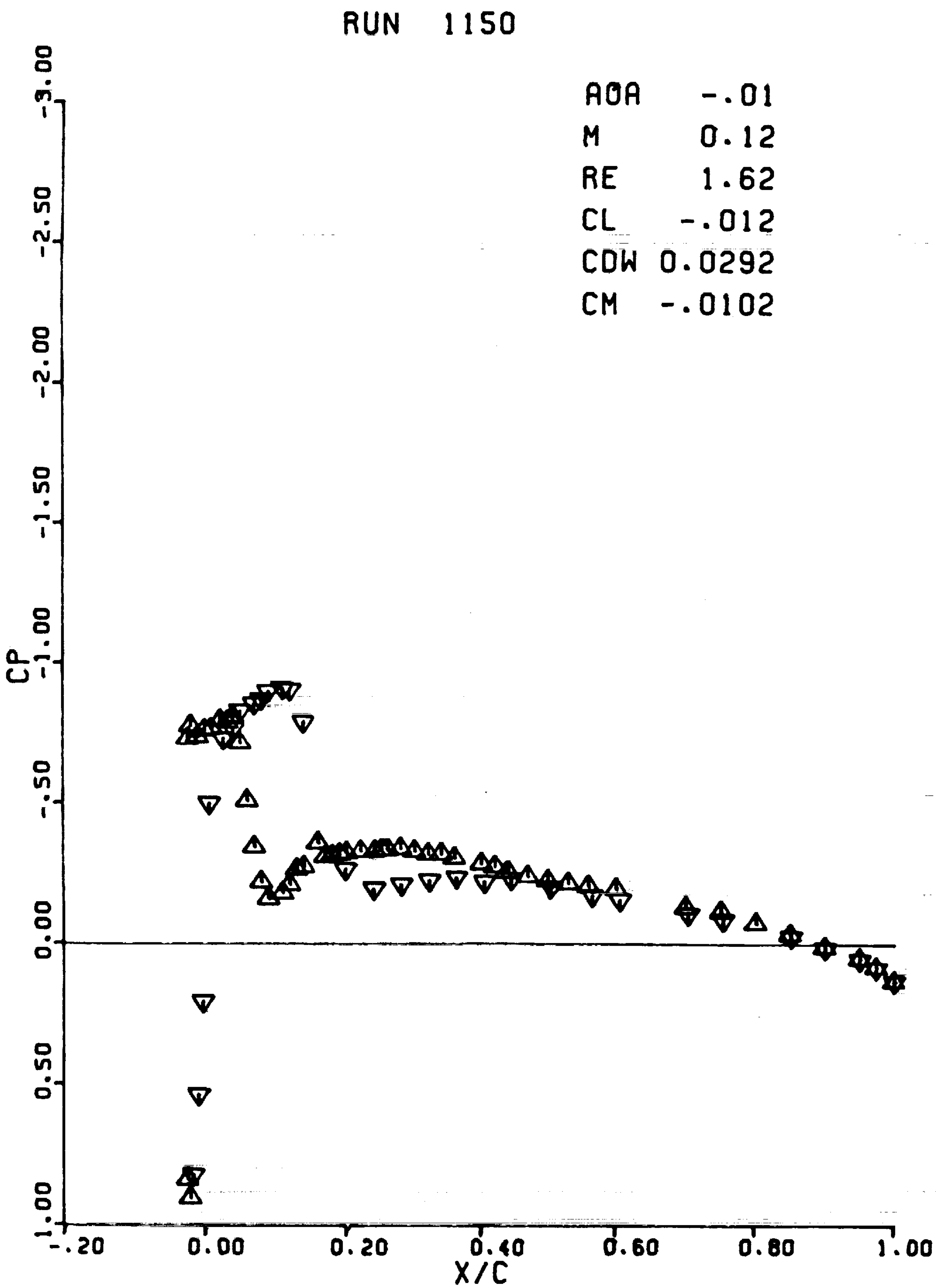


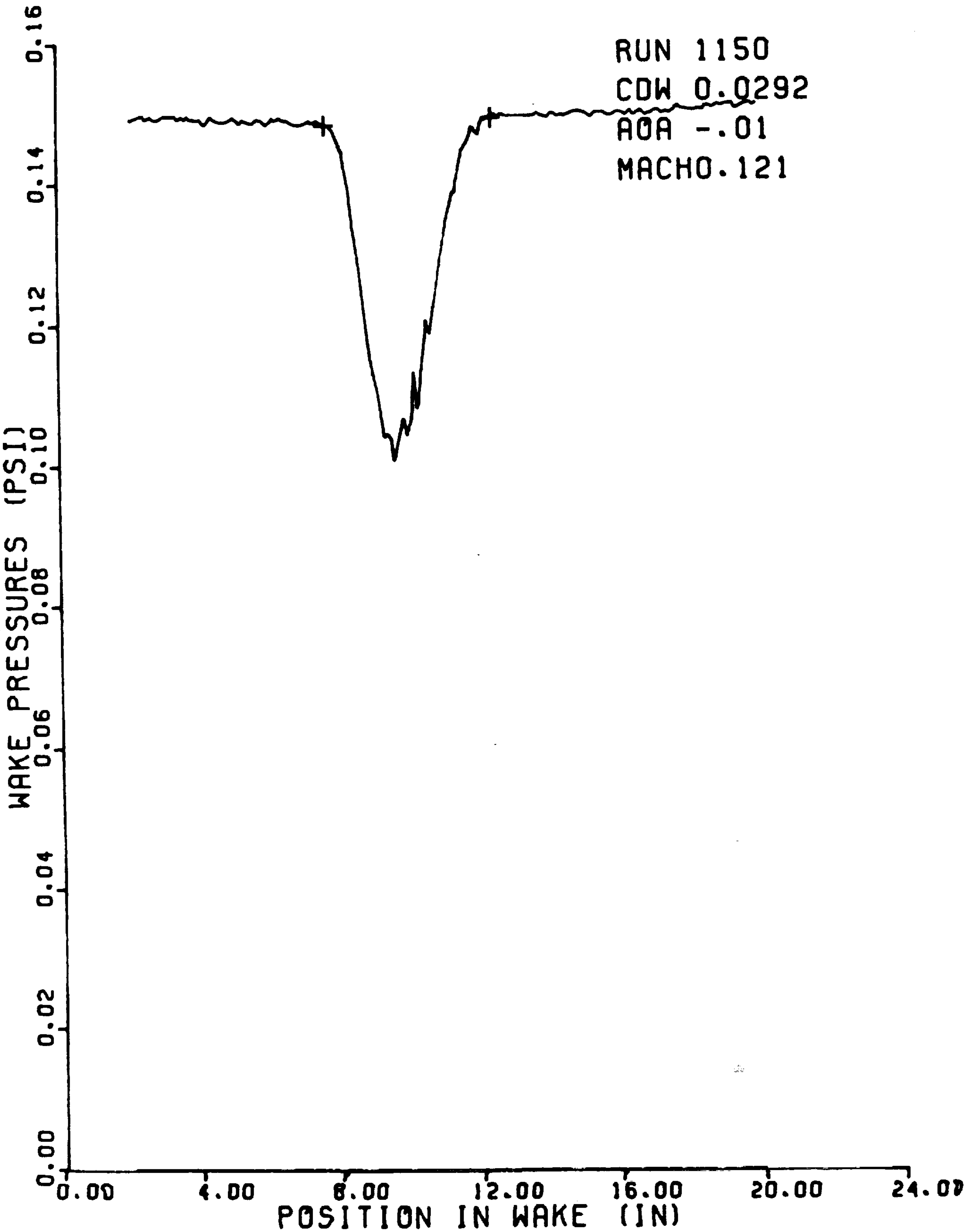
RUN 1126
AOA -8.10
M 0.12
RE 1.47
CL -.559
CDW 0.1150
CM 0.0479
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

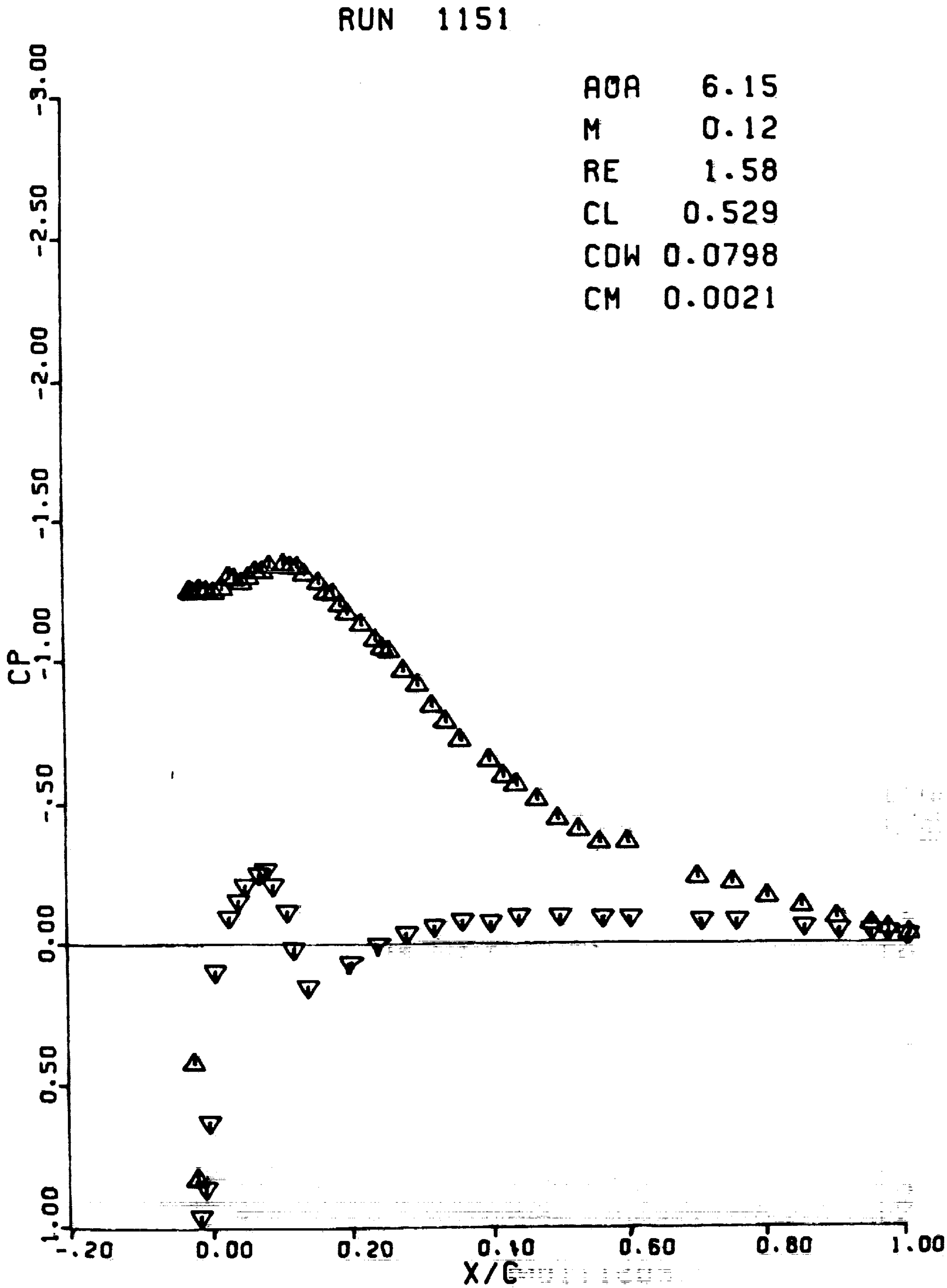

RUN 1126
CDW 0.1150
AOA -8.10
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

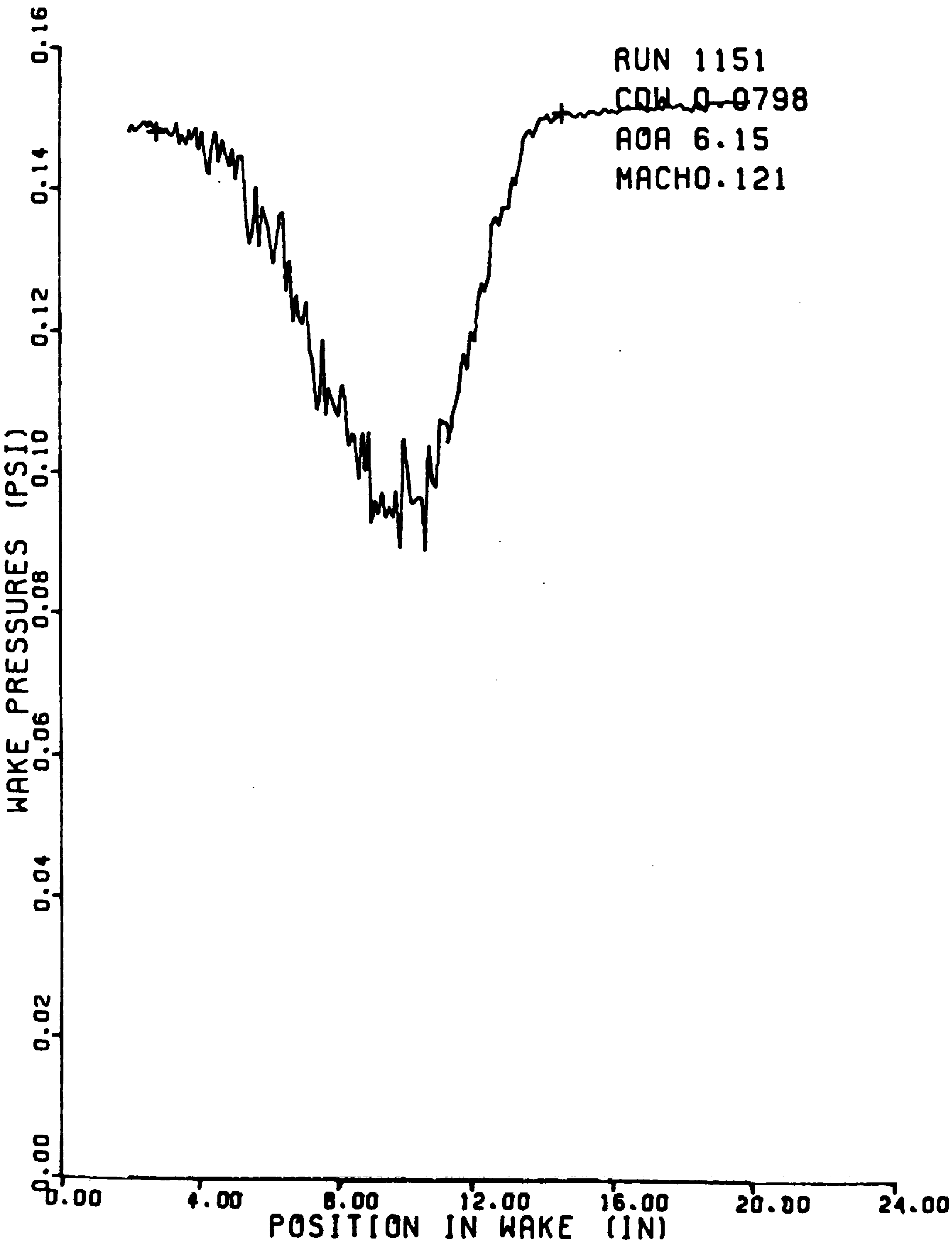

RUN 1149
AOA 4.12
M 0.12
RE 1.60
CL 0.375
CDW 0.0442
CM 0.0160
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

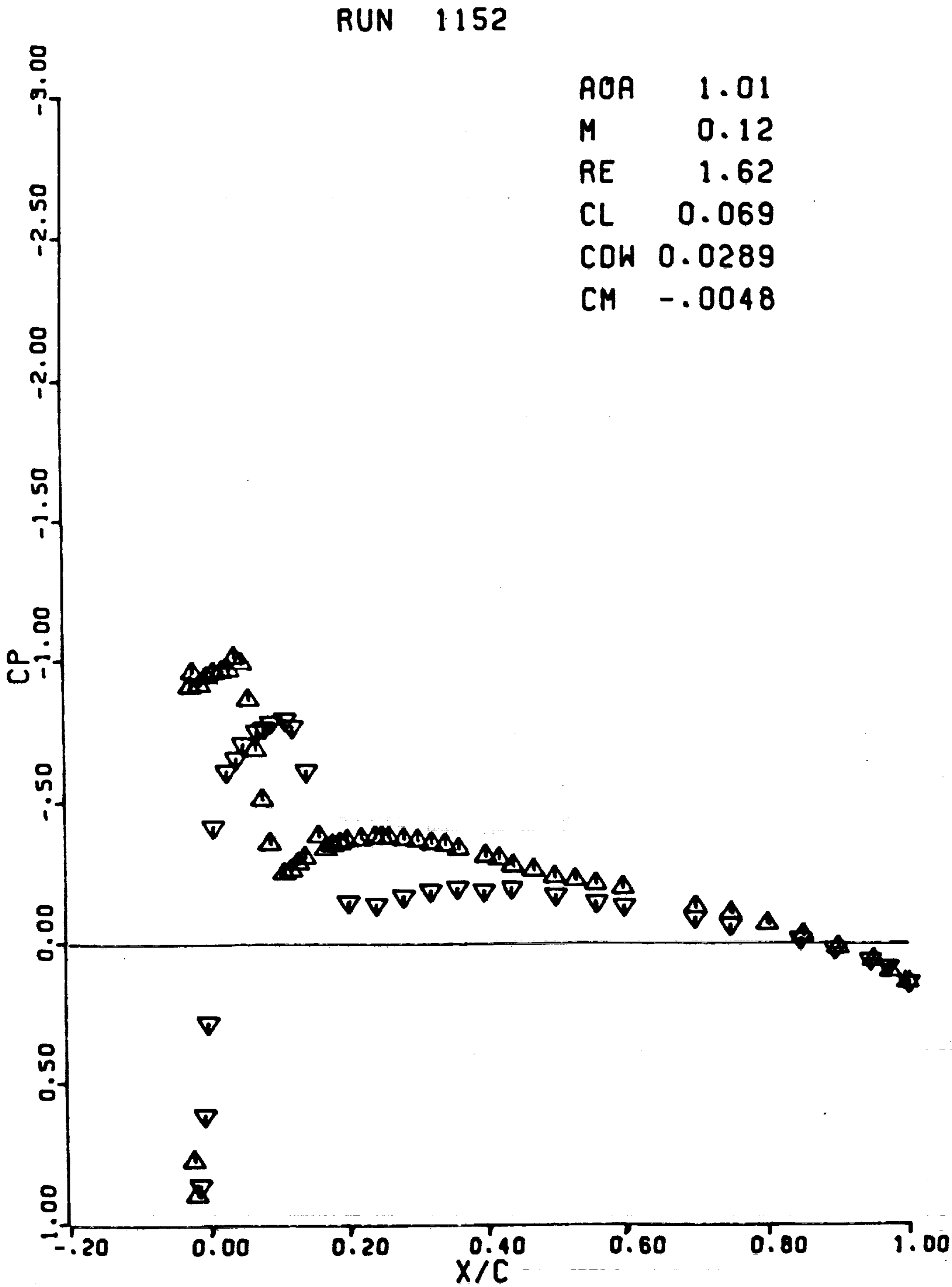

RUN 1149
CDW 0.0442
AOA 4.12
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1150
AOA -.01
M 0.12
RE 1.62
CL -.012
CDW 0.0292
CM -.0102
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

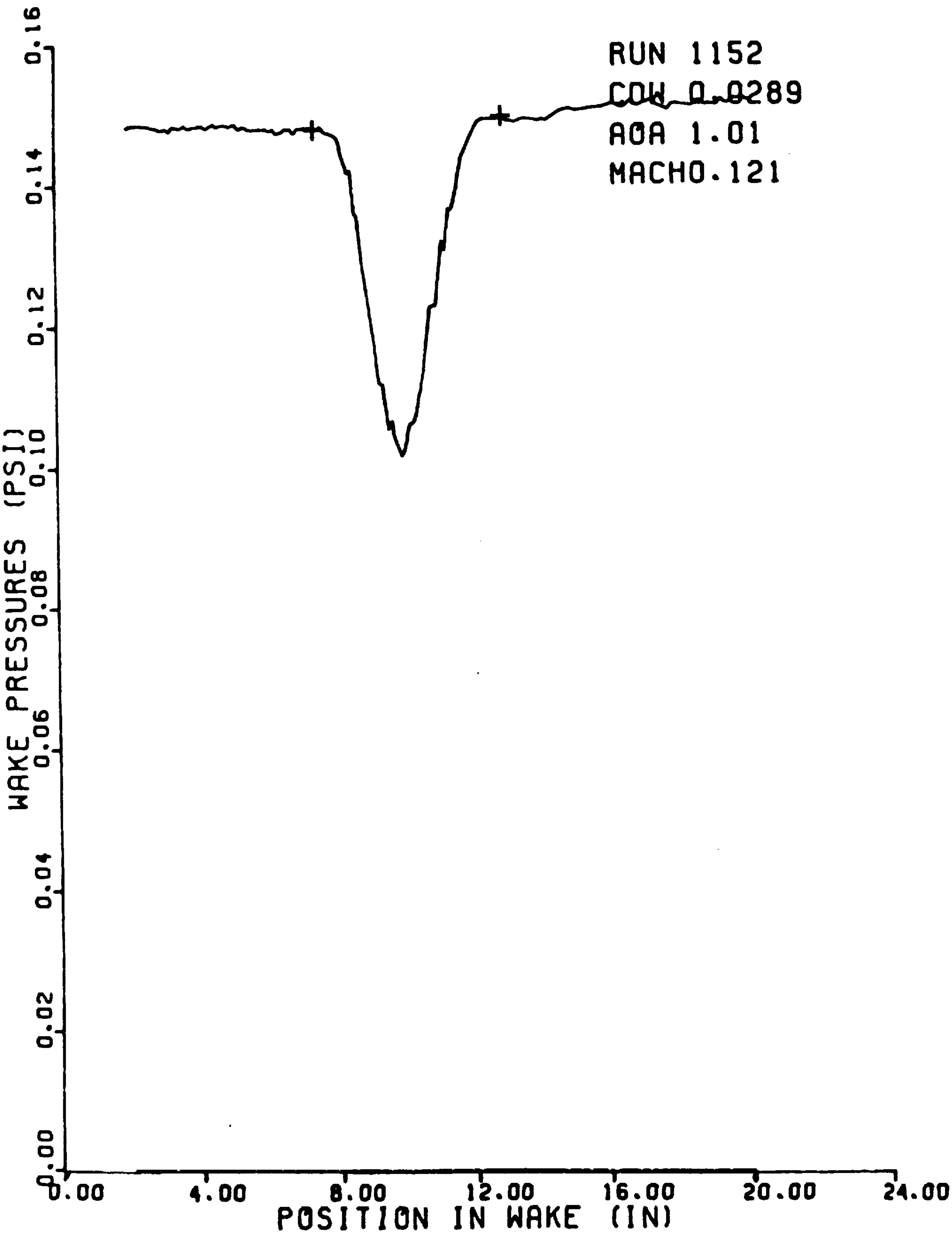

RUN 1150
CDW 0.0292
AOA -.01
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

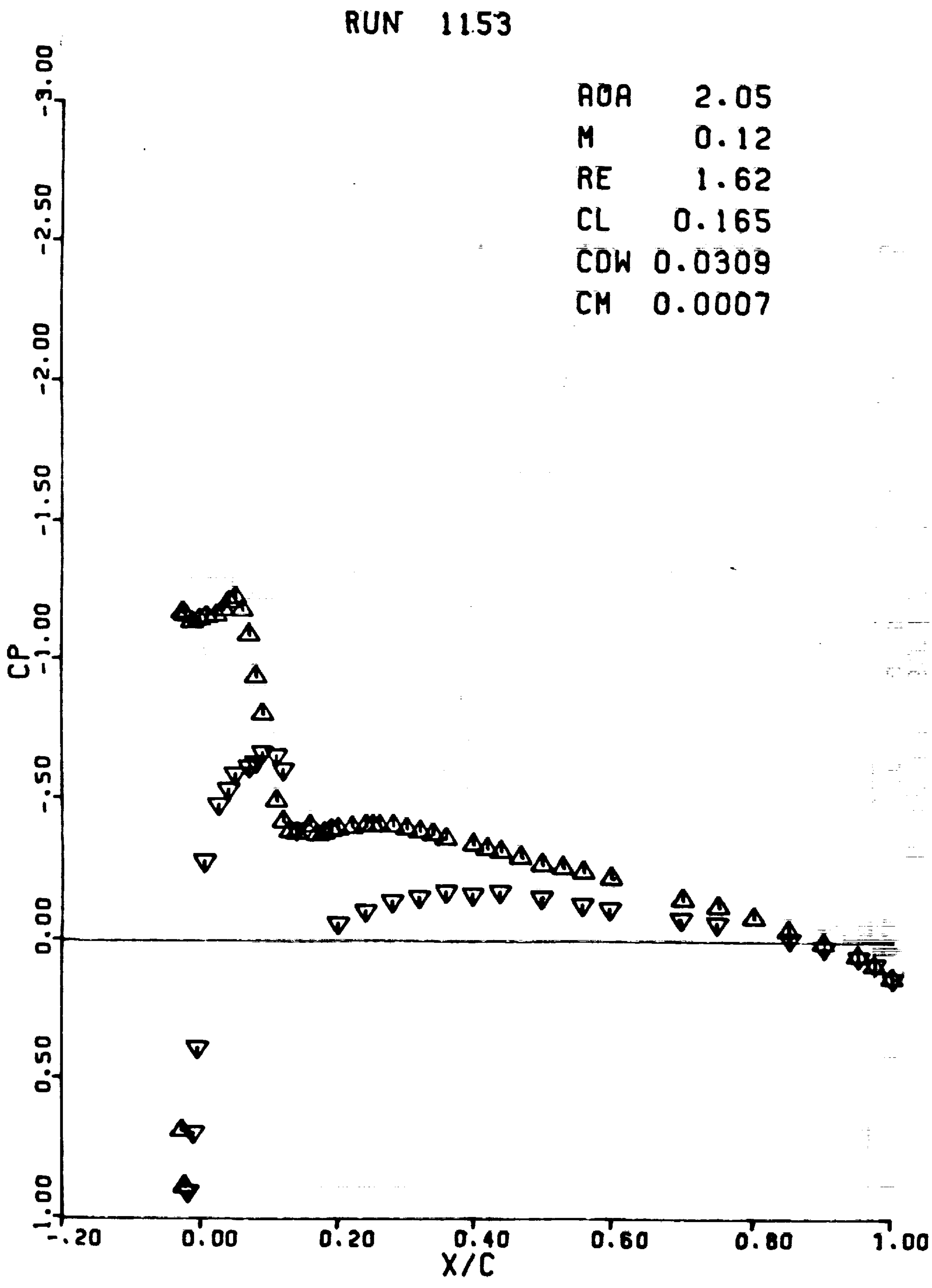

RUN 1151
AOA 6.15
M 0.12
RE 1.58
CL 0.529
CDW 0.0798
CM 0.0021
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
X/C
-.20
0.00
0.20
0.40
0.60
0.80
1.00

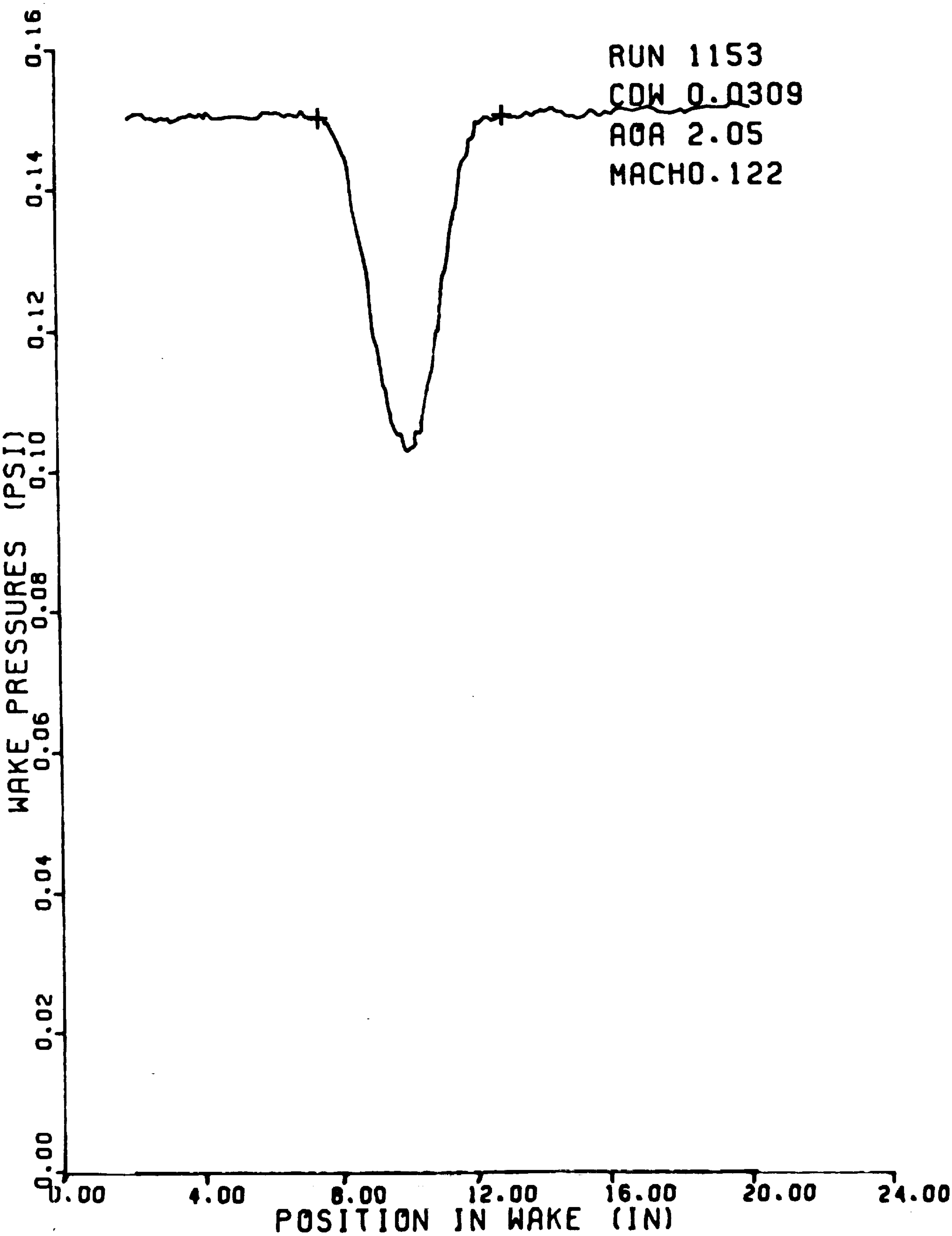

RUN 1151
CDW 0.0798
AOA 6.15
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

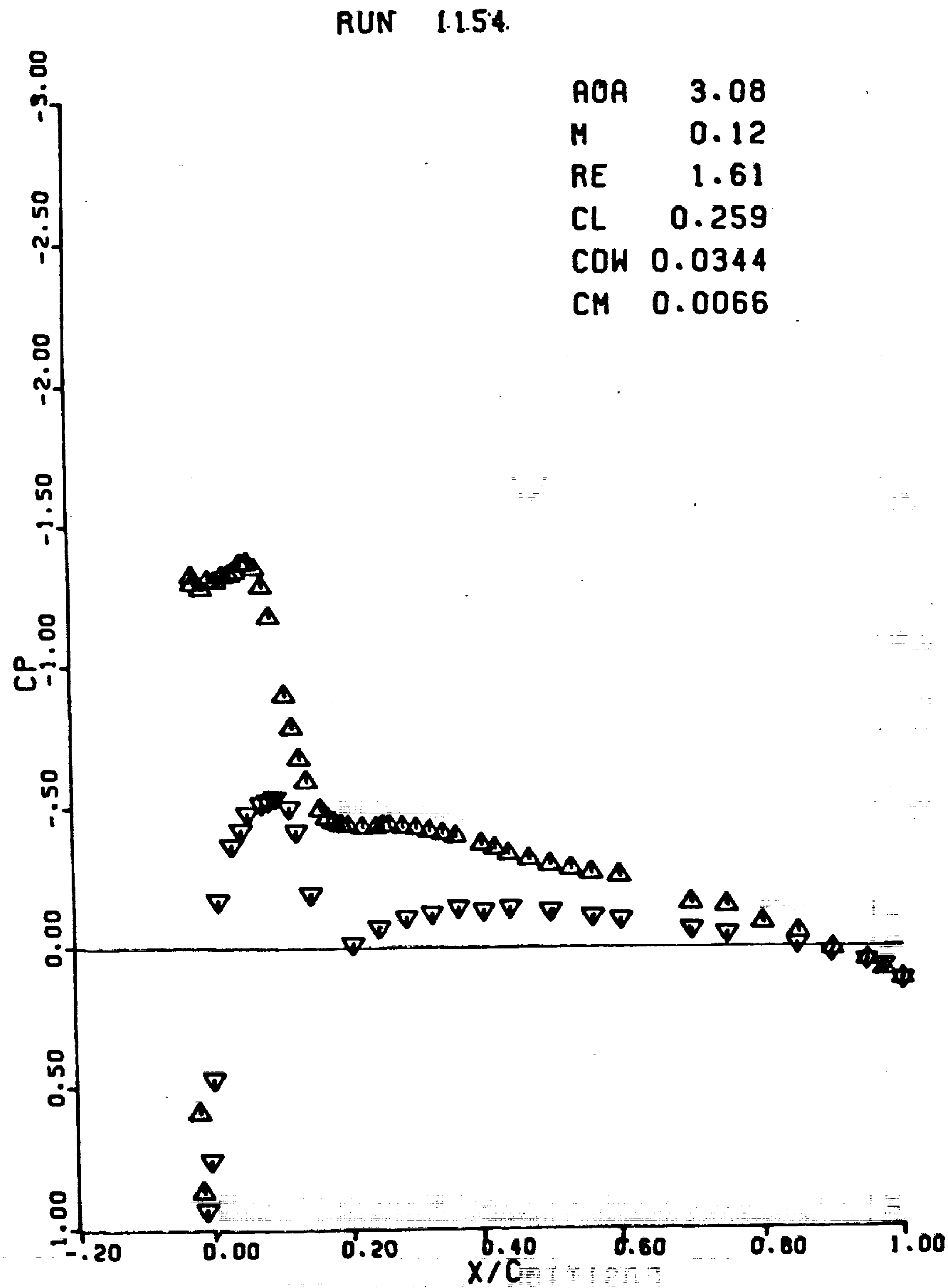


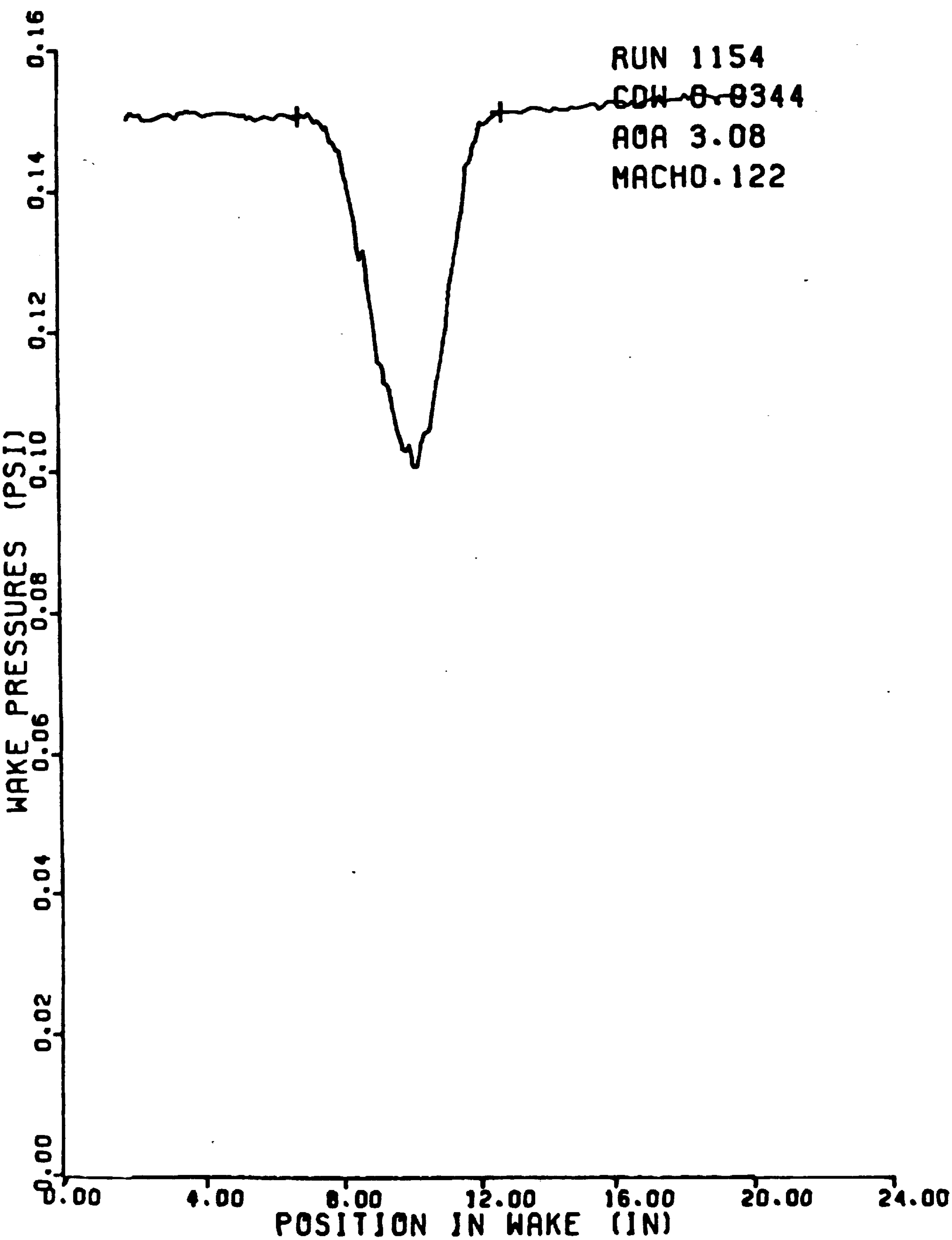
RUN 1152
AOA 1.01
M 0.12
RE 1.62
CL 0.069
CDW 0.0289
CM -.0048
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

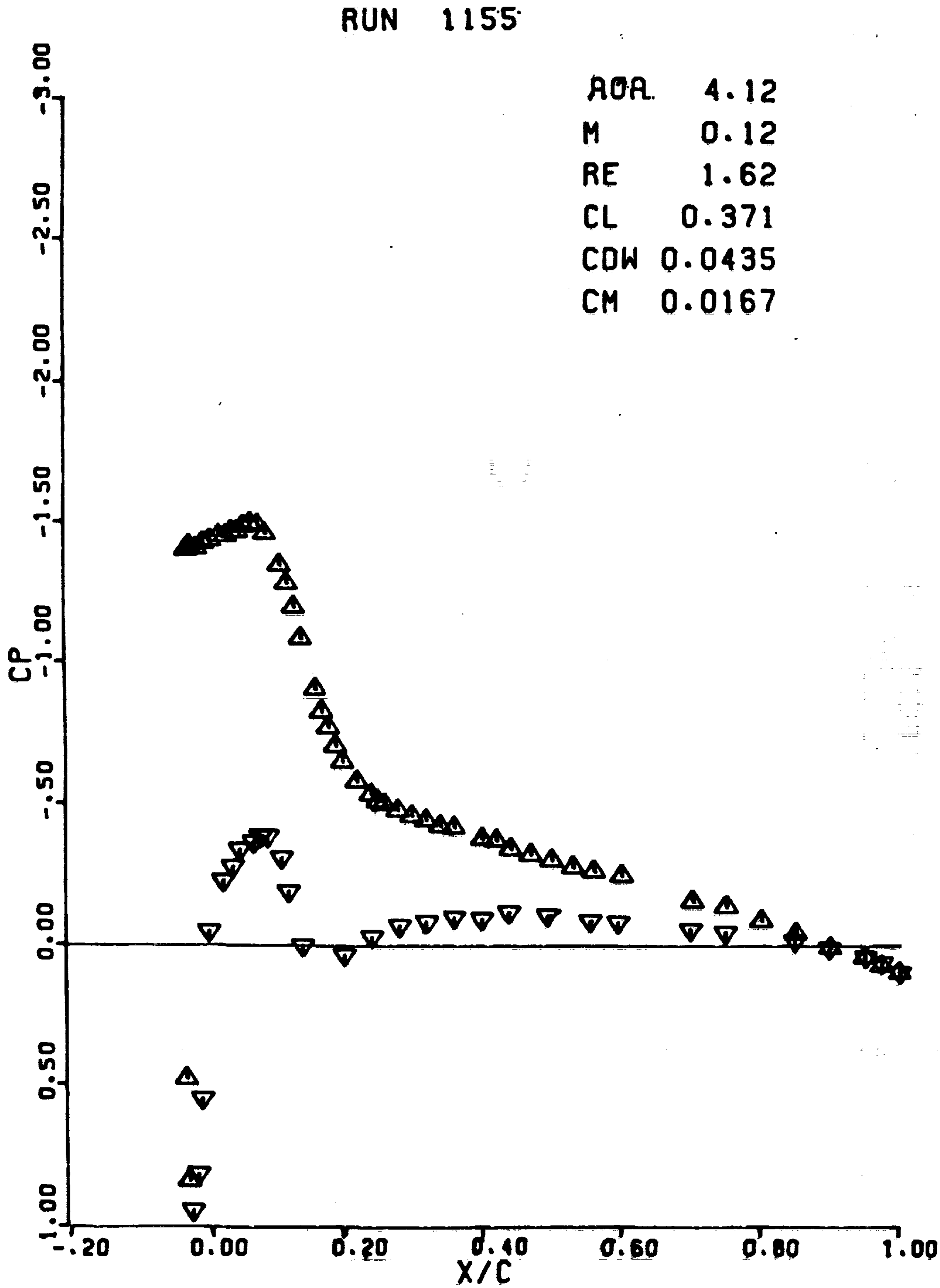

RUN 1152
CDW 0.0289
AOA 1.01
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

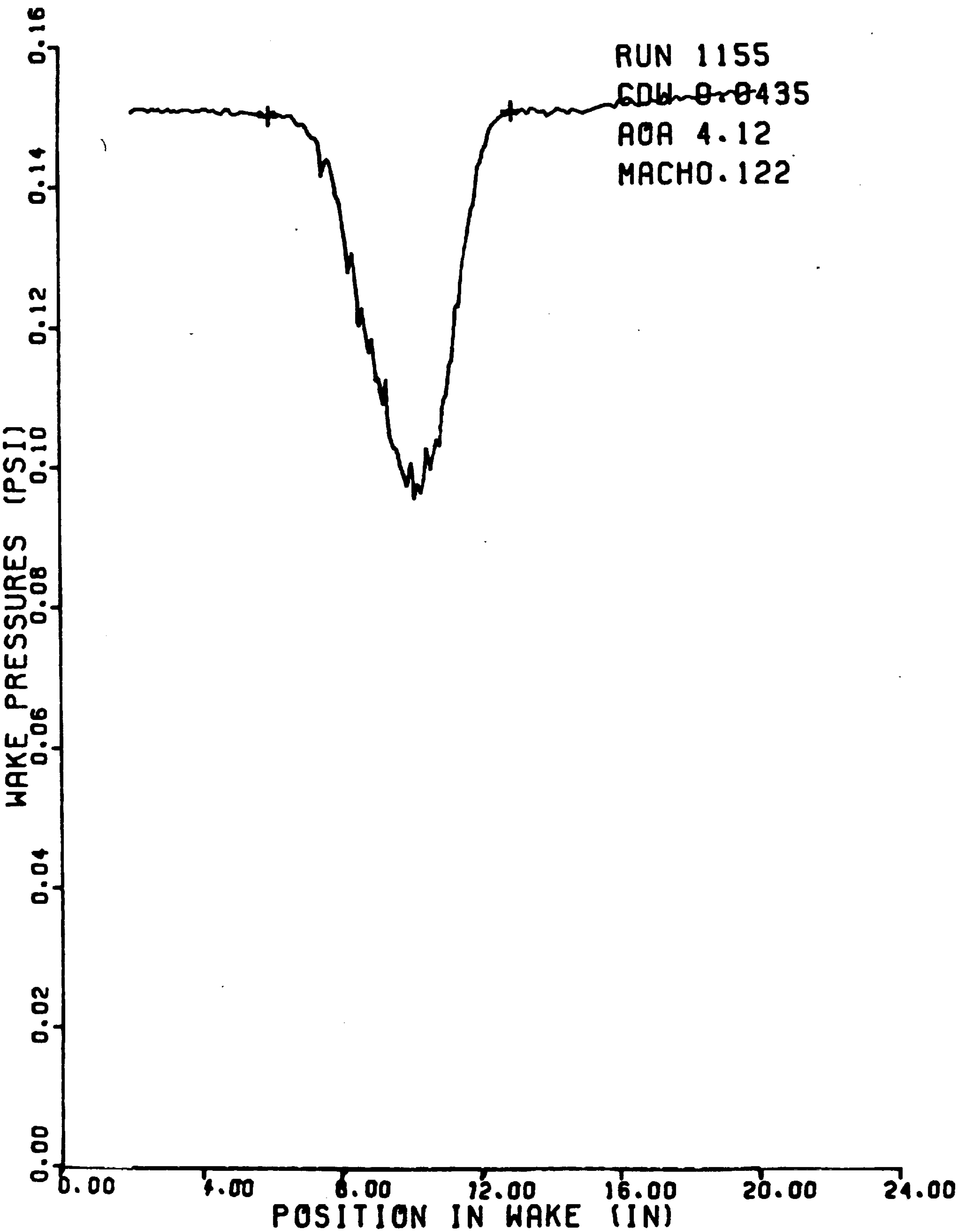

RUN 1153
AOA 2.05
M 0.12
RE 1.62
CL 0.165
CDW 0.0309
CM 0.0007
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

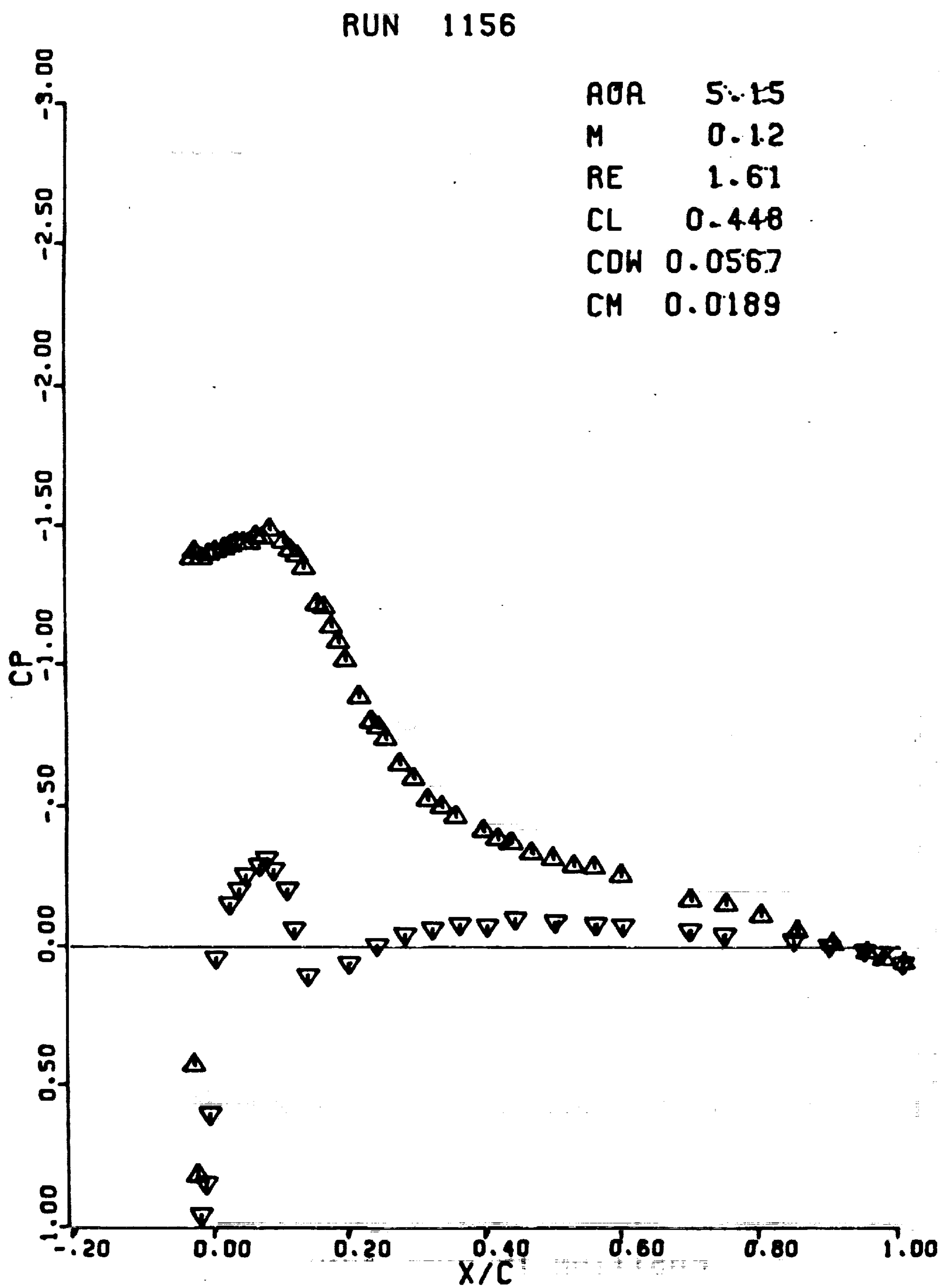

RUN 1153
CDW 0.0309
AOA 2.05
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

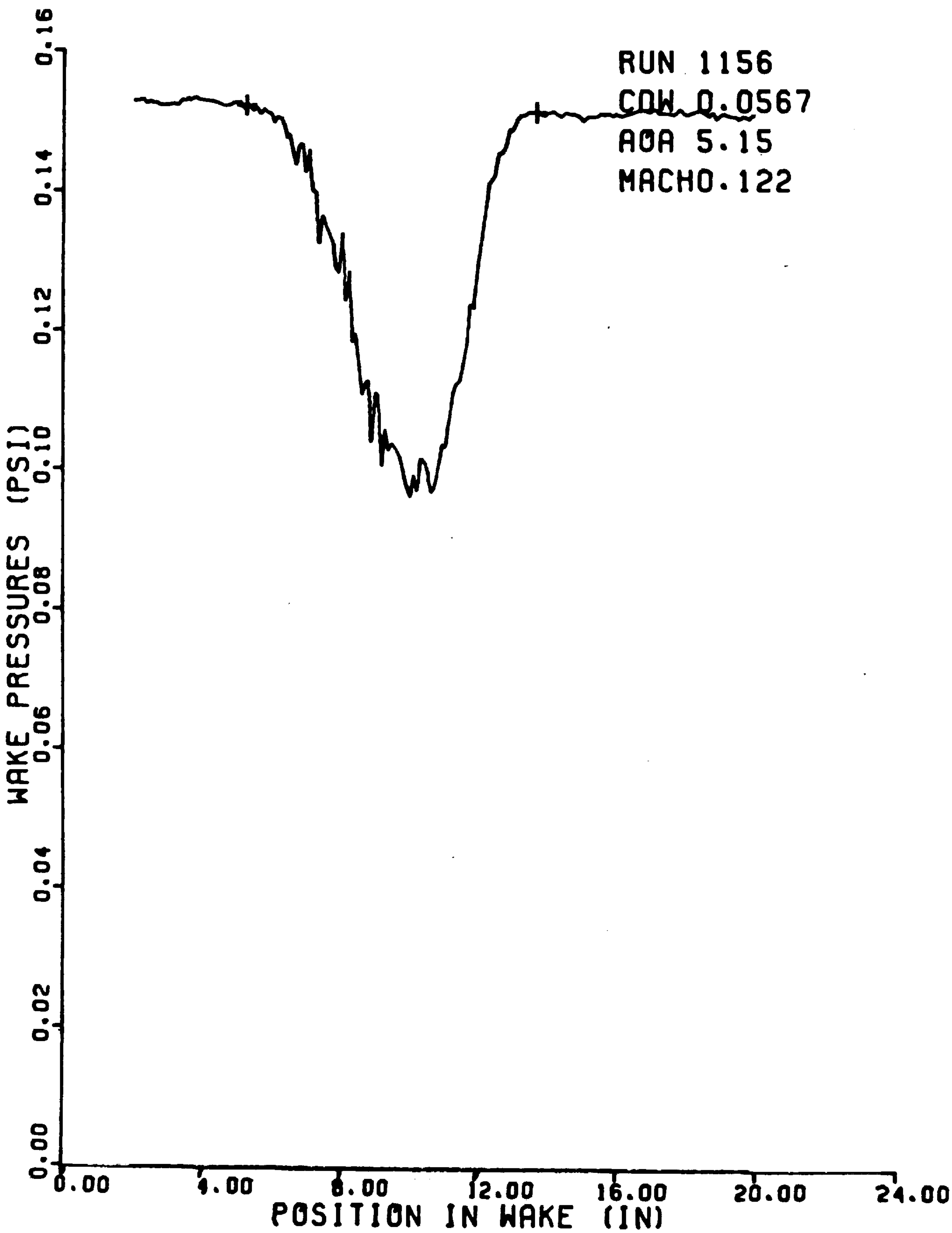

RUN 1154
AOA 3.08
M 0.12
RE 1.61
CL 0.259
CDW 0.0344
CM 0.0066
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

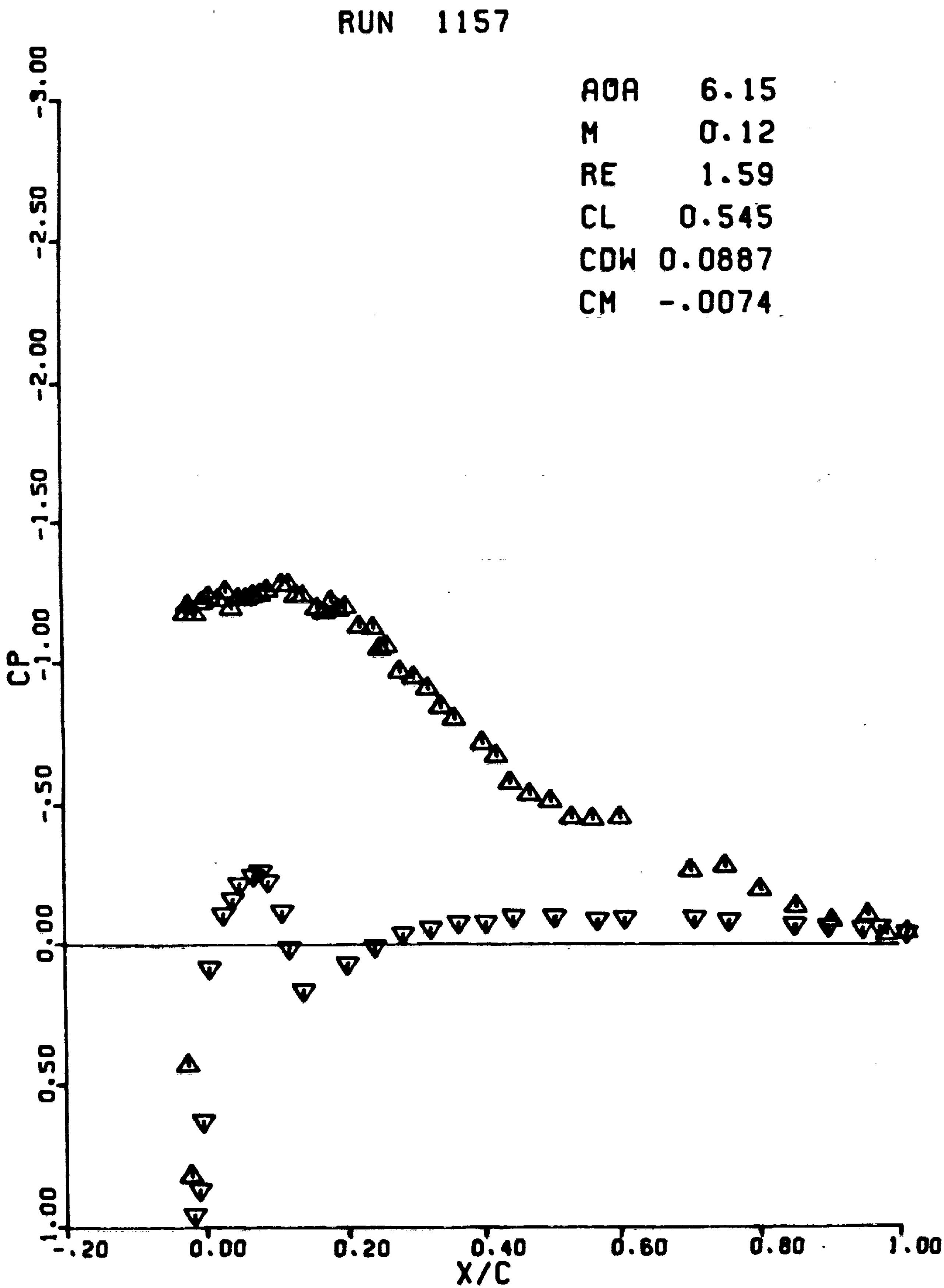

RUN 1154
CDW 0.0344
AOA 3.08
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

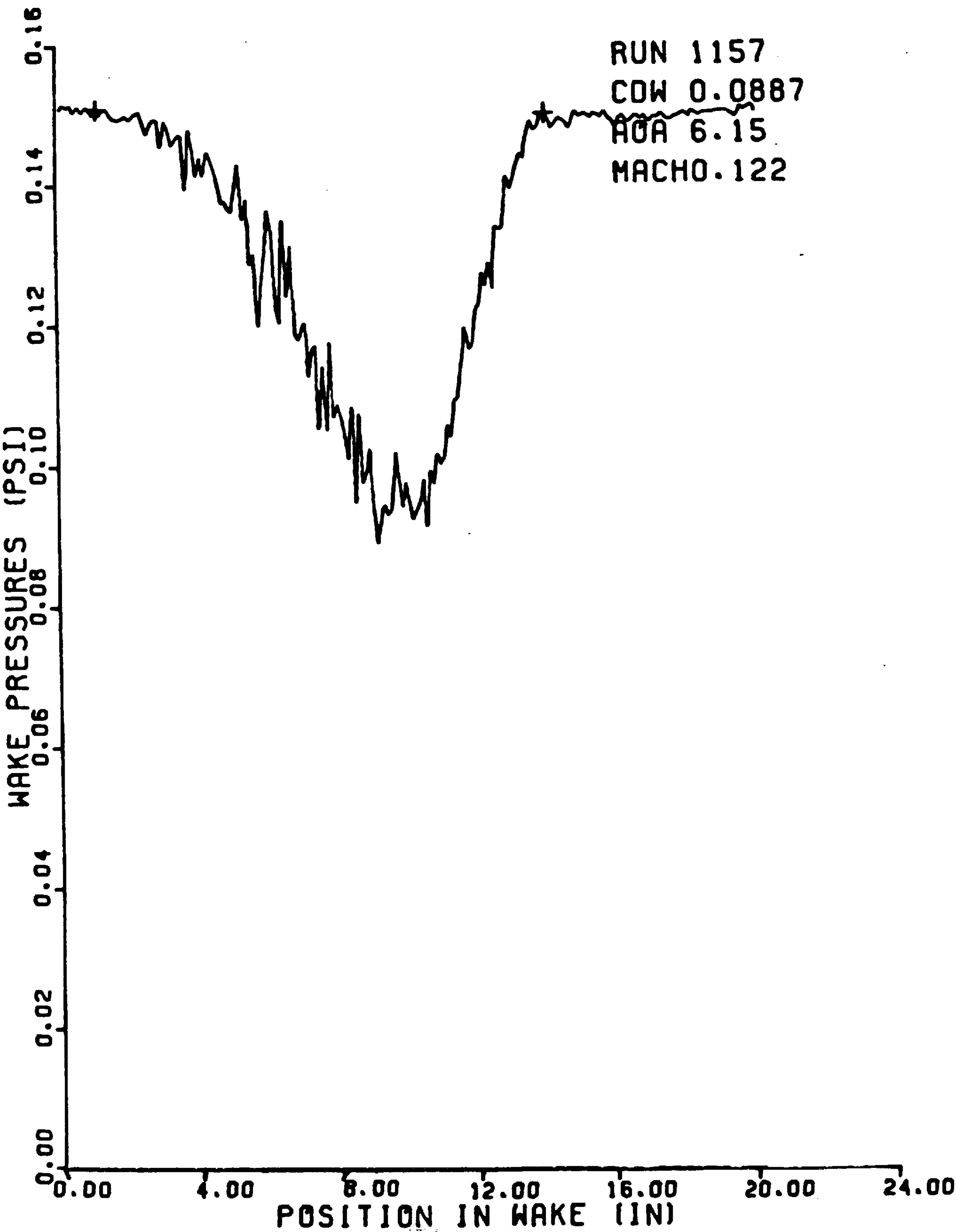

RUN 1155
AOA 4.12
M 0.12
RE 1.62
CL 0.371
CDW 0.0435
CM 0.0167
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

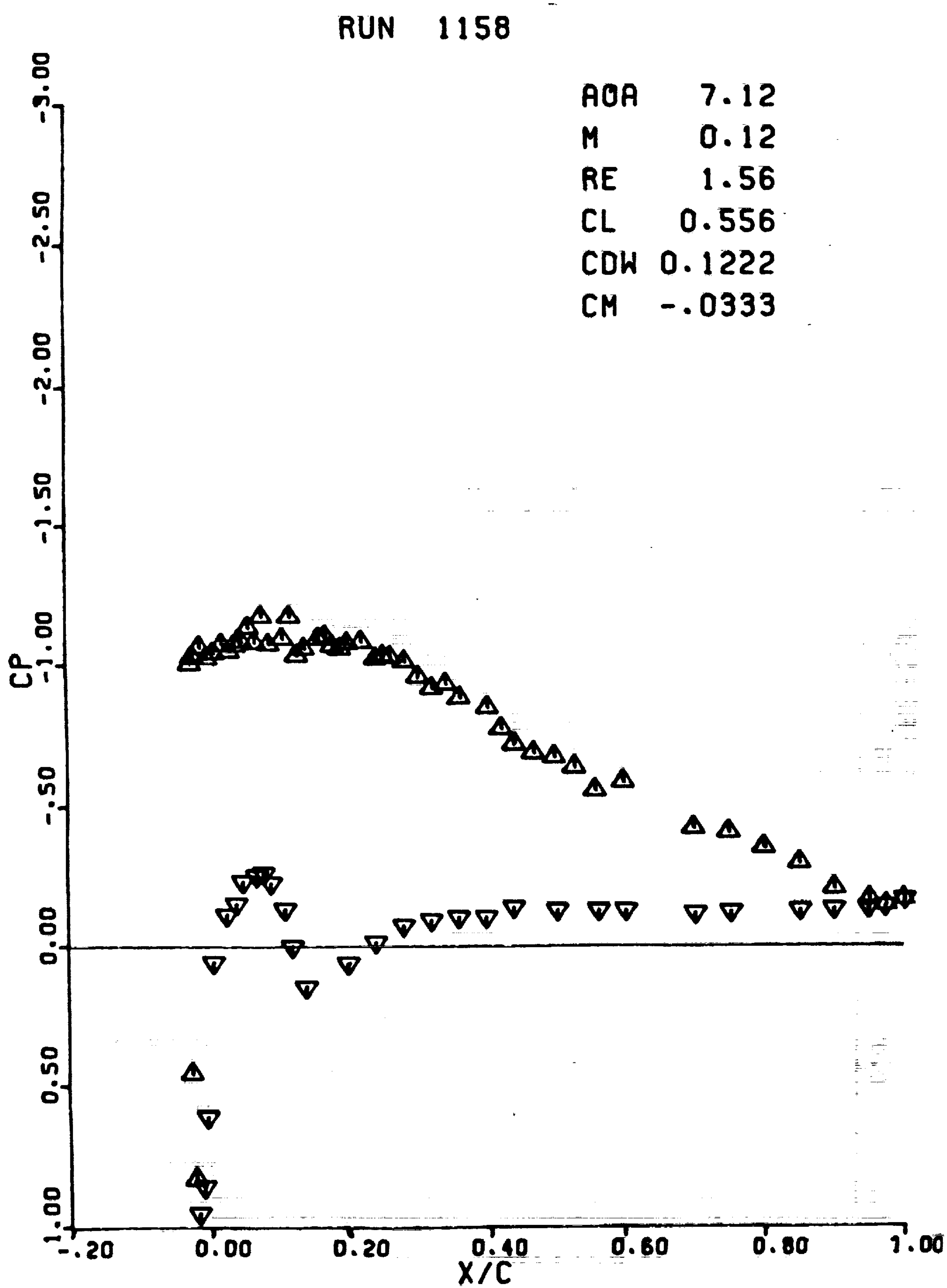

RUN 1155
CDW 0.0435
AOA 4.12
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1156
AOA 5.15
M 0.12
RE 1.61
CL 0.448
CDW 0.0567
CM 0.0189
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

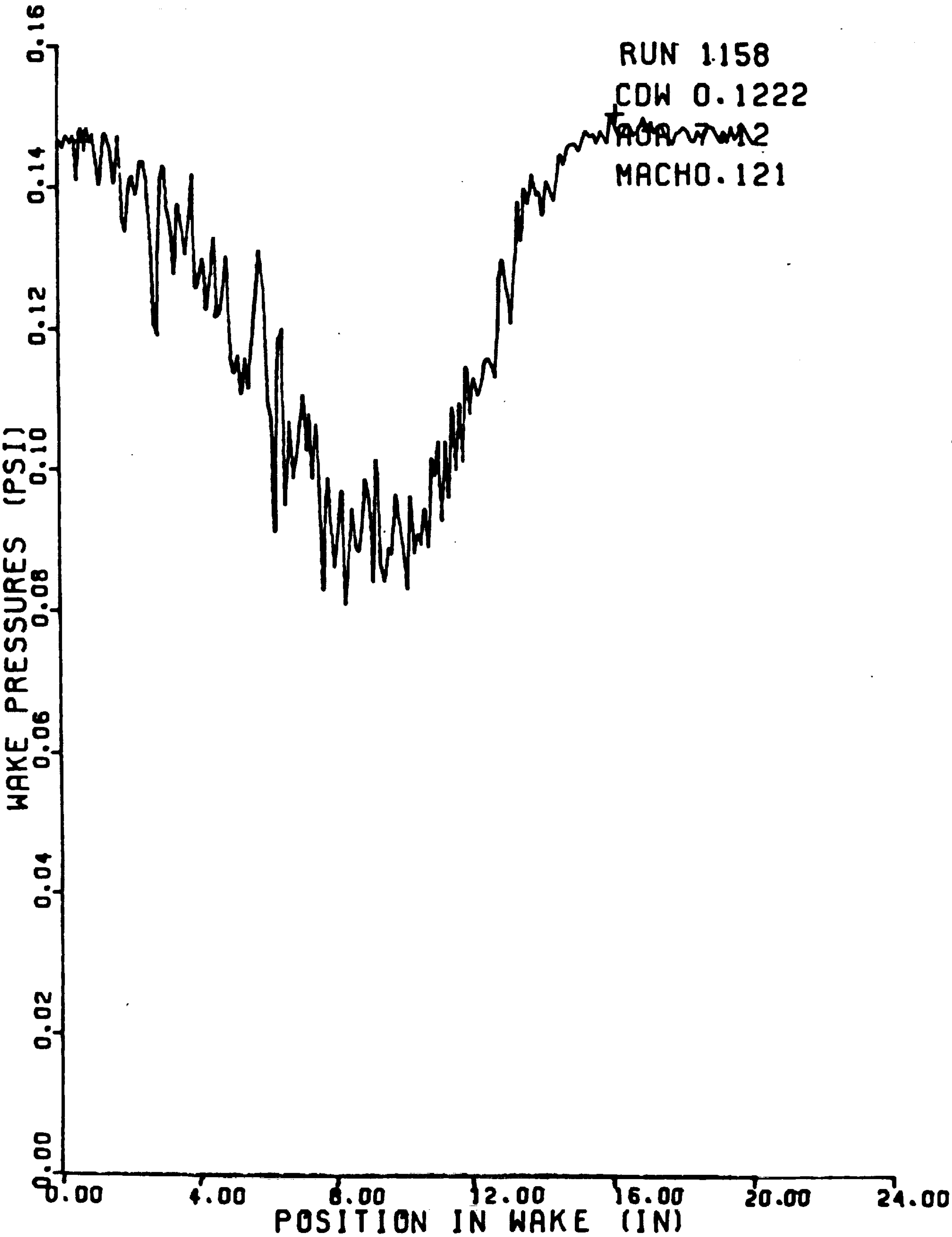

RUN 1156
CDW 0.0567
AOA 5.15
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

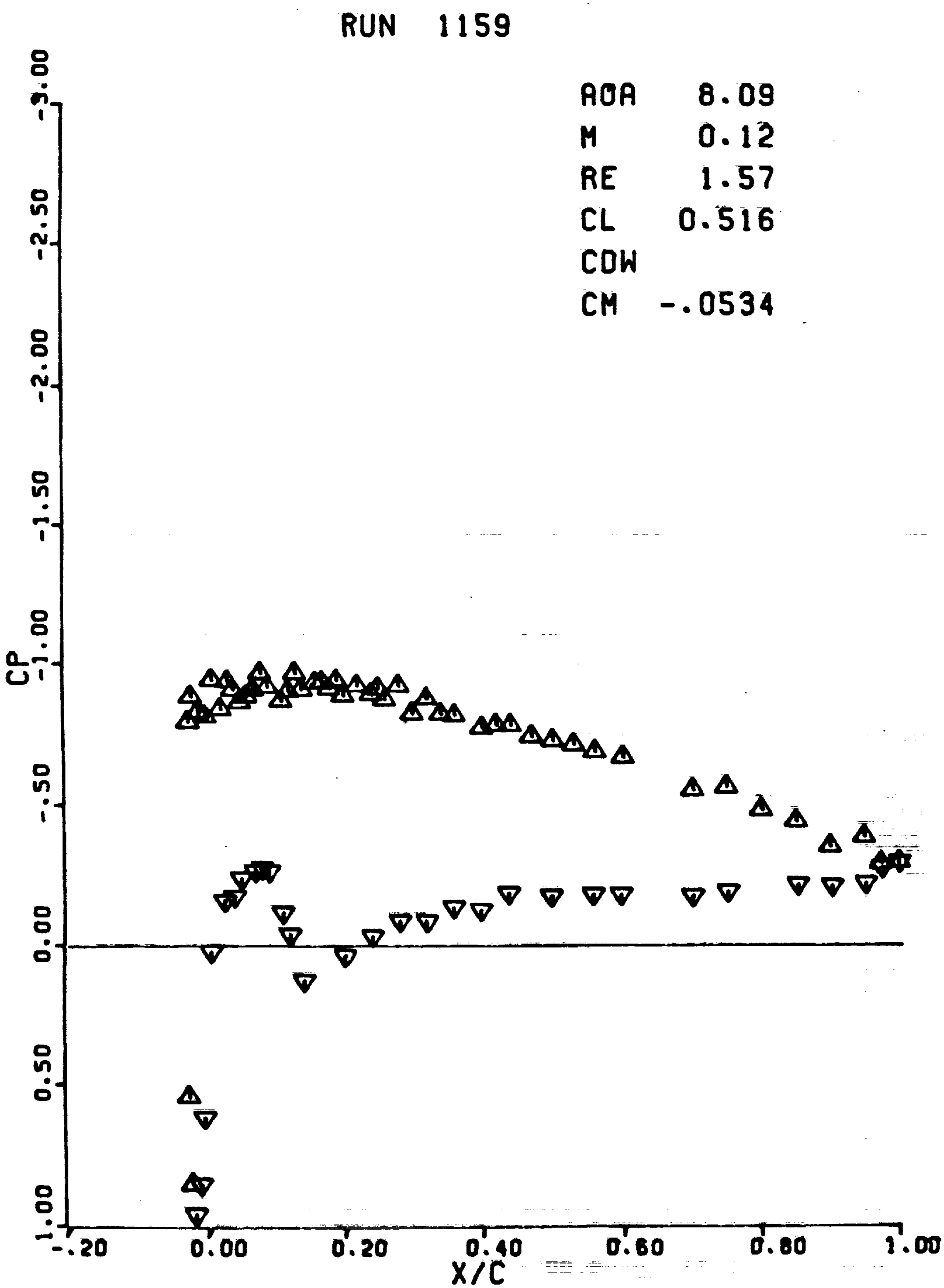

RUN 1157
AOA 6.15
M 0.12
RE 1.59
CL 0.545
CDW 0.0887
CM -.0074
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

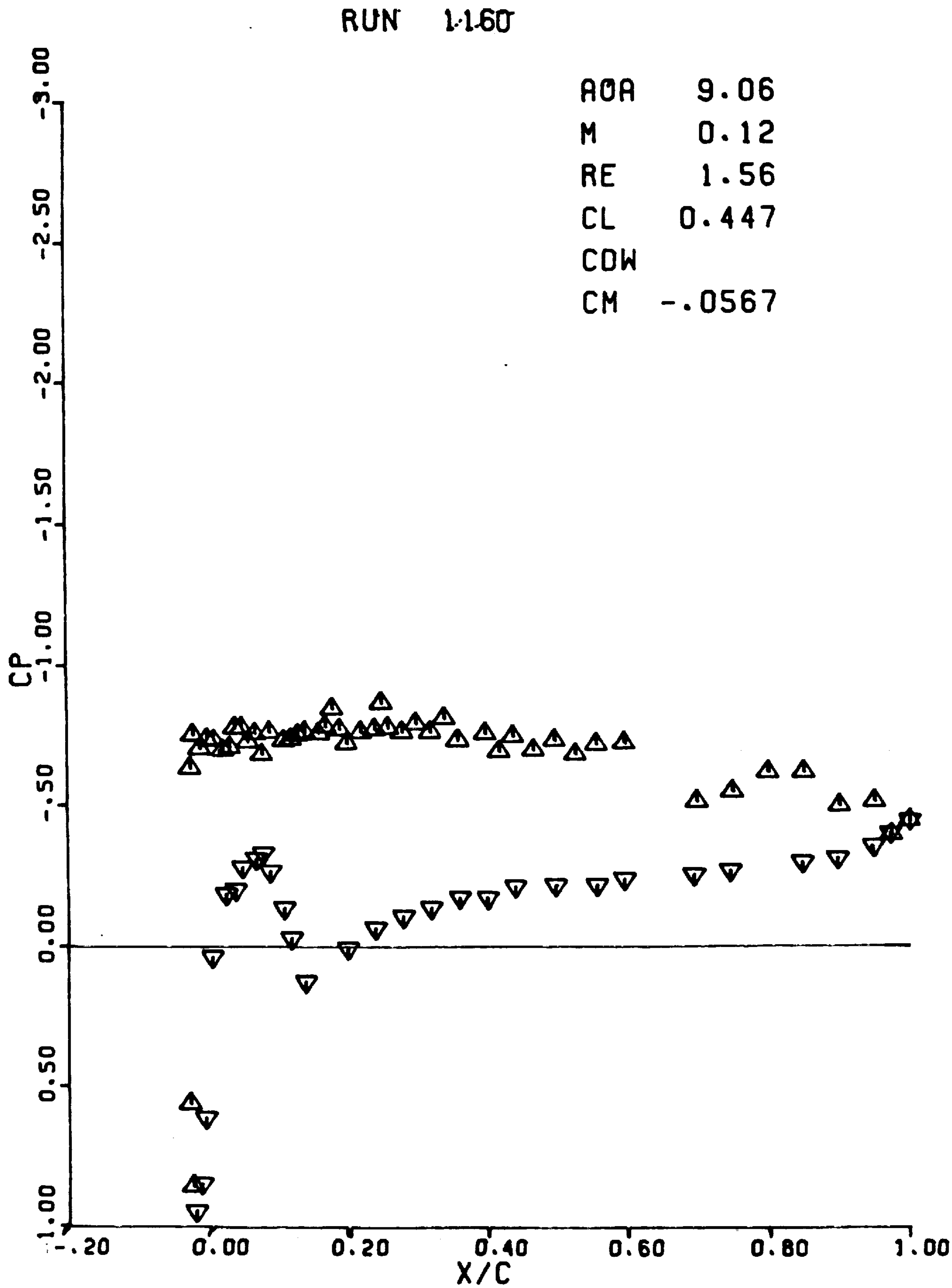

RUN 1157
CDW 0.0887
AOA 6.15
MACHO.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

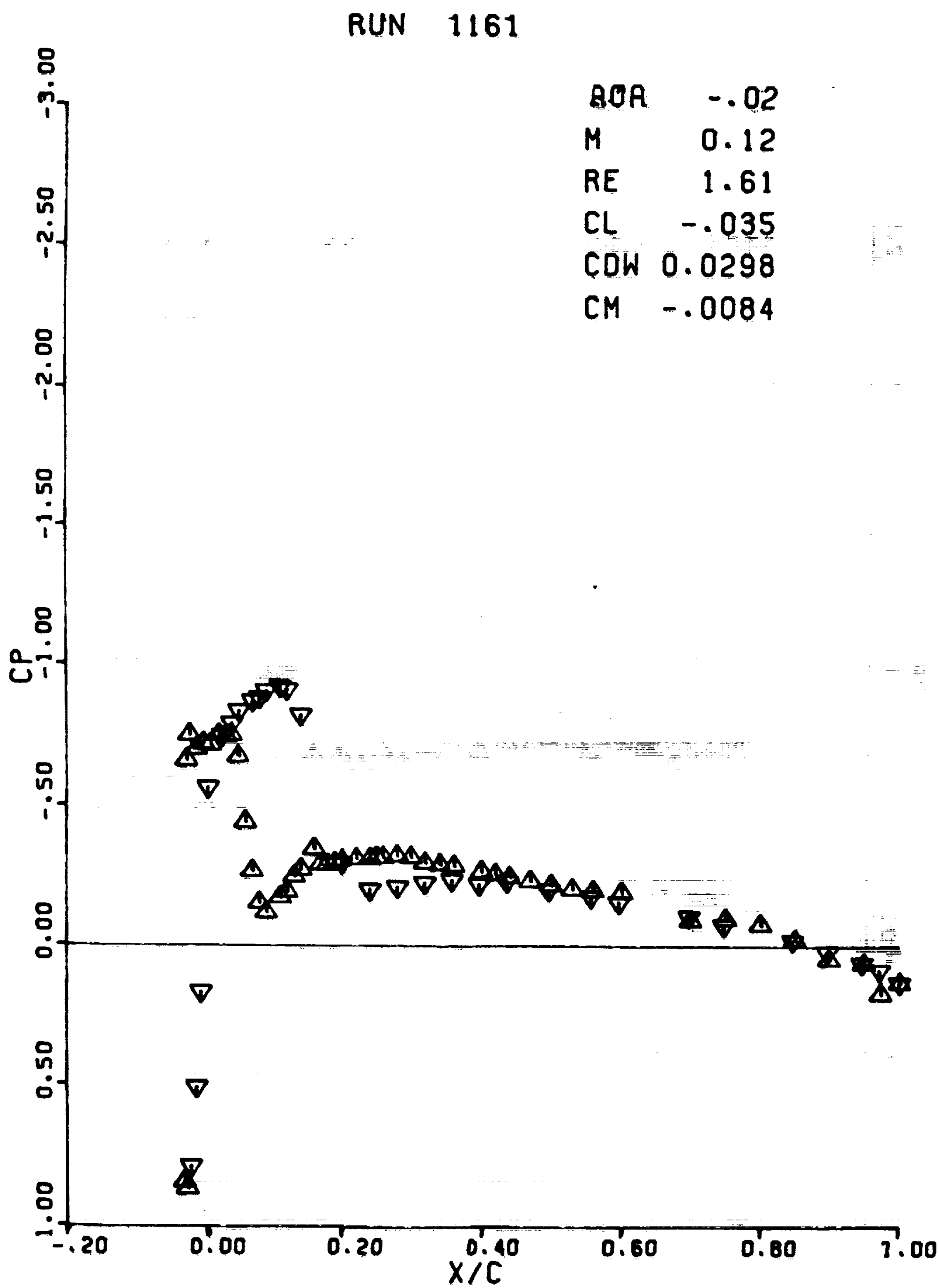


RUN 1158
AOA 7.12
M 0.12
RE 1.56
CL 0.556
CDW 0.1222
CM -.0333
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

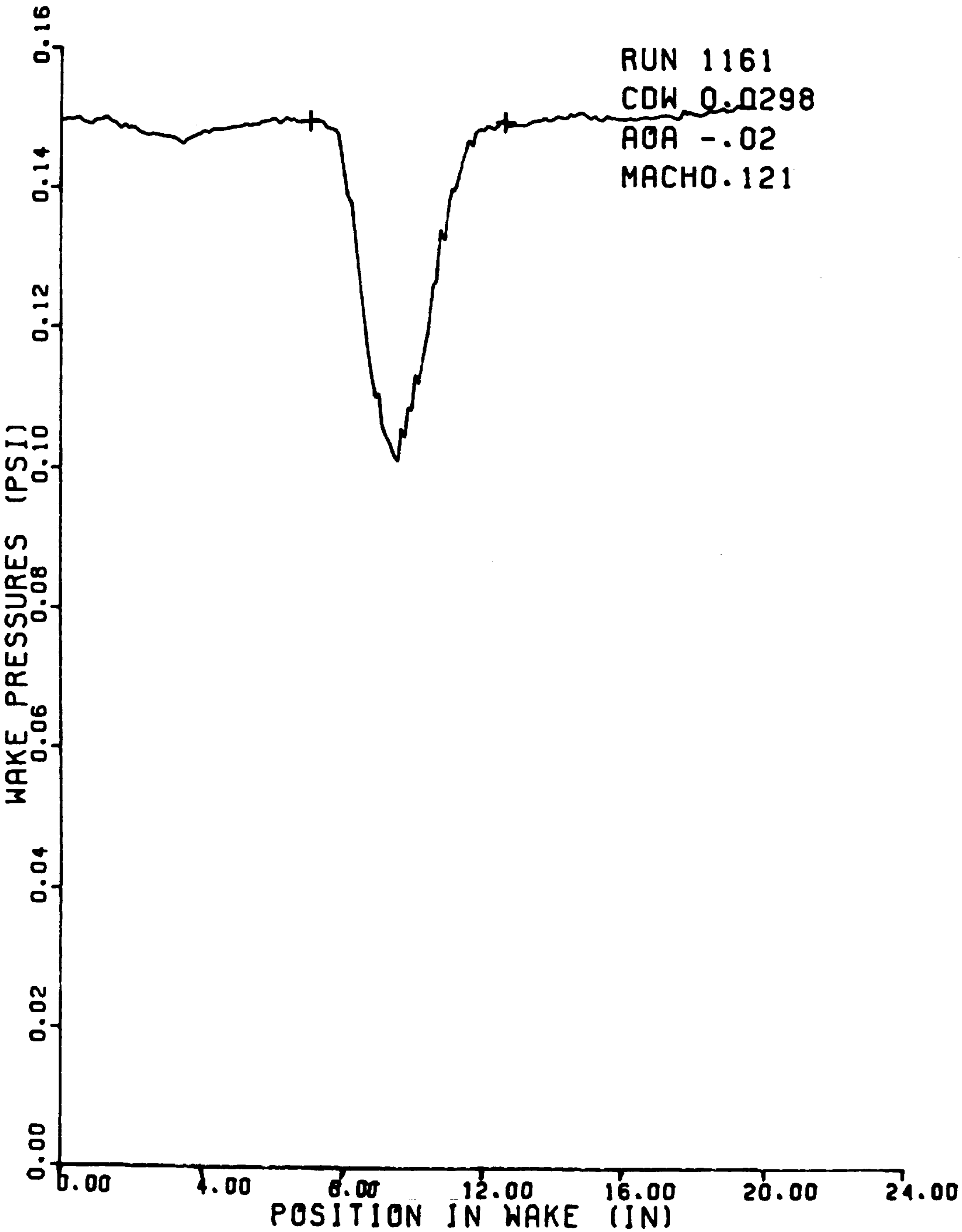

RUN 1158
CDW 0.1222
AOA 7.12
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1159
AOA 8.09
M 0.12
RE 1.57
CL 0.516
CDW
CM -.0534
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

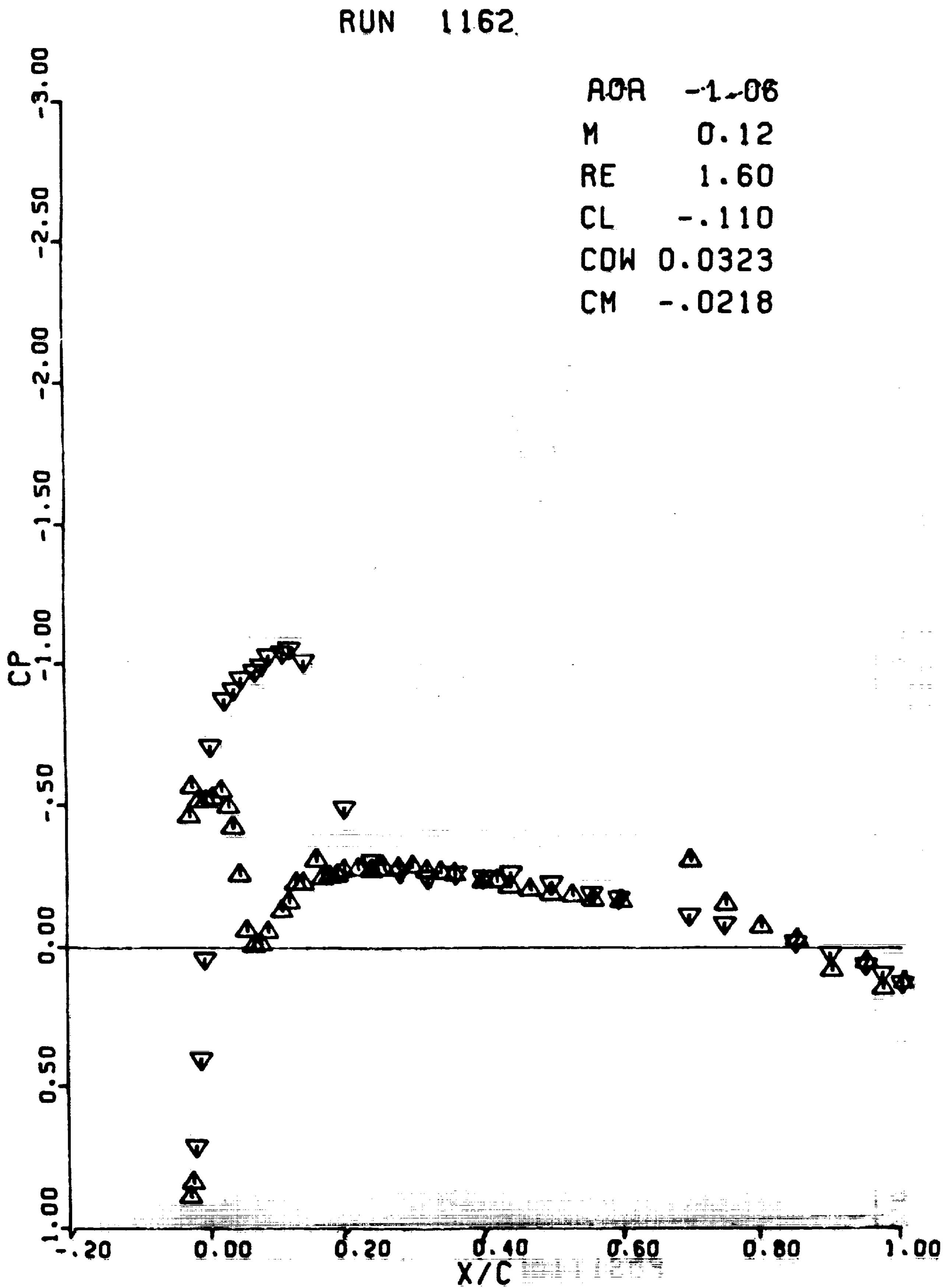

RUN 1160
AOA 9.06
M 0.12
RE 1.56
CL 0.447
CDW
CM -.0567
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

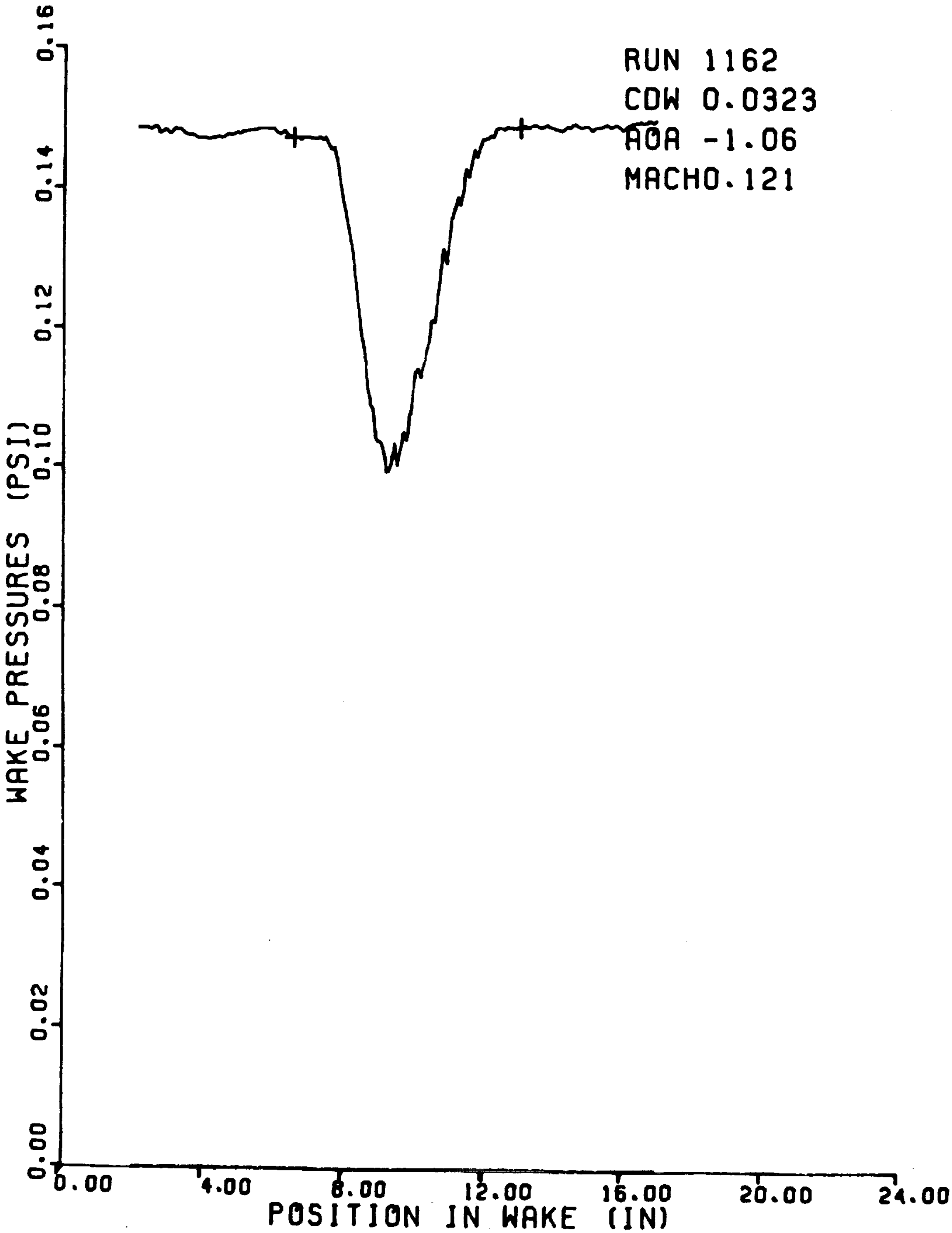


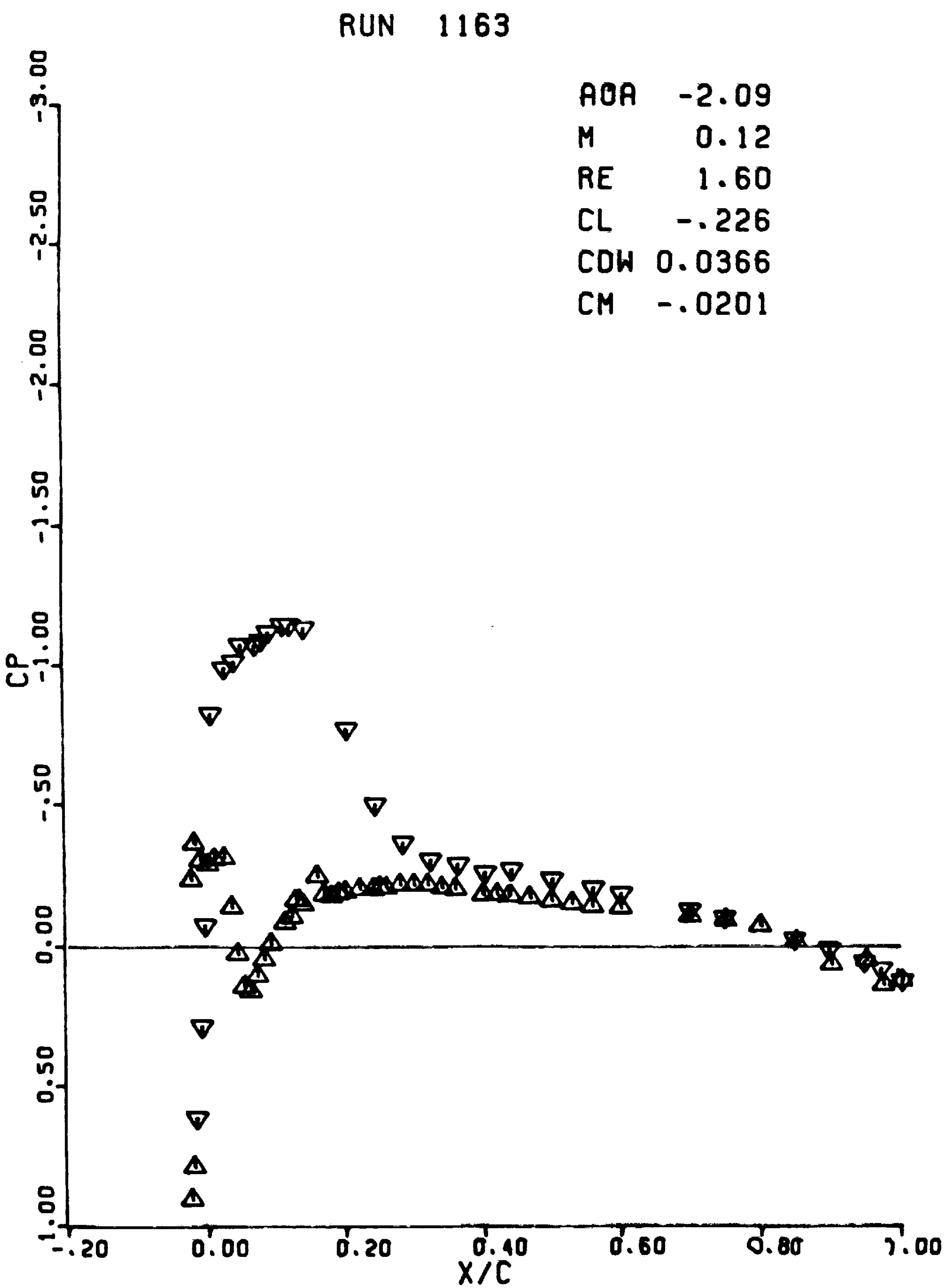
RUN 1161
AOA -.02
M 0.12
RE 1.61
CL -.035
CDW 0.0298
CM -.0084
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

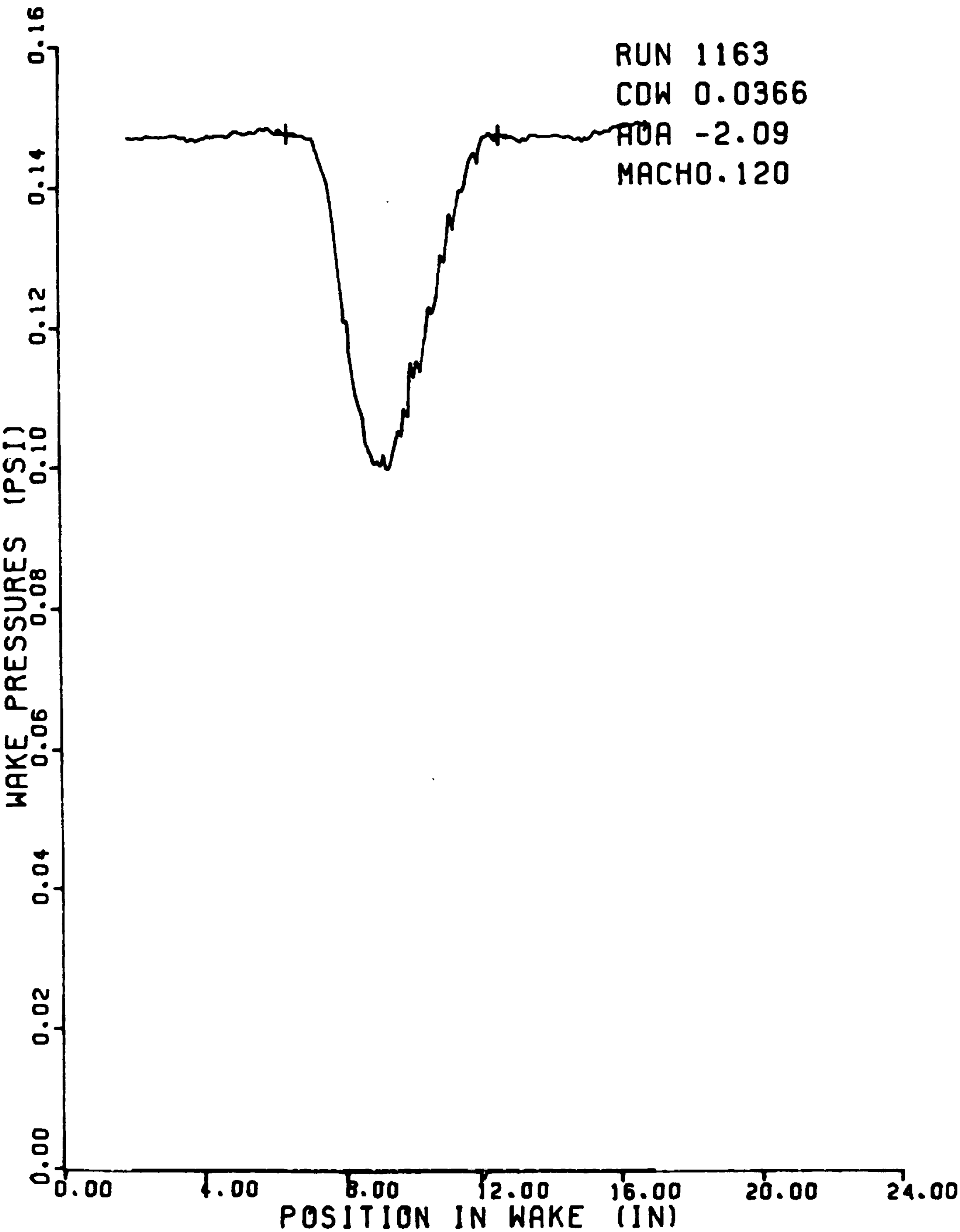


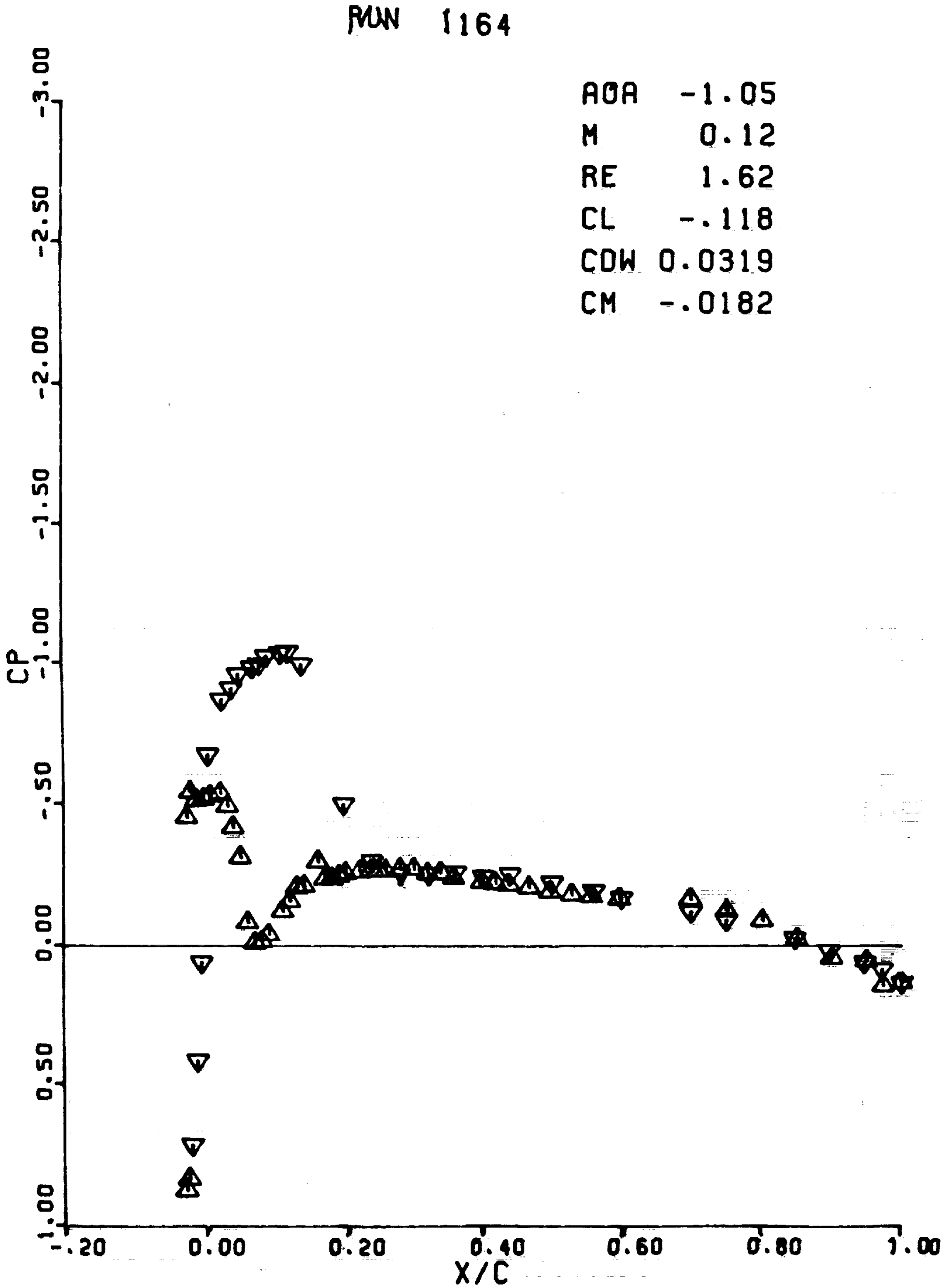
RUN 1161
CDW 0.0298
AOA -.02
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1162
AOA -1.06
M 0.12
RE 1.60
CL -.110
CDW 0.0323
CM -.0218
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

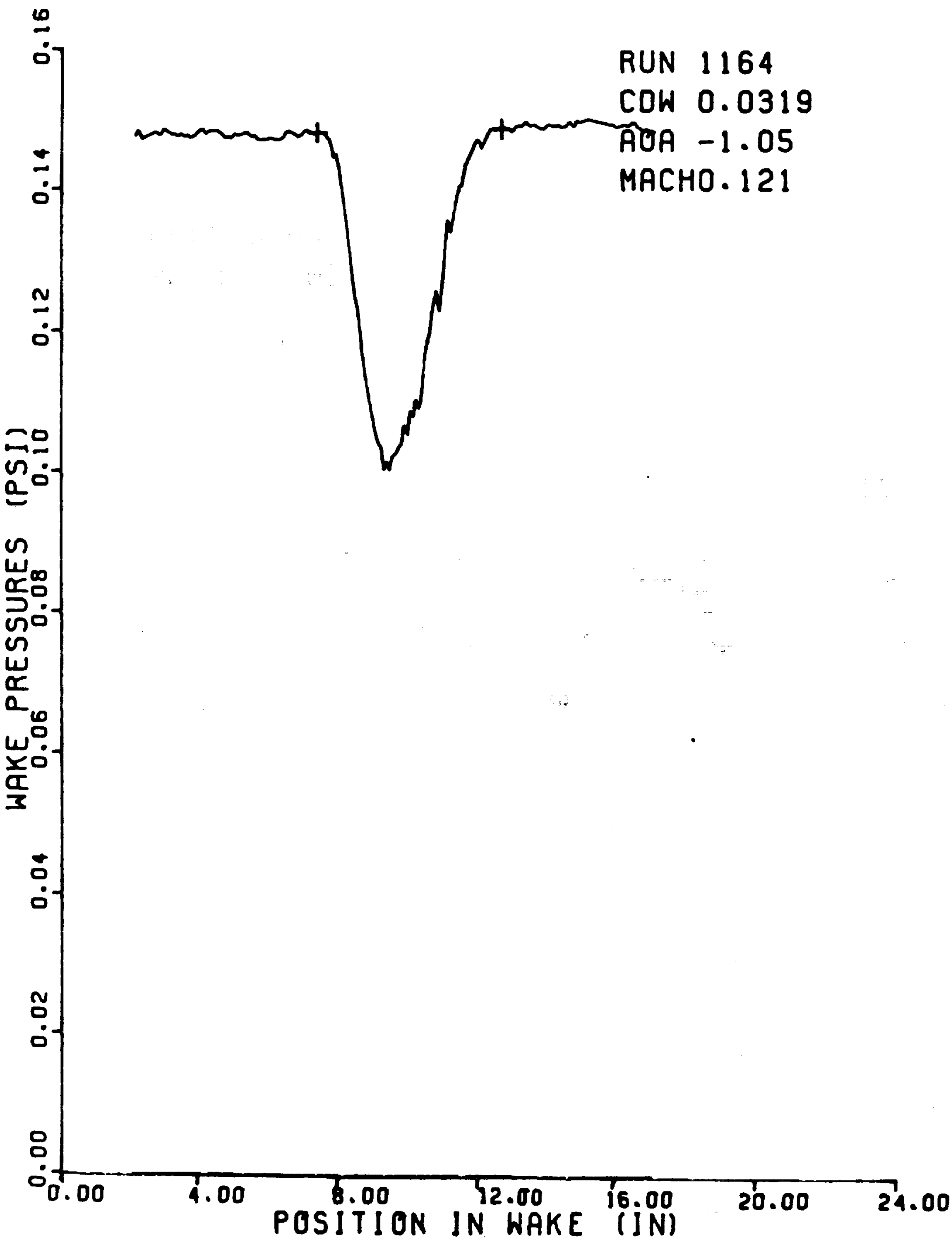

RUN 1162
CDW 0.0323
AOA -1.06
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

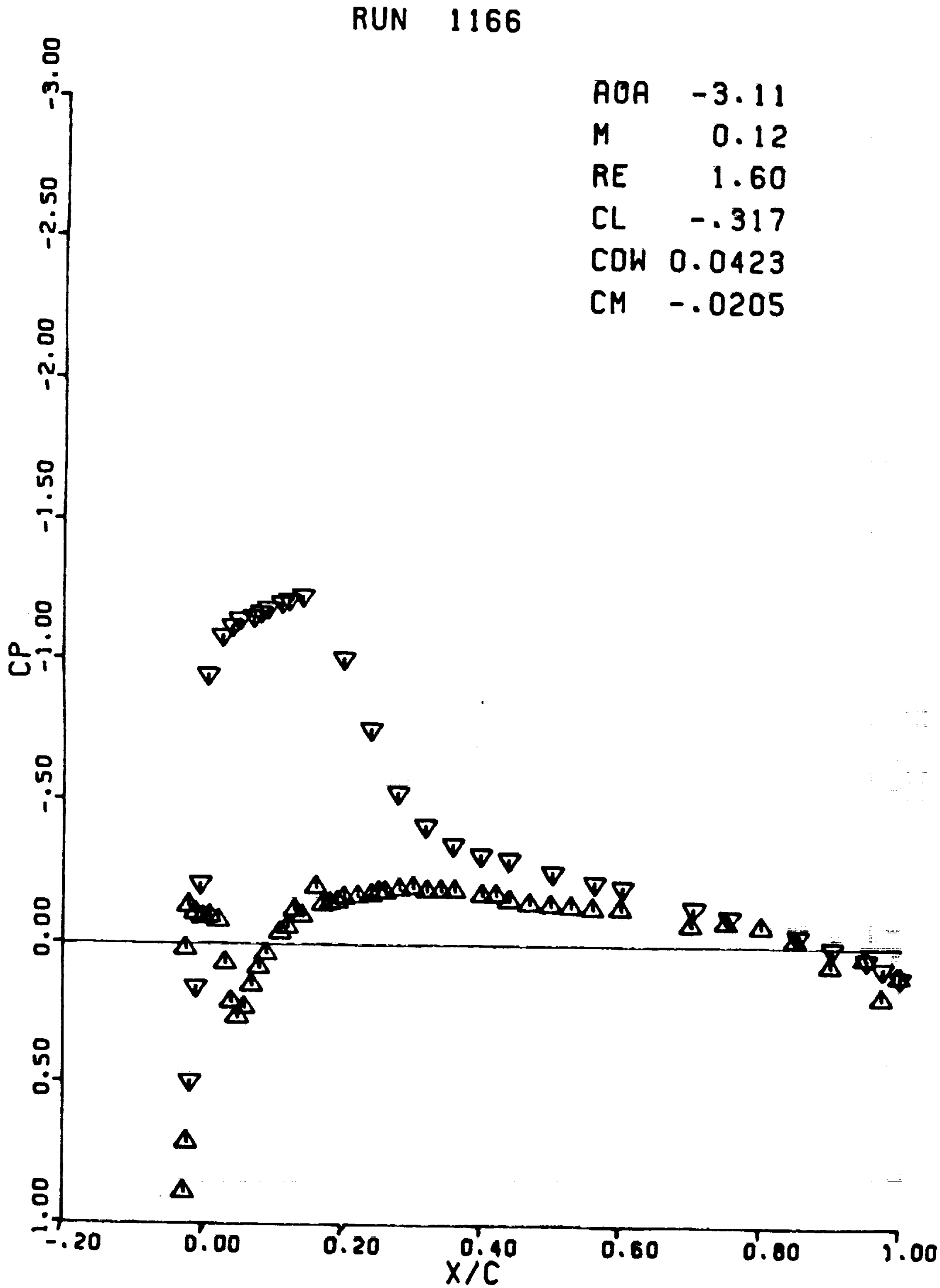

RUN 1163
AOA -2.09
M 0.12
RE 1.60
CL -.226
CDW 0.0366
CM -.0201
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

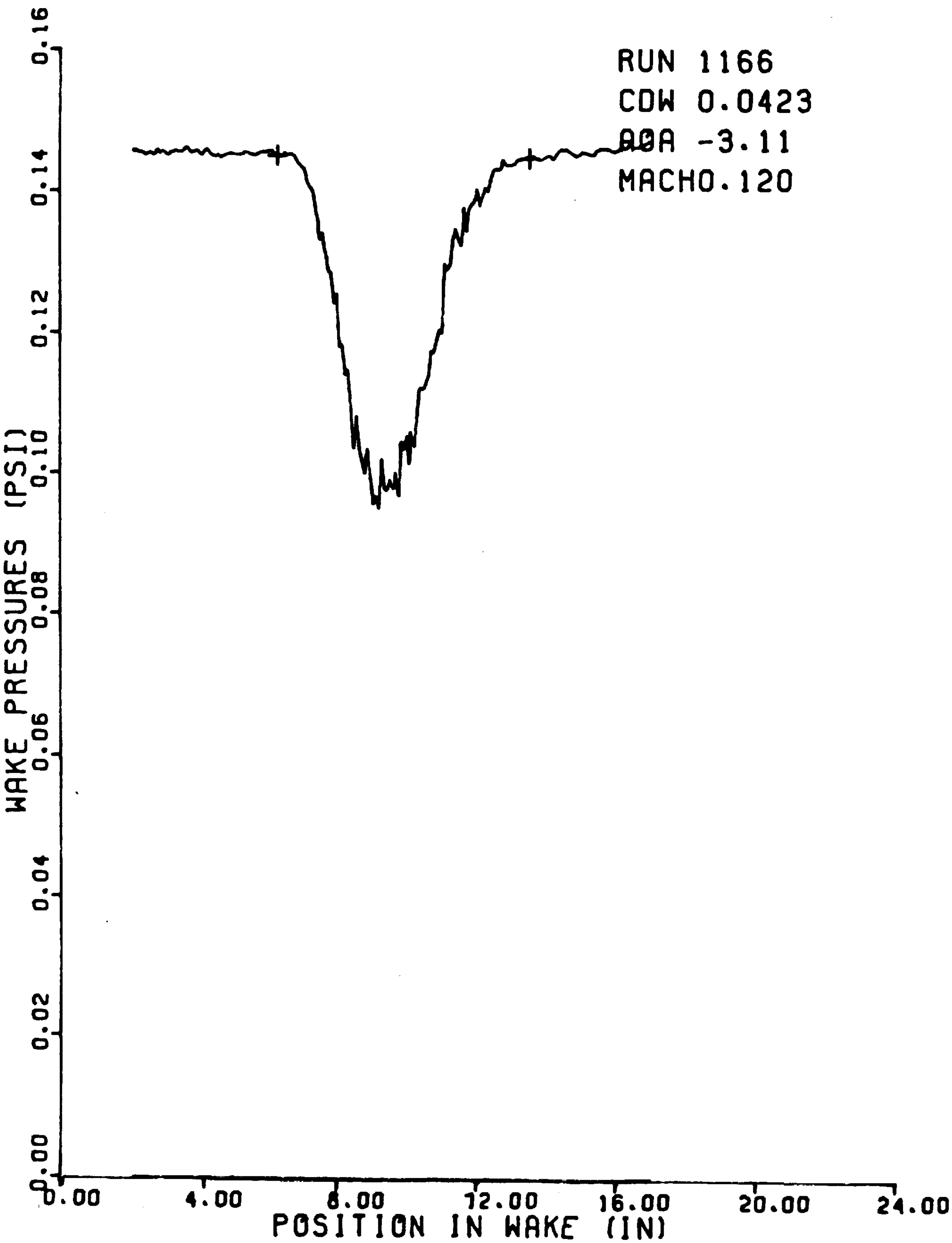

RUN 1163
CDW 0.0366
AOA -2.09
MACH0.120
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

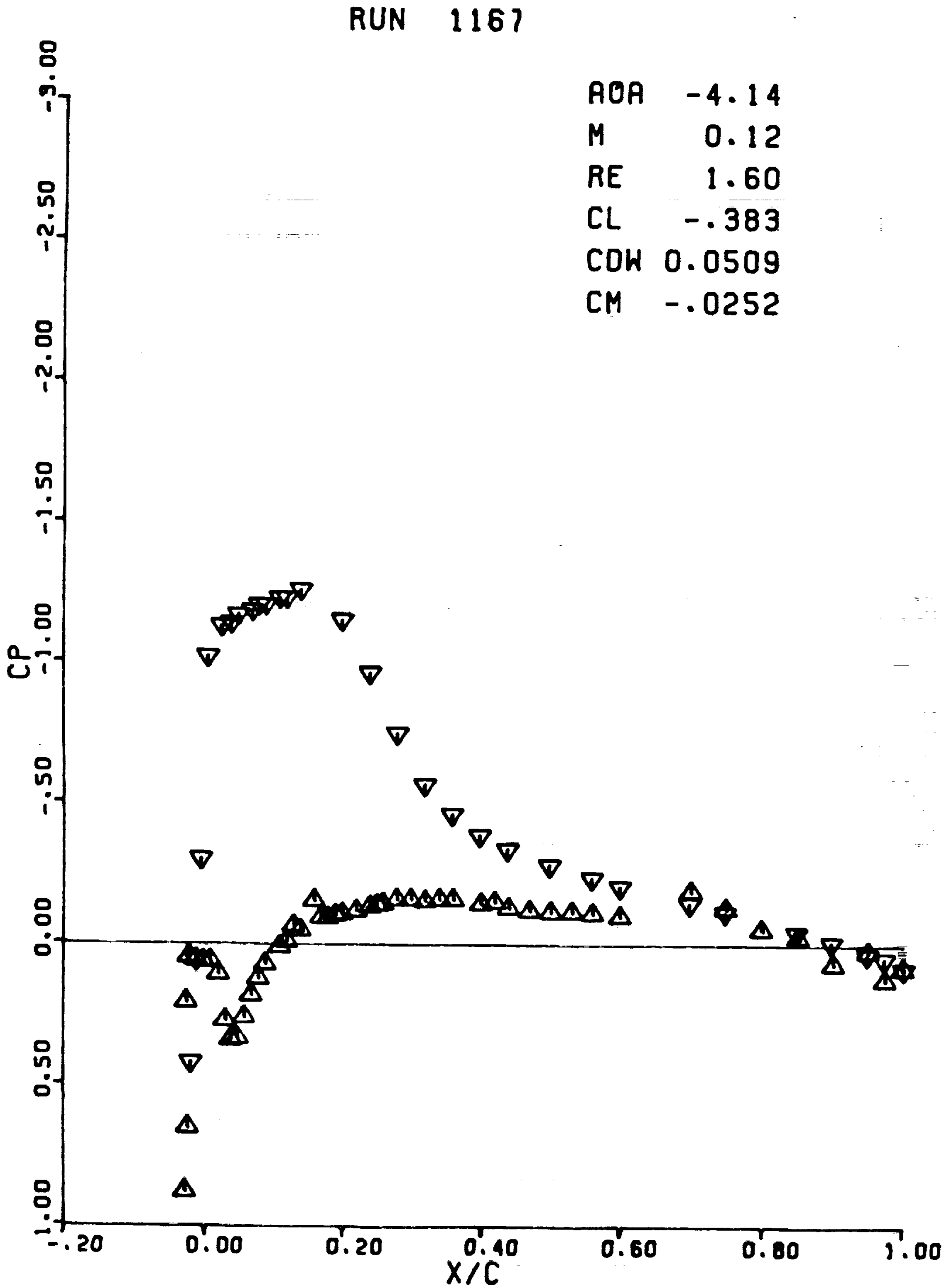


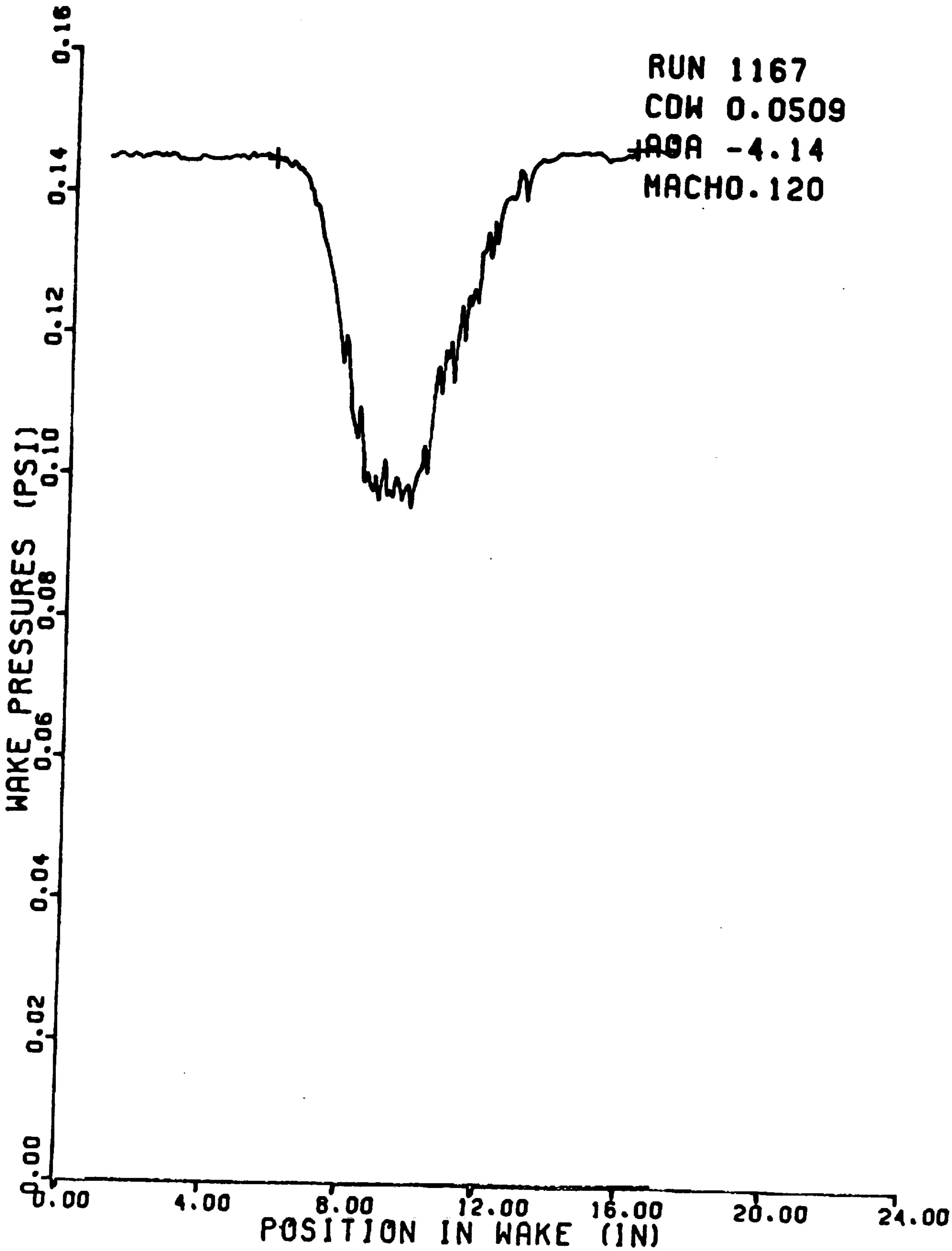
RUN 1164
AOA -1.05
M 0.12
RE 1.62
CL -.118
CDW 0.0319
CM -.0182
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1164
CDW 0.0319
AOA -1.05
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

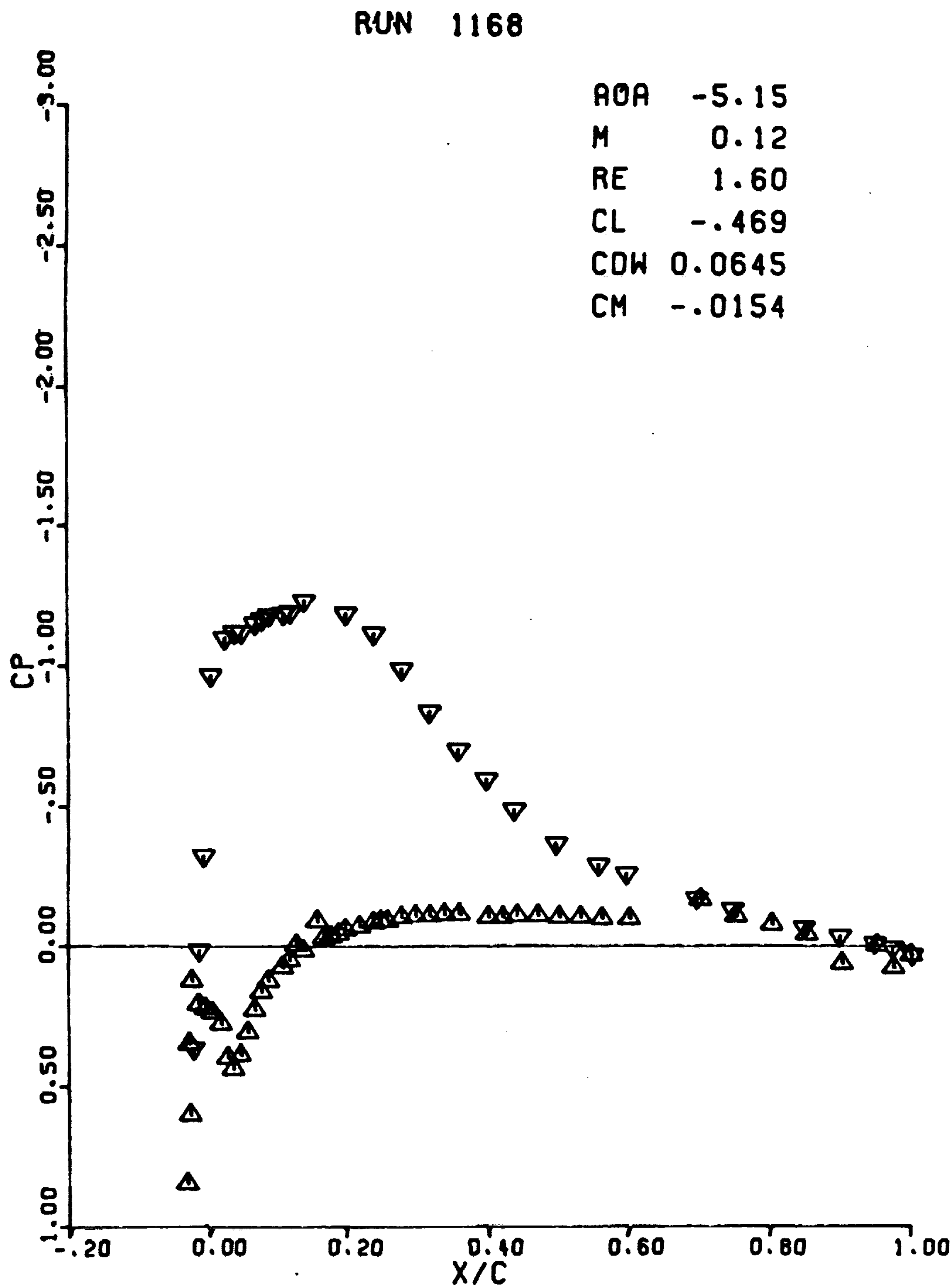

RUN 1166
AOA -3.11
M 0.12
RE 1.60
CL -.317
CDW 0.0423
CM -.0205
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
X/C
-.20
0.00
0.20
0.40
0.60
0.80
1.00

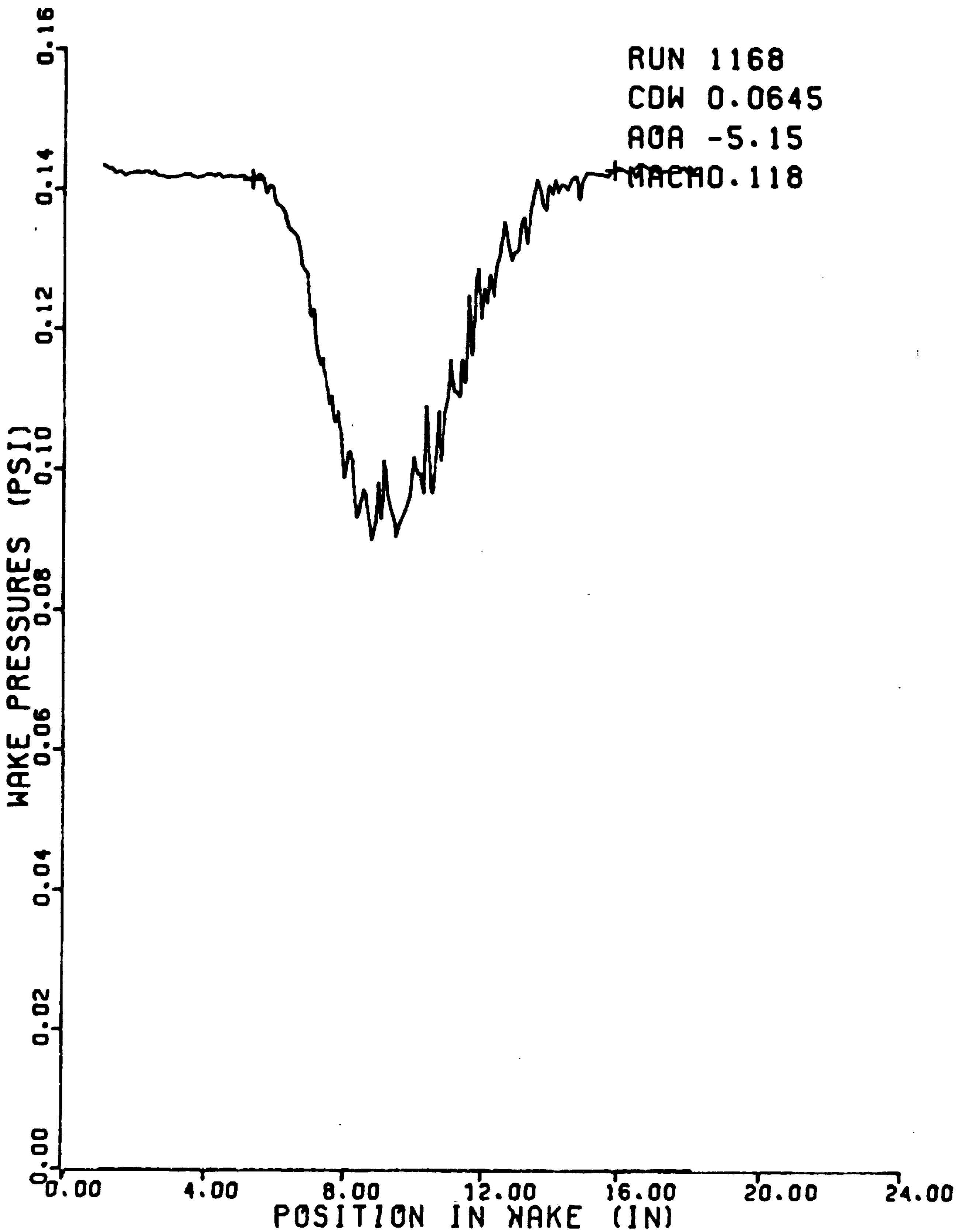

RUN 1166
CDW 0.0423
AOA -3.11
MACH0.120
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1167
AOA -4.14
M 0.12
RE 1.60
CL -.383
CDW 0.0509
CM -.0252
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

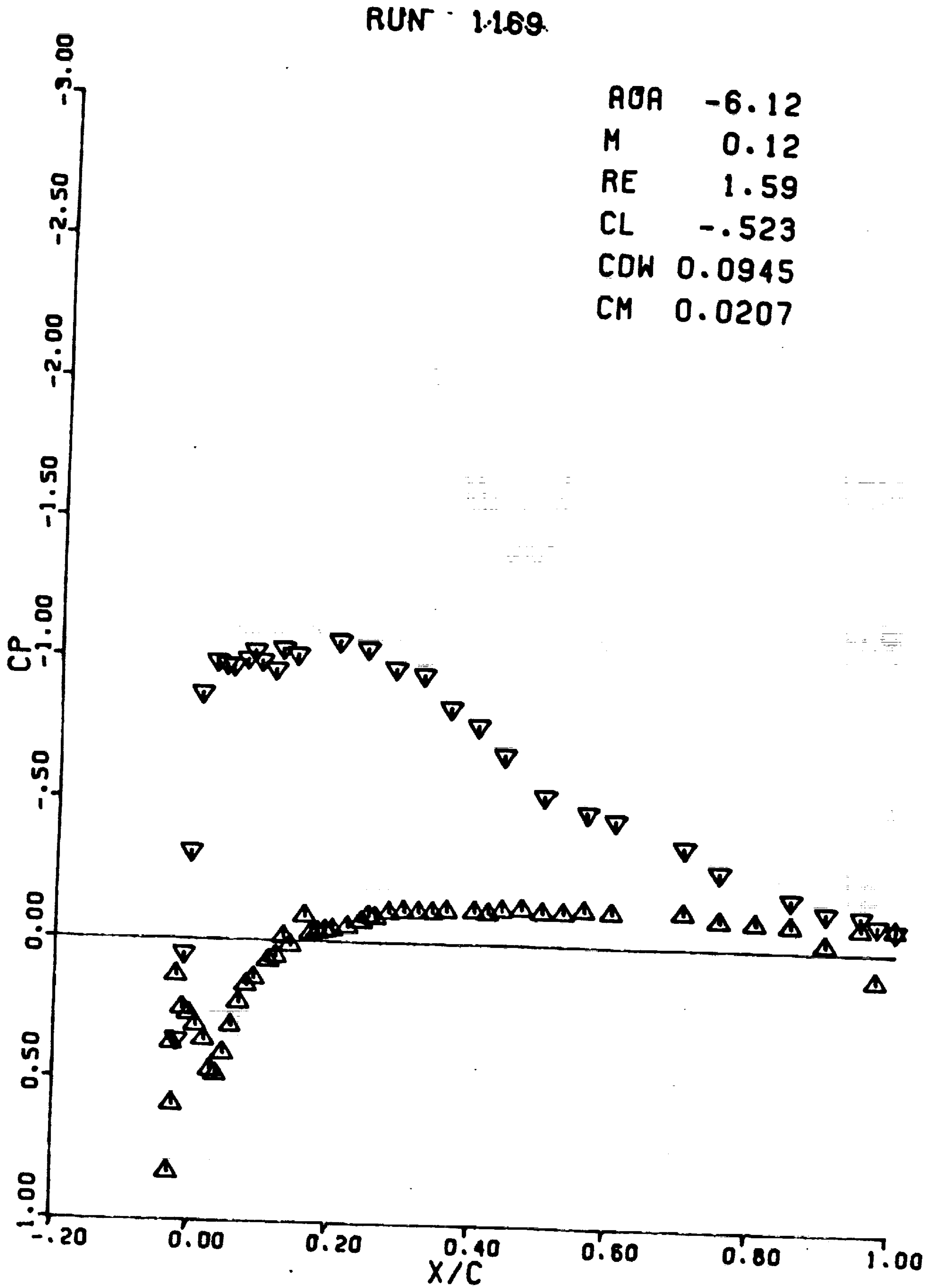


RUN 1167
CDW 0.0509
AOA -4.14
MACH0.120
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
WAKE PRESSURES (PSI)
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

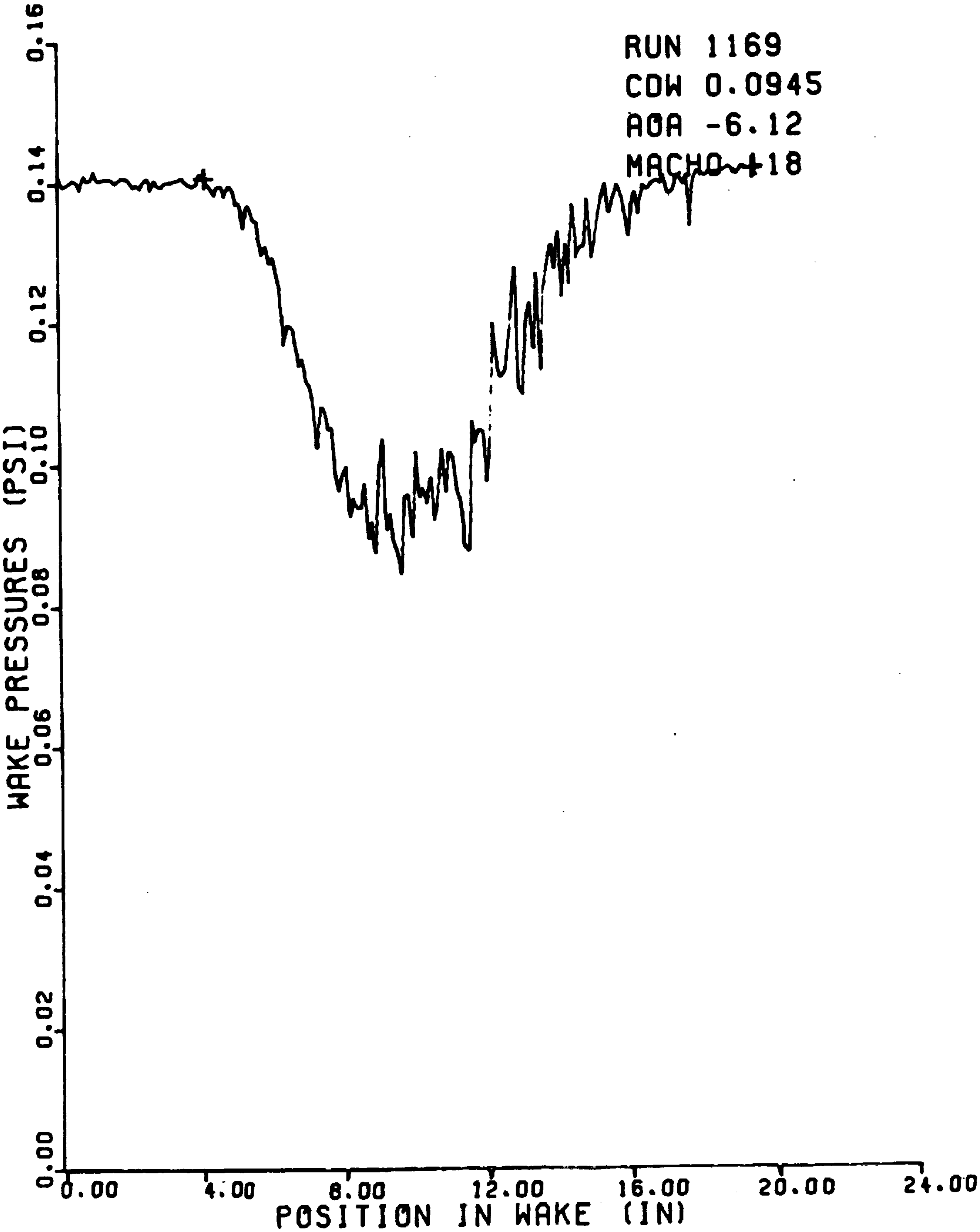

RUN 1168
AOA -5.15
M 0.12
RE 1.60
CL -.469
CDW 0.0645
CM -.0154
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

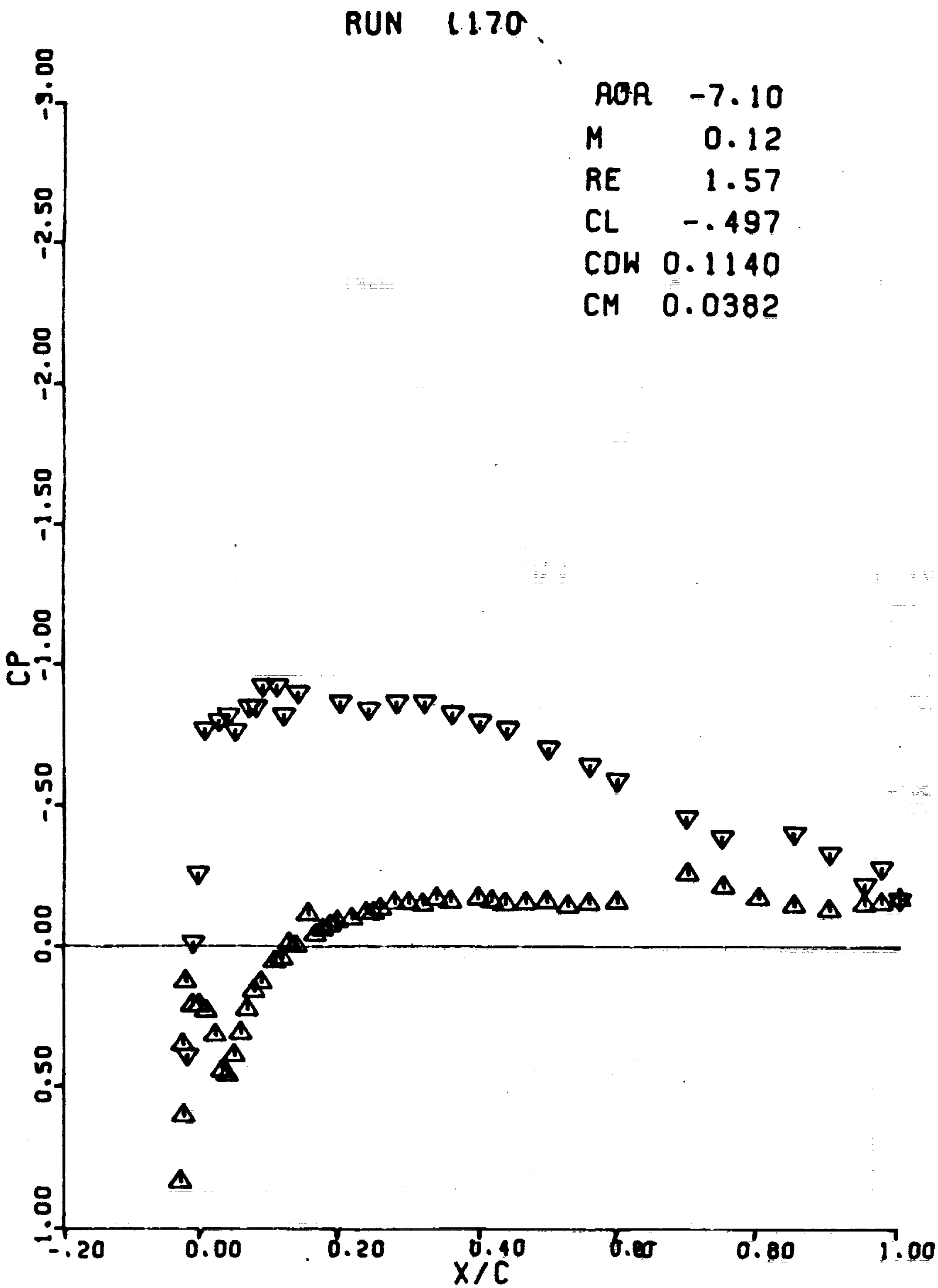


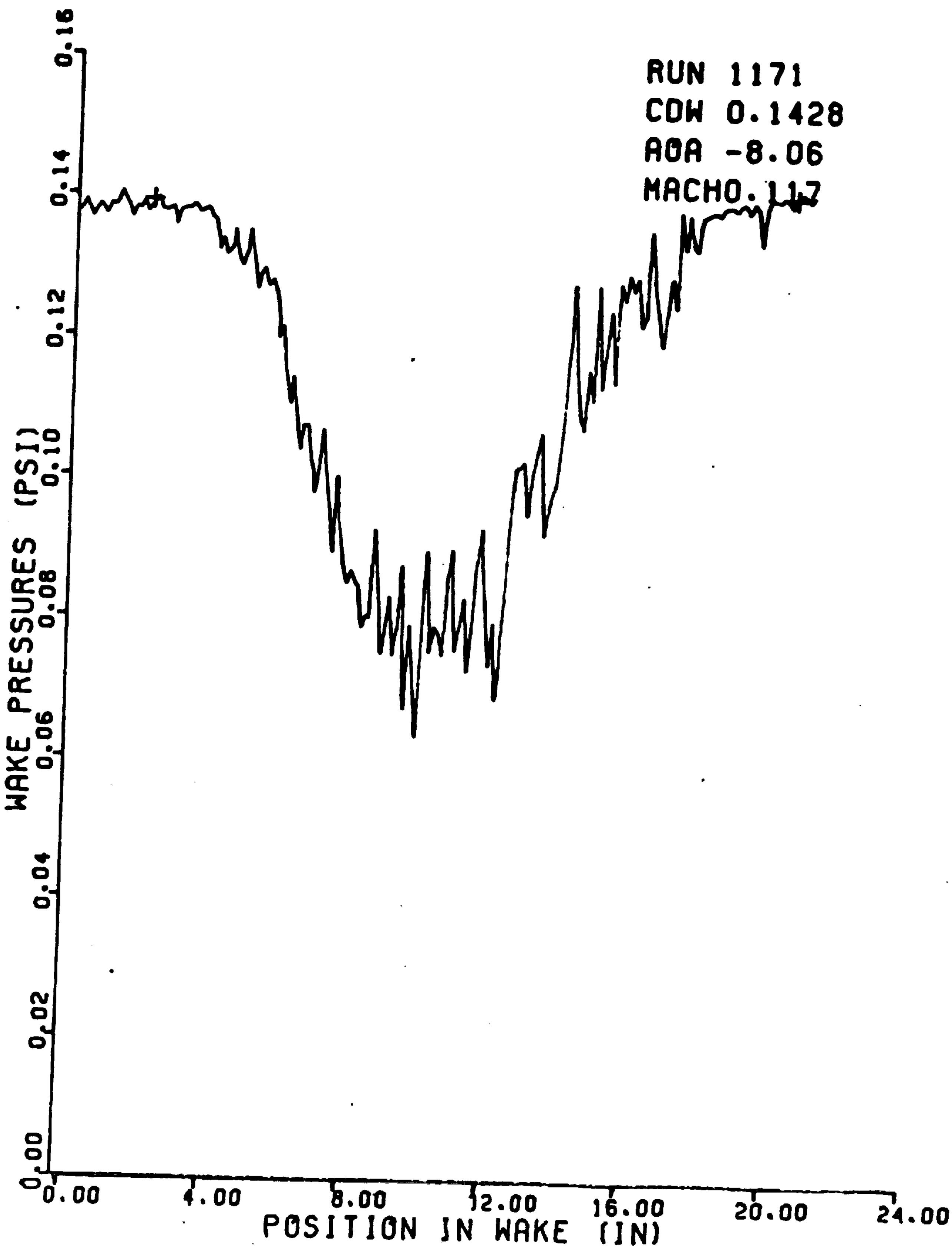
RUN 1168
CDW 0.0645
AOA -5.15
MACH0.118
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

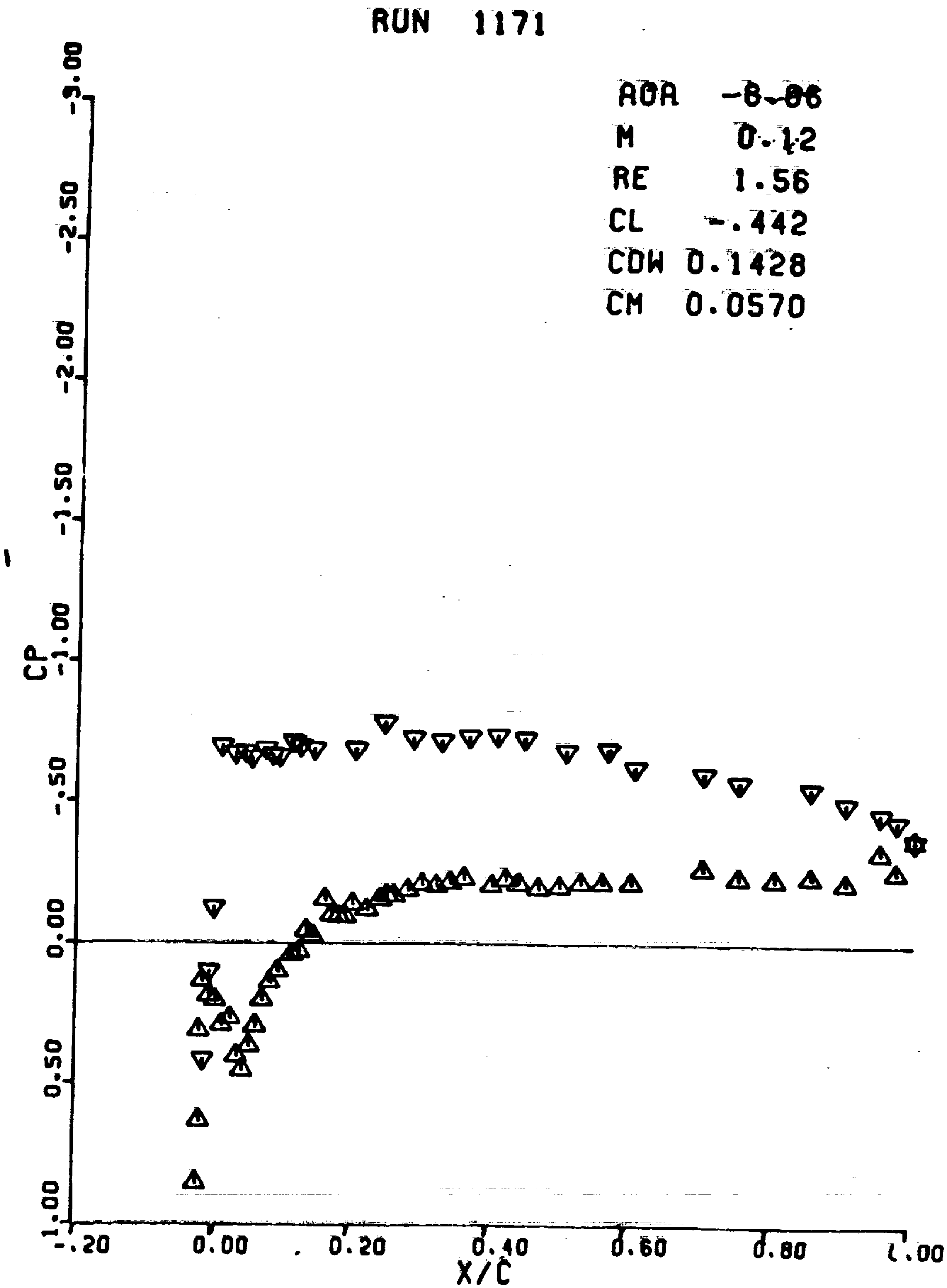


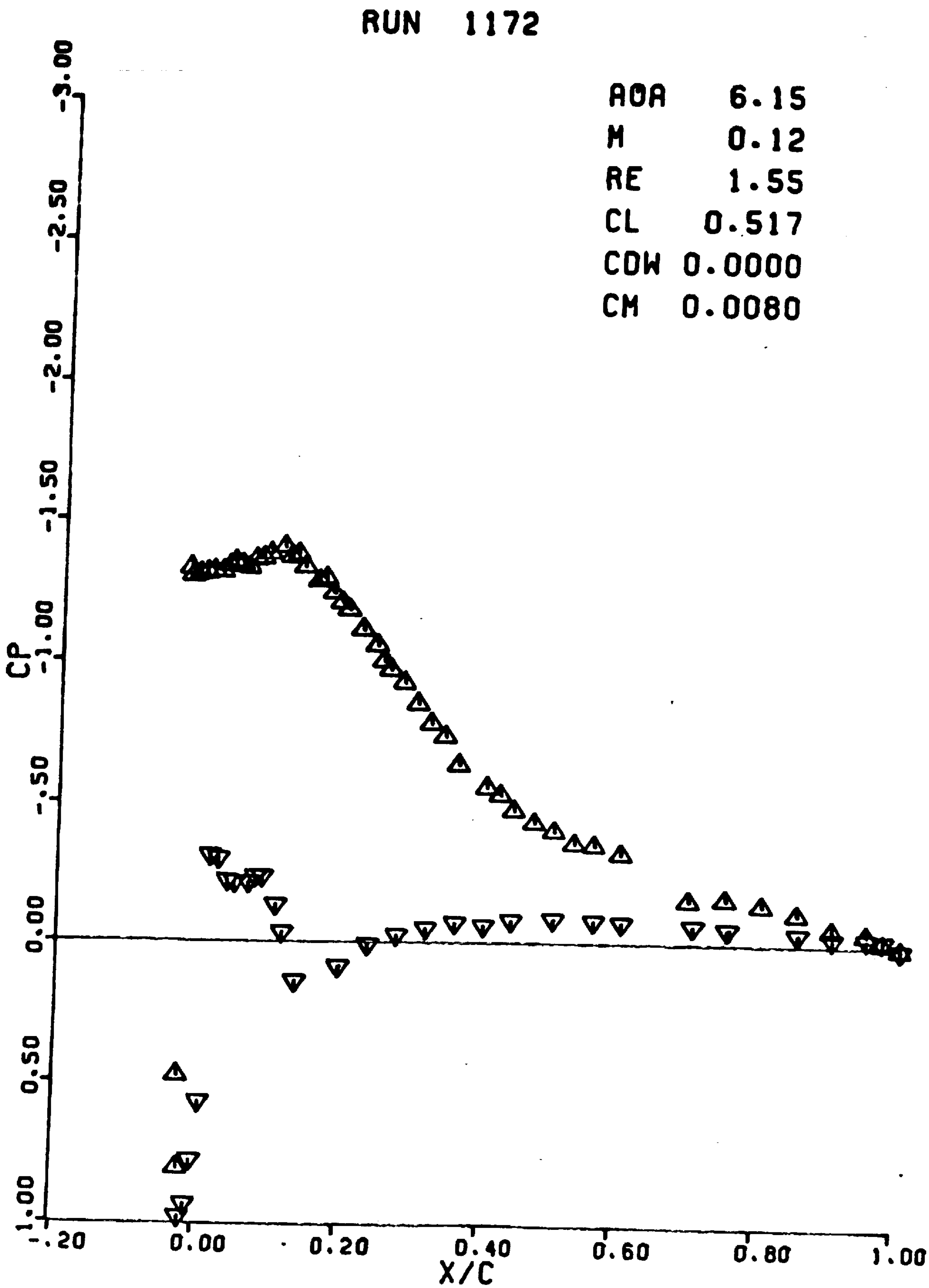
RUN 1169
AOA -6.12
M 0.12
RE 1.59
CL -.523
CDW 0.0945
CM 0.0207
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1169
CDW 0.0945
AOA -6.12
MACH0.18
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

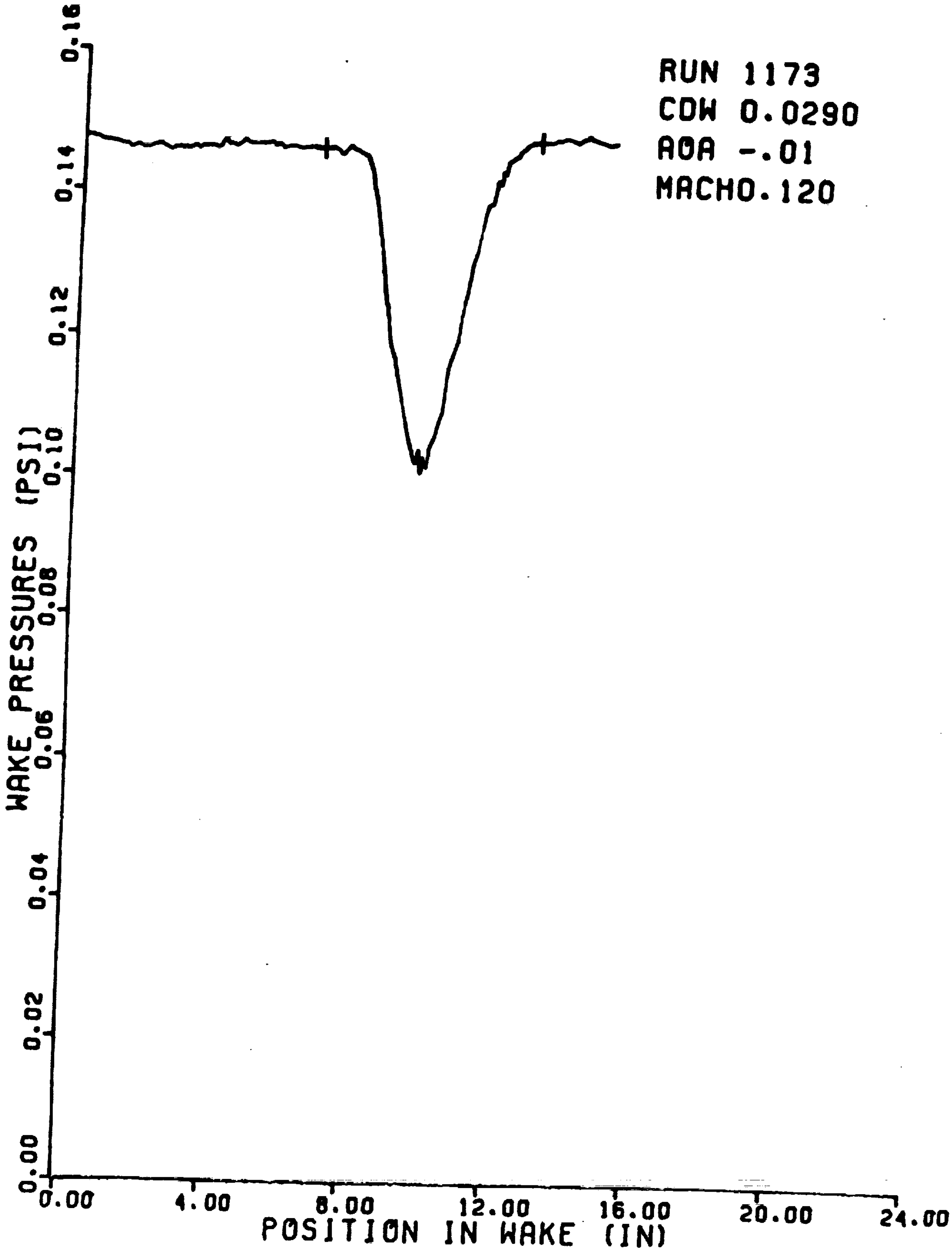

RUN 1170
AOA -7.10
M 0.12
RE 1.57
CL -.497
CDW 0.1140
CM 0.0382
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

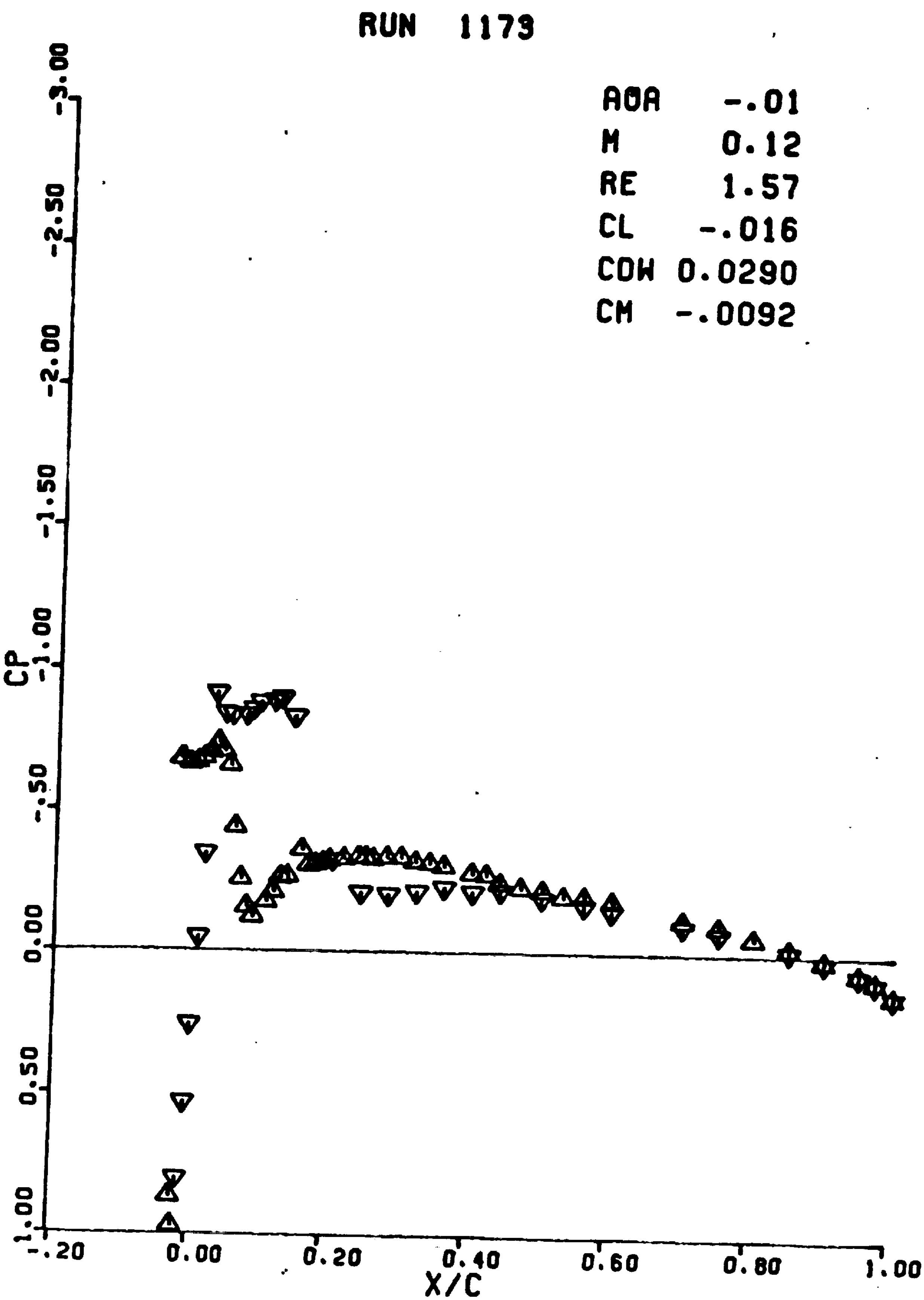

RUN 1171
CDW 0.1428
AOA -8.06
MACHO.117
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

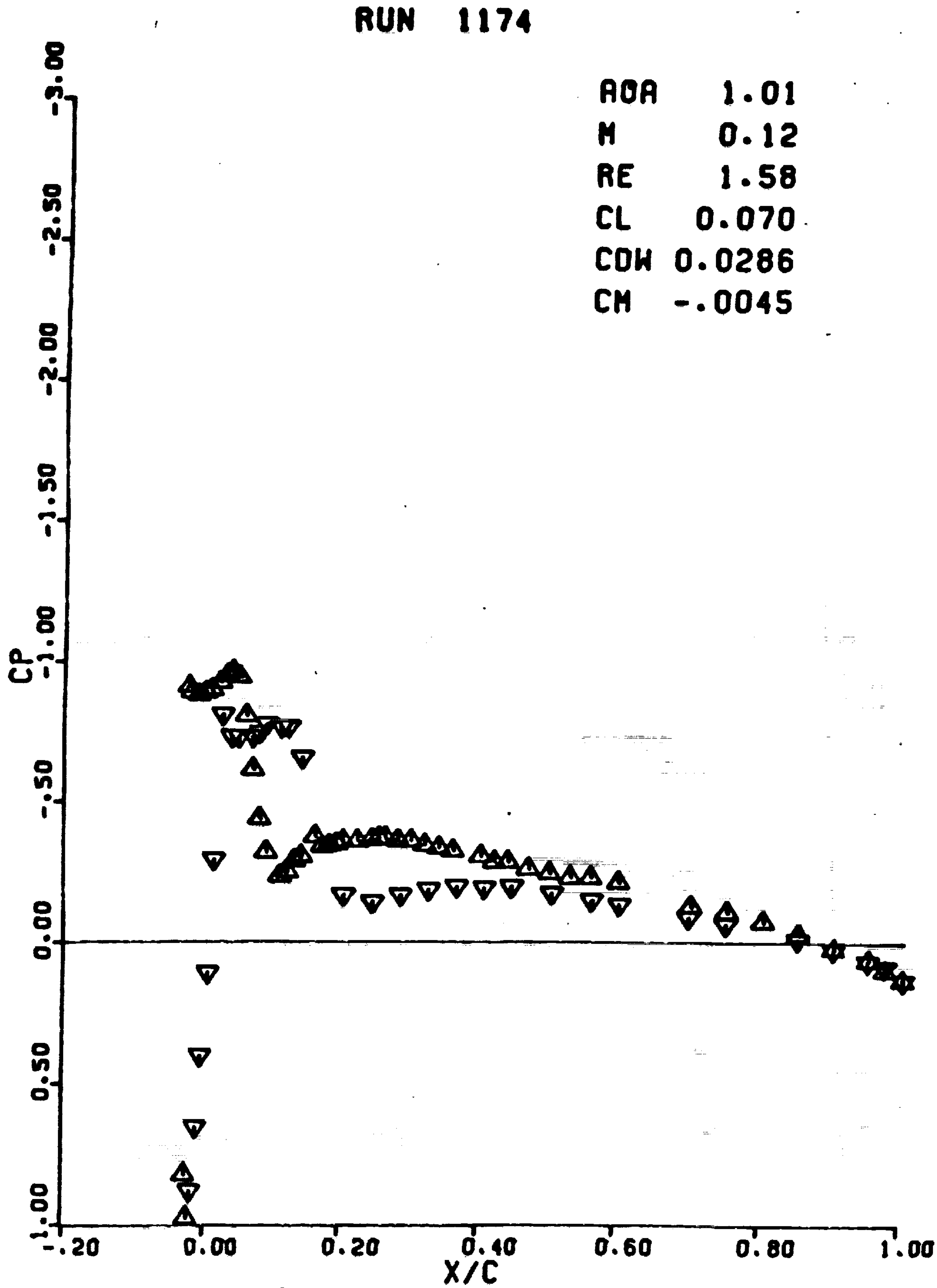

RUN 1171
AOA -8.06
M 0.12
RE 1.56
CL -.442
CDW 0.1428
CM 0.0570
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

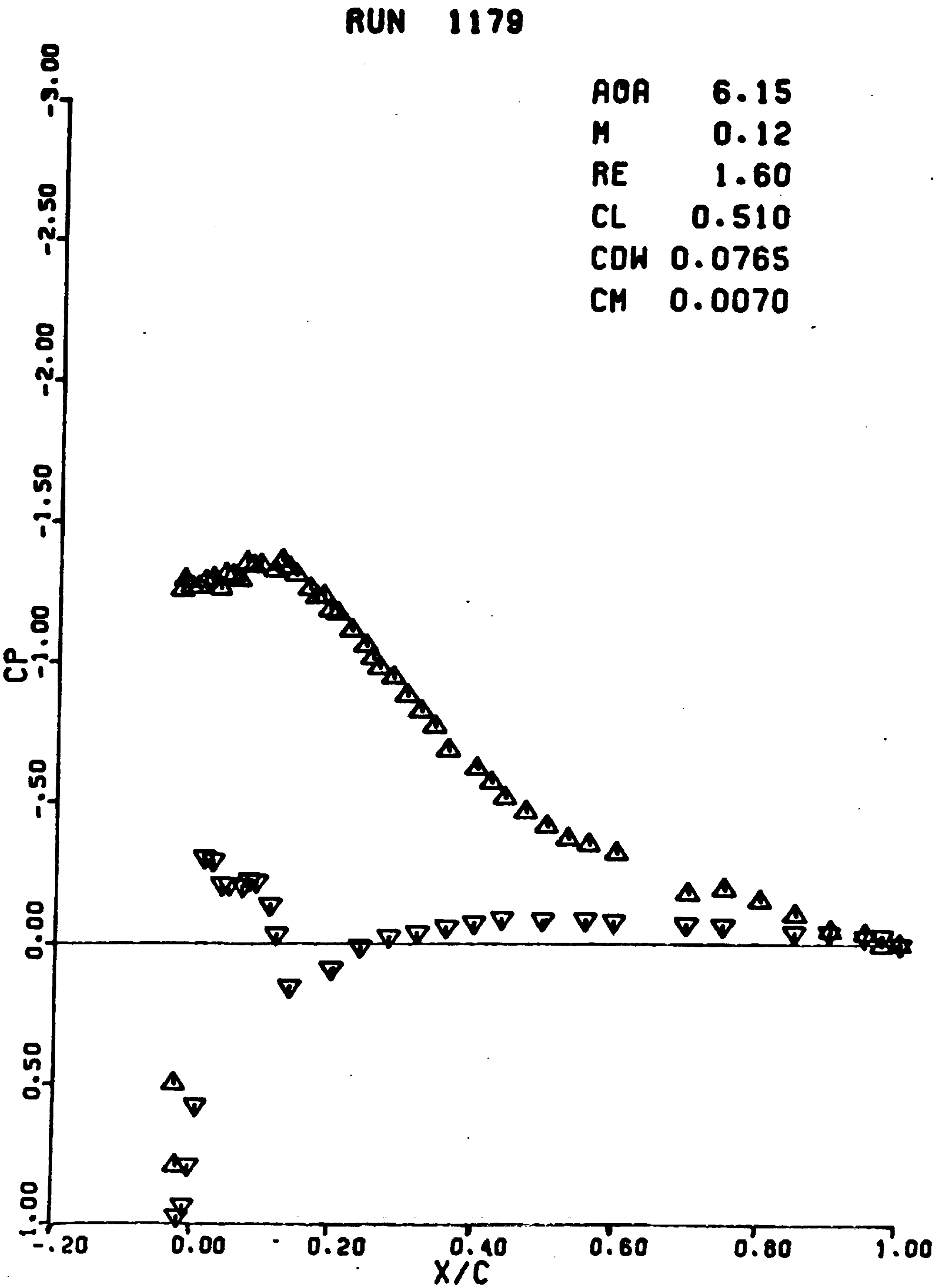


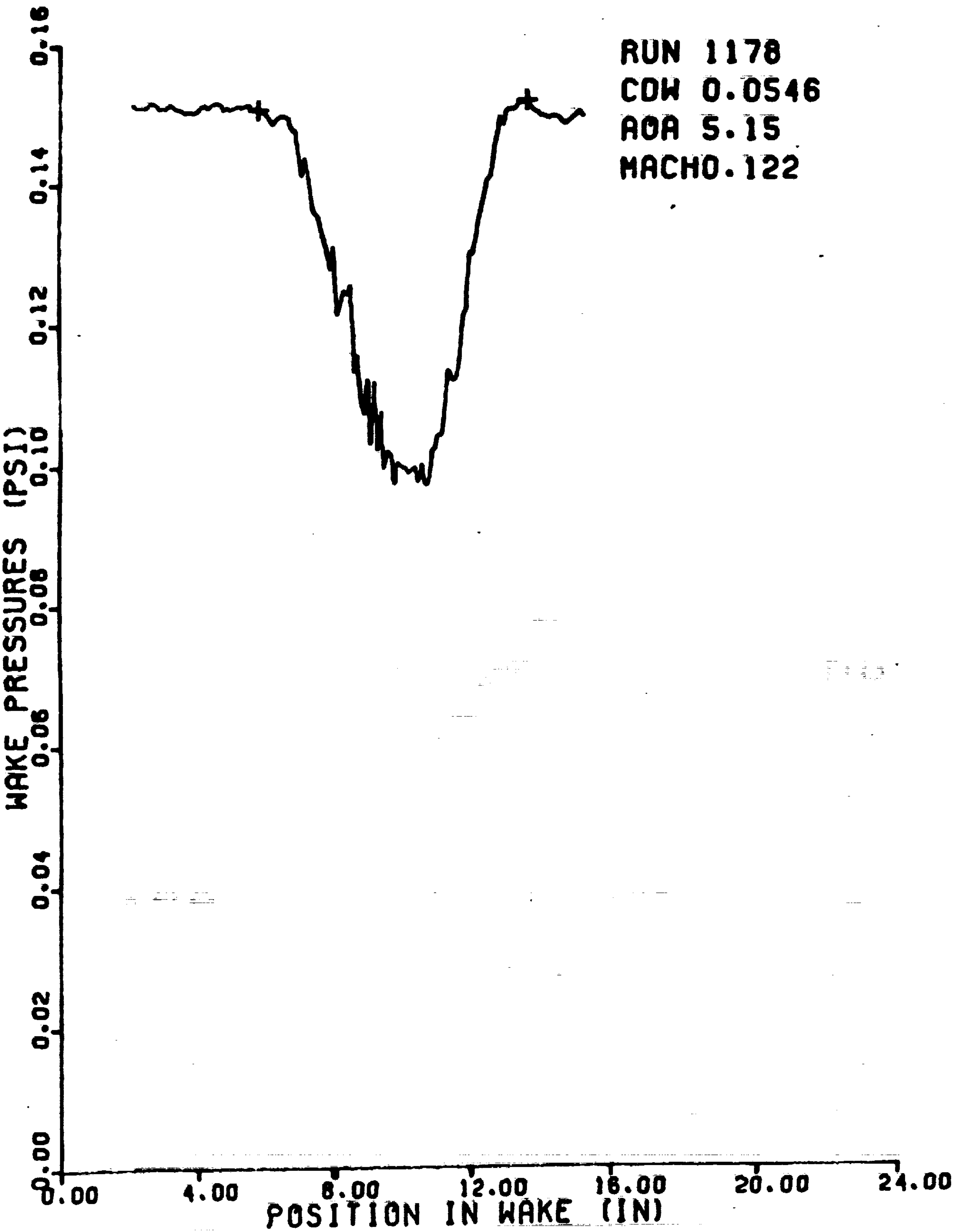
RUN 1172
AOA 6.15
M 0.12
RE 1.55
CL 0.517
CDW 0.0000
CM 0.0080
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1173
CDW 0.0290
AOA -.01
MACH0.120
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

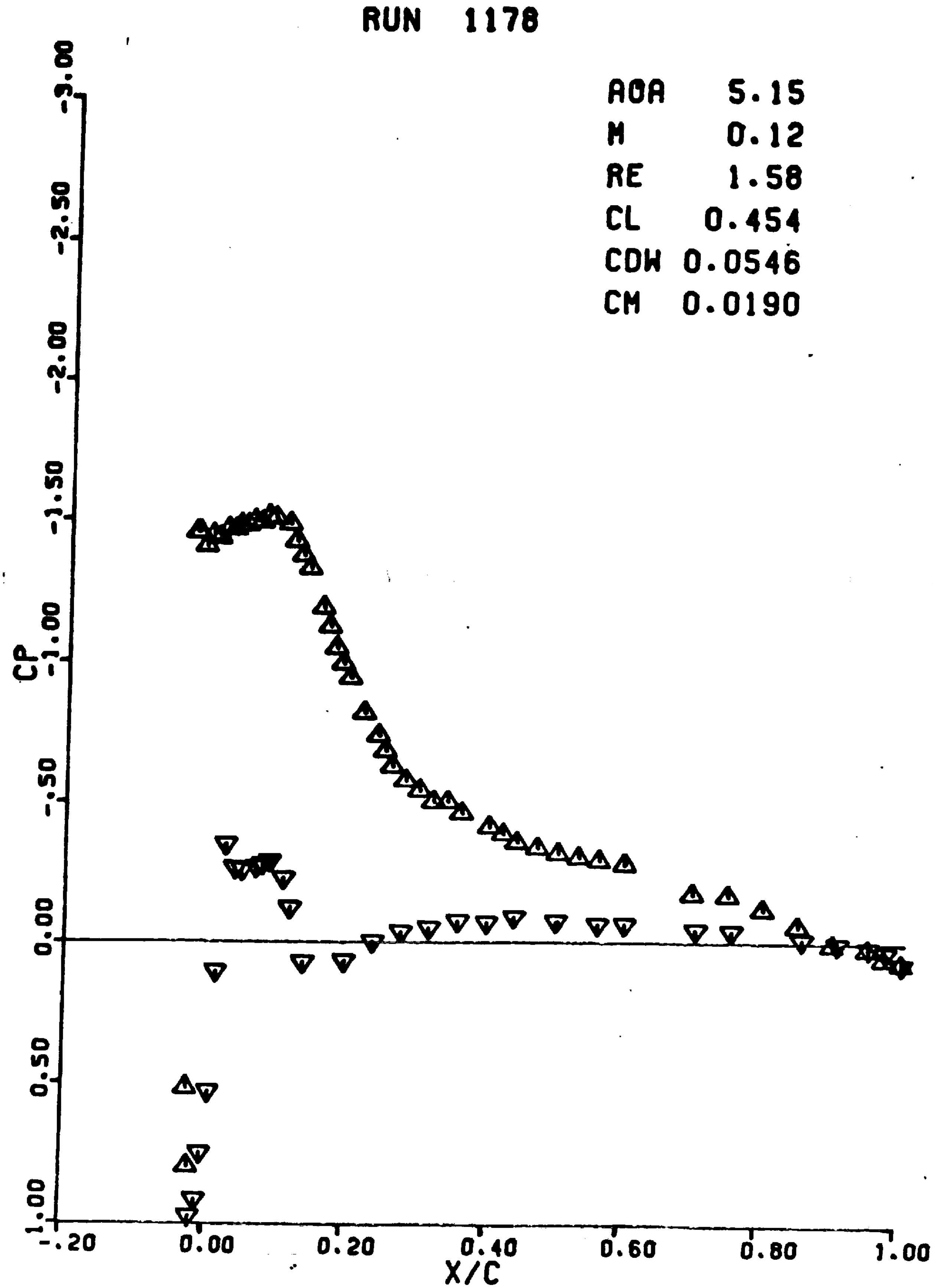

RUN 1179
AOA -.01
M 0.12
RE 1.57
CL -.016
CDW 0.0290
CM -.0092
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1174
AOA 1.01
M 0.12
RE 1.58
CL 0.070
CDW 0.0286
CM -.0045
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

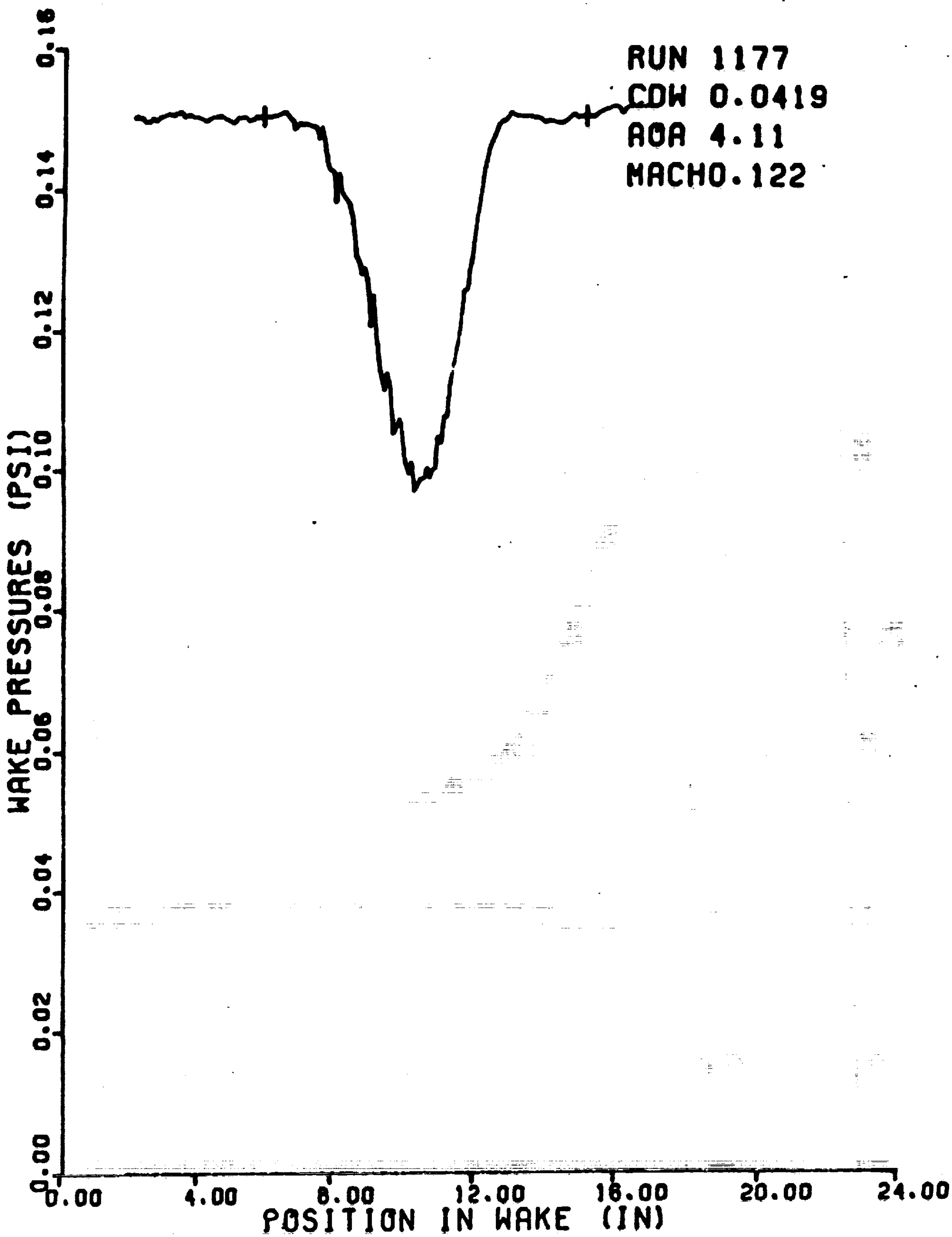

RUN 1179
AOA 6.15
M 0.12
RE 1.60
CL 0.510
CDW 0.0765
CM 0.0070
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

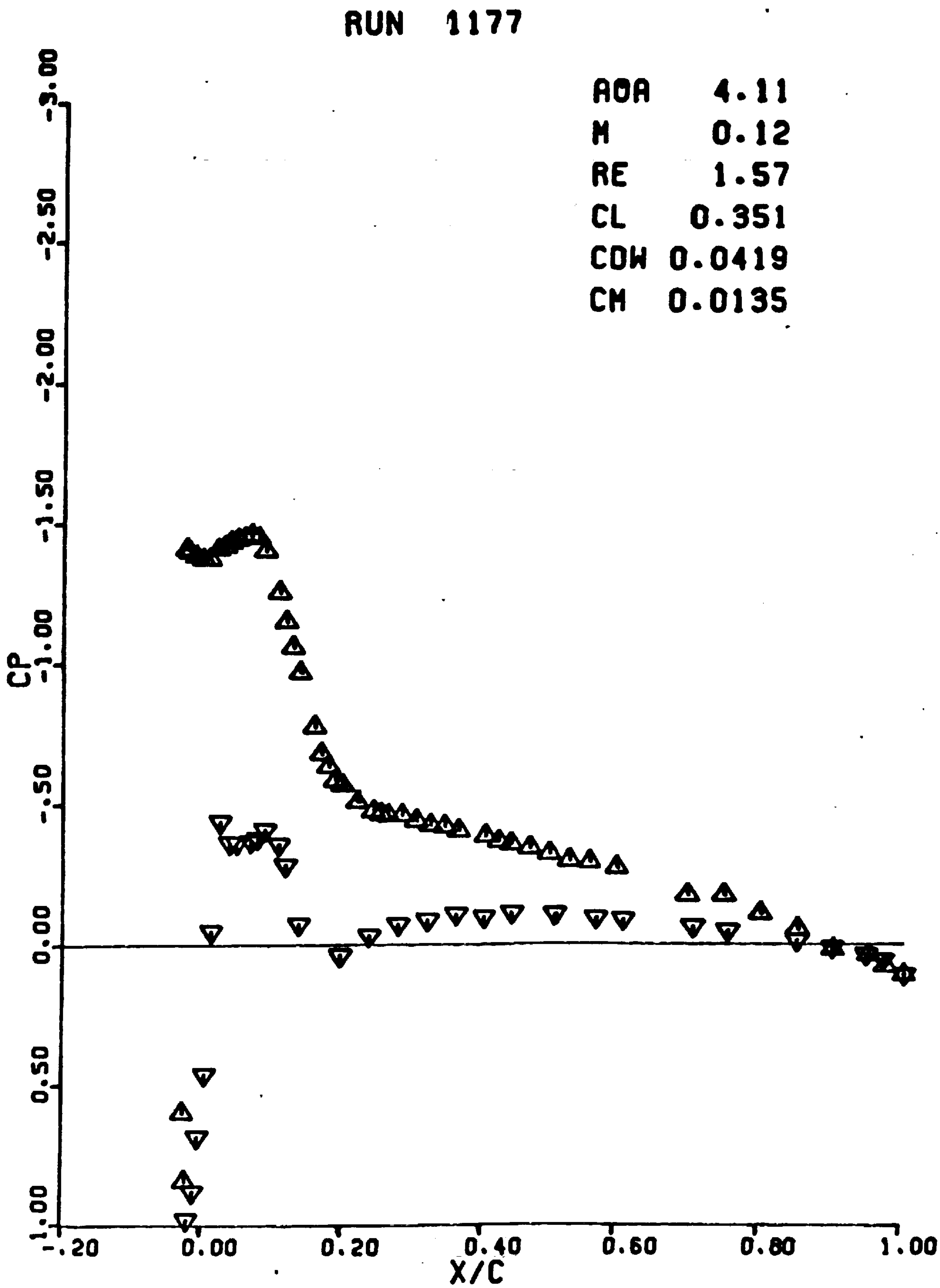


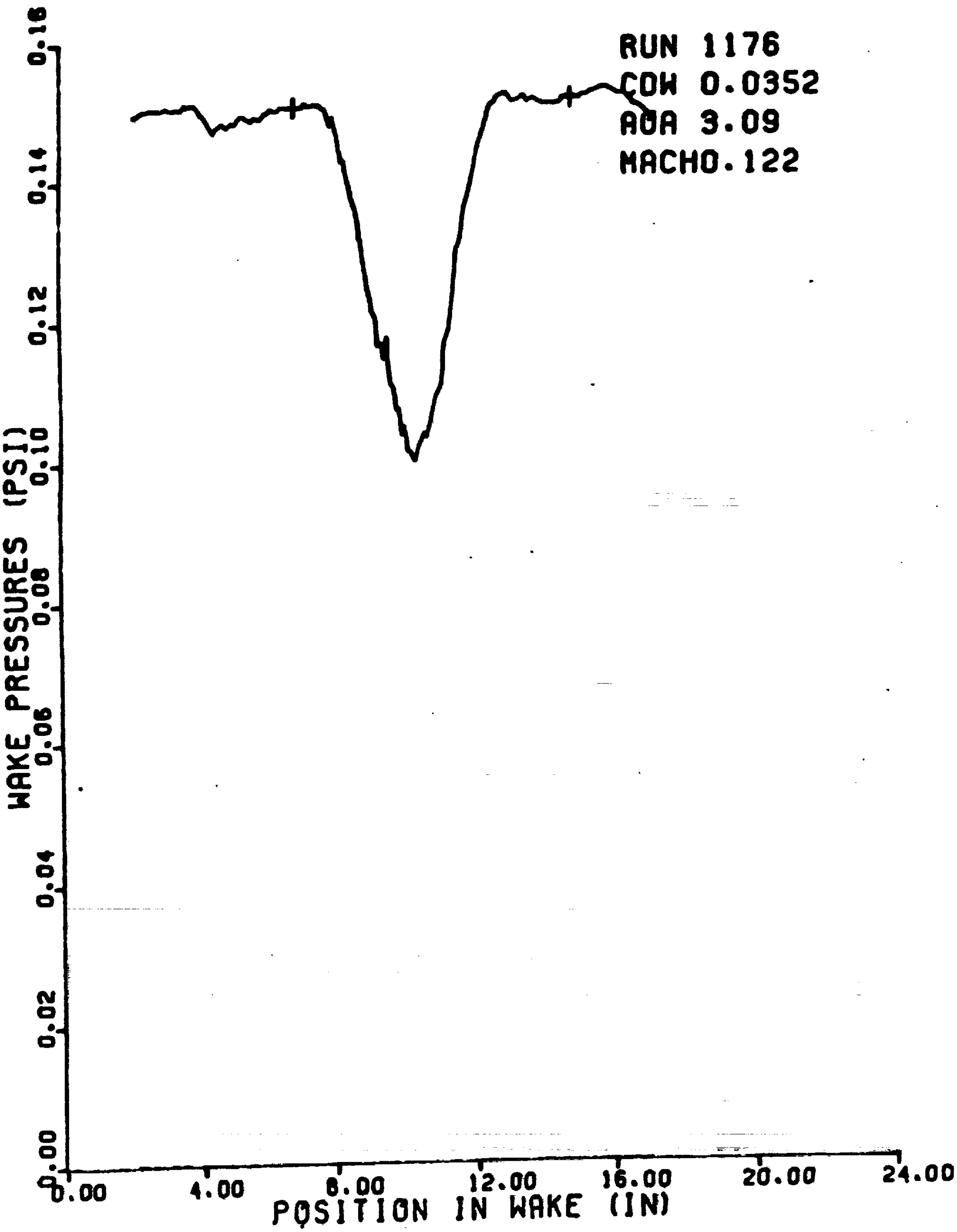
RUN 1178
CDW 0.0546
AOA 5.15
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

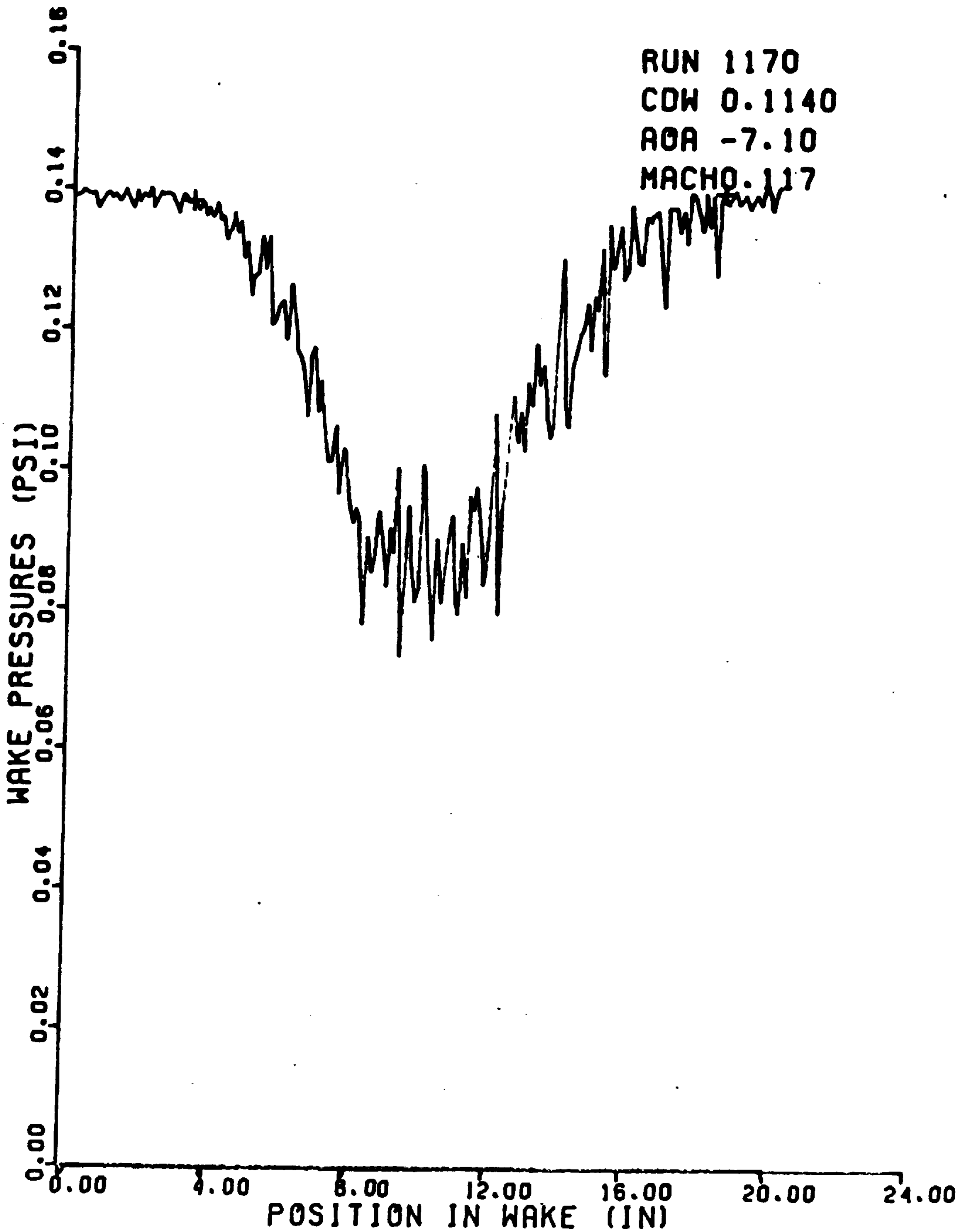


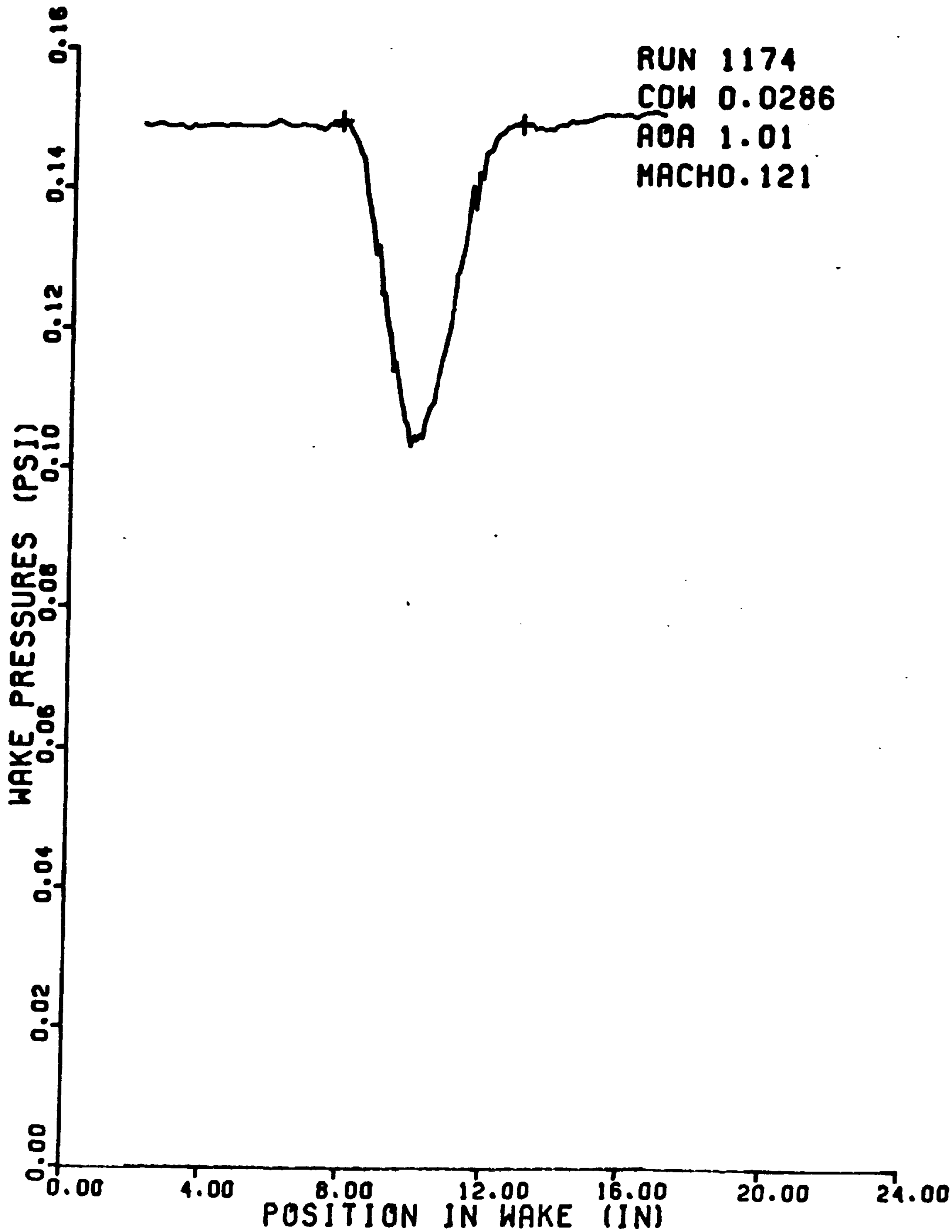
RUN 1178
AOA 5.15
M 0.12
RE 1.58
CL 0.454
CDW 0.0546
CM 0.0190
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

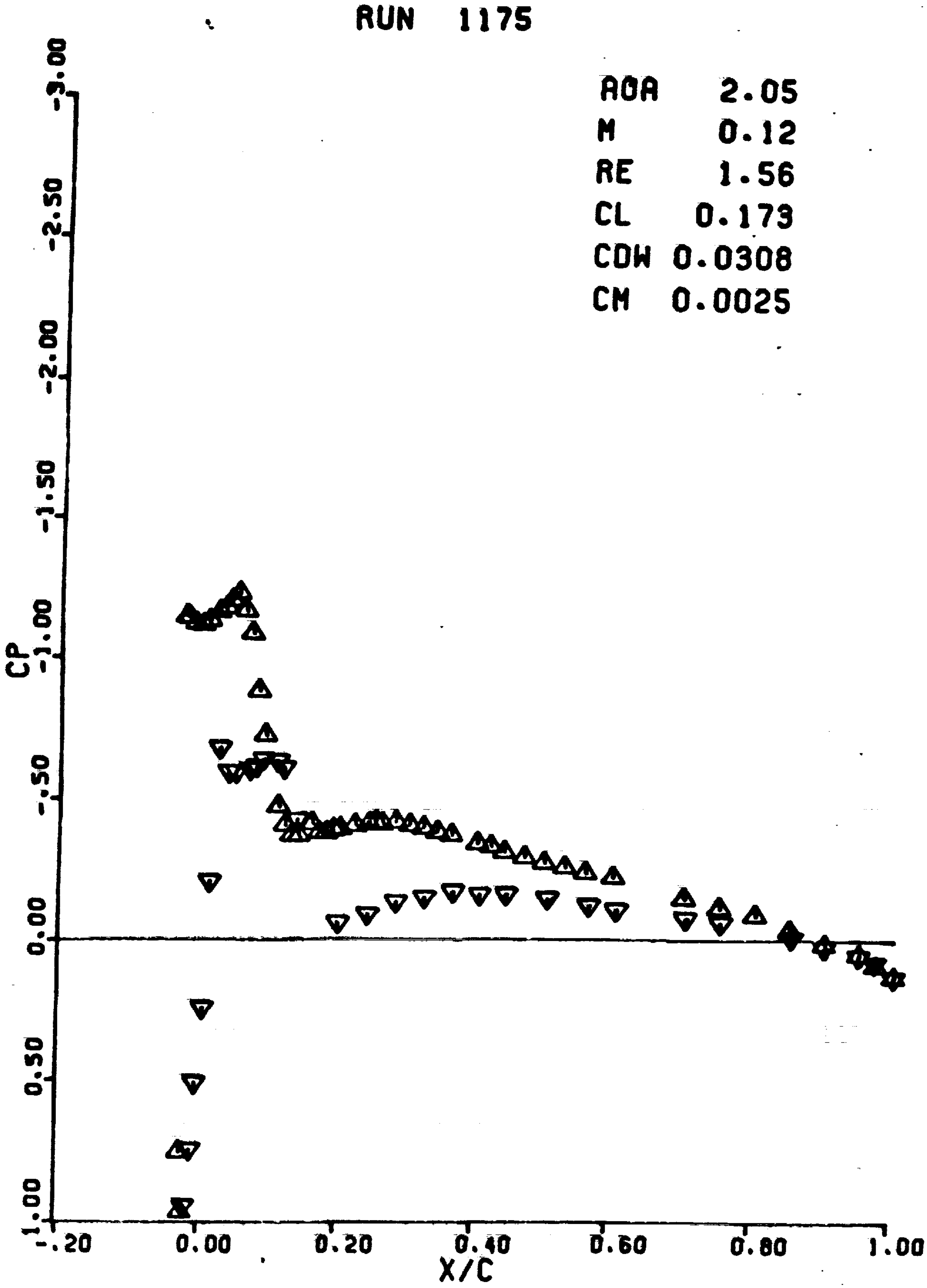

RUN 1177
CDW 0.0419
AOA 4.11
MACH0.122
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

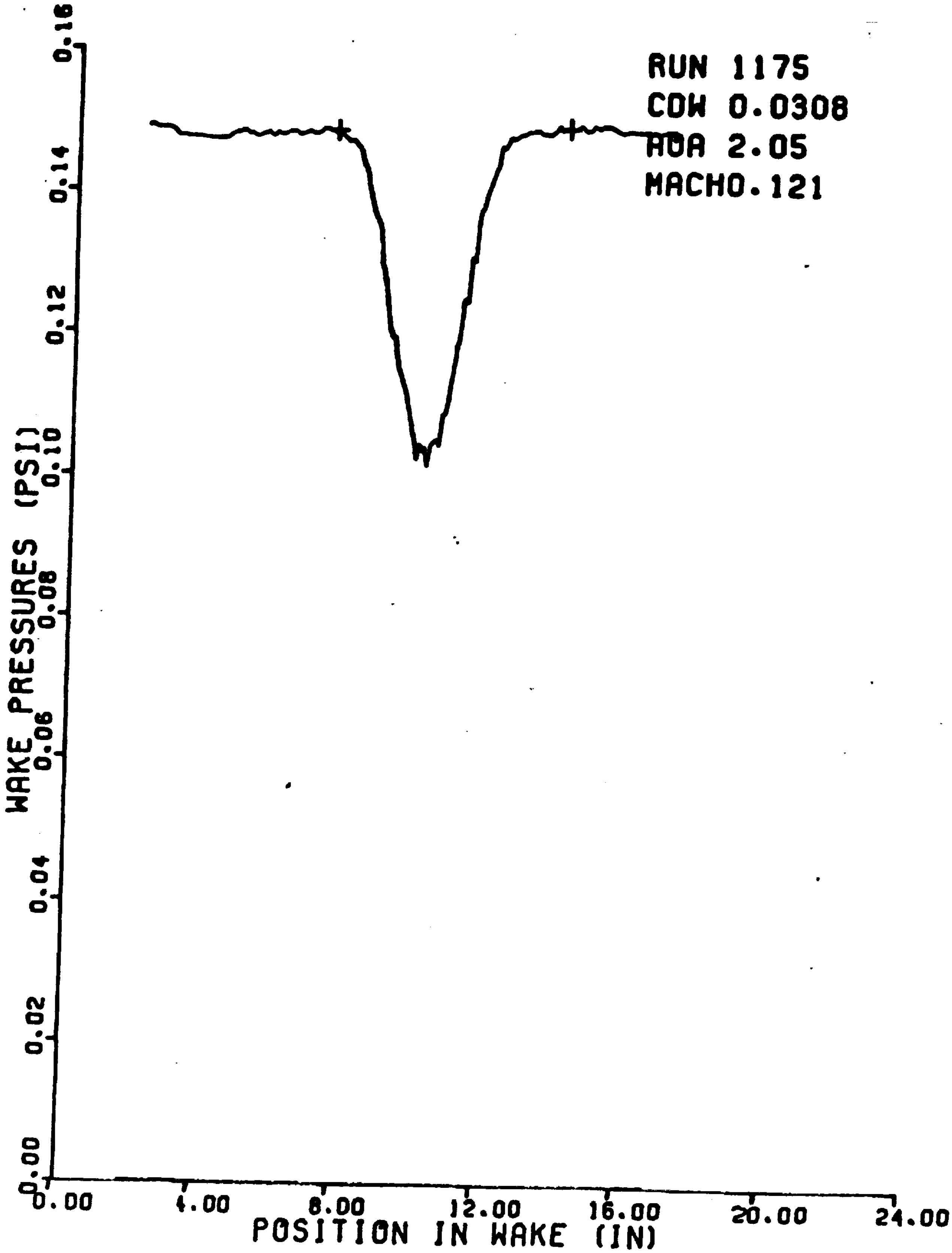

RUN 1177
AOA 4.11
M 0.12
RE 1.57
CL 0.351
CDW 0.0419
CM 0.0135
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

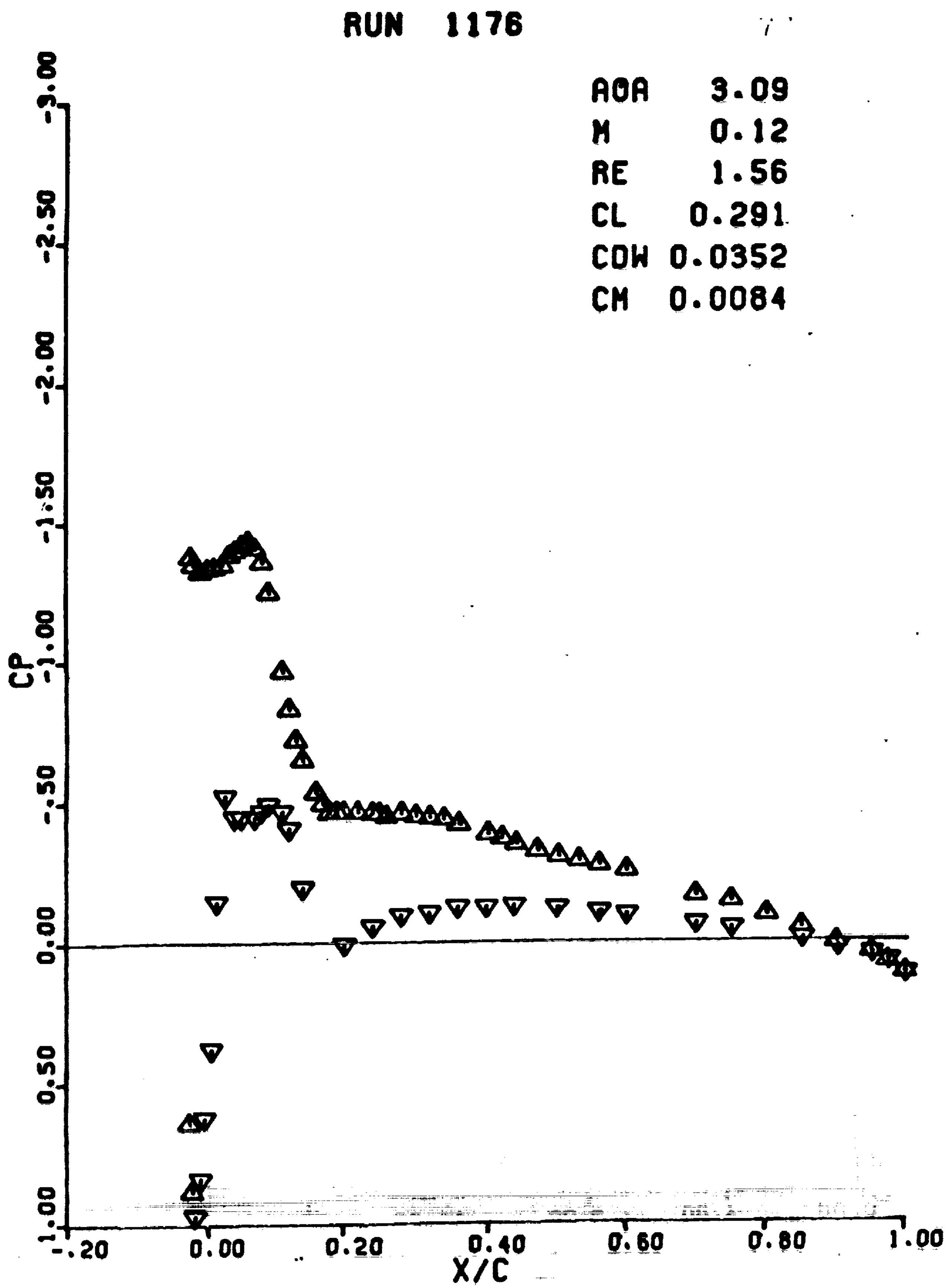

RUN 1176
CDW 0.0352
AOA 3.09
MACH0.122
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
WAKE PRESSURES (PSI)
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

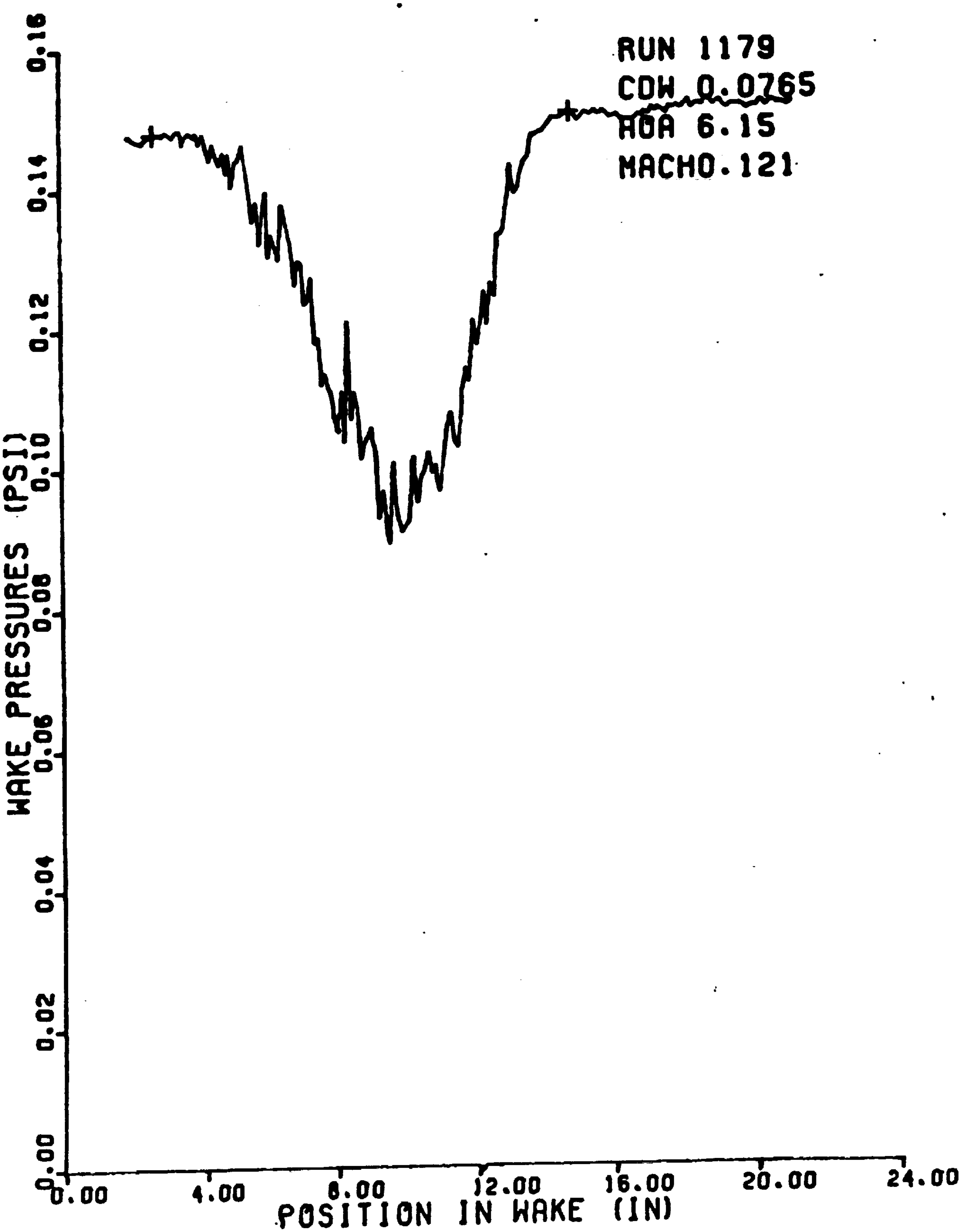

RUN 1170
CDW 0.1140
AOA -7.10
MACH0.117
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

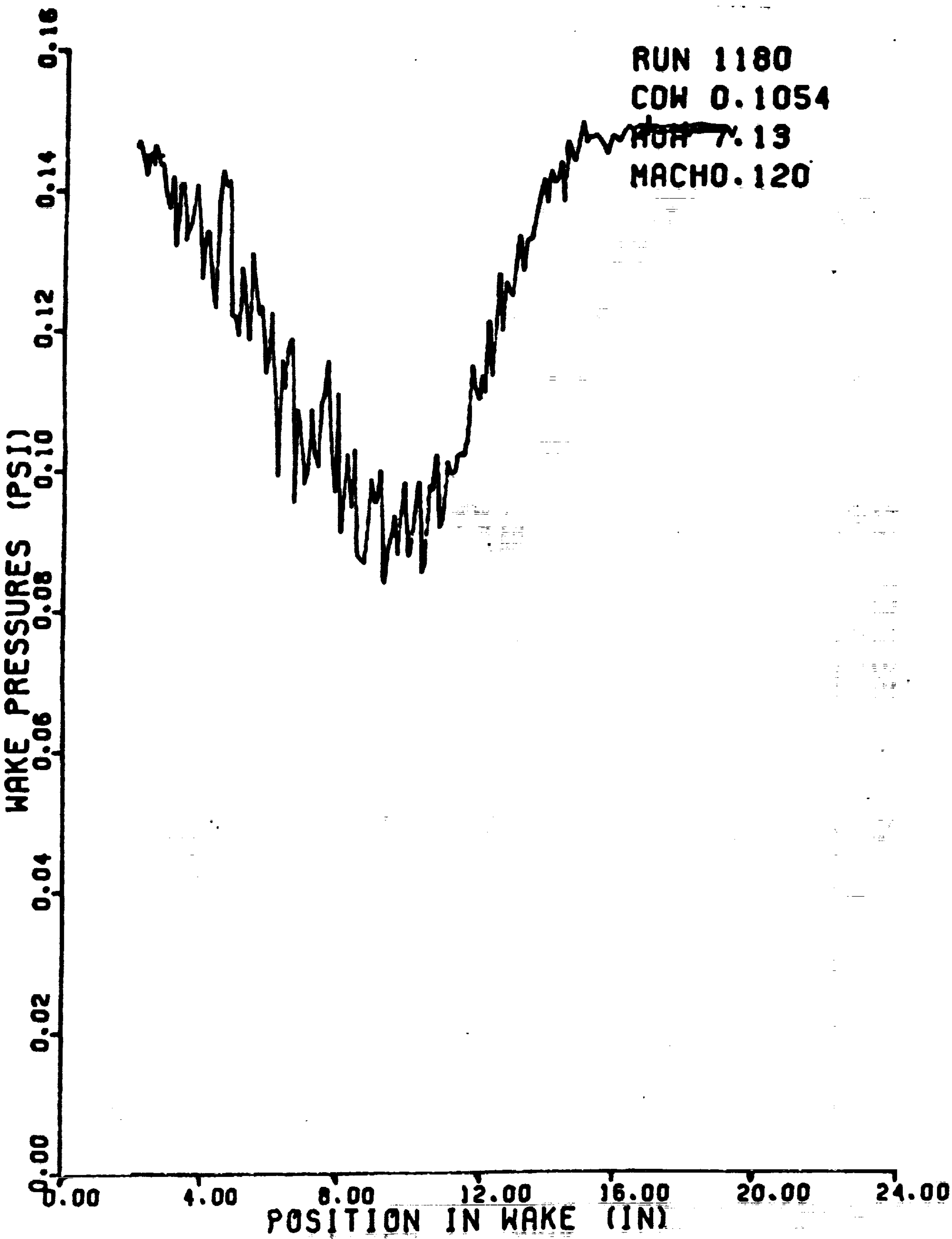

RUN 1174
CDW 0.0286
AOA 1.01
MACHO.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1175
AOA 2.05
M 0.12
RE 1.56
CL 0.173
CDW 0.0308
CM 0.0025
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

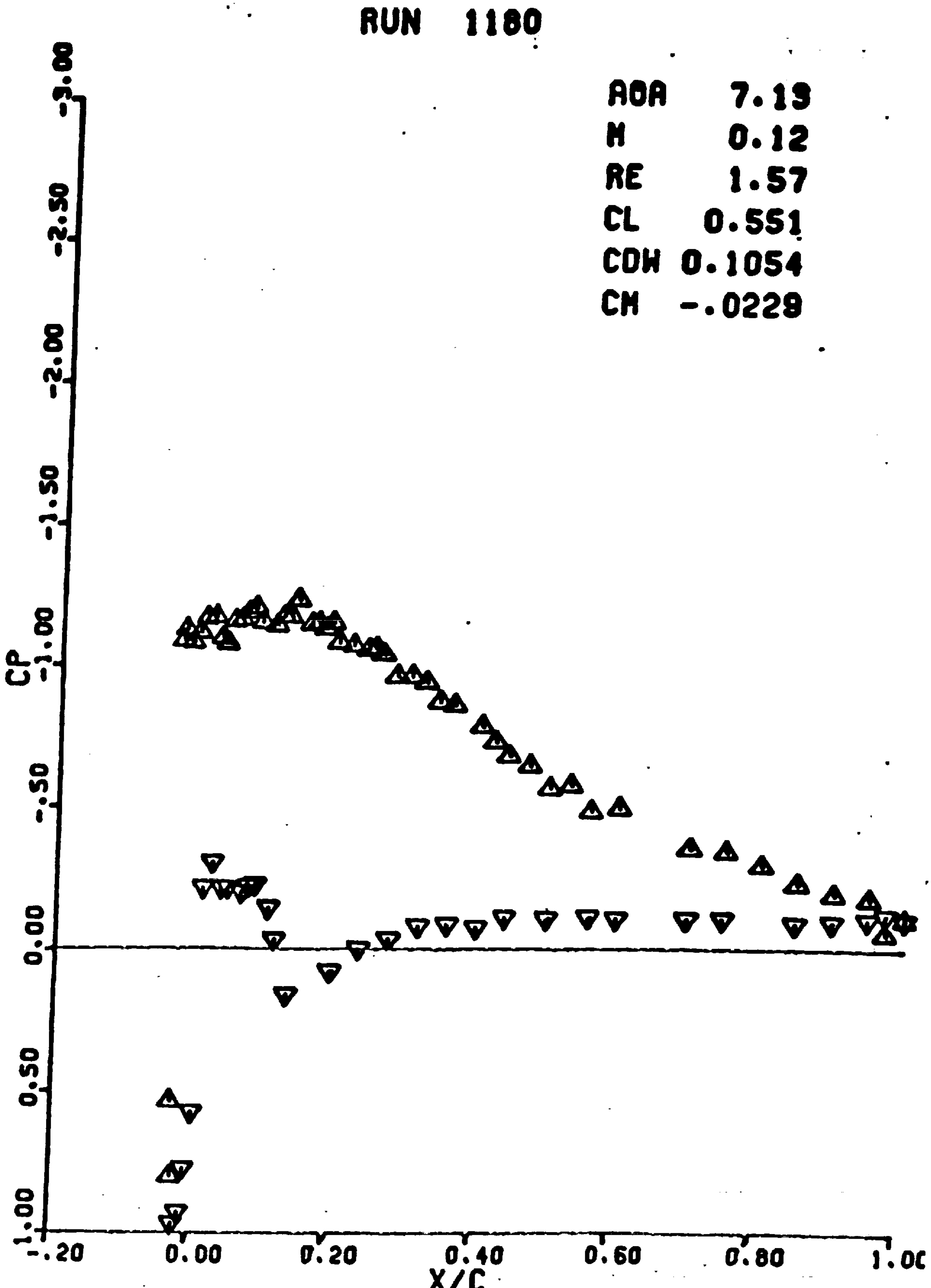

RUN 1175
CDW 0.0308
AOA 2.05
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

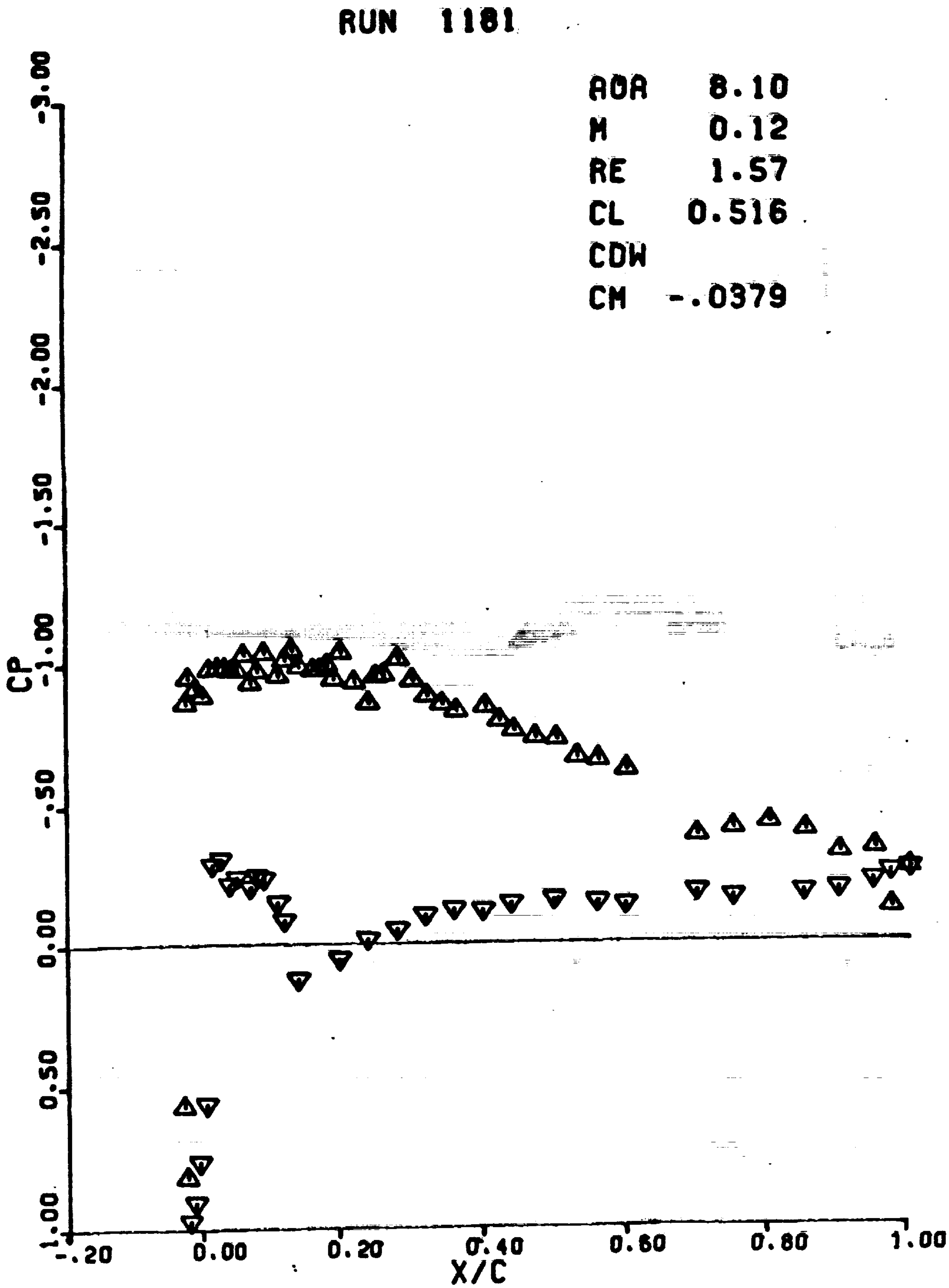

RUN 1176
AOA 3.09
M 0.12
RE 1.56
CL 0.291
CDW 0.0352
CM 0.0084
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
CP
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1179
CDW 0.0765
AOA 6.15
MACHO.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

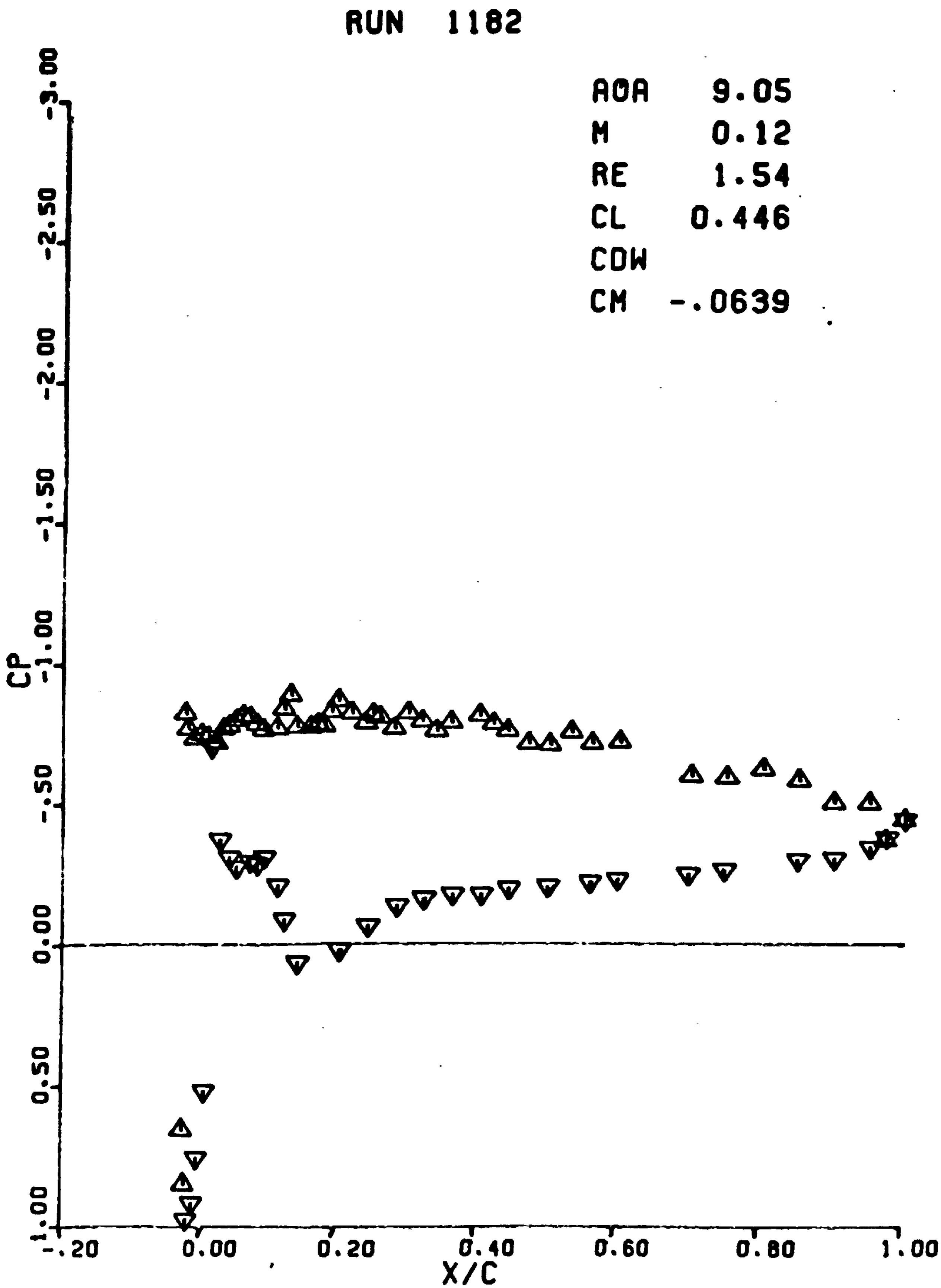


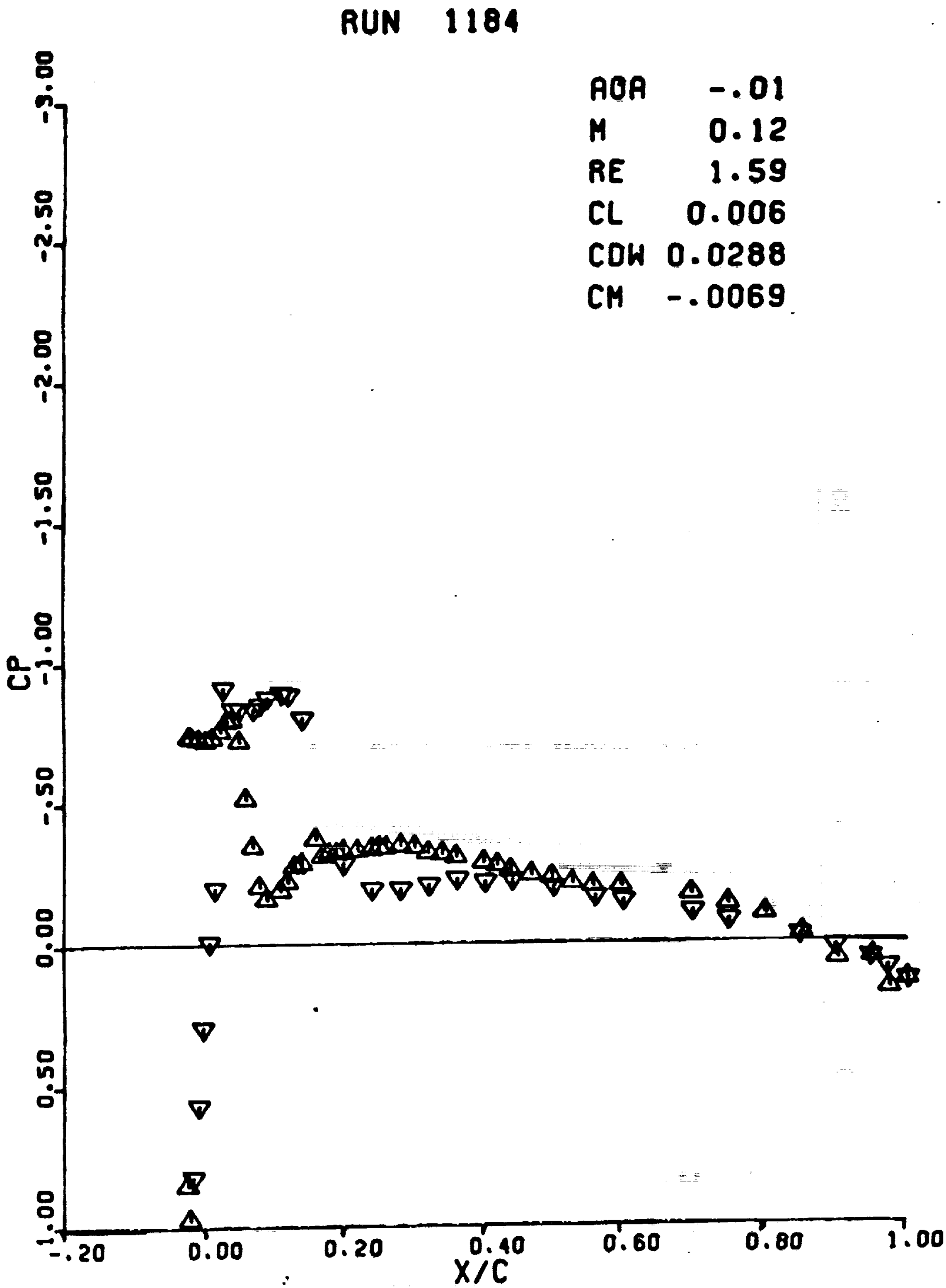
RUN 1180
CDW 0.1054
AOA 7.13
MACH0.120
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

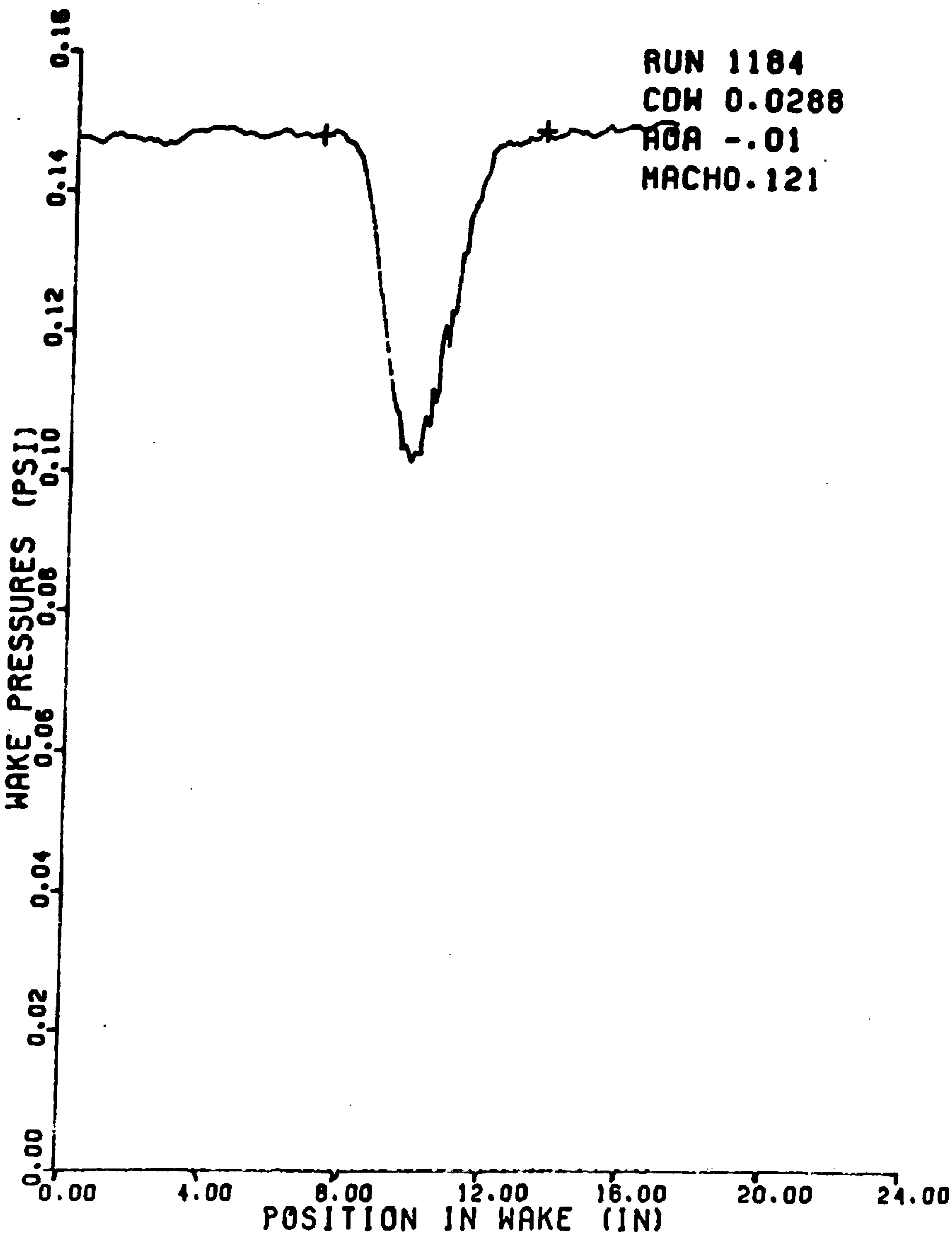

RUN 1180
AOA 7.19
M 0.12
RE 1.57
CL 0.551
CDW 0.1054
CM -.0228
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C



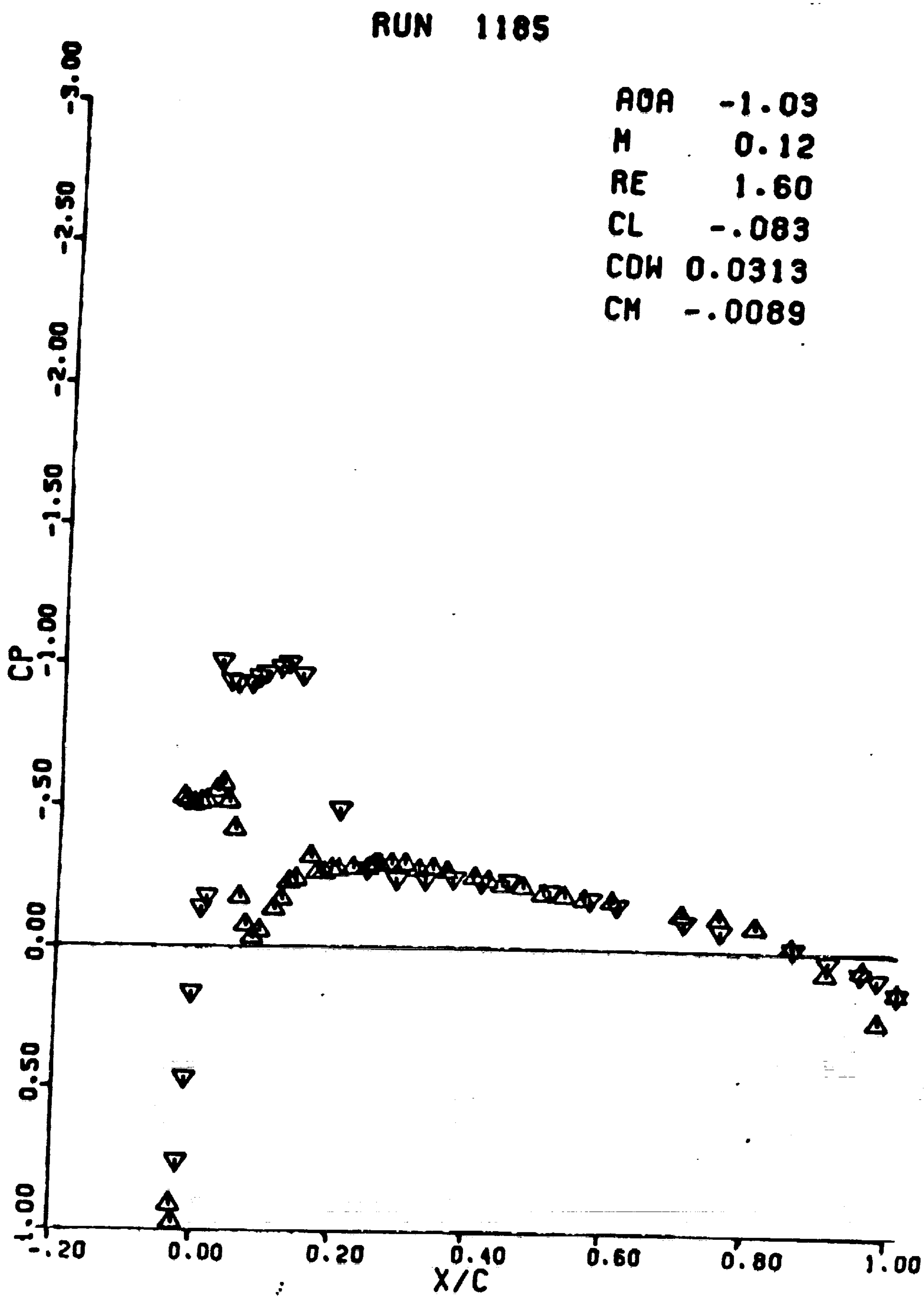
RUN 1181
AOA 8.10
M 0.12
RE 1.57
CL 0.516
CDW
CM -.0379
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C


RUN 1182
AOA 9.05
M 0.12
RE 1.54
CL 0.446
CDW
CM -.0639
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

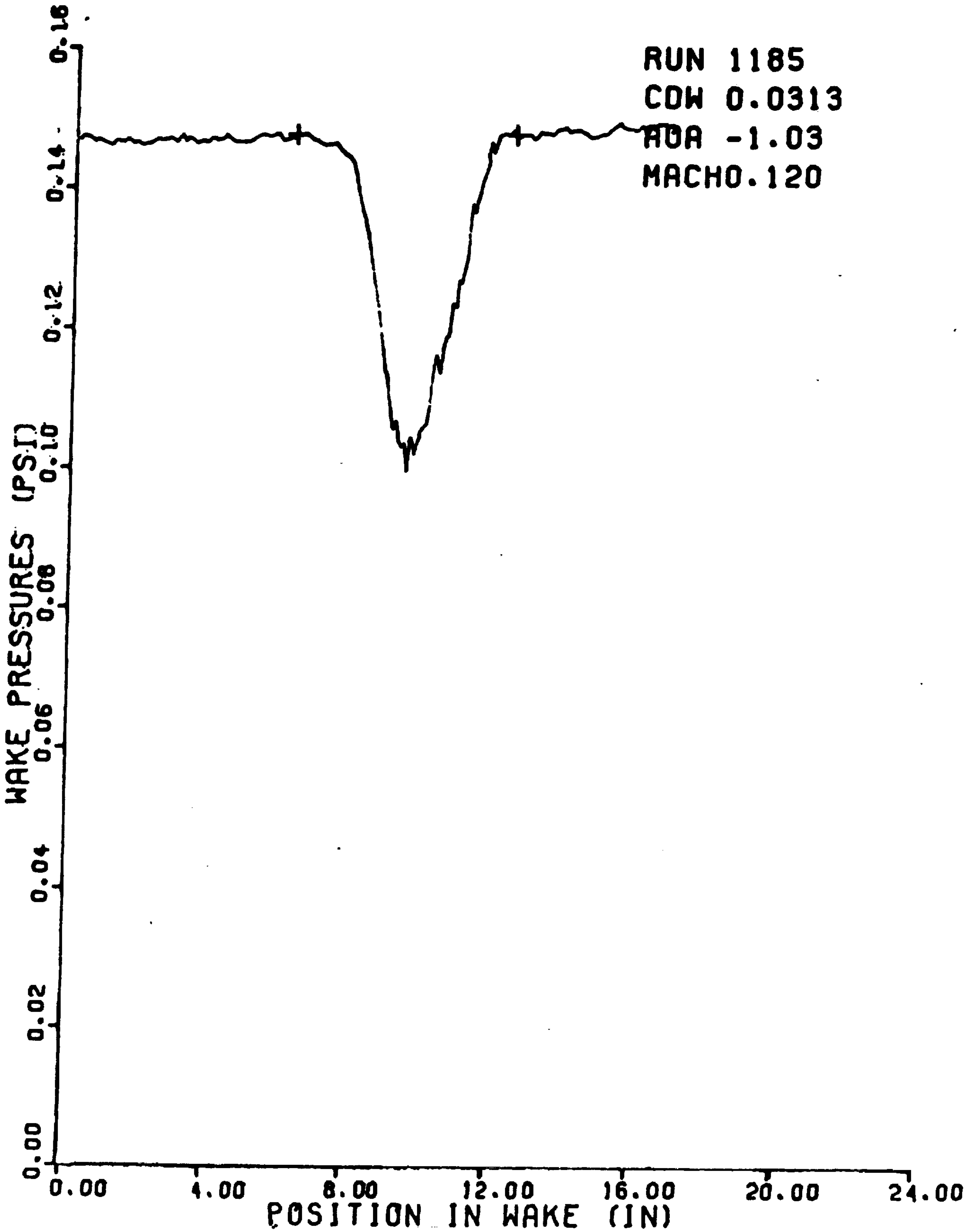

RUN 1184
AOA -.01
M 0.12
RE 1.59
CL 0.006
CDW 0.0288
CM -.0069
CP
X/C
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00

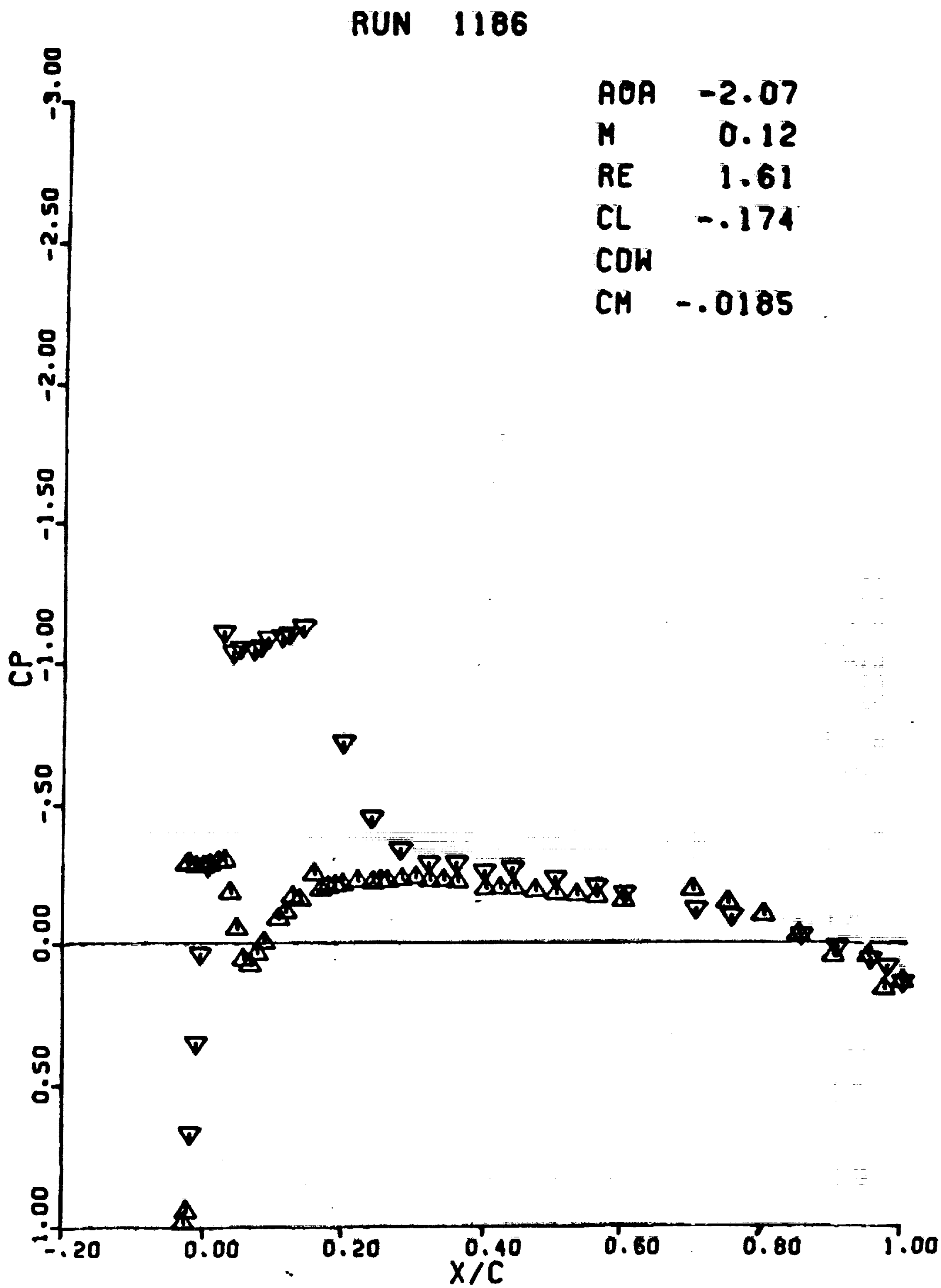


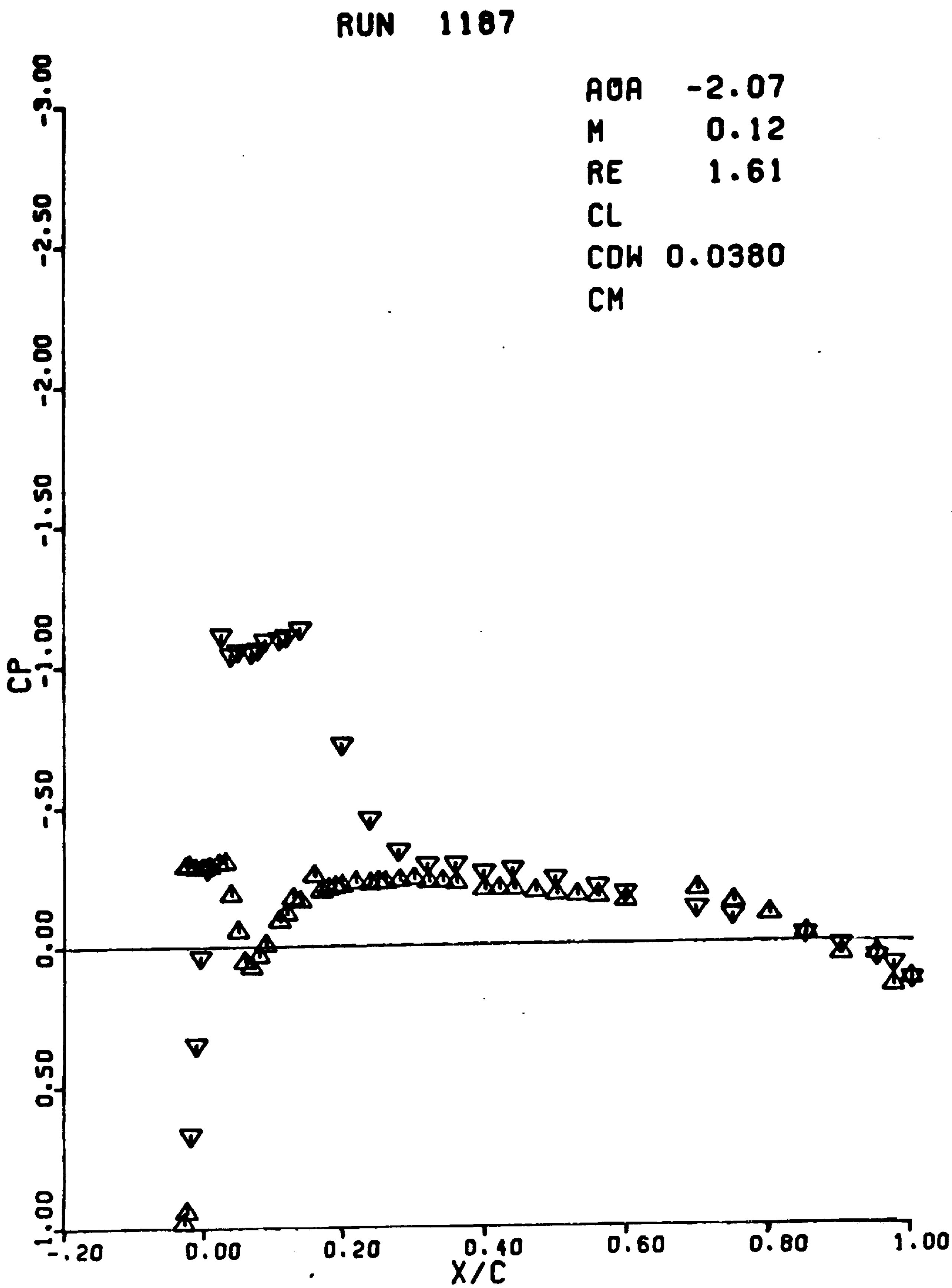
RUN 1184
CDW 0.0288
AOA -.01
MACH0.121
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

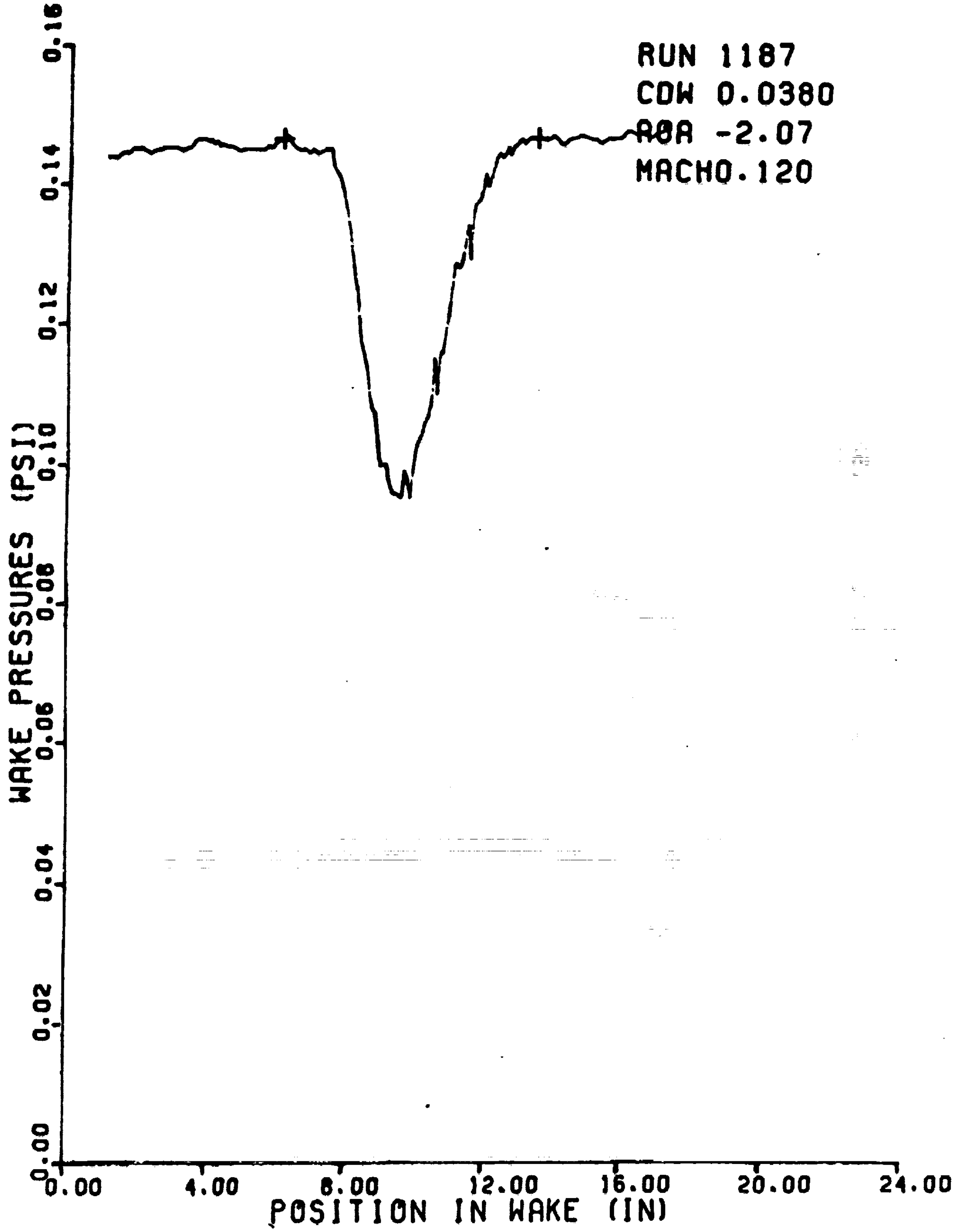


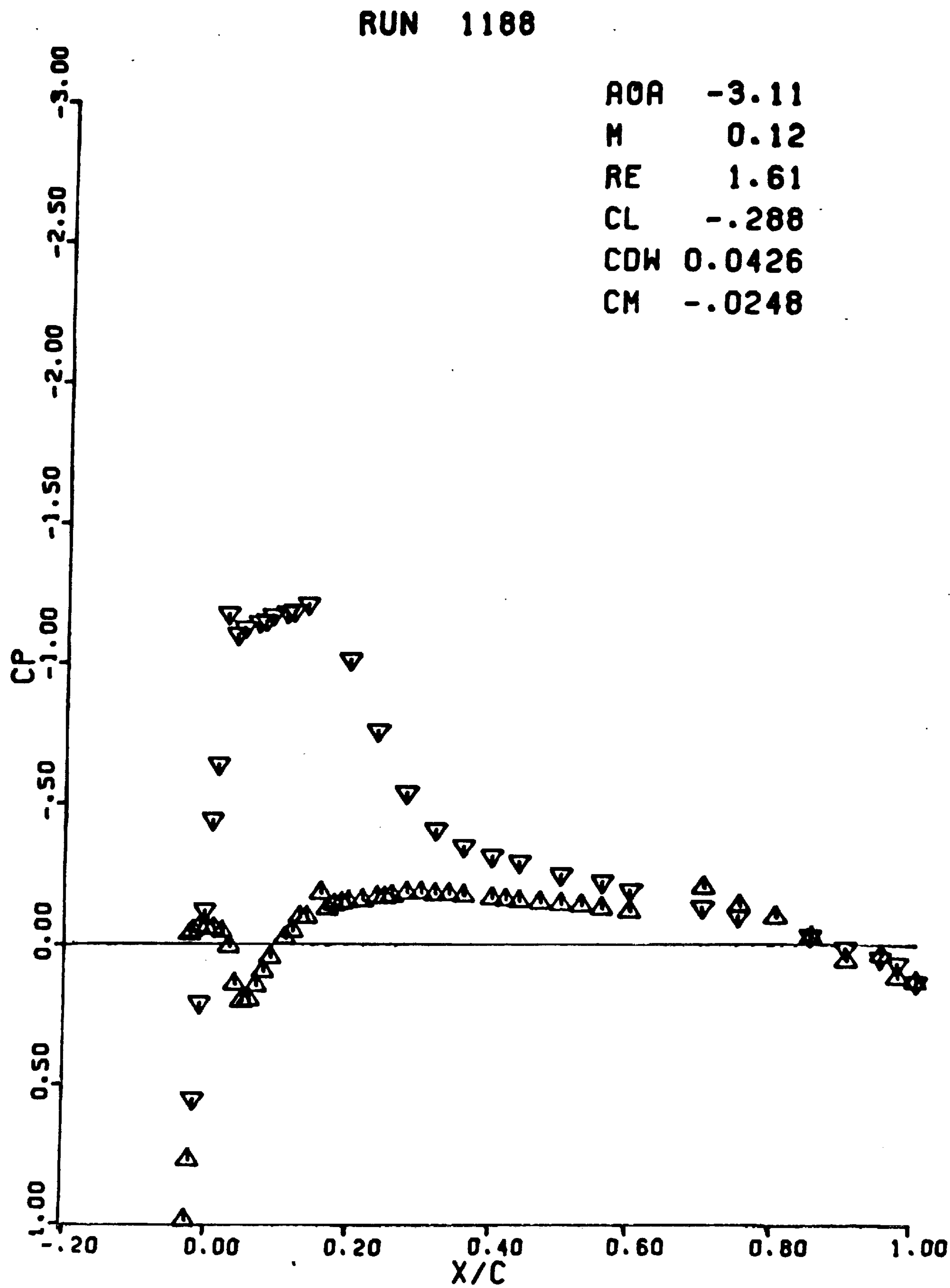
RUN 1185
AOA -1.03
M 0.12
RE 1.60
CL -.083
CDW 0.0313
CM -.0089
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

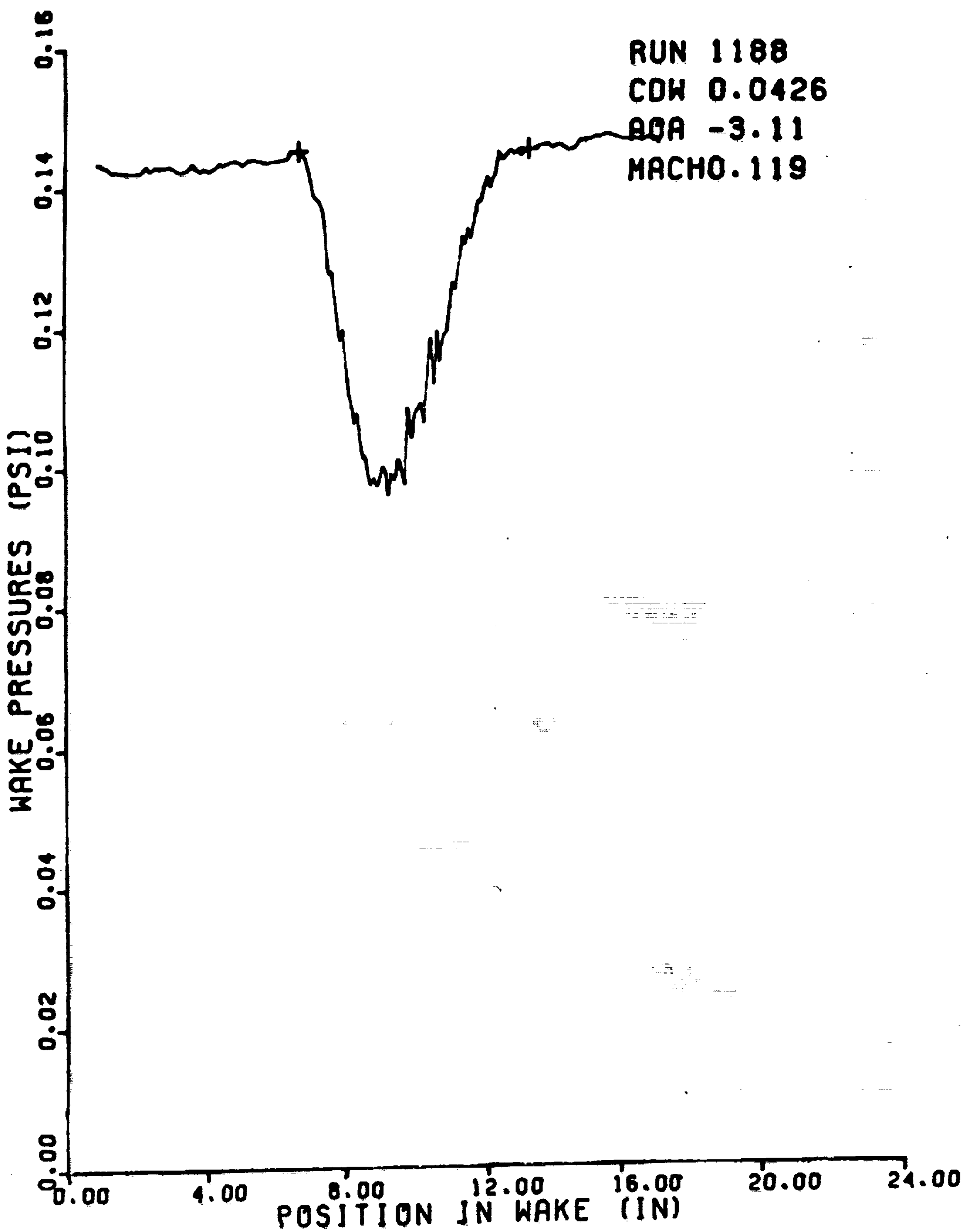

RUN 1185
CDW 0.0313
AOA -1.03
MACH0.120
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1186
AOA -2.07
M 0.12
RE 1.61
CL -.174
CDW
CM -.0185
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

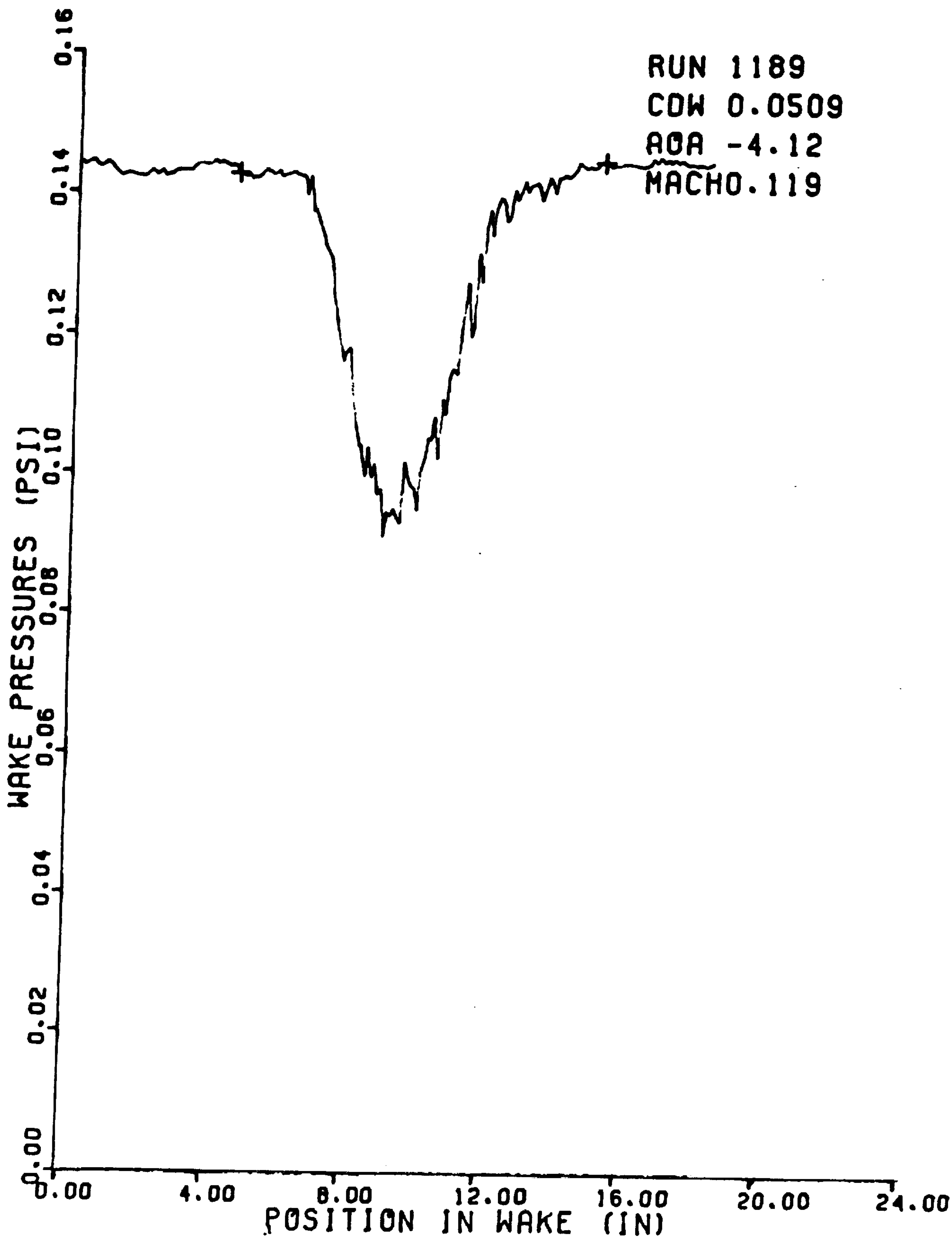

RUN 1187
AOA -2.07
M 0.12
RE 1.61
CL
CDW 0.0380
CM
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

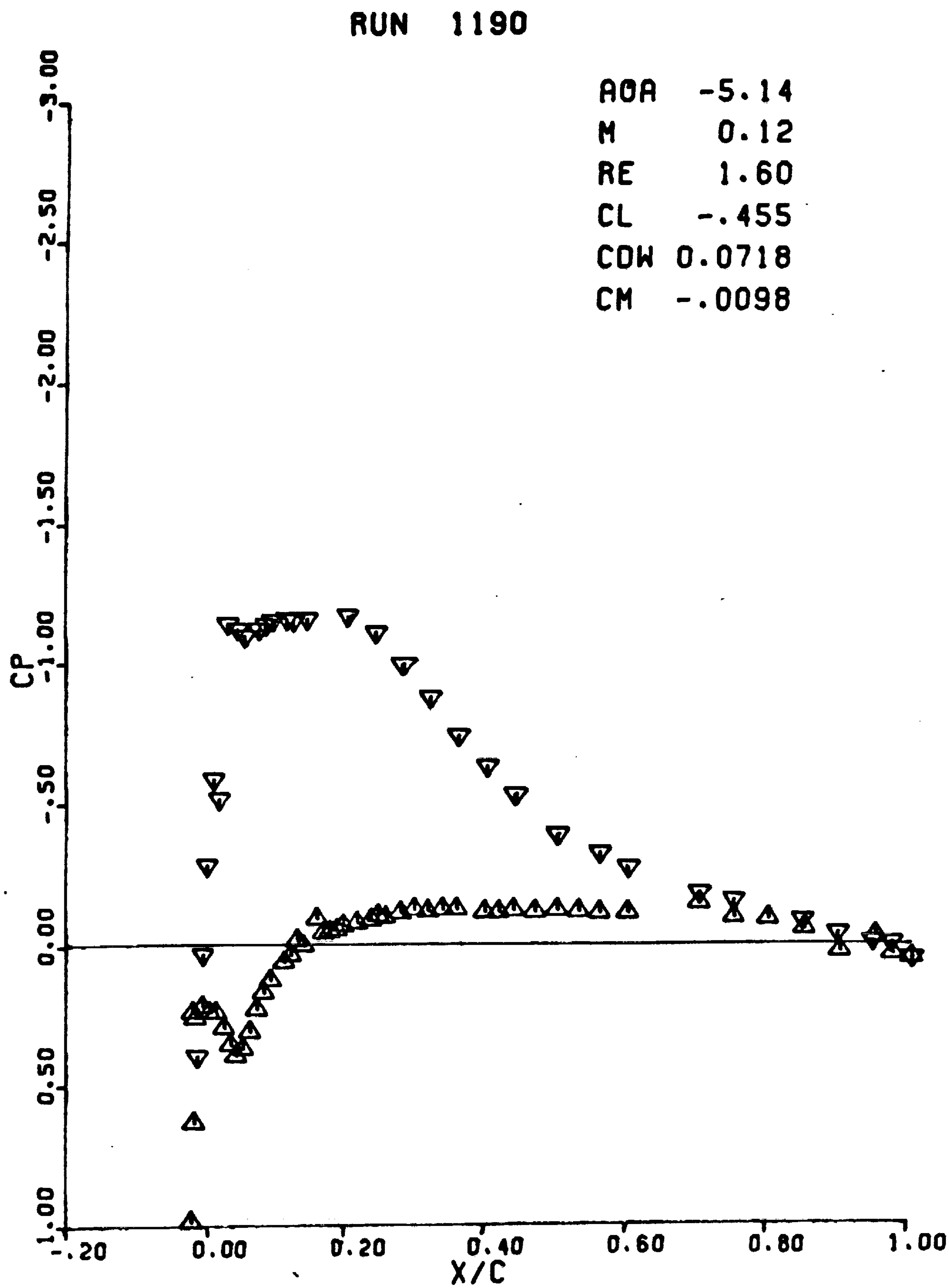

RUN 1187
CDW 0.0380
AOA -2.07
MACH0.120
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)


RUN 1188
AOA -3.11
M 0.12
RE 1.61
CL -.288
CDW 0.0426
CM -.0248
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

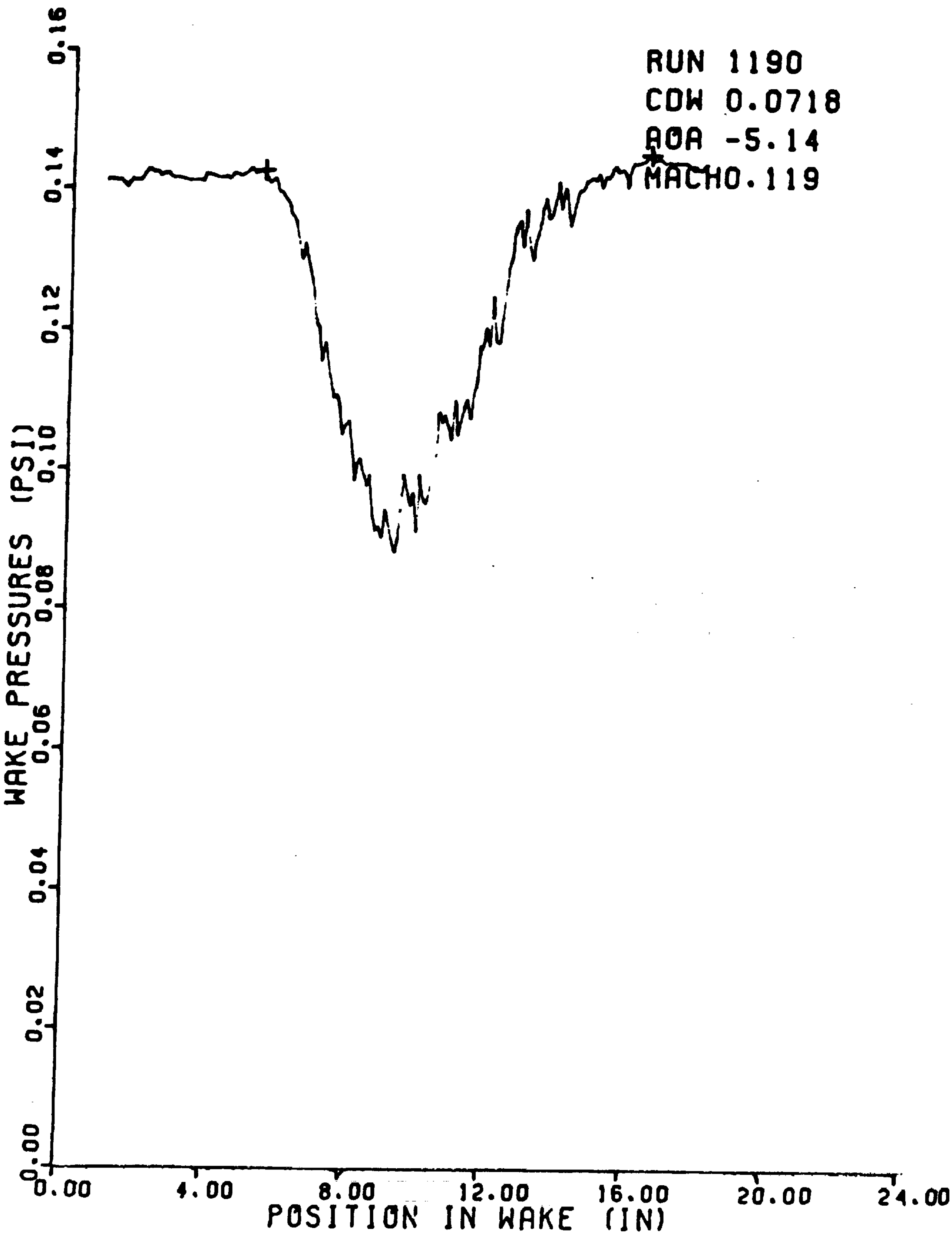


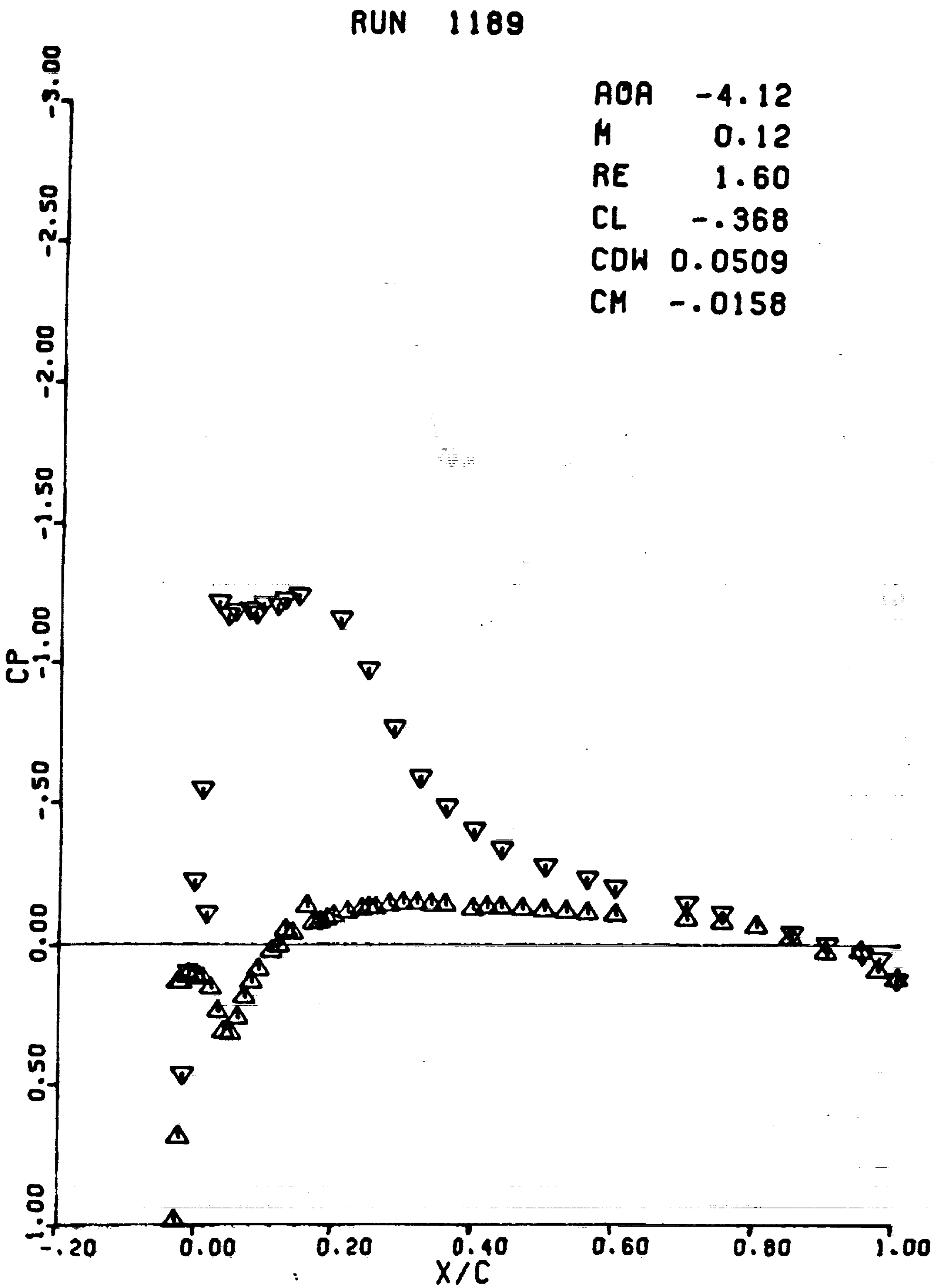
RUN 1188
CDW 0.0426
AOA -3.11
MACH0.119
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

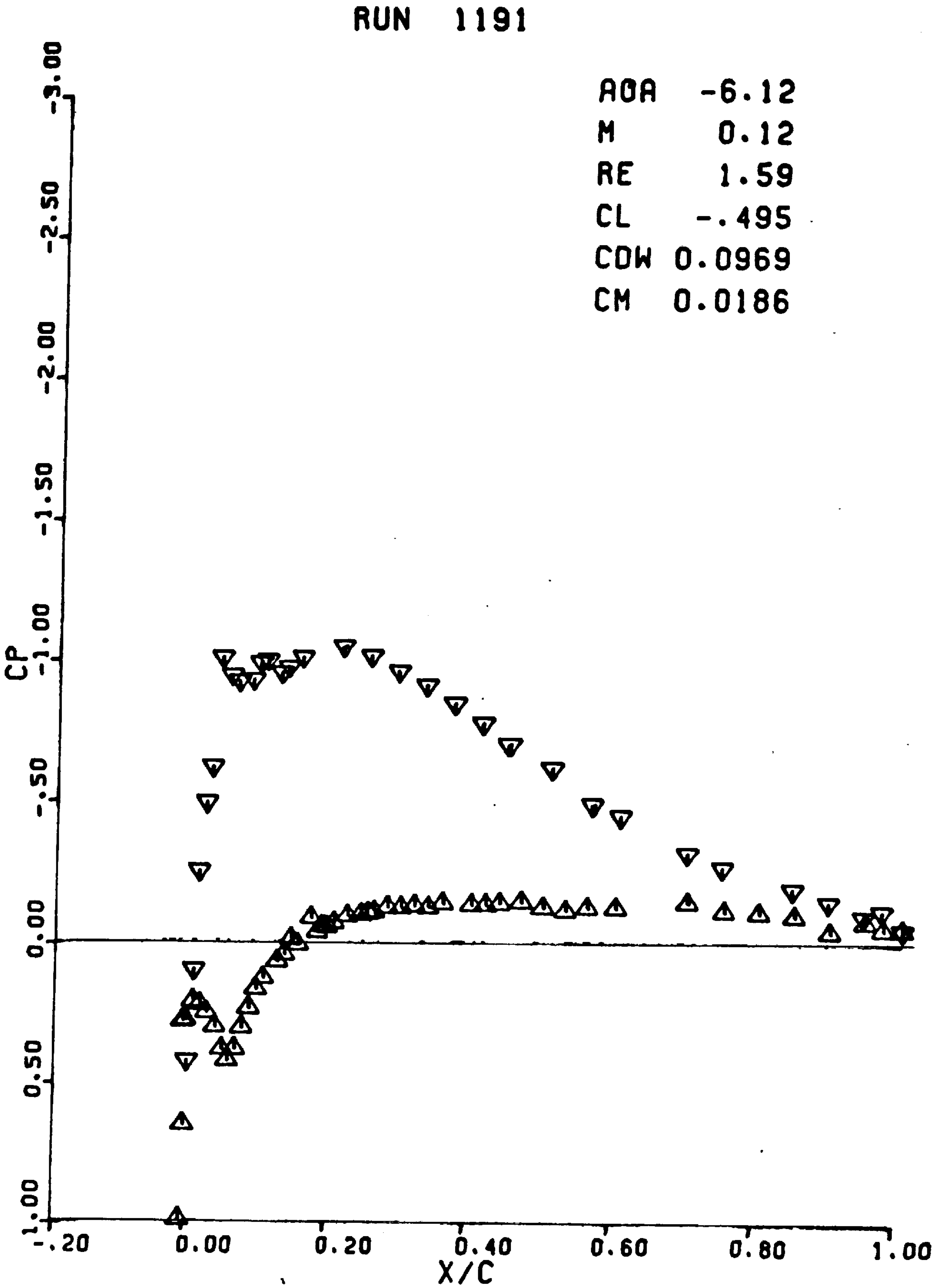

RUN 1189
CDW 0.0509
AOA -4.12
MACH0.119
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)



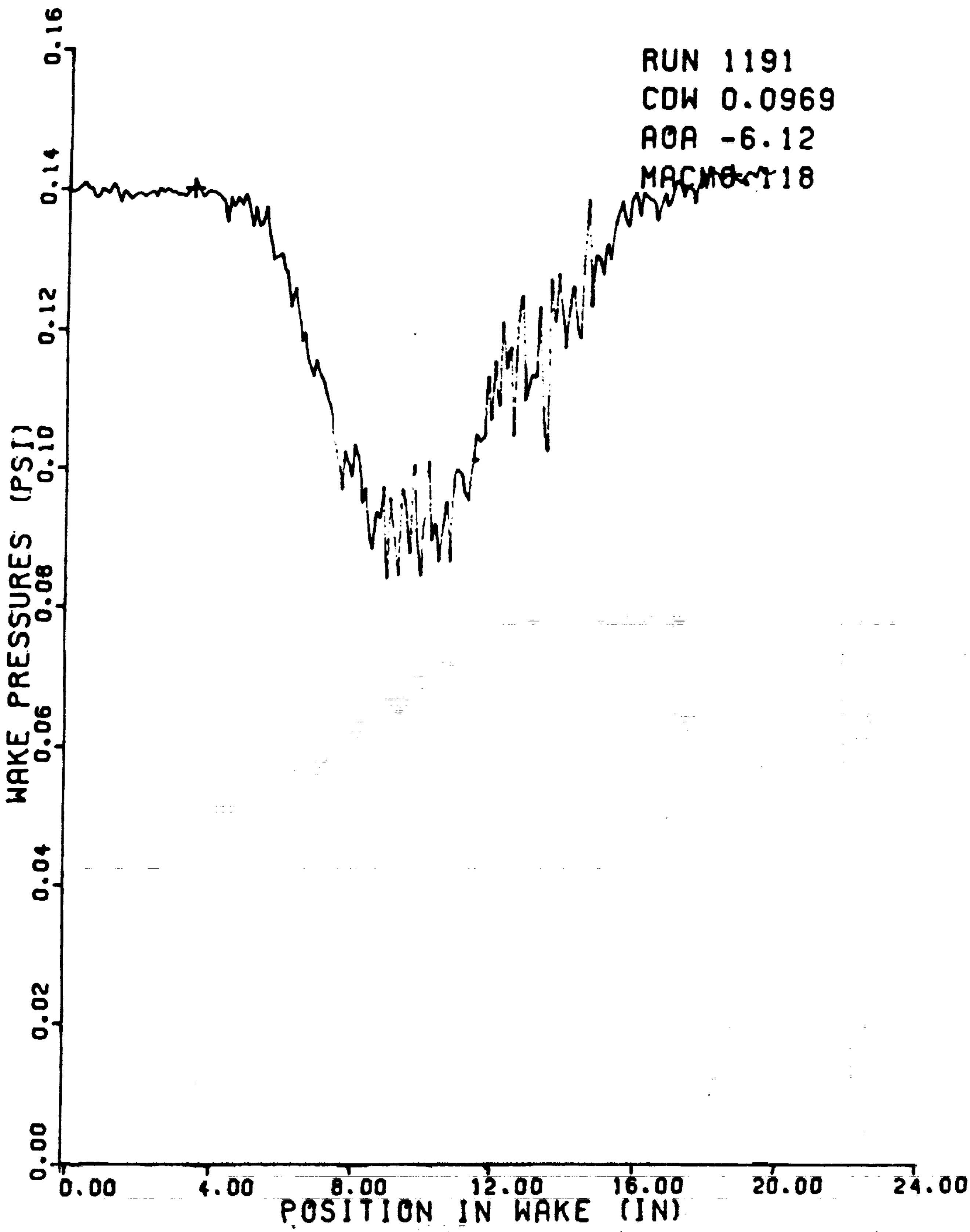
RUN 1190
AOA -5.14
M 0.12
RE 1.60
CL -.455
CDW 0.0718
CM -.0098
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

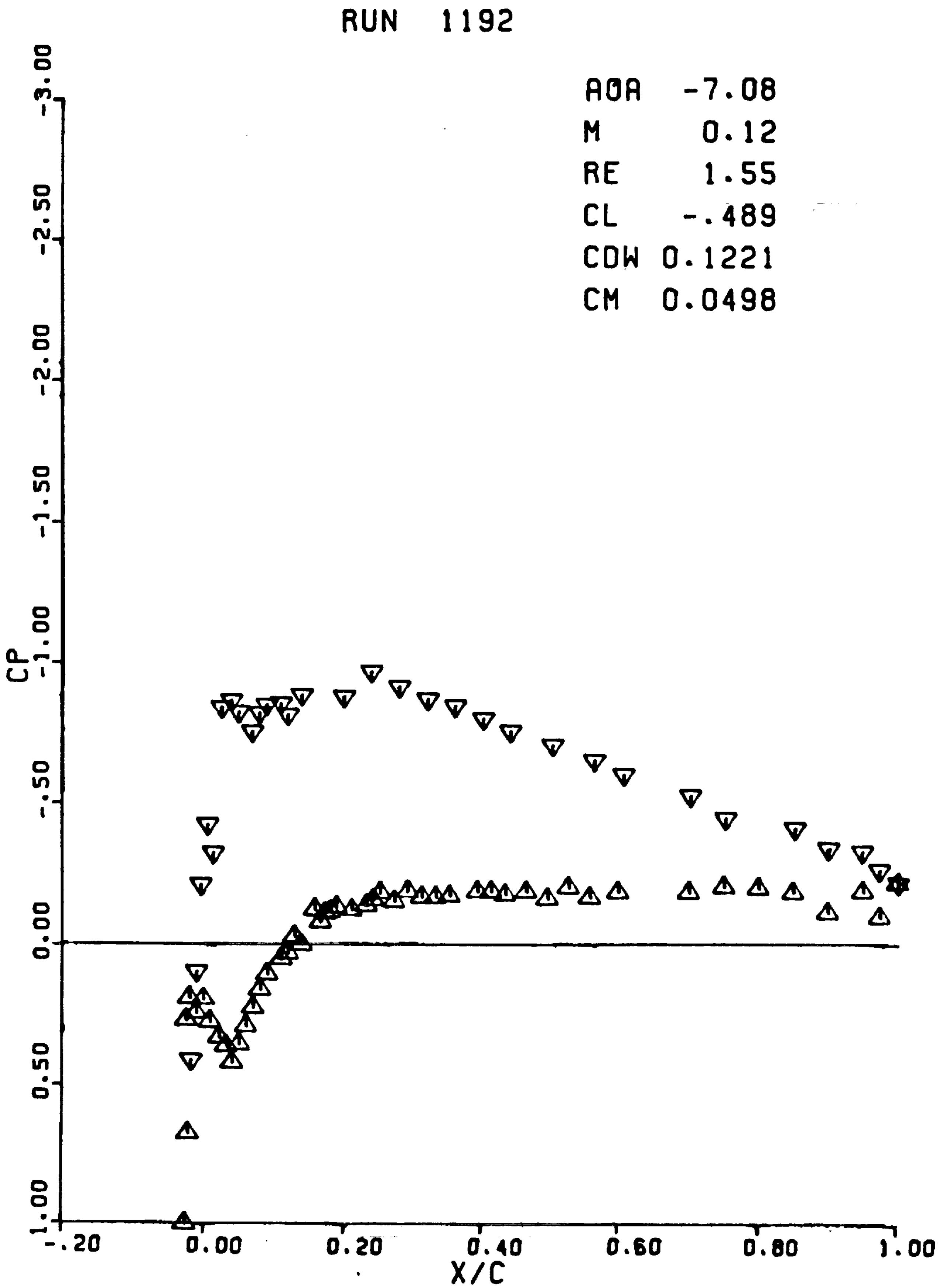

RUN 1190
CDW 0.0718
AOA -5.14
MACH0.119
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

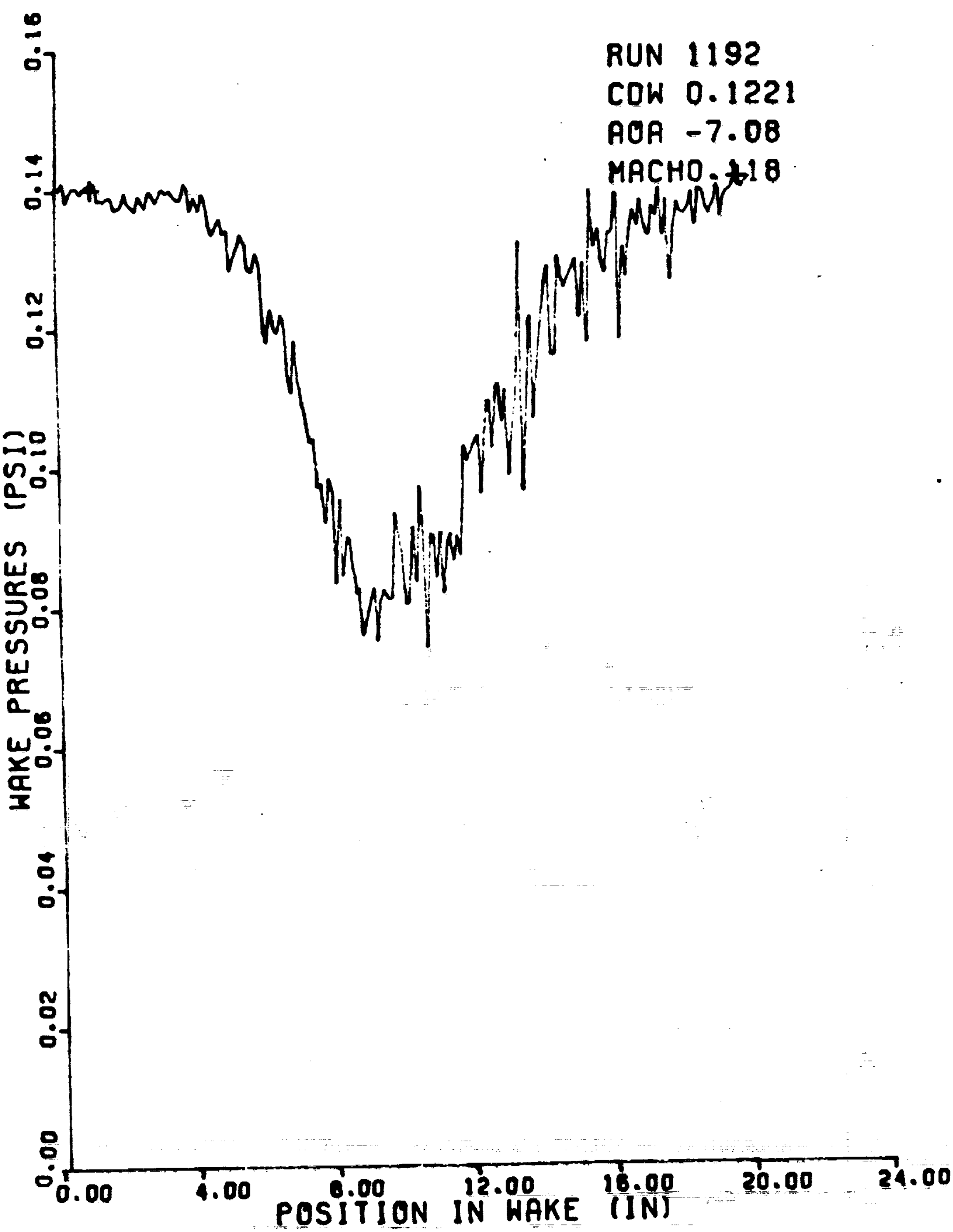

RUN 1189
AOA -4.12
M 0.12
RE 1.60
CL -.368
CDW 0.0509
CM -.0158
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

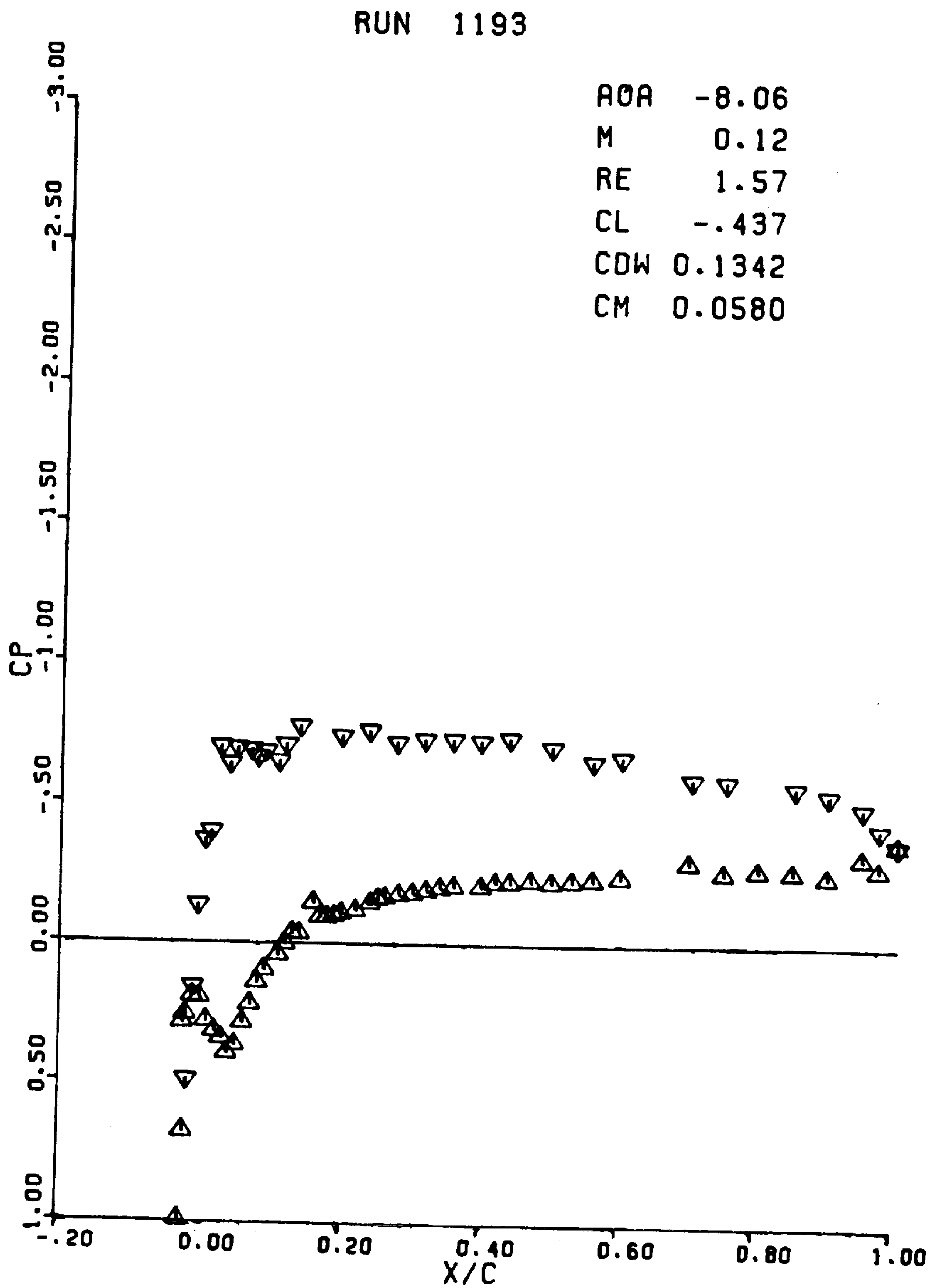


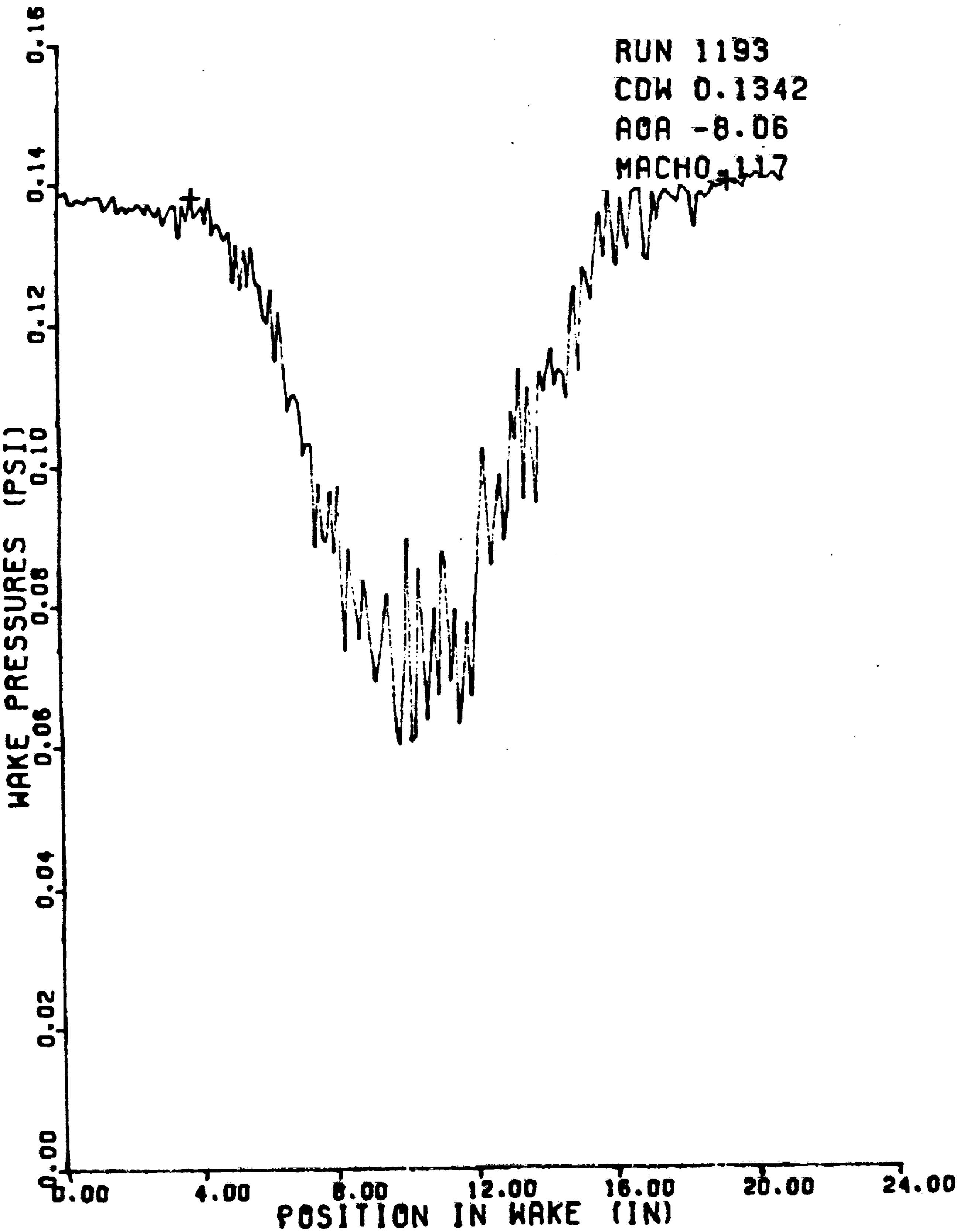
RUN 1191
AOA -6.12
M 0.12
RE 1.59
CL -.495
CDW 0.0969
CM 0.0186
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

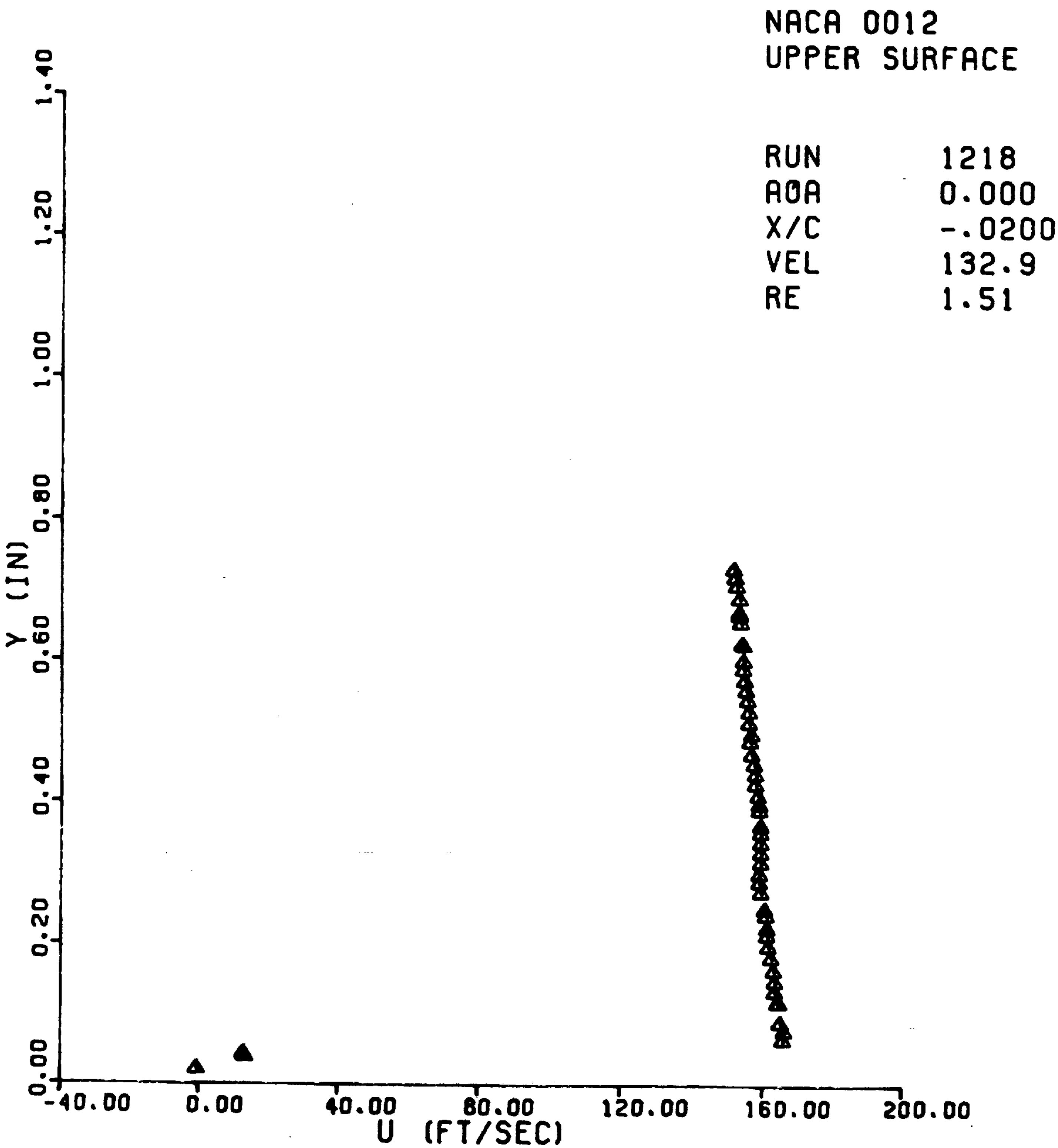

RUN 1191
CDW 0.0969
AOA -6.12
MACH 0.718
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

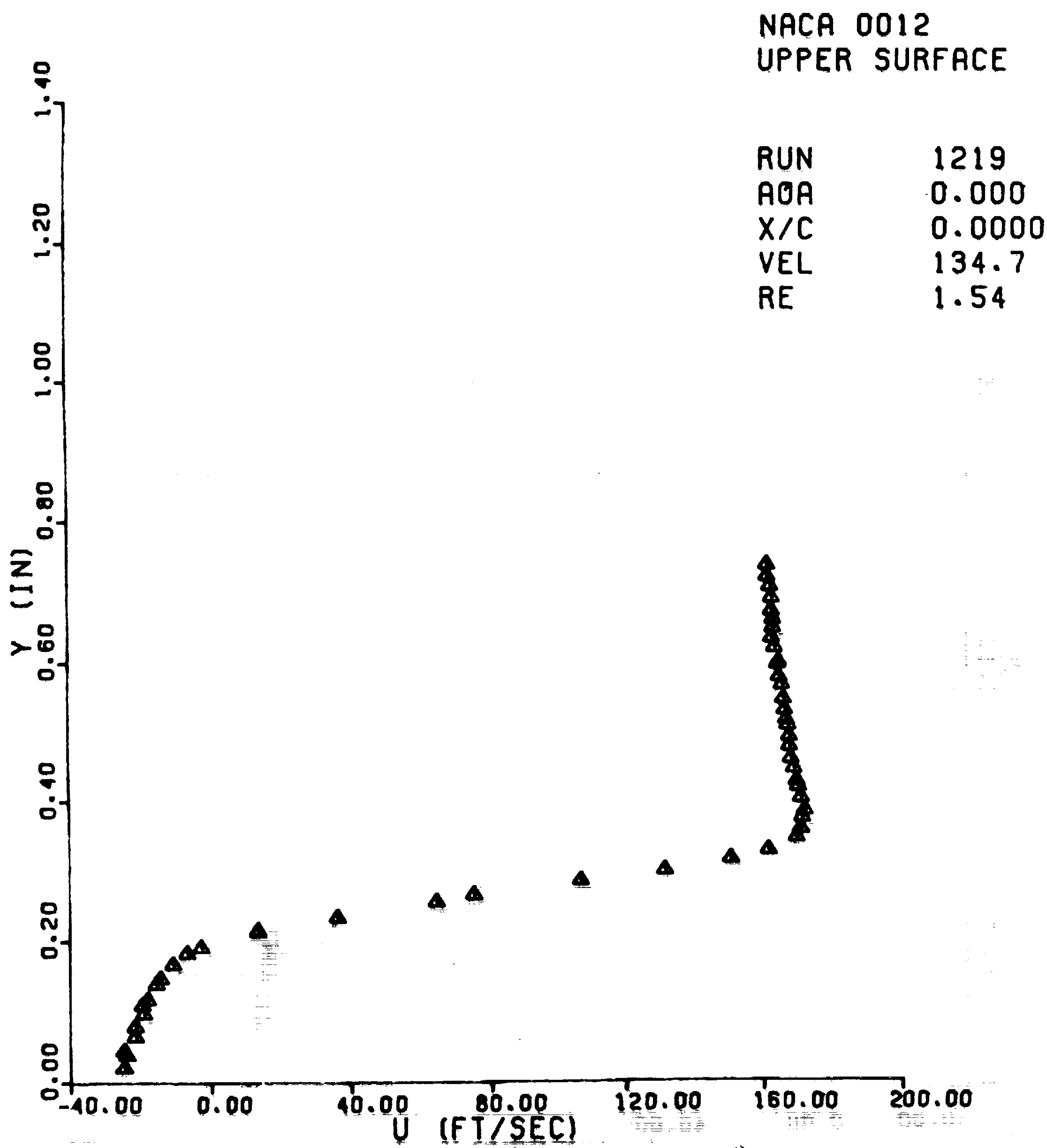

RUN 1192
AOA -7.08
M 0.12
RE 1.55
CL -.489
CDW 0.1221
CM 0.0498
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

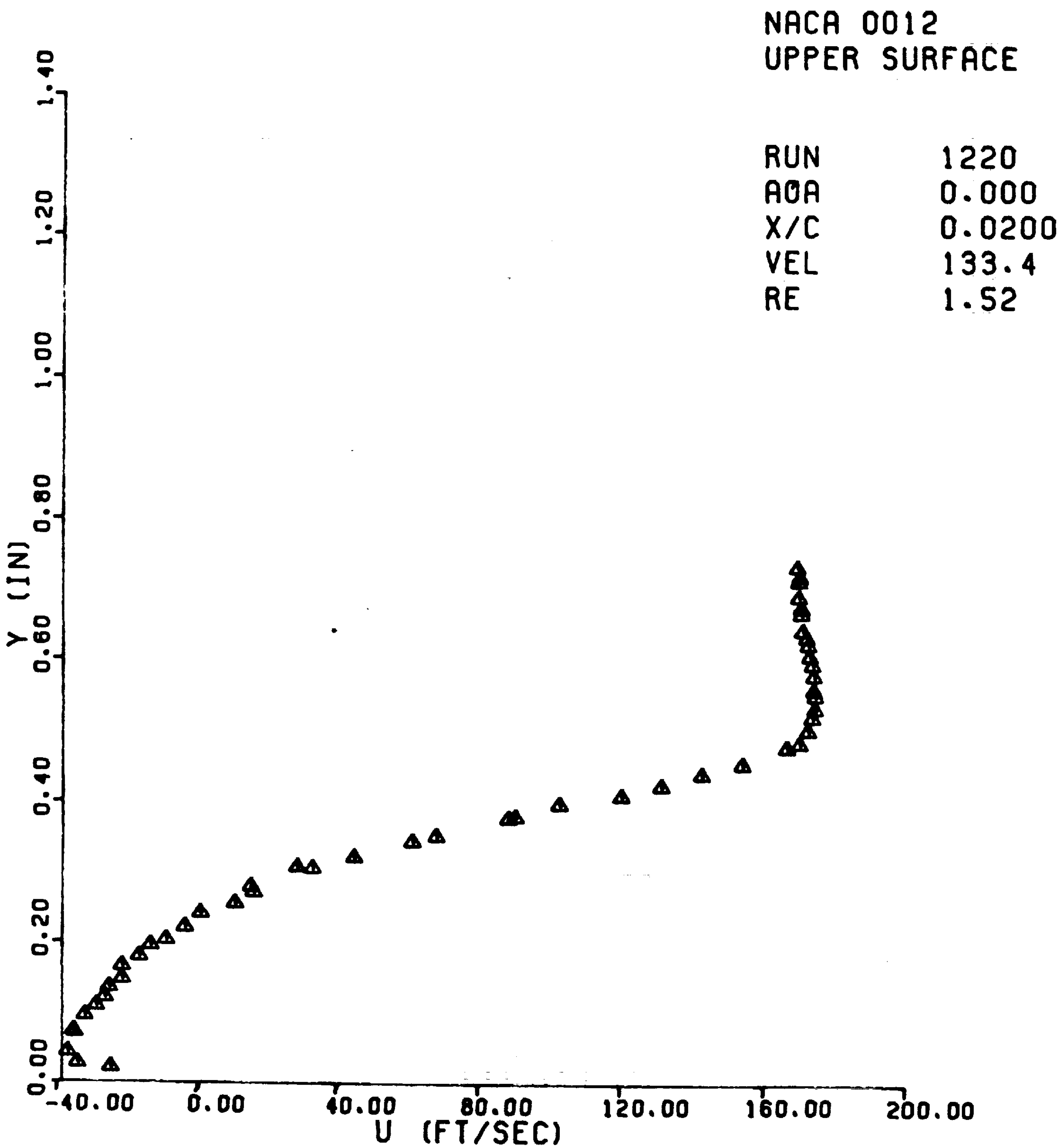

RUN 1192
CDW 0.1221
AOA -7.08
MACH0.118
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

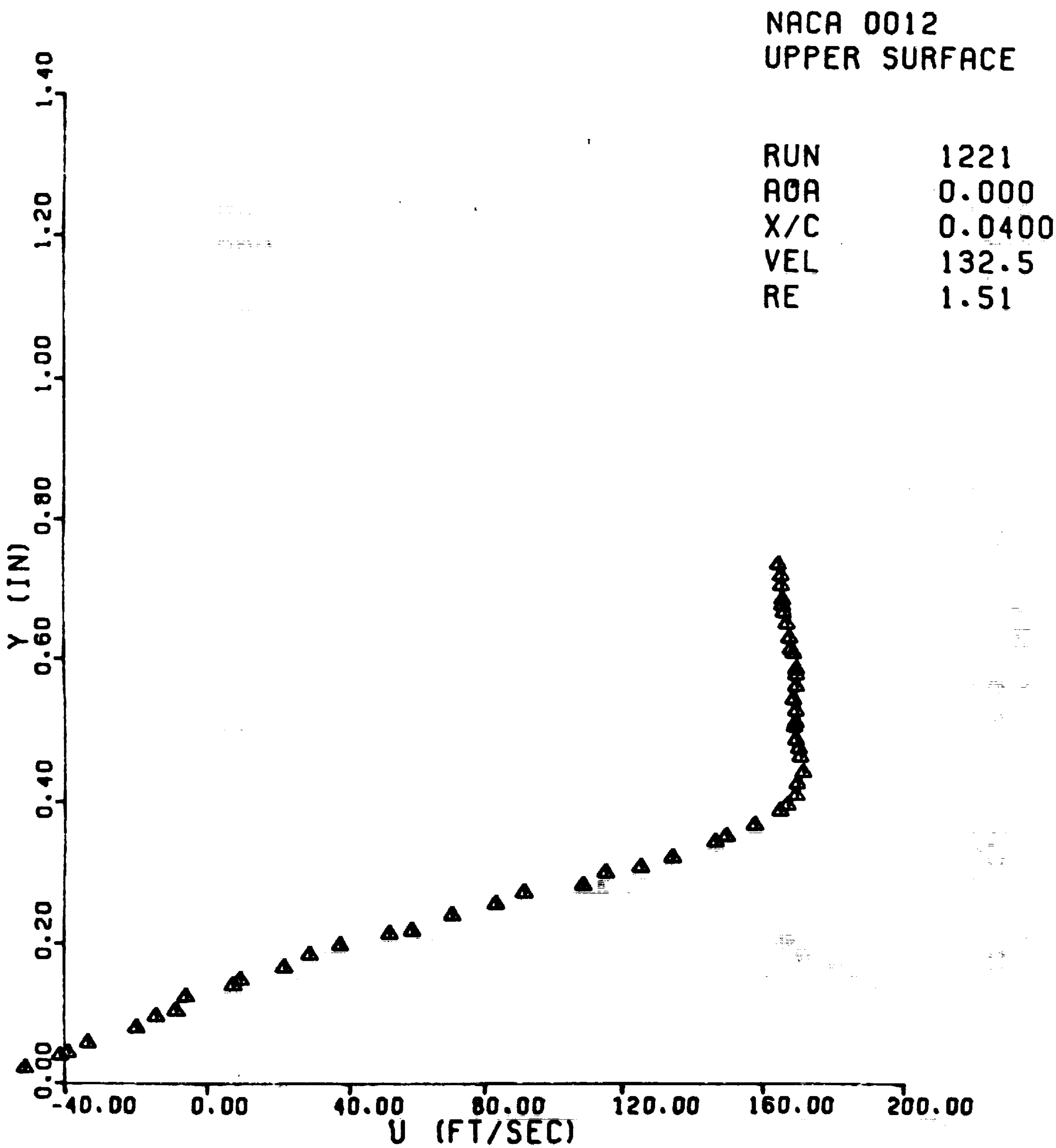

RUN 1193
AOA -8.06
M 0.12
RE 1.57
CL -.437
CDW 0.1342
CM 0.0580
CP
-3.00
-2.50
-2.00
-1.50
-1.00
-.50
0.00
0.50
1.00
-.20
0.00
0.20
0.40
0.60
0.80
1.00
X/C

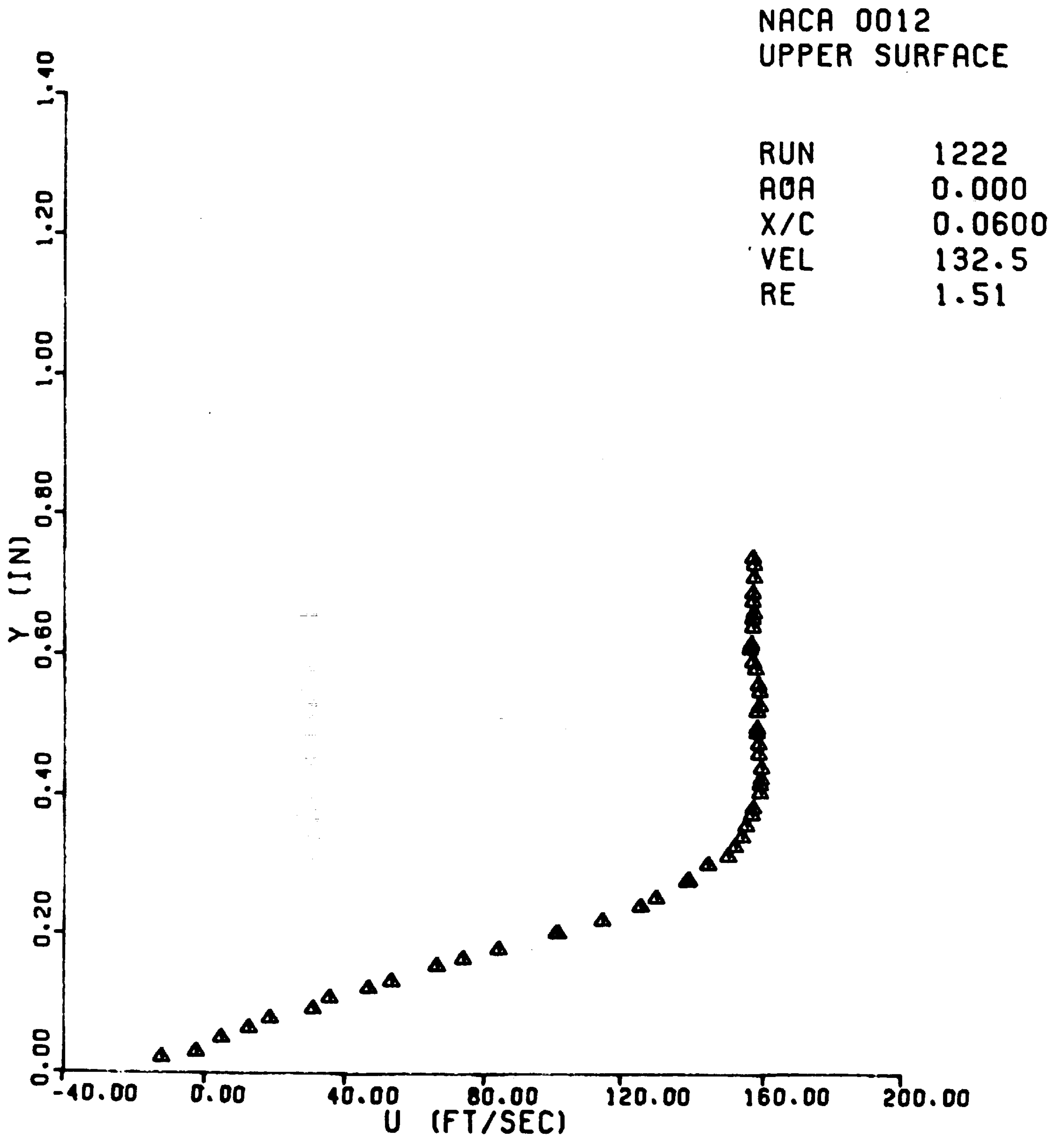

RUN 1193
CDW 0.1342
AOA -8.06
MACHO.117
WAKE PRESSURES (PSI)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.00
4.00
8.00
12.00
16.00
20.00
24.00
POSITION IN WAKE (IN)

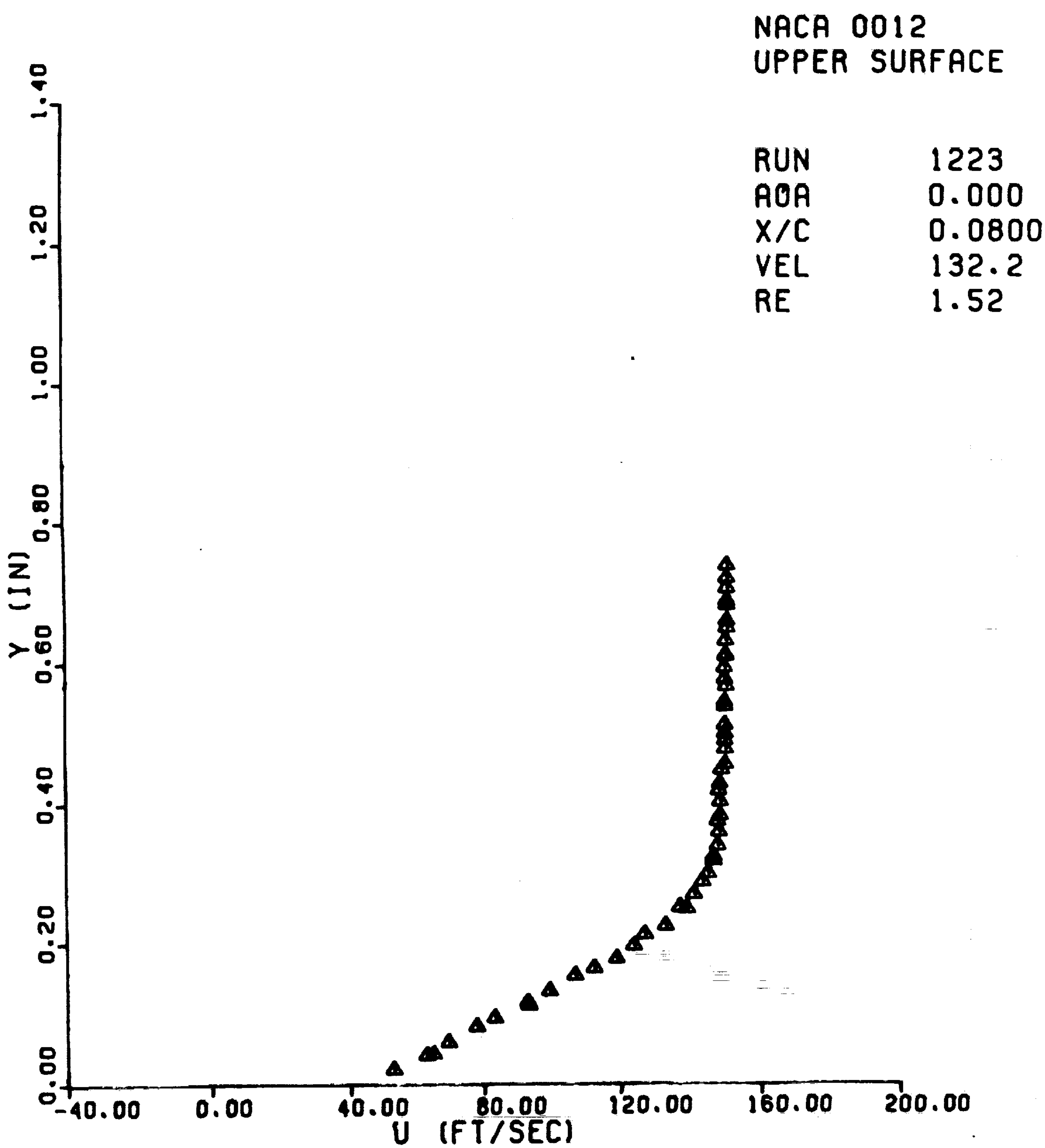

NACA 0012
UPPER SURFACE
RUN 1218
AOA 0.000
X/C -.0200
VEL 132.9
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1219
AOA 0.000
X/C 0.0000
VEL 134.7
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

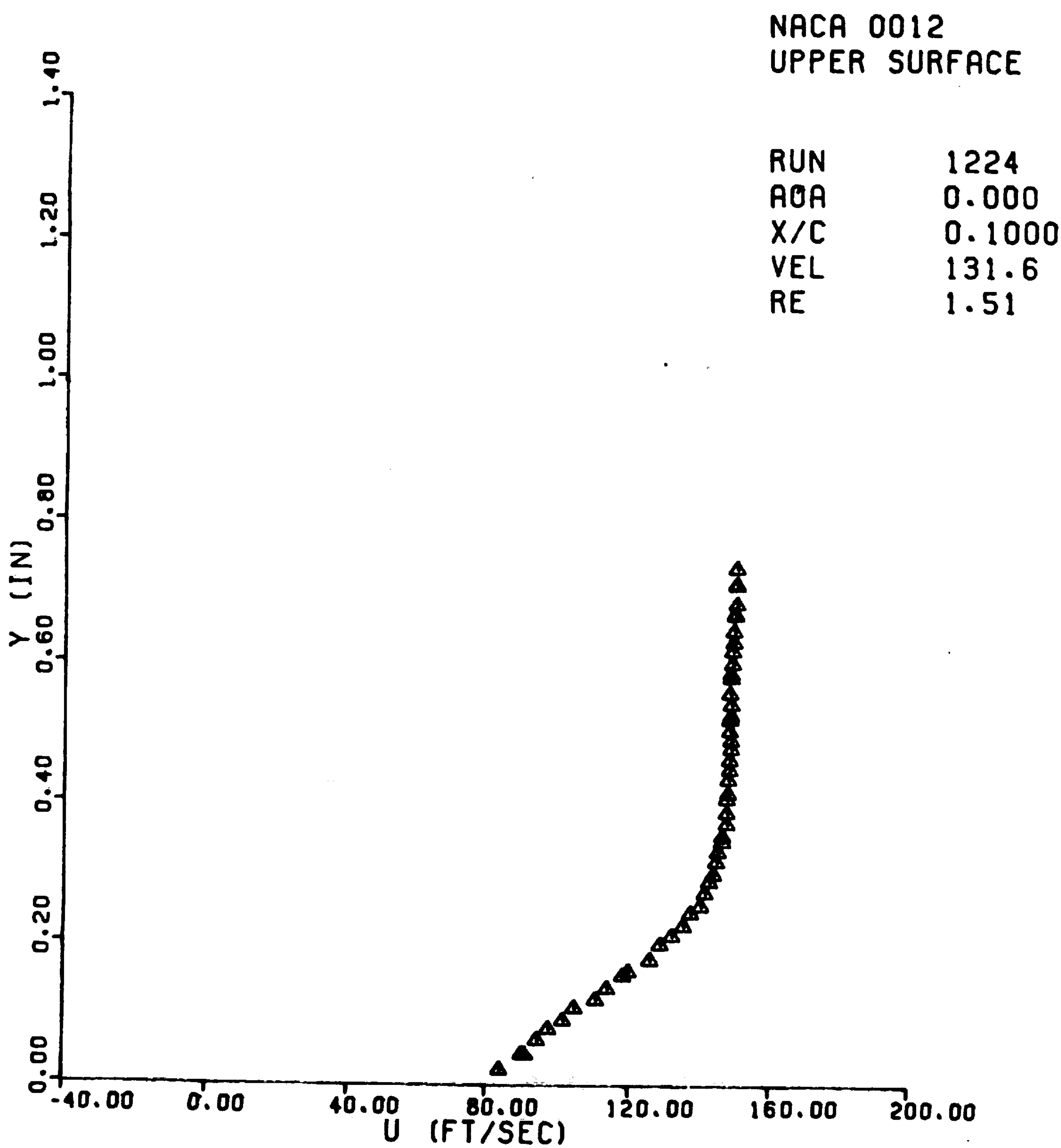

NACA 0012
UPPER SURFACE
RUN 1220
AOA 0.000
X/C 0.0200
VEL 133.4
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

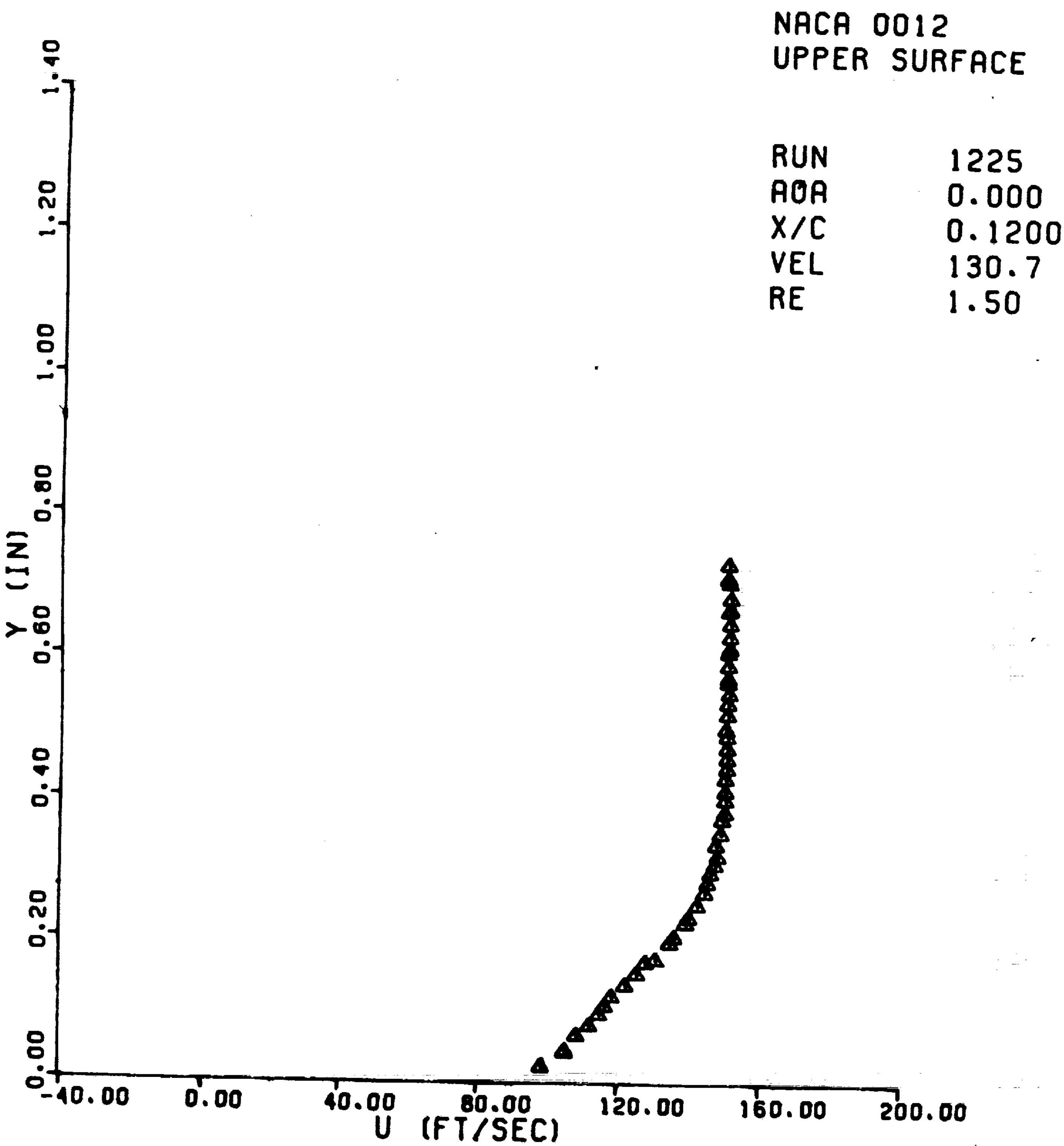

NACA 0012
UPPER SURFACE
RUN 1221
AOA 0.000
X/C 0.0400
VEL 132.5
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

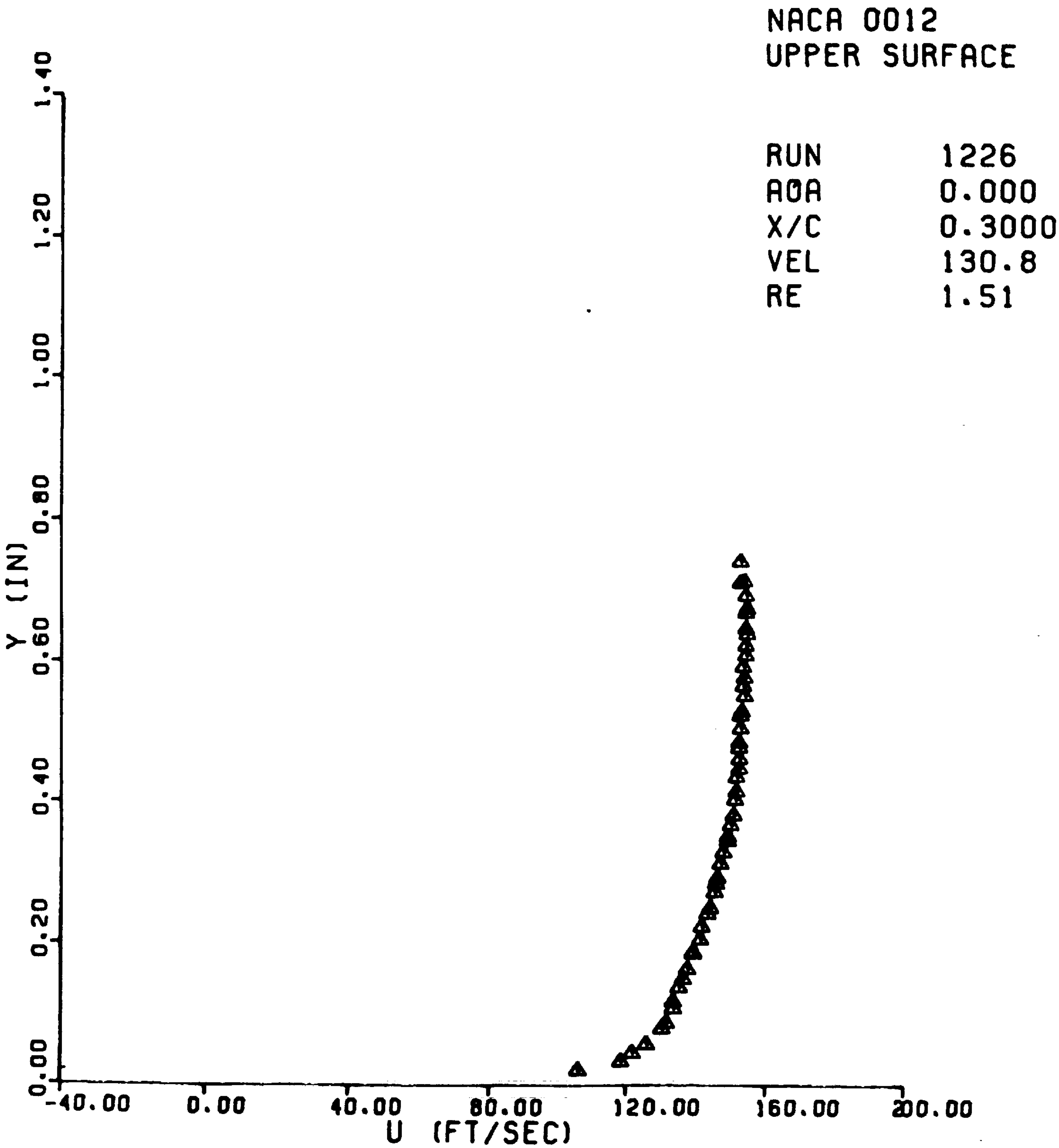

NACA 0012
UPPER SURFACE
RUN 1222
AOA 0.000
X/C 0.0600
VEL 132.5
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

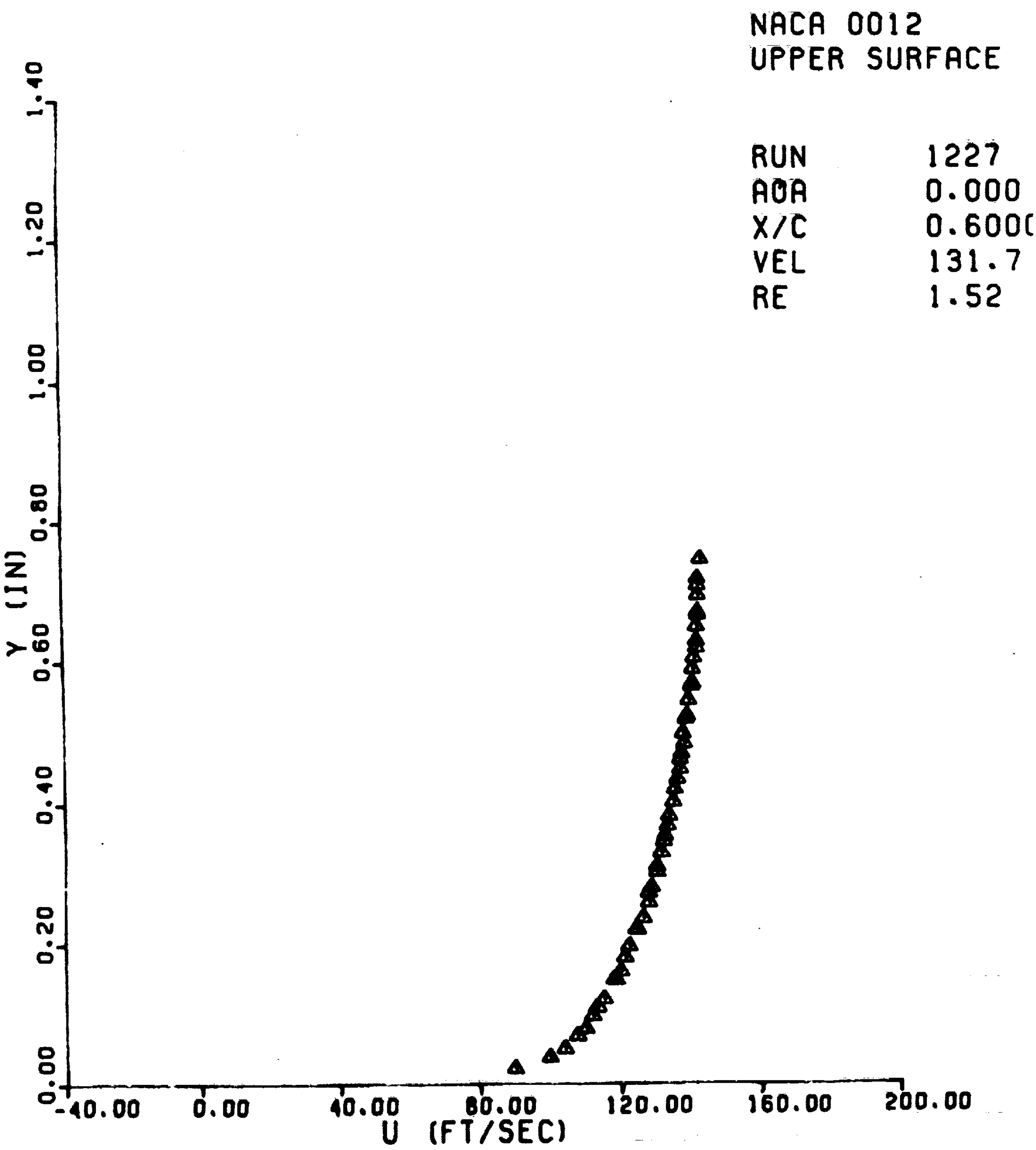


NACA 0012
UPPER SURFACE
RUN 1223
AOA 0.000
X/C 0.0800
VEL 132.2
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1224
AOA 0.000
X/C 0.1000
VEL 131.6
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1225
AOA 0.000
X/C 0.1200
VEL 130.7
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1226
AOA 0.000
X/C 0.3000
VEL 130.8
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1227
AOA 0.000
X/C 0.6000
VEL 131.7
RE 1.52
Y (IN)
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0.20
0.40
0.60
0.80
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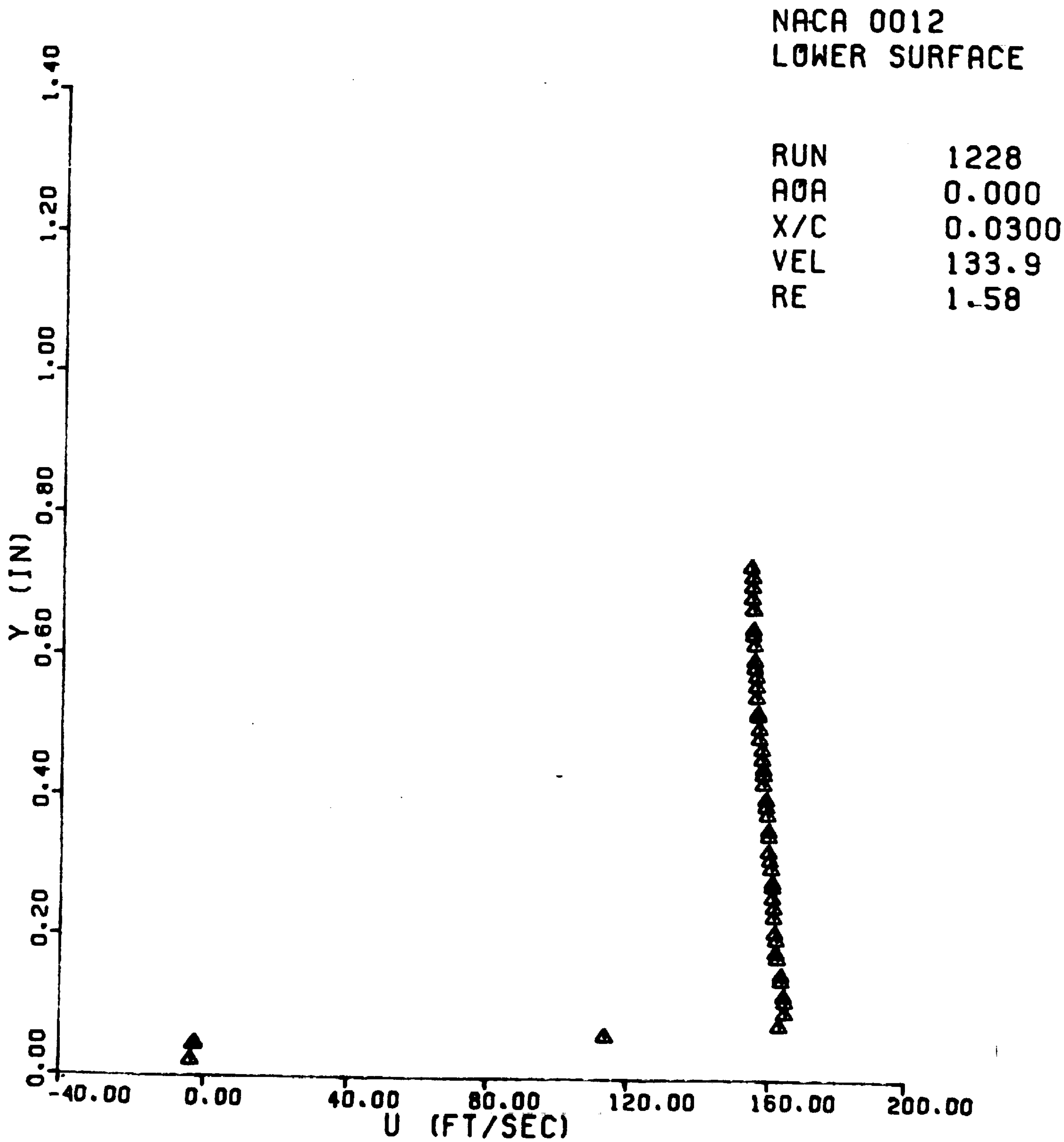
U (FT/SEC)



NACA 0012
LOWER SURFACE
RUN 1228
AOA 0.000
X/C 0.0300
VEL 133.9
RE 1.58
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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120.00
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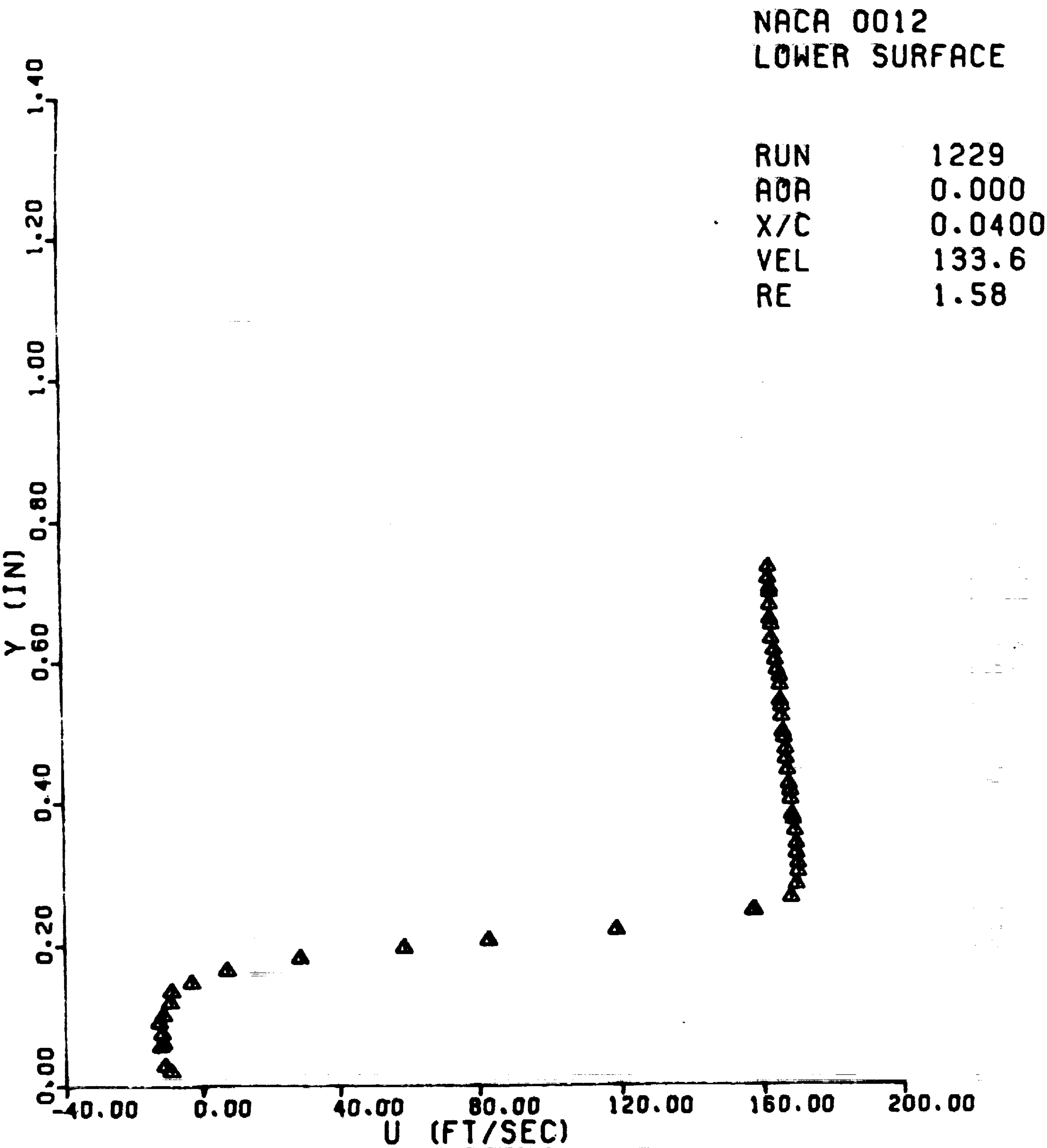
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1229
AOA 0.000
X/C 0.0400
VEL 133.6
RE 1.58
Y (IN)
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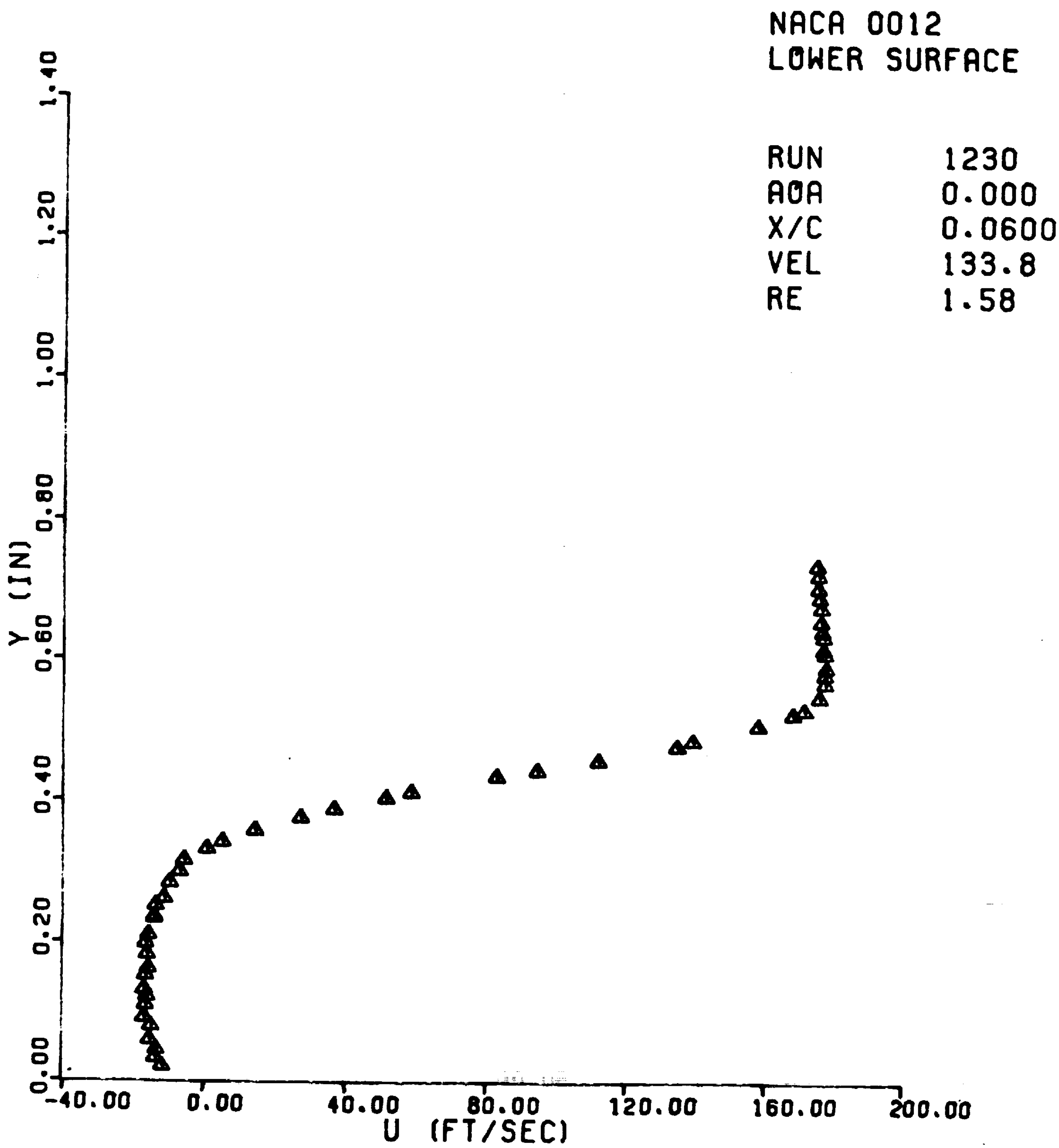
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1230
AOA 0.000
X/C 0.0600
VEL 133.8
RE 1.58
Y (IN)
0.00
0.20
0.40
0.60
0.80
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1.20
1.40
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0.00
40.00
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120.00
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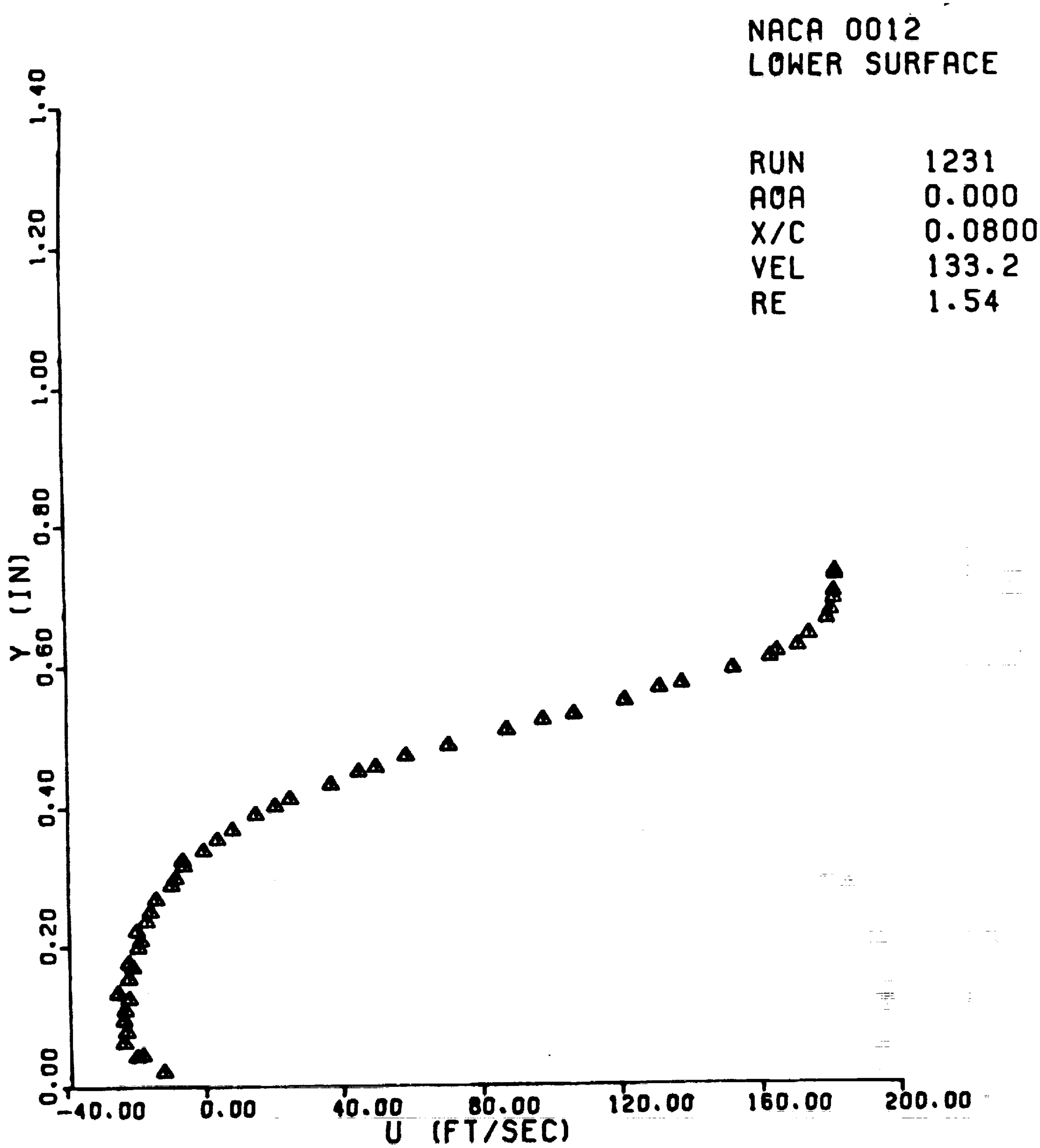
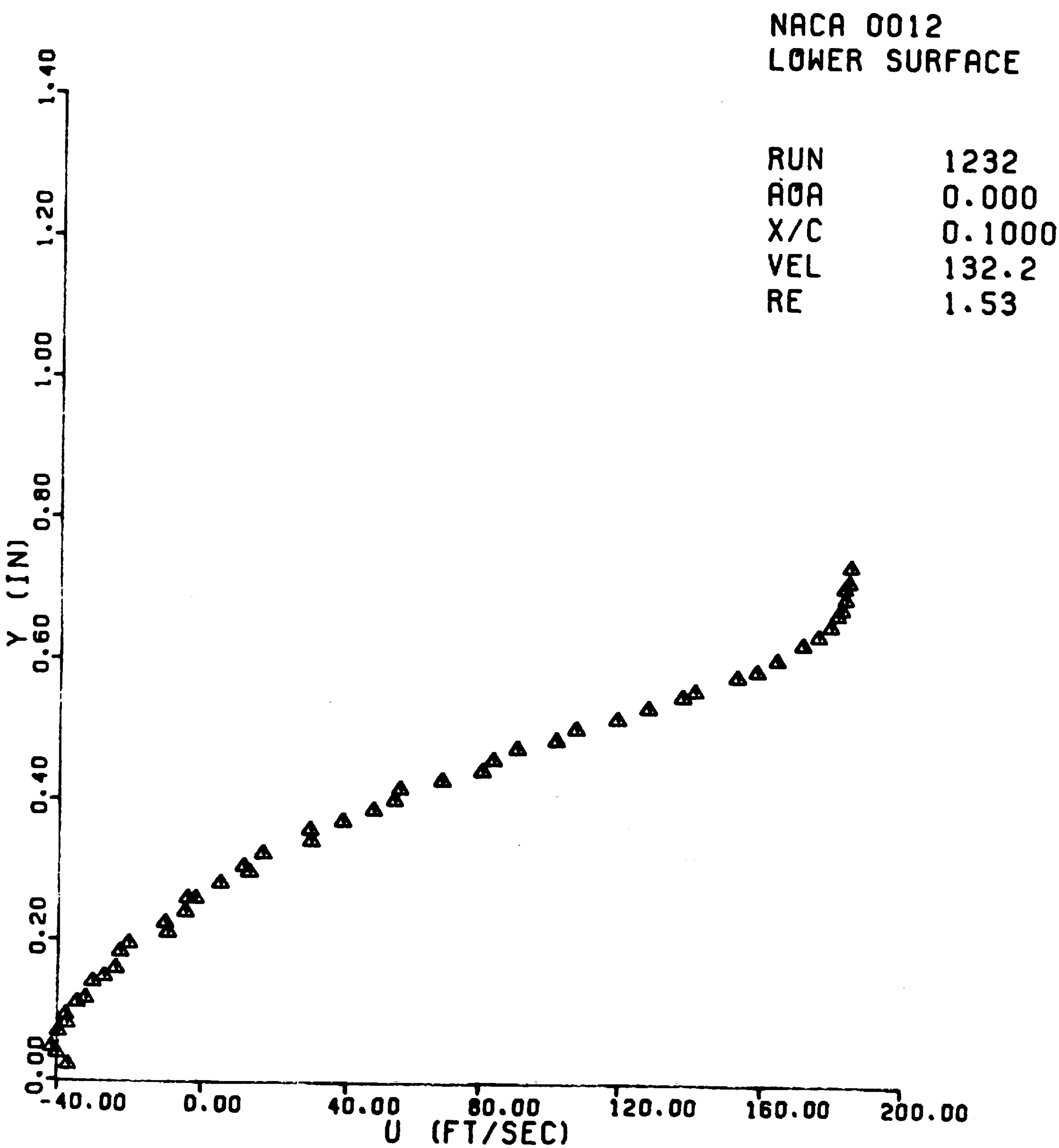
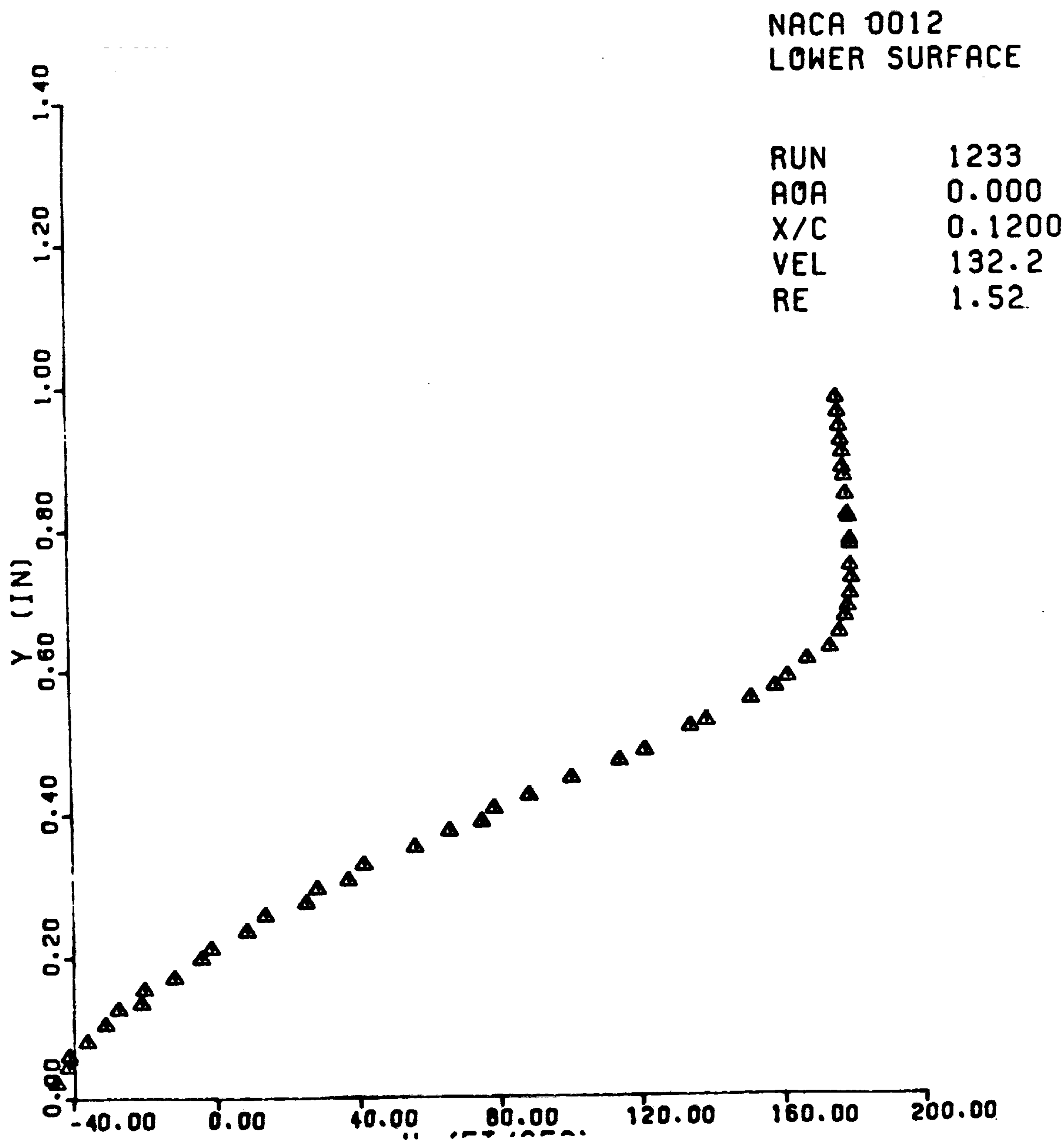
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1231
AOA 0.000
X/C 0.0800
VEL 133.2
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1232
AOA 0.000
X/C 0.1000
VEL 132.2
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
LOWER SURFACE
RUN 1233
AOA 0.000
X/C 0.1200
VEL 132.2
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
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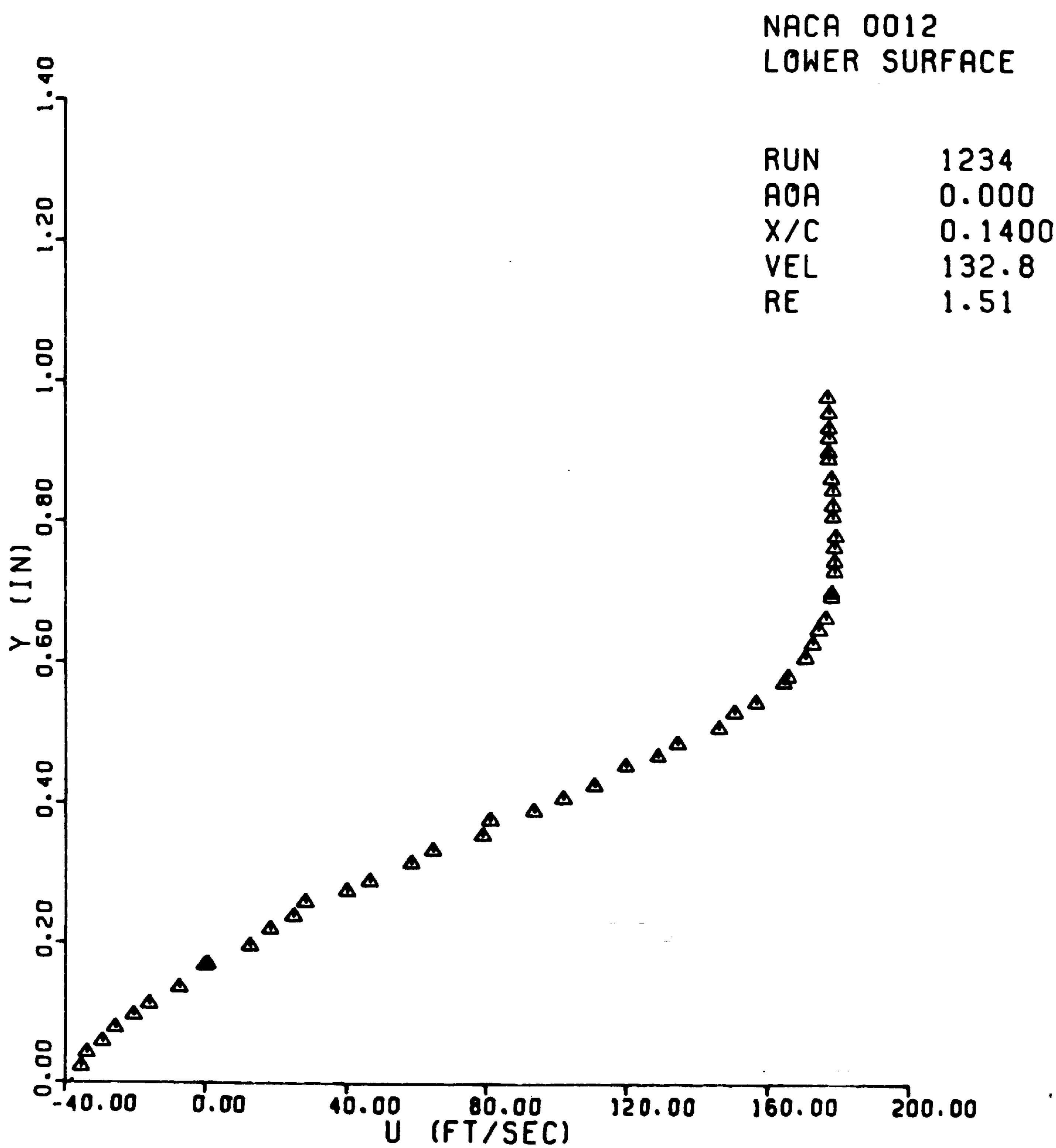
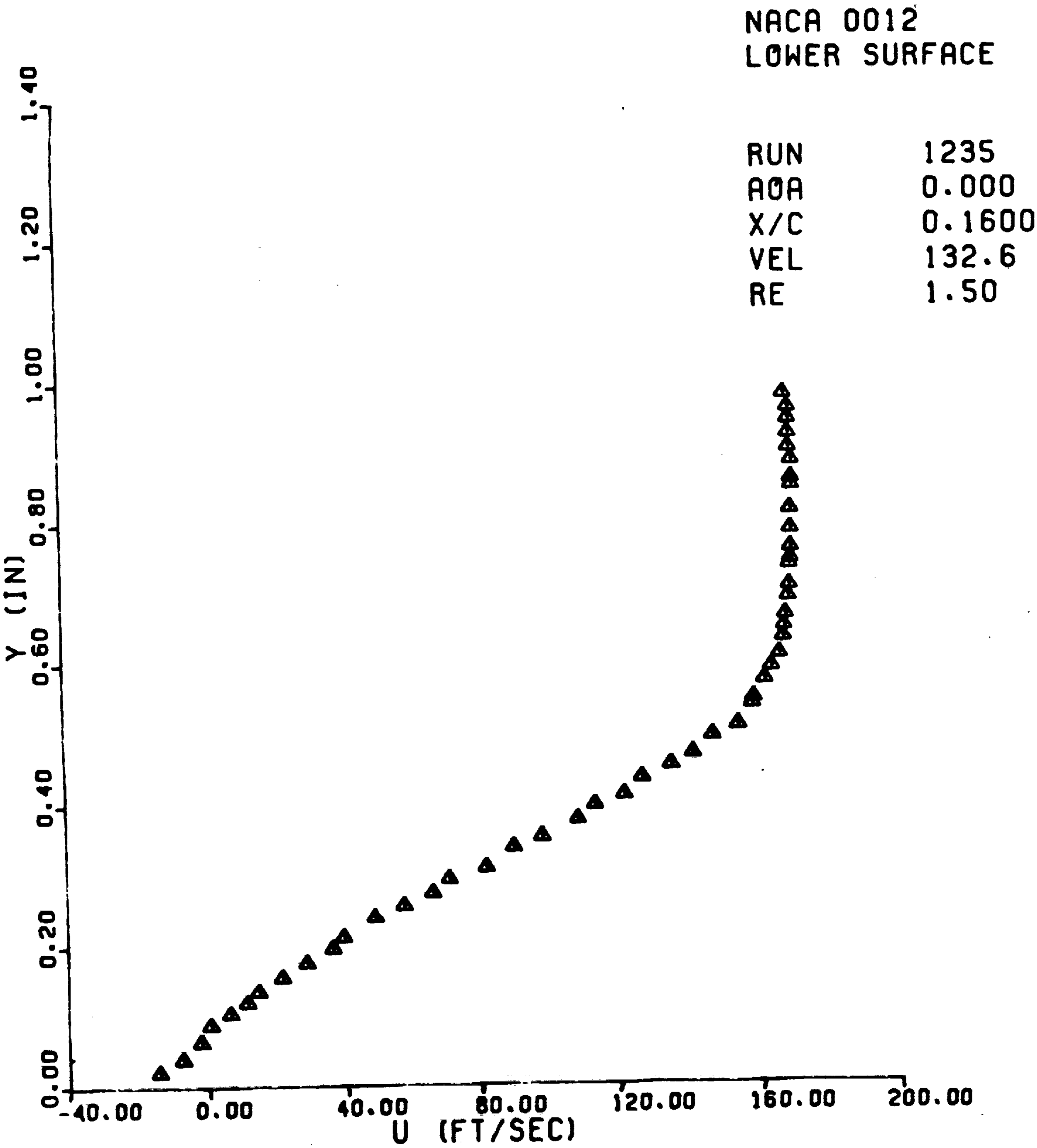
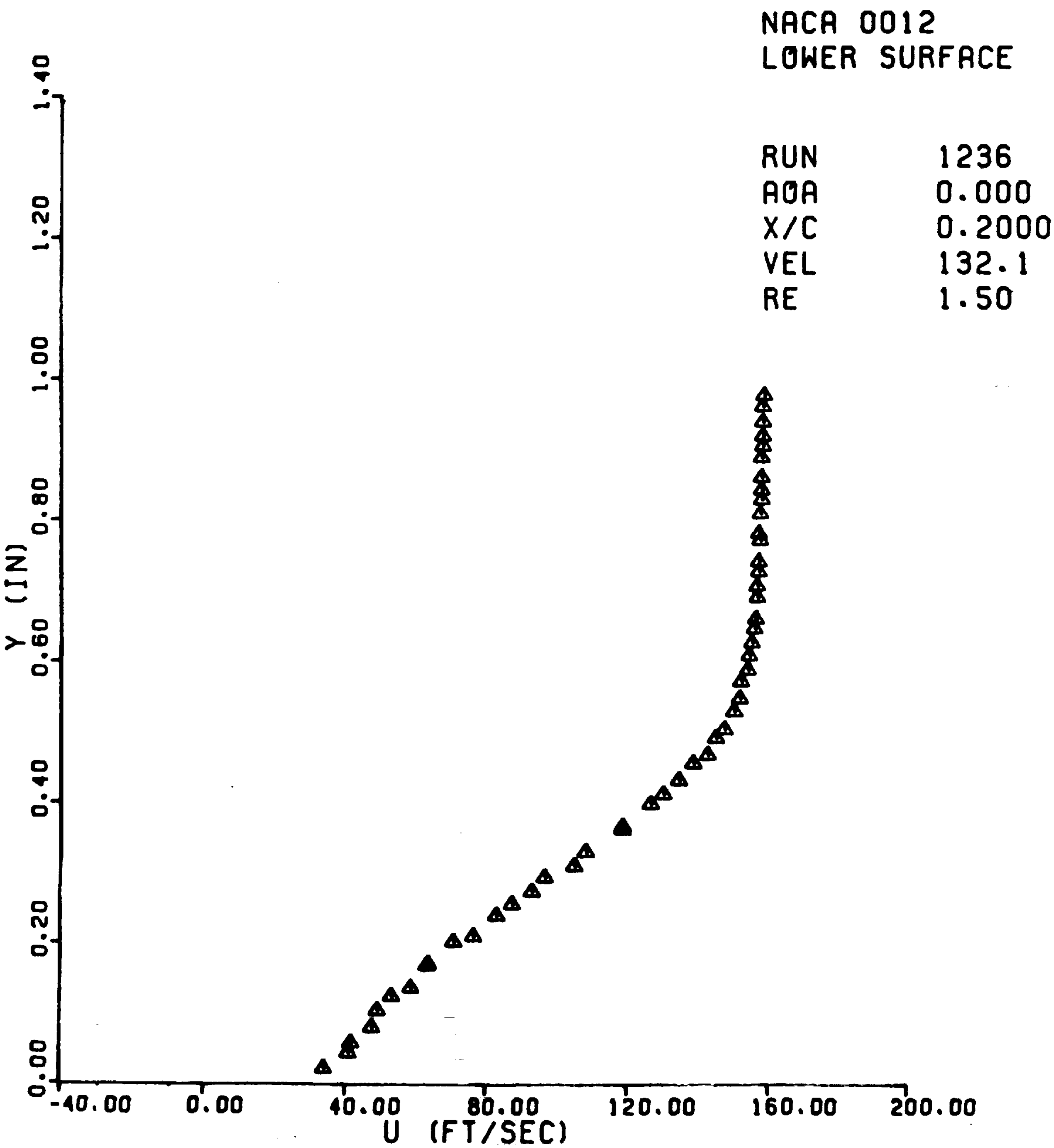
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00

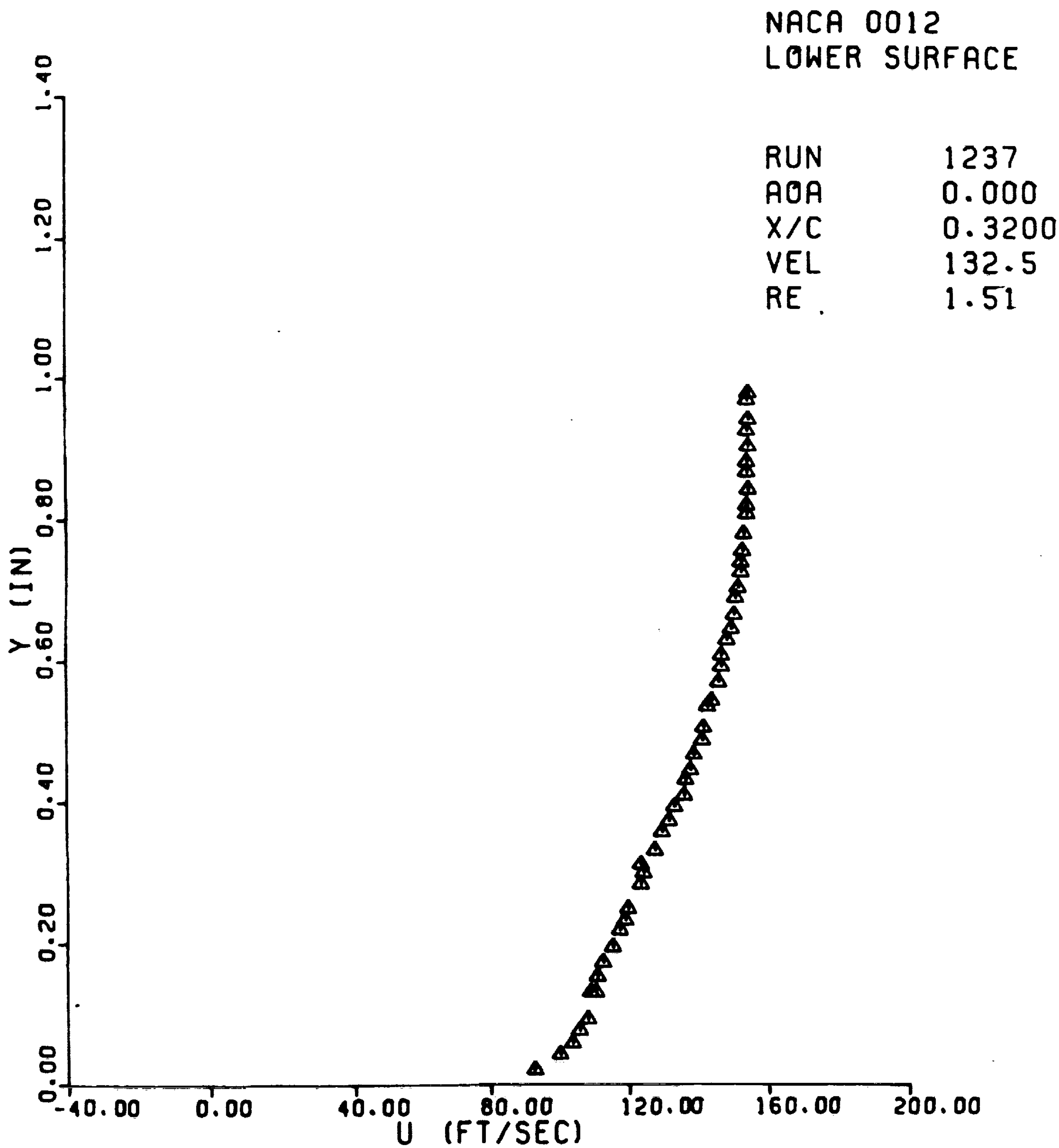


NACA 0012
LOWER SURFACE
RUN 1234
AOA 0.000
X/C 0.1400
VEL 132.8
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

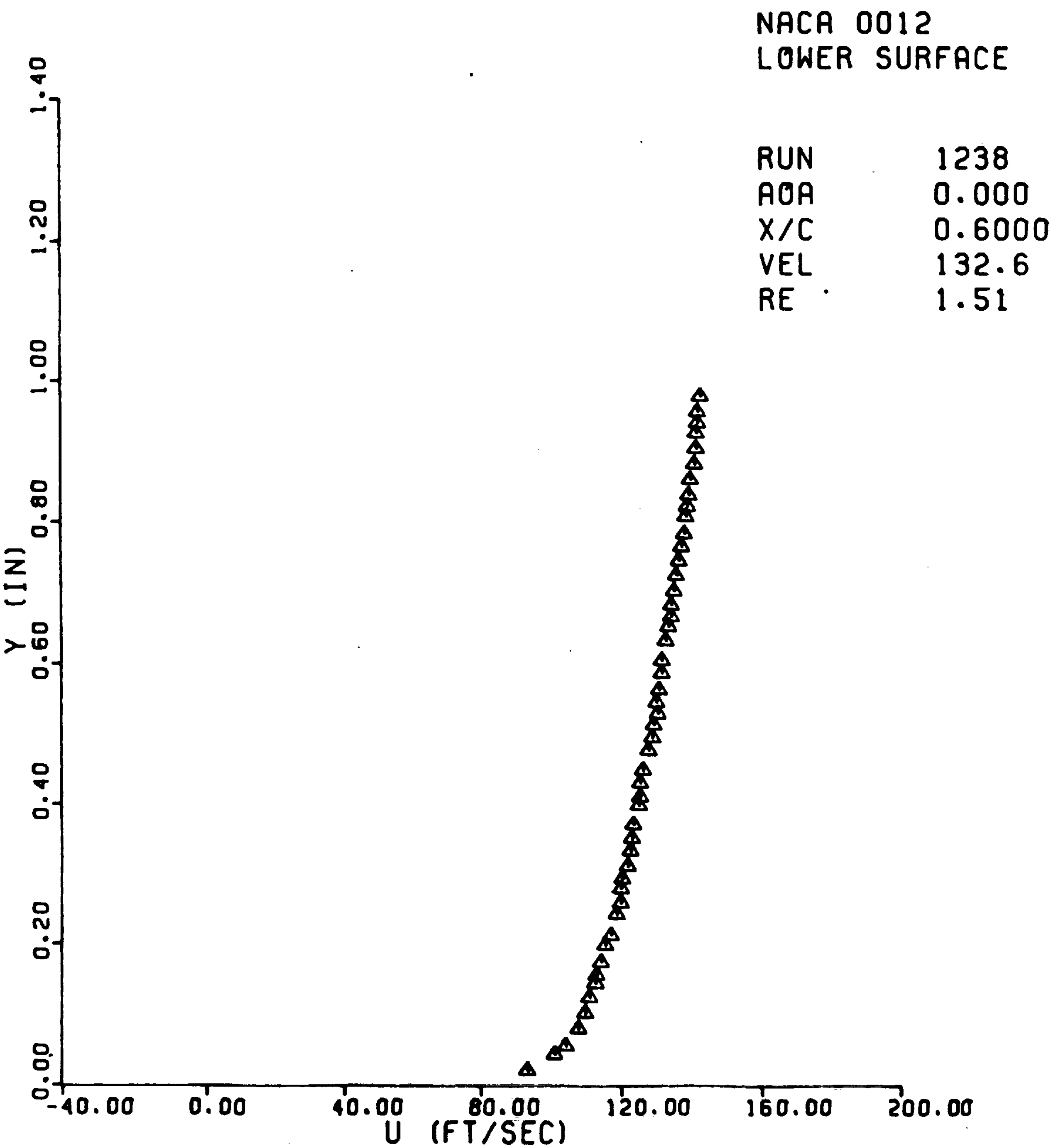


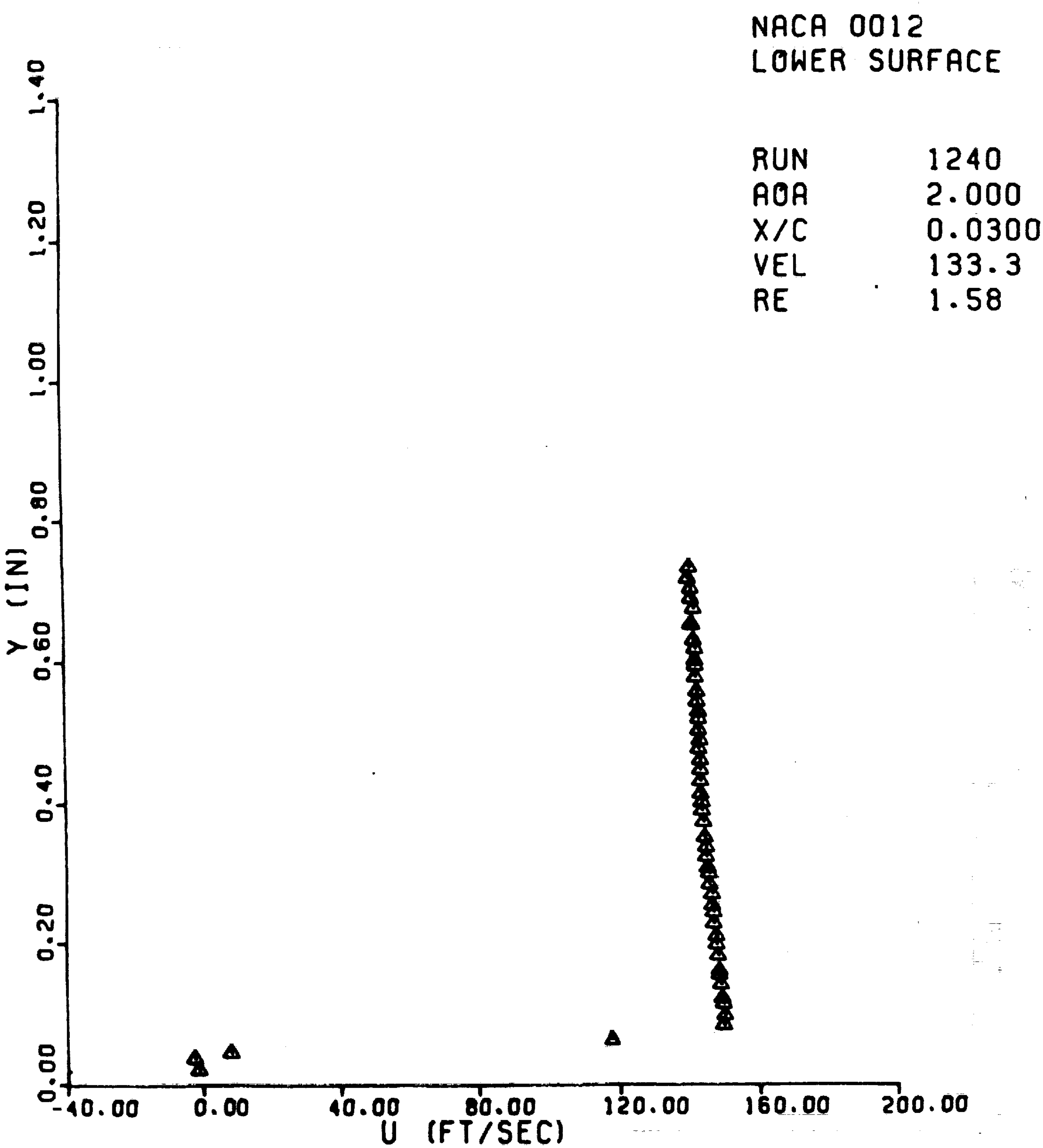
NACA 0012
LOWER SURFACE
RUN 1235
AOA 0.000
X/C 0.1600
VEL 132.6
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1236
AOA 0.000
X/C 0.2000
VEL 132.1
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
U (FT/SEC)
-40.00
0.00
40.00
80.00
120.00
160.00
200.00

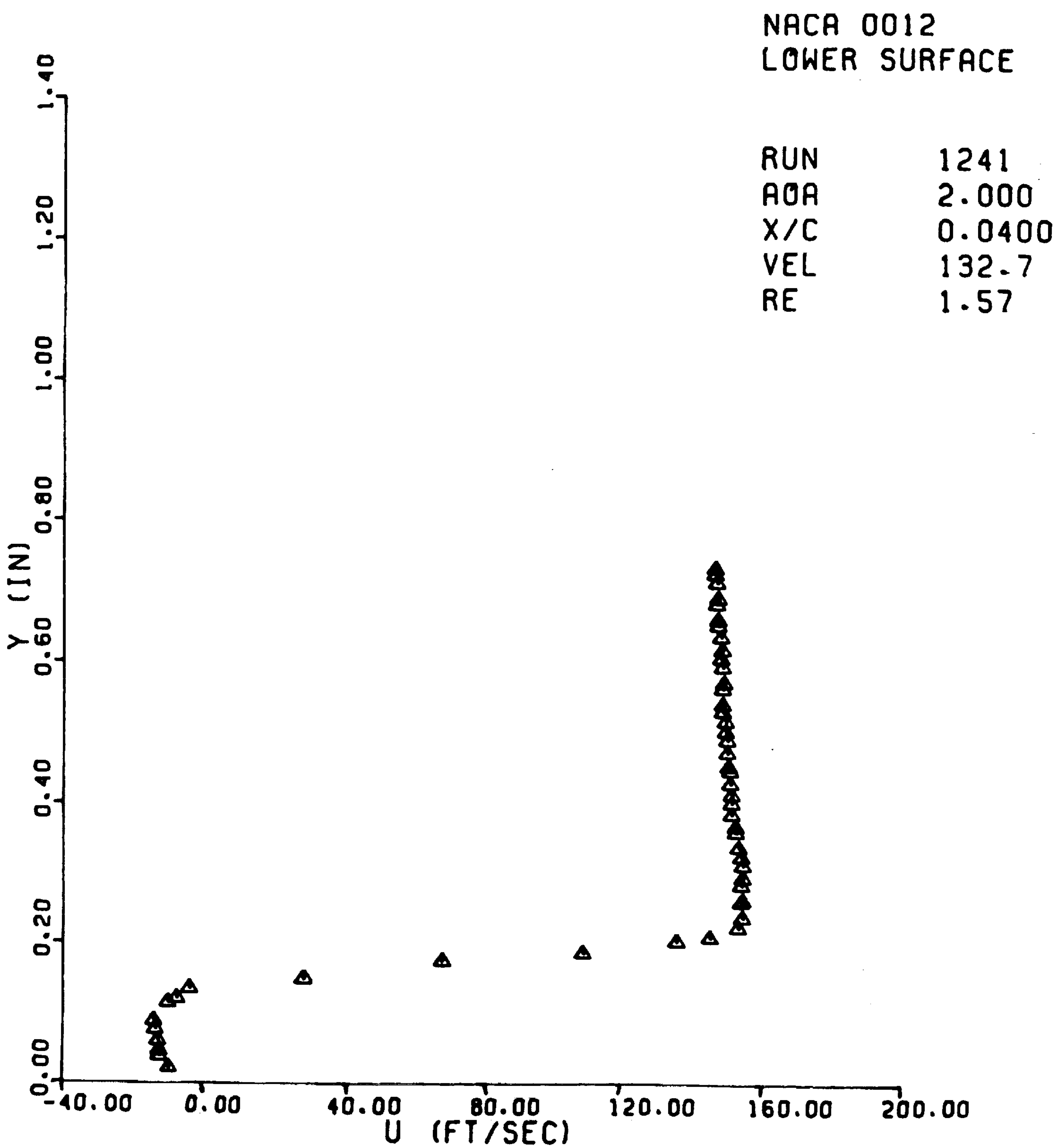


NACA 0012
LOWER SURFACE
RUN 1237
AOA 0.000
X/C 0.3200
VEL 132.5
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

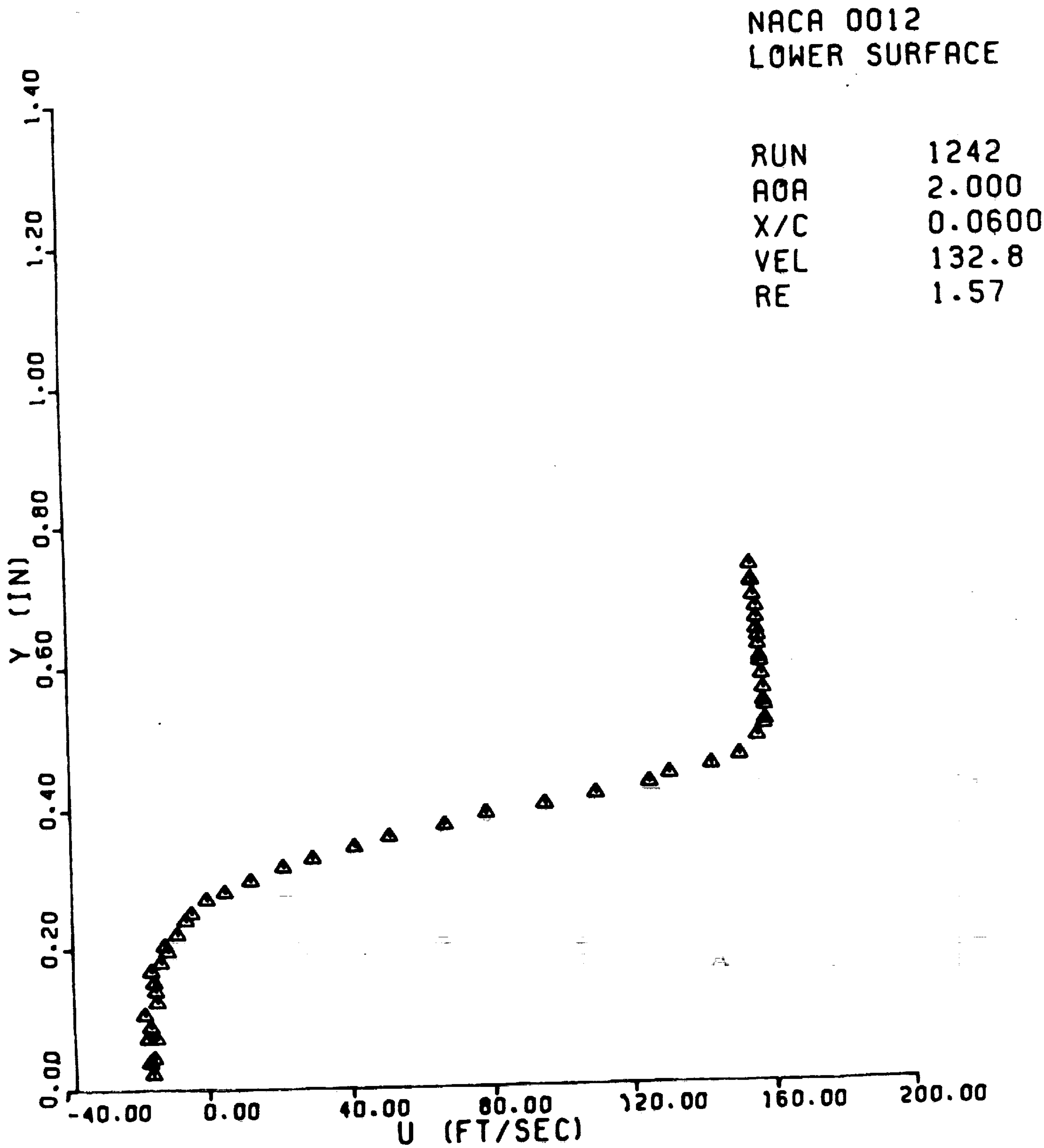

NACA 0012
LOWER SURFACE
RUN 1238
AOA 0.000
X/C 0.6000
VEL 132.6
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

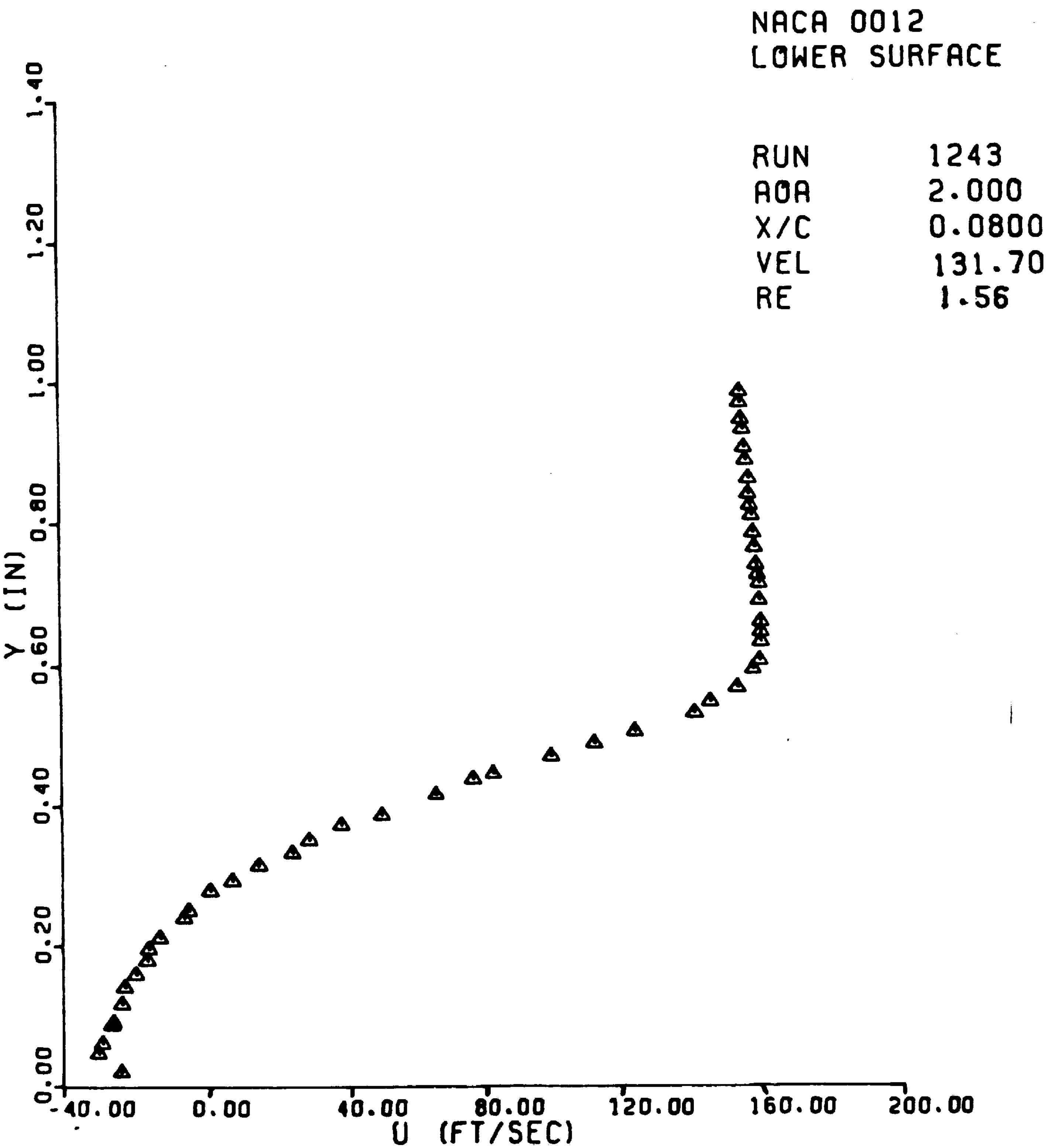


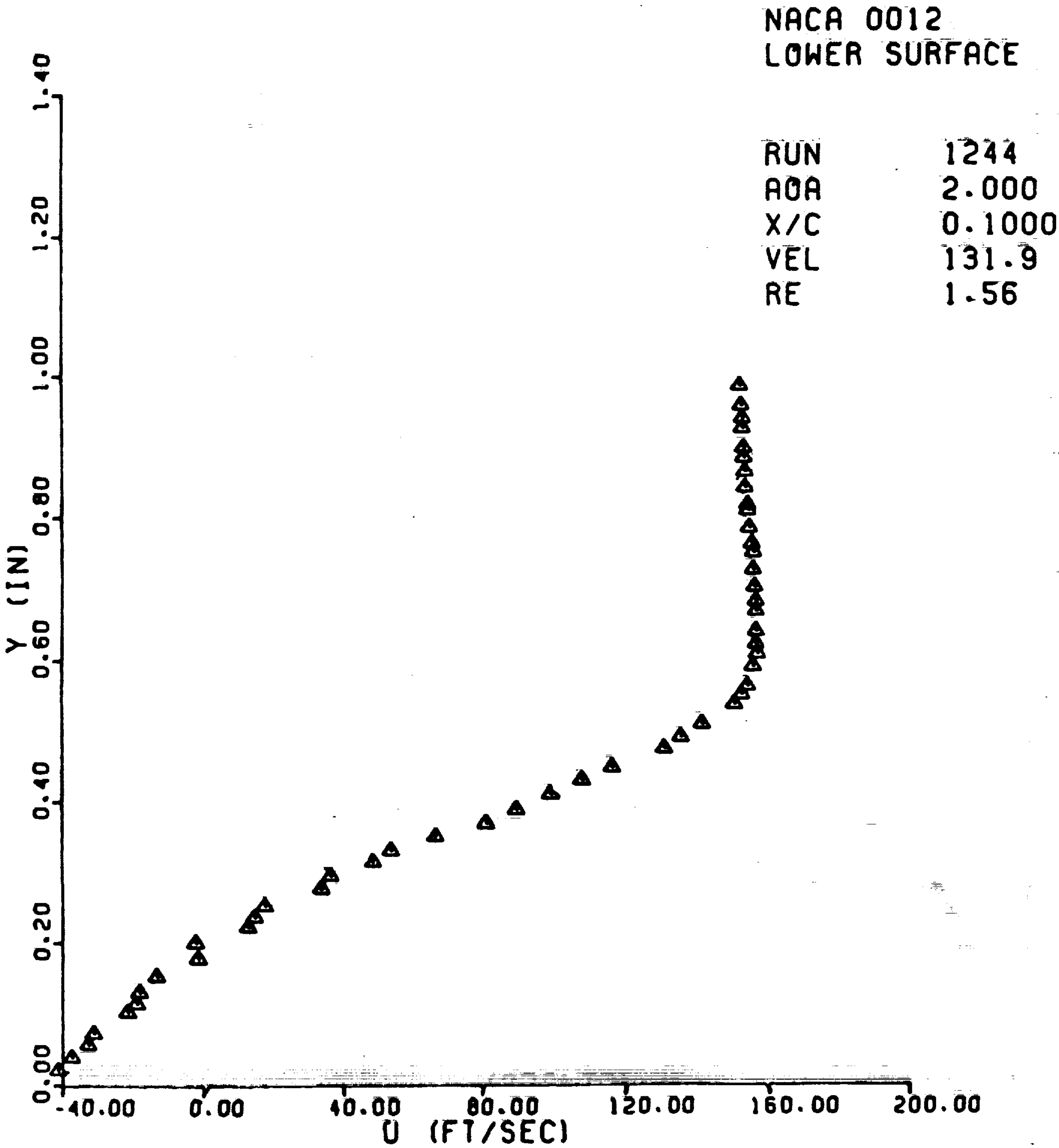
NACA 0012
LOWER SURFACE
RUN 1240
AOA 2.000
X/C 0.0300
VEL 133.3
RE 1.58
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



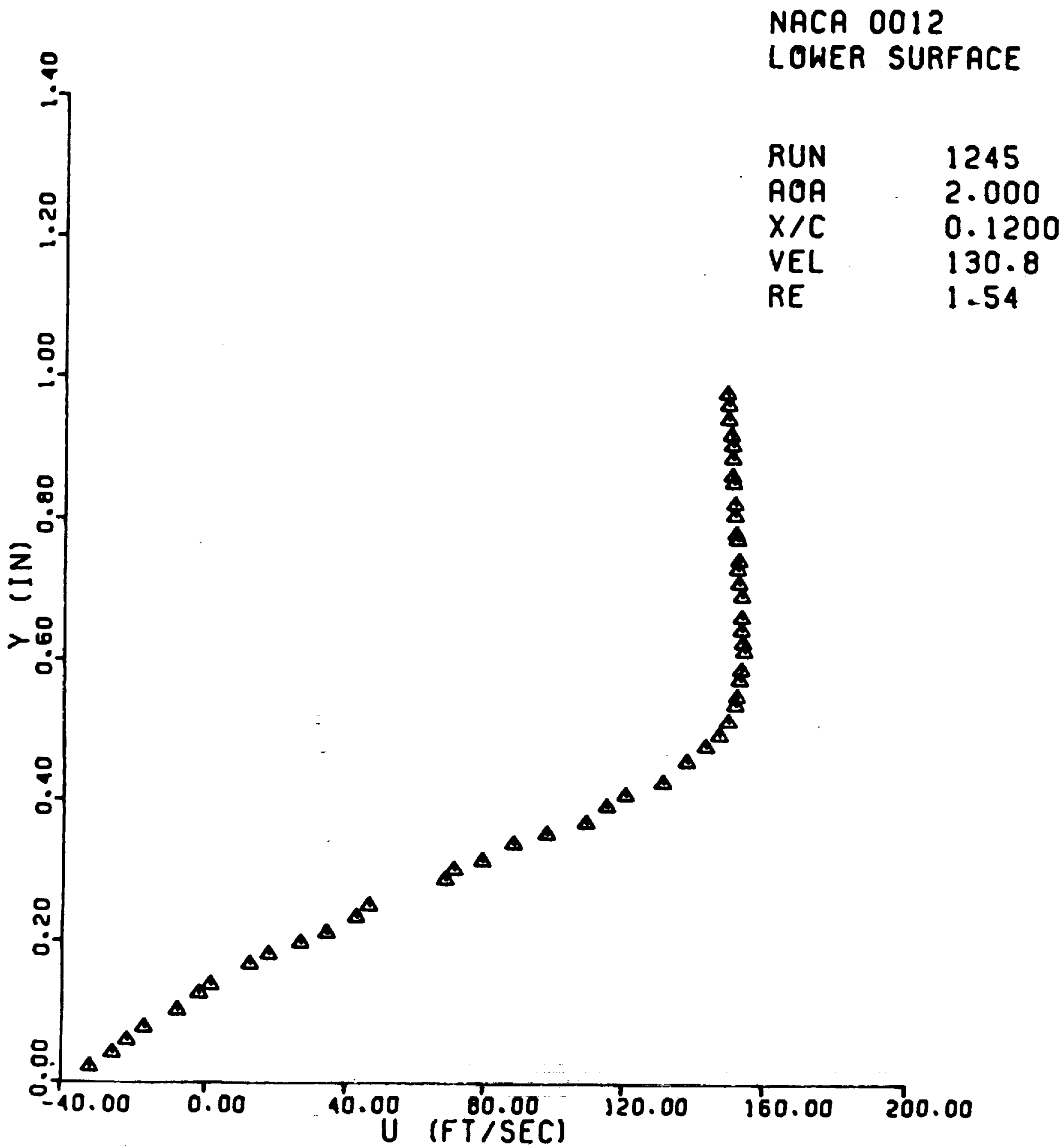
NACA 0012
LOWER SURFACE
RUN 1241
AOA 2.000
X/C 0.0400
VEL 132.7
RE 1.57
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1242
AOA 2.000
X/C 0.0600
VEL 132.8
RE 1.57
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

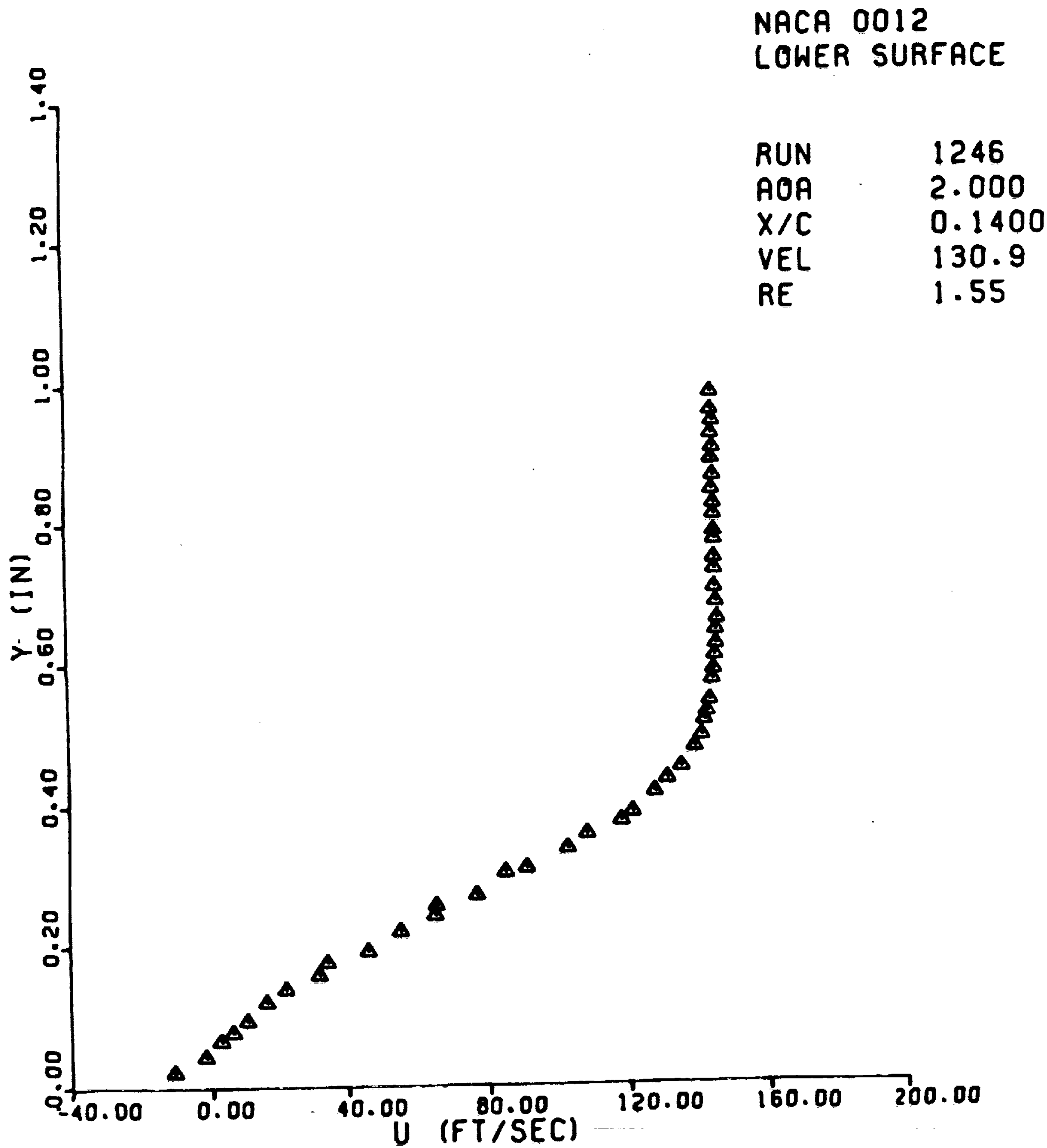

NACA 0012
LOWER SURFACE
RUN 1243
AOA 2.000
X/C 0.0800
VEL 131.70
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

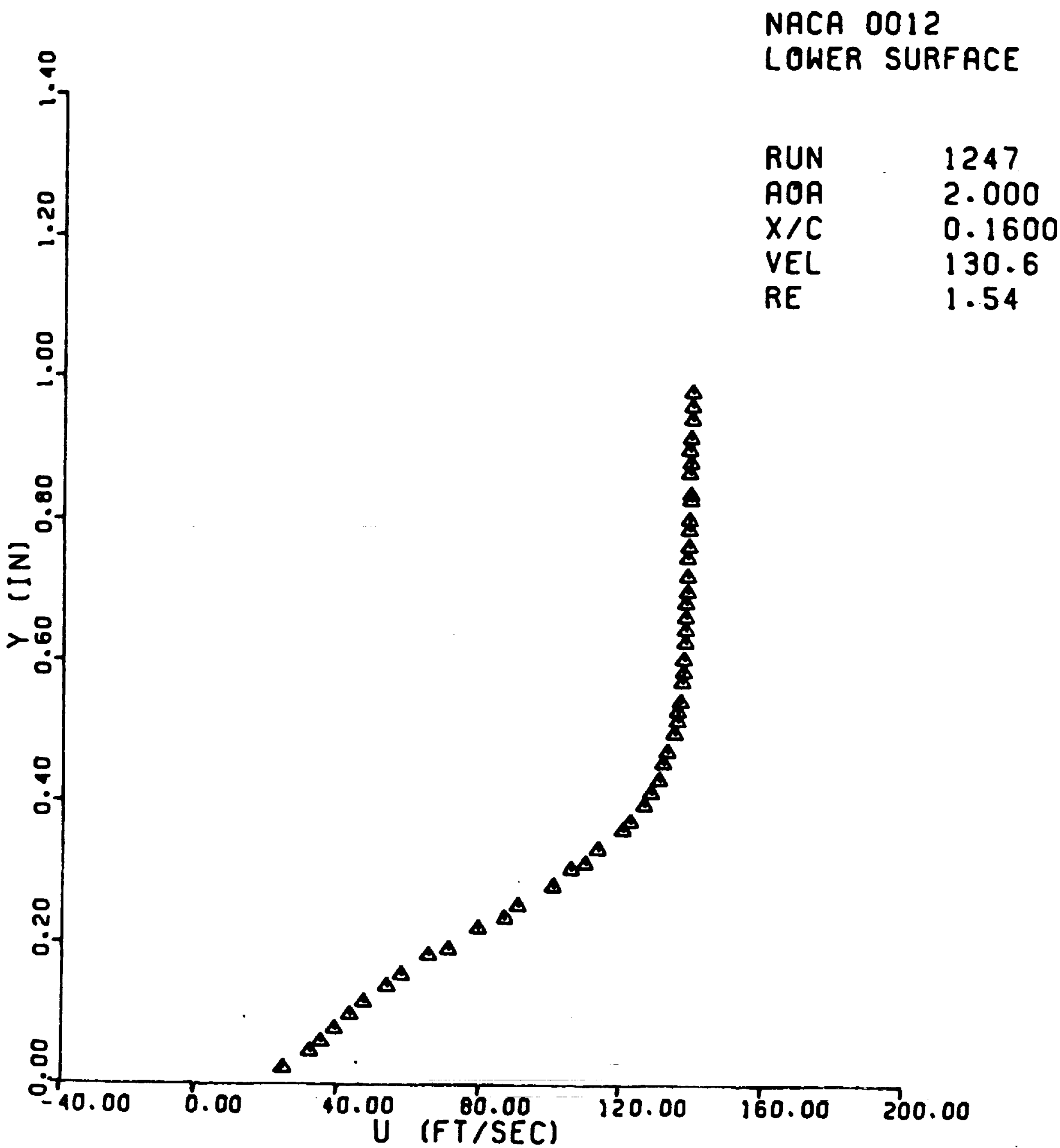


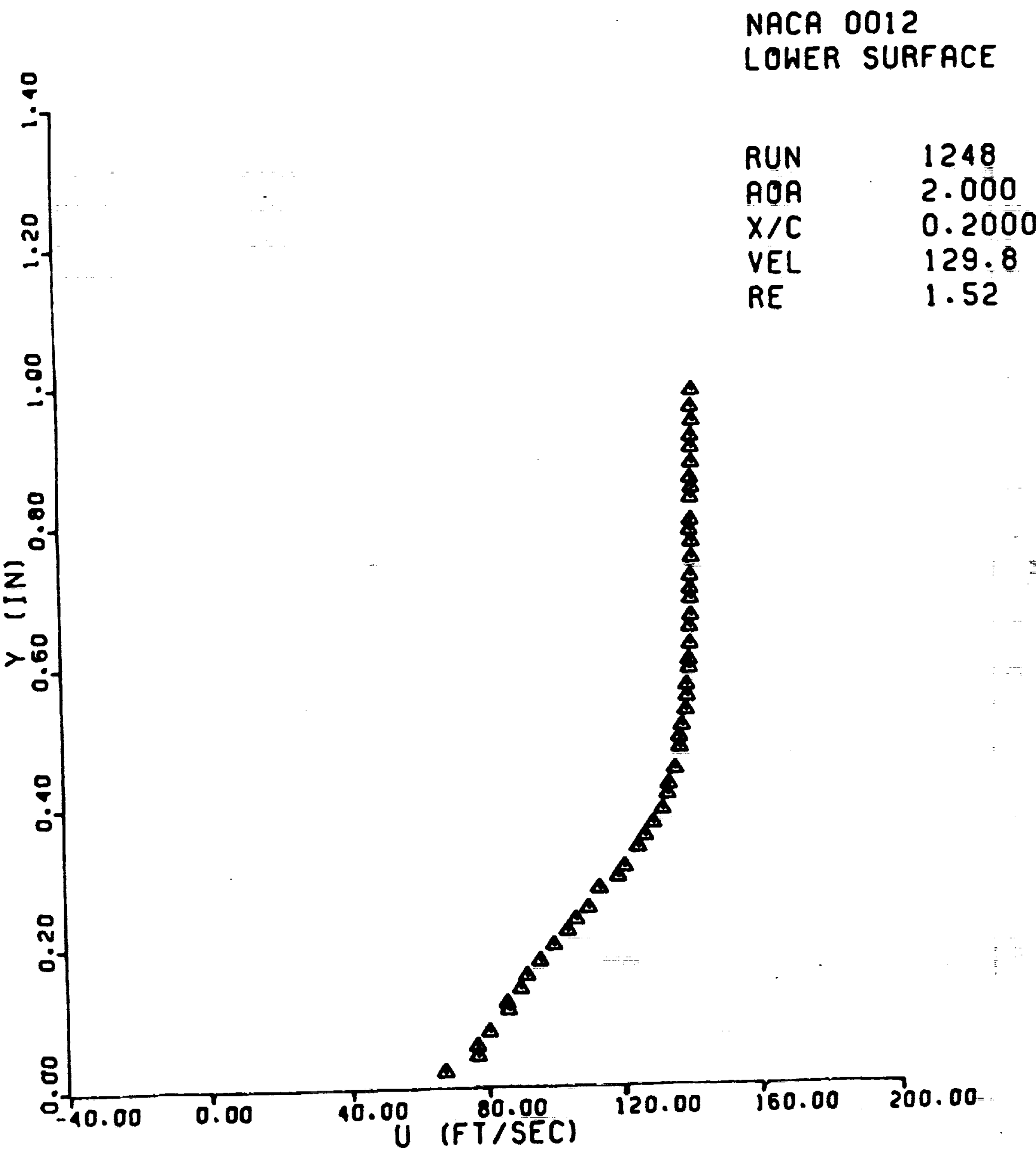
NACA 0012
LOWER SURFACE
RUN 1244
AOA 2.000
X/C 0.1000
VEL 131.9
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

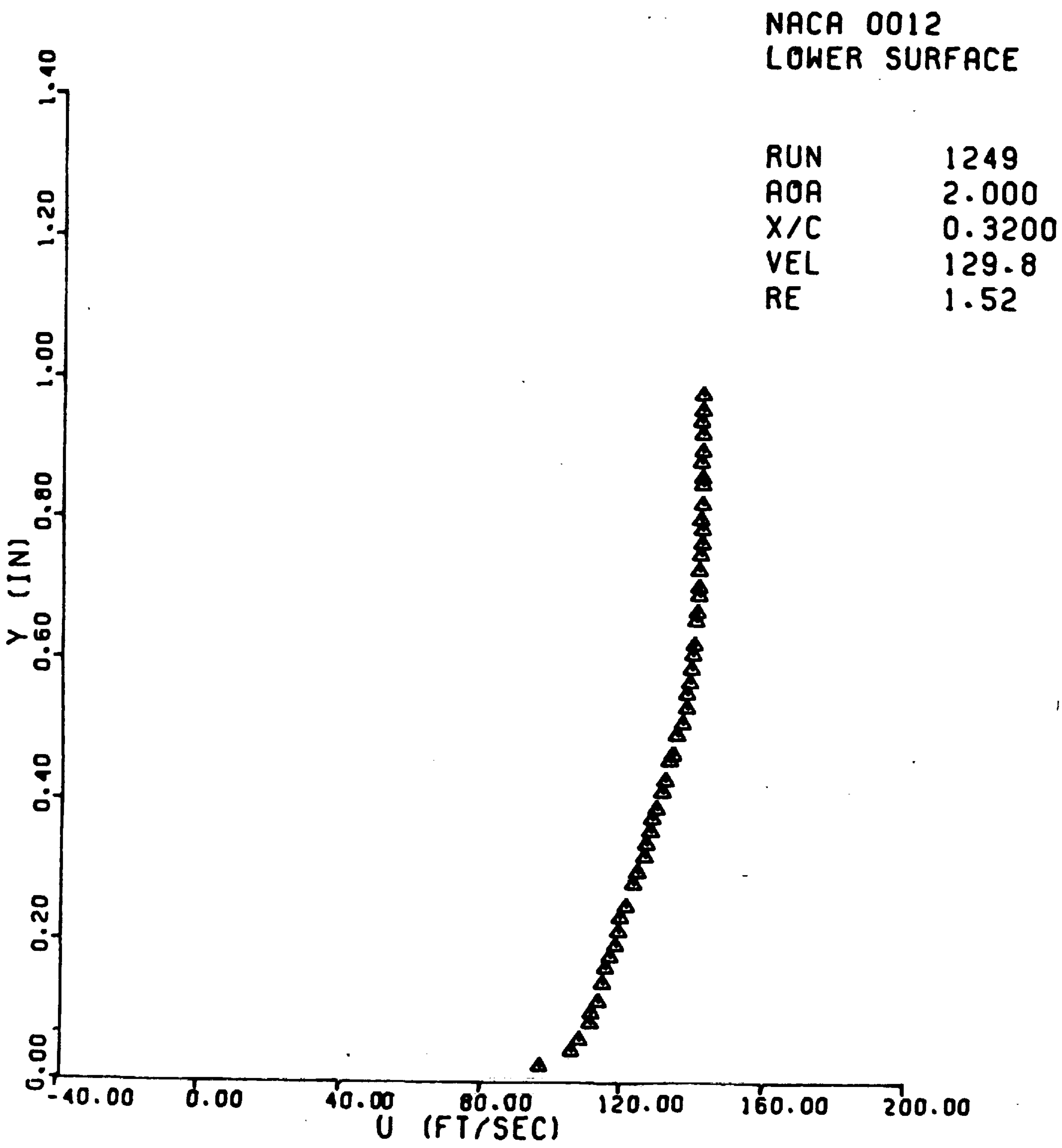


NACA 0012
LOWER SURFACE
RUN 1245
AOA 2.000
X/C 0.1200
VEL 130.8
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1246
AOA 2.000
X/C 0.1400
VEL 130.9
RE 1.55
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1247
AOA 2.000
X/C 0.1600
VEL 130.6
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1248
AOA 2.000
X/C 0.2000
VEL 129.8
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1249
AOA 2.000
X/C 0.3200
VEL 129.8
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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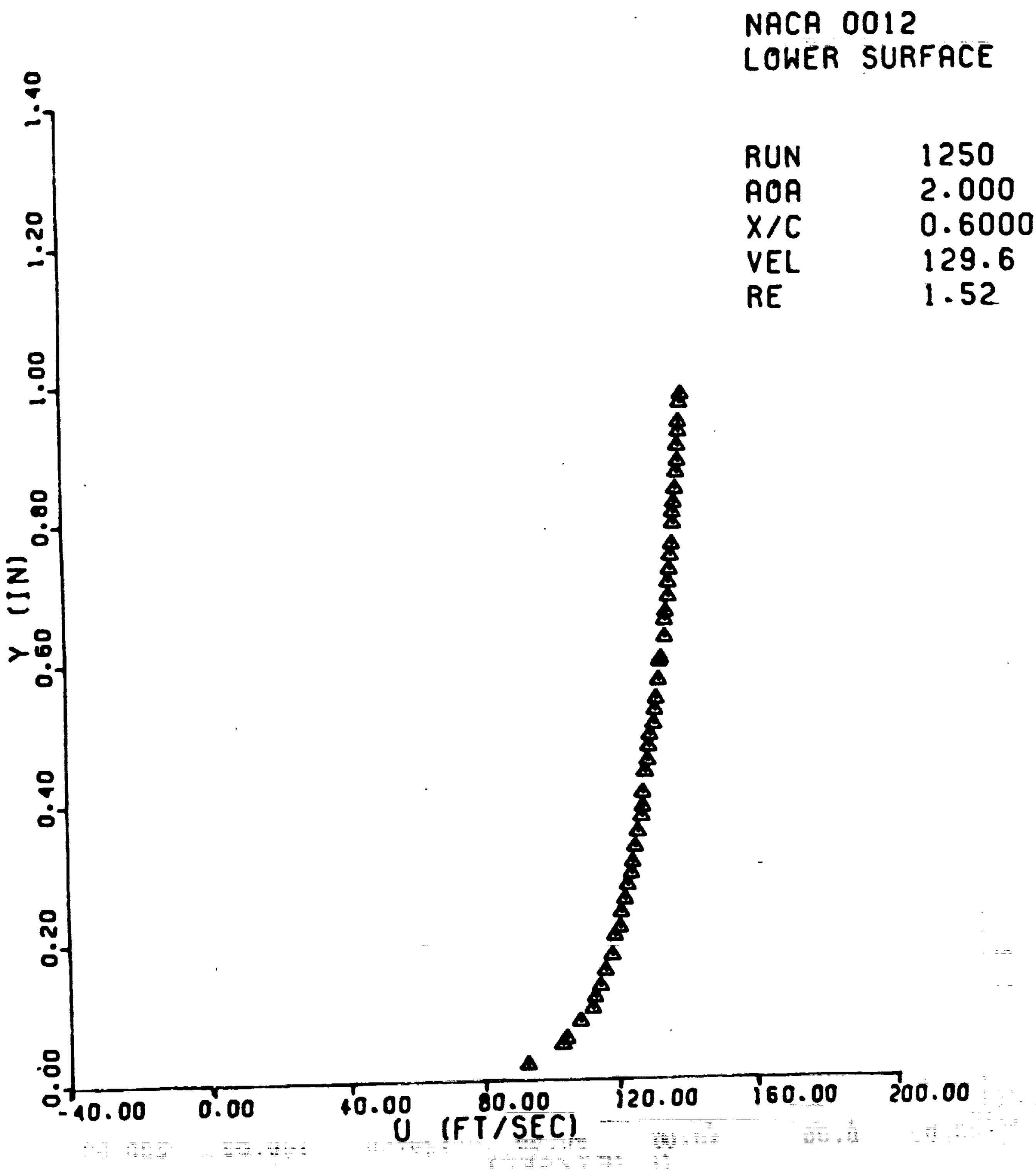
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
LOWER SURFACE
RUN 1250
AOA 2.000
X/C 0.6000
VEL 129.6
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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120.00
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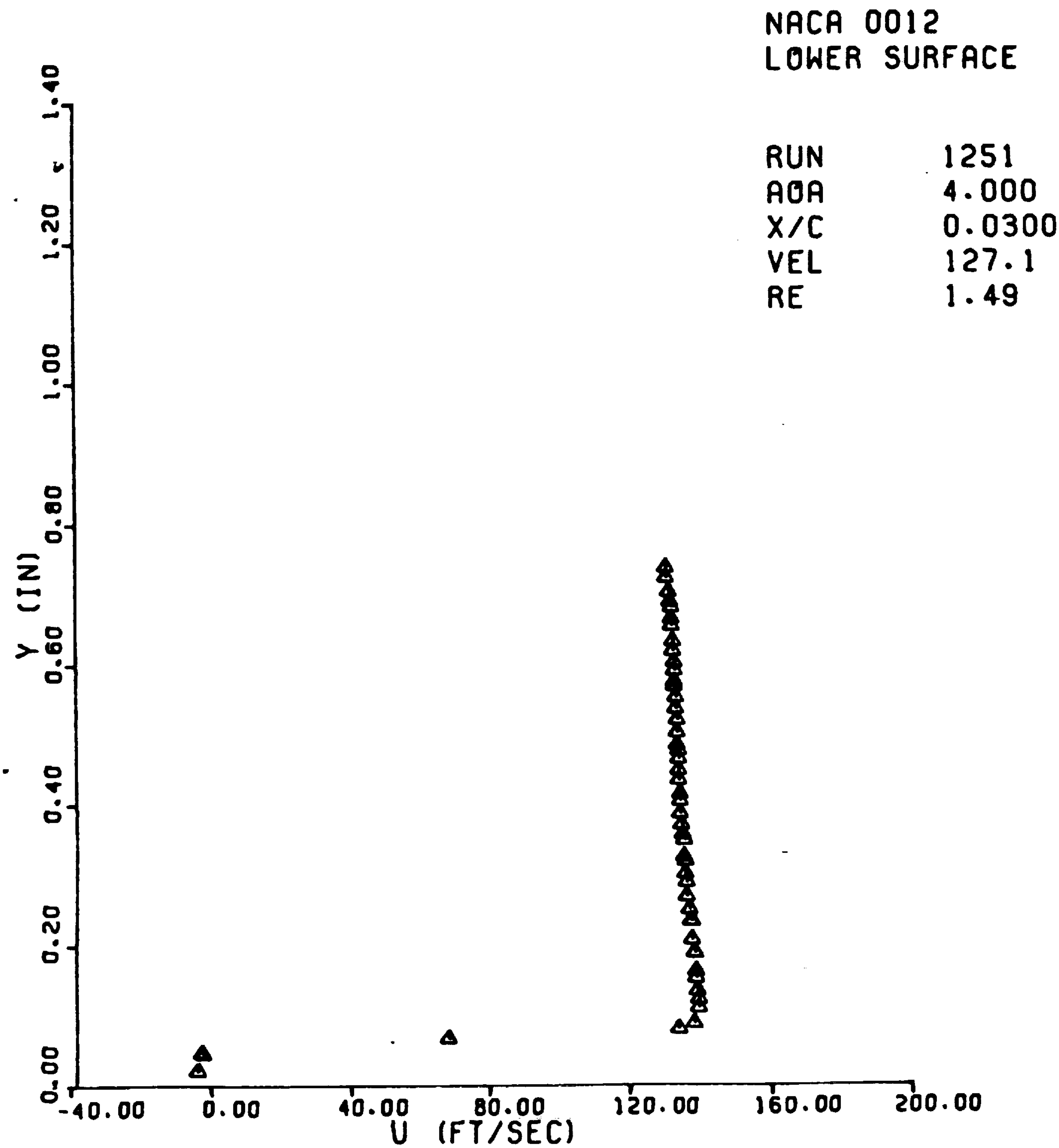
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1251
AOA 4.000
X/C 0.0300
VEL 127.1
RE 1.49
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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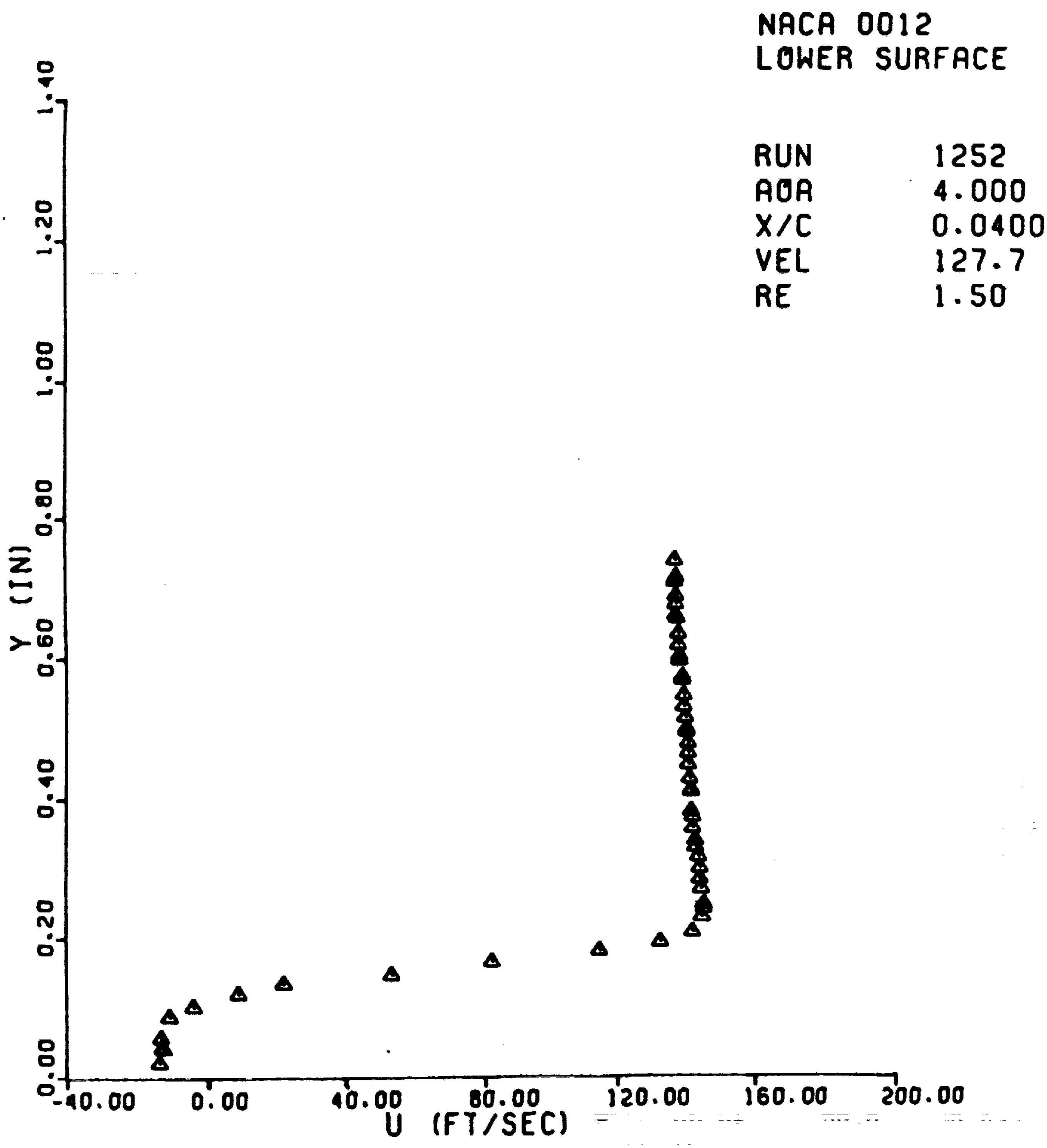
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1252
AOA 4.000
X/C 0.0400
VEL 127.7
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
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40.00
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120.00
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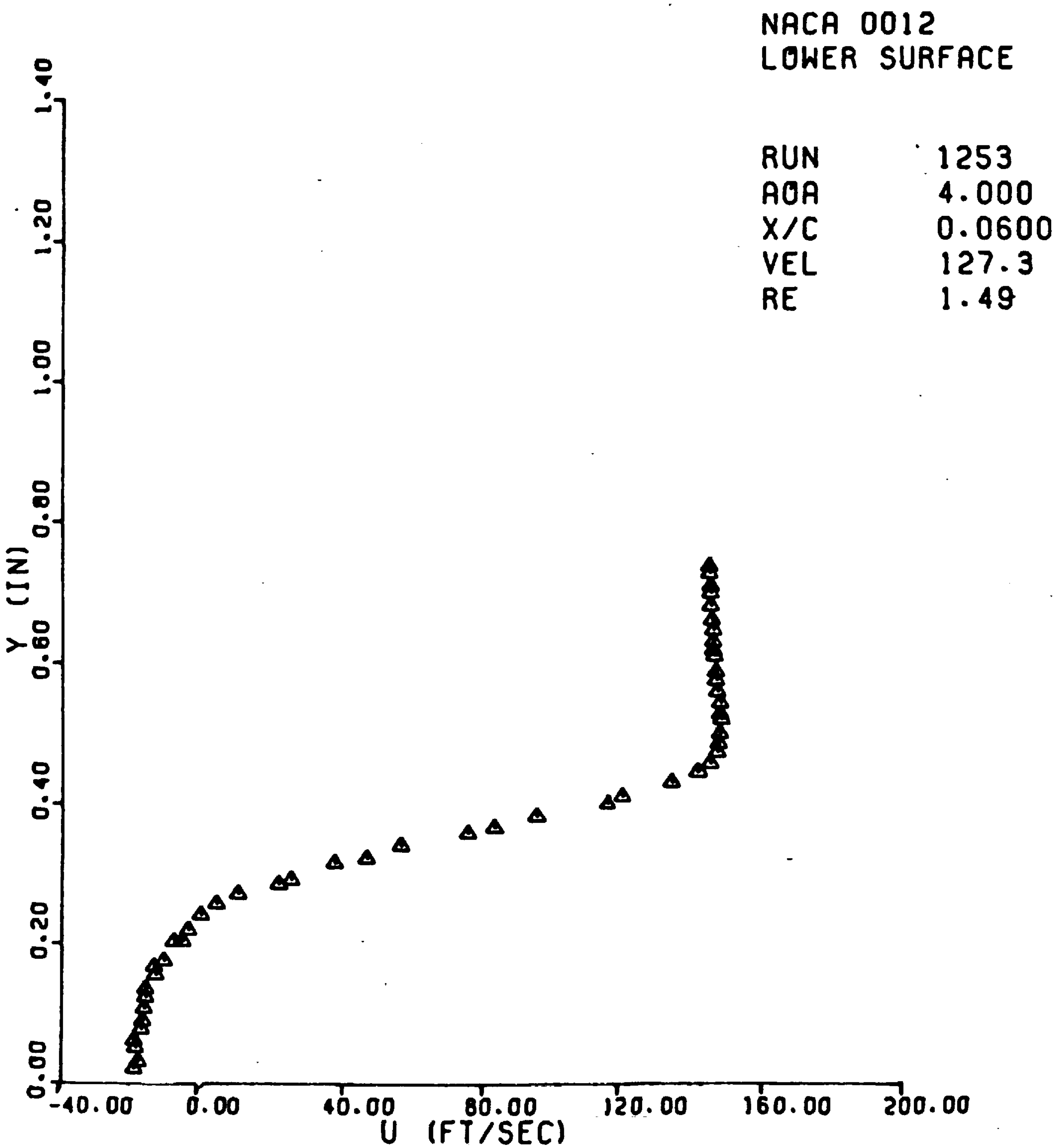
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1253
AOA 4.000
X/C 0.0600
VEL 127.3
RE 1.49
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
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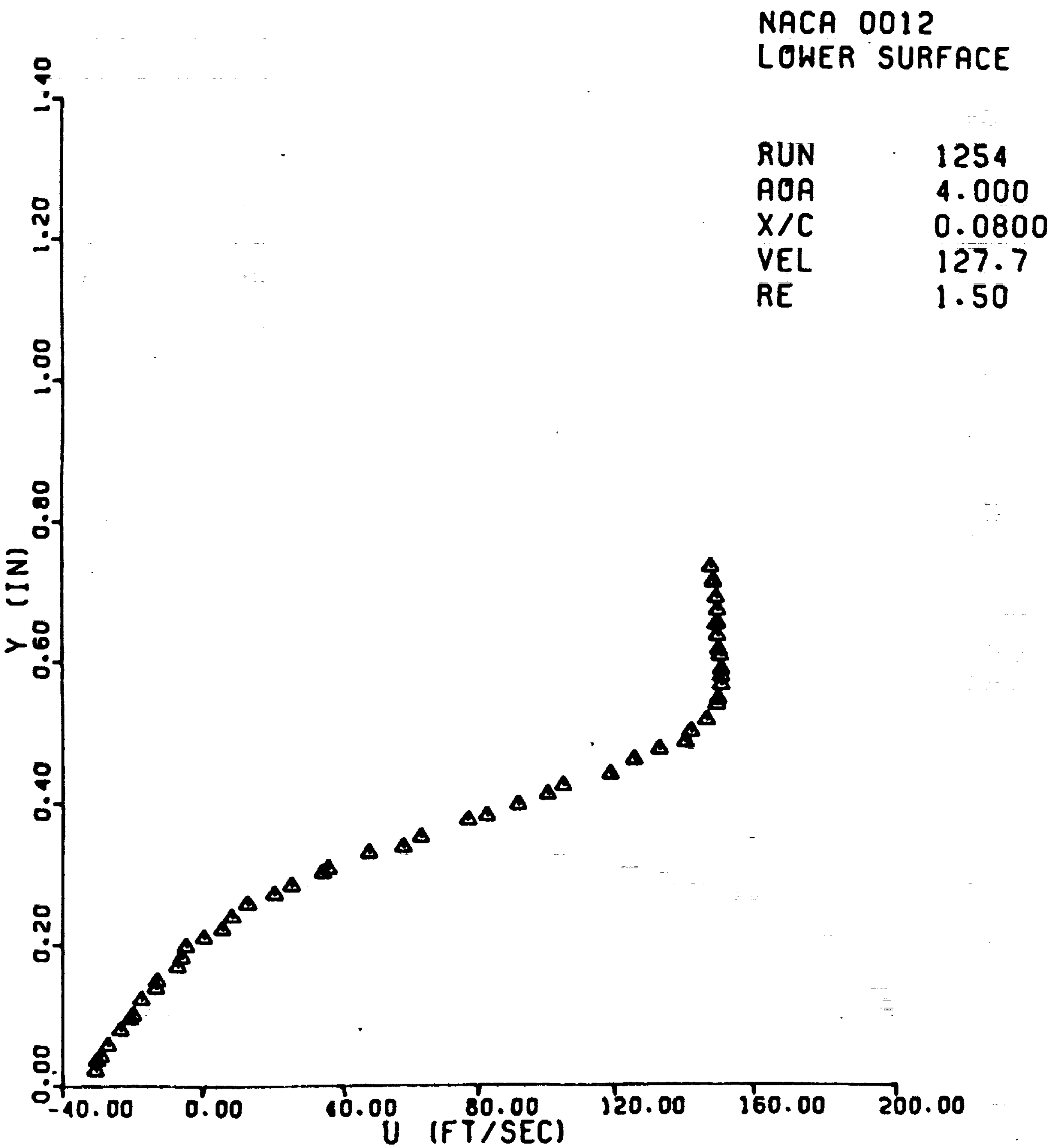
200.00
U (FT/SEC)



NACA 0012
LOWER SURFACE
RUN 1254
AOA 4.000
X/C 0.0800
VEL 127.7
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
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1.40
-40.00
0.00
40.00
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120.00
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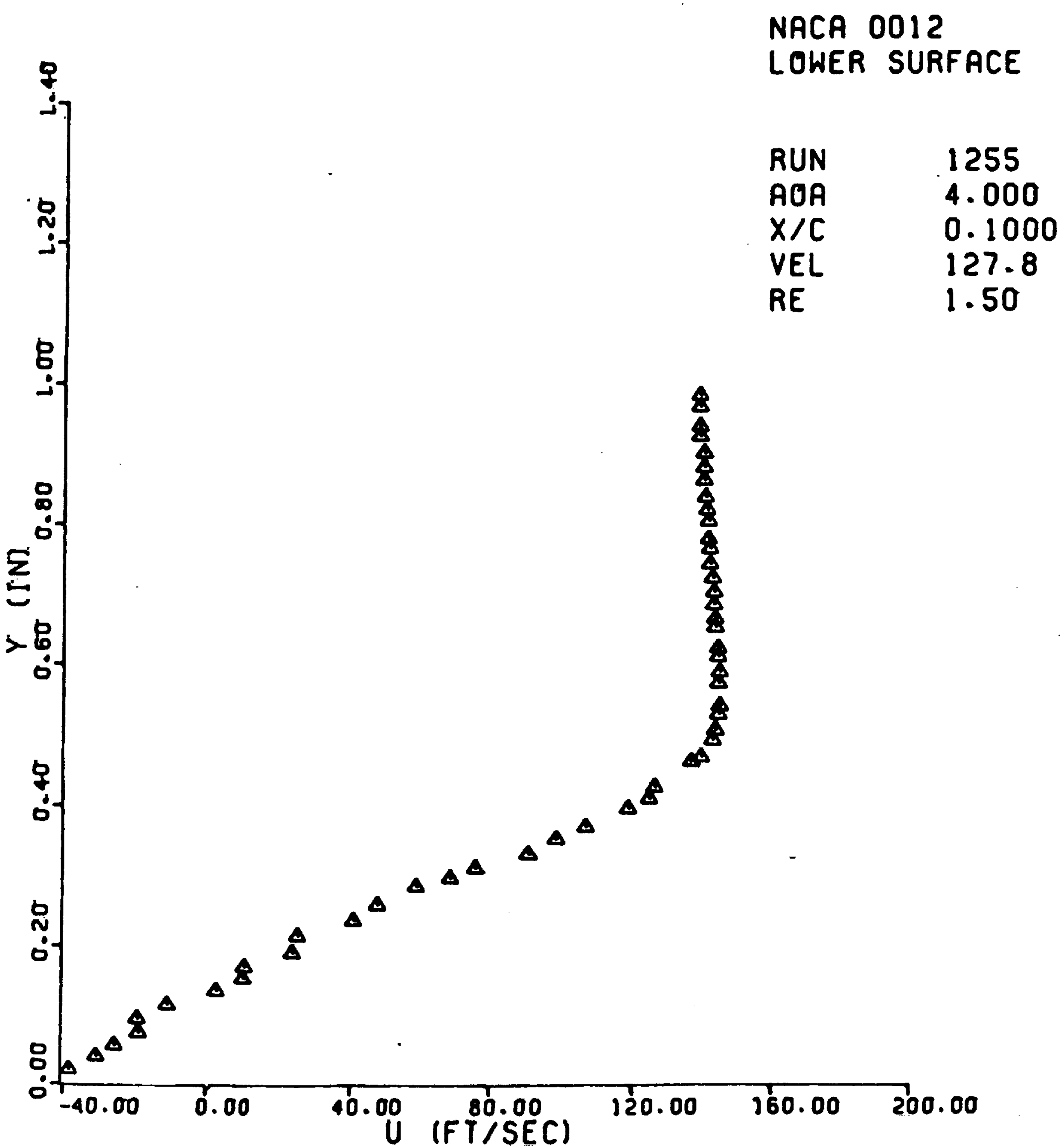
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1255
AOA 4.000
X/C 0.1000
VEL 127.8
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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120.00
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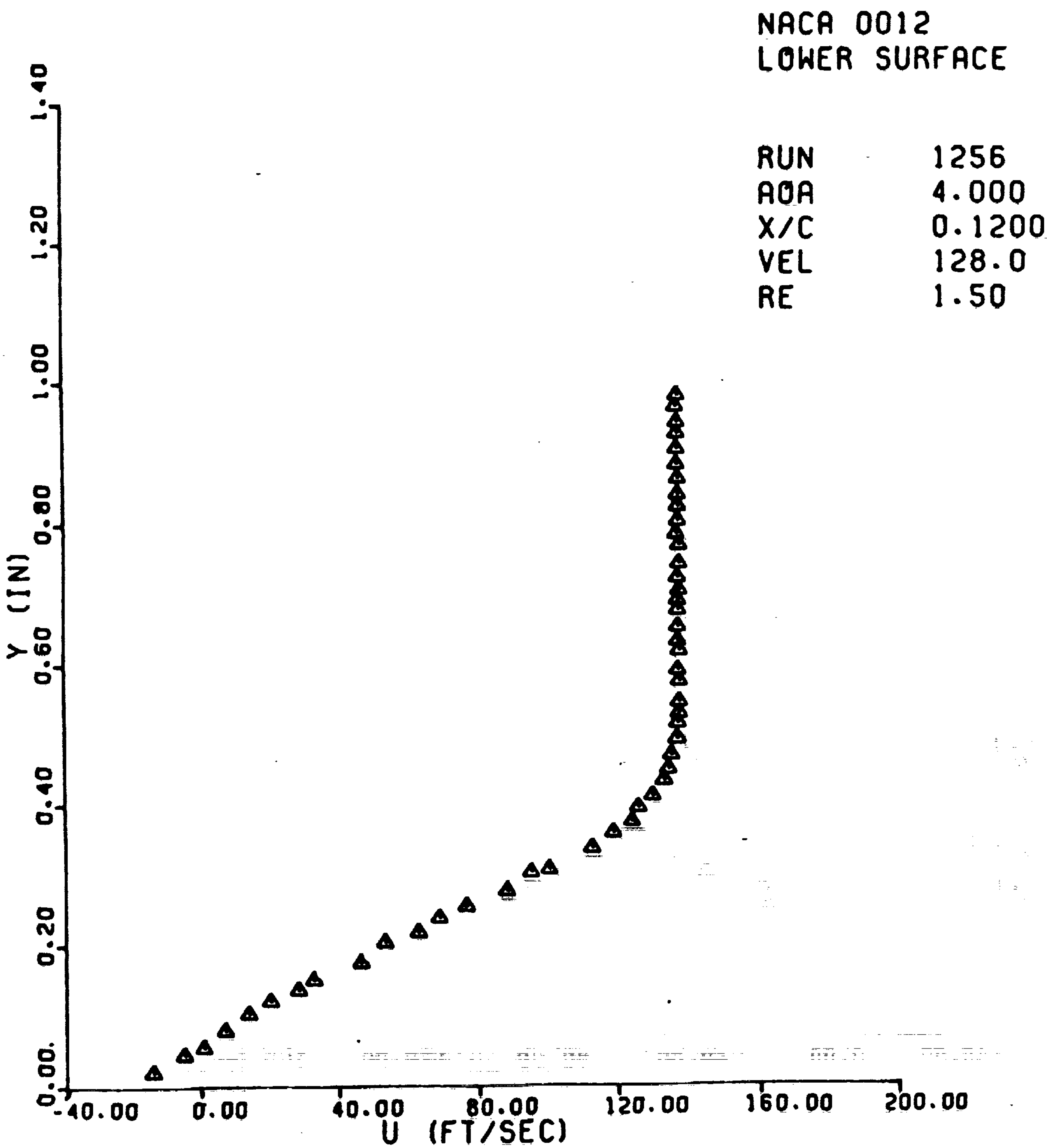
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1256
AOA 4.000
X/C 0.1200
VEL 128.0
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
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1.40
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0.00
40.00
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120.00
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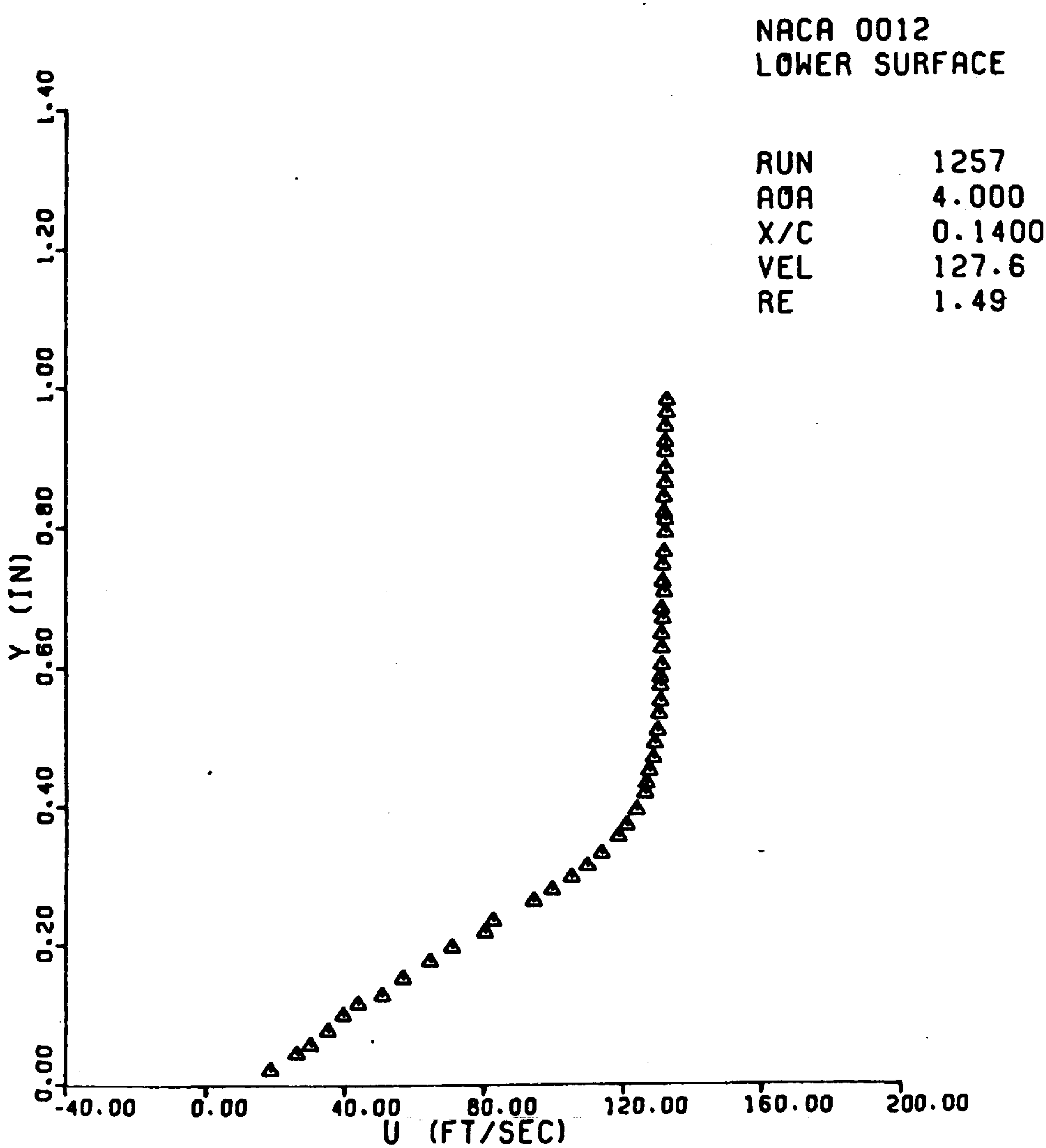
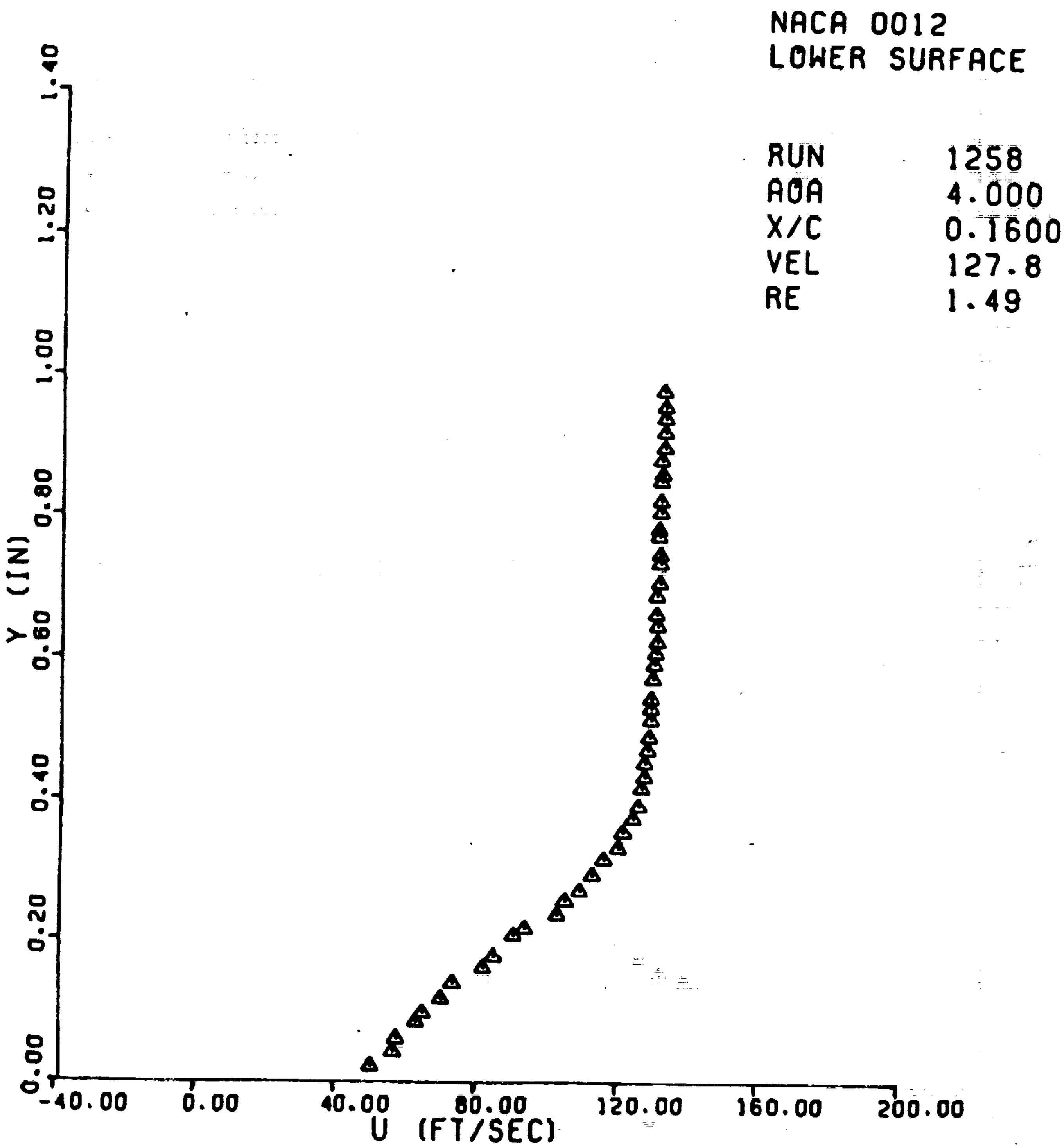
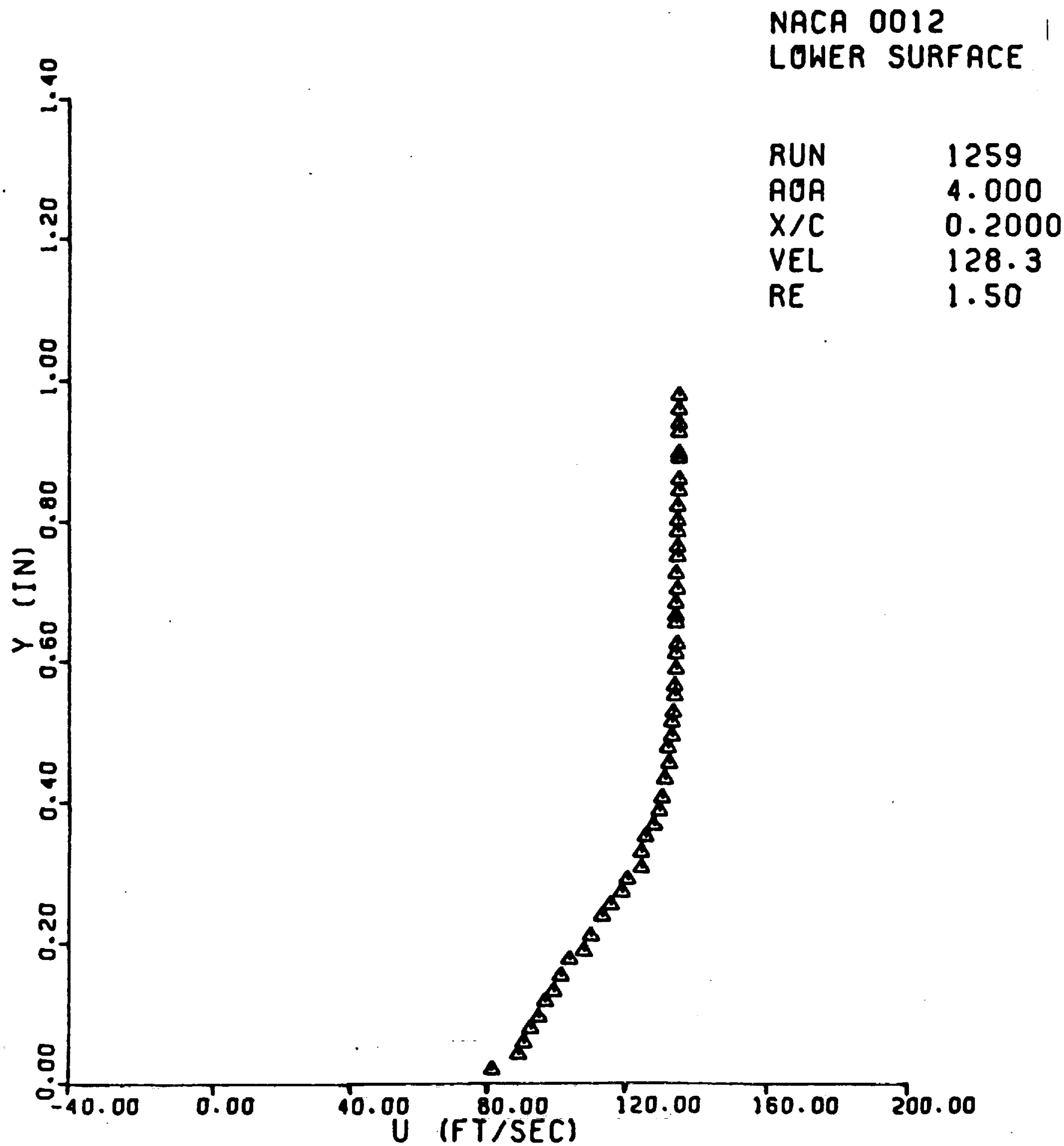
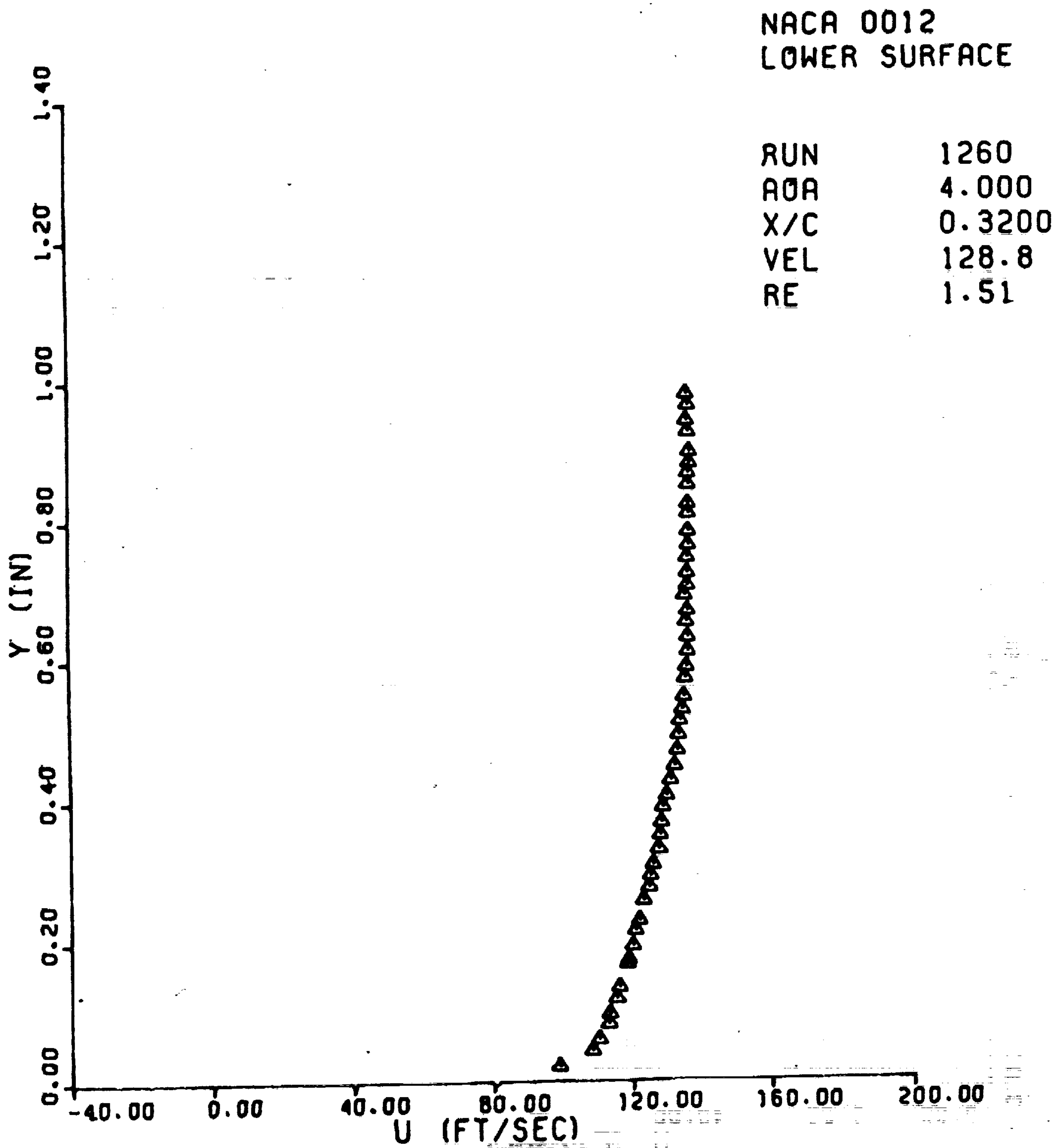
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1257
AOA 4.000
X/C 0.1400
VEL 127.6
RE 1.49
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

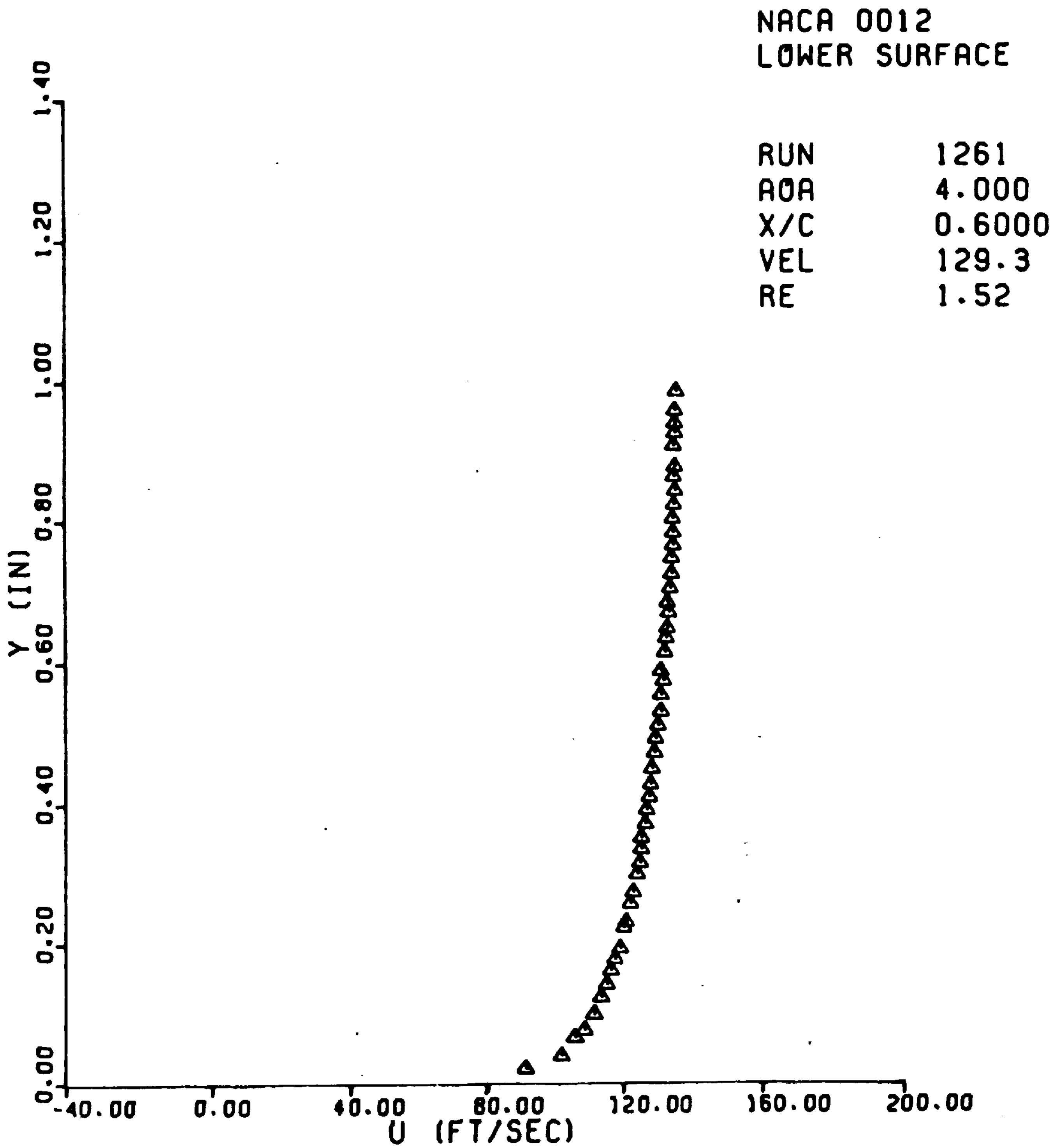

NACA 0012
LOWER SURFACE
RUN 1258
AOA 4.000
X/C 0.1600
VEL 127.8
RE 1.49
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

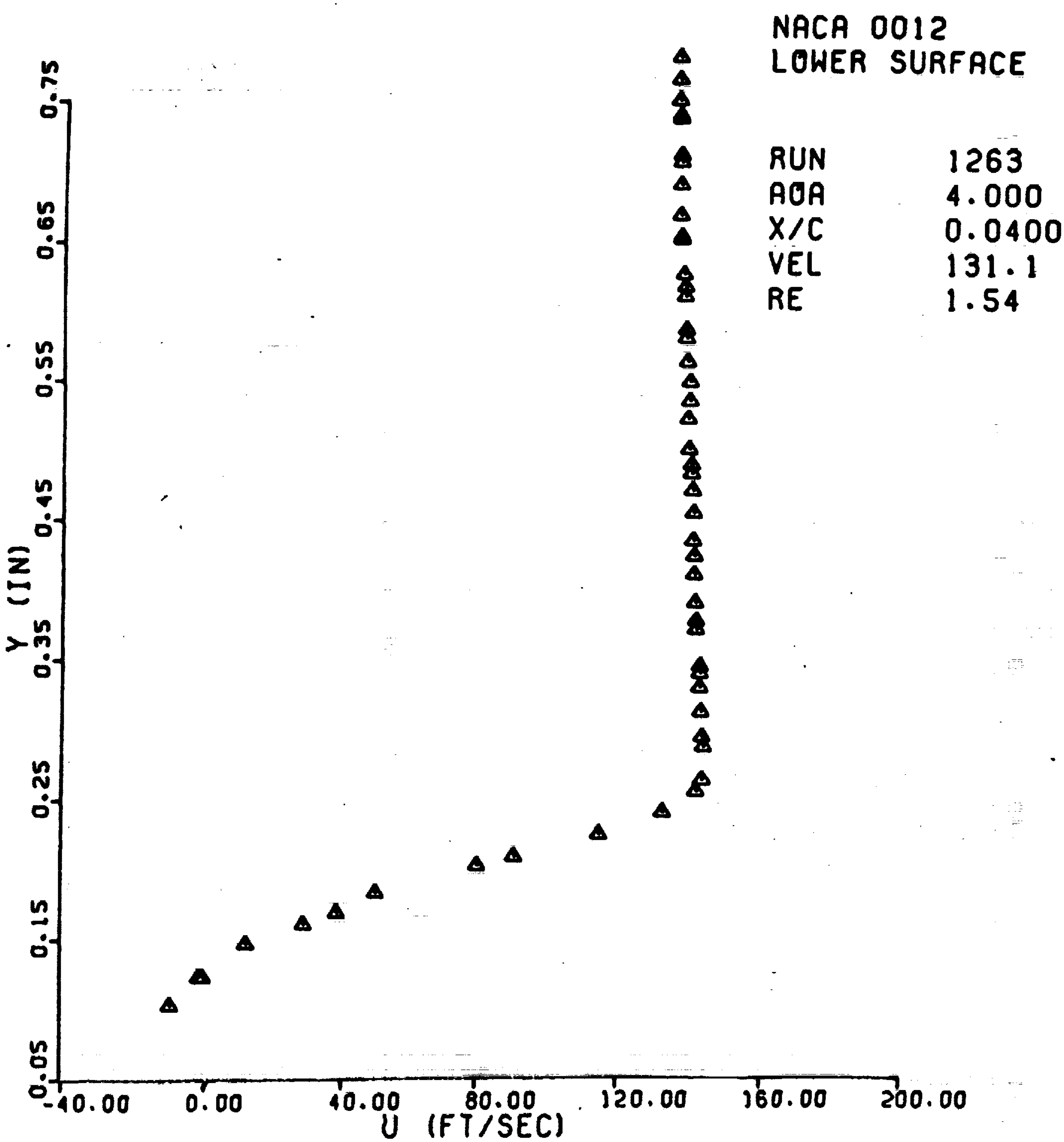


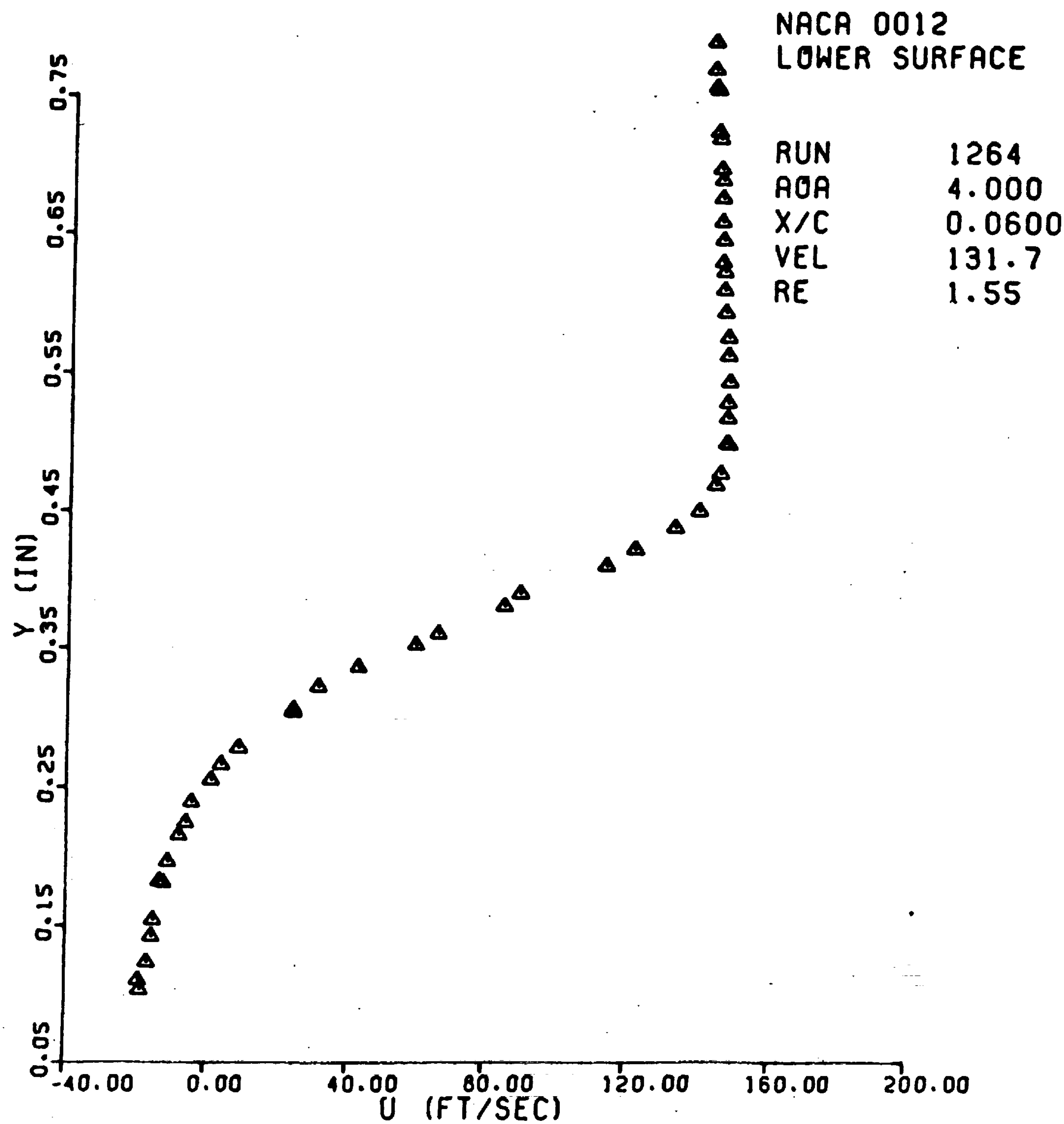
NACA 0012
LOWER SURFACE
RUN 1259
AOA 4.000
X/C 0.2000
VEL 128.3
RE 1.50
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
LOWER SURFACE
RUN 1260
AOA 4.000
X/C 0.3200
VEL 128.8
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1261
AOA 4.000
X/C 0.6000
VEL 129.3
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1263
AOA 4.000
X/C 0.0400
VEL 131.1
RE 1.54
Y (IN)
0.05
0.15
0.25
0.35
0.45
0.55
0.65
0.75
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1264
AOA 4.000
X/C 0.0600
VEL 131.7
RE 1.55
Y (IN)
0.05
0.15
0.25
0.35
0.45
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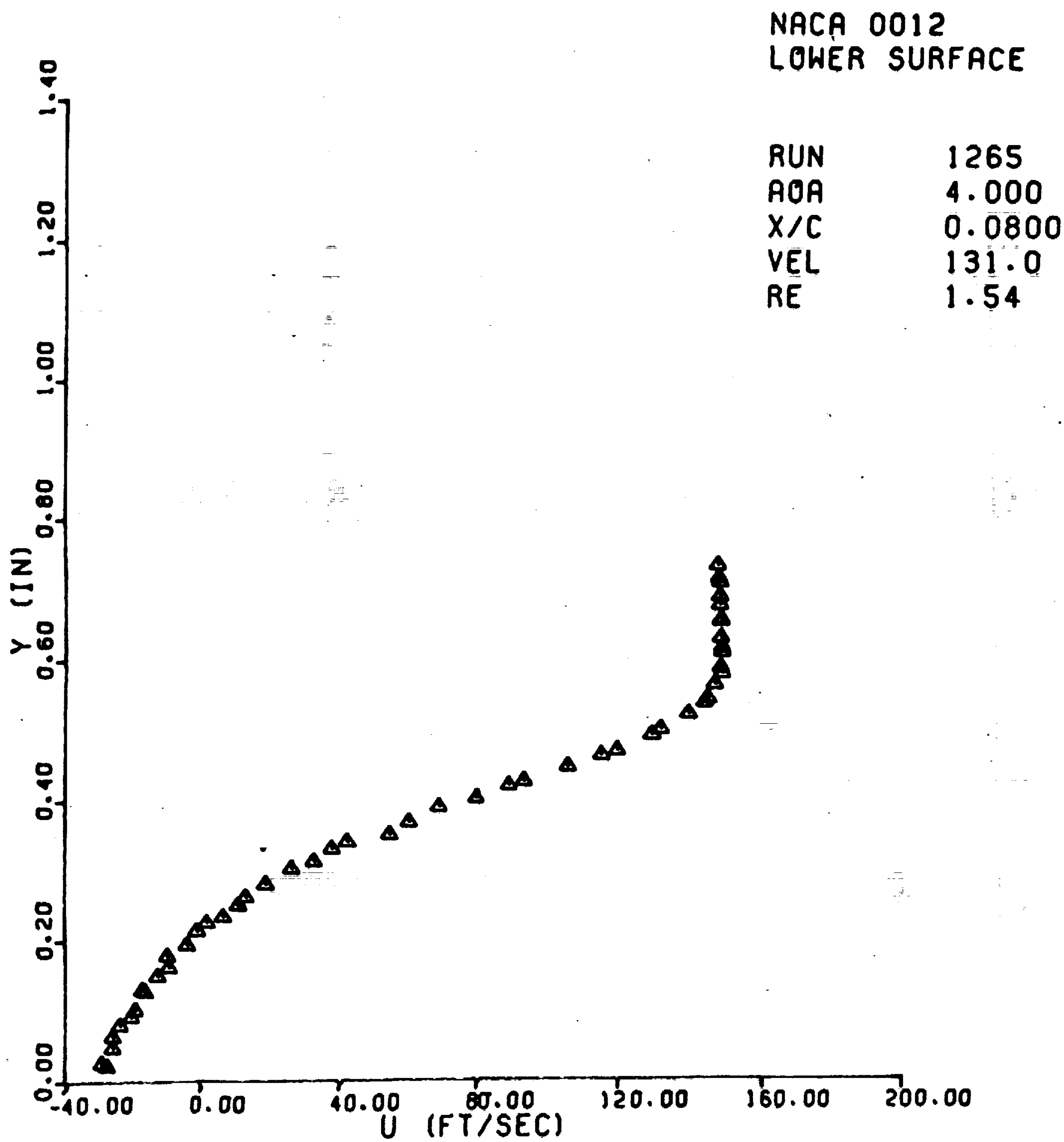
0.65
0.75
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)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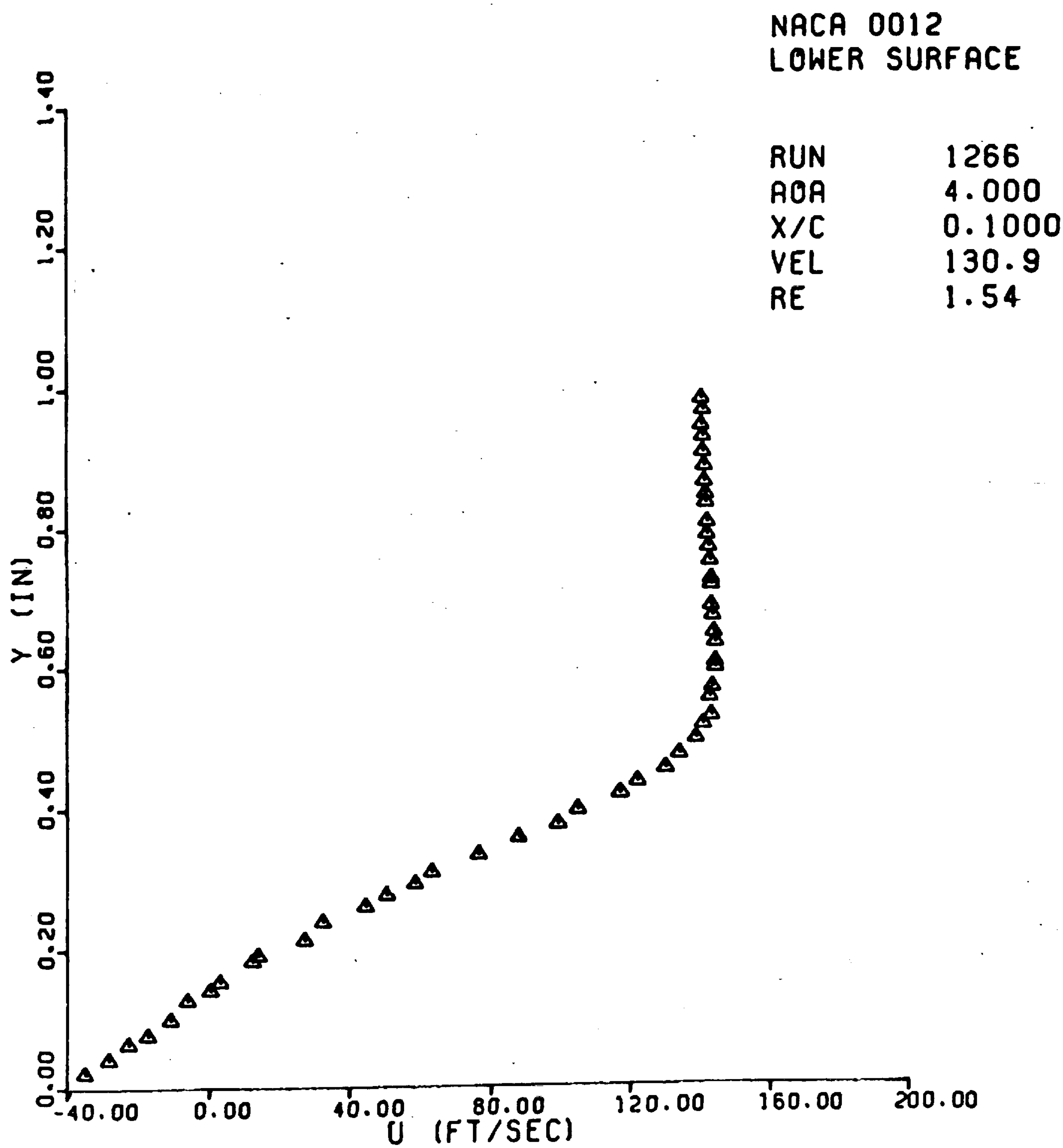
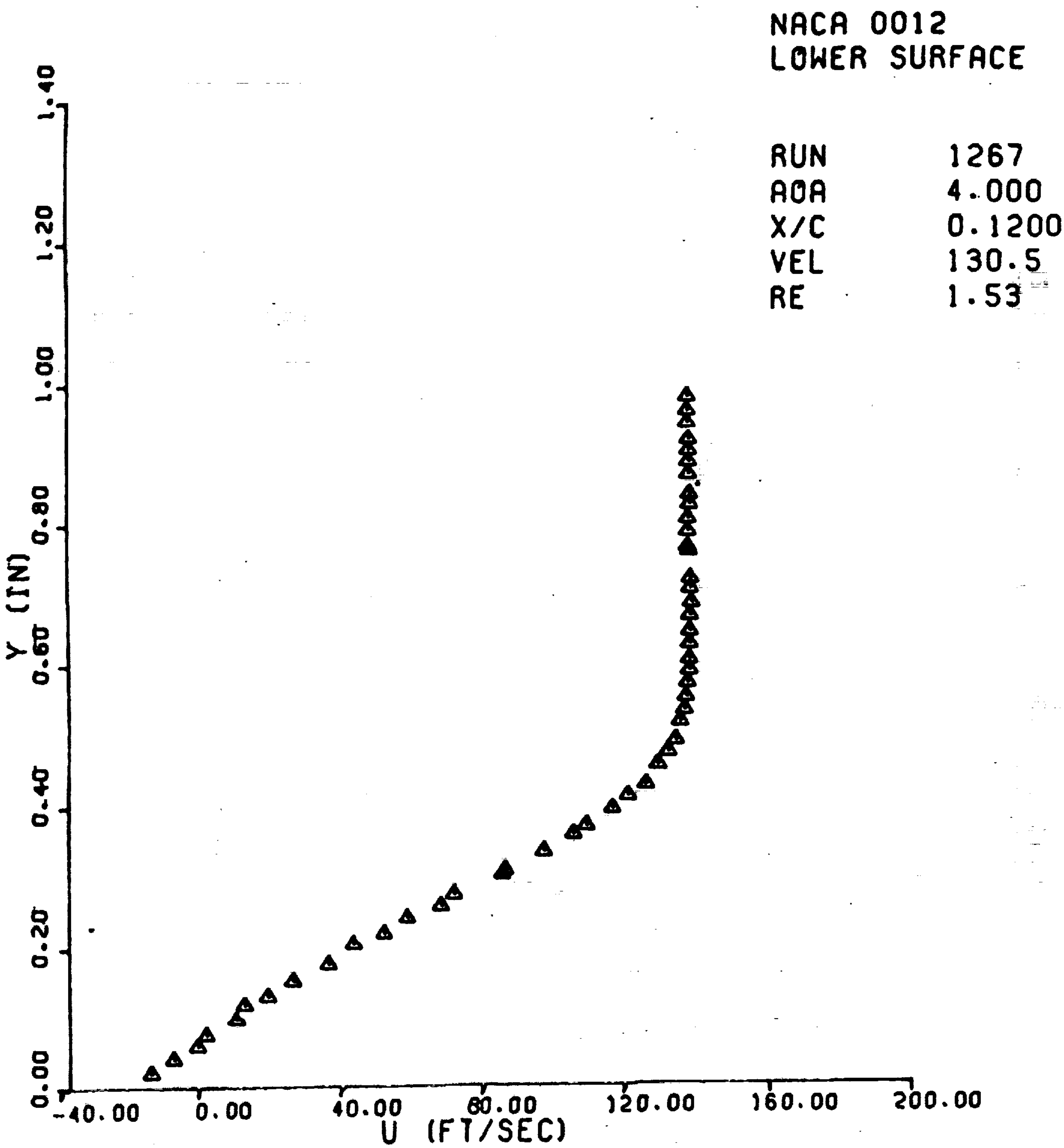
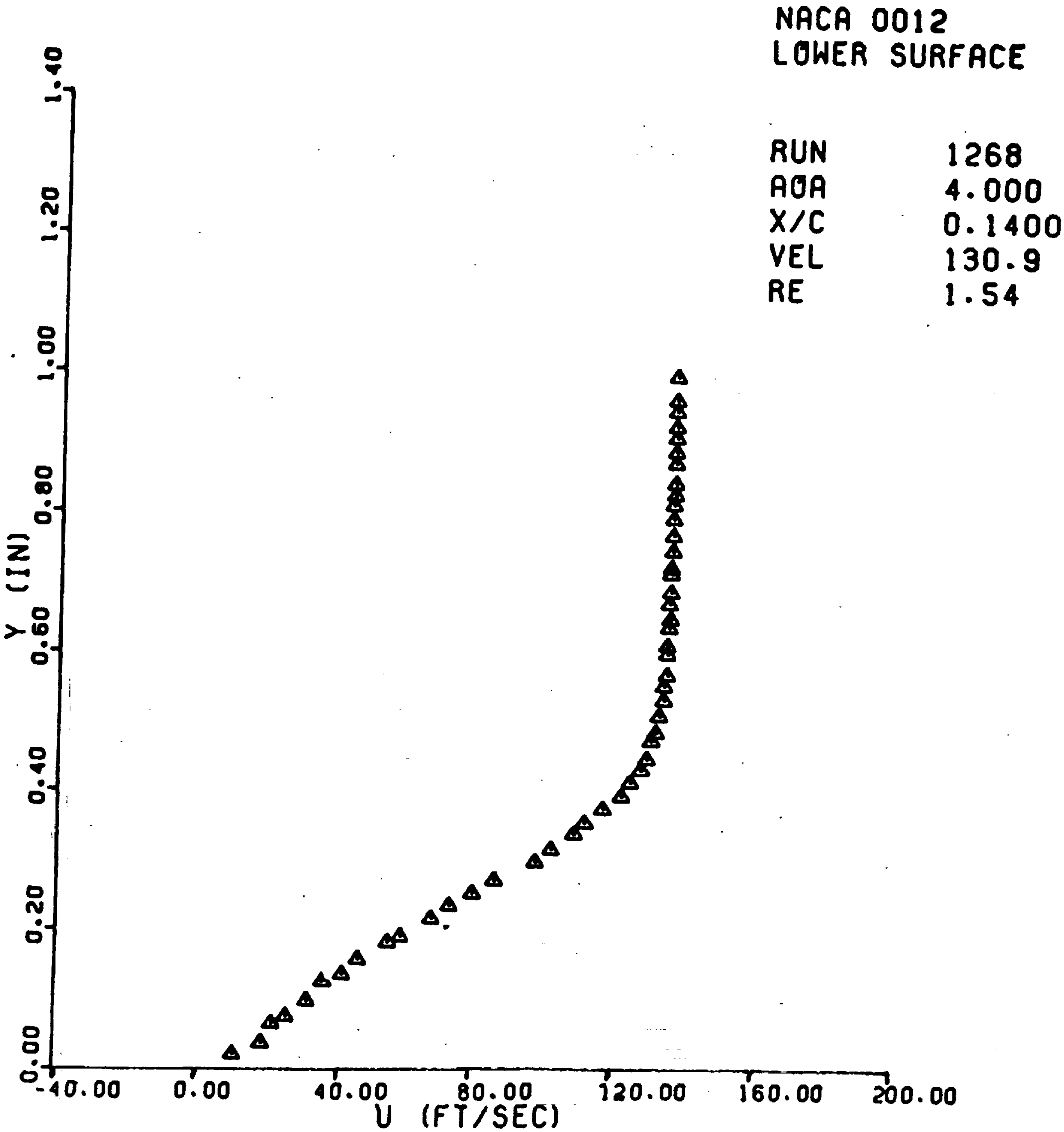
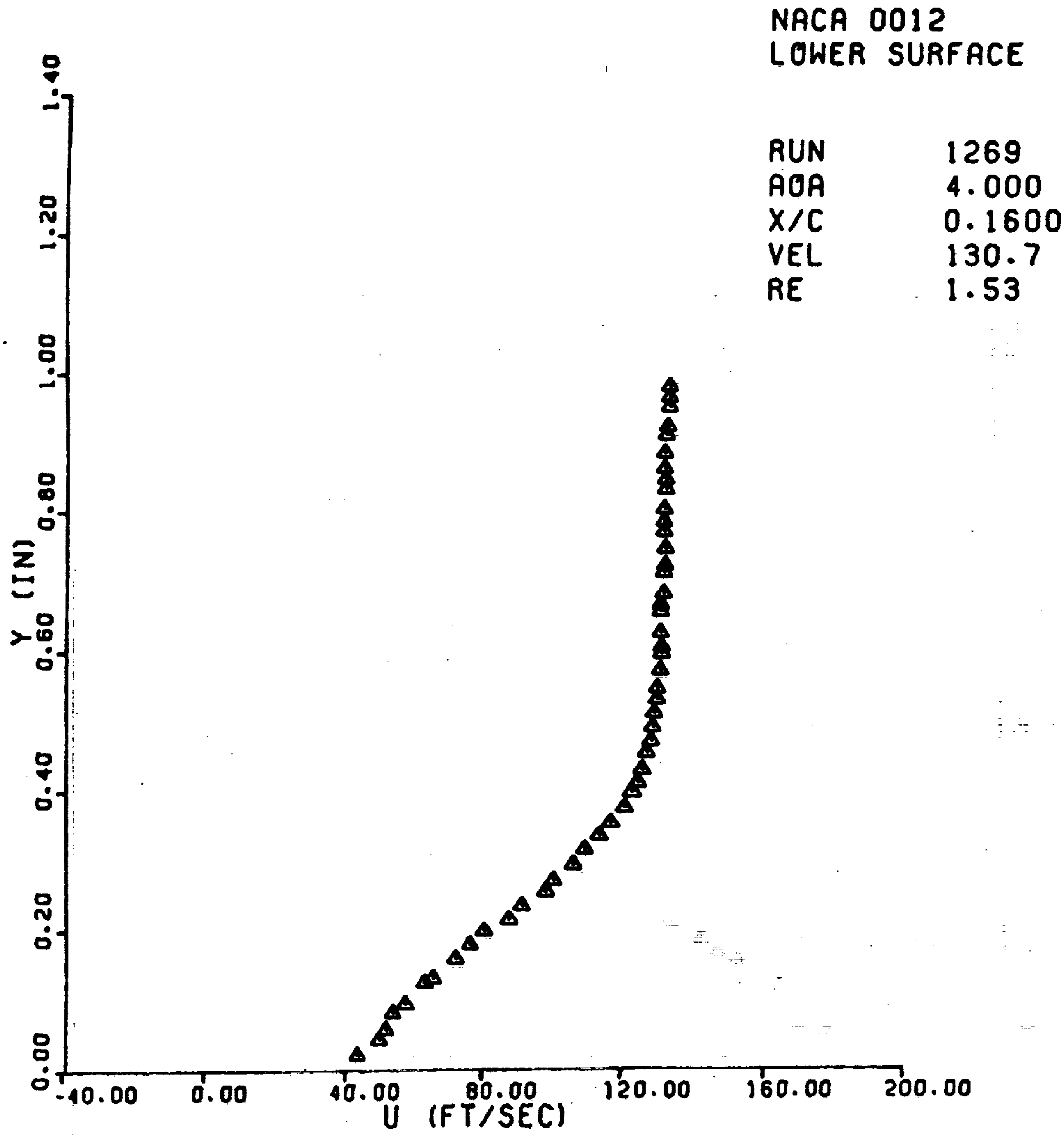
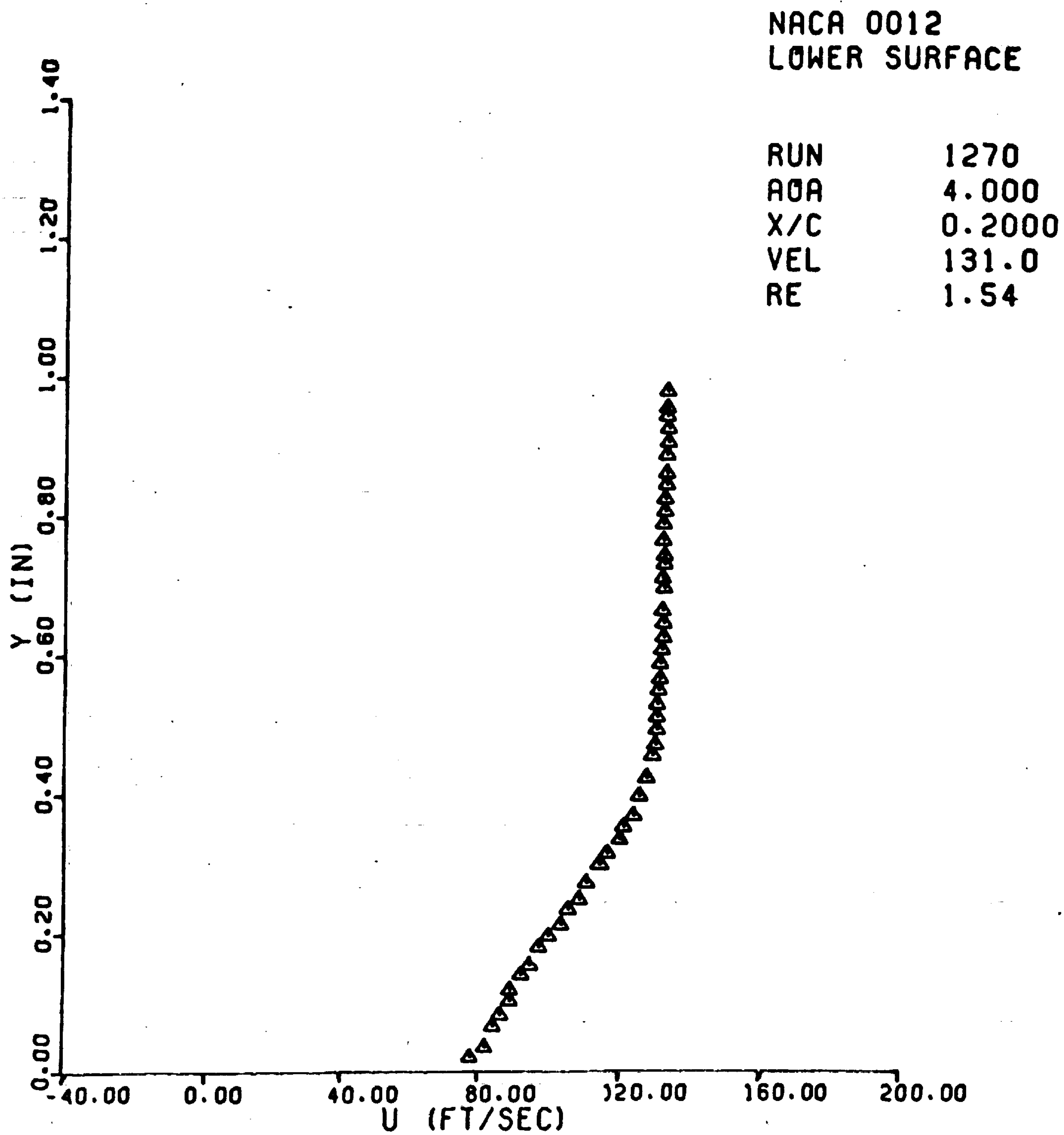
LOWER SURFACE
RUN 1265
AOA 4.000
X/C 0.0800
VEL 131.0
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1266
AOA 4.000
X/C 0.1000
VEL 130.9
RE 1.54
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00

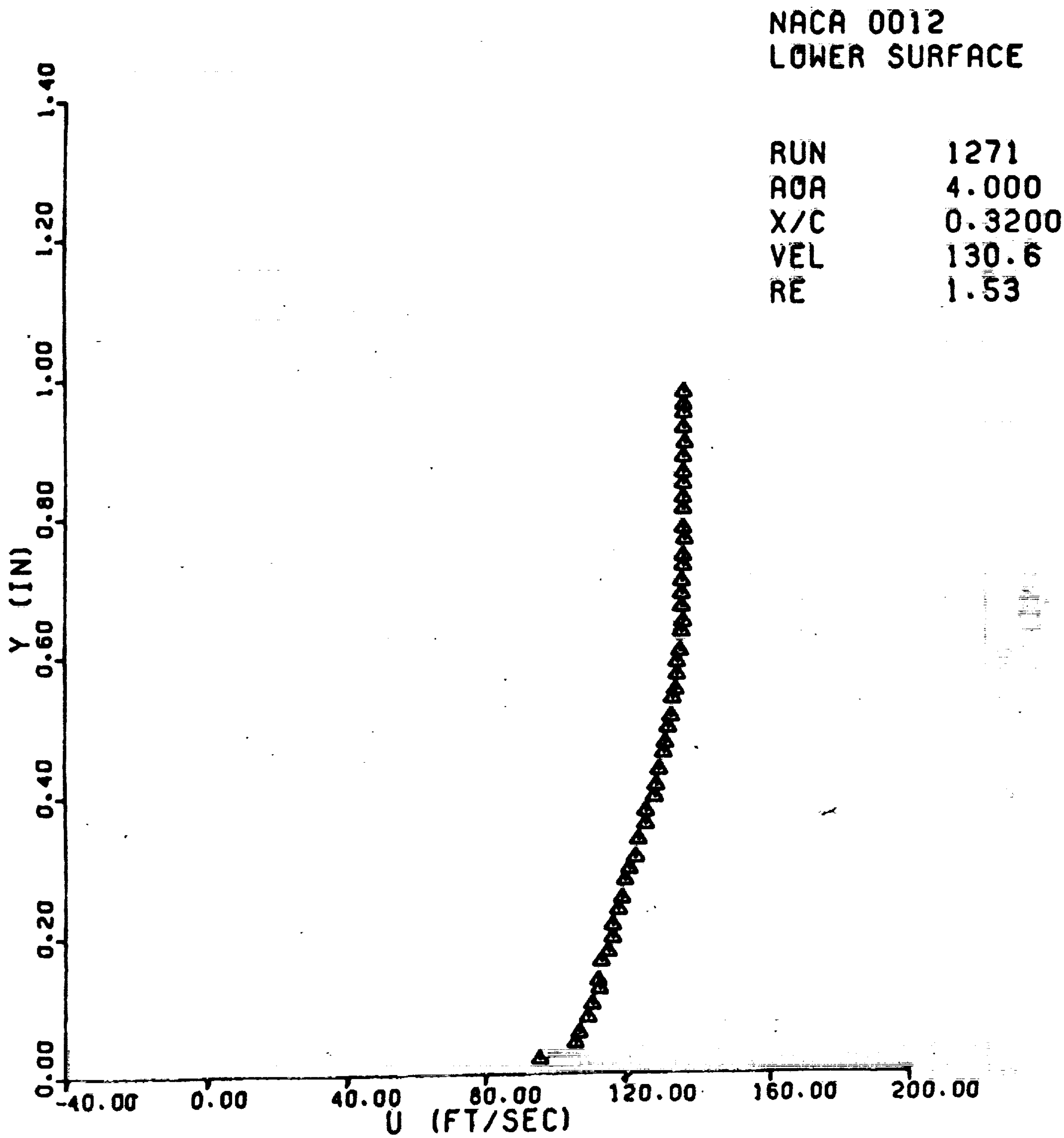

NACA 0012
LOWER SURFACE
RUN 1267
AOA 4.000
X/C 0.1200
VEL 130.5
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

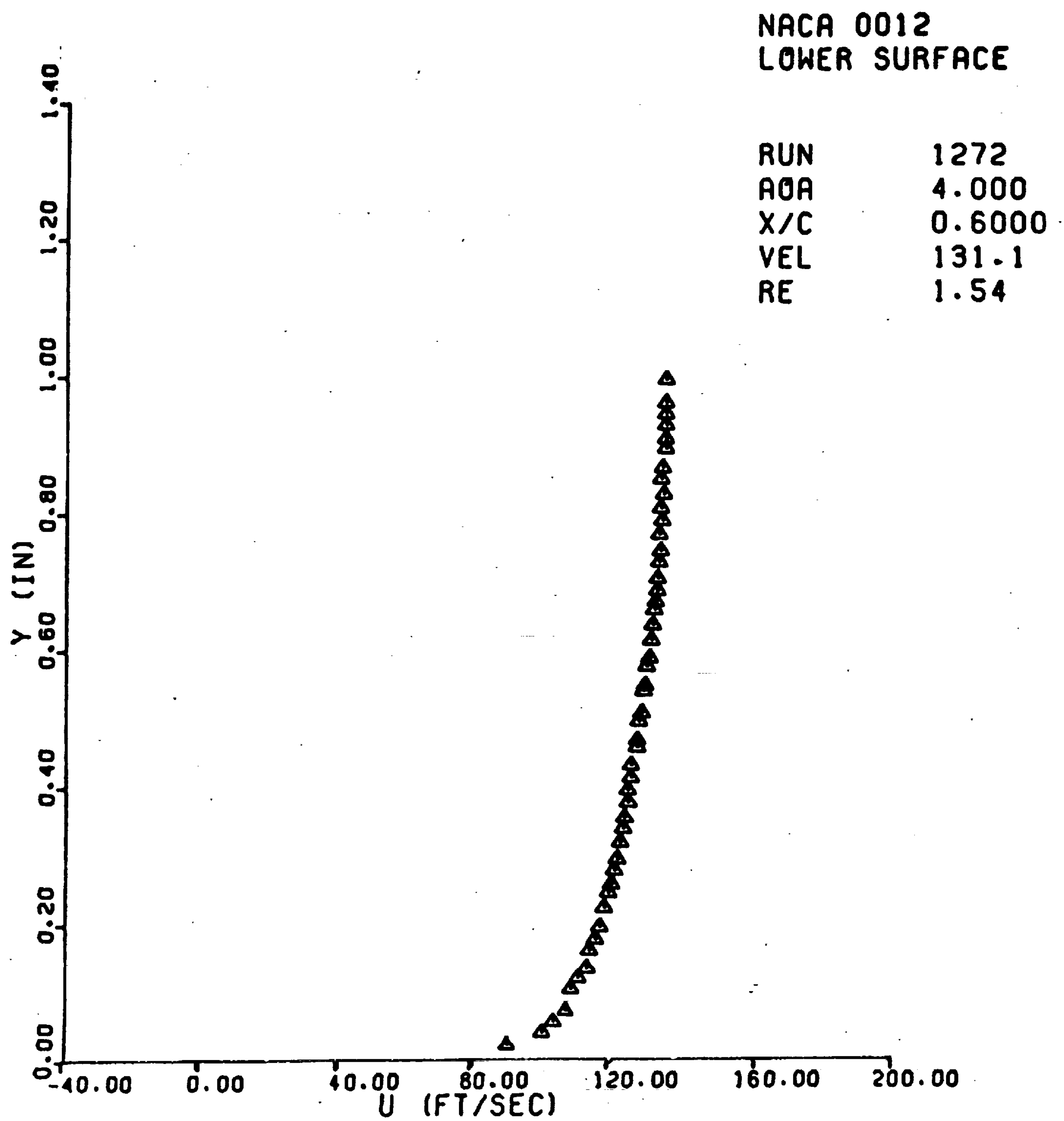

NACA 0012
LOWER SURFACE
RUN 1268
AOA 4.000
X/C 0.1400
VEL 130.9
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

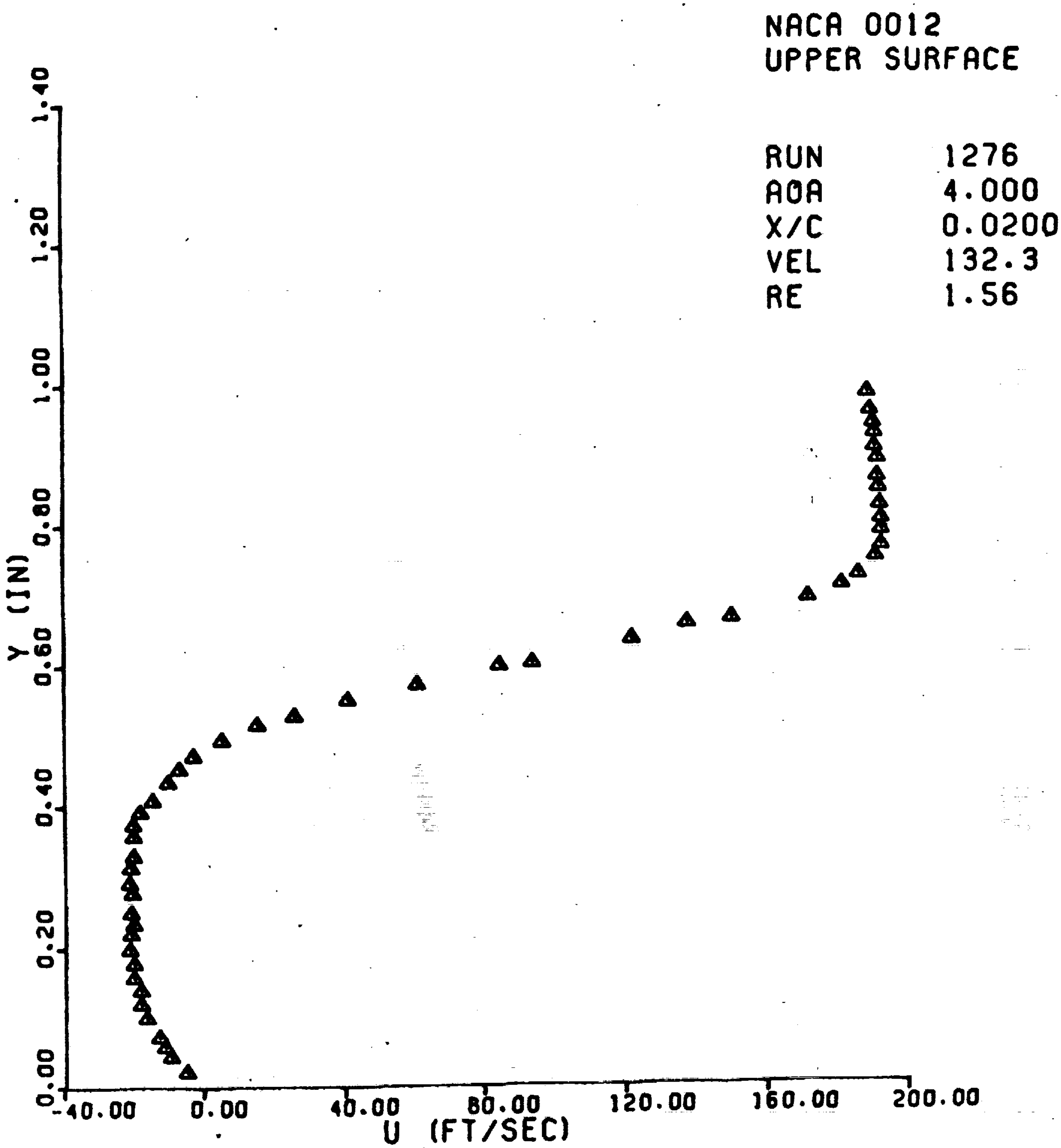

NACA 0012
LOWER SURFACE
RUN 1269
AOA 4.000
X/C 0.1600
VEL 130.7
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

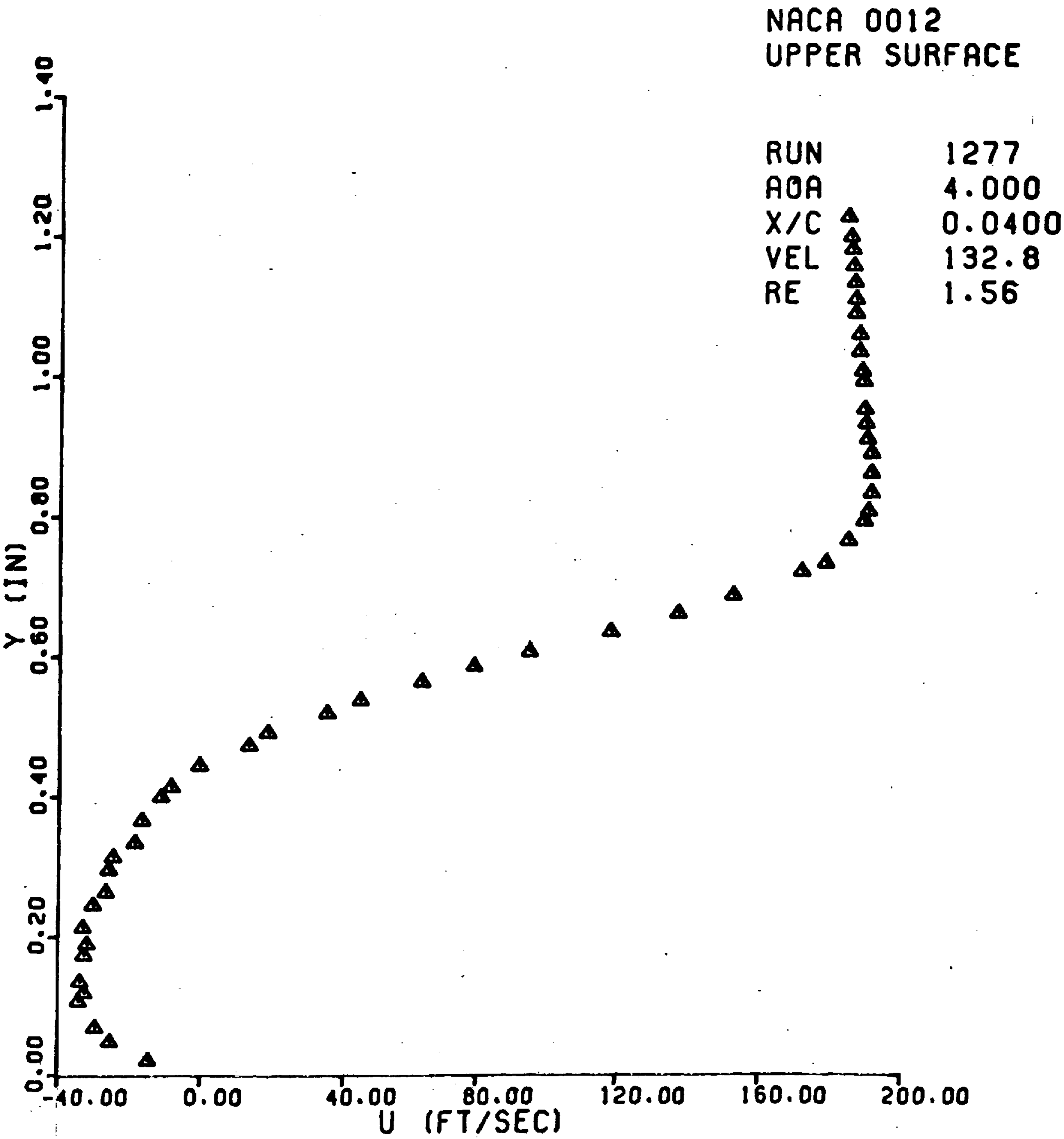


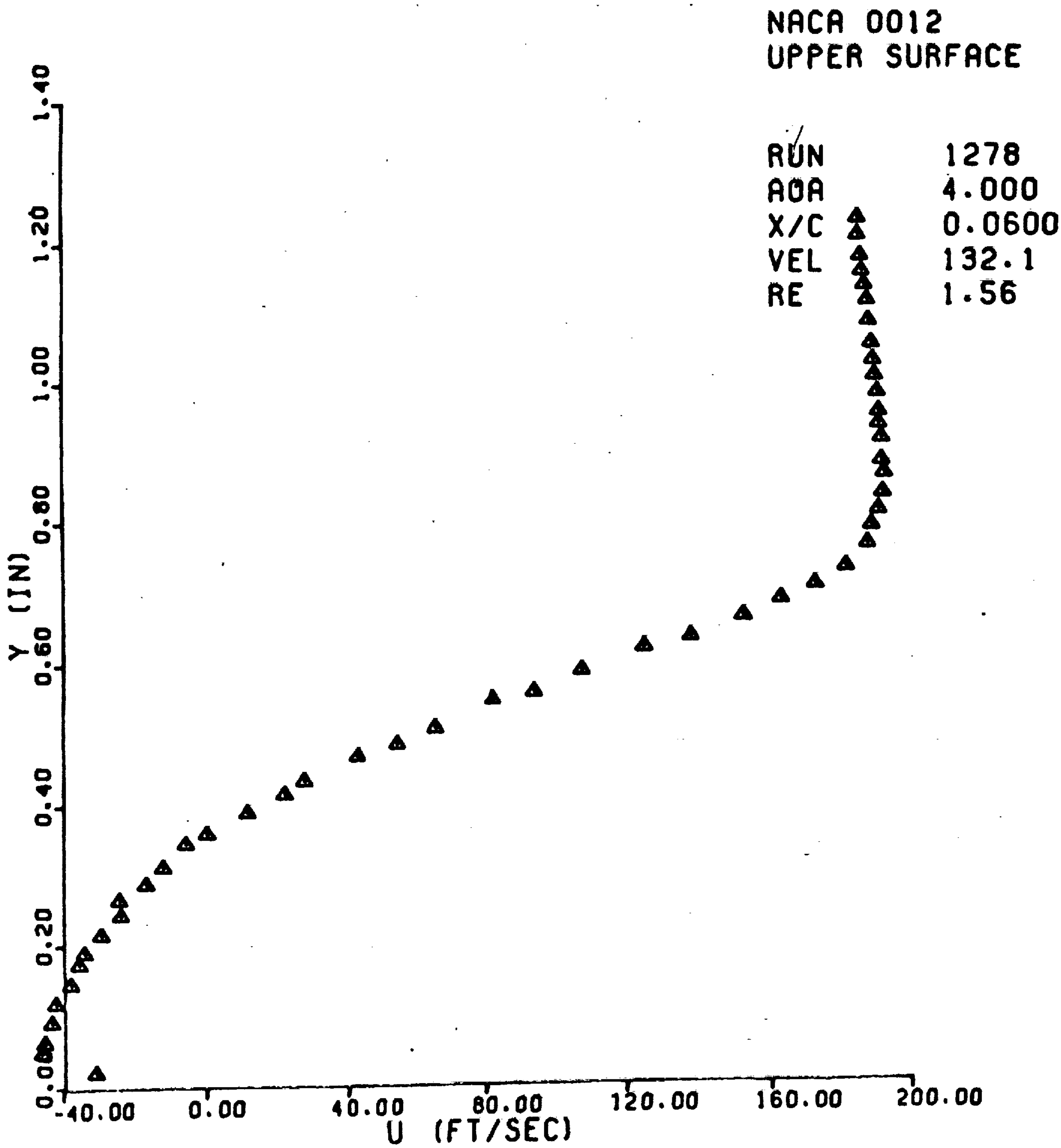
NACA 0012
LOWER SURFACE
RUN 1270
AOA 4.000
X/C 0.2000
VEL 131.0
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
LOWER SURFACE
RUN 1271
AOA 4.000
X/C 0.3200
VEL 130.6
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

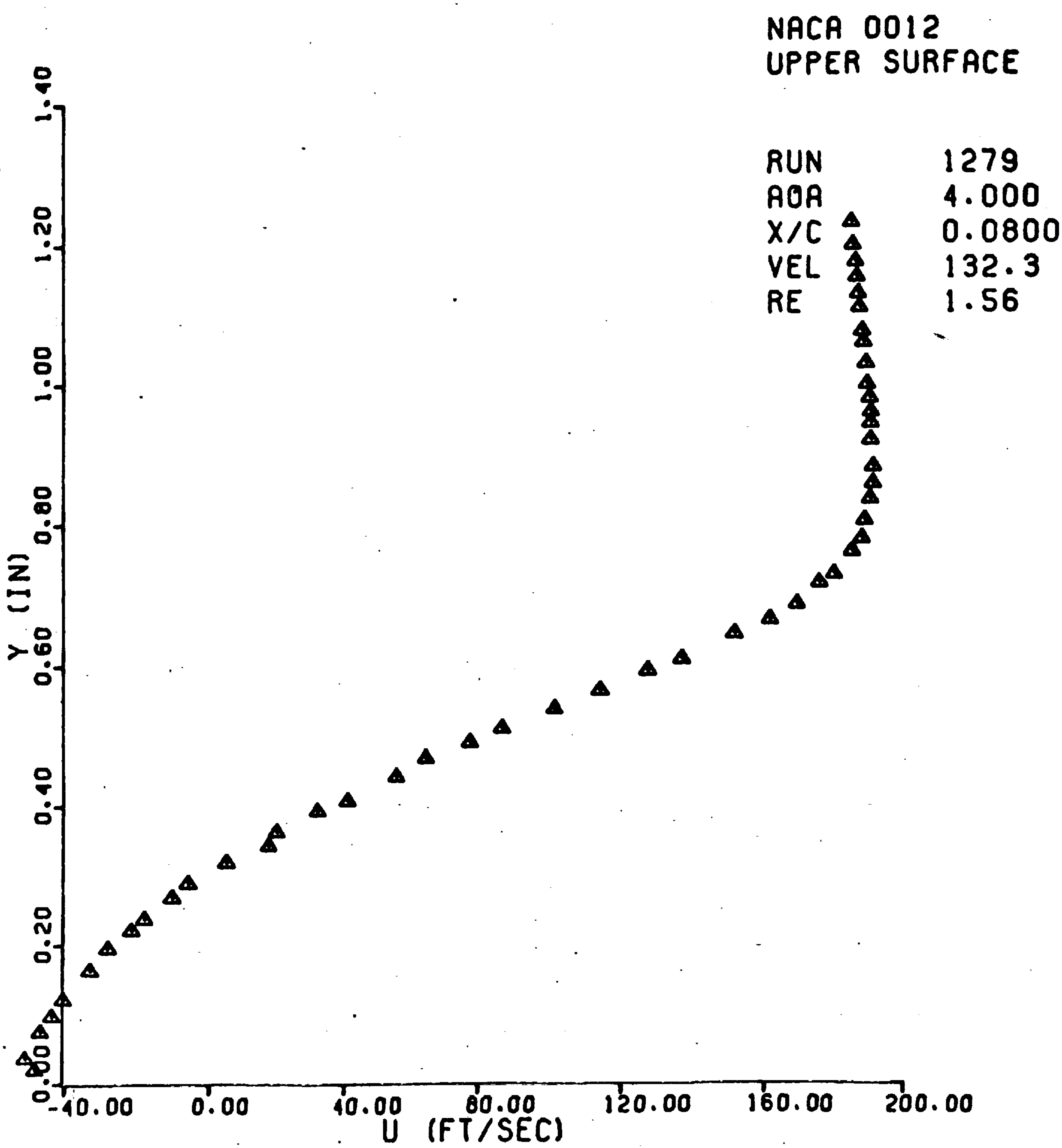

NACA 0012
LOWER SURFACE
RUN 1272
AOA 4.000
X/C 0.6000
VEL 131.1
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1276
AOA 4.000
X/C 0.0200
VEL 132.3
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
U (FT/SEC)
-40.00
0.00
40.00
80.00
120.00
160.00
200.00

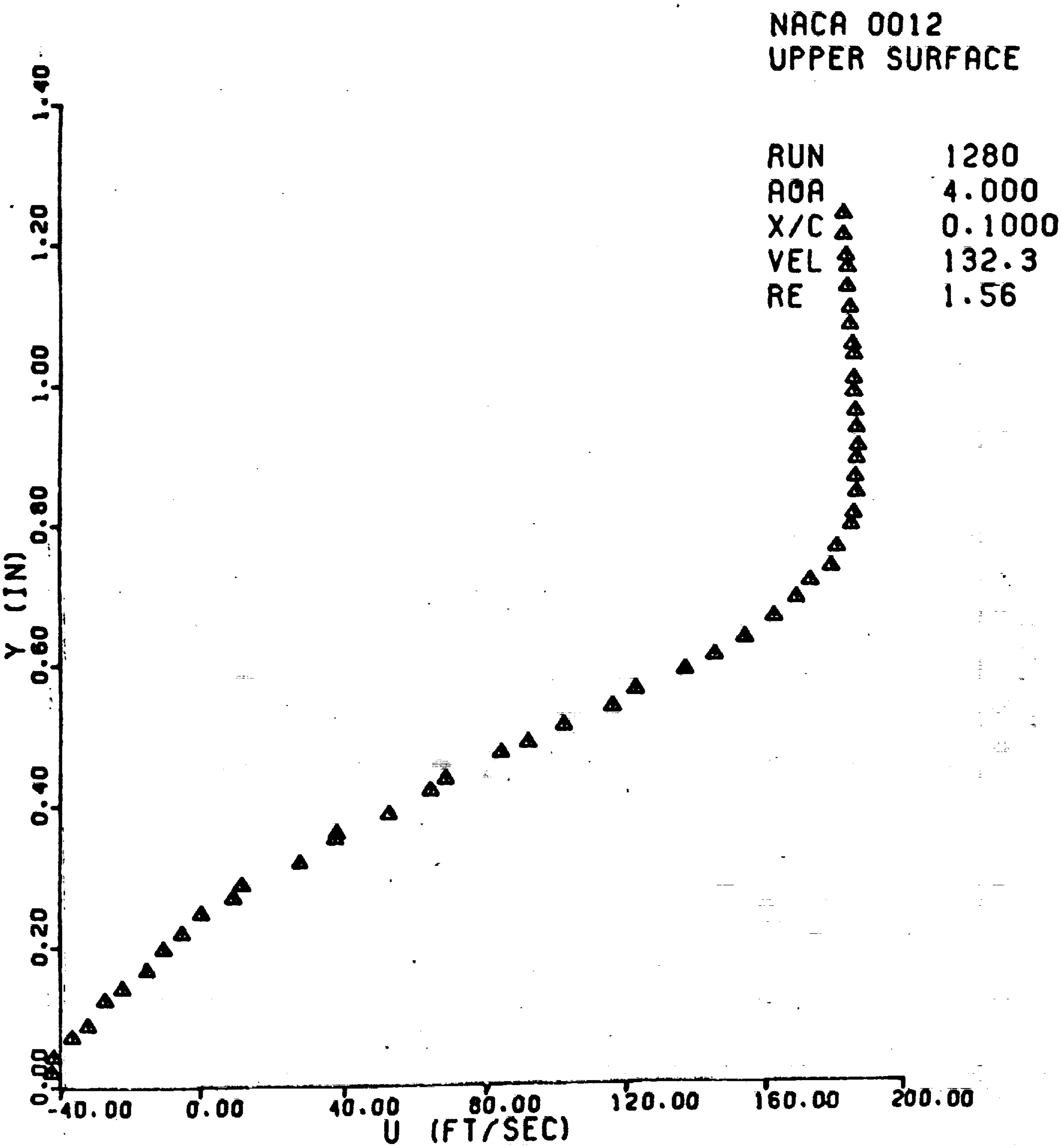

NACA 0012
UPPER SURFACE
RUN 1277
AOA 4.000
X/C 0.0400
VEL 132.8
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

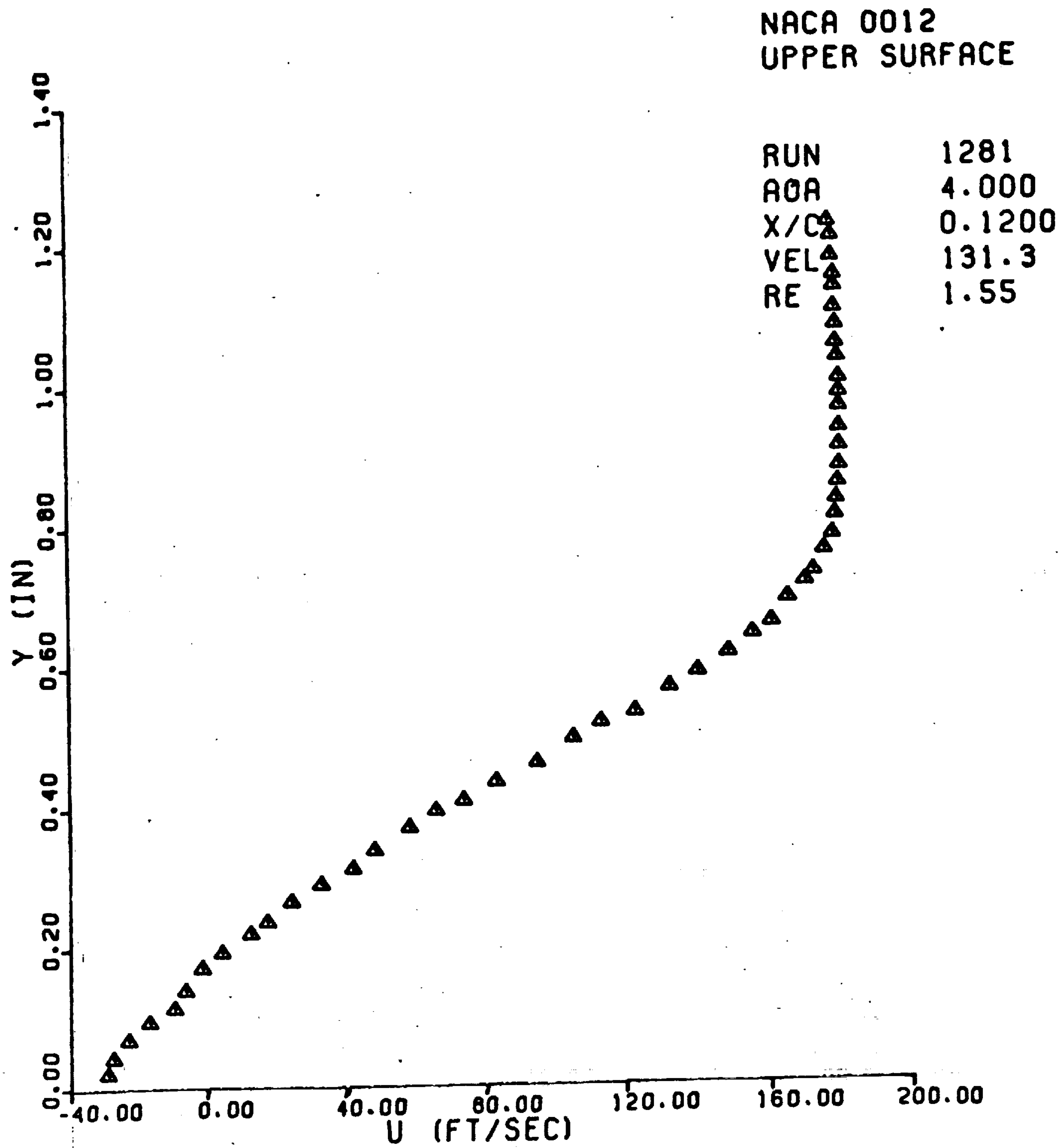


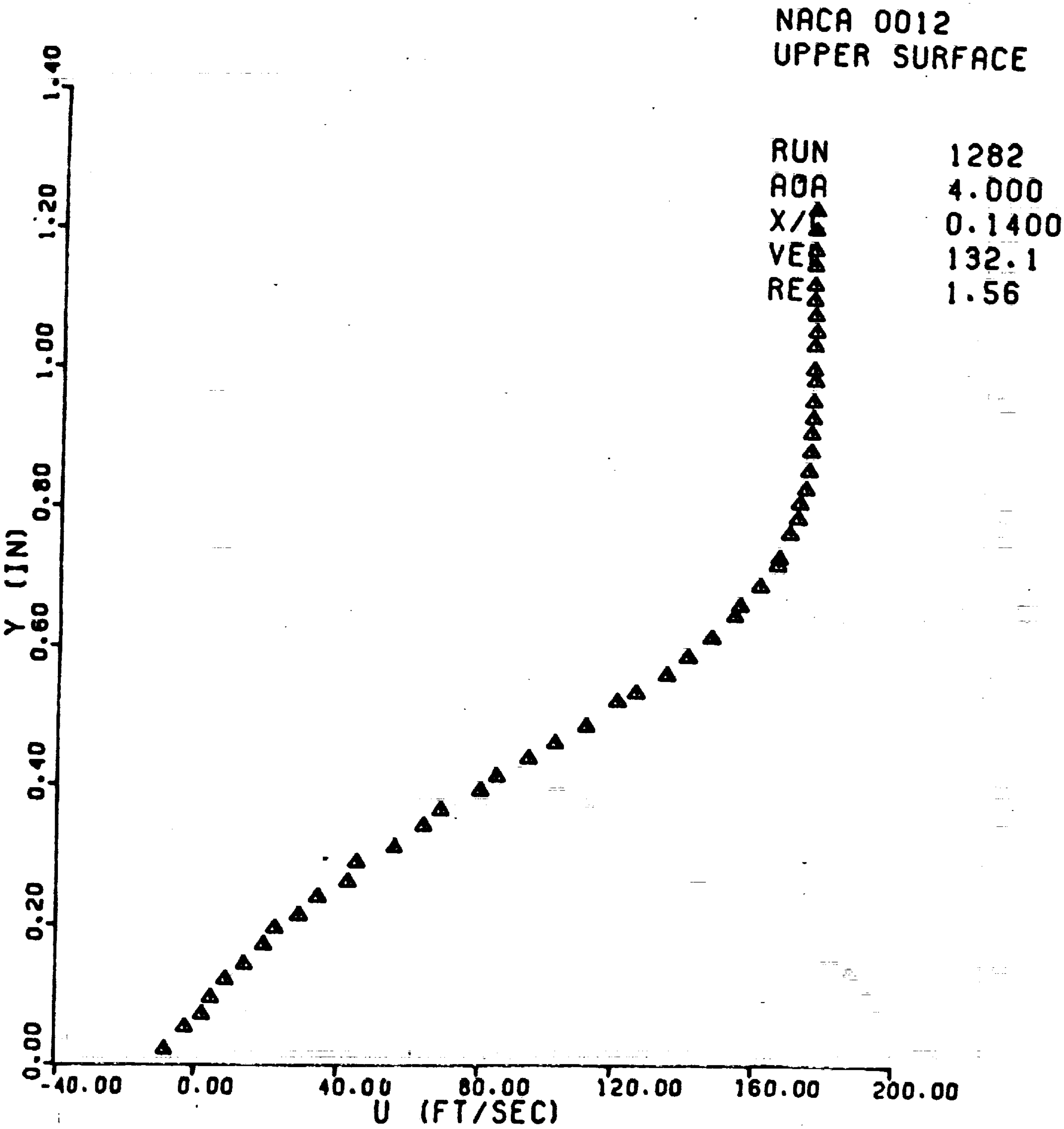
NACA 0012
UPPER SURFACE
RUN 1278
AOA 4.000
X/C 0.0600
VEL 132.1
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



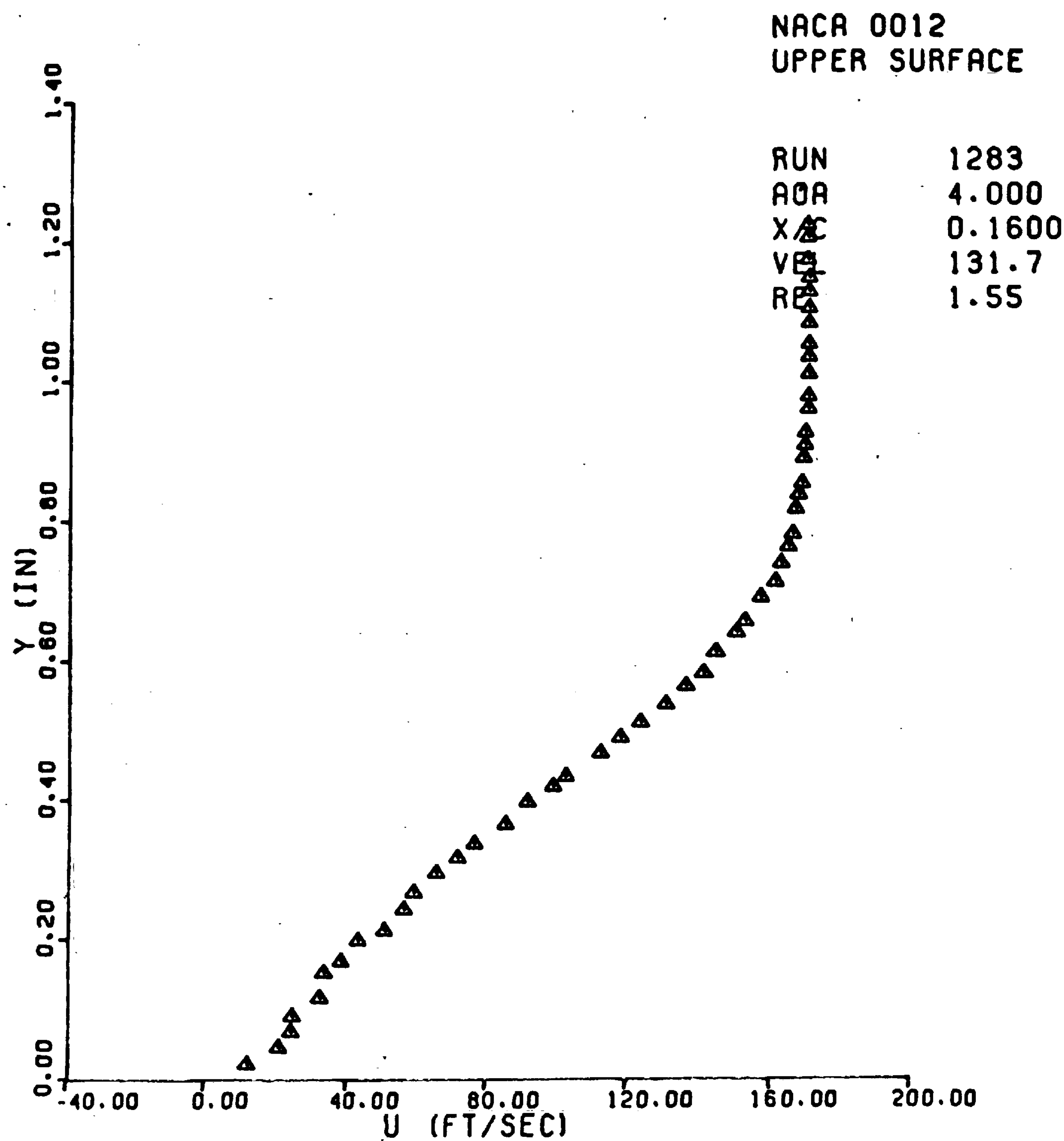
NACA 0012
UPPER SURFACE
RUN 1279
AOA 4.000
X/C 0.0800
VEL 132.3
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

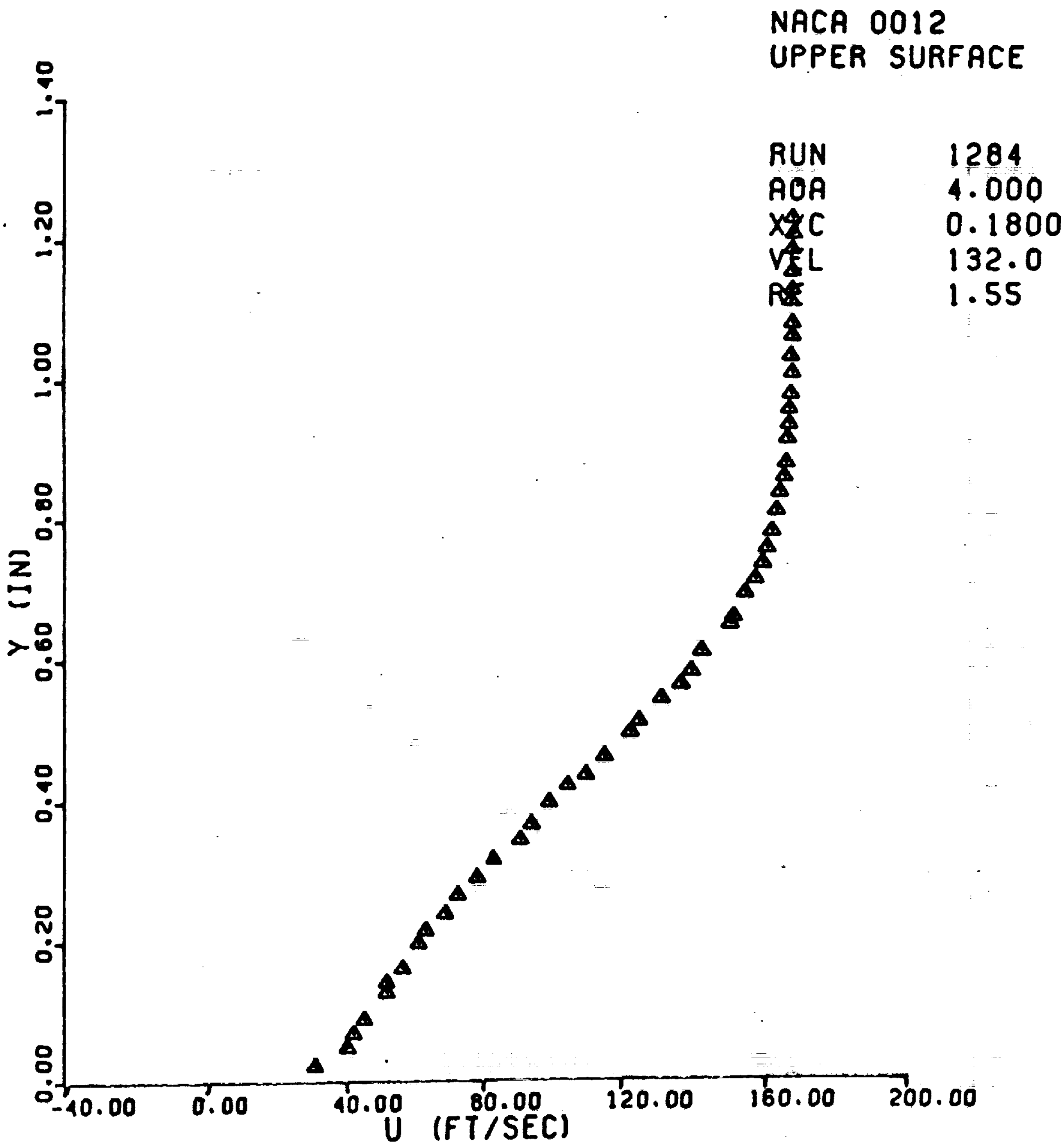

NACA 0012
UPPER SURFACE
RUN 1280
AOA 4.000
X/C 0.1000
VEL 132.3
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1281
AOA 4.000
X/C 0.1200
VEL 131.3
RE 1.55
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

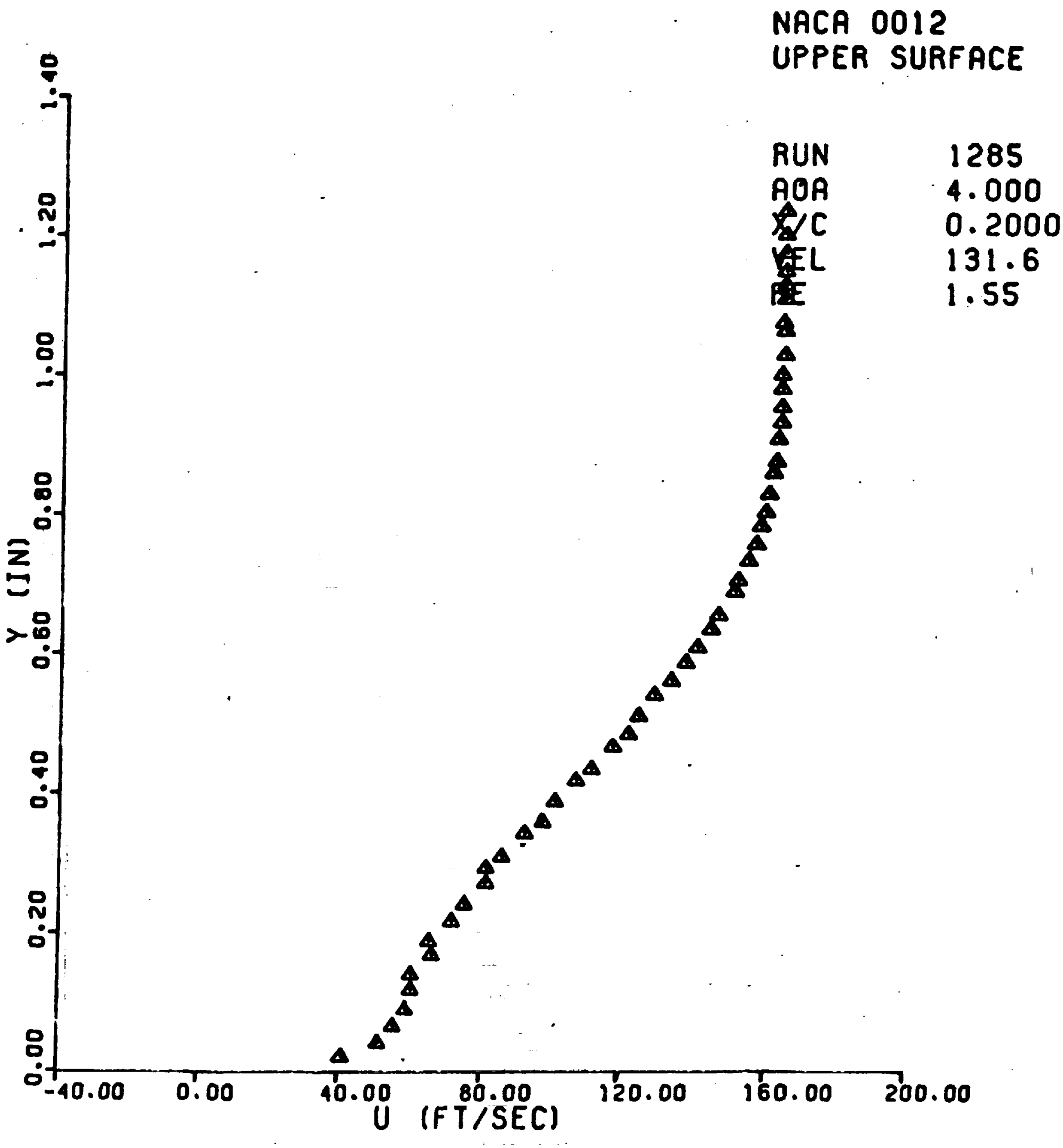


NACA 0012
UPPER SURFACE
RUN 1282
AOA 4.000
X/C 0.1400
VEL 132.1
RE 1.56
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

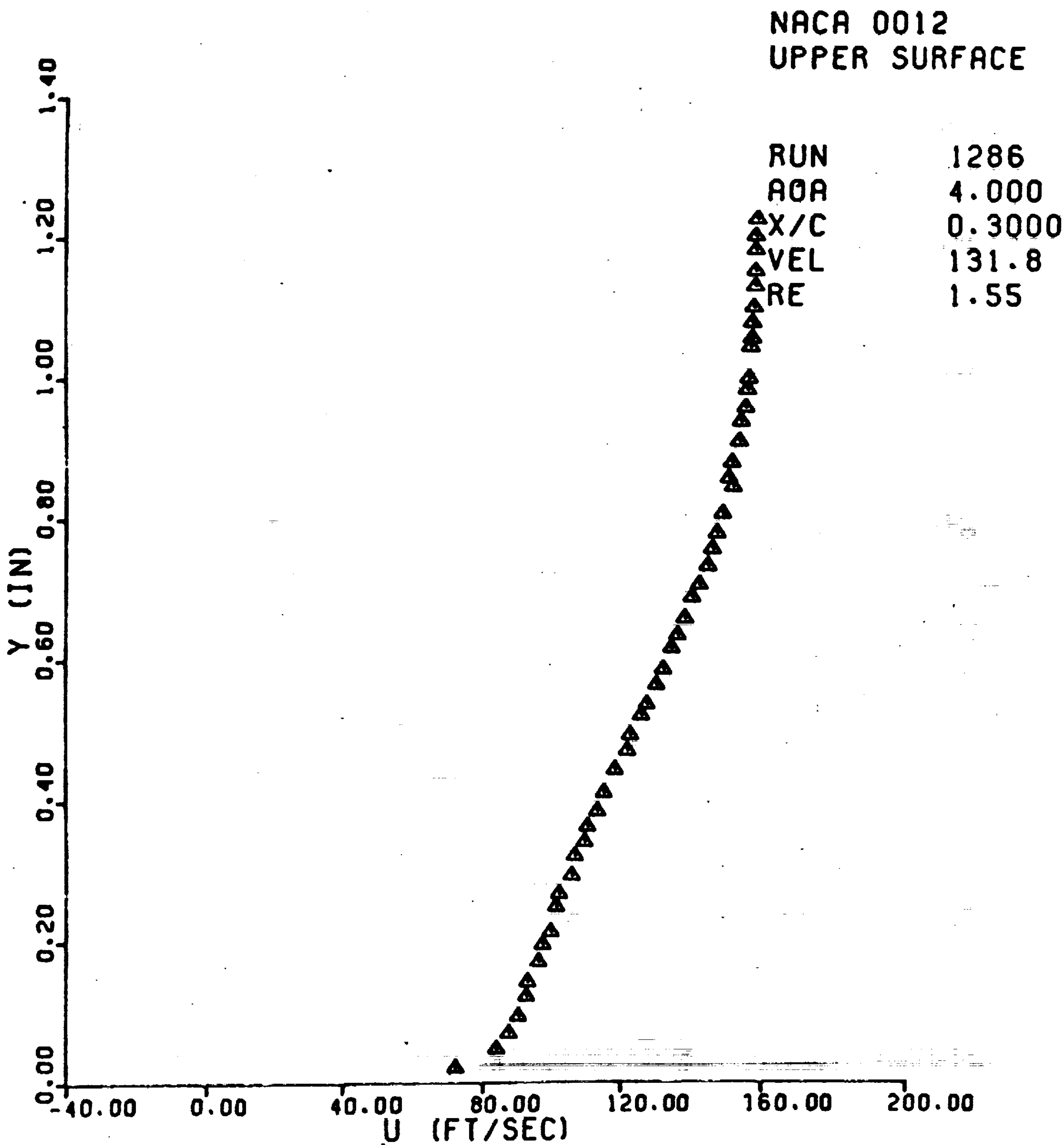

NACA 0012
UPPER SURFACE
RUN 1283
AOA 4.000
X/C 0.1600
VEL 131.7
RE 1.55
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1284
AOA 4.000
X/C 0.1800
VEL 132.0
RE 1.55
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00



NACA 0012
UPPER SURFACE
RUN 1285
AOA 4.000
X/C 0.2000
VEL 131.6
RE 1.55
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00


NACA 0012
UPPER SURFACE
RUN 1286
AOA 4.000
X/C 0.3000
VEL 131.8
RE 1.55
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
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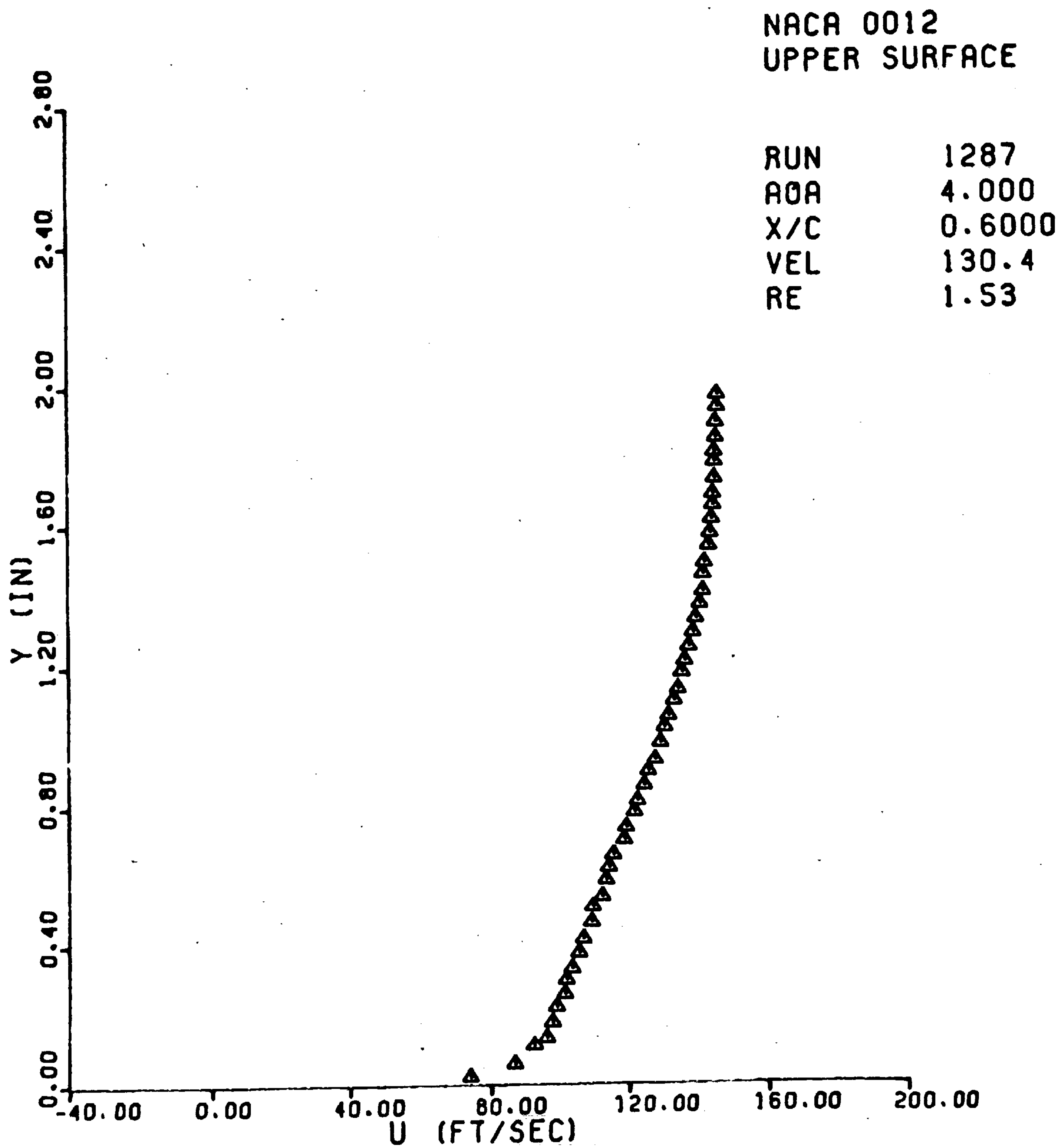
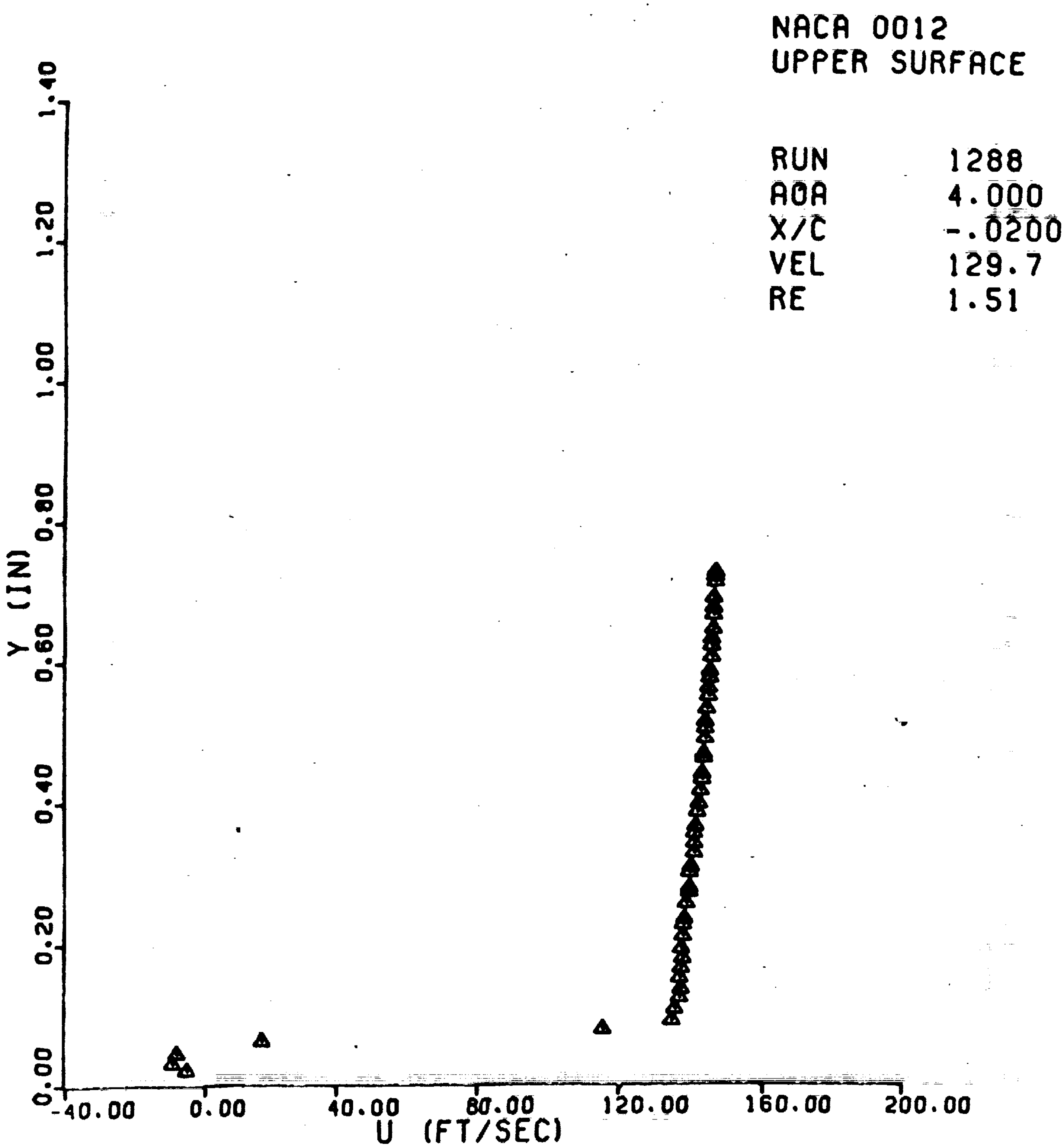
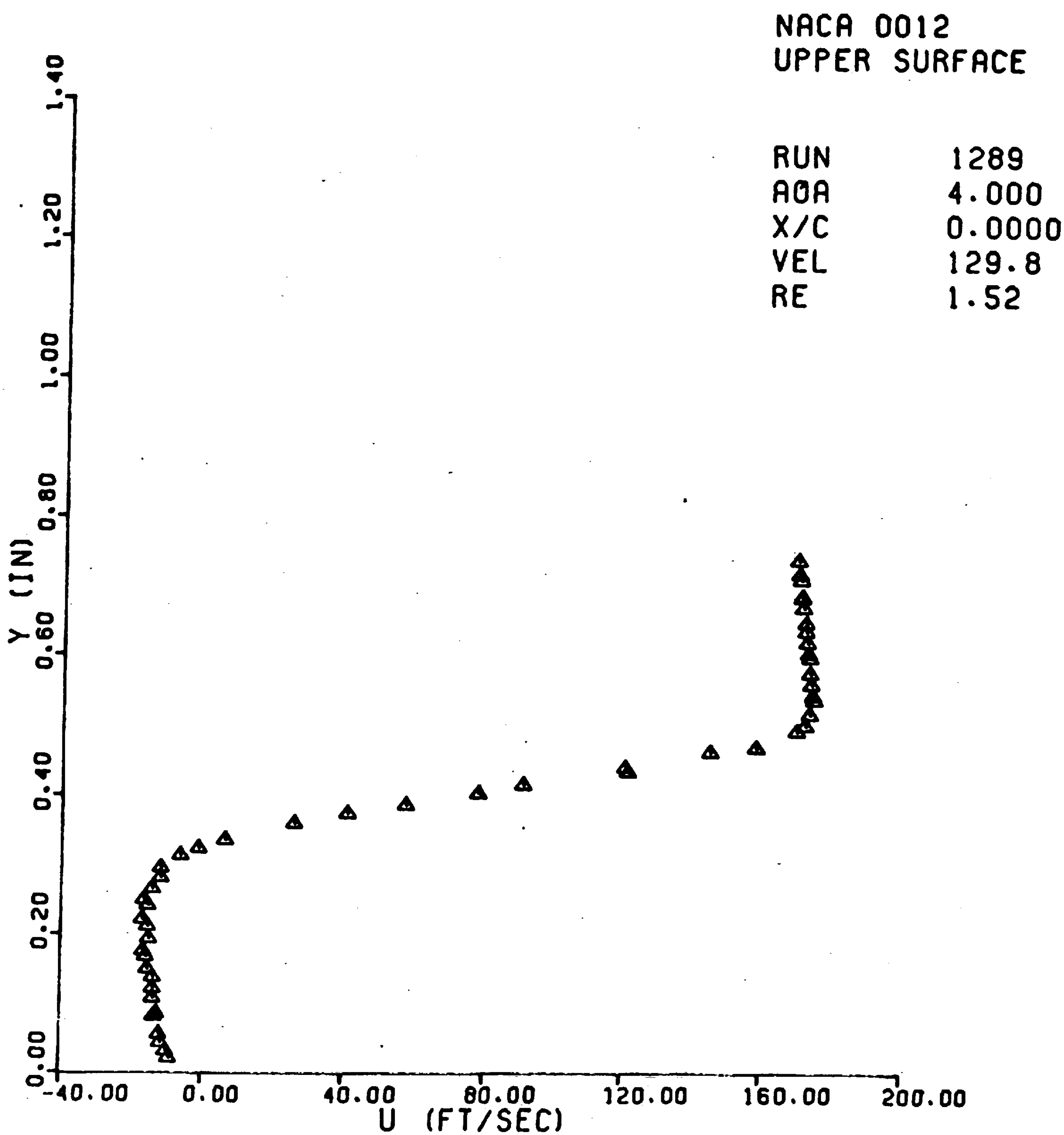
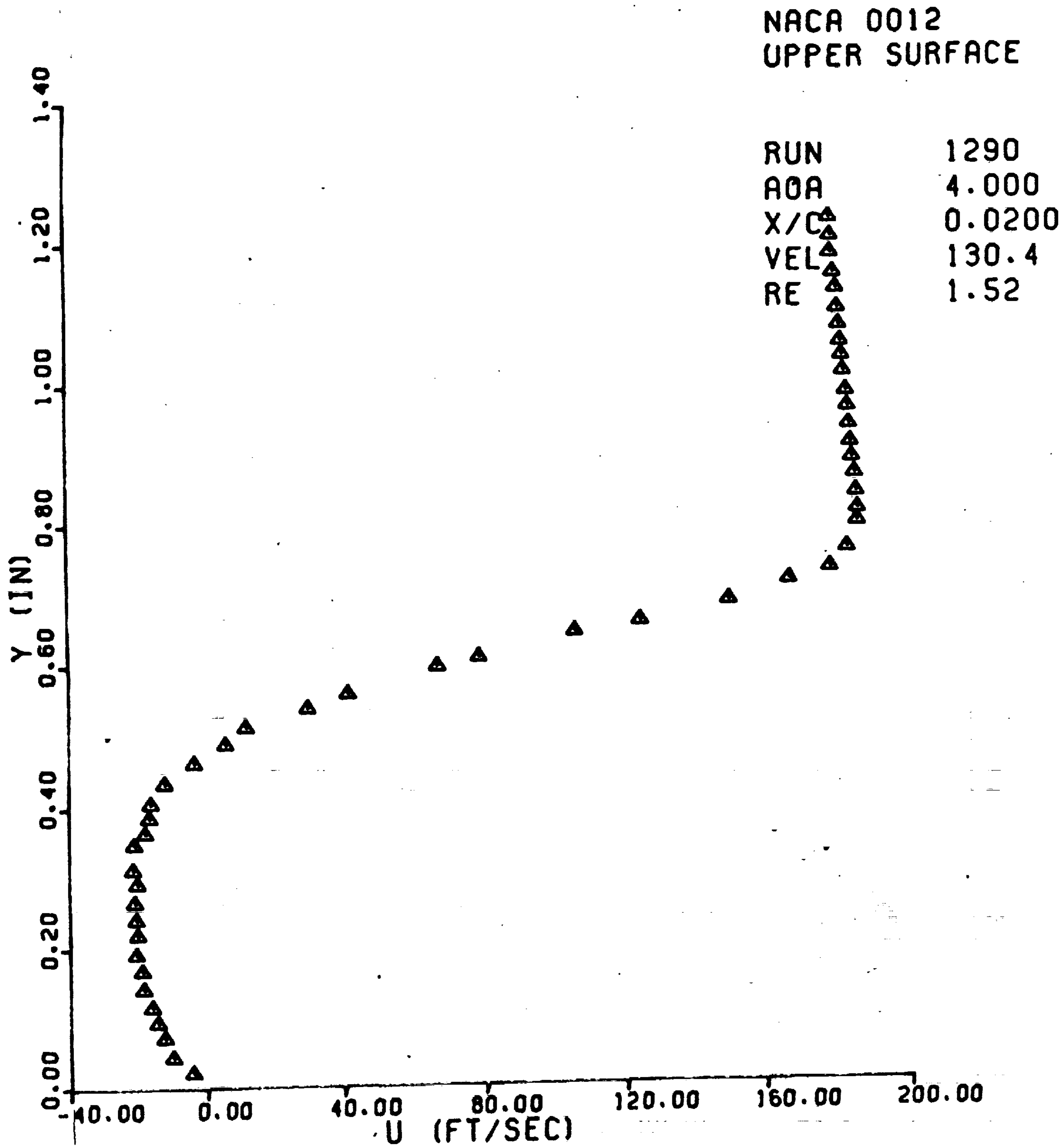
200.00
U (FT/SEC)



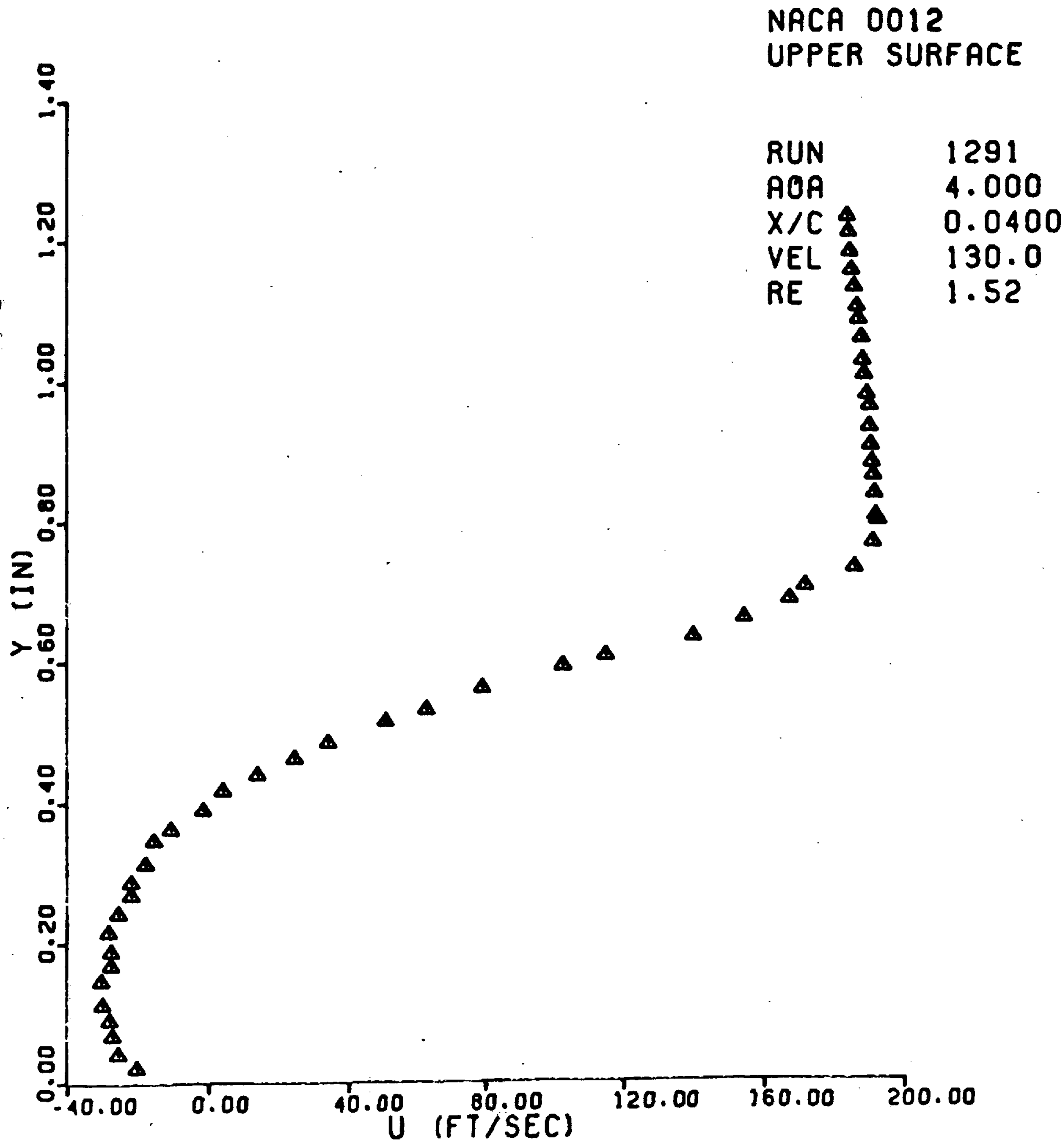
NACA 0012
UPPER SURFACE
RUN 1287
AOA 4.000
X/C 0.6000
VEL 130.4
RE 1.53
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

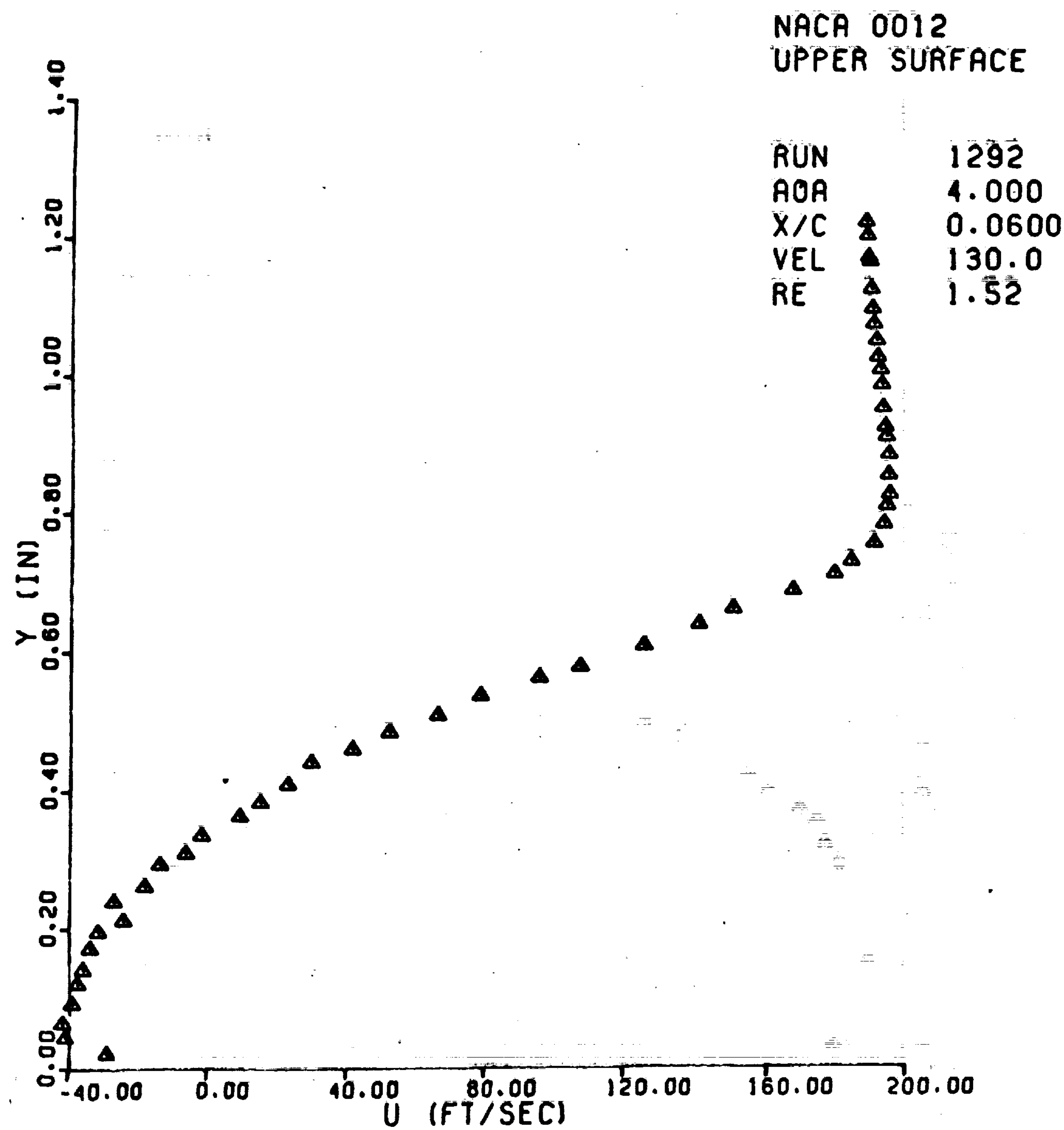

NACA 0012
UPPER SURFACE
RUN 1288
AOA 4.000
X/C -.0200
VEL 129.7
RE 1.51
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1289
AOA 4.000
X/C 0.0000
VEL 129.8
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1290
AOA 4.000
X/C 0.0200
VEL 130.4
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1291
AOA 4.000
X/C 0.0400
VEL 130.0
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1292
AOA 4.000
X/C 0.0600
VEL 130.0
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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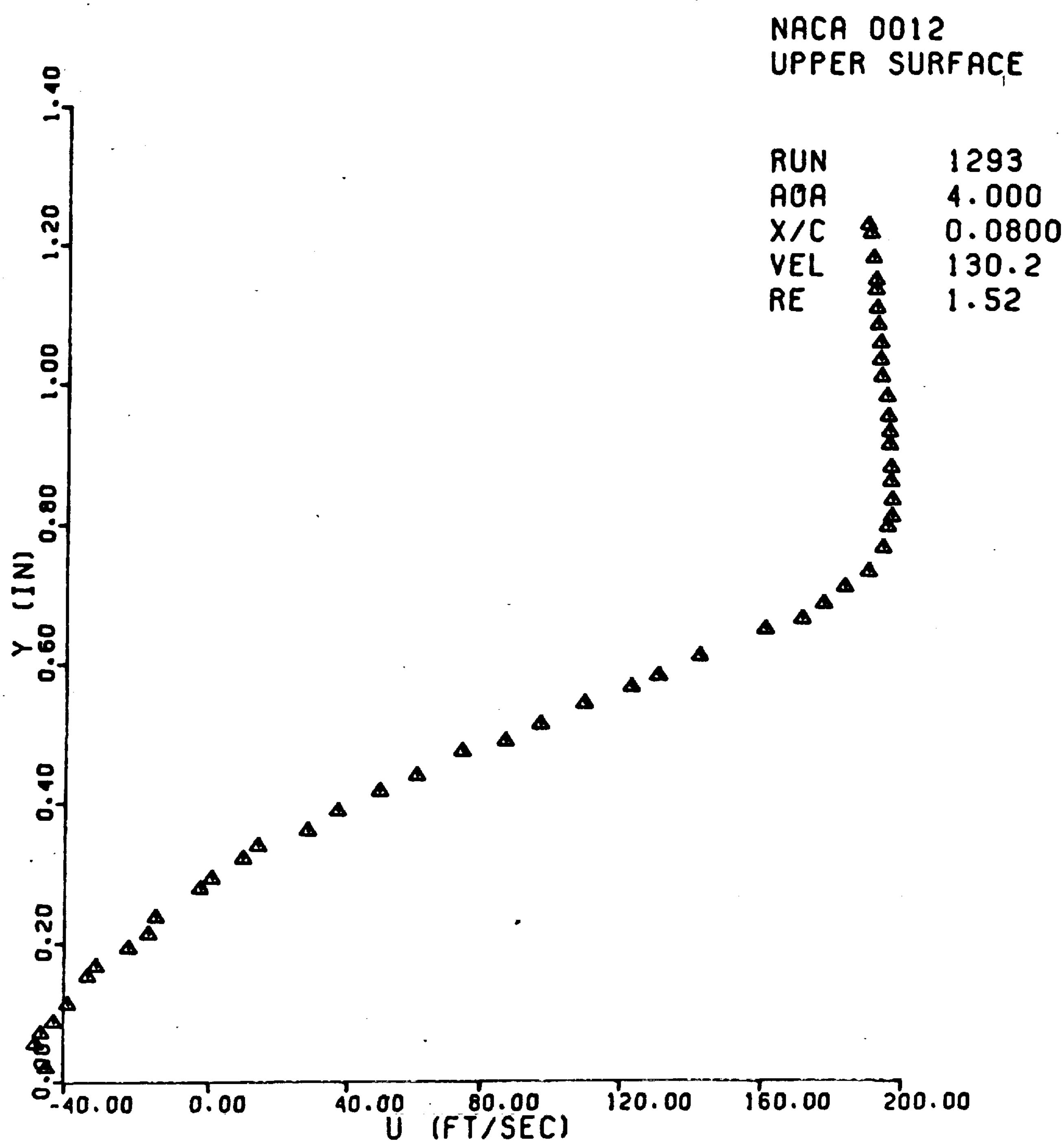
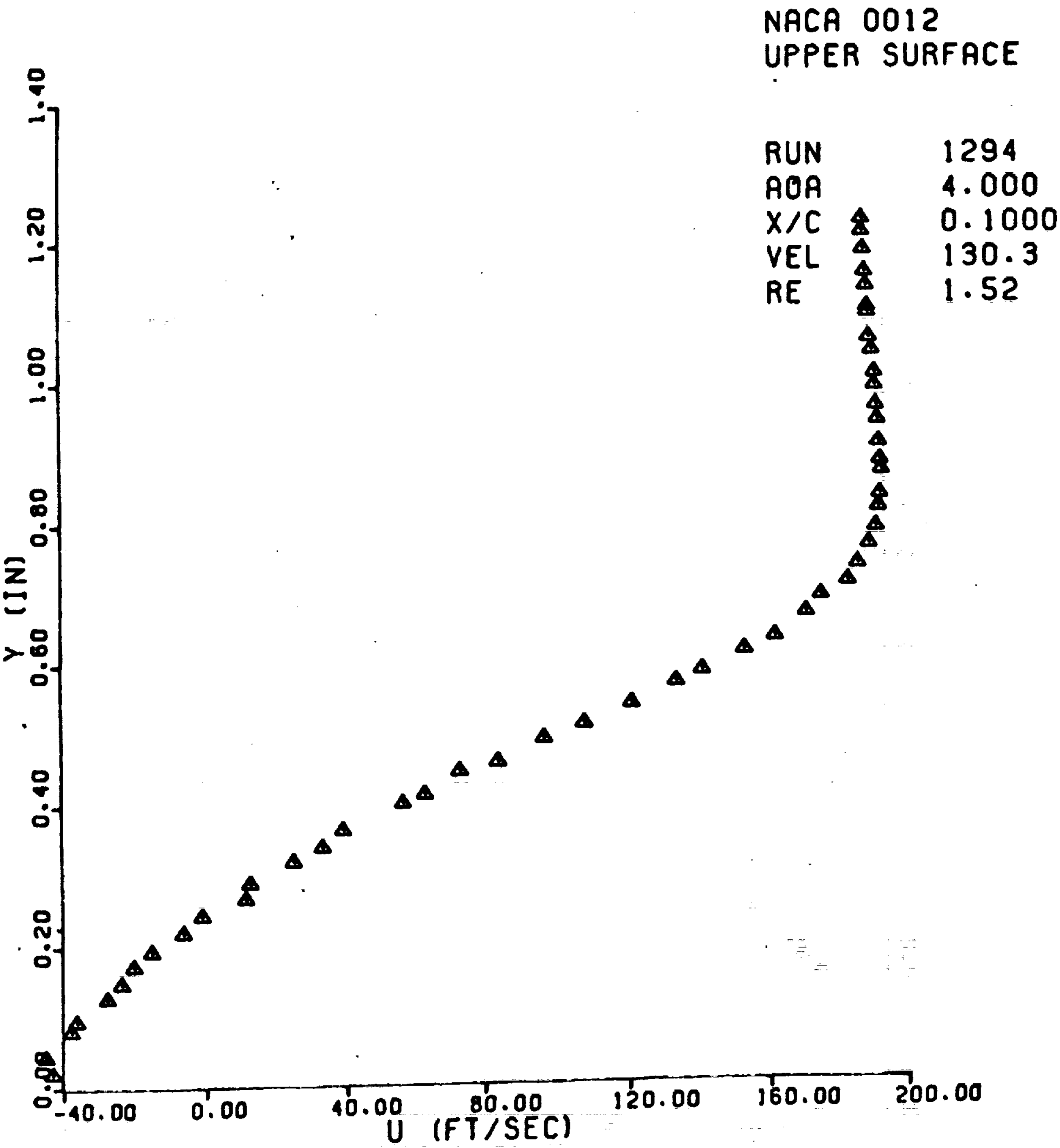
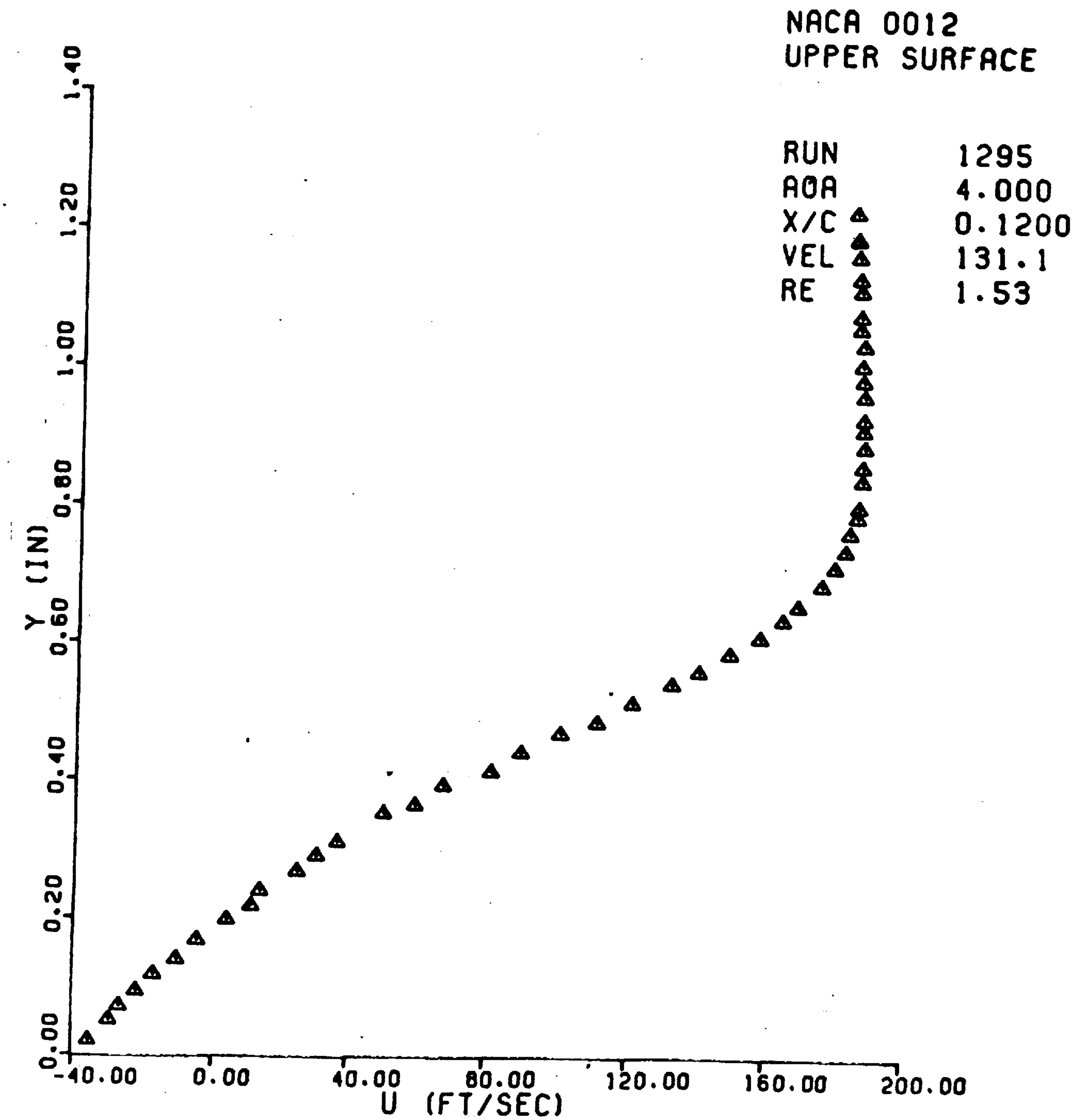
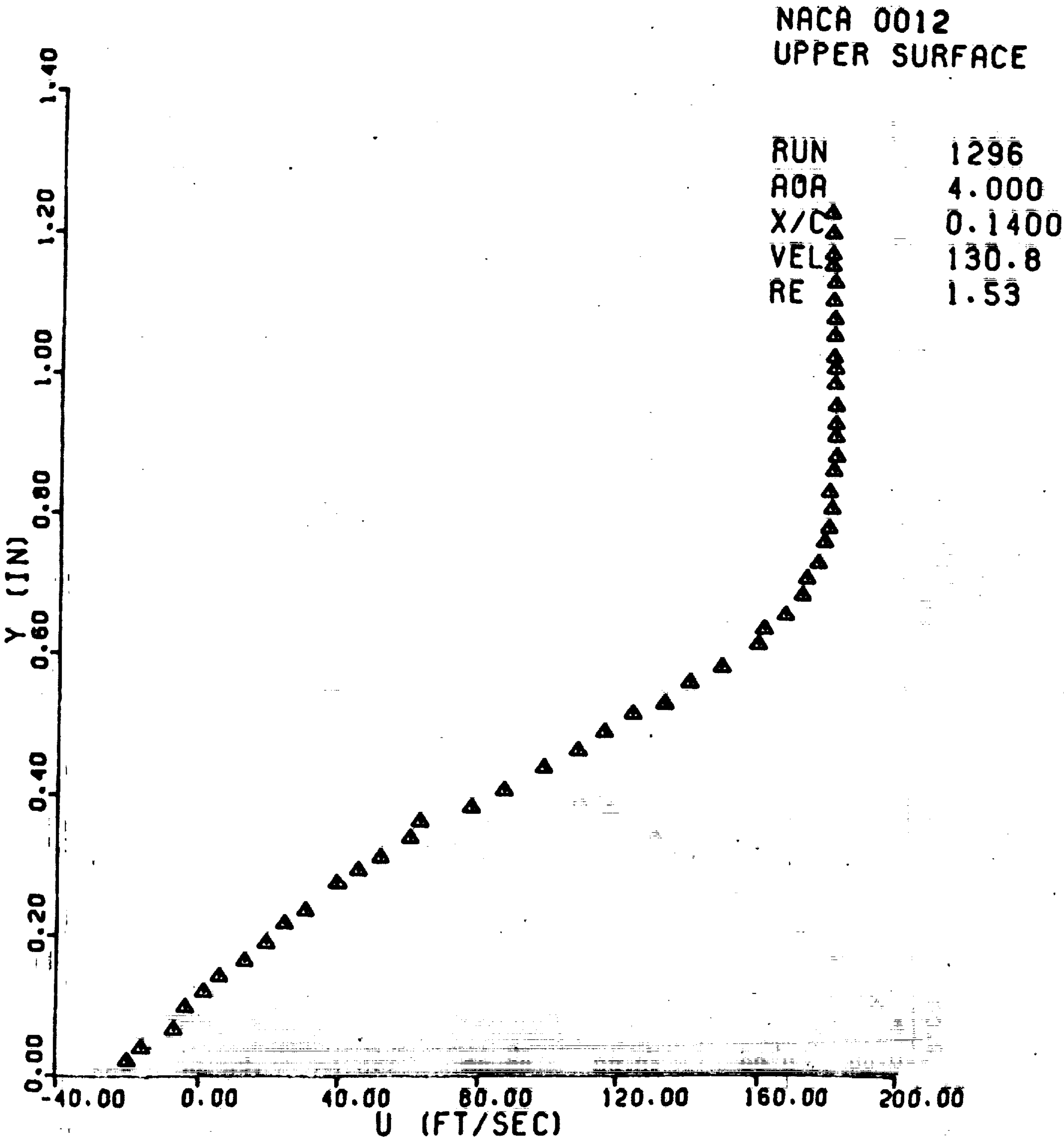
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1293
AOA 4.000
X/C 0.0800
VEL 130.2
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

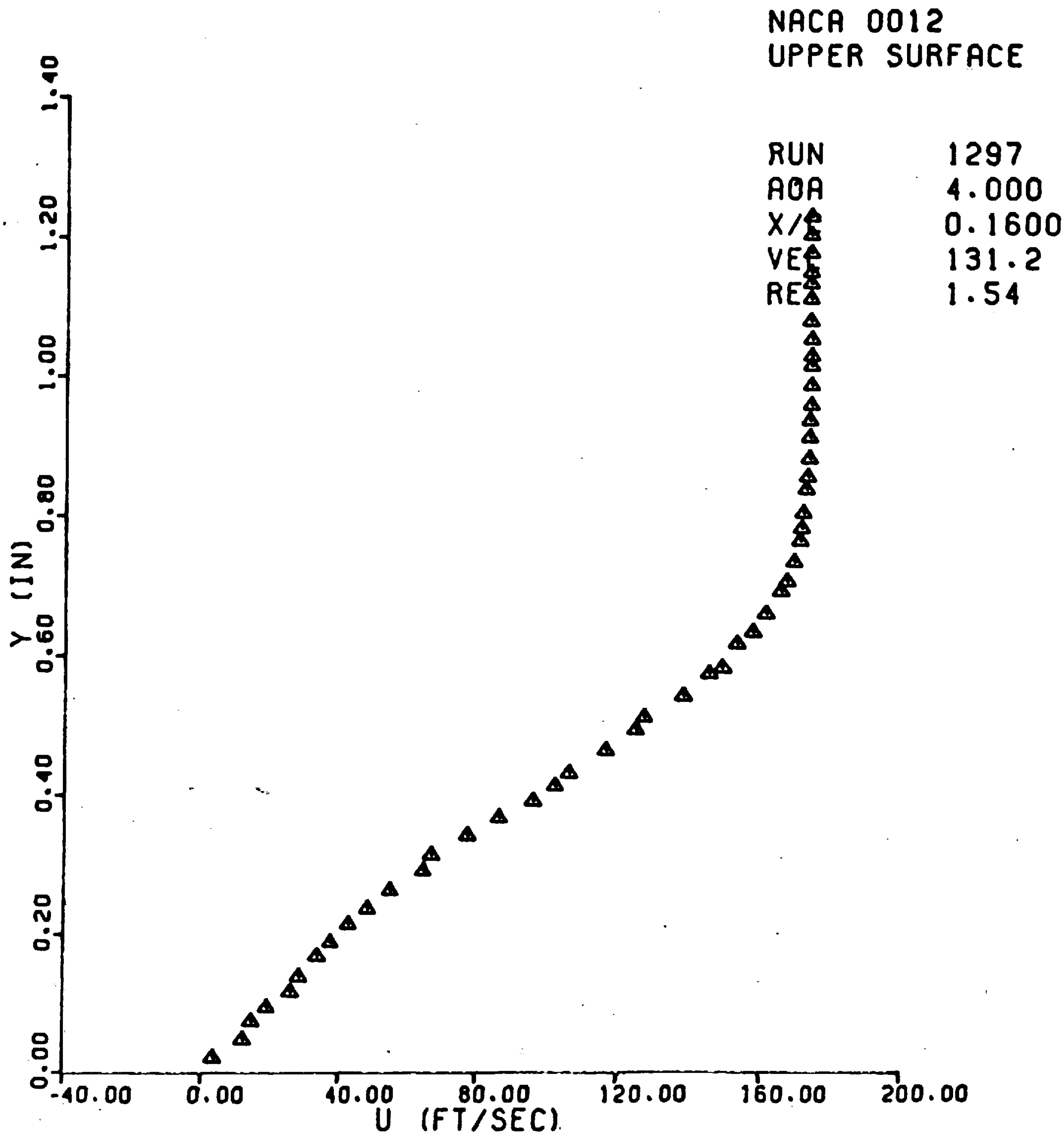

NACA 0012
UPPER SURFACE
RUN 1294
AOA 4.000
X/C 0.1000
VEL 130.3
RE 1.52
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

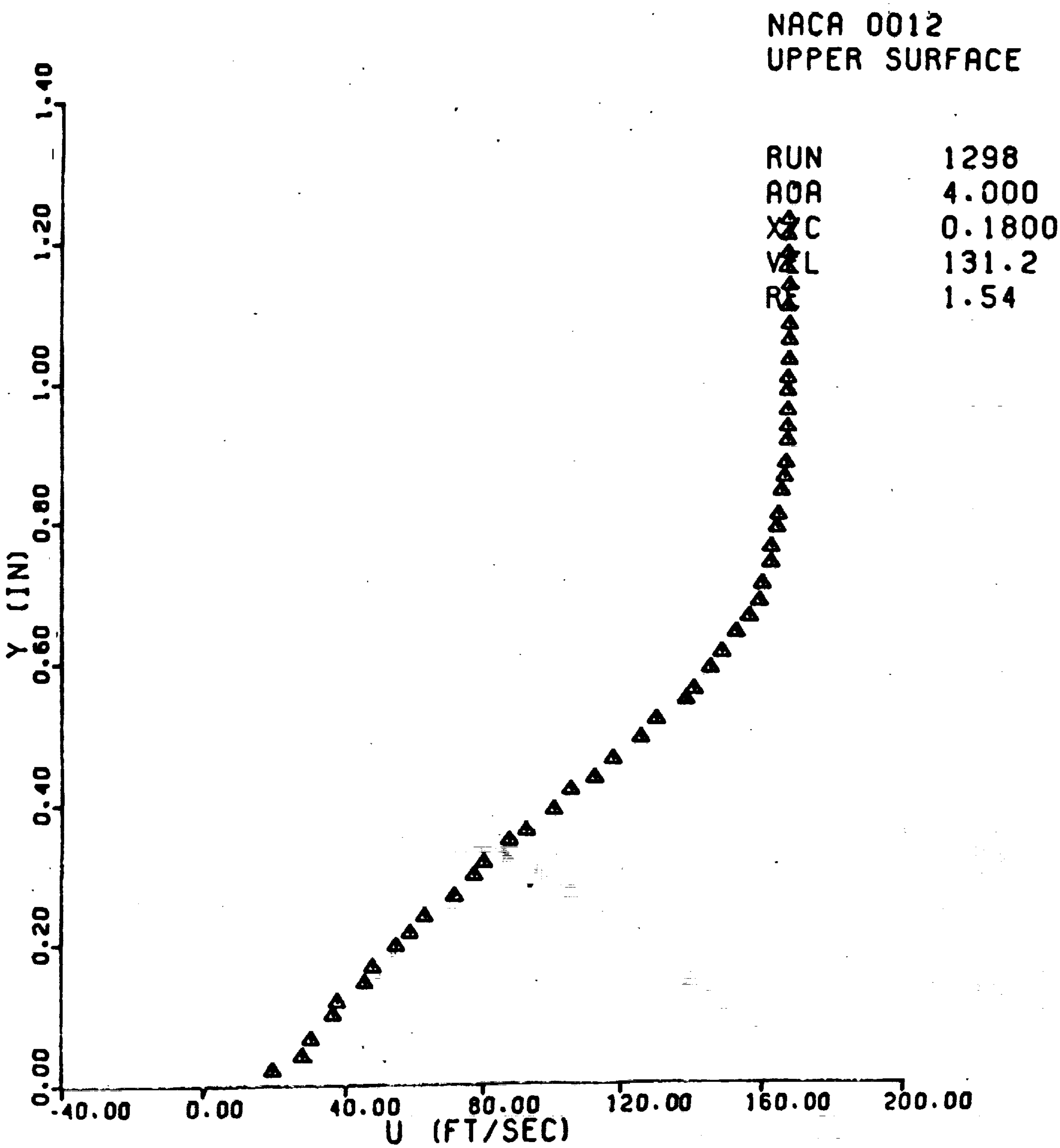

NACA 0012
UPPER SURFACE
RUN 1295
AOA 4.000
X/C 0.1200
VEL 131.1
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

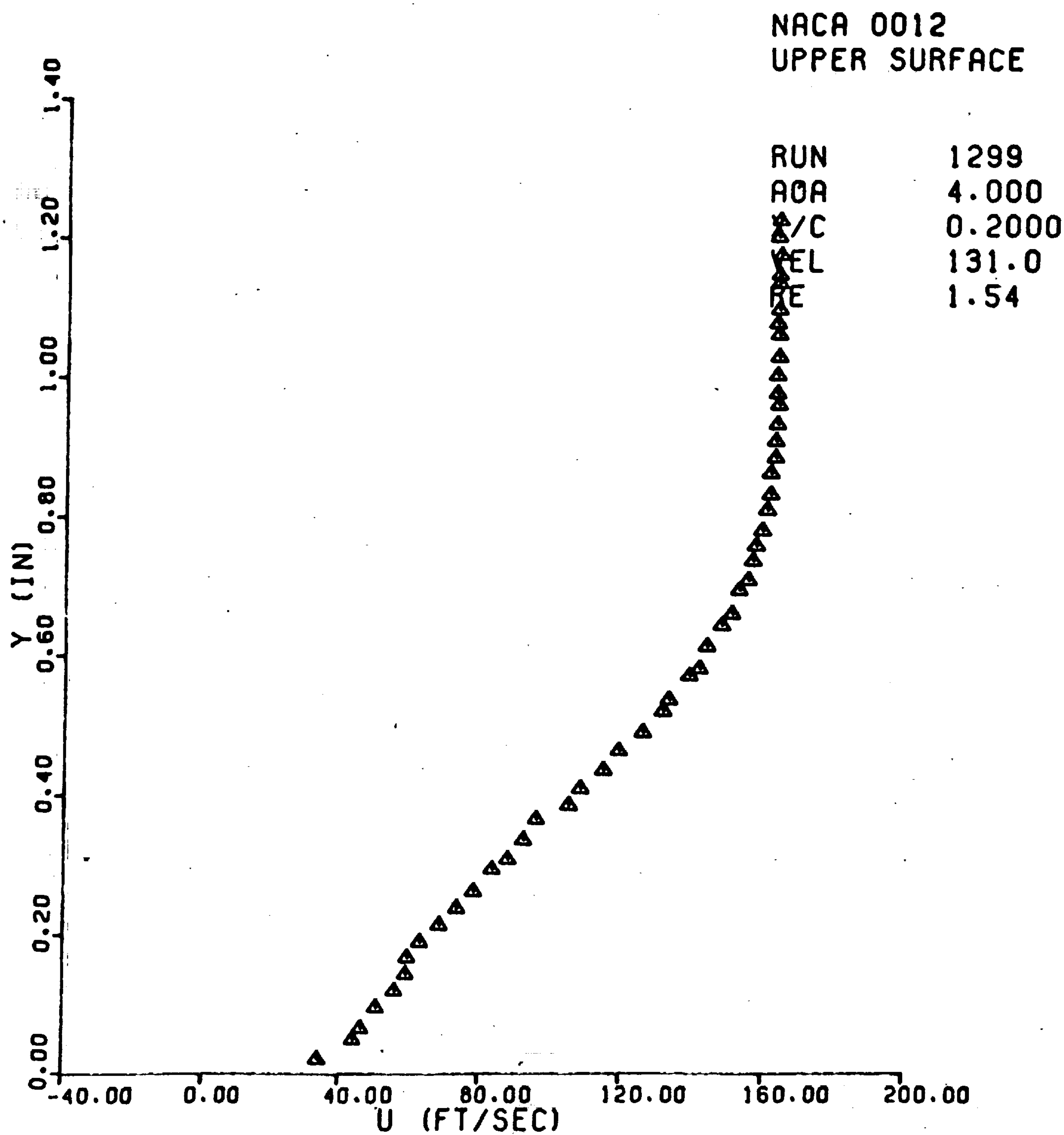


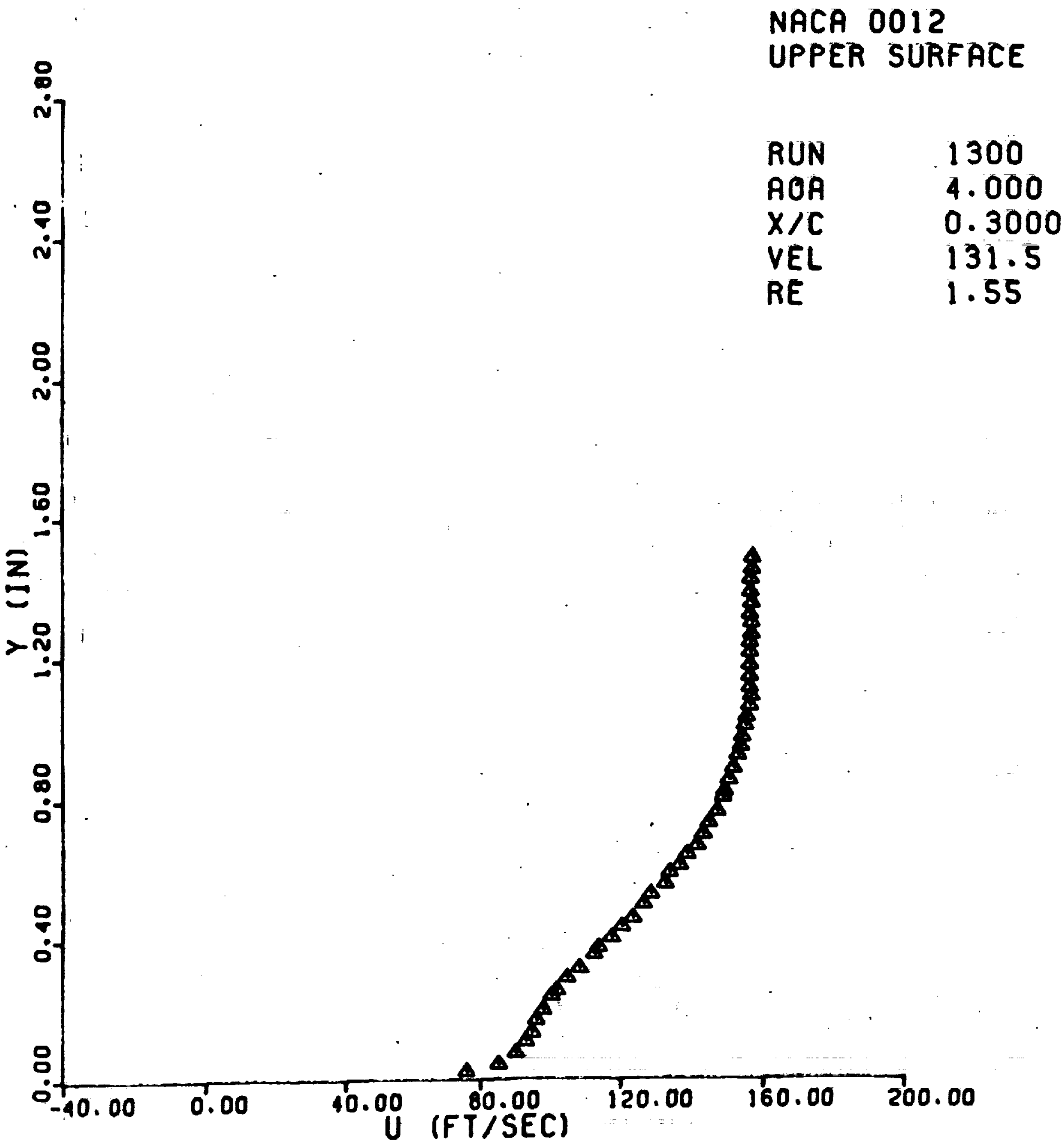
NACA 0012
UPPER SURFACE
RUN 1296
AOA 4.000
X/C 0.1400
VEL 130.8
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

C-3


NACA 0012
UPPER SURFACE
RUN 1297
AOA 4.000
X/C 0.1600
VEL 131.2
RE 1.54
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00


NACA 0012
UPPER SURFACE
RUN 1298
AOA 4.000
X/C 0.1800
VEL 131.2
RE 1.54
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00


NACA 0012
UPPER SURFACE
RUN 1299
AOA 4.000
X/C 0.2000
VEL 131.0
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



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UPPER SURFACE
RUN 1300
AOA 4.000
X/C 0.3000
VEL 131.5
RE 1.55
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
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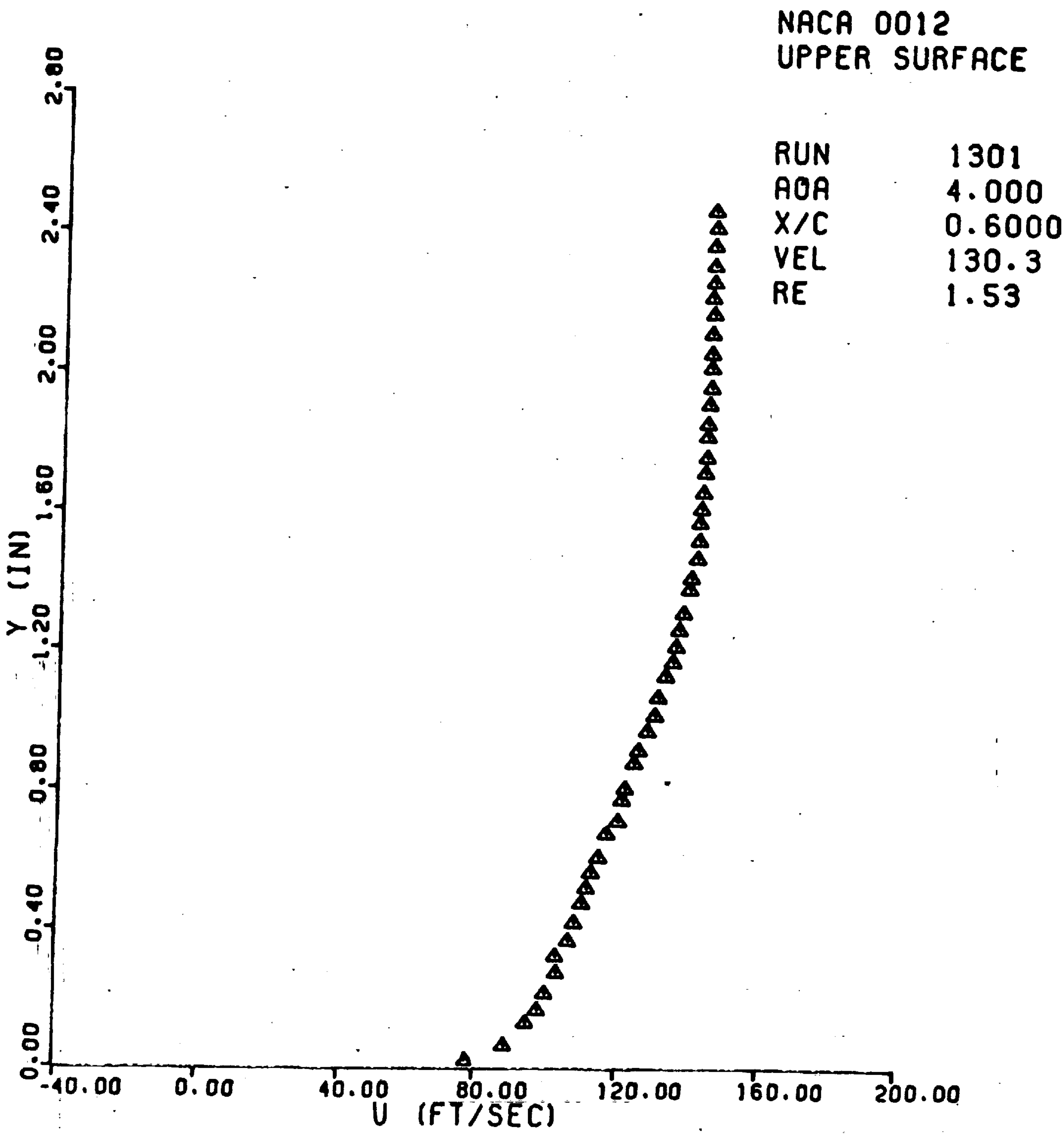
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1301
AOA 4.000
X/C 0.6000
VEL 130.3
RE 1.53
Y (IN)
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0.40
0.80
1.20
1.60
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2.40
2.80
-40.00
0.00
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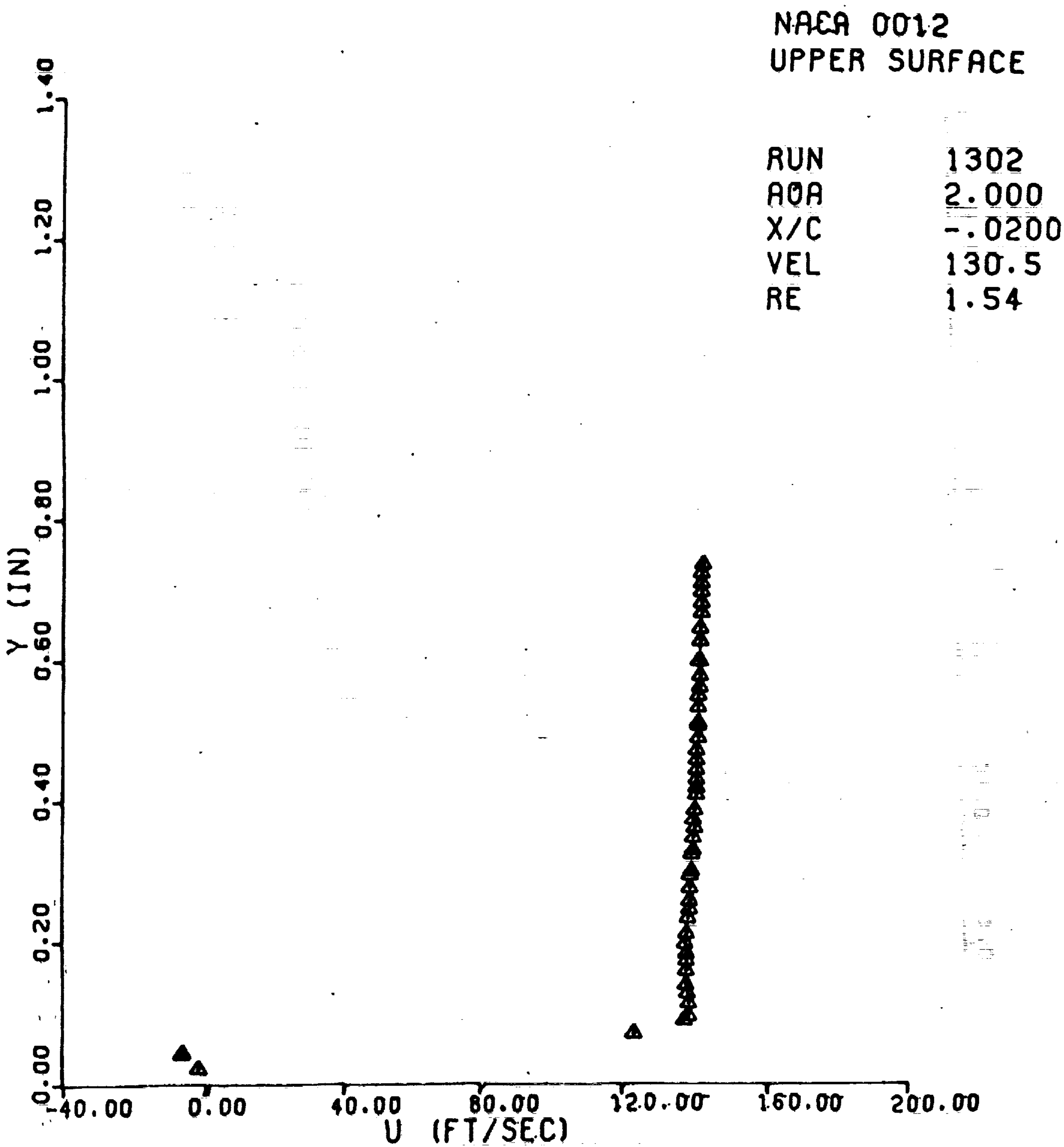
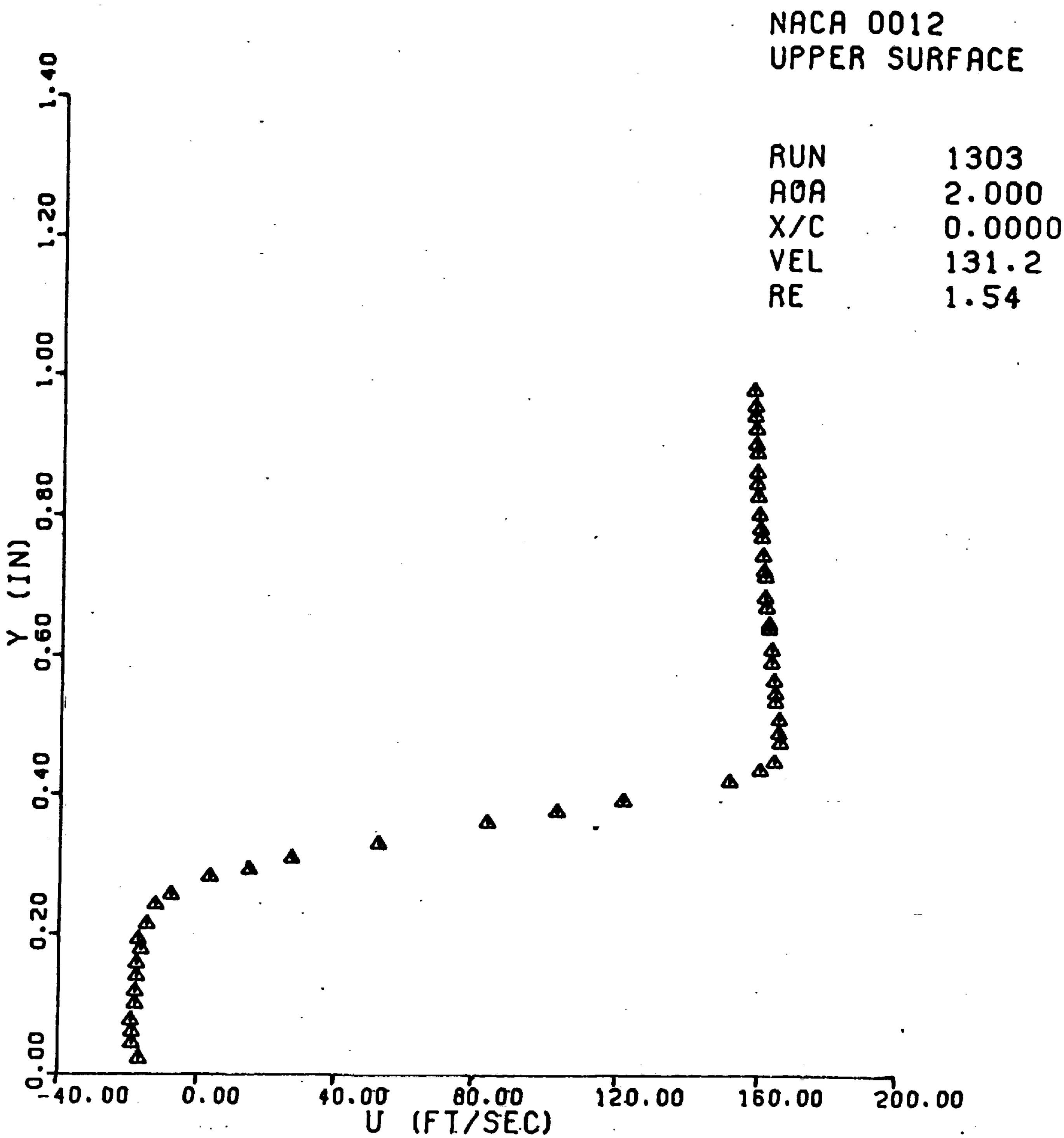
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1302
AOA 2.000
X/C -.0200
VEL 130.5
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)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UPPER SURFACE
RUN 1303
AOA 2.000
X/C 0.0000
VEL 131.2
RE 1.54
Y (IN)
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0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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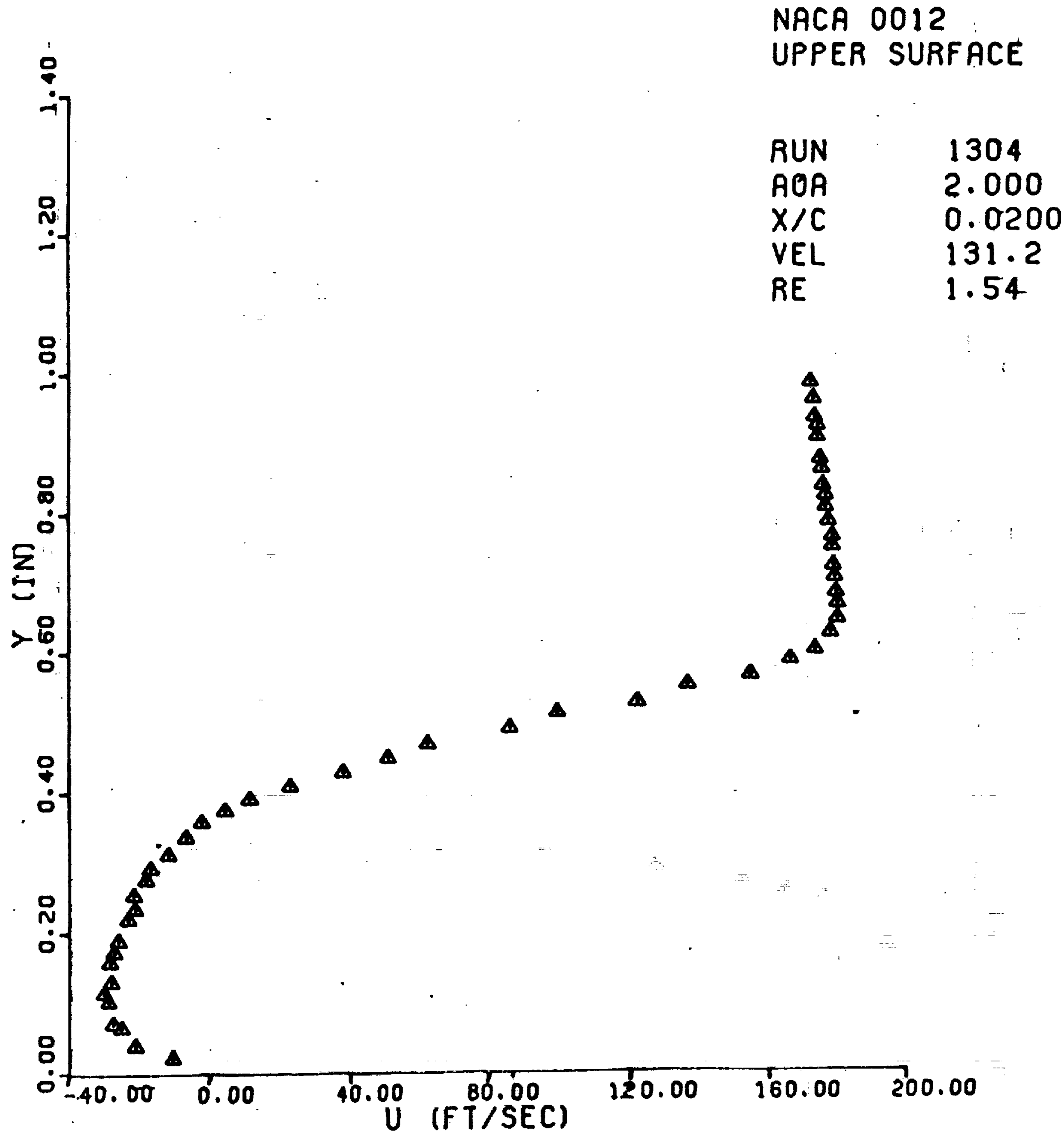
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1304
AOA 2.000
X/C 0.0200
VEL 131.2
RE 1.54
Y (IN)
U (FT/SEC)
-40.00
0.00
40.00
80.00
120.00
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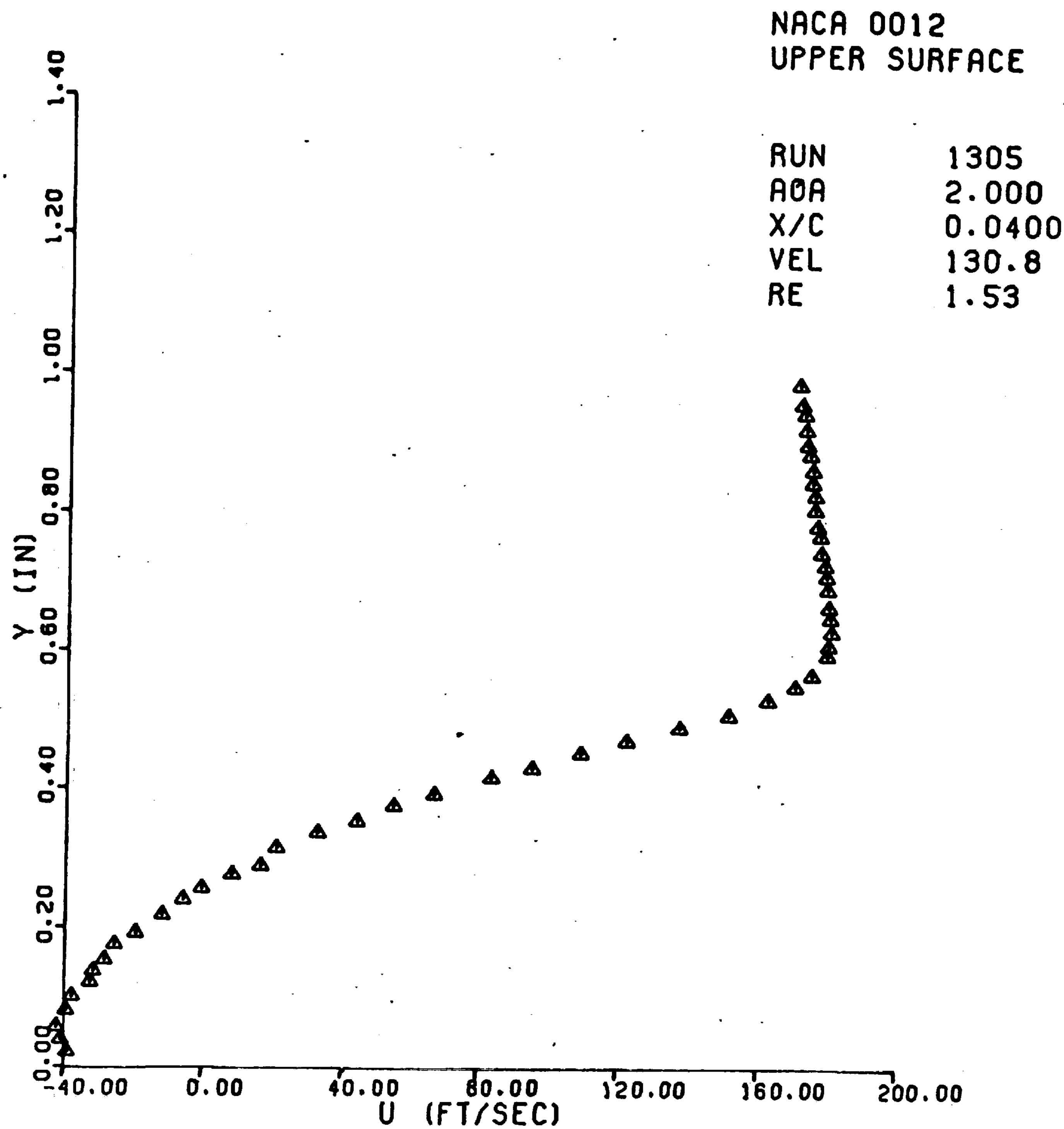
200.00
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40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UPPER SURFACE
RUN 1305
AOA 2.000
X/C 0.0400
VEL 130.8
RE 1.53
Y (IN)
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0.20
0.40
0.60
0.80
1.00
1.20
1.40
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0.00
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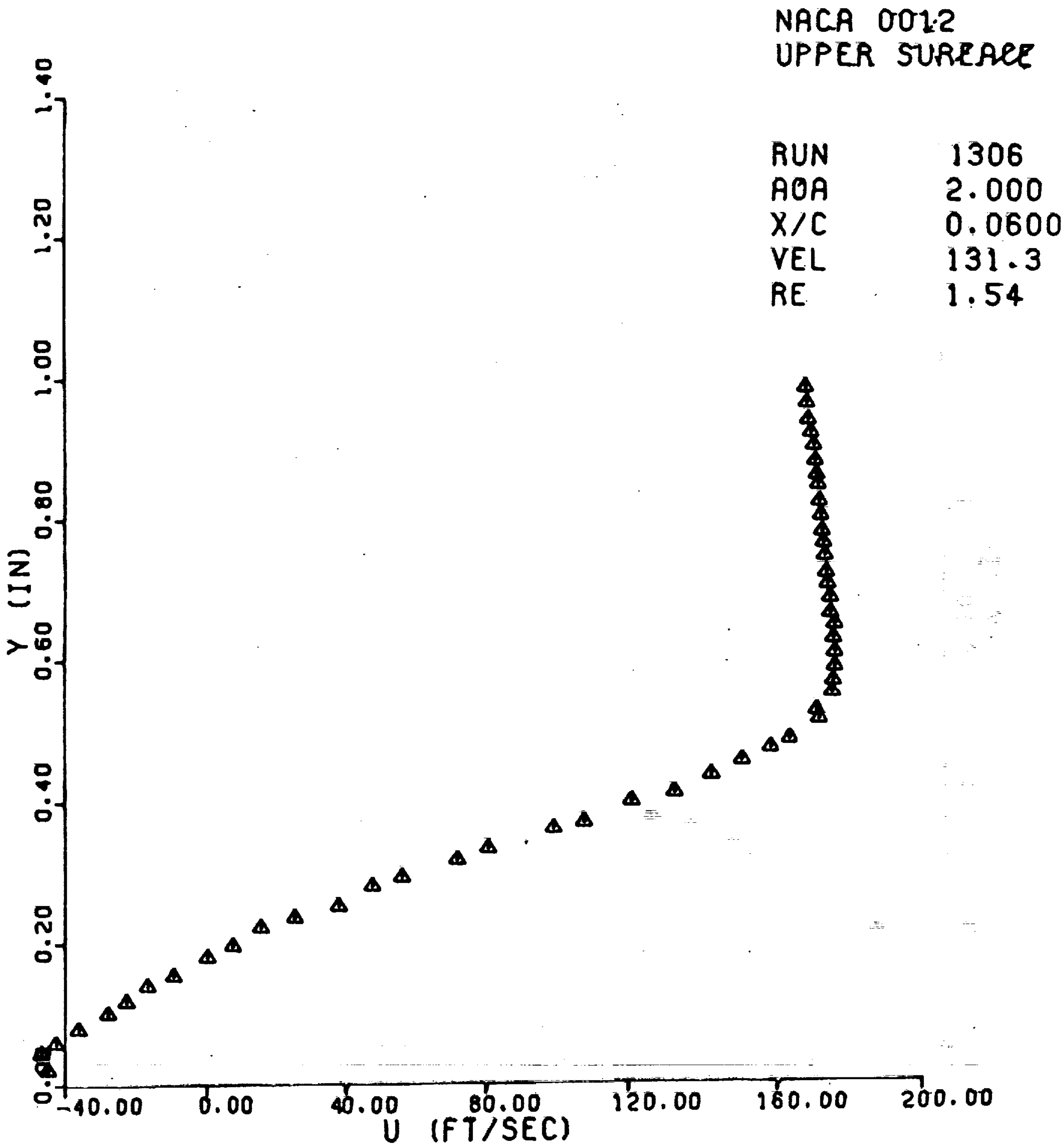
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1306
AOA 2.000
X/C 0.0600
VEL 131.3
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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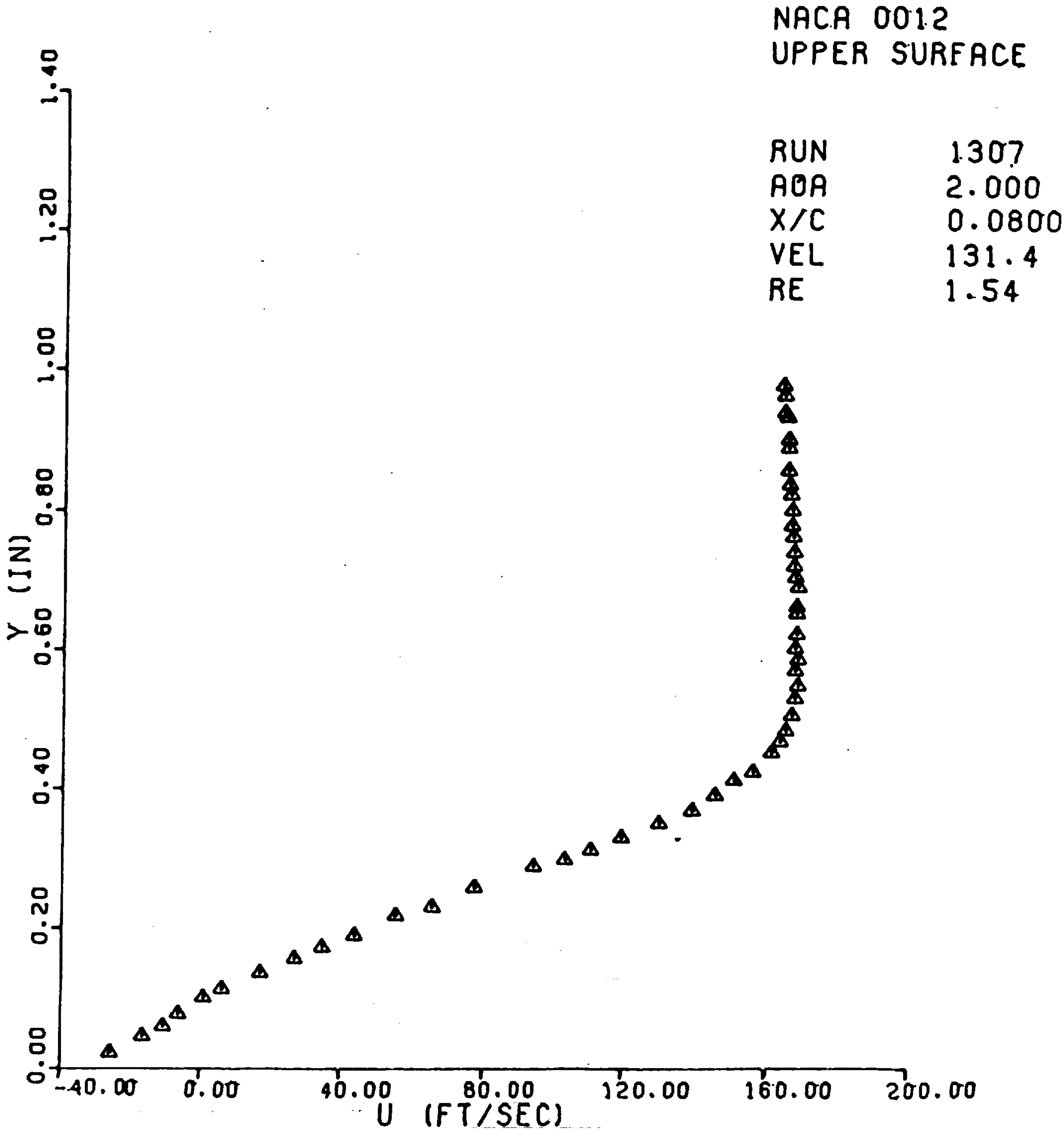
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1307
AOA 2.000
X/C 0.0800
VEL 131.4
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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120.00
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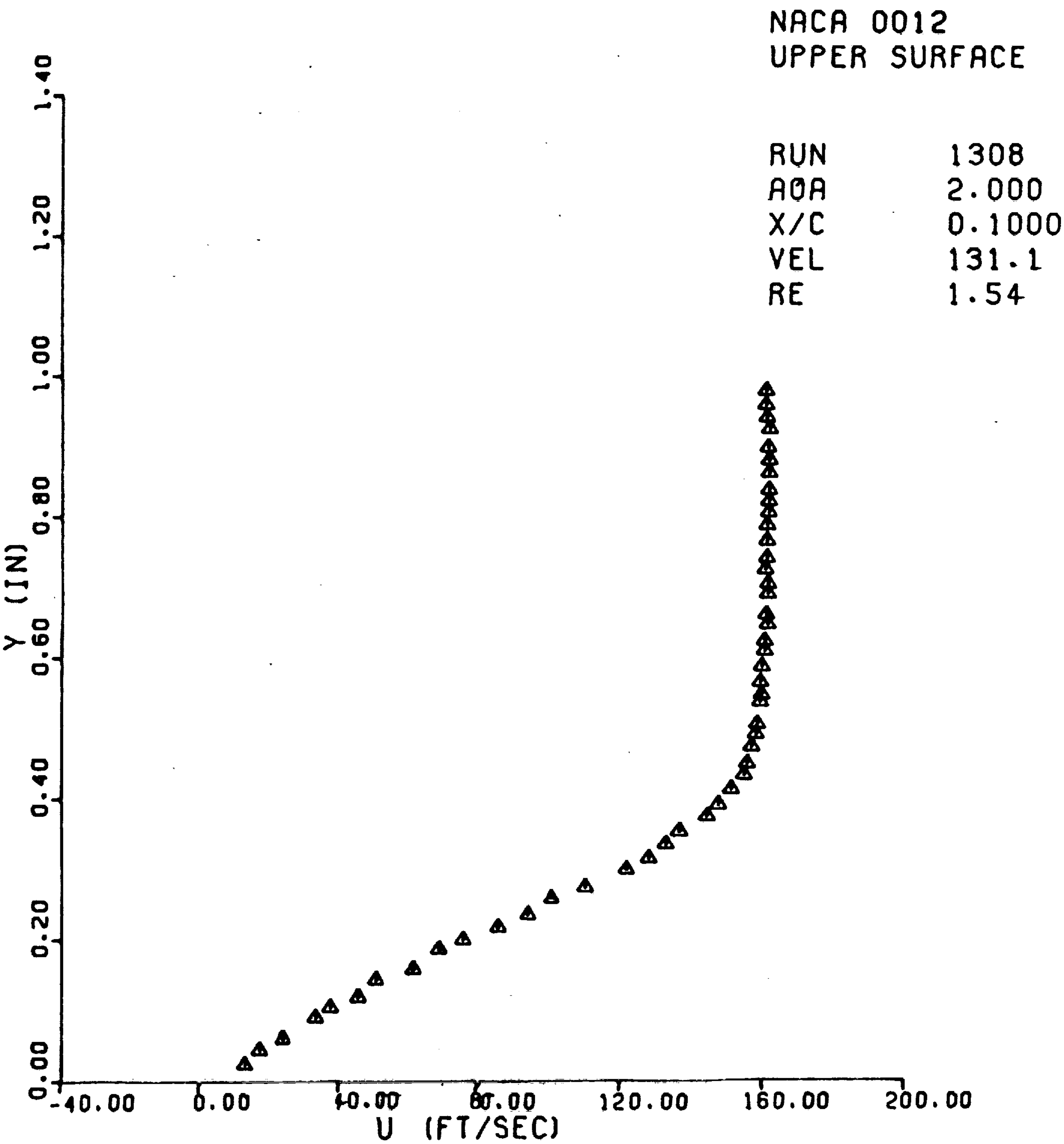
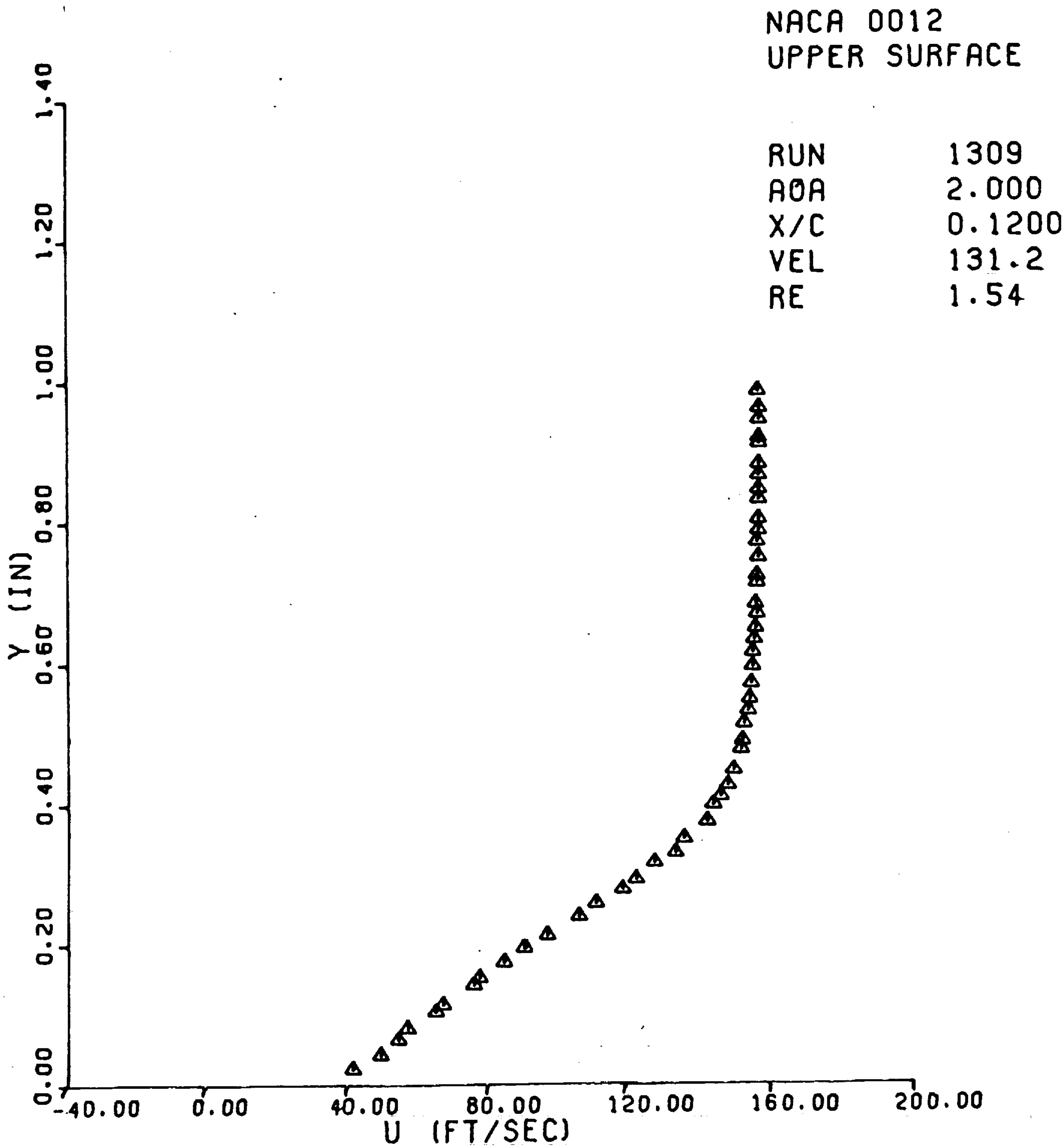
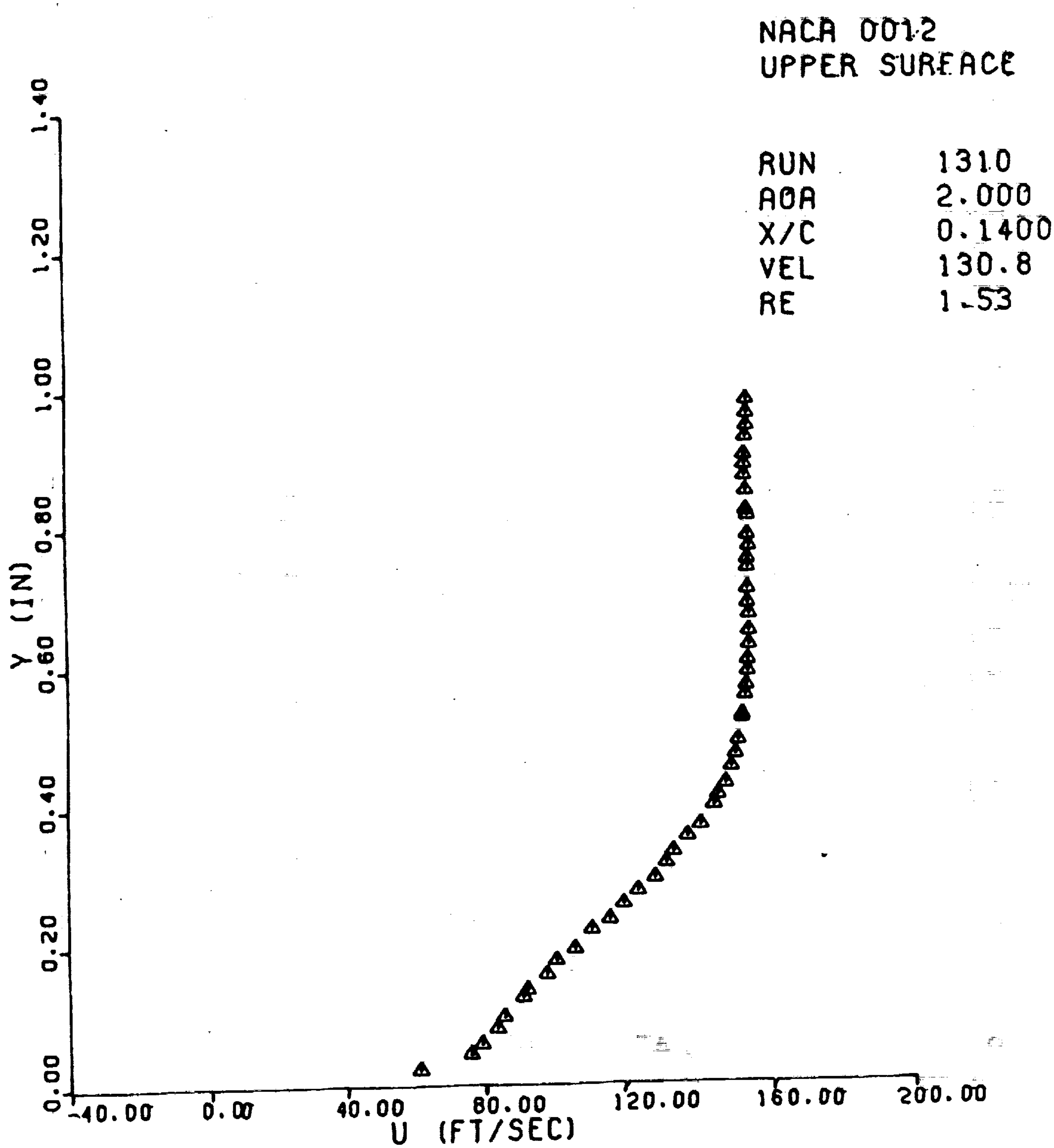
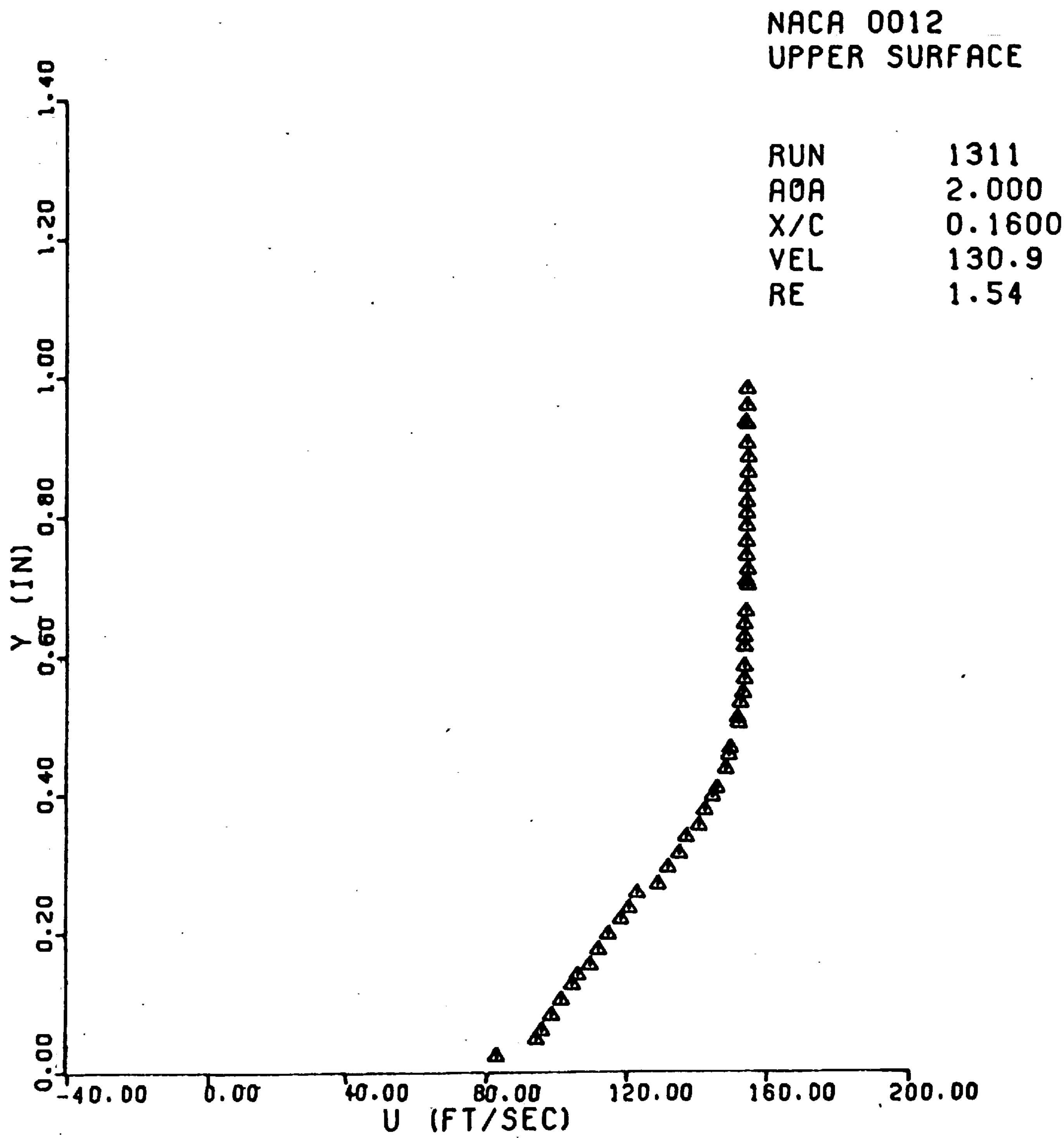
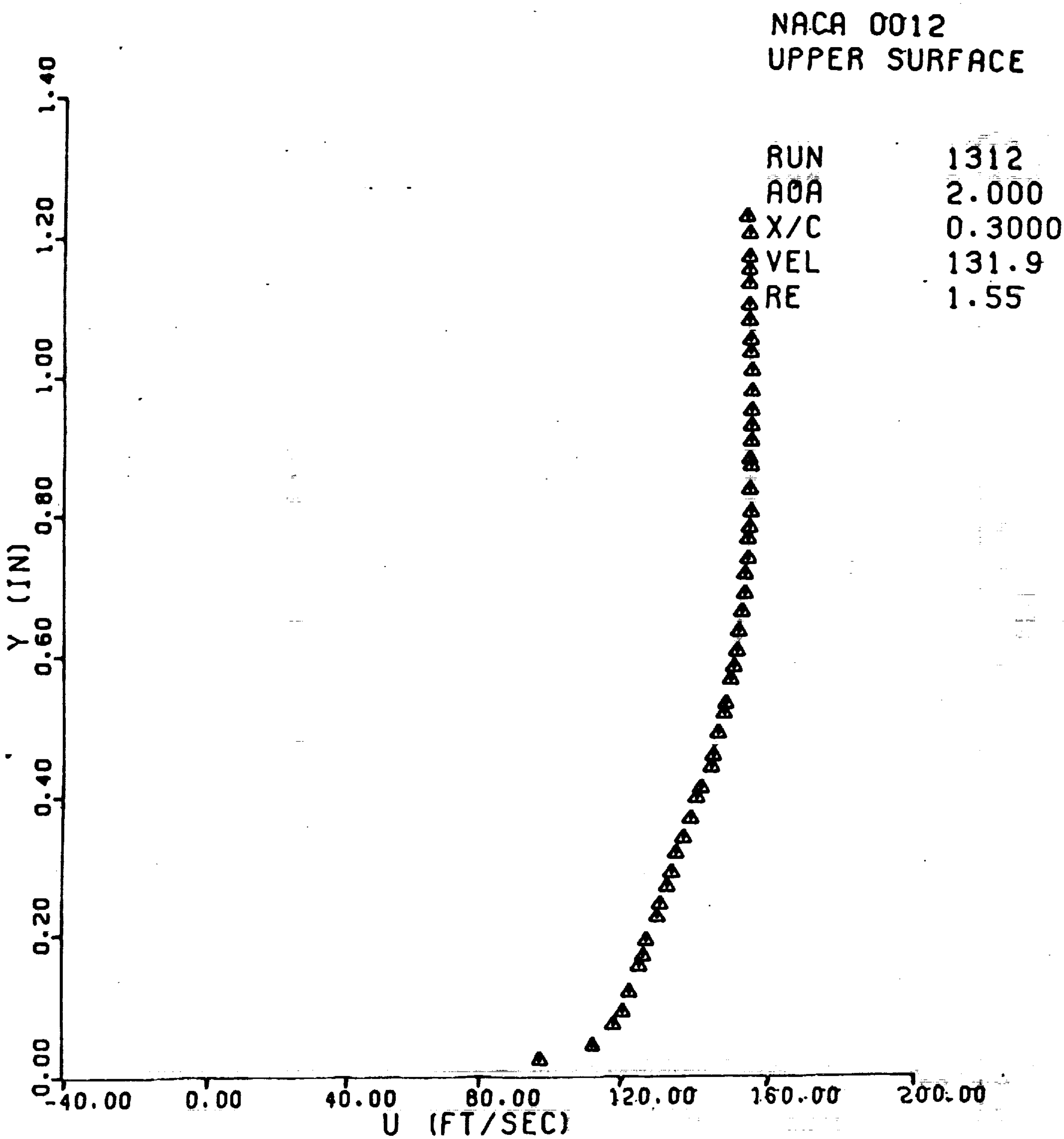
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1308
AOA 2.000
X/C 0.1000
VEL 131.1
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

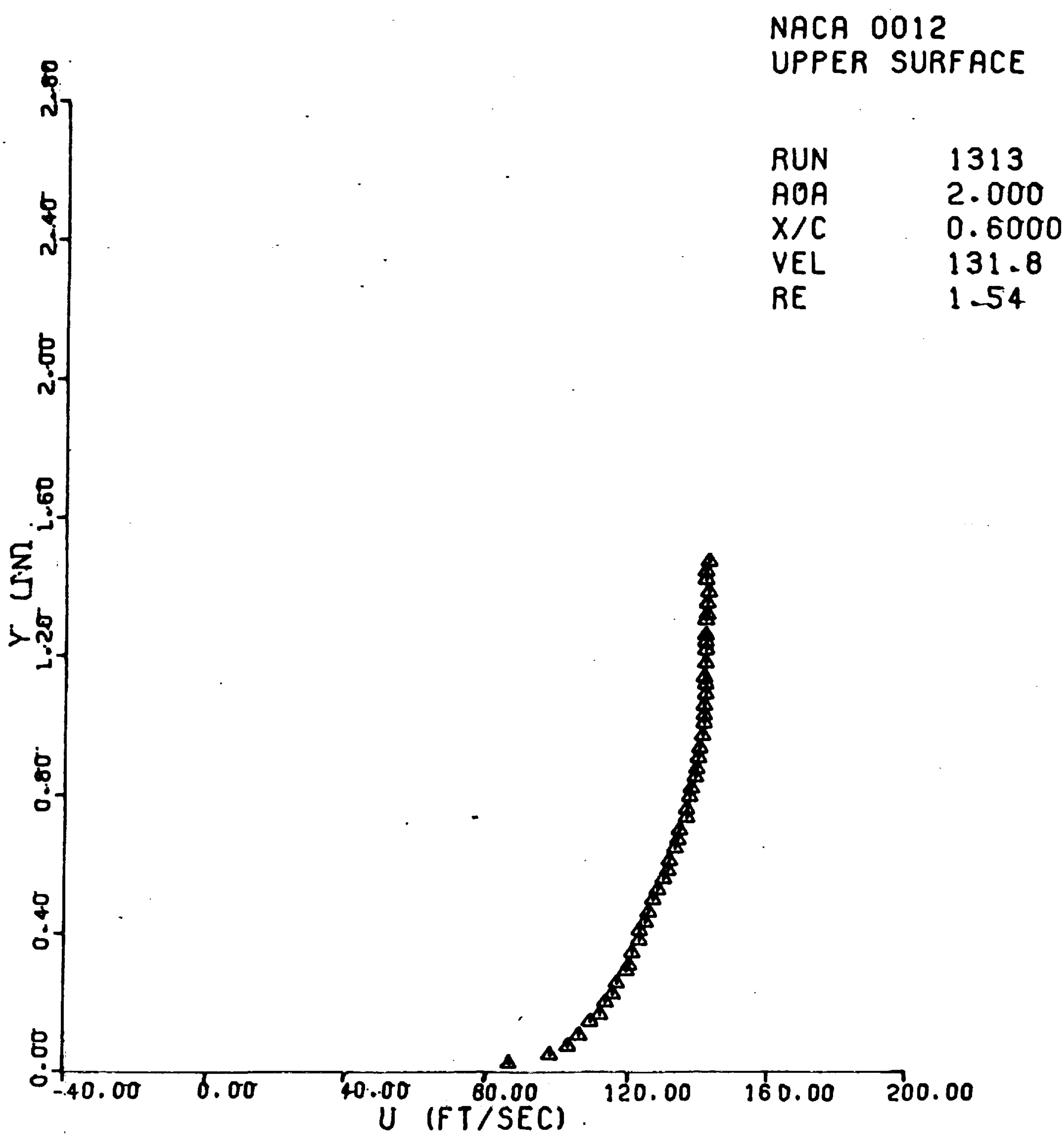

NACA 0012
UPPER SURFACE
RUN 1309
AOA 2.000
X/C 0.1200
VEL 131.2
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

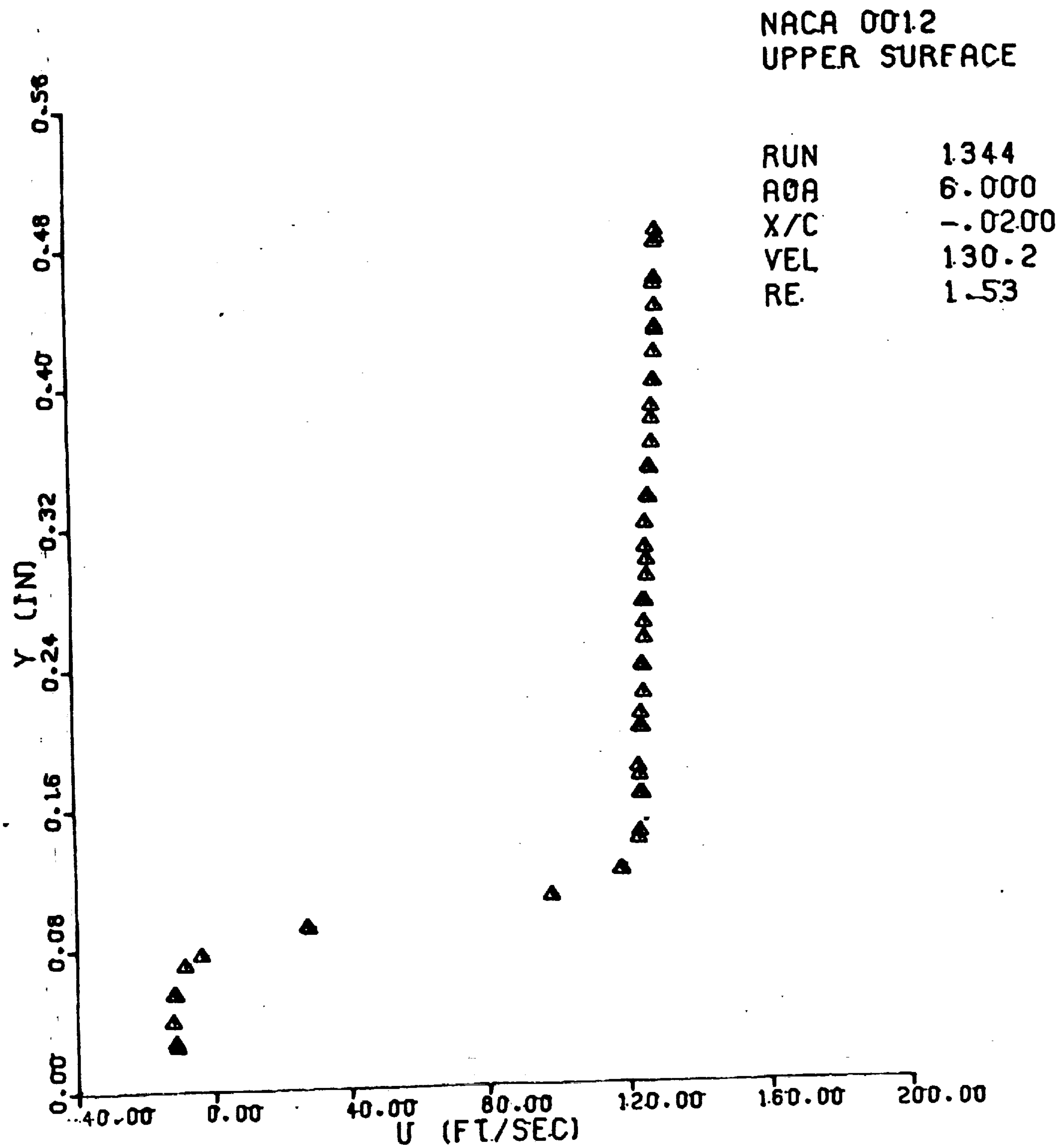

NACA 0012
UPPER SURFACE
RUN 1310
AOA 2.000
X/C 0.1400
VEL 130.8
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1311
AOA 2.000
X/C 0.1600
VEL 130.9
RE 1.54
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1312
AOA 2.000
X/C 0.3000
VEL 131.9
RE 1.55
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1313
AOA 2.000
X/C 0.6000
VEL 131.8
RE 1.54
Y (IN)
U (FT/SEC)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00


NACA 0012
UPPER SURFACE
RUN 1344
AOA 6.000
X/C -.0200
VEL 130.2
RE 1.53
Y (IN)
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0.08
0.16
0.24
0.32
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0.56
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0.00
40.00
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120.00
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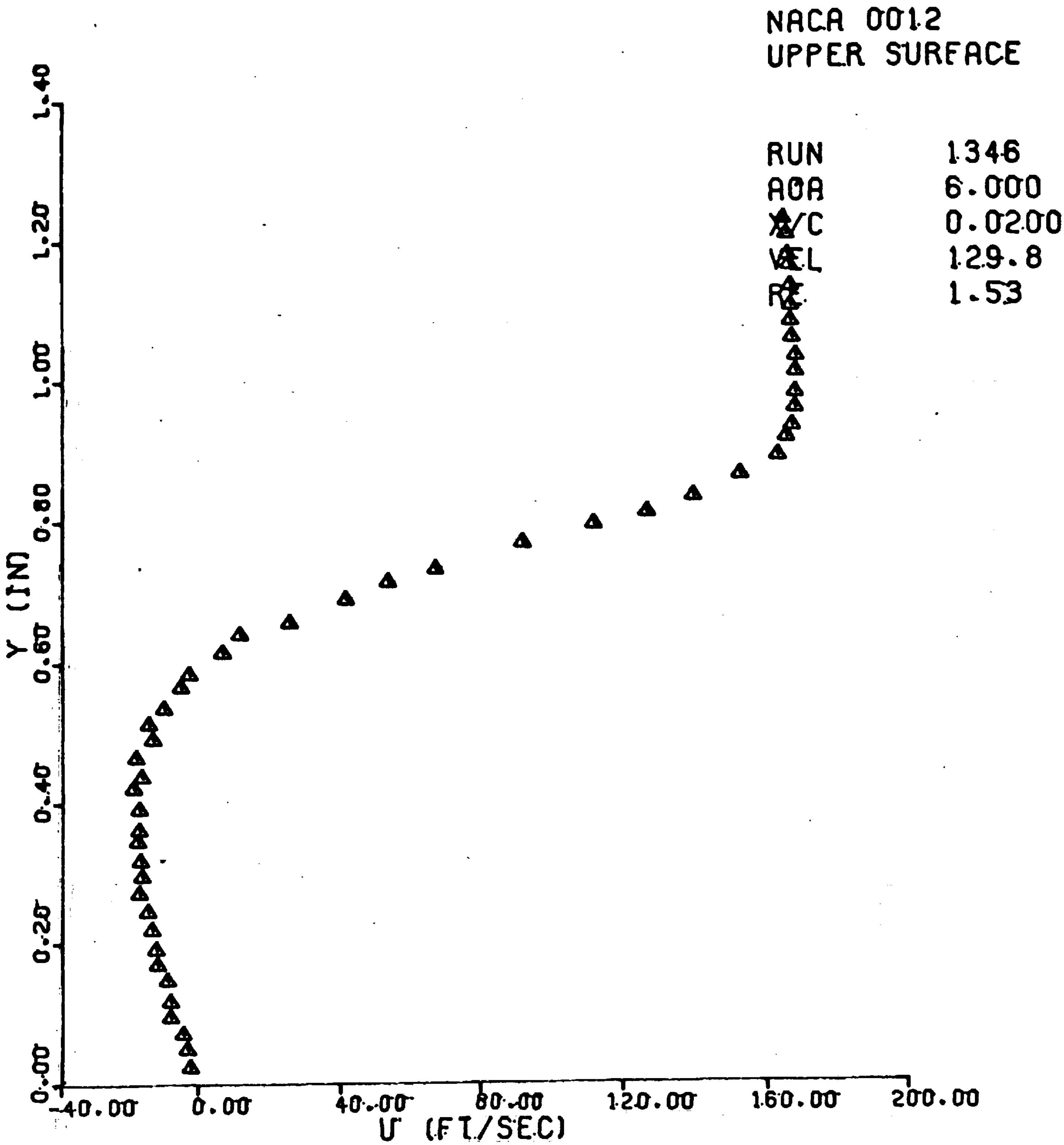
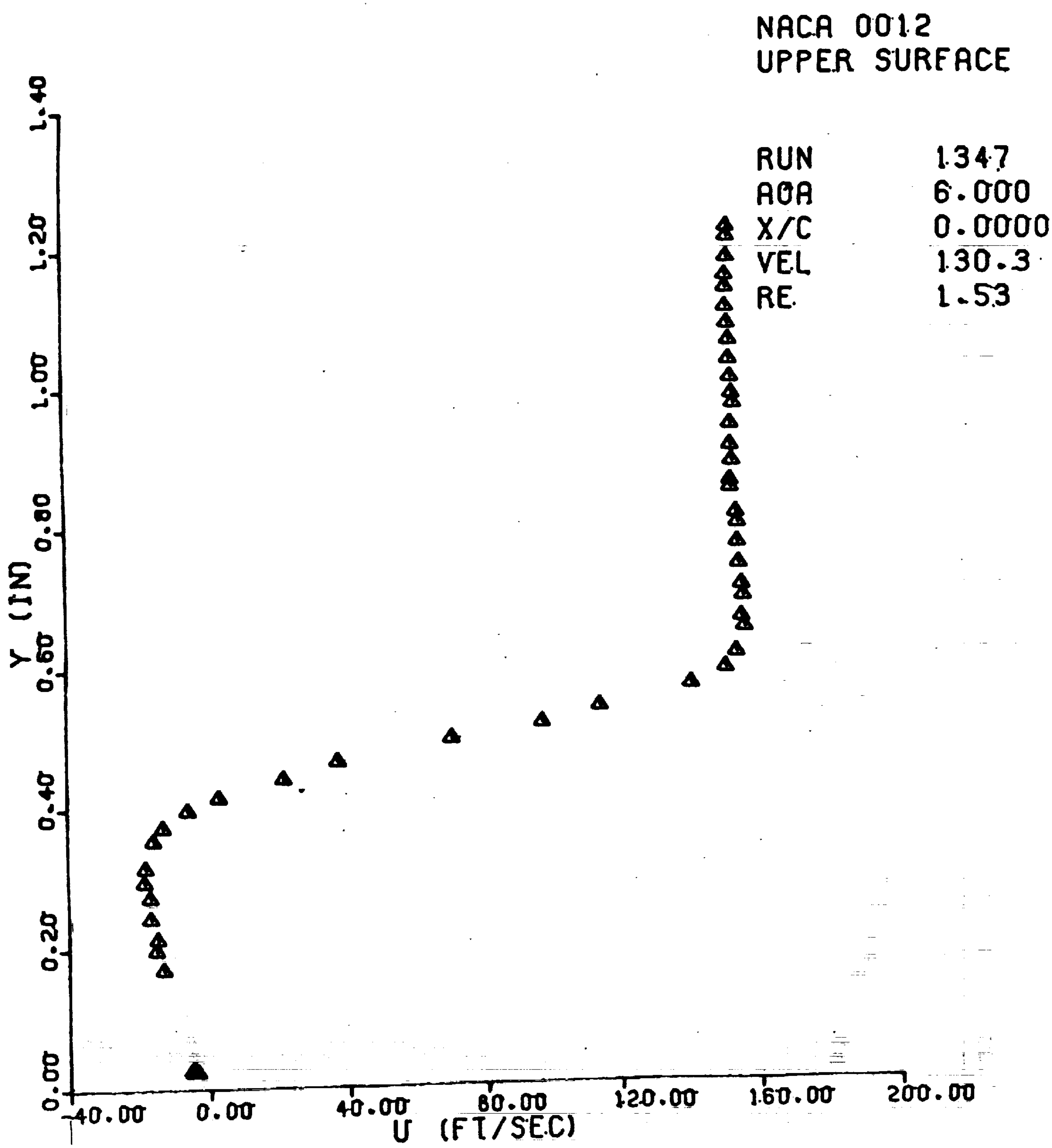
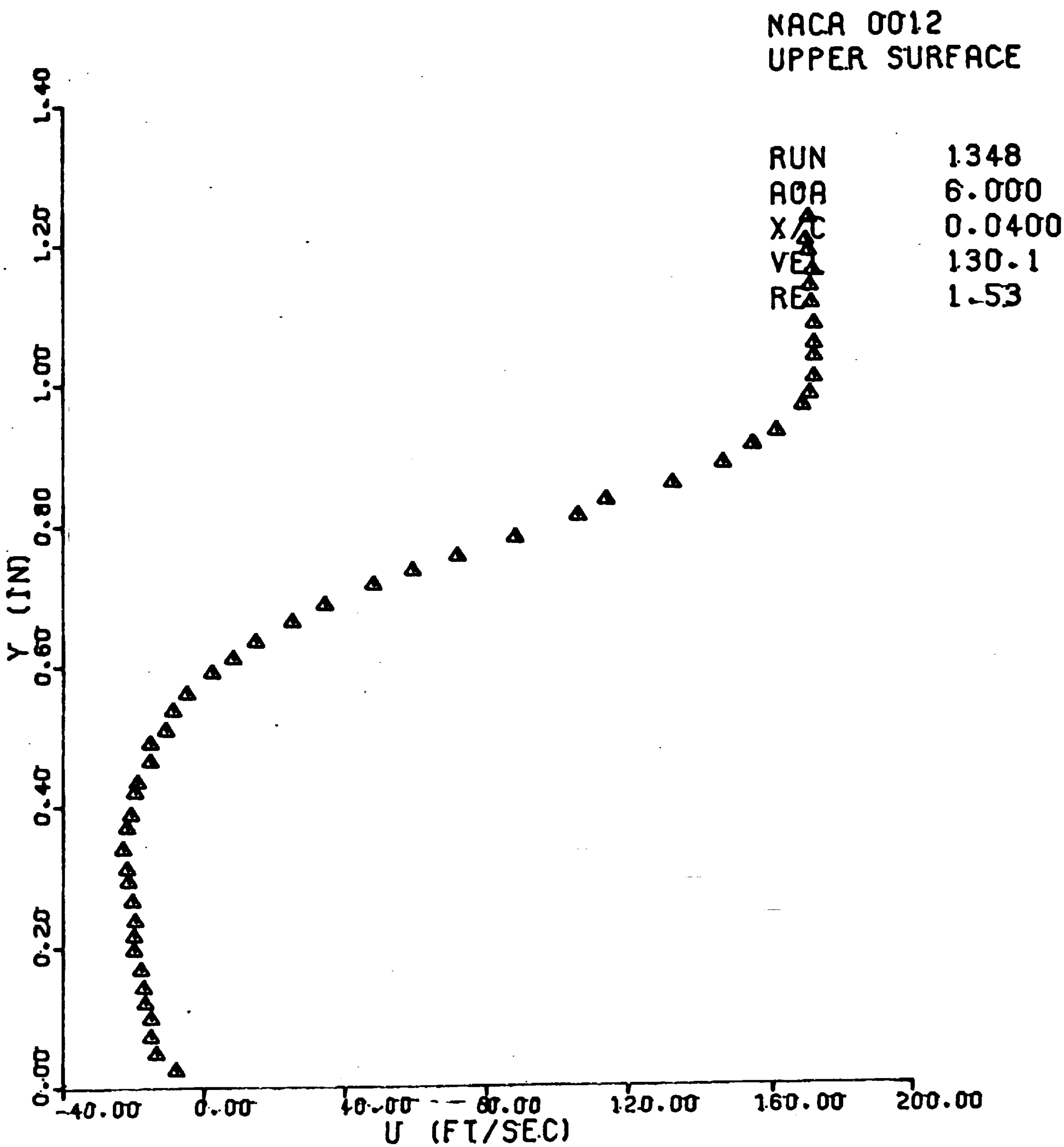
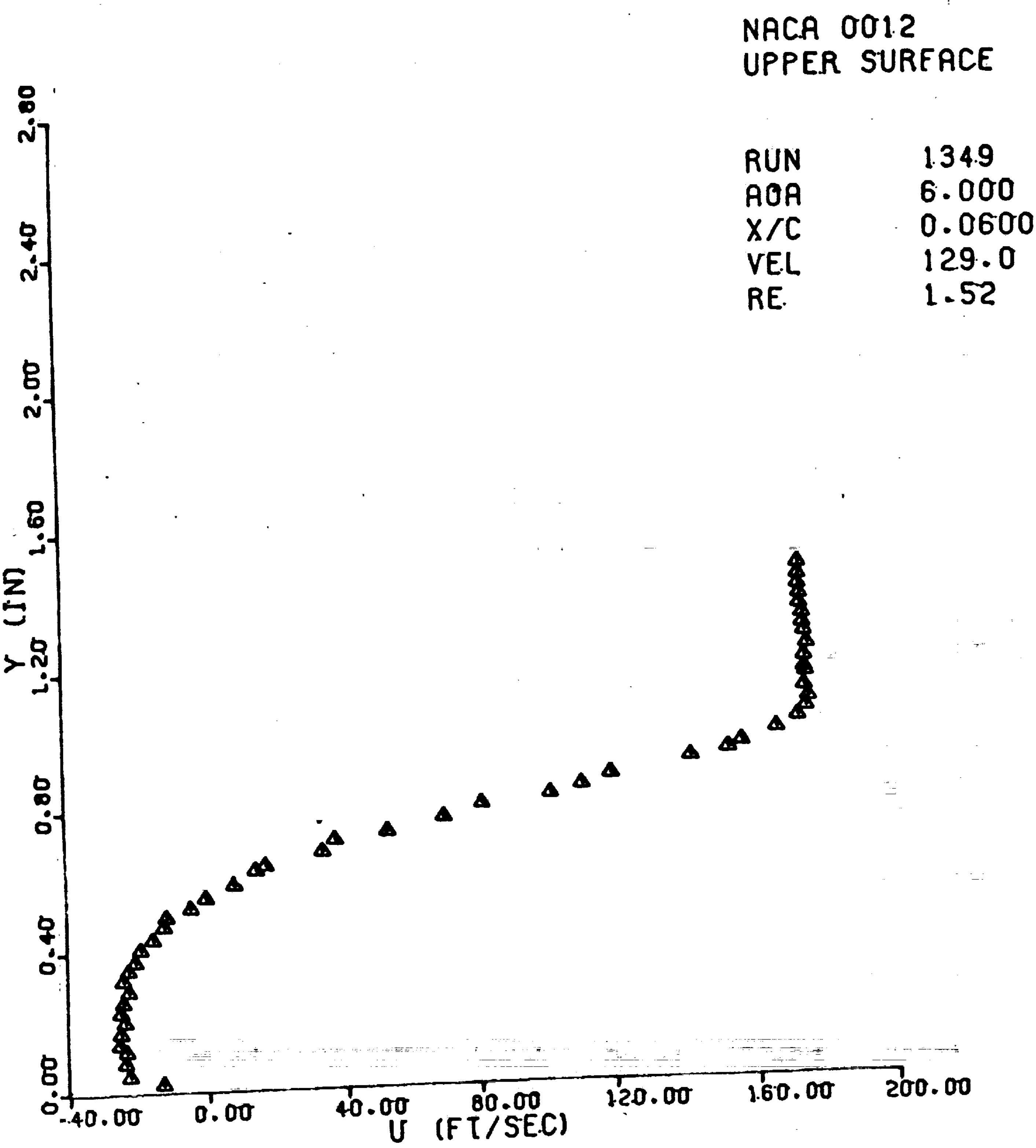
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1346
AOA 6.000
X/C 0.0200
VEL 129.8
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

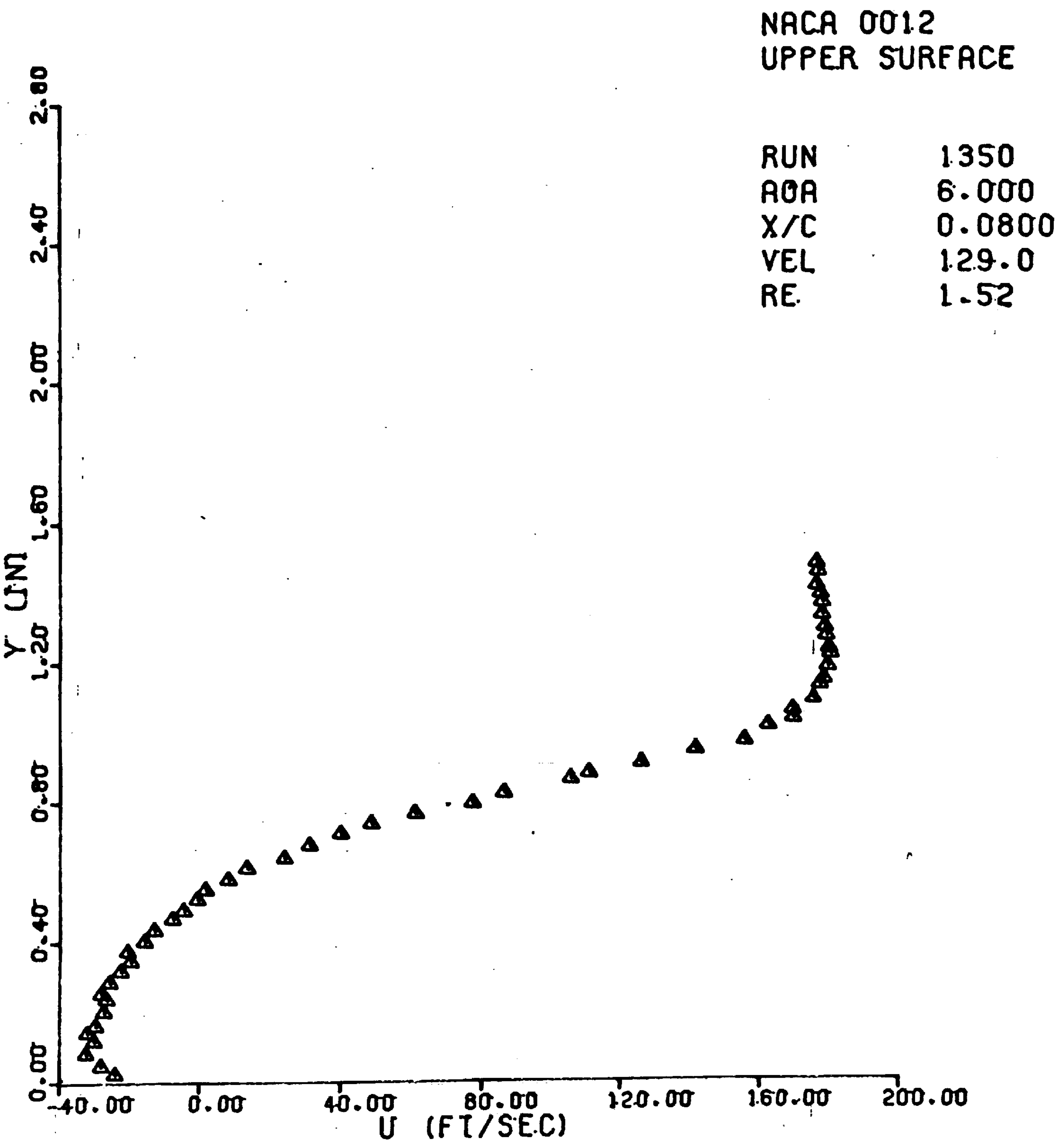


NACA 0012
UPPER SURFACE
RUN 1347
AOA 6.000
X/C 0.0000
VEL 130.3
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1348
AOA 6.000
X/C 0.0400
VEL 130.1
RE 1.53
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1349
AOA 6.000
X/C 0.0600
VEL 129.0
RE 1.52
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1350
AOA 6.000
X/C 0.0800
VEL 129.0
RE 1.52
Y (IN)
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0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
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120.00
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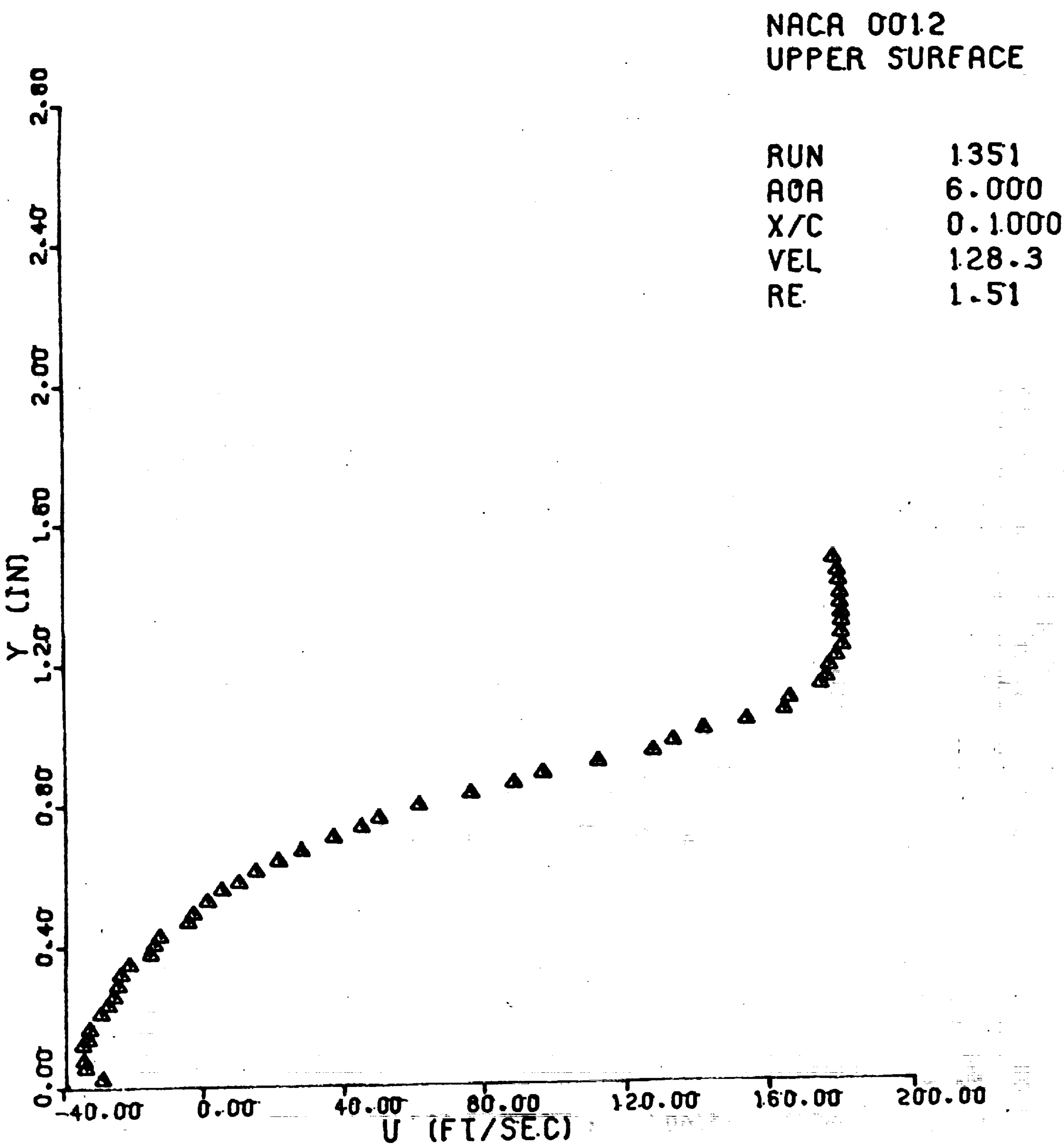
200.00
U (FT/SEC)



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UPPER SURFACE
RUN 1351
AOA 6.000
X/C 0.1000
VEL 128.3
RE 1.51
Y (IN)
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0.80
1.20
1.60
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2.80
-40.00
0.00
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120.00
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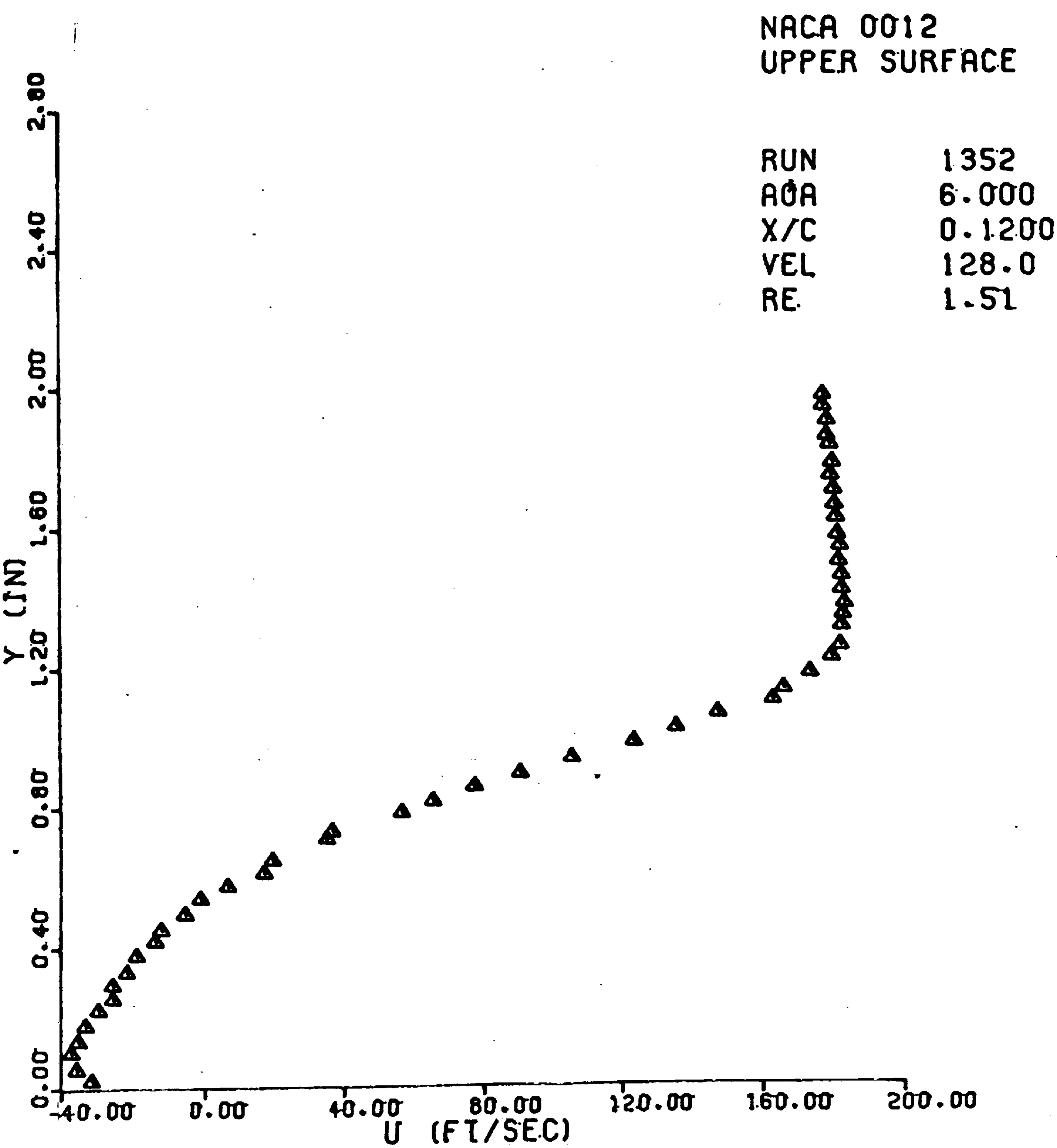
U (FT/SEC)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UPPER SURFACE
RUN 1352
AOA 6.000
X/C 0.1200
VEL 128.0
RE 1.51
Y (IN)
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0.80
1.20
1.60
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2.80
-40.00
0.00
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120.00
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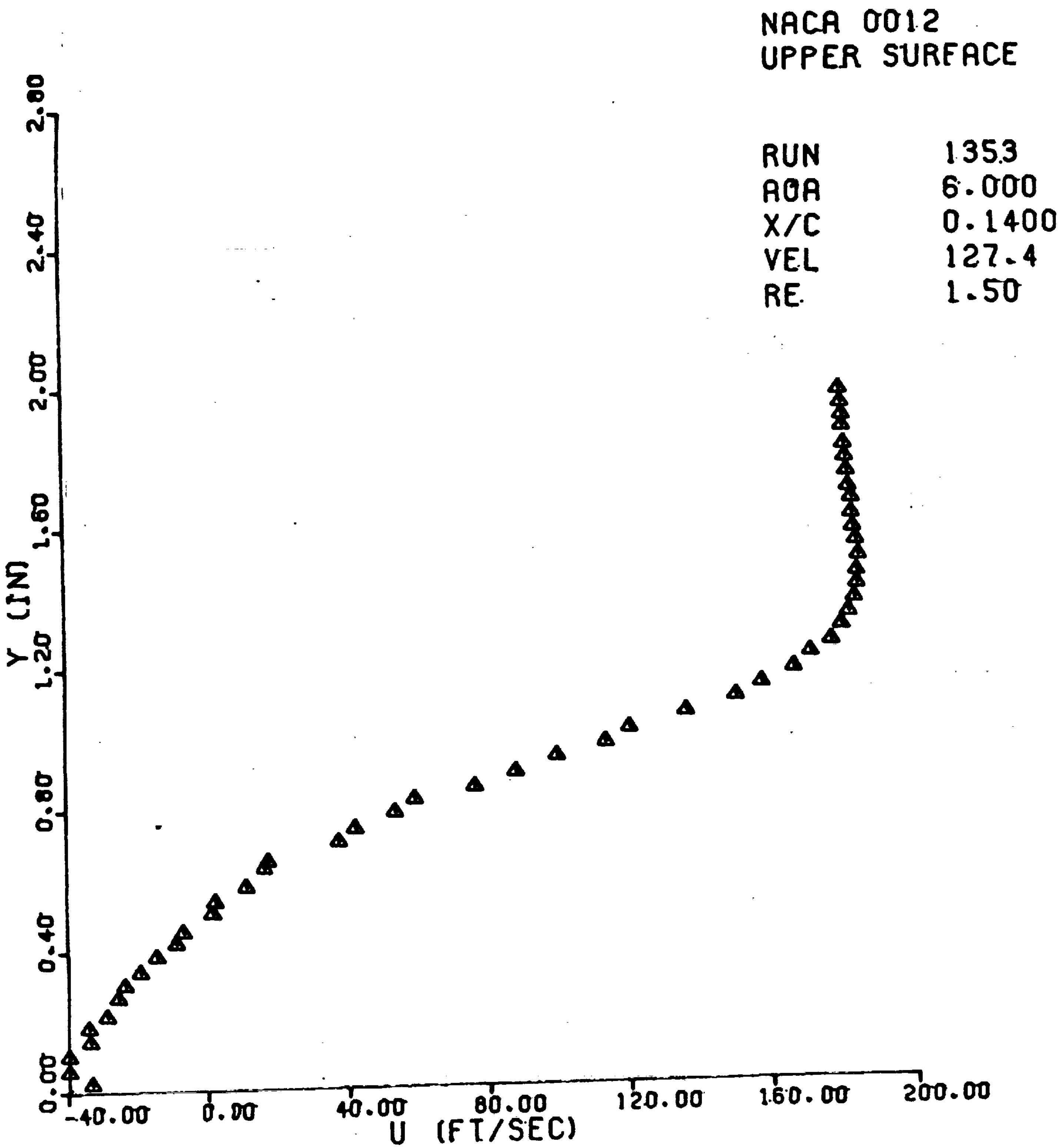
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1353
AOA 6.000
X/C 0.1400
VEL 127.4
RE 1.50
Y (IN)
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0.40
0.80
1.20
1.60
2.00
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2.80
-40.00
0.00
40.00
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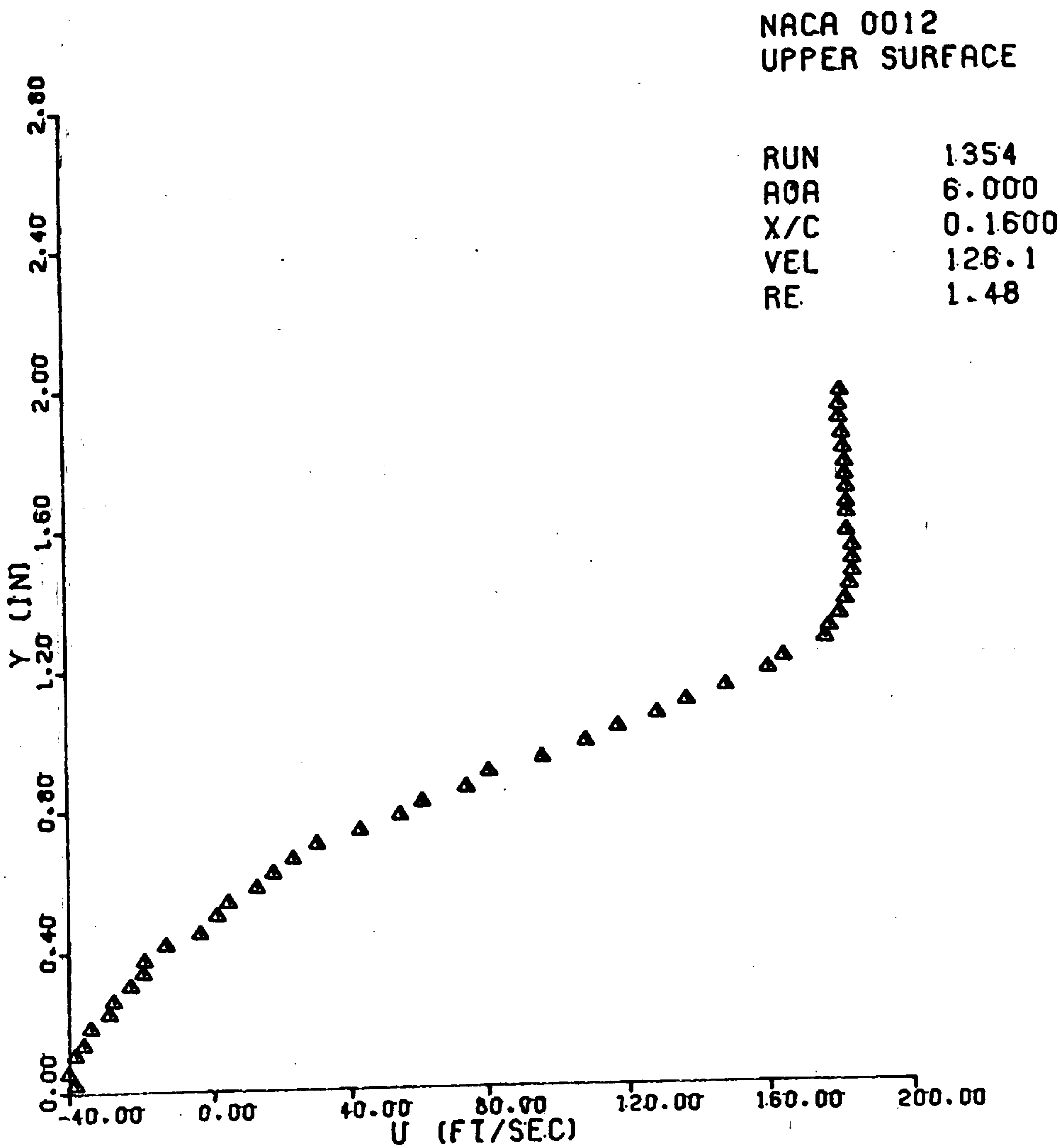
120.00
160.00
200.00
U (FT/SEC)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UPPER SURFACE
RUN 1354
AOA 6.000
X/C 0.1600
VEL 126.1
RE 1.48
Y (IN)
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0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
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120.00
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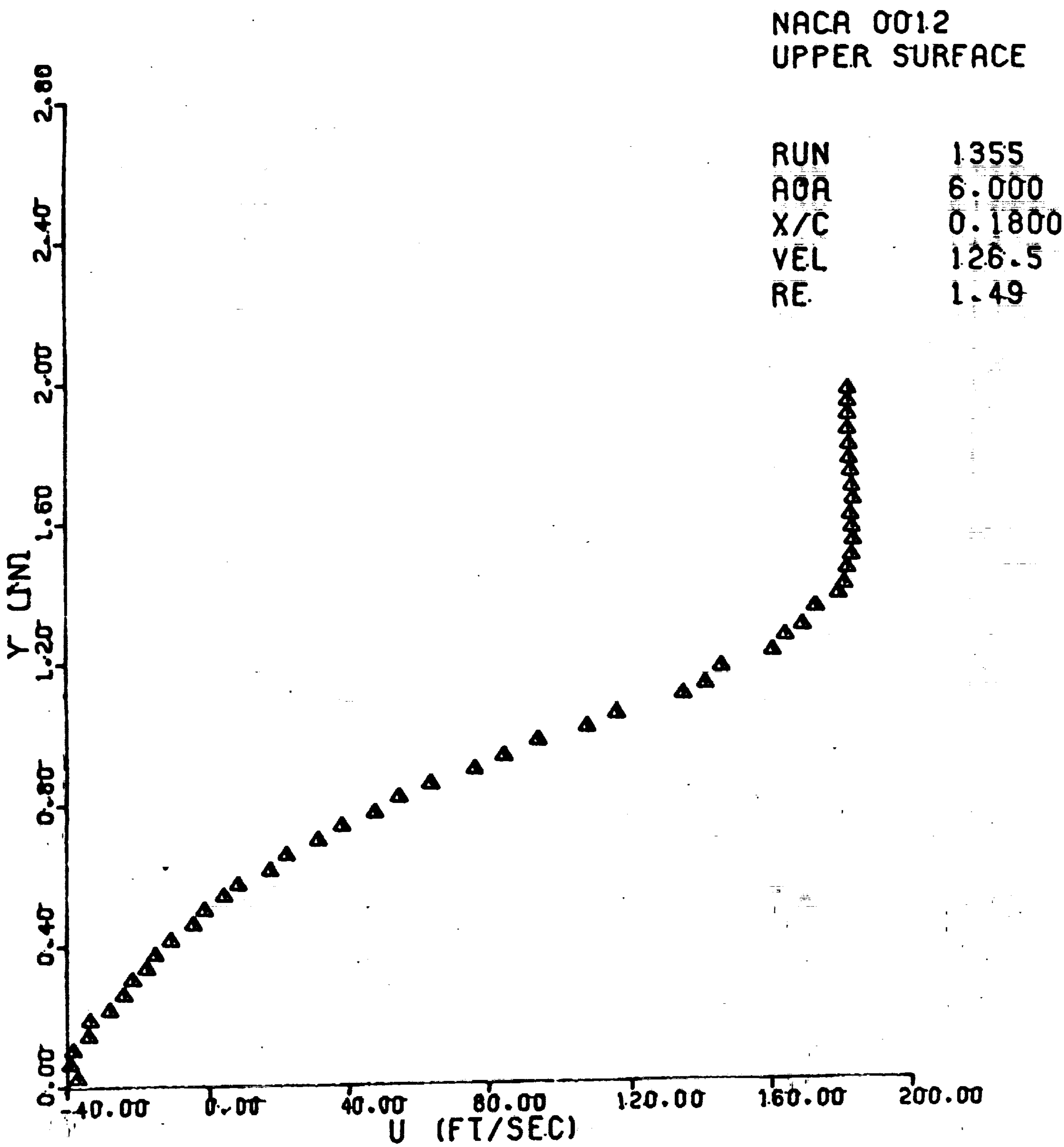
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1355
AOA 6.000
X/C 0.1800
VEL 126.5
RE 1.49
Y (IN)
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0.40
0.80
1.20
1.60
2.00
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2.80
-40.00
0.00
40.00
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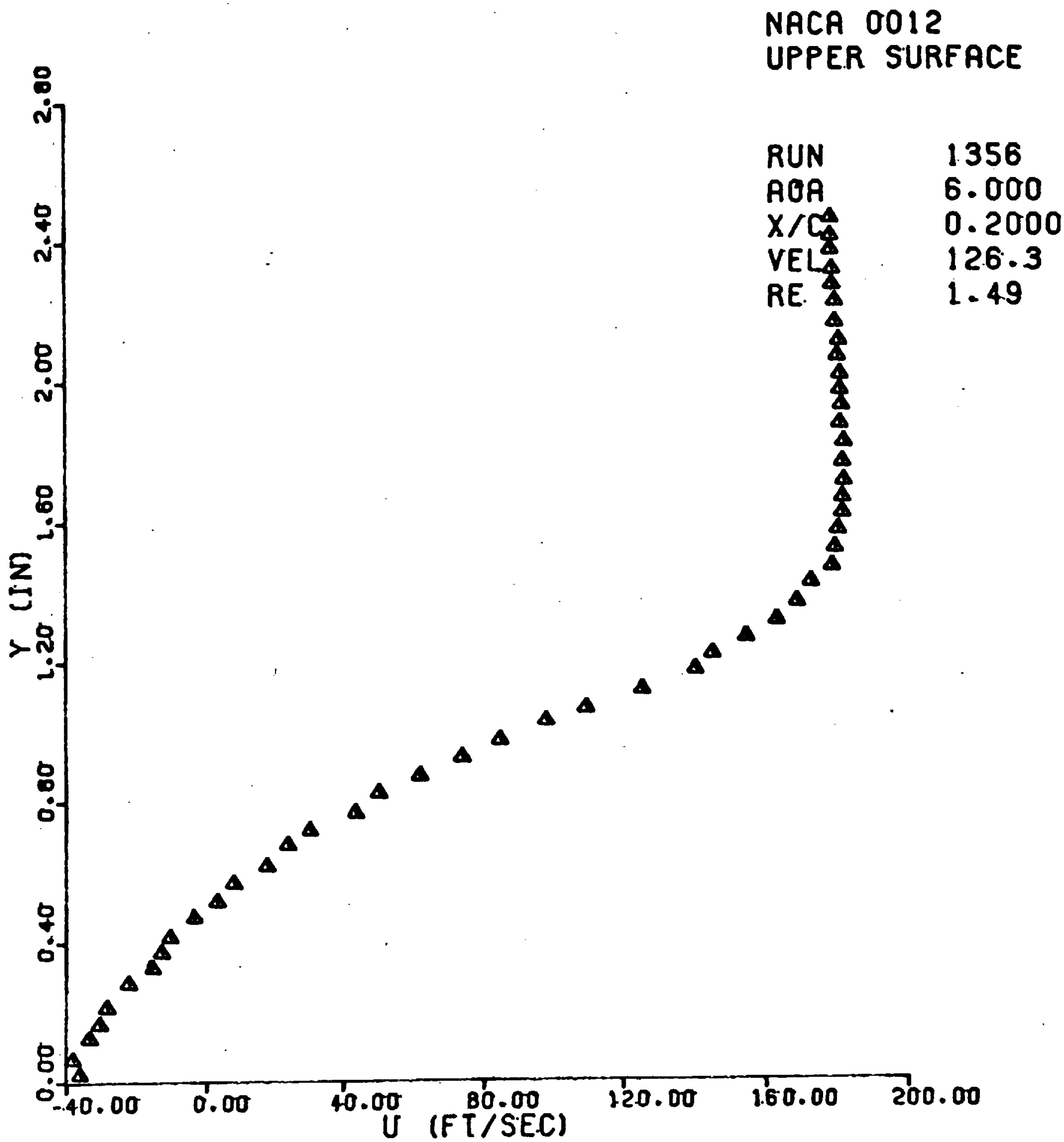
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1356
AOA 6.000
X/C 0.2000
VEL 126.3
RE 1.49
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
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2.80
-40.00
0.00
40.00
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120.00
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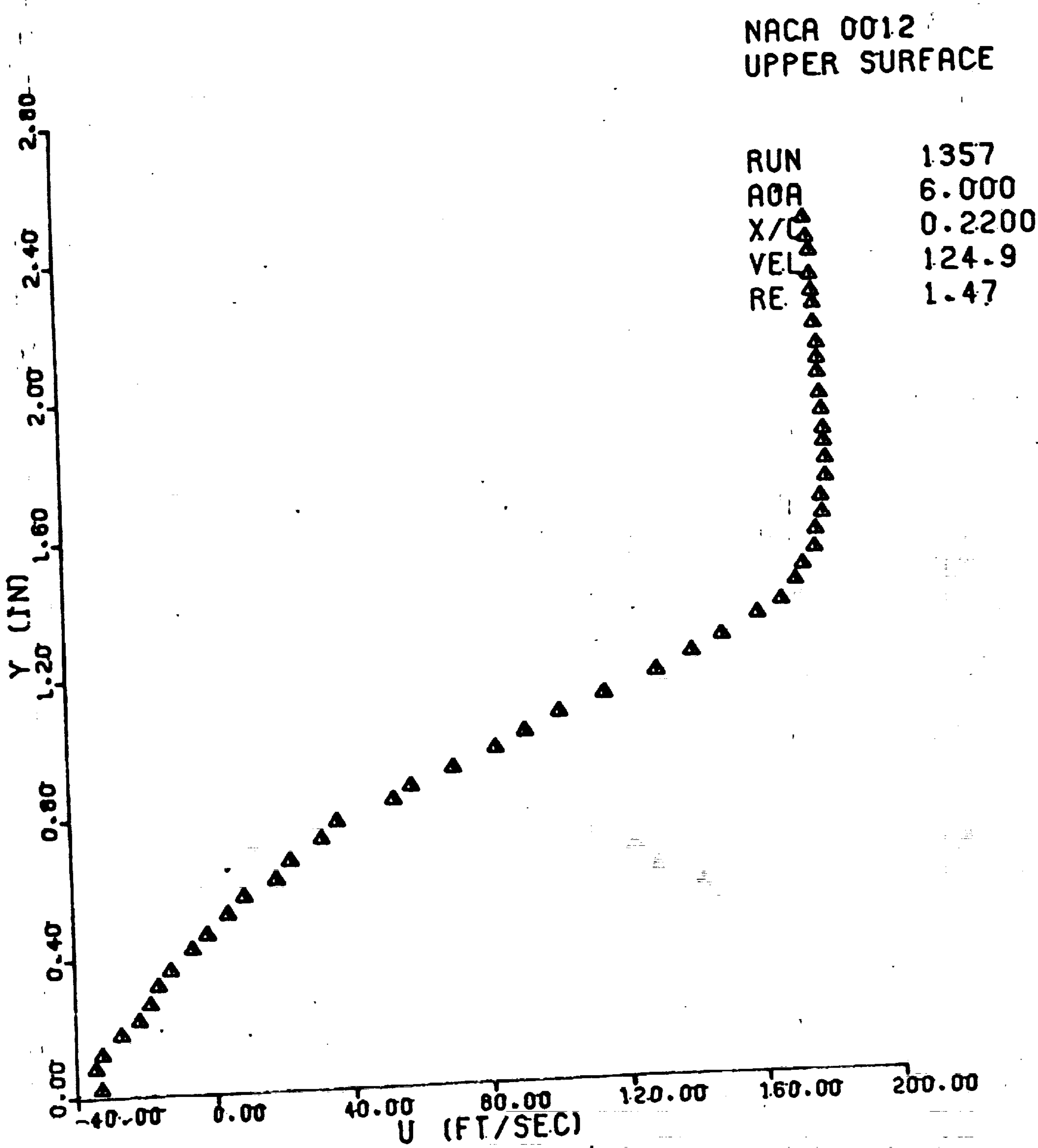
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1357
AOA 6.000
X/C 0.2200
VEL 124.9
RE 1.47
Y (IN)
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0.40
0.80
1.20
1.60
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2.80
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0.00
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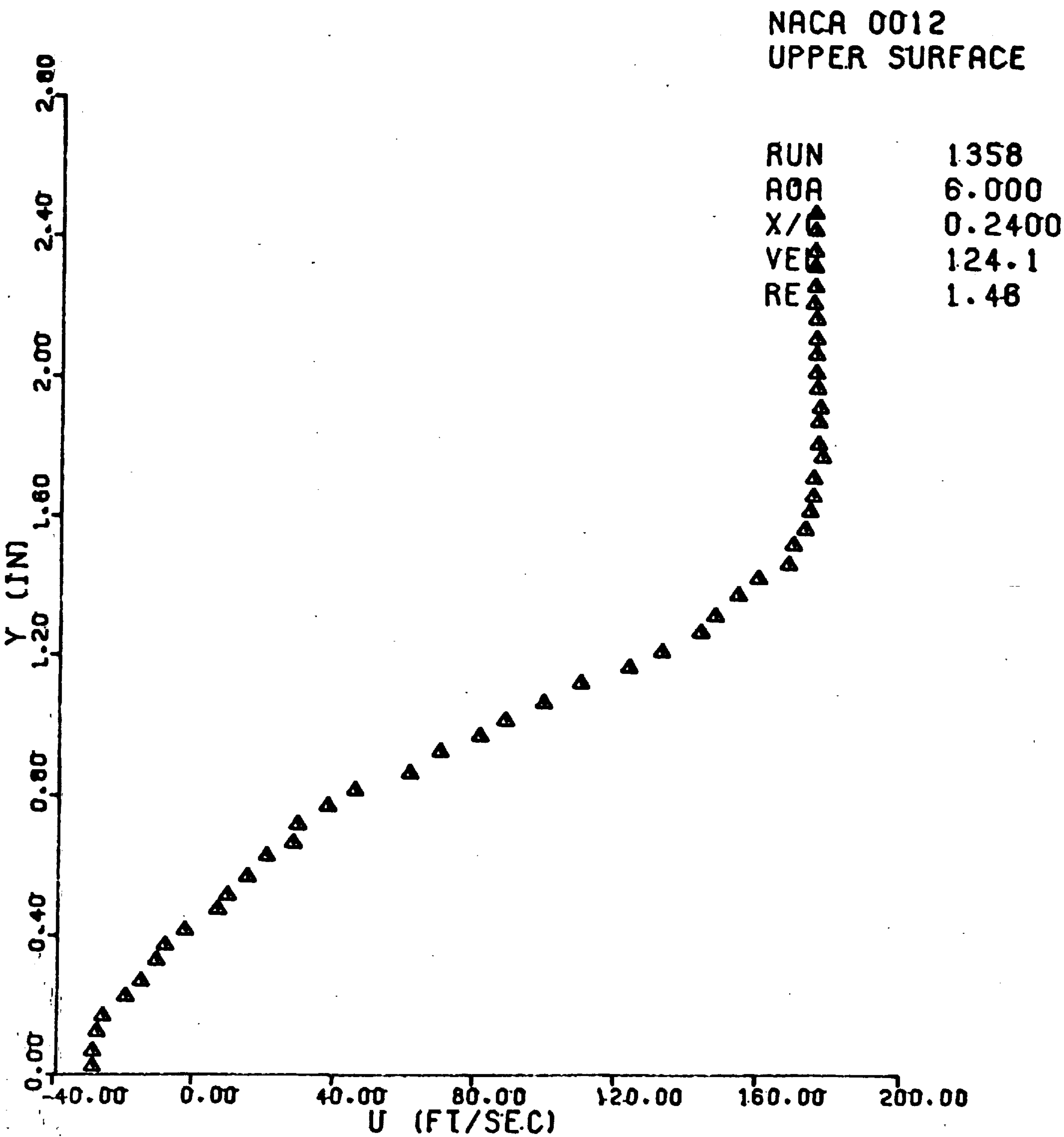
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1358
AOA 6.000
X/C 0.2400
VEL 124.1
RE 1.48
Y (IN)
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0.40
0.80
1.20
1.60
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2.80
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0.00
40.00
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120.00
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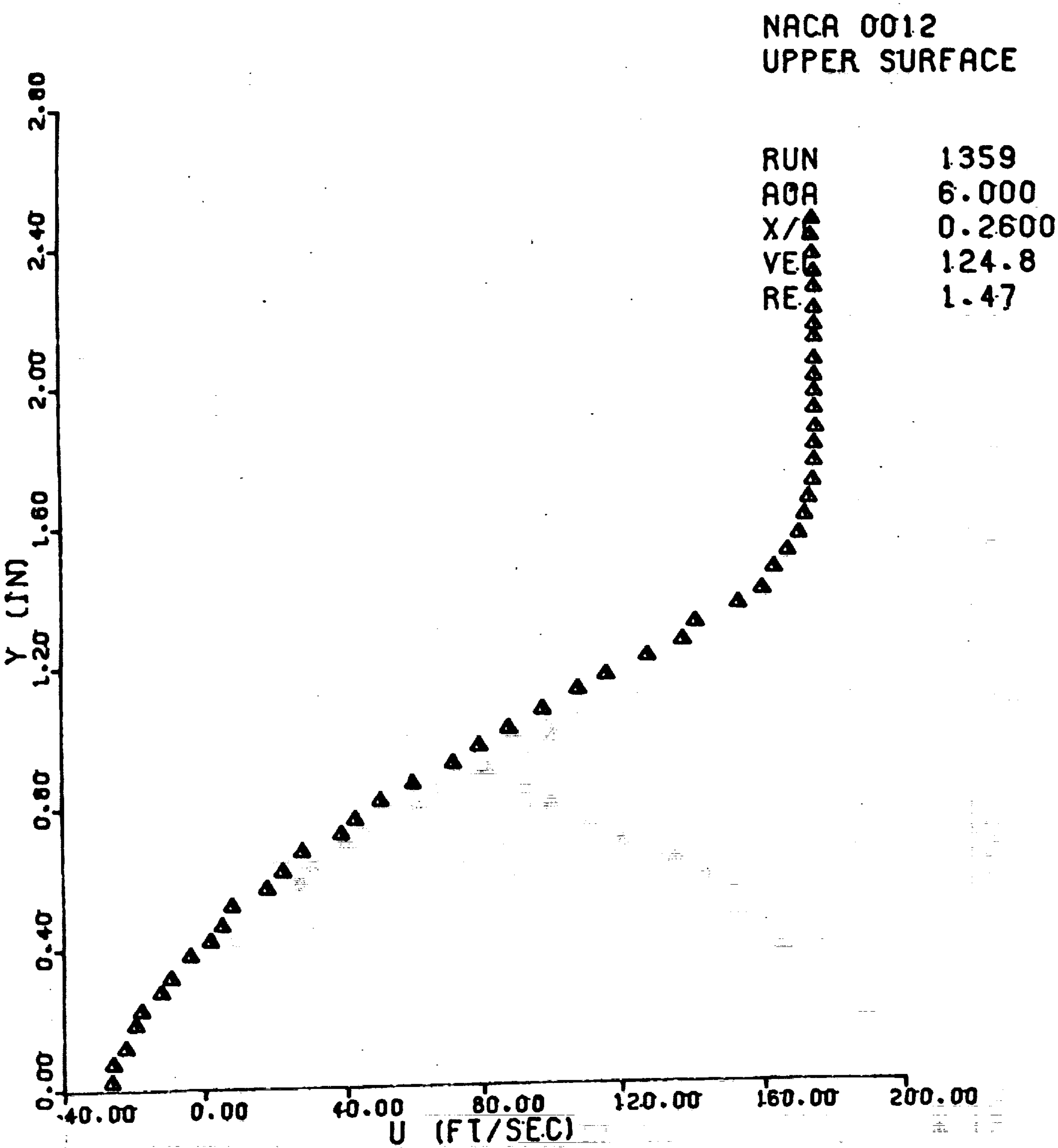
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1359
AOA 6.000
X/C 0.2600
VEL 124.8
RE 1.47
Y (IN)
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0.40
0.80
1.20
1.60
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2.80
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0.00
40.00
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120.00
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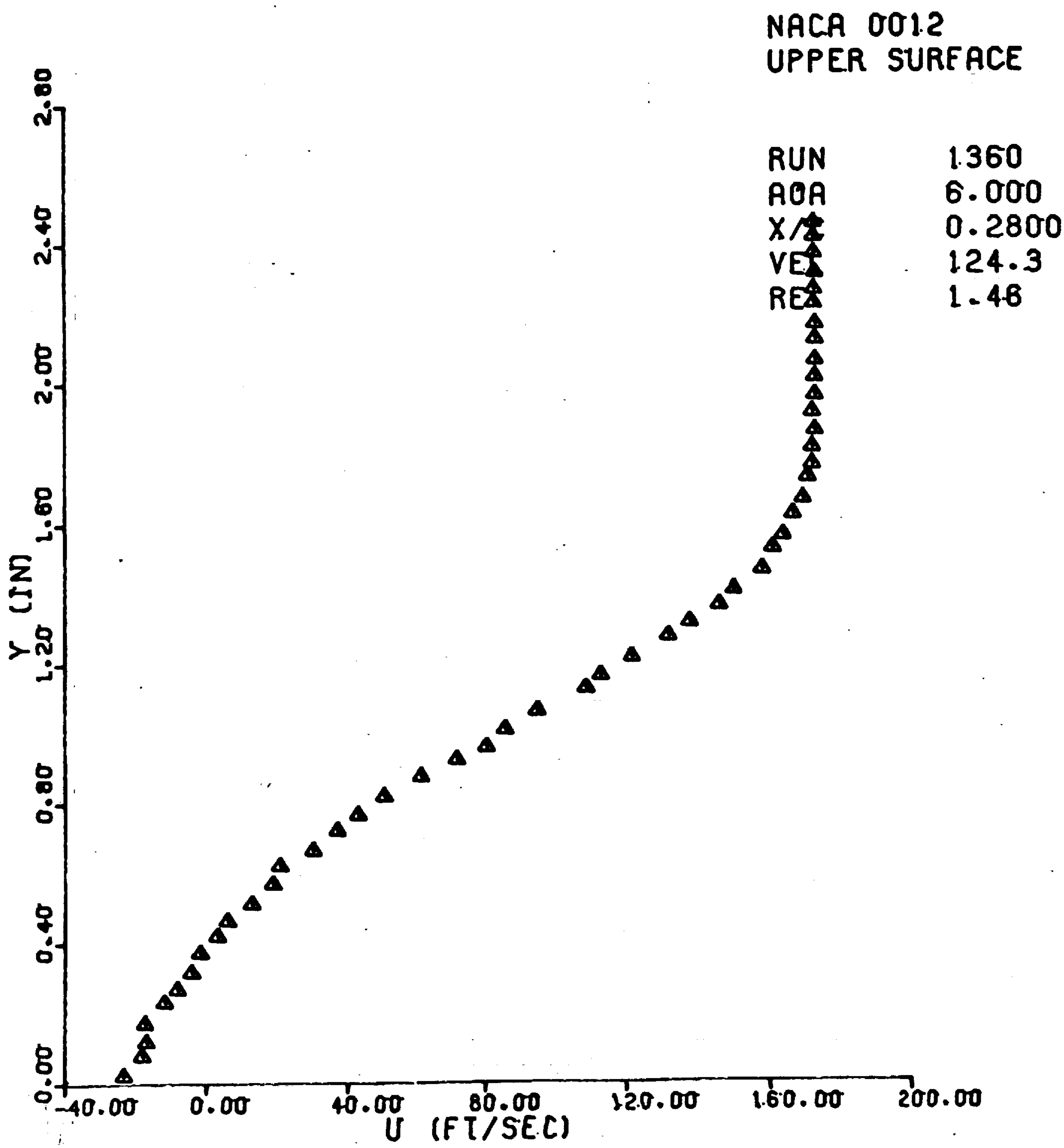
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1360
AOA 6.000
X/C 0.2800
VEL 124.3
RE 1.46
Y (IN)
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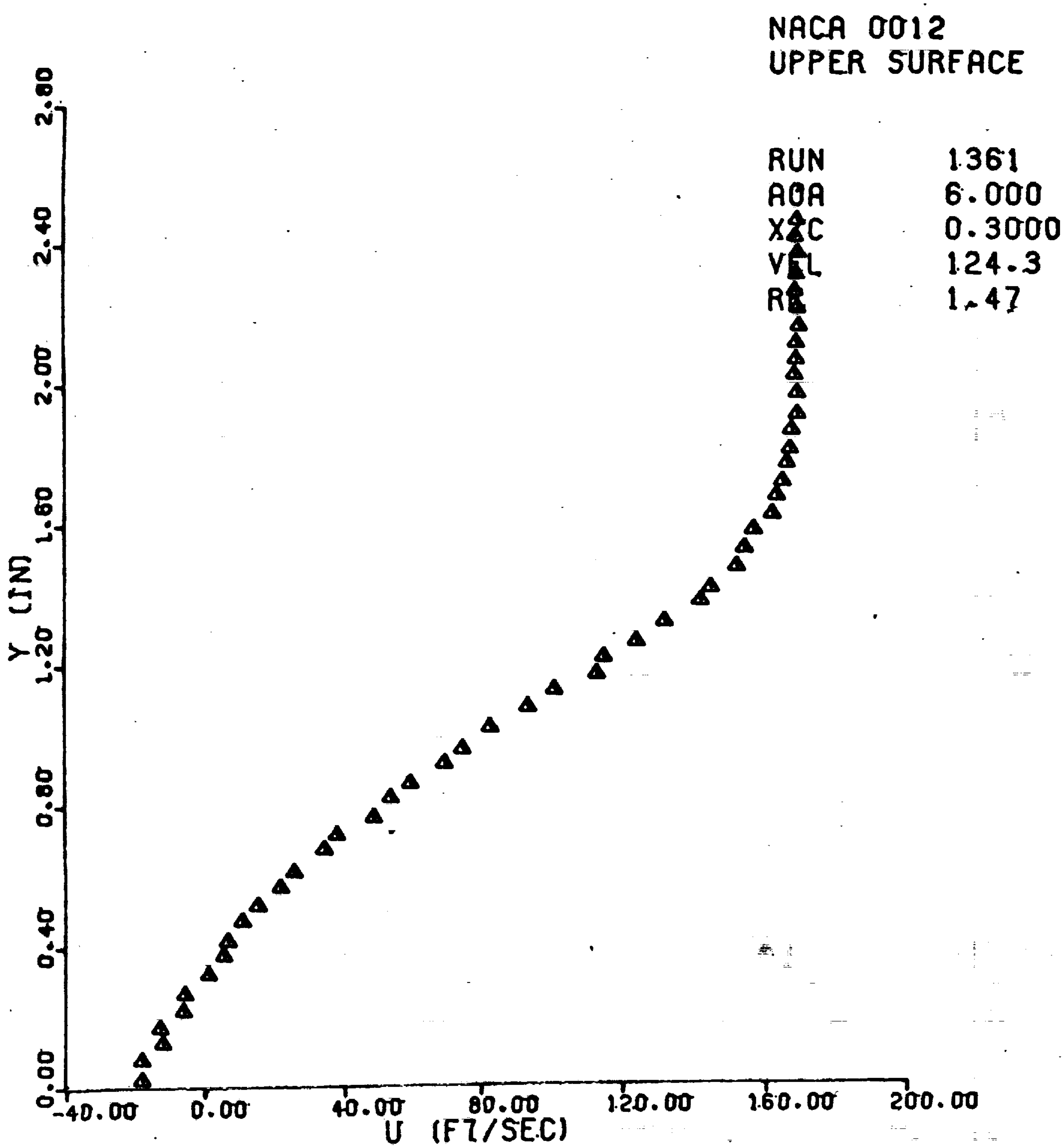
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1361
AOA 6.000
X/C 0.3000
VEL 124.3
RE 1.47
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
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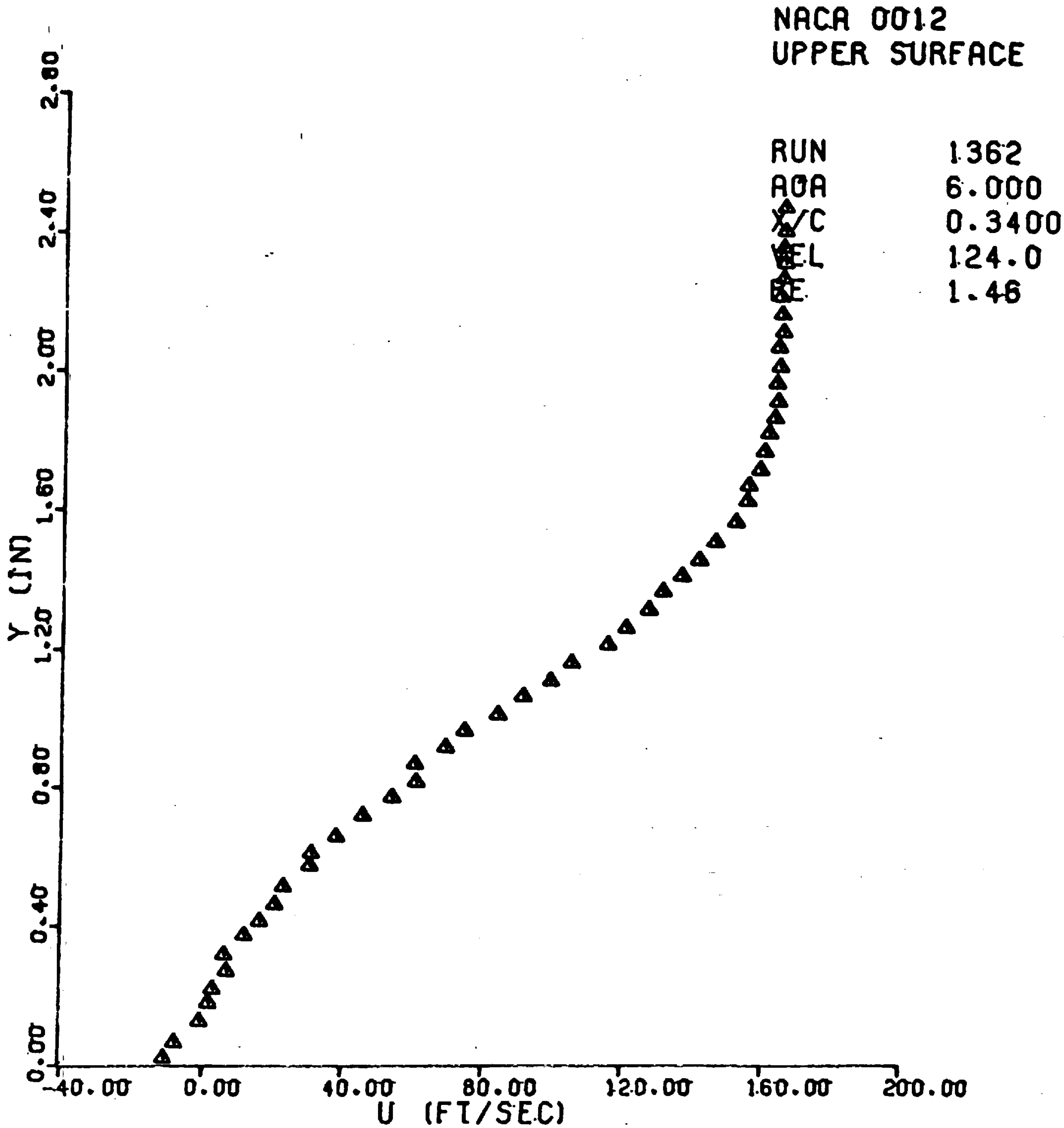
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1362
AOA 6.000
X/C 0.3400
VEL 124.0
RE 1.46
Y (IN)
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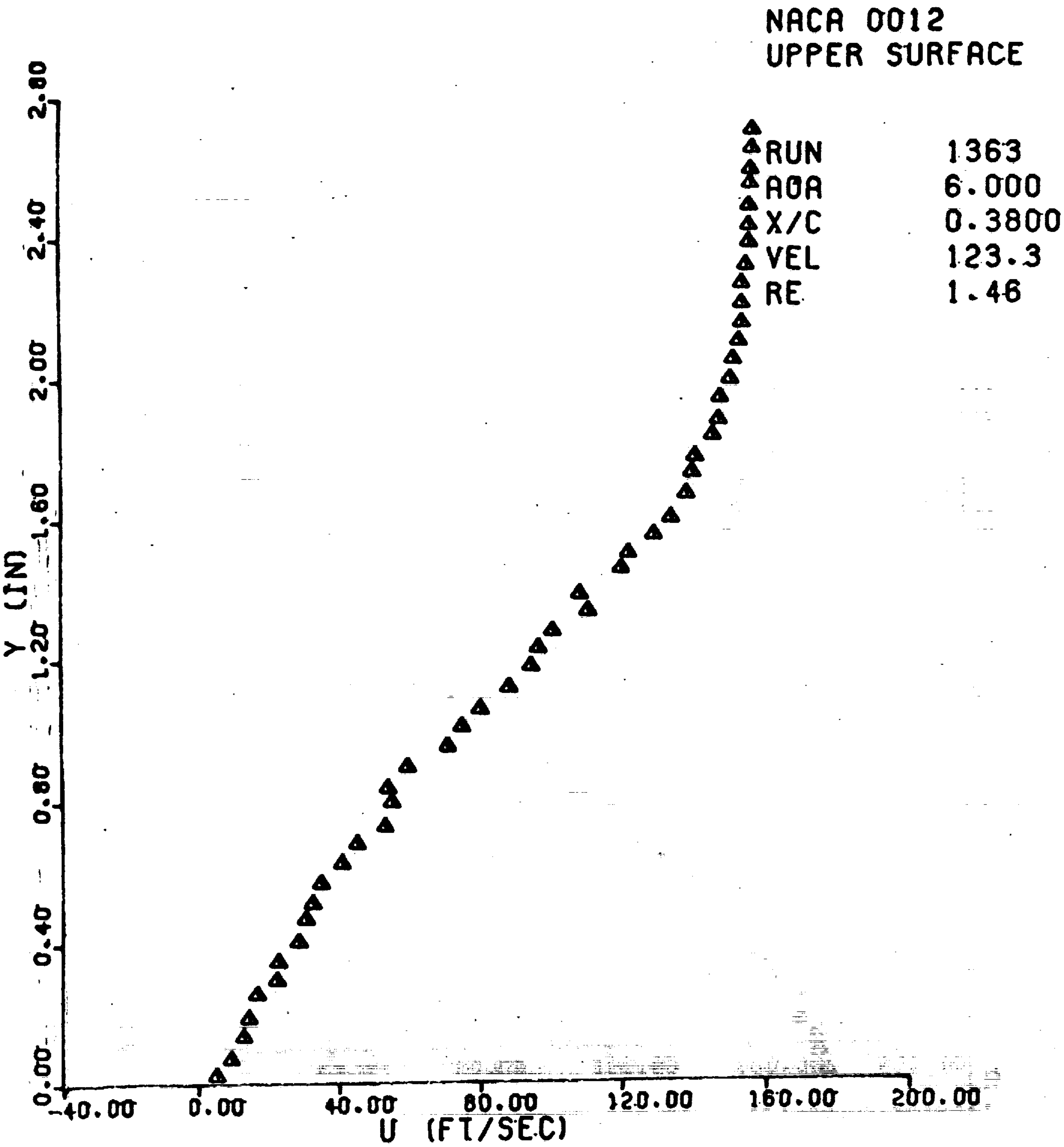
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1363
AOA 6.000
X/C 0.3800
VEL 123.3
RE 1.46
Y (IN)
U (FT/SEC)
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0.40
0.80
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1.60
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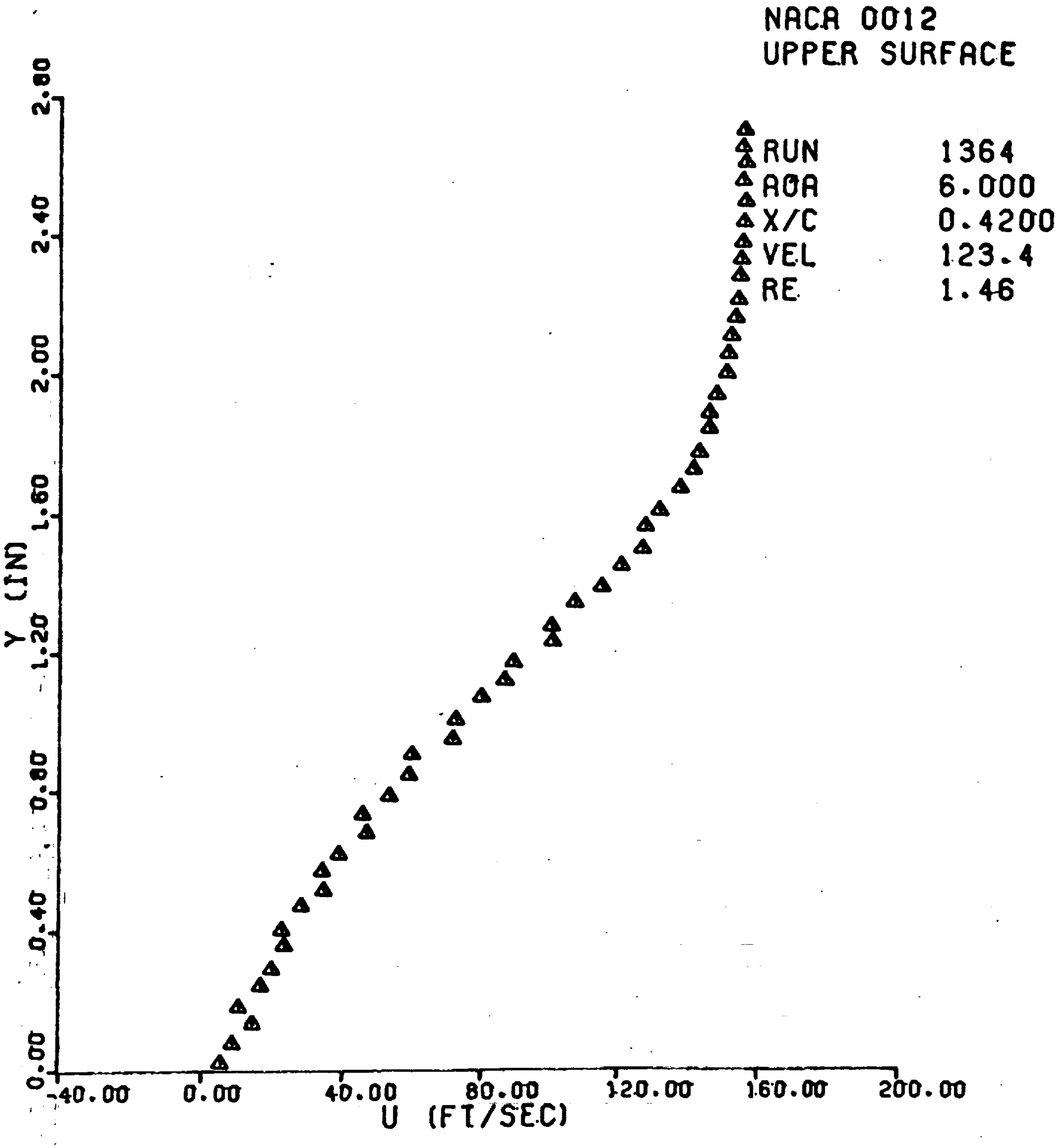
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00



NACA 0012
UPPER SURFACE
RUN 1364
AOA 6.000
X/C 0.4200
VEL 123.4
RE 1.46
Y (IN)
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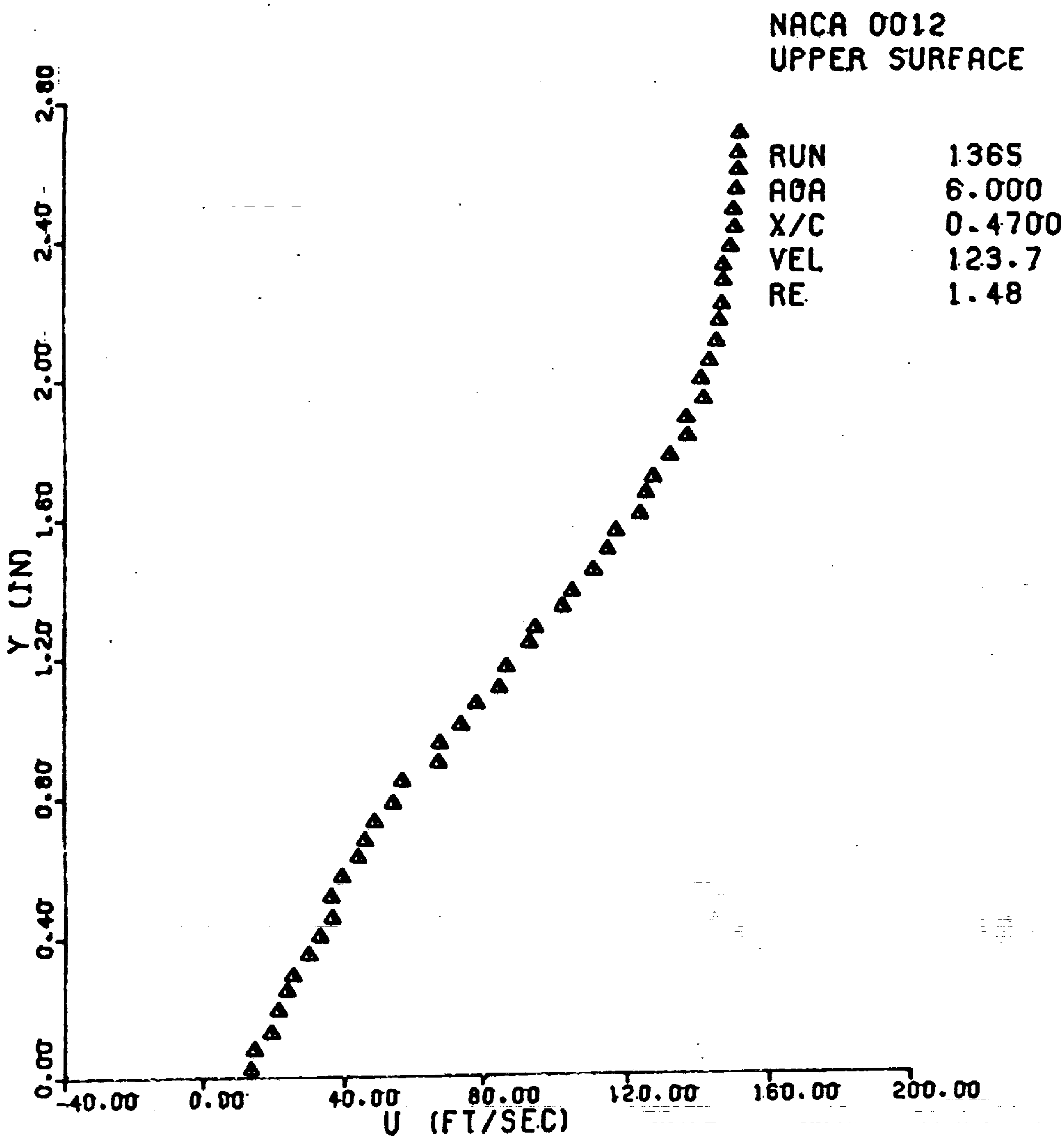
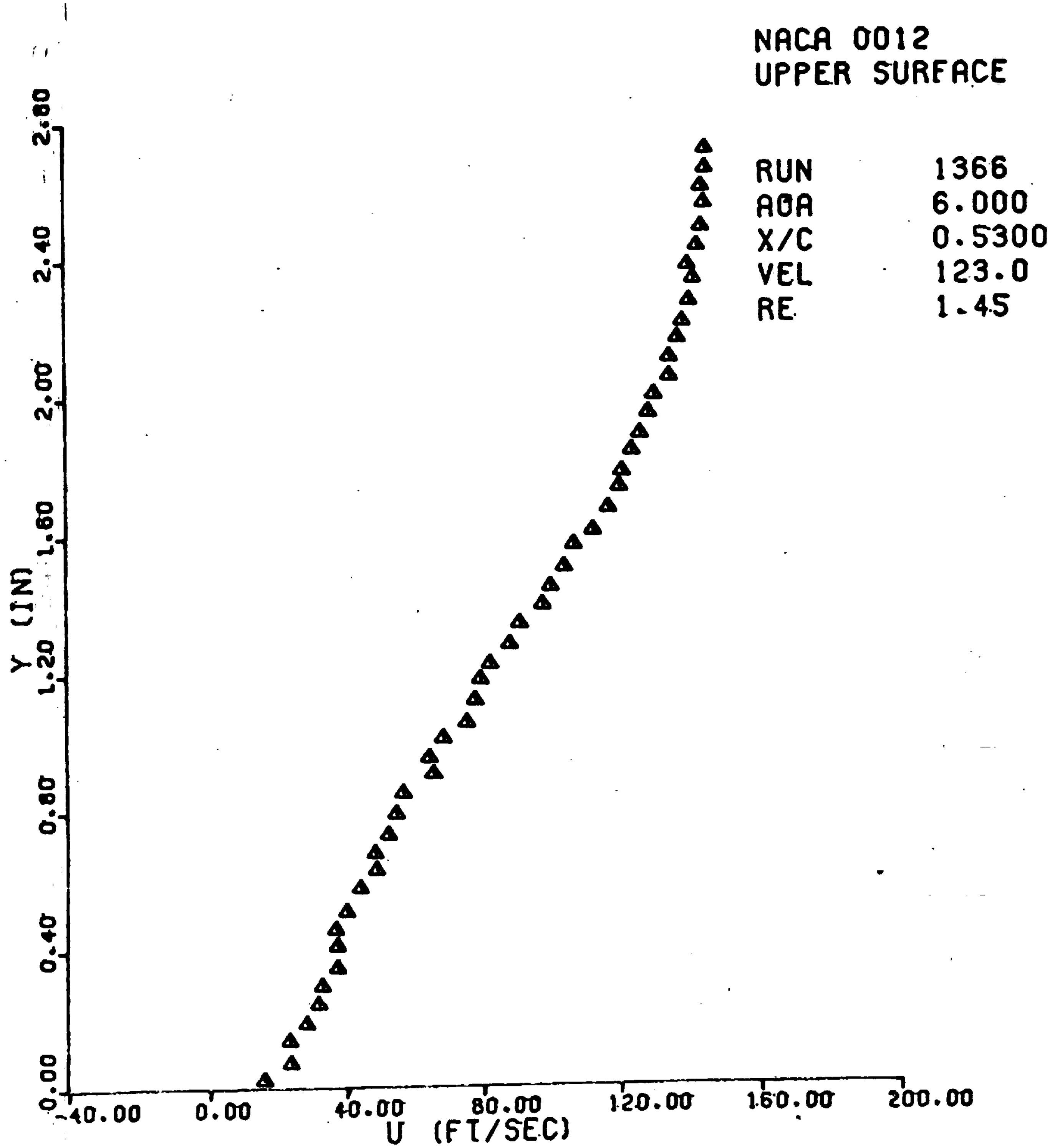
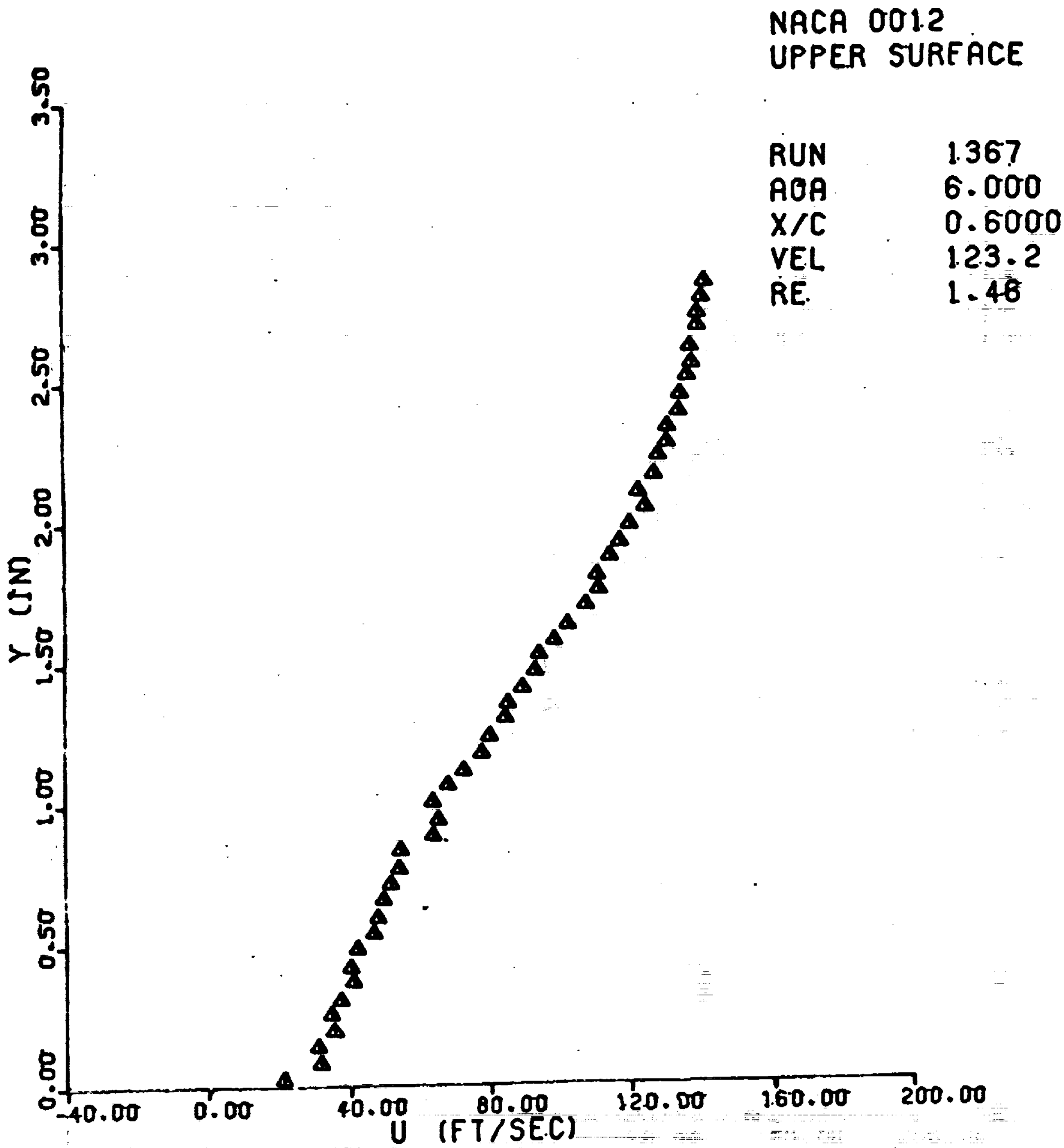
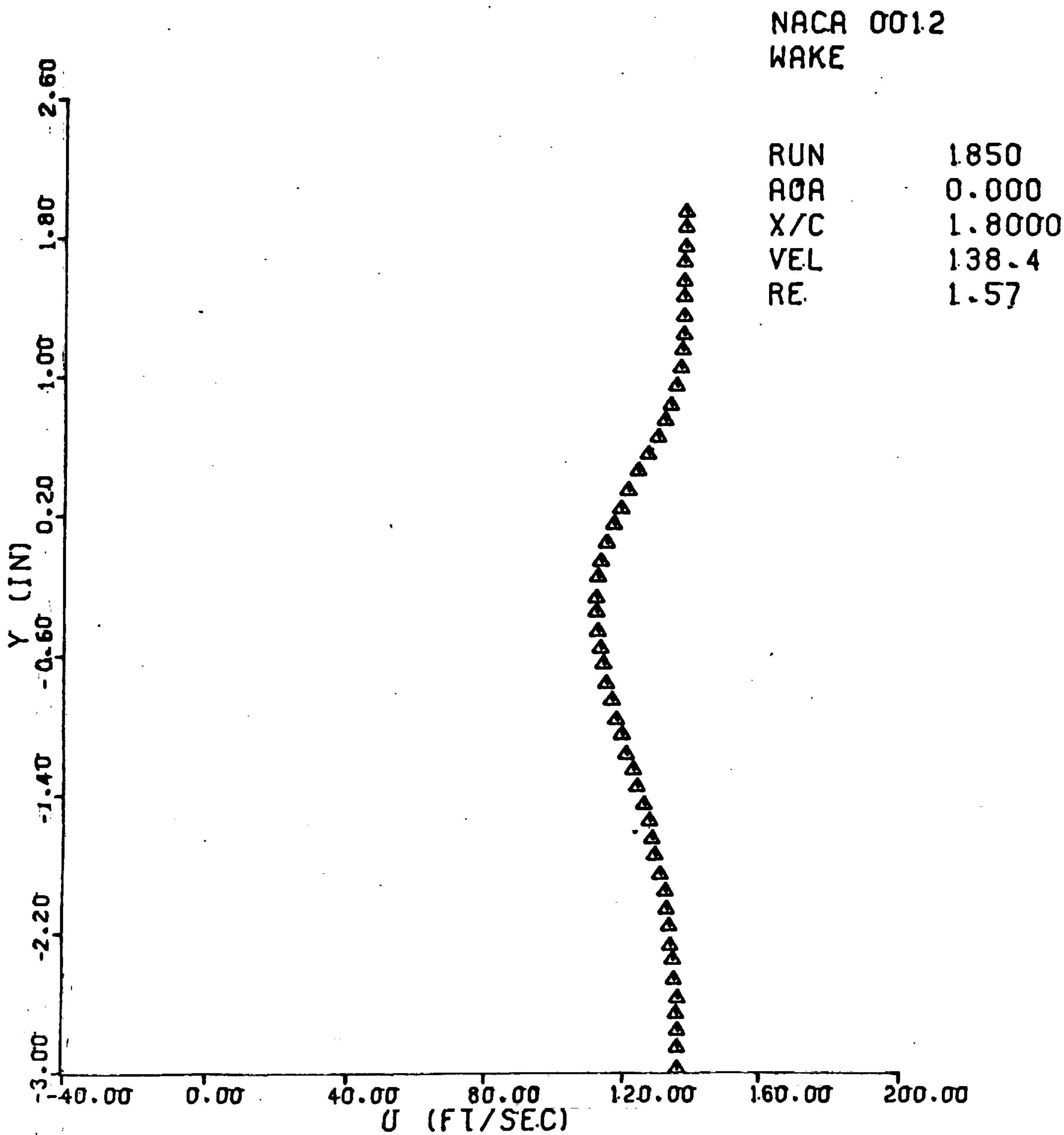
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

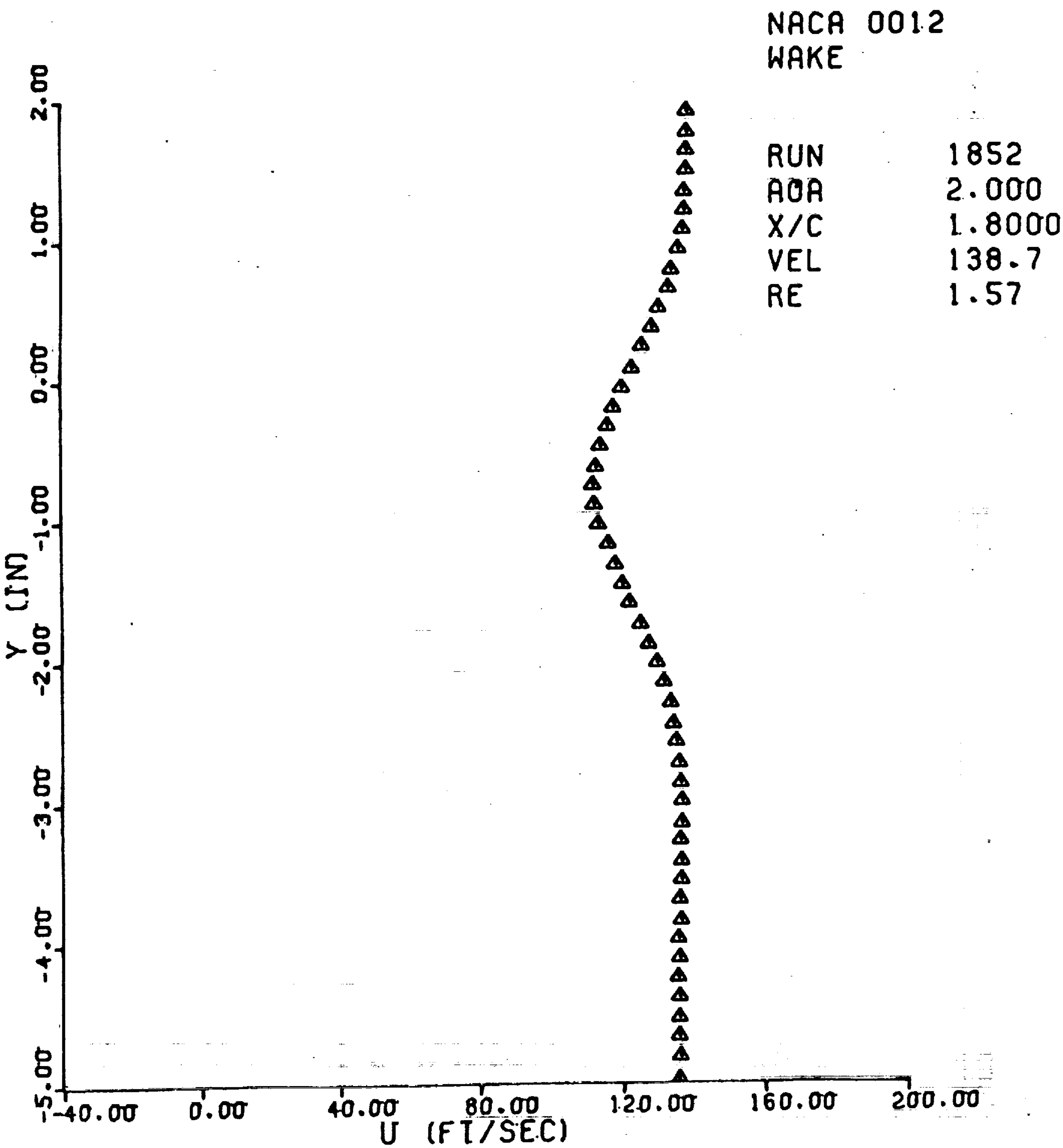


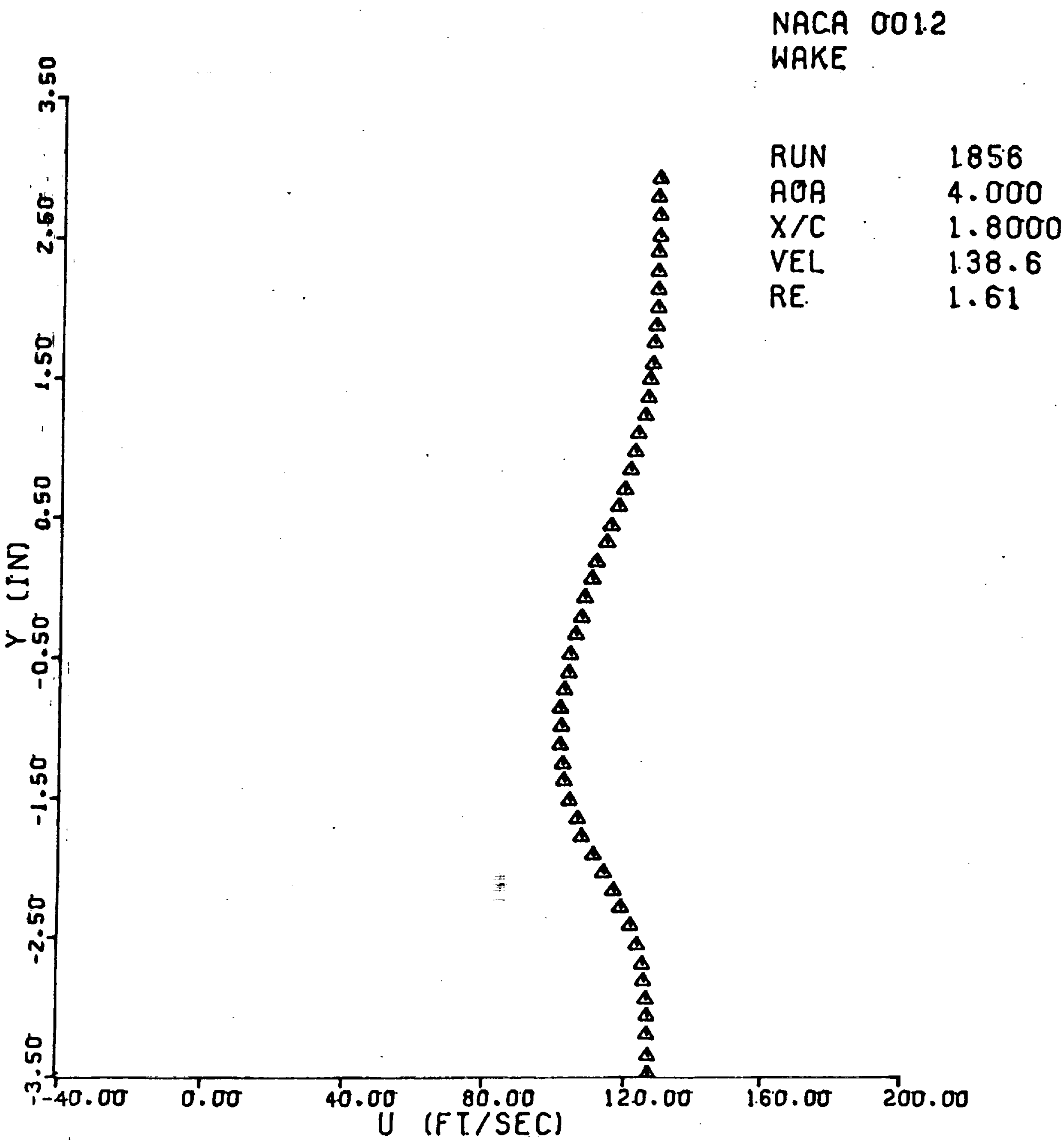
NACA 0012
UPPER SURFACE
RUN 1365
AOA 6.000
X/C 0.4700
VEL 123.7
RE 1.48
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

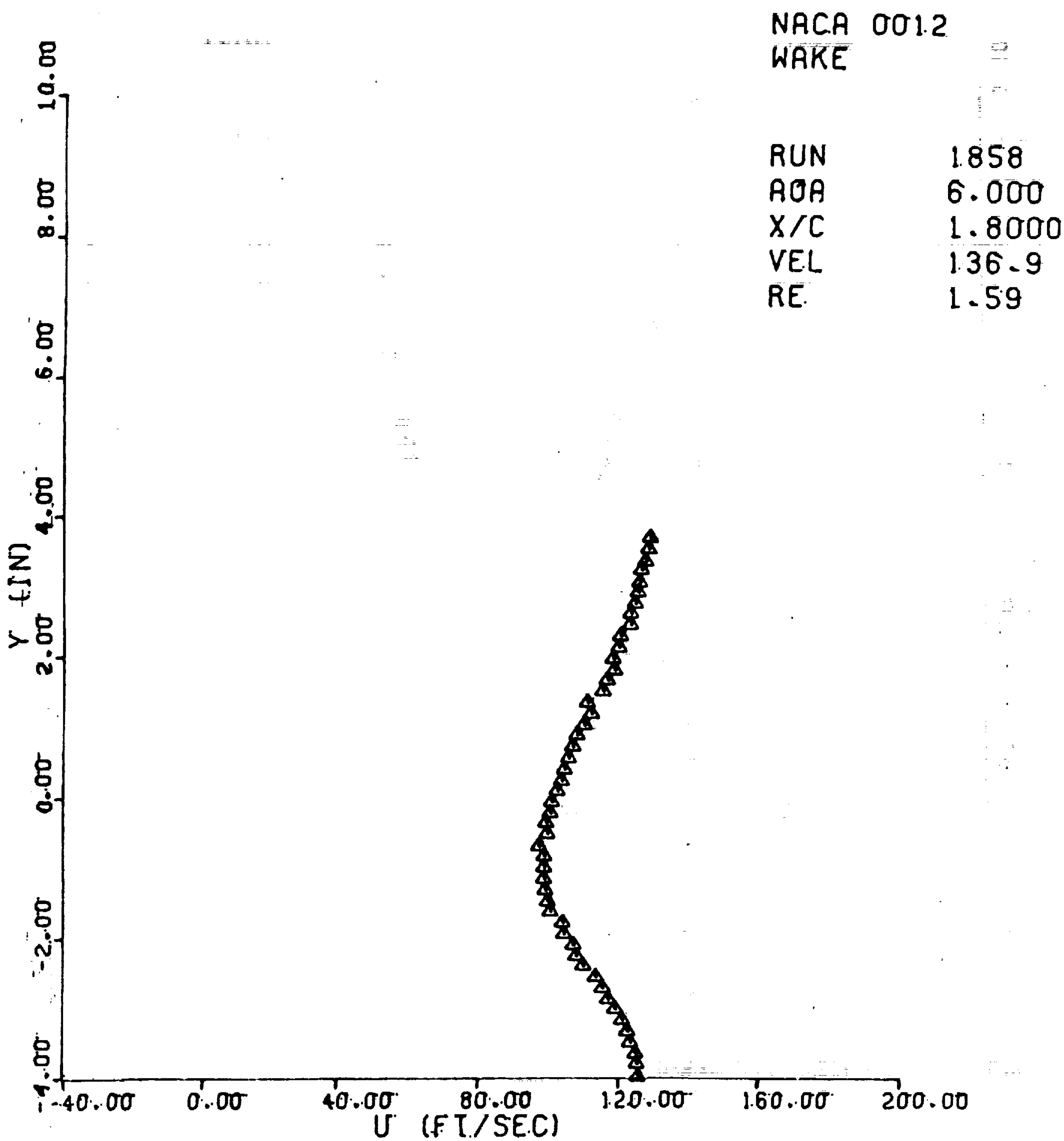

NACA 0012
UPPER SURFACE
RUN 1366
AOA 6.000
X/C 0.5300
VEL 123.0
RE 1.45
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

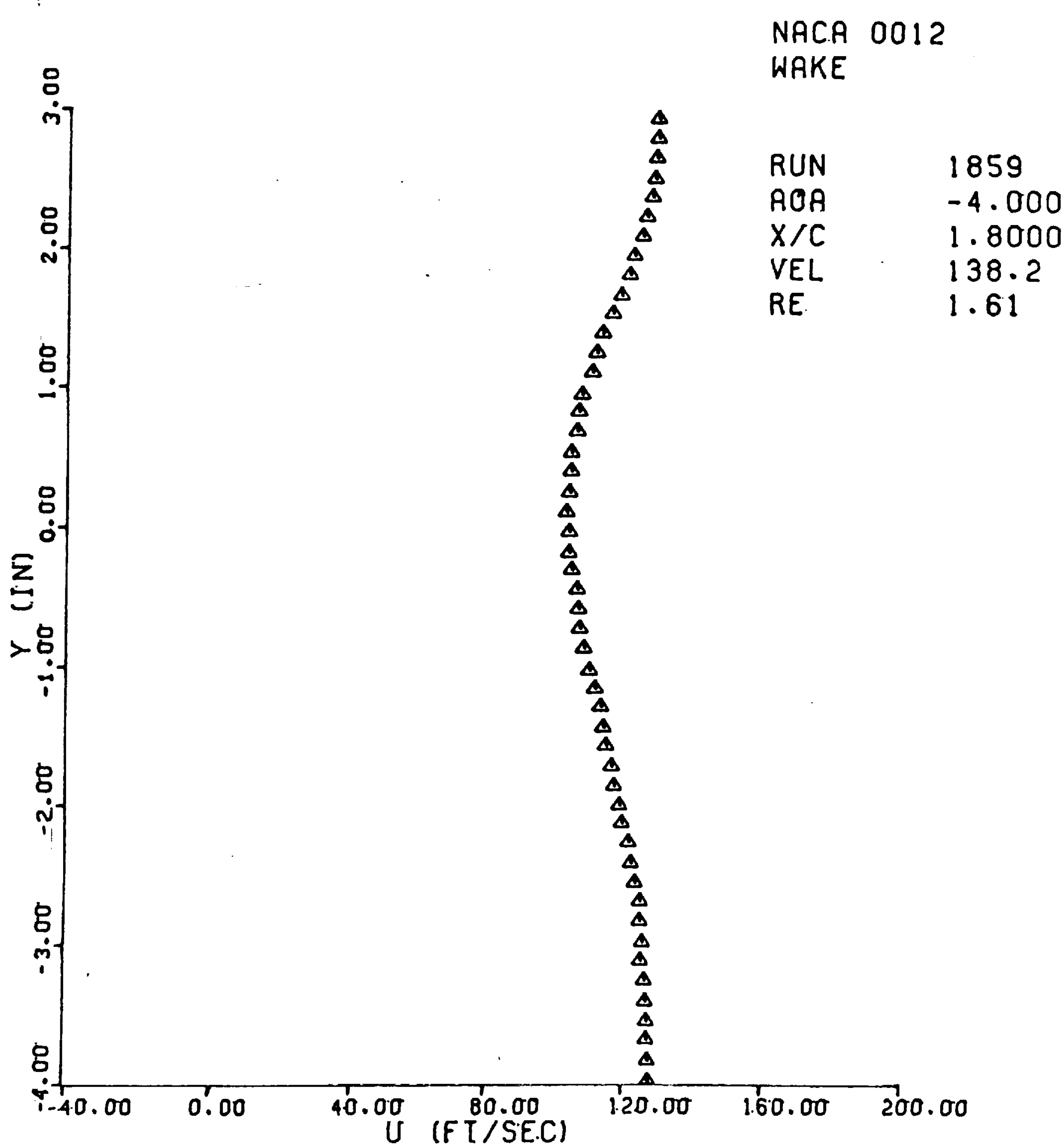

NACA 0012
UPPER SURFACE
RUN 1367
AOA 6.000
X/C 0.6000
VEL 123.2
RE 1.46
Y (IN)
U (FT/SEC)
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50

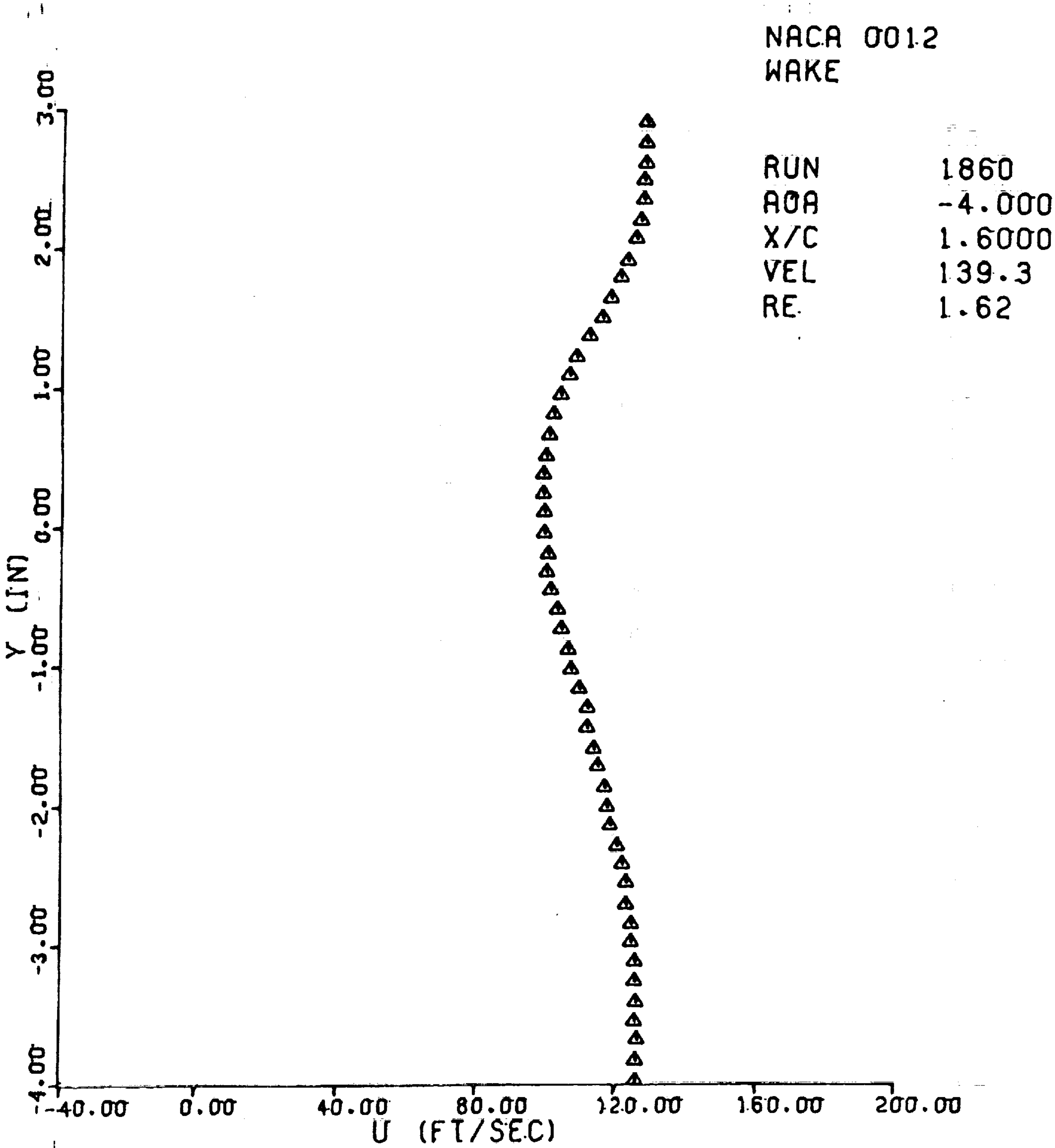

NACA 0012
WAKE
RUN 1850
AOA 0.000
X/C 1.8000
VEL 138.4
RE 1.57
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

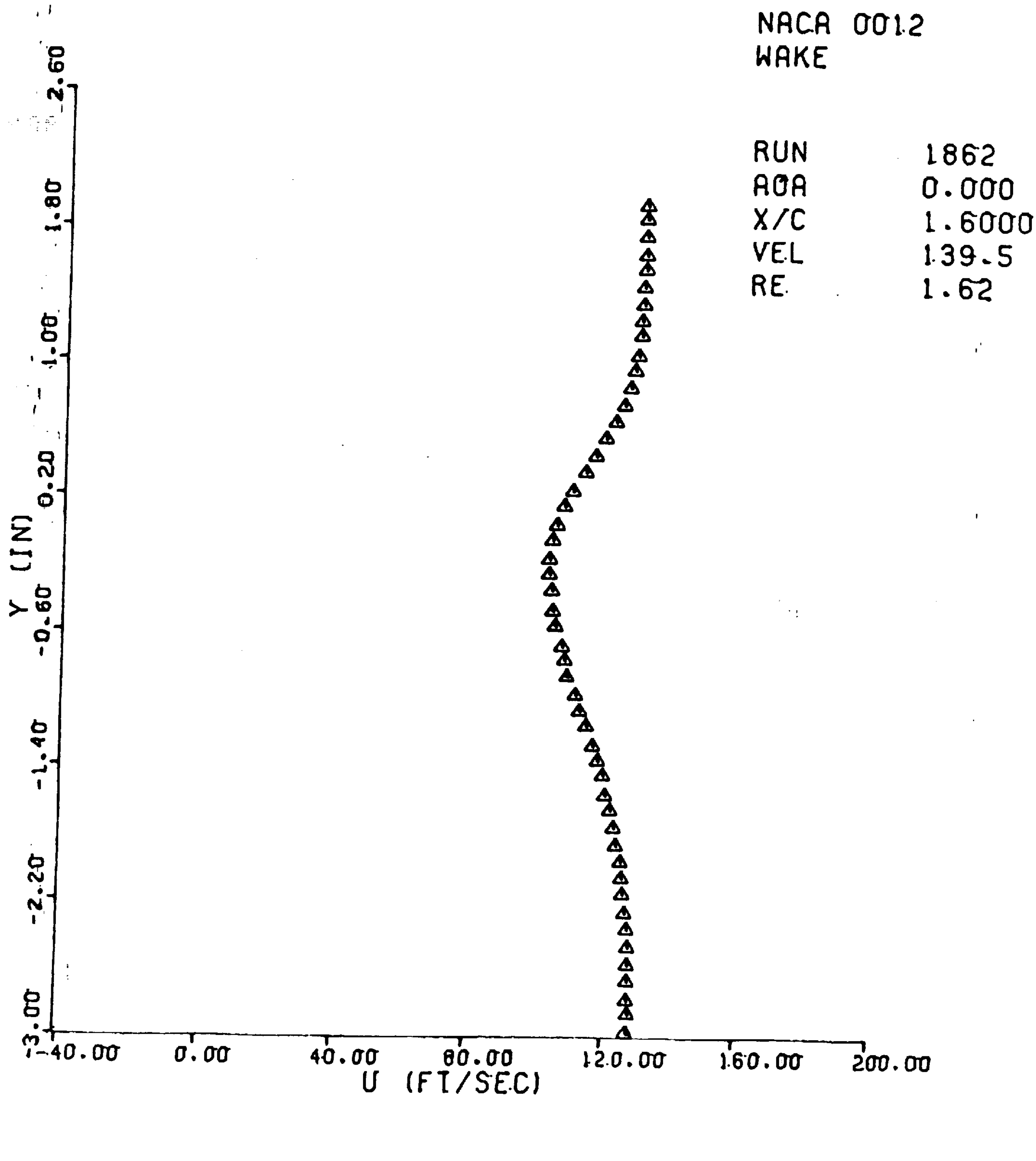

NACA 0012
WAKE
RUN 1852
AOA 2.000
X/C 1.8000
VEL 138.7
RE 1.57
Y (IN)
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-5.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

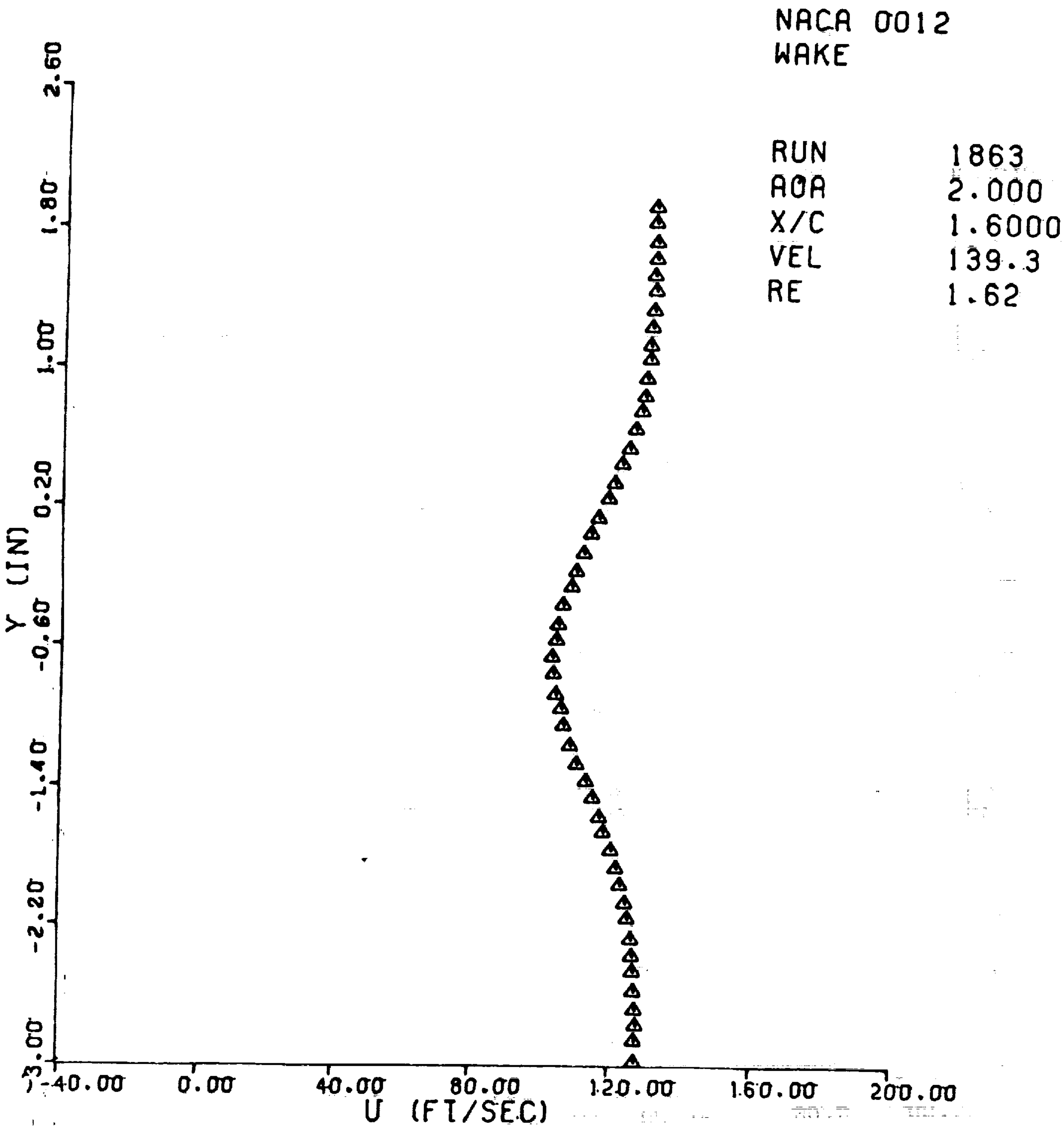

NACA 0012
WAKE
RUN 1856
AOA 4.000
X/C 1.8000
VEL 138.6
RE 1.61
Y (IN)
3.50
2.50
1.50
0.50
-0.50
-1.50
-2.50
-3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

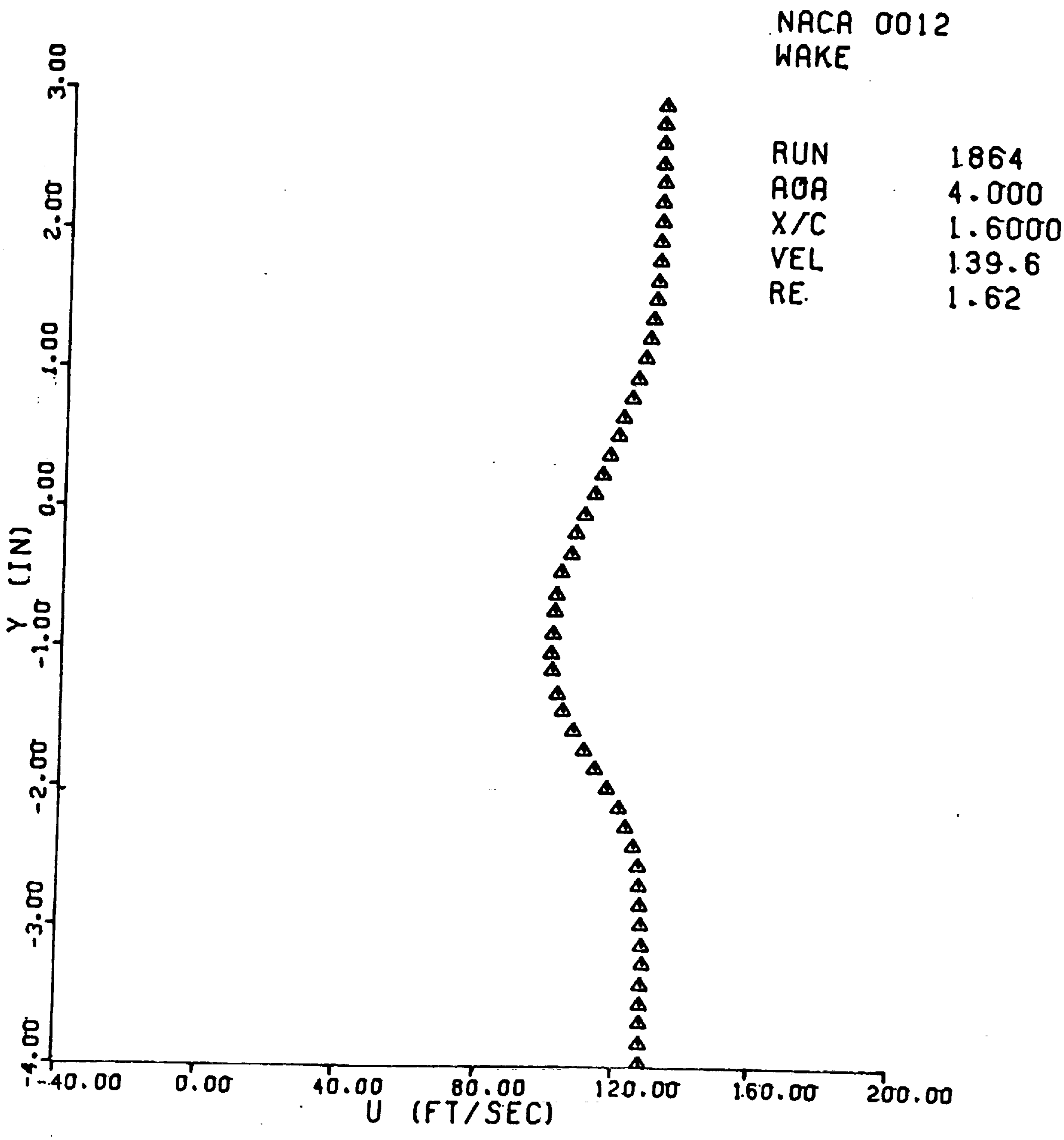

NACA 0012
WAKE
RUN 1858
AOA 6.000
X/C 1.8000
VEL 136.9
RE 1.59
Y (IN)
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
WAKE
RUN 1859
AOA -4.000
X/C 1.8000
VEL 138.2
RE 1.61
Y (IN)
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

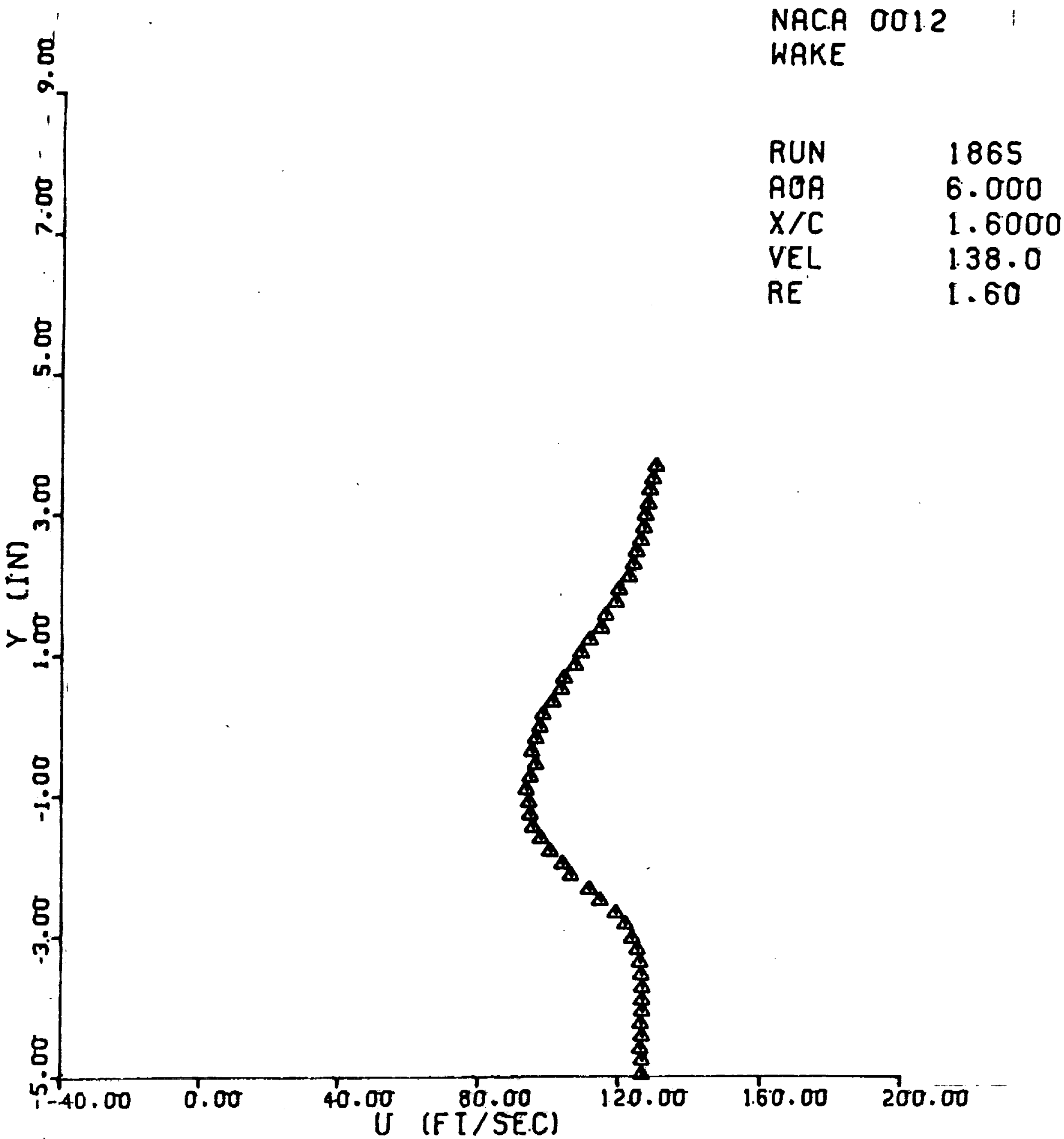

NACA 0012
WAKE
RUN 1860
AOA -4.000
X/C 1.6000
VEL 139.3
RE 1.62
Y (IN)
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
WAKE
RUN 1862
AOA 0.000
X/C 1.6000
VEL 139.5
RE 1.62
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

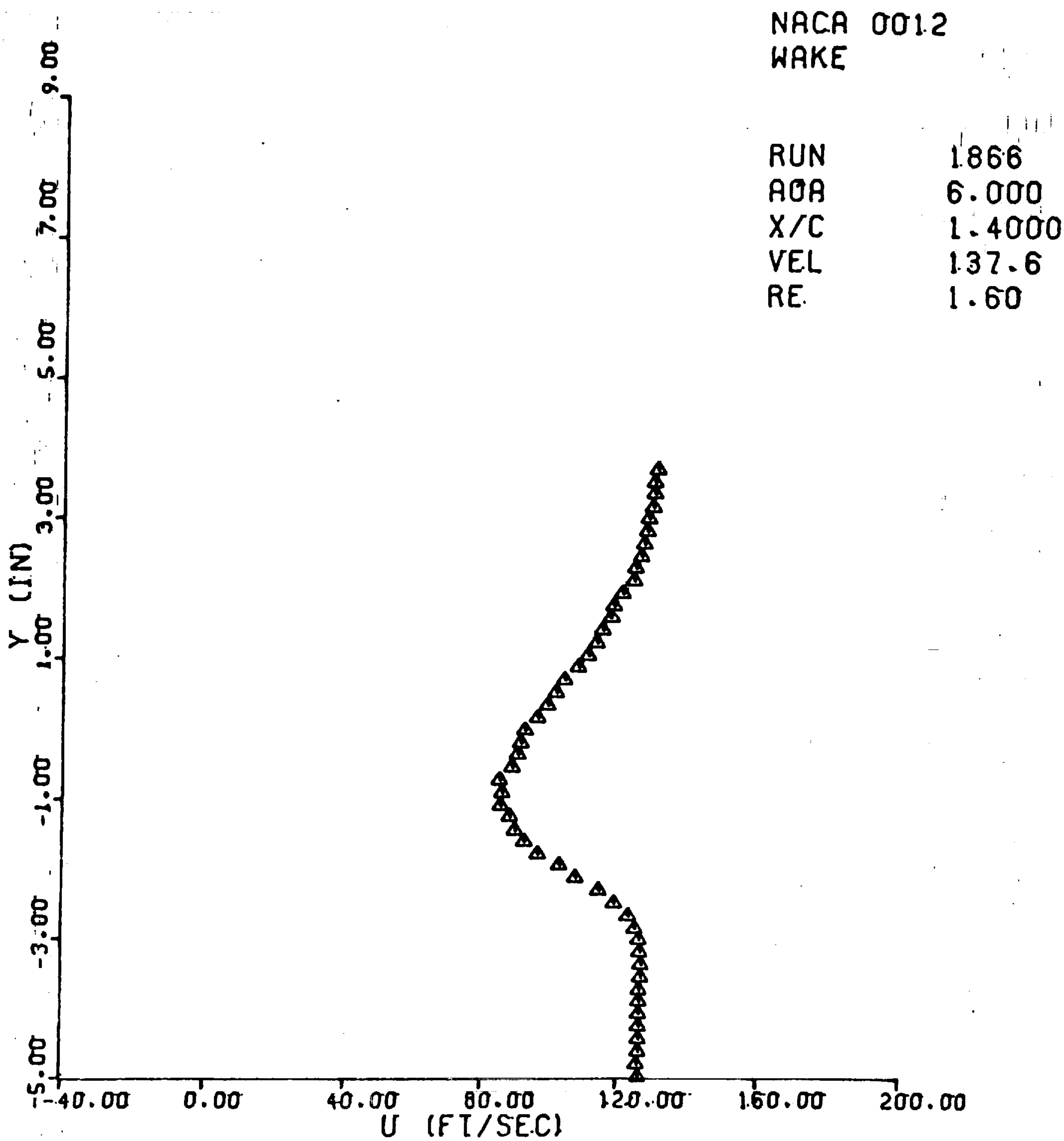

NACA 0012
WAKE
RUN 1863
AOA 2.000
X/C 1.6000
VEL 139.3
RE 1.62
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

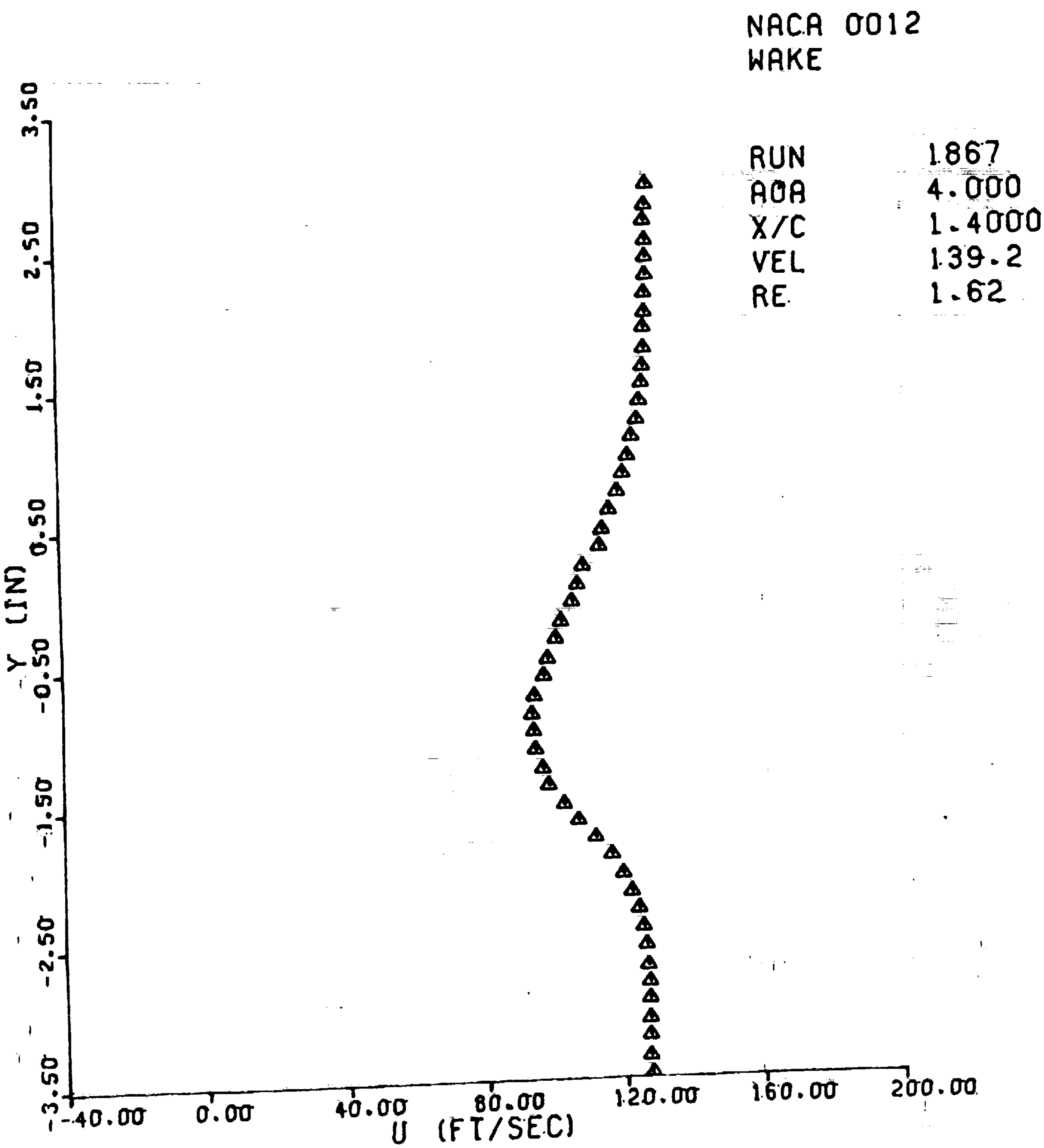


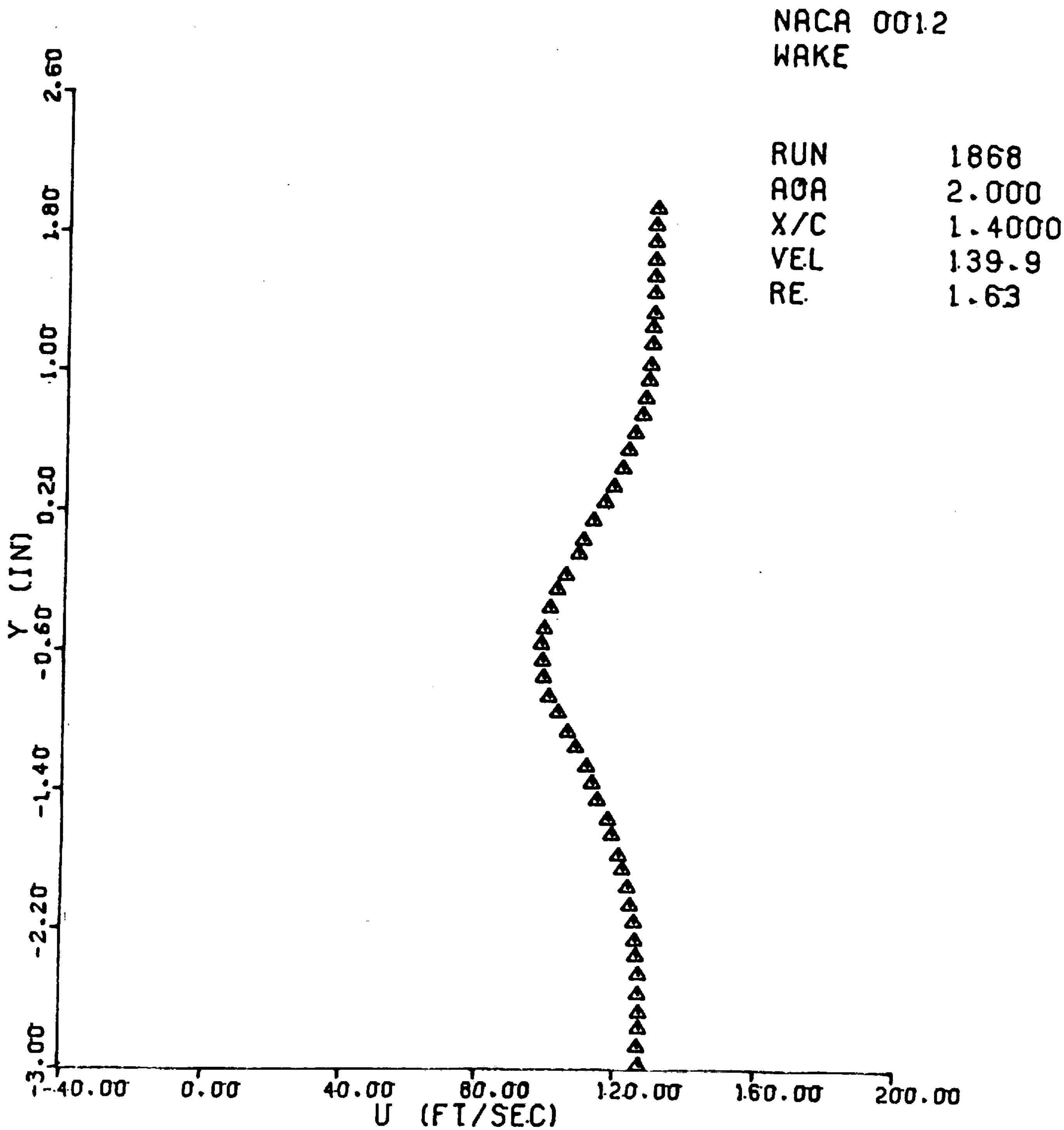
NACA 0012
WAKE
RUN 1864
AOA 4.000
X/C 1.6000
VEL 139.6
RE 1.62
Y (IN)
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

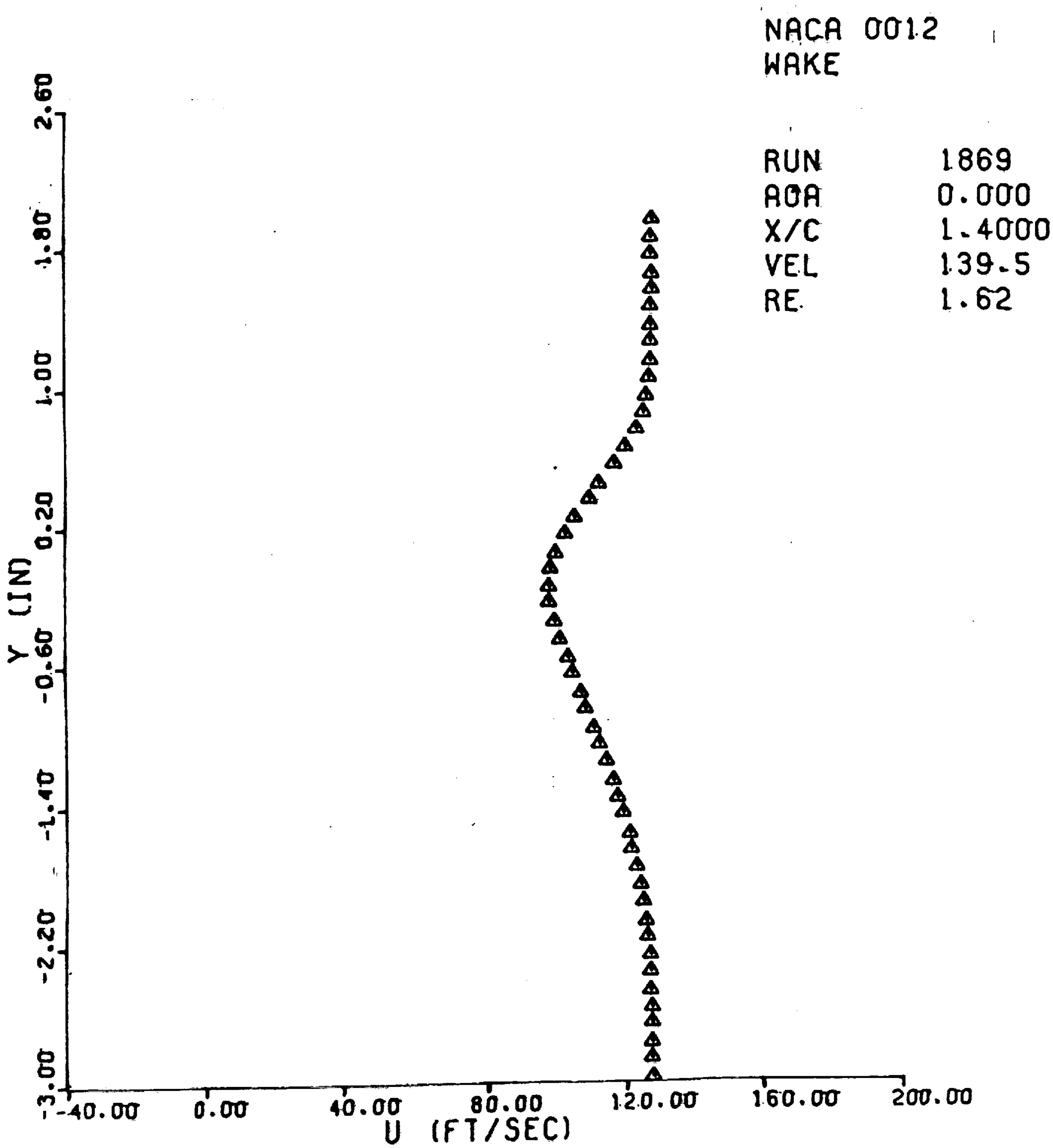


NACA 0012
WAKE
RUN 1865
AOA 6.000
X/C 1.6000
VEL 138.0
RE 1.60
Y (IN)
9.00
7.00
5.00
3.00
1.00
-1.00
-3.00
-5.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

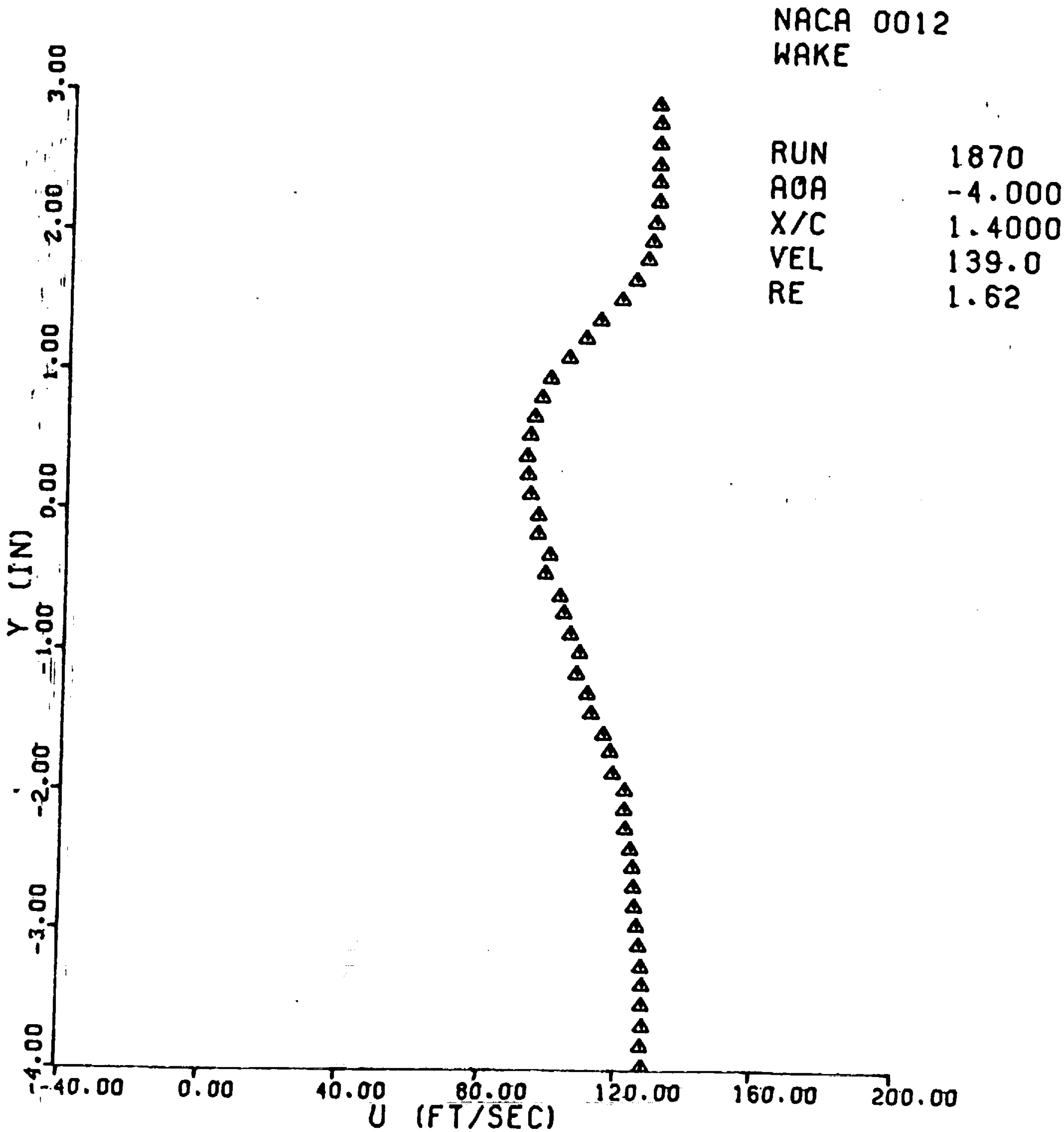

NACA 0012
WAKE
RUN 1866
AOA 6.000
X/C 1.4000
VEL 137.6
RE 1.60
Y (IN)
9.00
7.00
5.00
3.00
1.00
-1.00
-3.00
-5.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

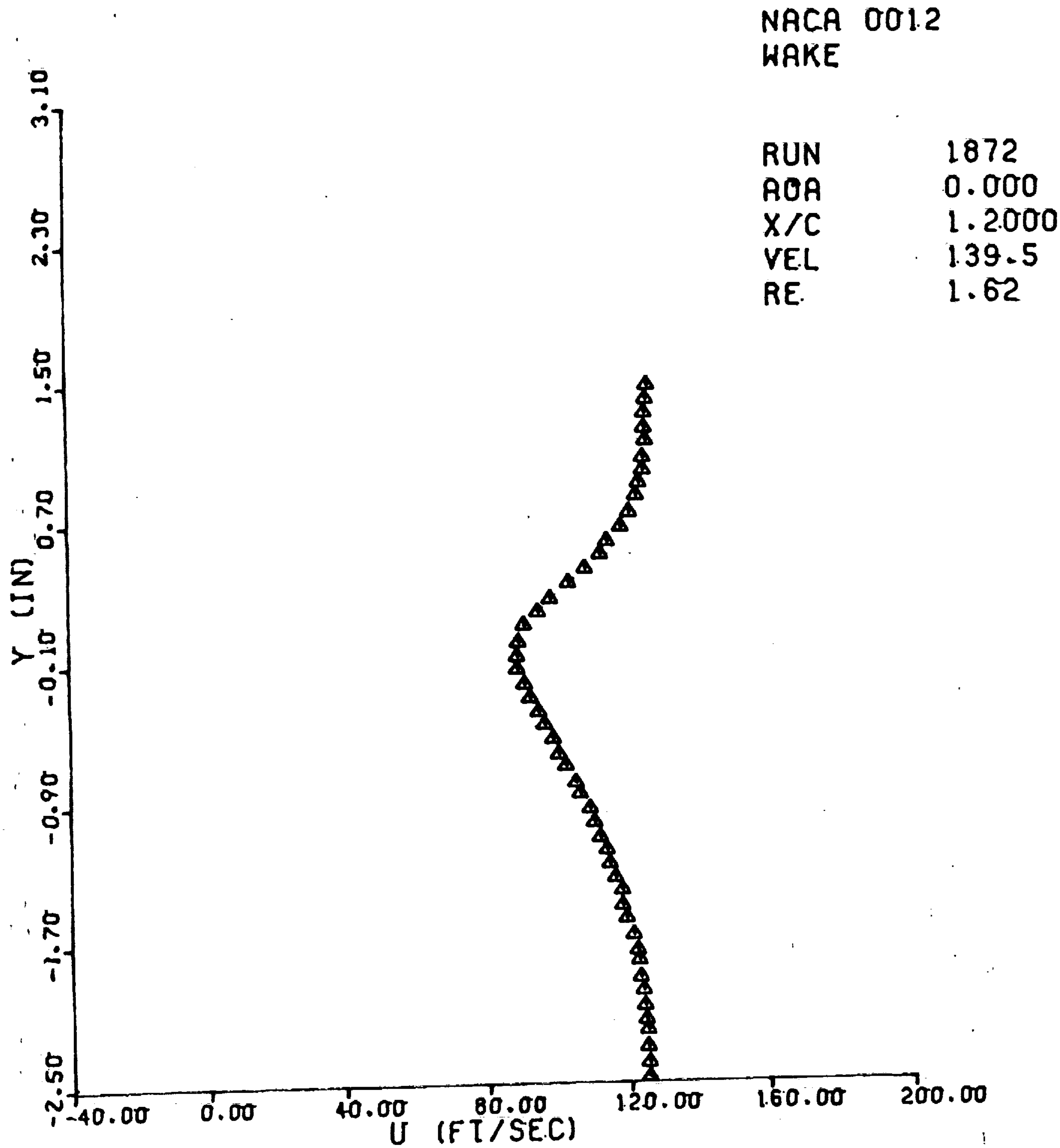

NACA 0012
WAKE
RUN 1867
AOA 4.000
X/C 1.4000
VEL 139.2
RE 1.62
Y (IN)
3.50
2.50
1.50
0.50
-0.50
-1.50
-2.50
-3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
WAKE
RUN 1868
AOA 2.000
X/C 1.4000
VEL 139.9
RE 1.63
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

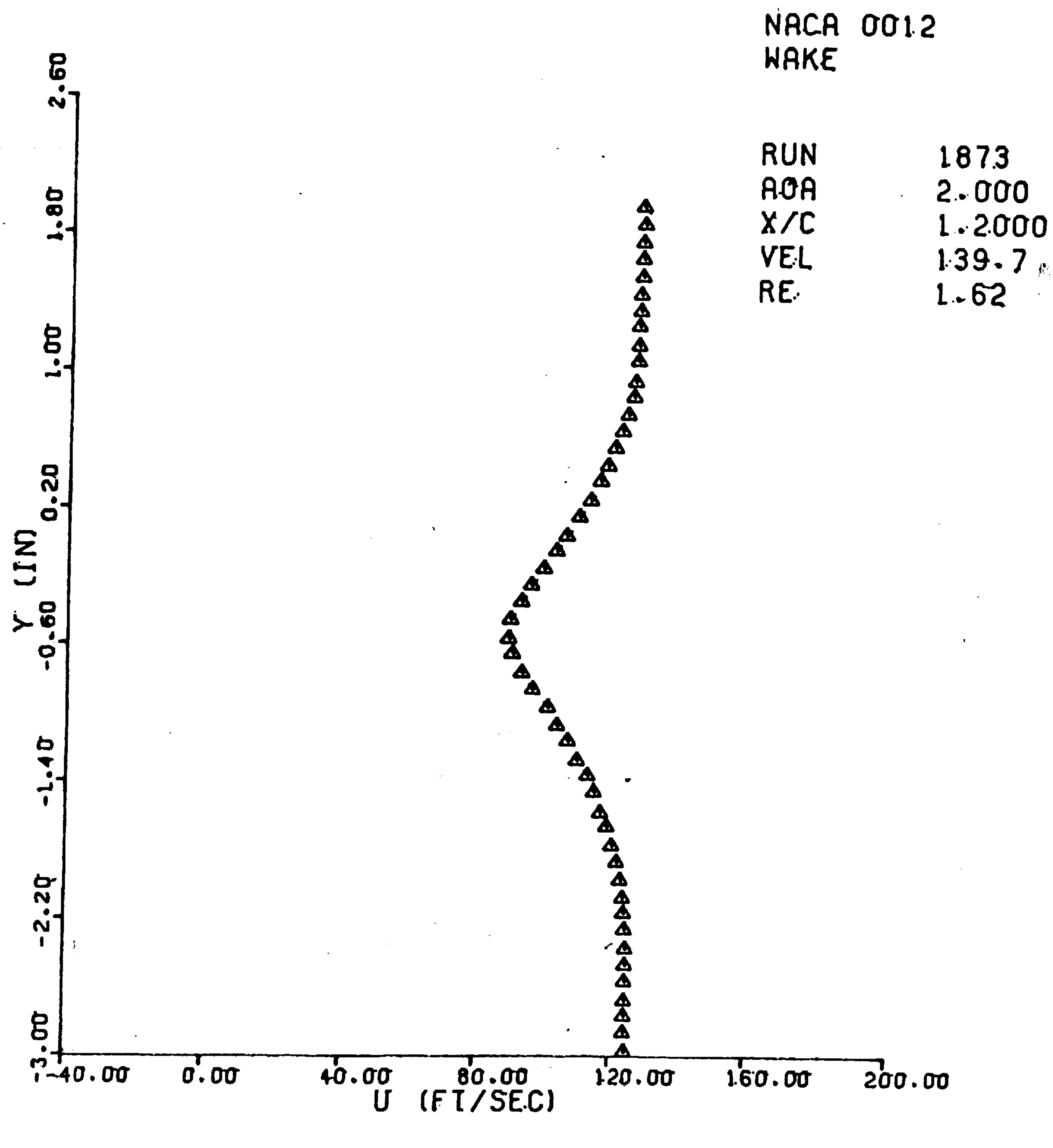


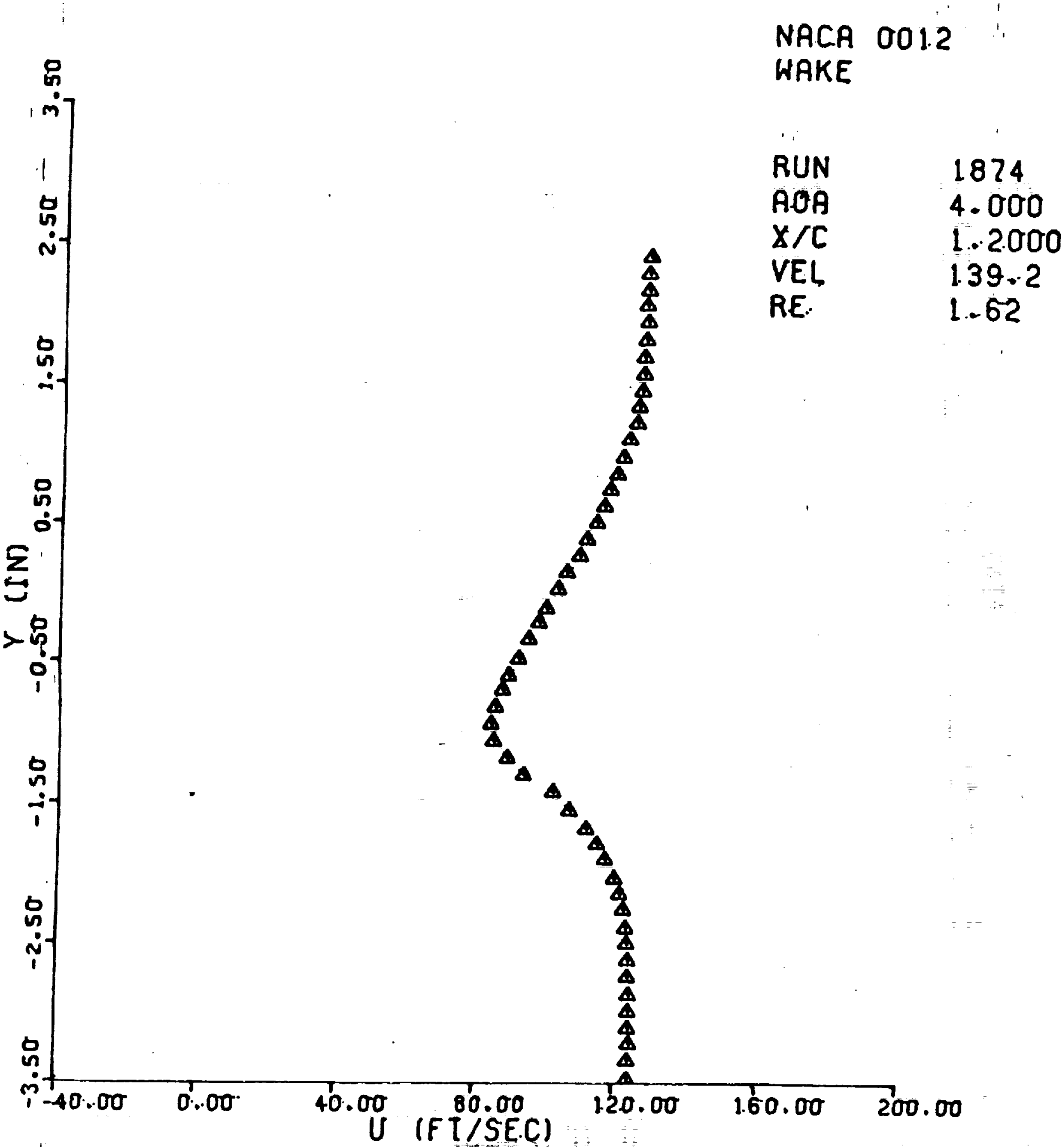
NACA 0012
WAKE
RUN 1869
AOA 0.000
X/C 1.4000
VEL 139.5
RE 1.62
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
WAKE
RUN 1870
AOA -4.000
X/C 1.4000
VEL 139.0
RE 1.62
Y (IN)
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

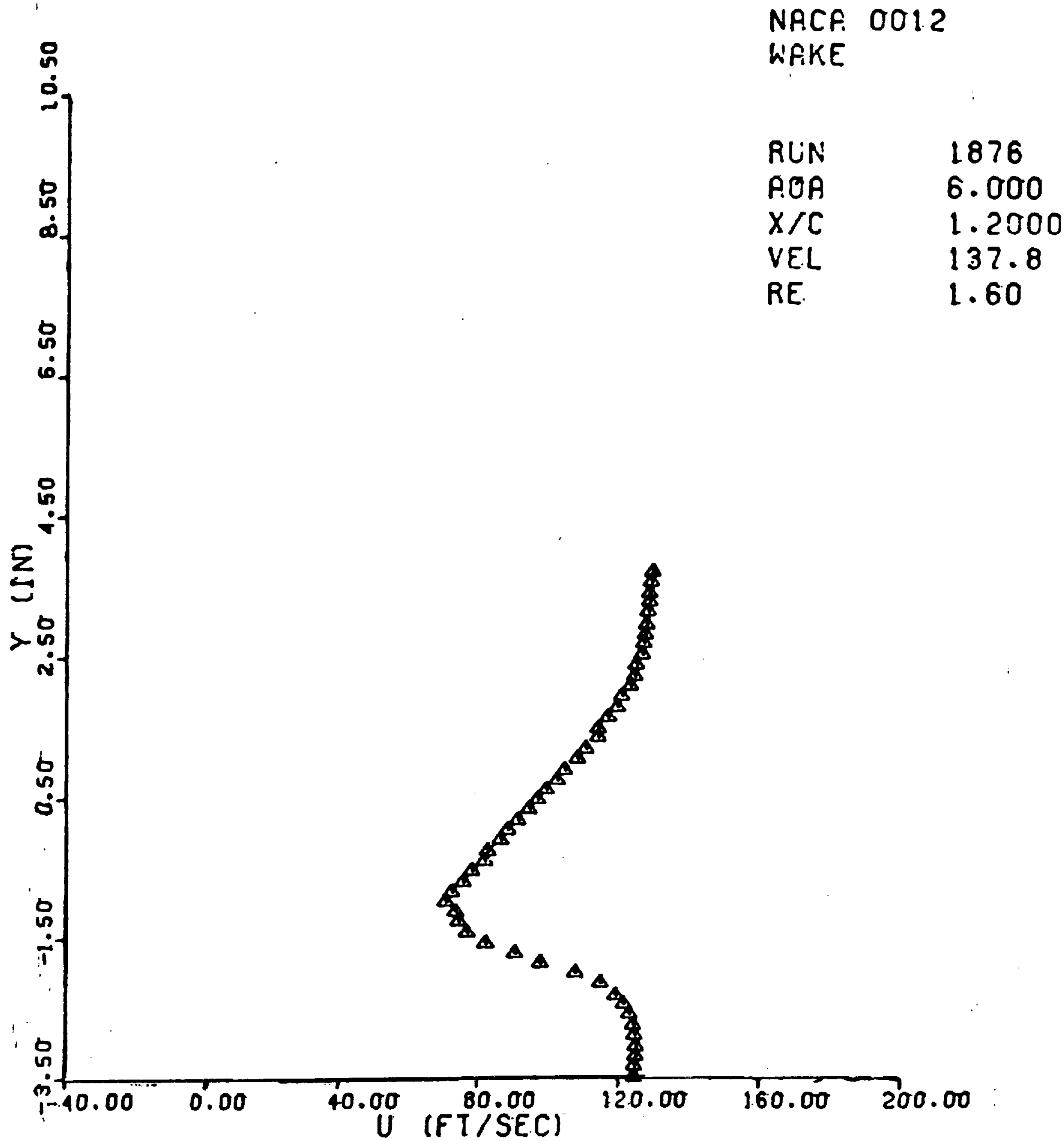


NACA 0012
WAKE
RUN 1872
AOA 0.000
X/C 1.2000
VEL 139.5
RE 1.62
Y (IN)
3.10
2.30
1.50
0.70
-0.10
-0.90
-1.70
-2.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

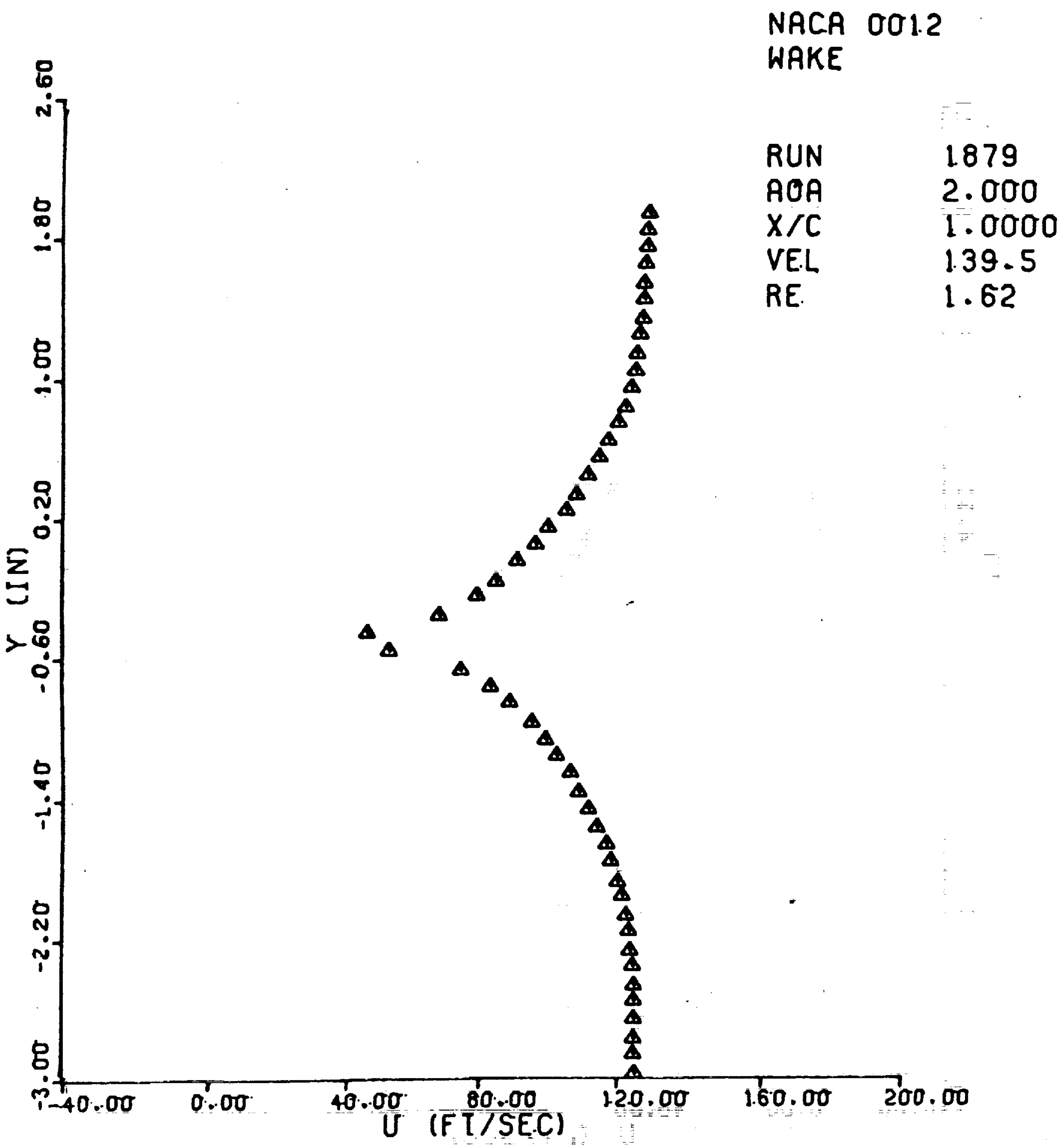

NACA 0012
WAKE
RUN 1873
AOA 2.000
X/C 1.2000
VEL 139.7
RE 1.62
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



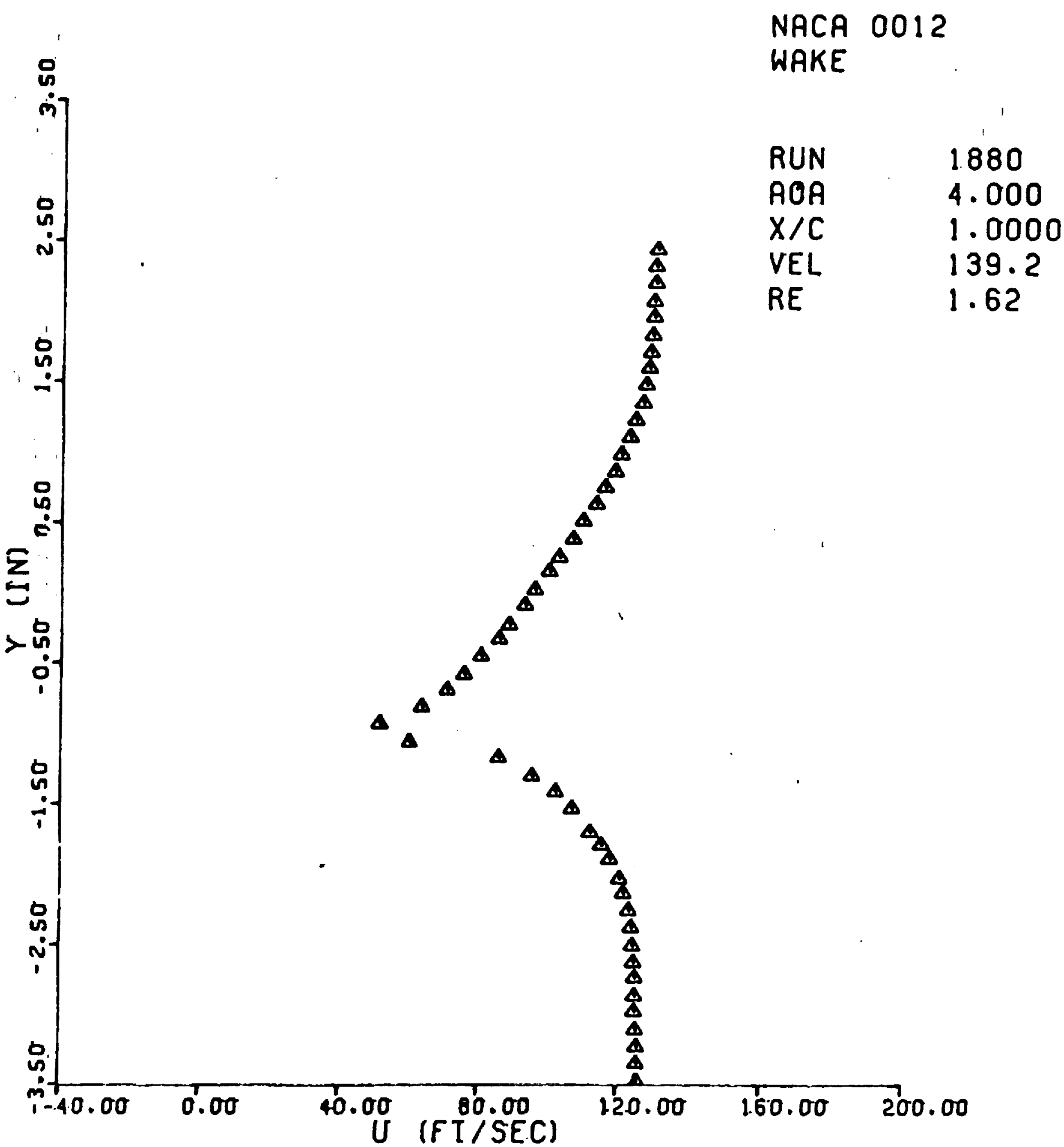
NACA 0012
WAKE
RUN 1874
AOA 4.000
X/C 1.2000
VEL 139.2
RE 1.62
Y (IN)
3.50
2.50
1.50
0.50
-0.50
-1.50
-2.50
-3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

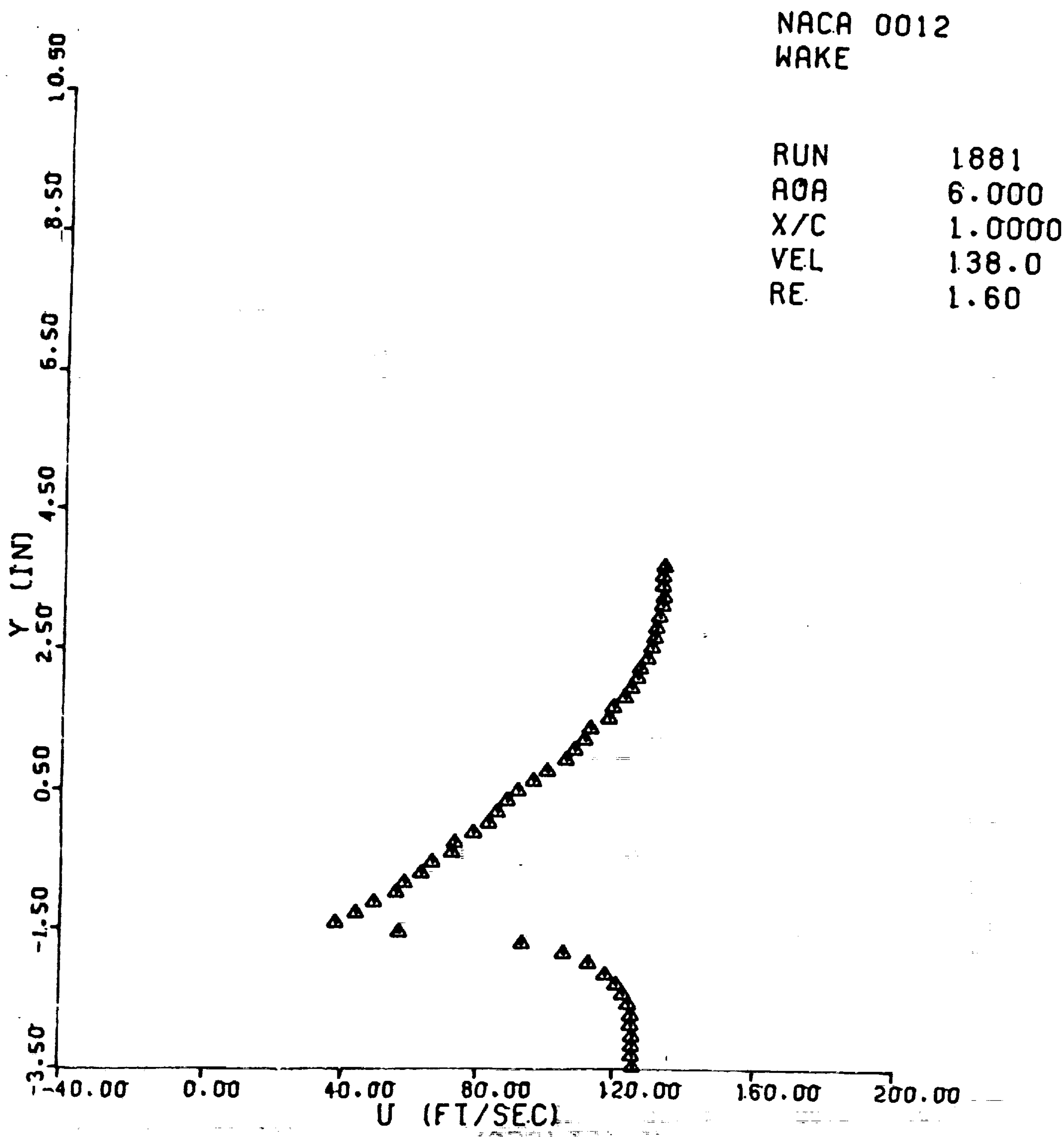


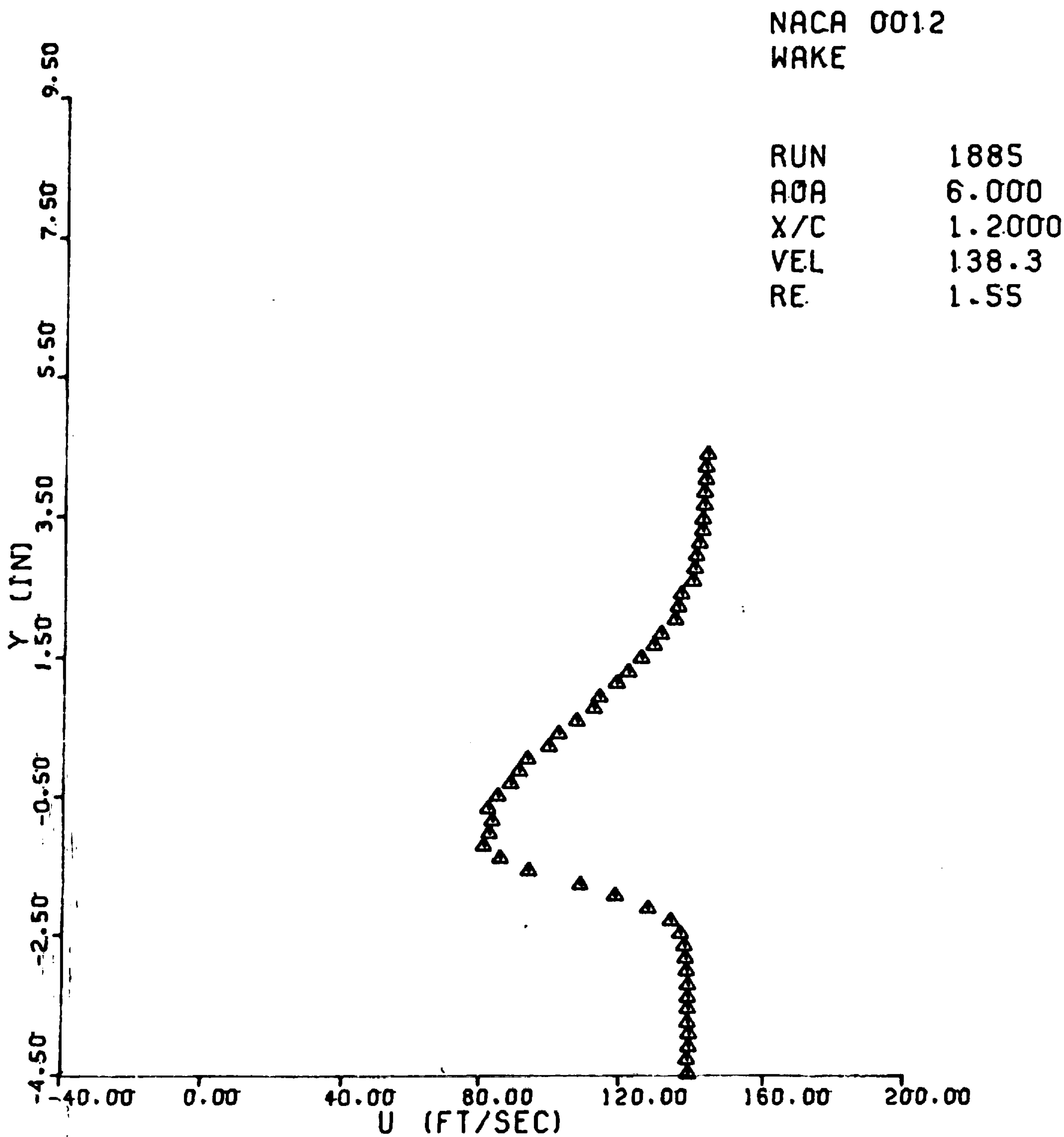
NACA 0012
WAKE
RUN 1876
AOA 6.000
X/C 1.2000
VEL 137.8
RE 1.60
Y (IN)
-3.50
-1.50
0.50
2.50
4.50
6.50
8.50
10.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



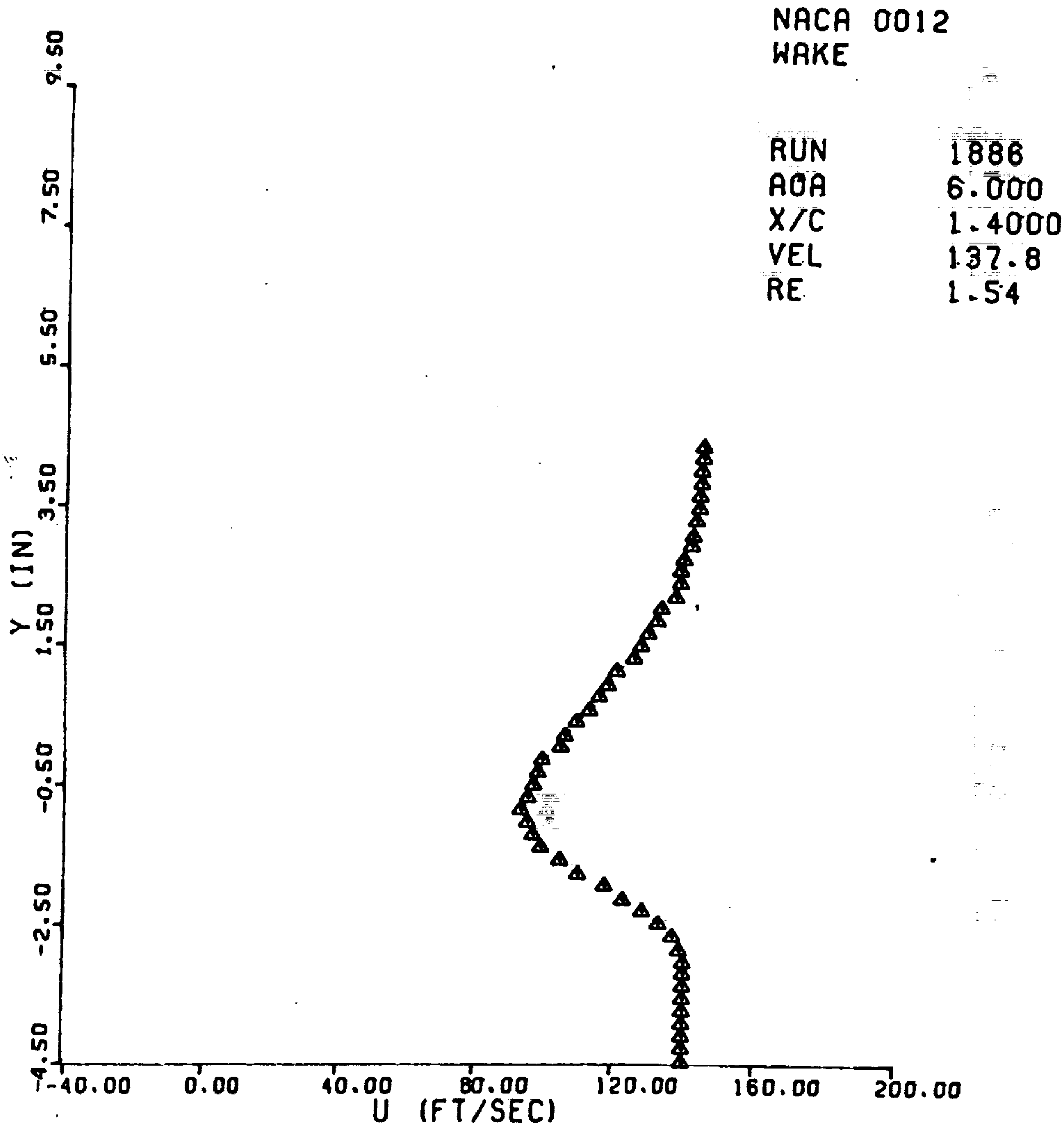
NACA 0012
WAKE
RUN 1879
AOA 2.000
X/C 1.0000
VEL 139.5
RE 1.62
Y (IN)
2.60
1.80
1.00
0.20
-0.60
-1.40
-2.20
-3.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

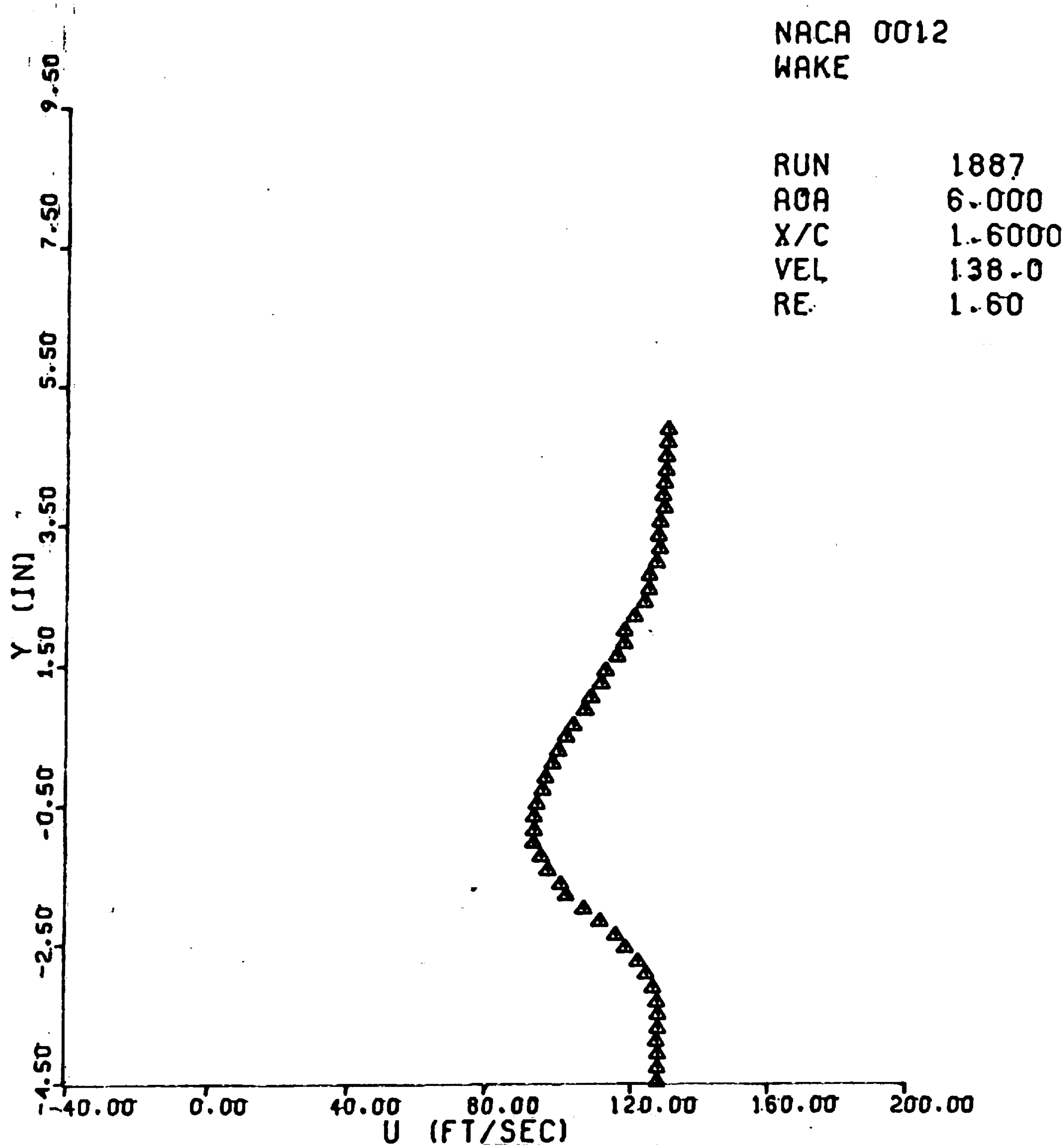

NACA 0012
WAKE
RUN 1880
AOA 4.000
X/C 1.0000
VEL 139.2
RE 1.62
Y (IN)
3.50
2.50
1.50
0.50
-0.50
-1.50
-2.50
-3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

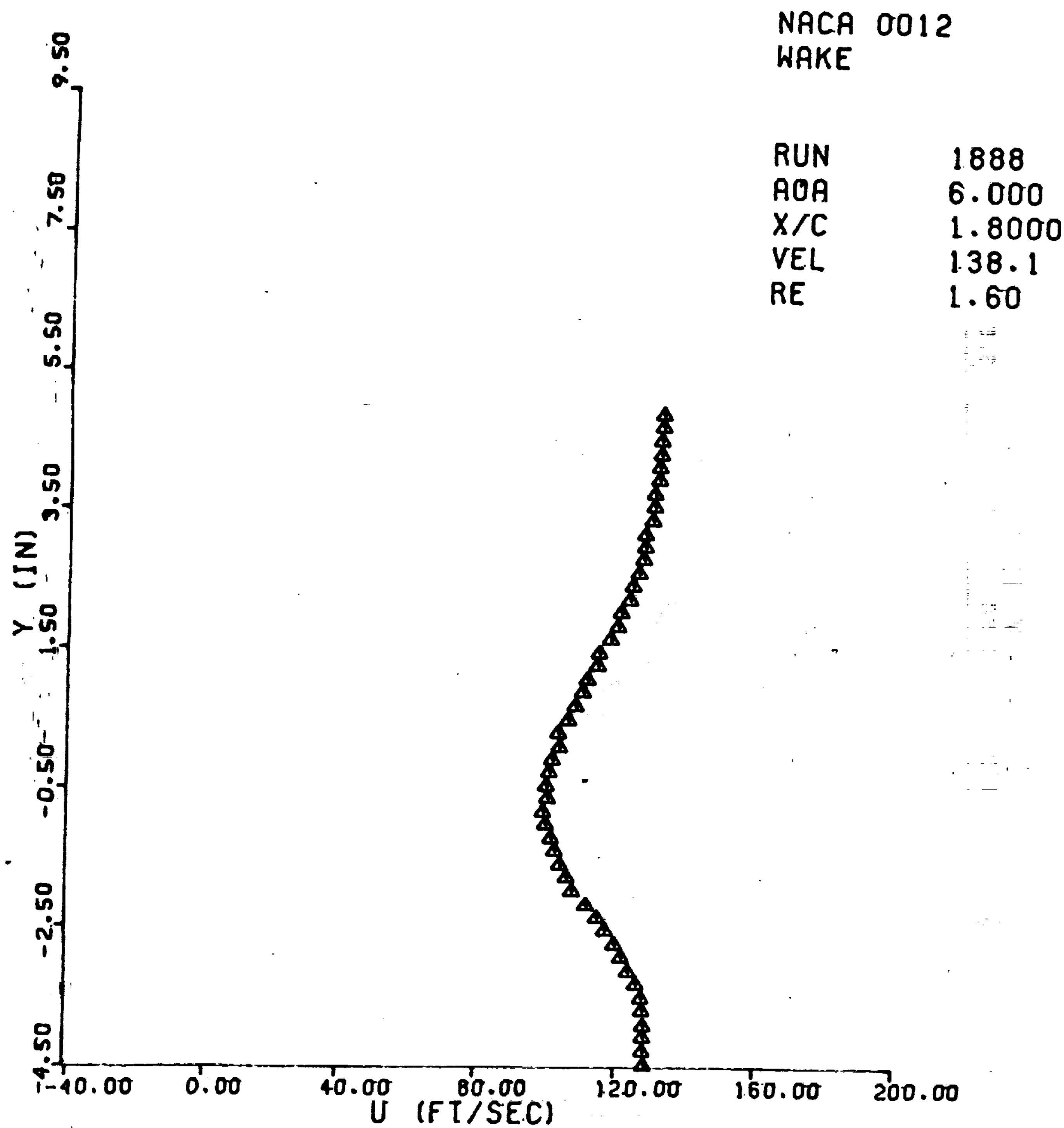

NACA 0012
WAKE
RUN 1881
AOA 6.000
X/C 1.0000
VEL 138.0
RE 1.60
Y (IN)
-3.50
-1.50
0.50
2.50
4.50
6.50
8.50
10.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

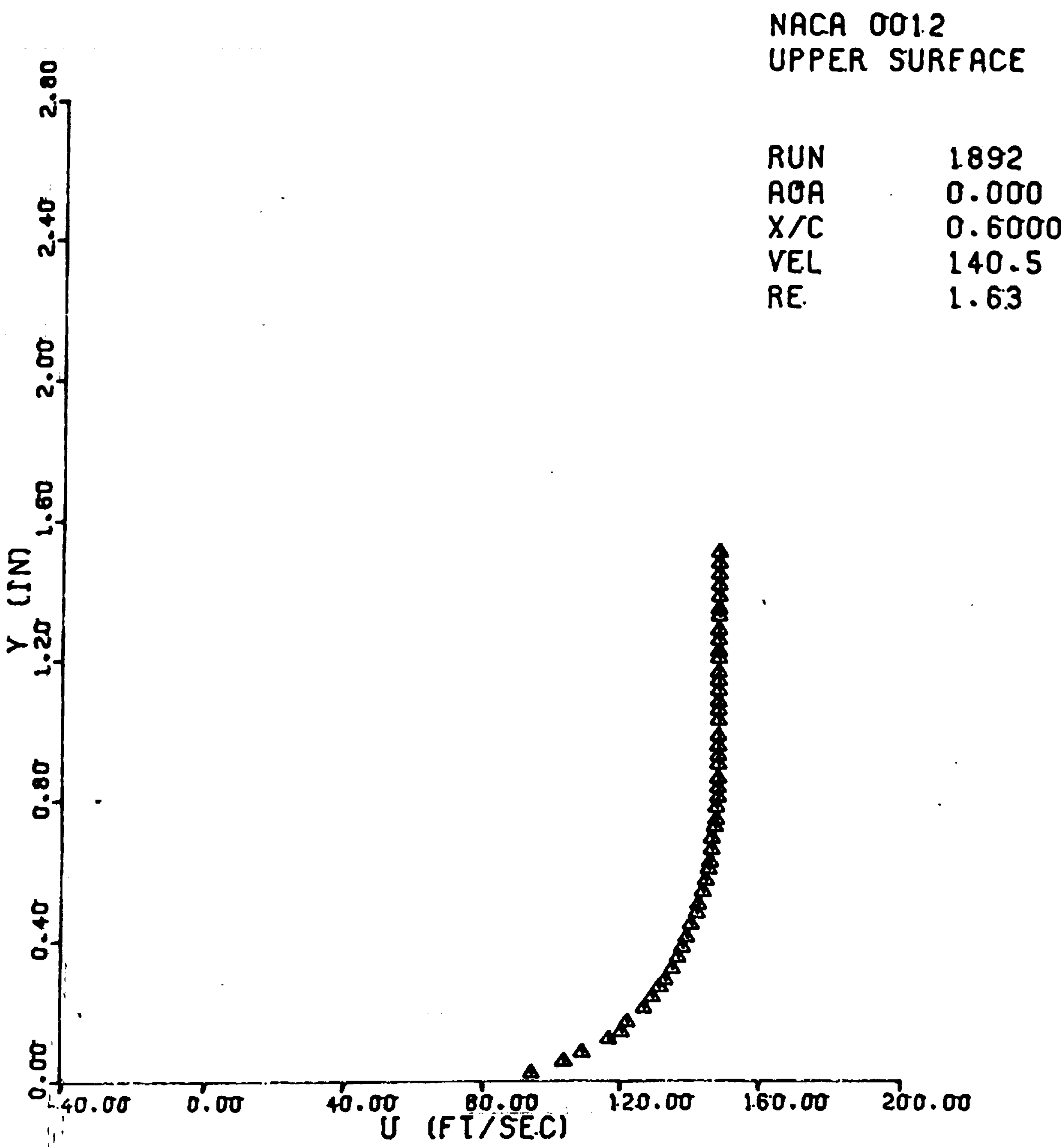


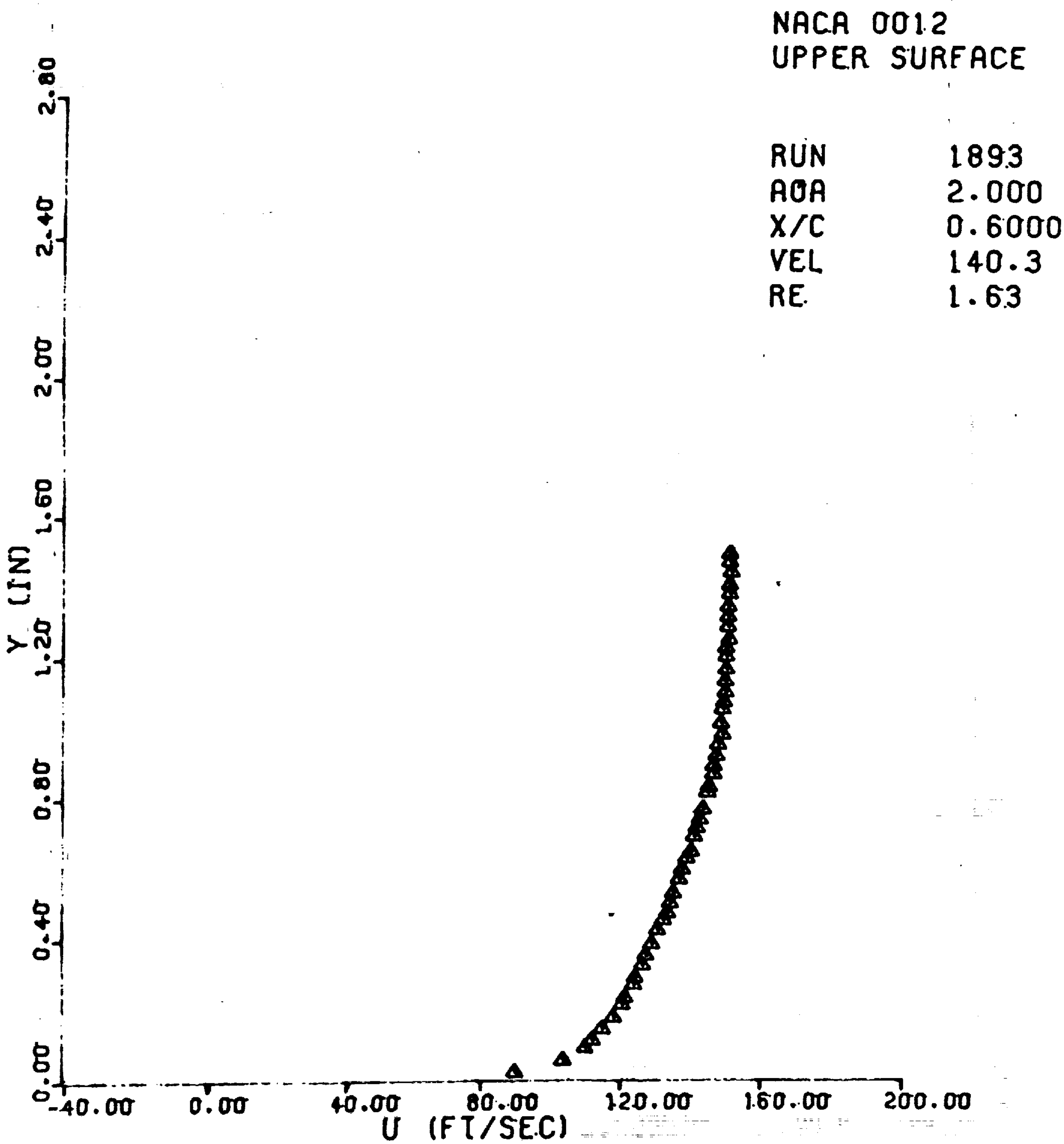
NACA 0012
WAKE
RUN 1885
AOA 6.000
X/C 1.2000
VEL 138.3
RE 1.55
Y (IN)
9.50
7.50
5.50
3.50
1.50
-0.50
-2.50
-4.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

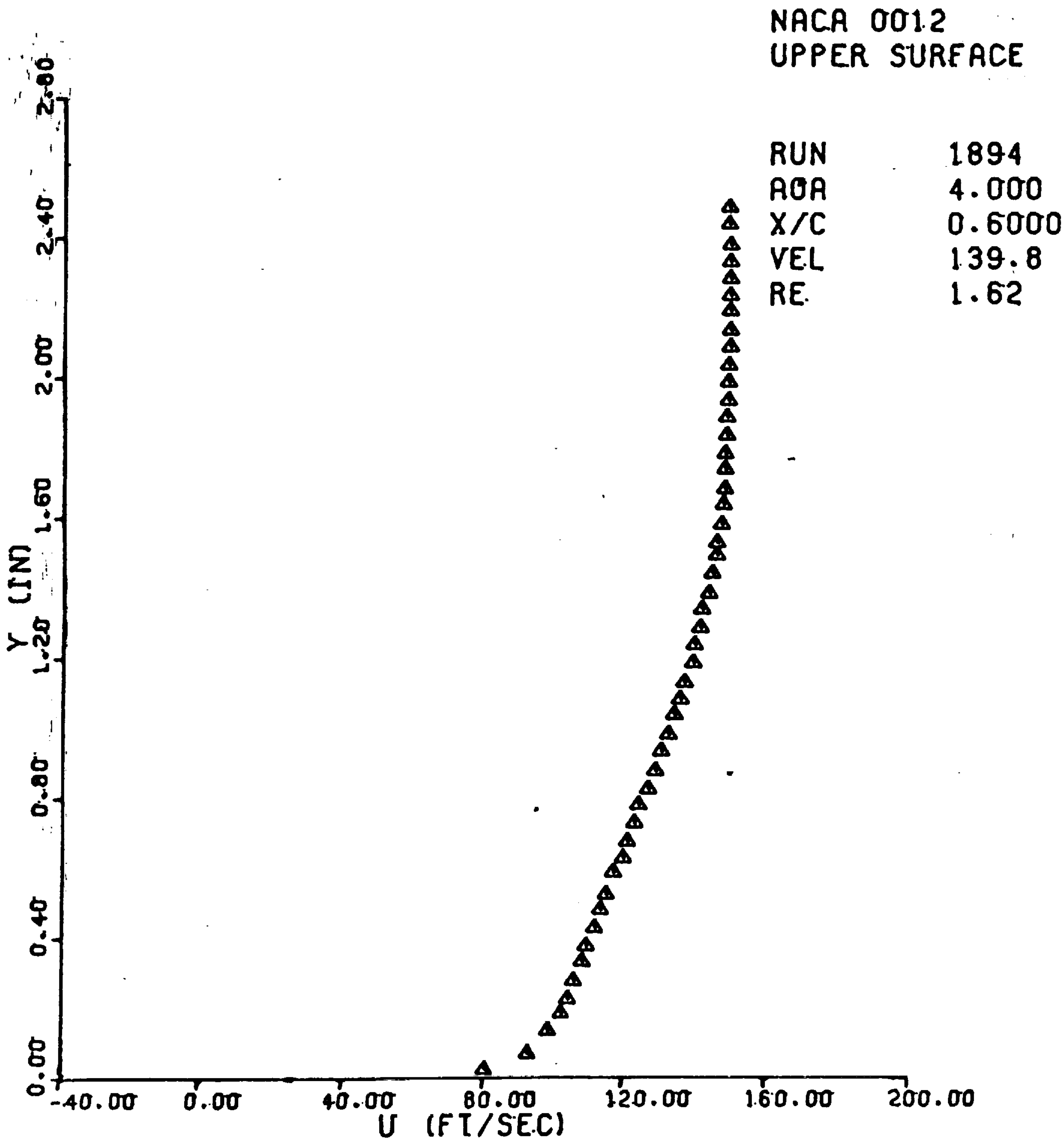

NACA 0012
WAKE
RUN 1886
AOA 6.000
X/C 1.4000
VEL 137.8
RE 1.54
Y (IN)
9.50
7.50
5.50
3.50
1.50
-0.50
-2.50
-4.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

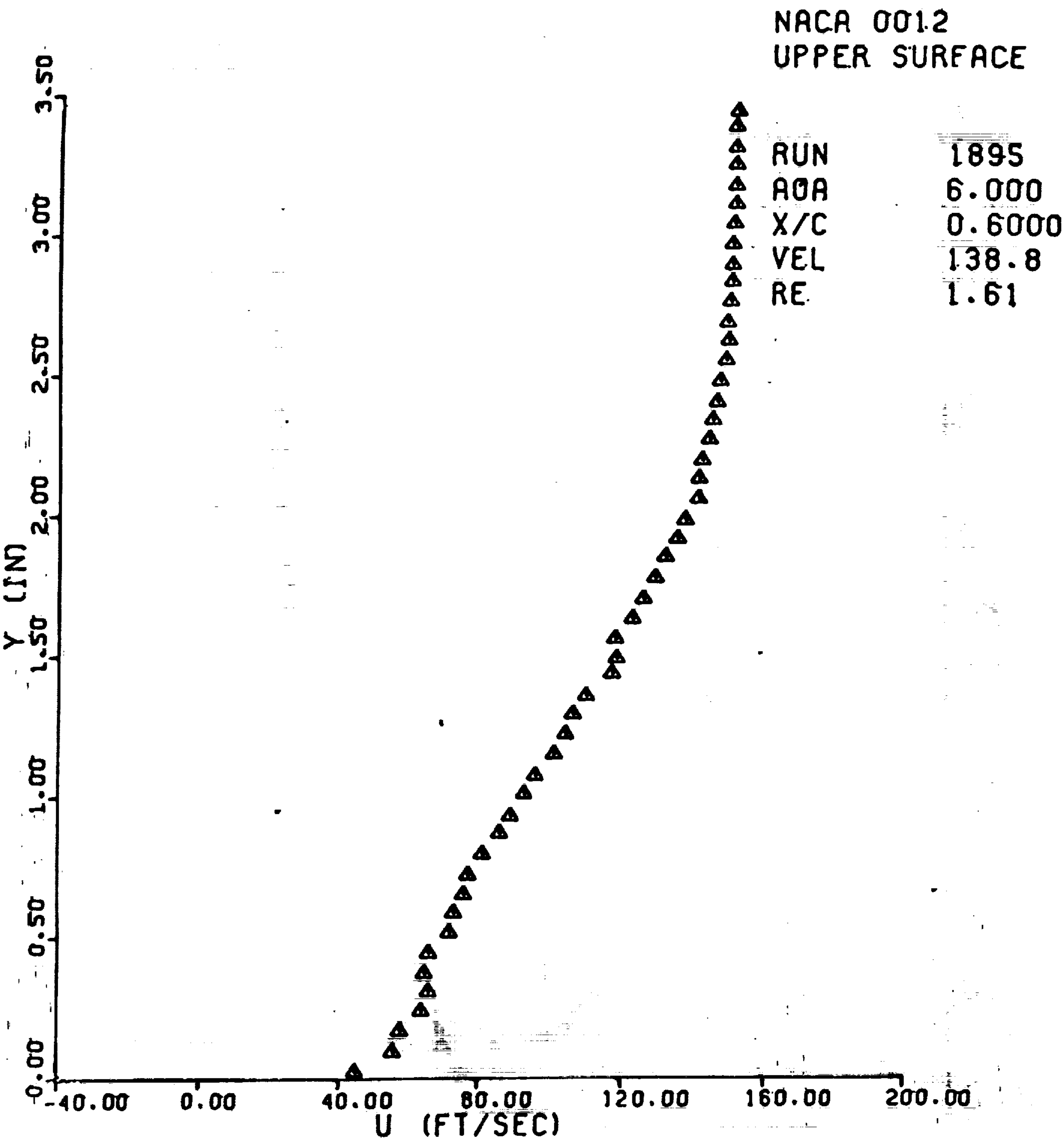

NACA 0012
WAKE
RUN 1887
AOA 6.000
X/C 1.6000
VEL 138.0
RE 1.60
Y (IN)
9.50
7.50
5.50
3.50
1.50
-0.50
-2.50
-4.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

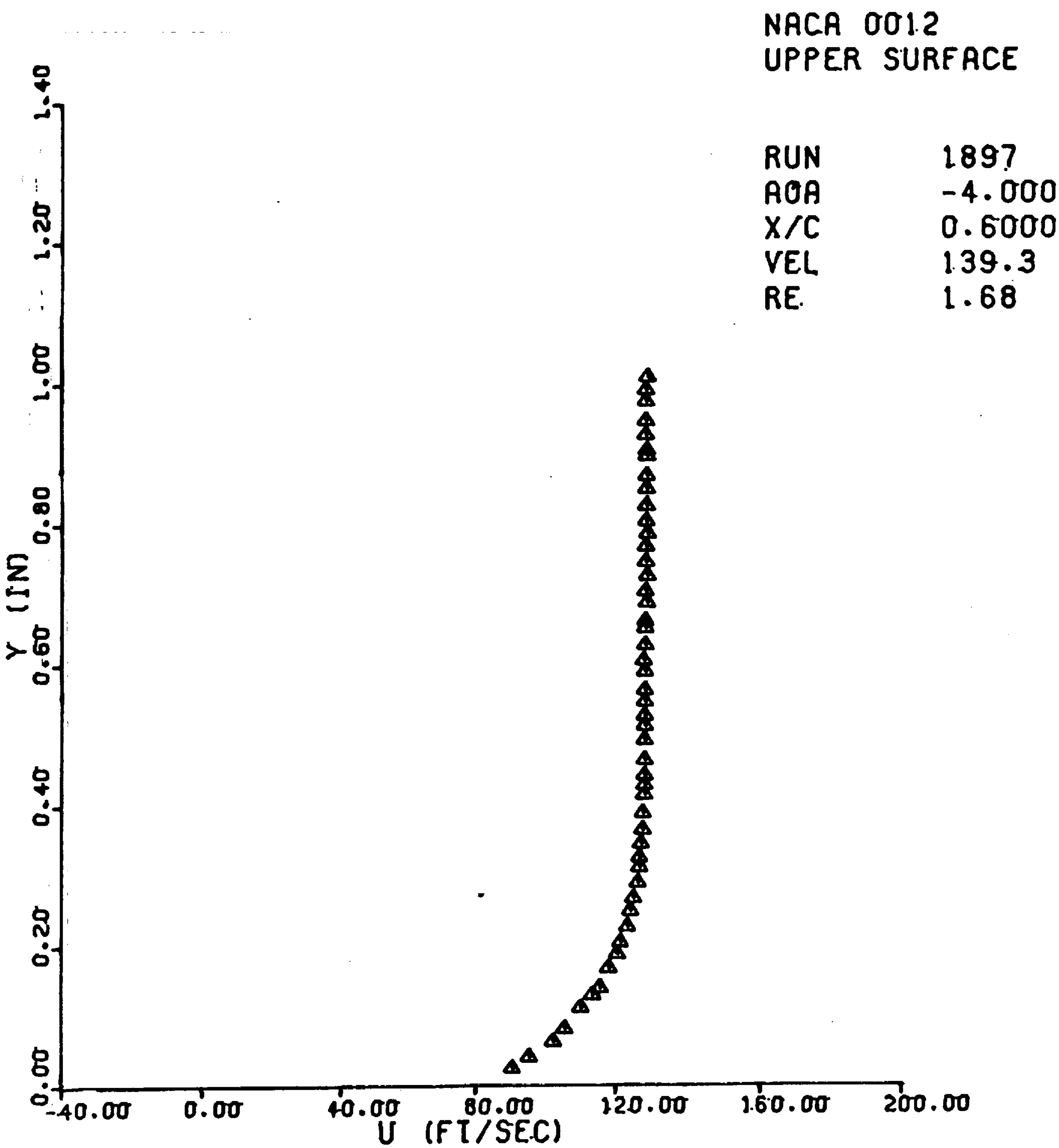

NACA 0012
WAKE
RUN 1888
AOA 6.000
X/C 1.8000
VEL 138.1
RE 1.60
Y (IN)
9.50
7.50
5.50
3.50
1.50
-0.50
-2.50
-4.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1892
AOA 0.000
X/C 0.6000
VEL 140.5
RE 1.63
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1893
AOA 2.000
X/C 0.6000
VEL 140.3
RE 1.63
Y (IN)
2.80
2.40
2.00
1.60
1.20
0.80
0.40
0.00
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1894
AOA 4.000
X/C 0.6000
VEL 139.8
RE 1.62
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1895
AOA 6.000
X/C 0.6000
VEL 138.8
RE 1.61
Y (IN)
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1897
AOA -4.000
X/C 0.6000
VEL 139.3
RE 1.68
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
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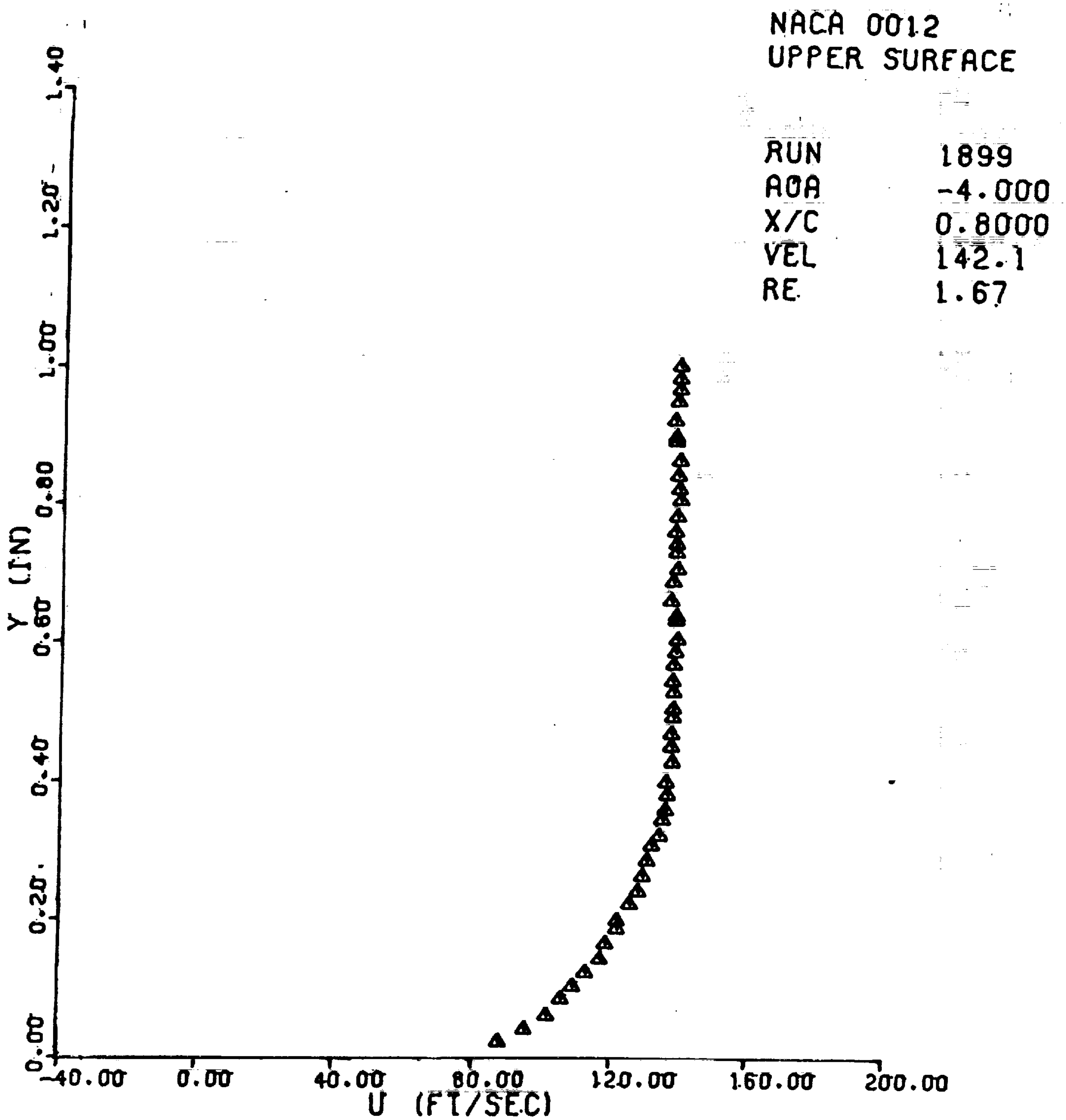

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RUN 1899
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VEL 142.1
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Y (IN)
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0.40
0.60
0.80
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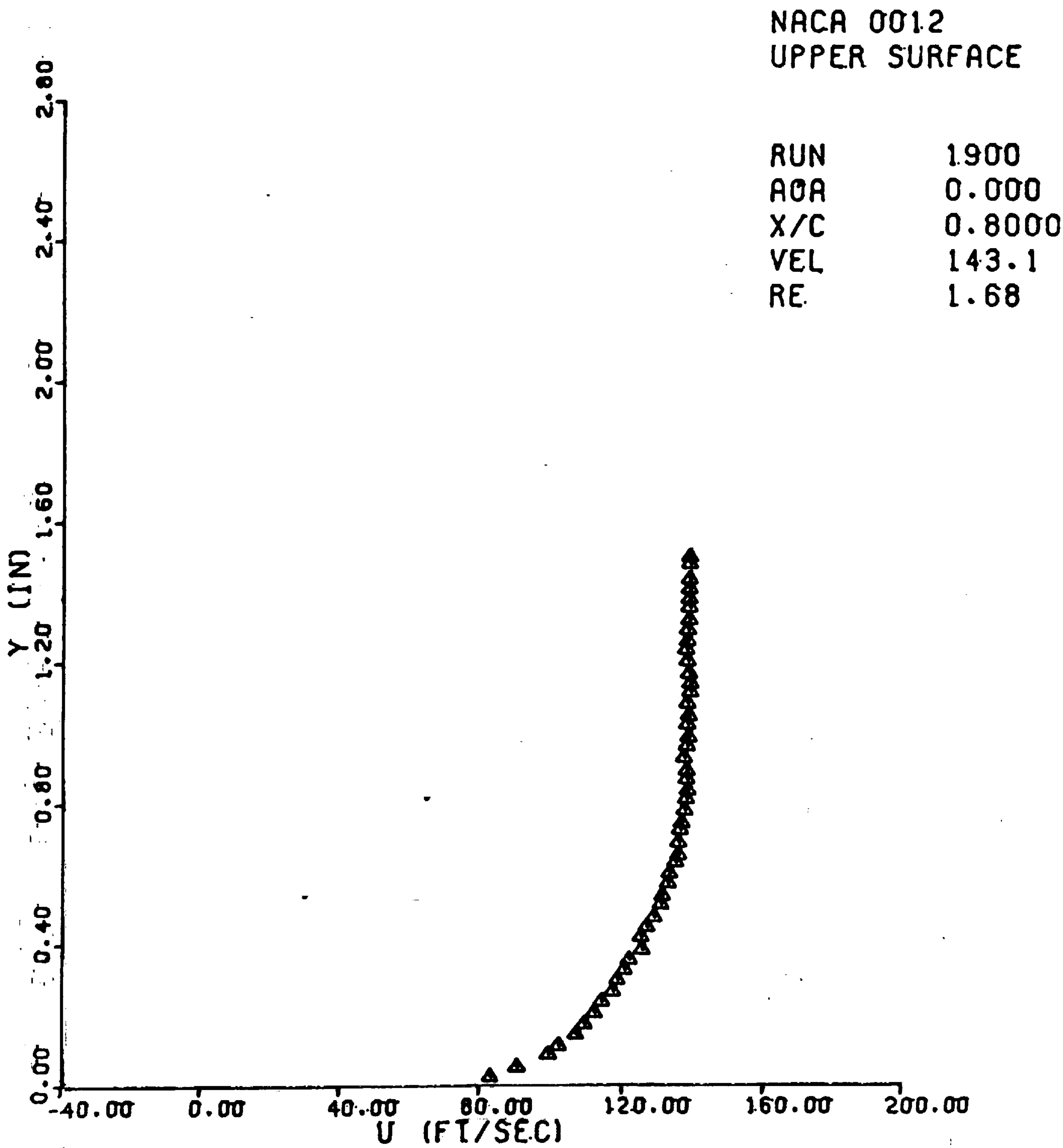
NACA 0012
UPPER SURFACE
RUN 1.900
AOA 0.000
X/C 0.8000
VEL 143.1
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Y (IN)
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0.80
1.20
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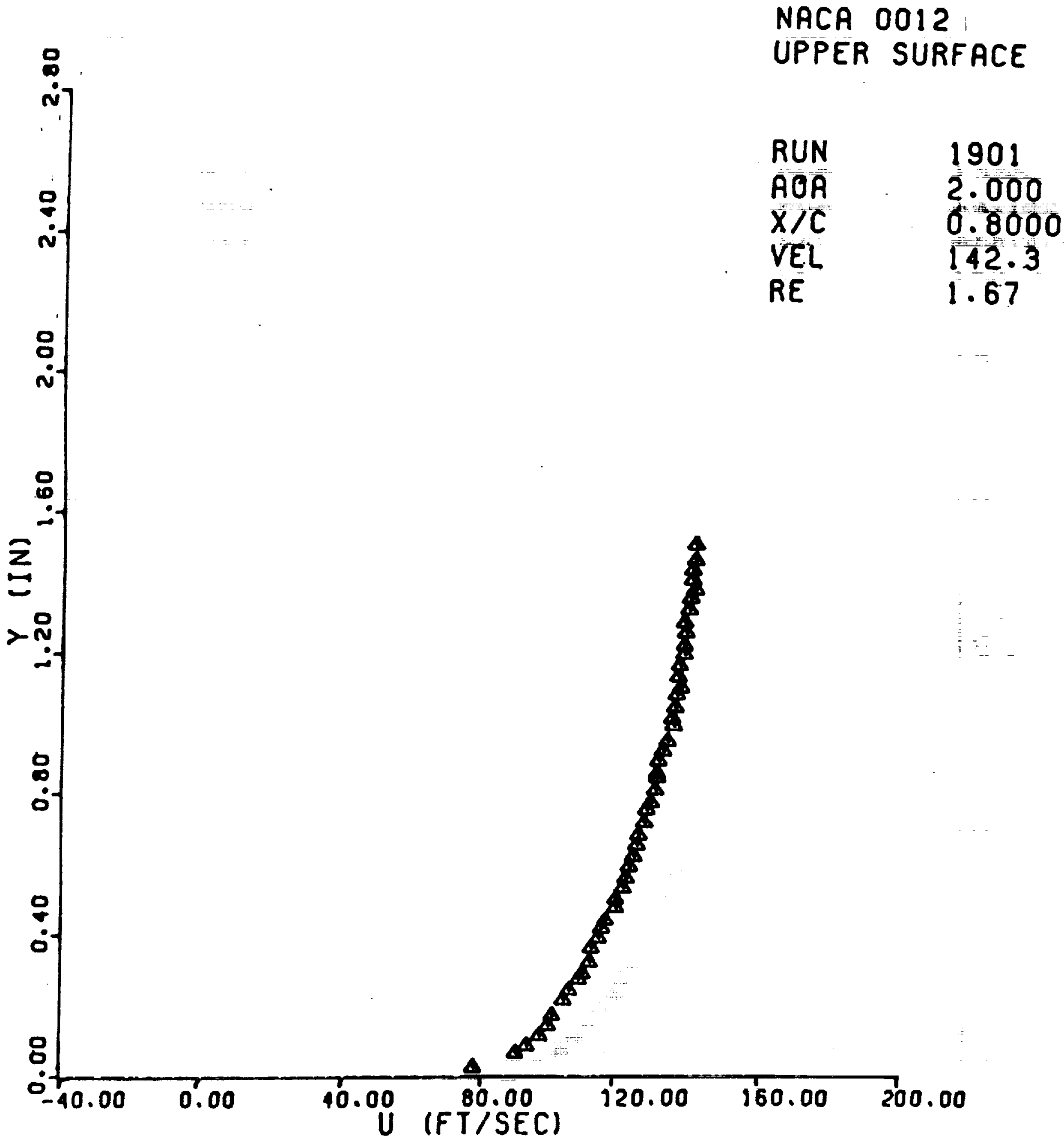
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UPPER SURFACE
RUN 1901
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X/C 0.8000
VEL 142.3
RE 1.67
Y (IN)
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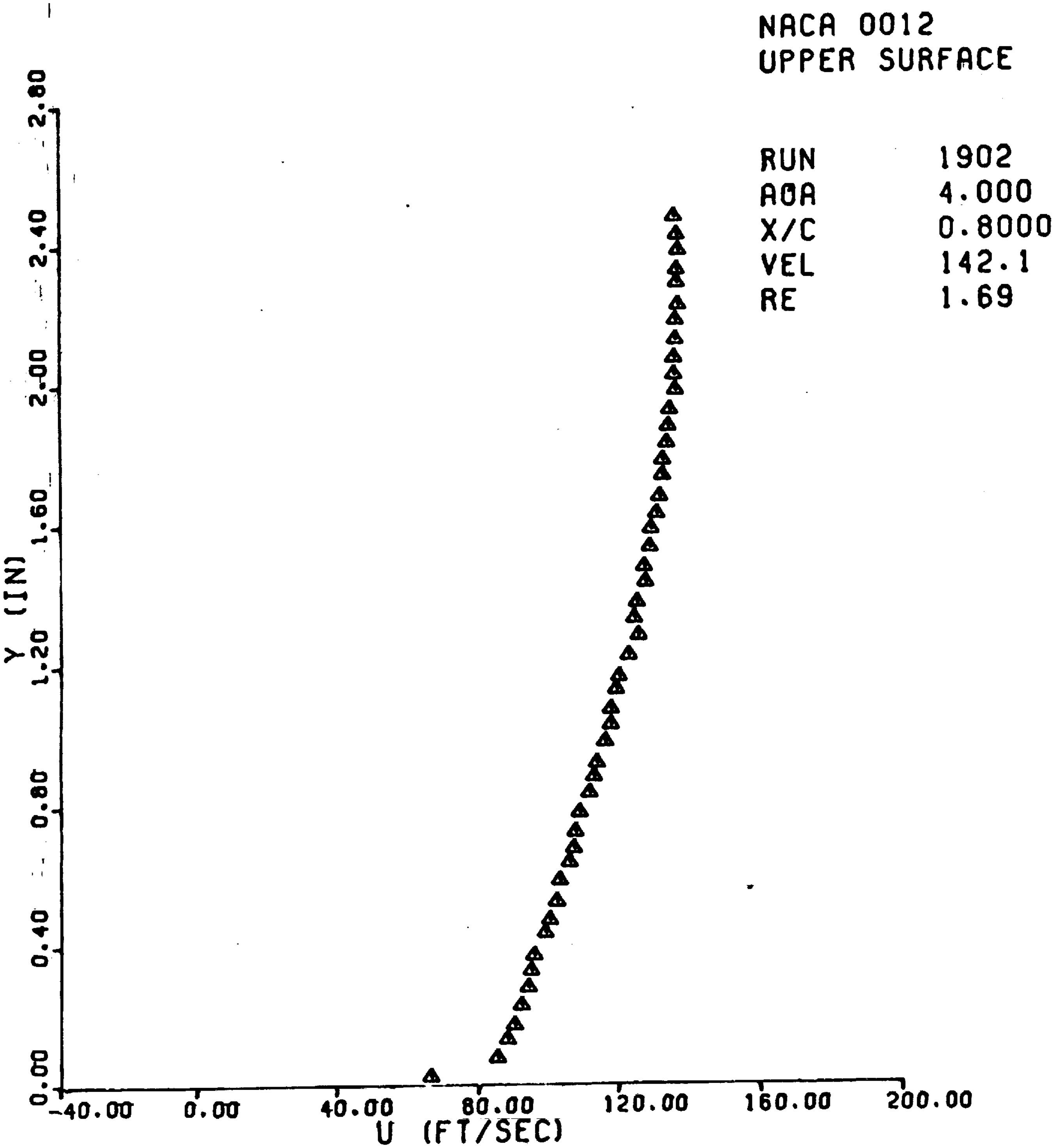
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VEL 142.1
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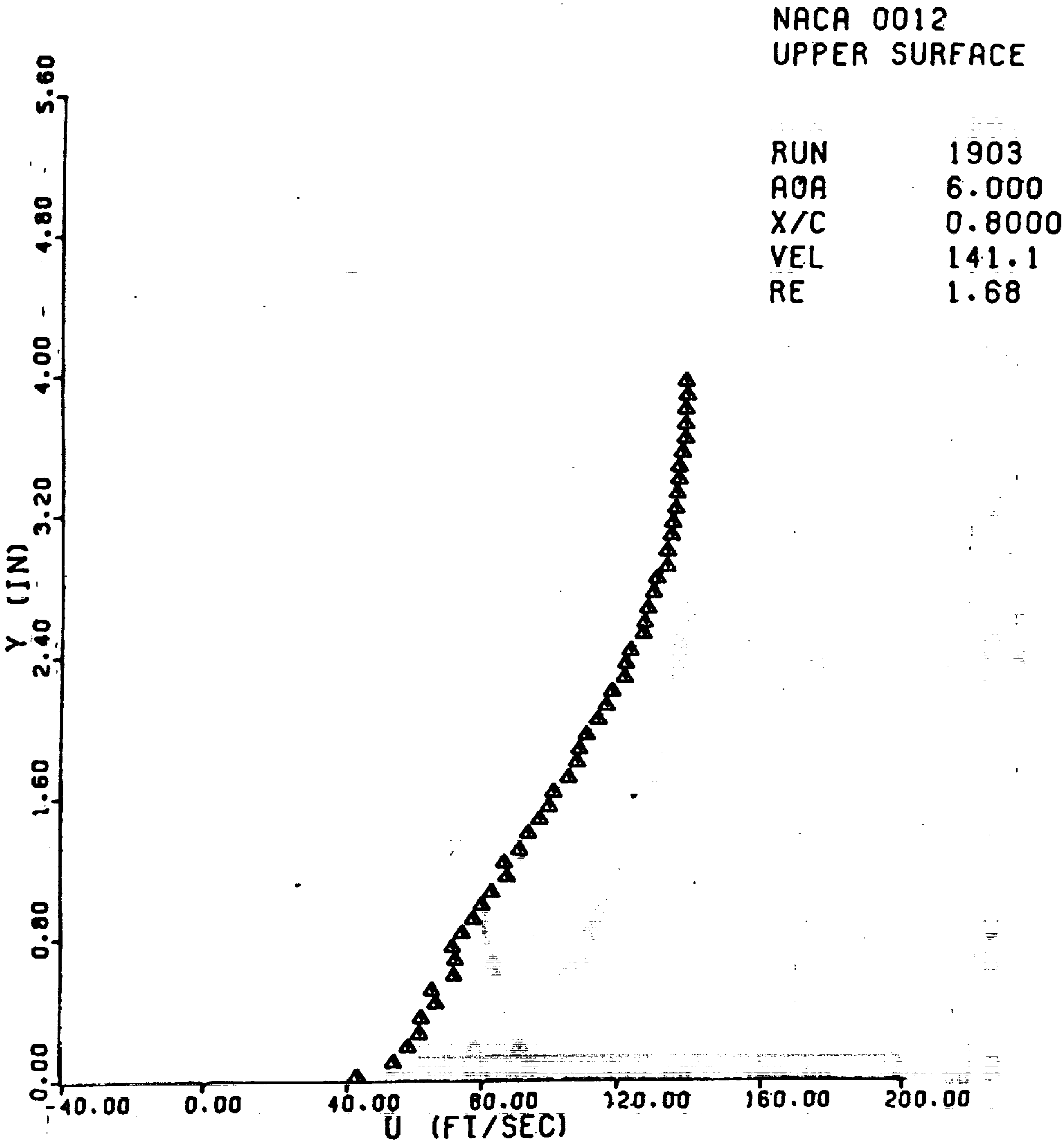
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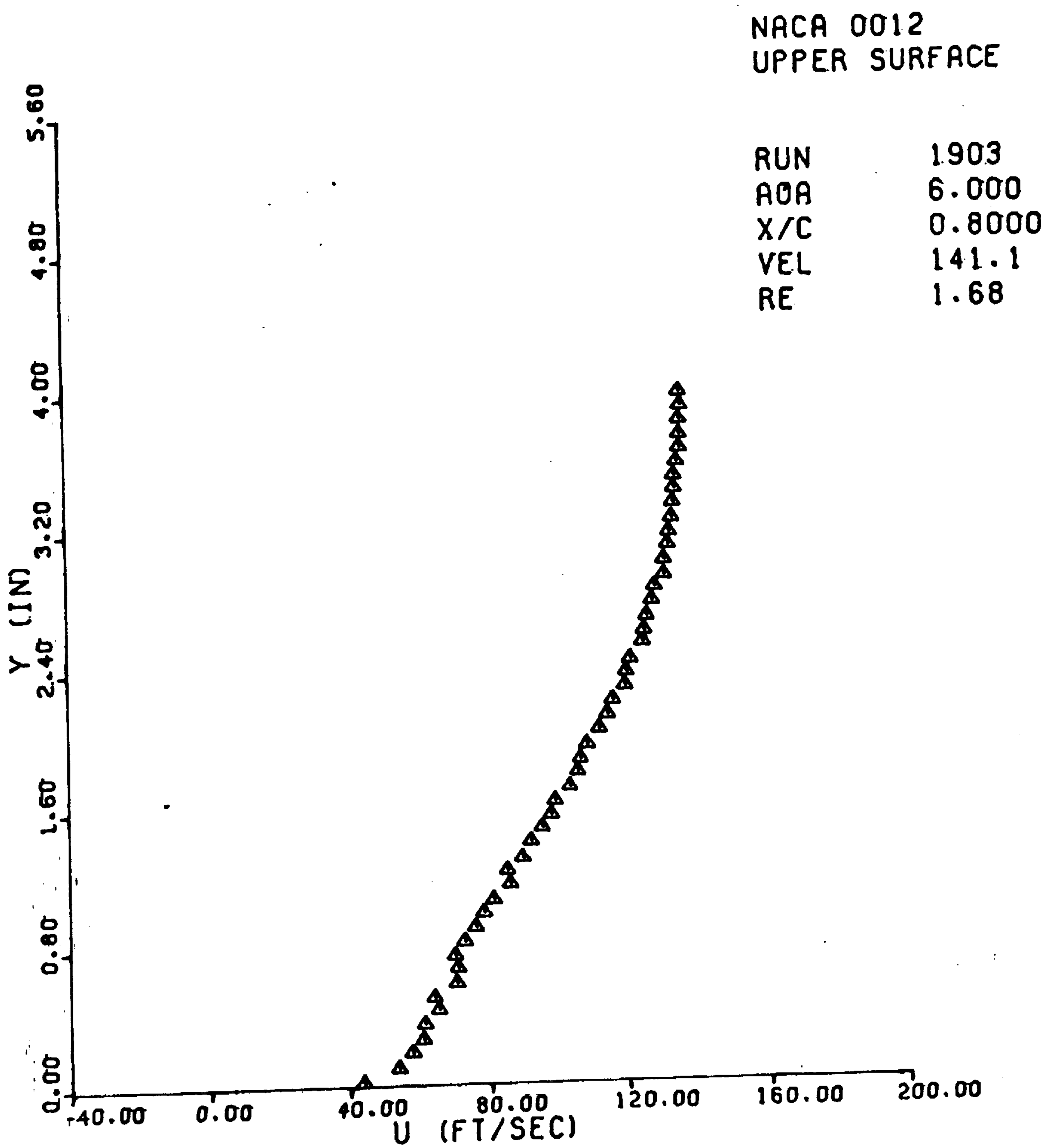
NACA 0012
UPPER SURFACE
RUN 1903
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VEL 141.1
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2.40
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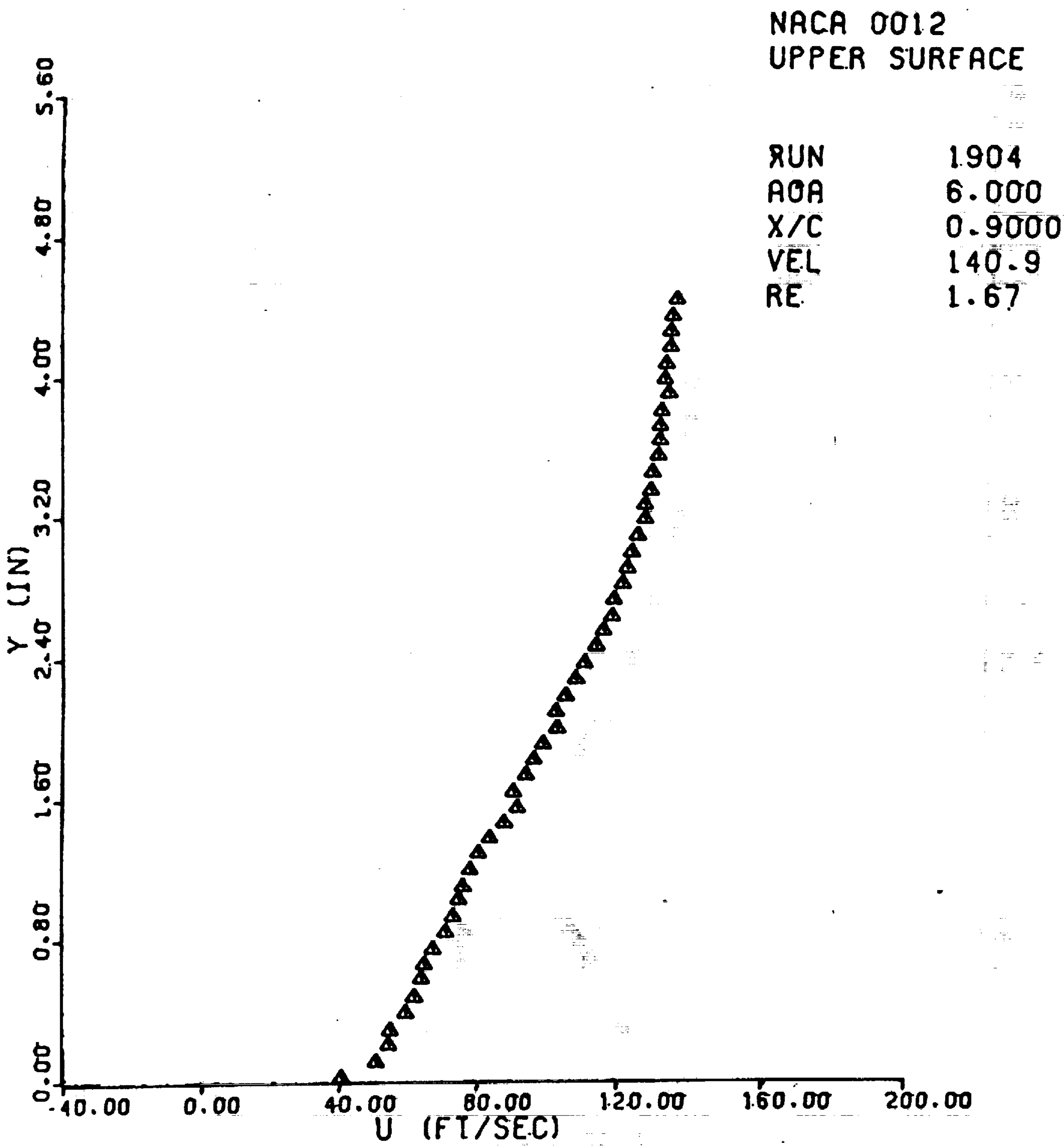
U (FT/SEC)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U (FT/SEC)
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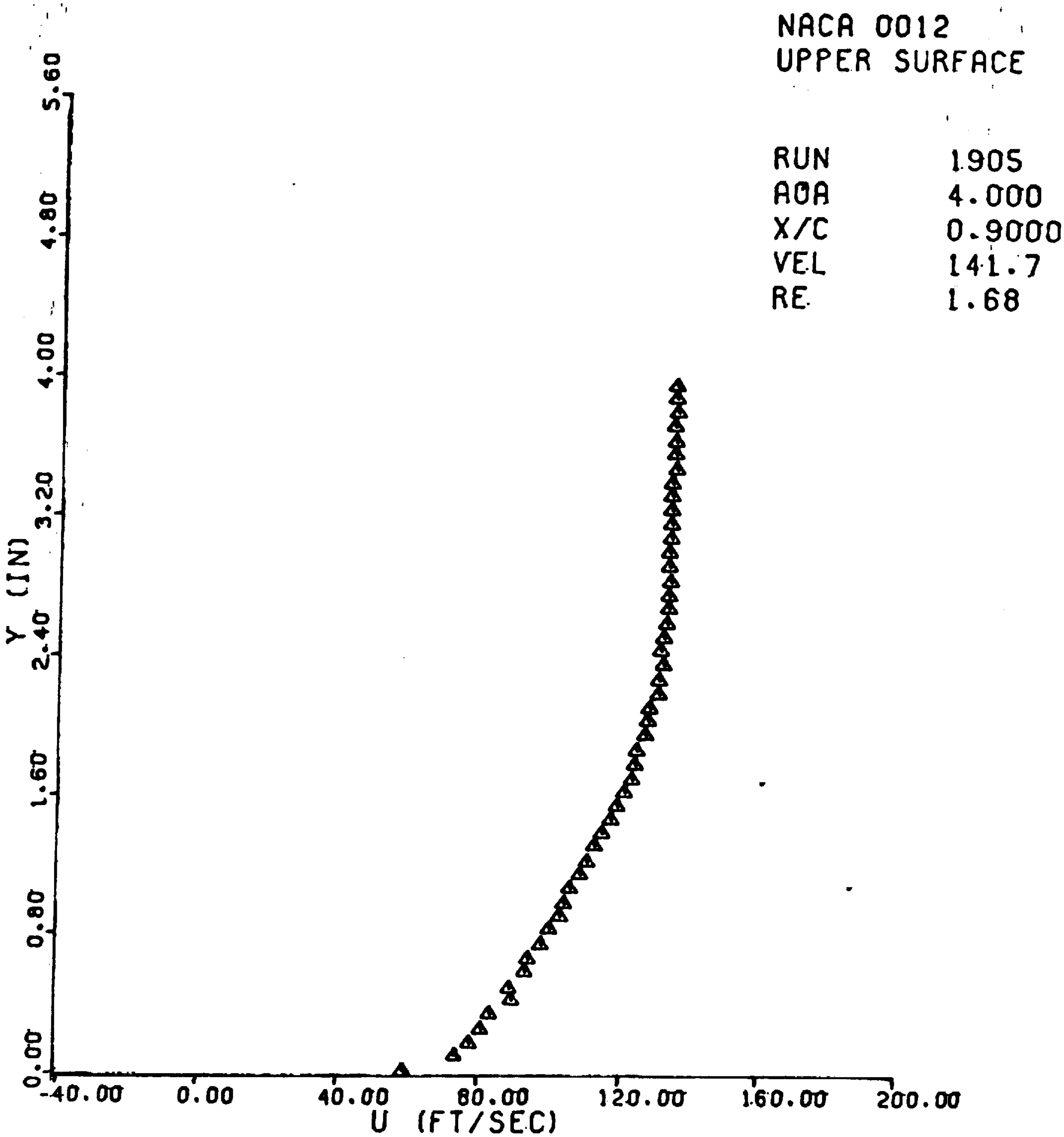
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X/C 0.9000
VEL 141.7
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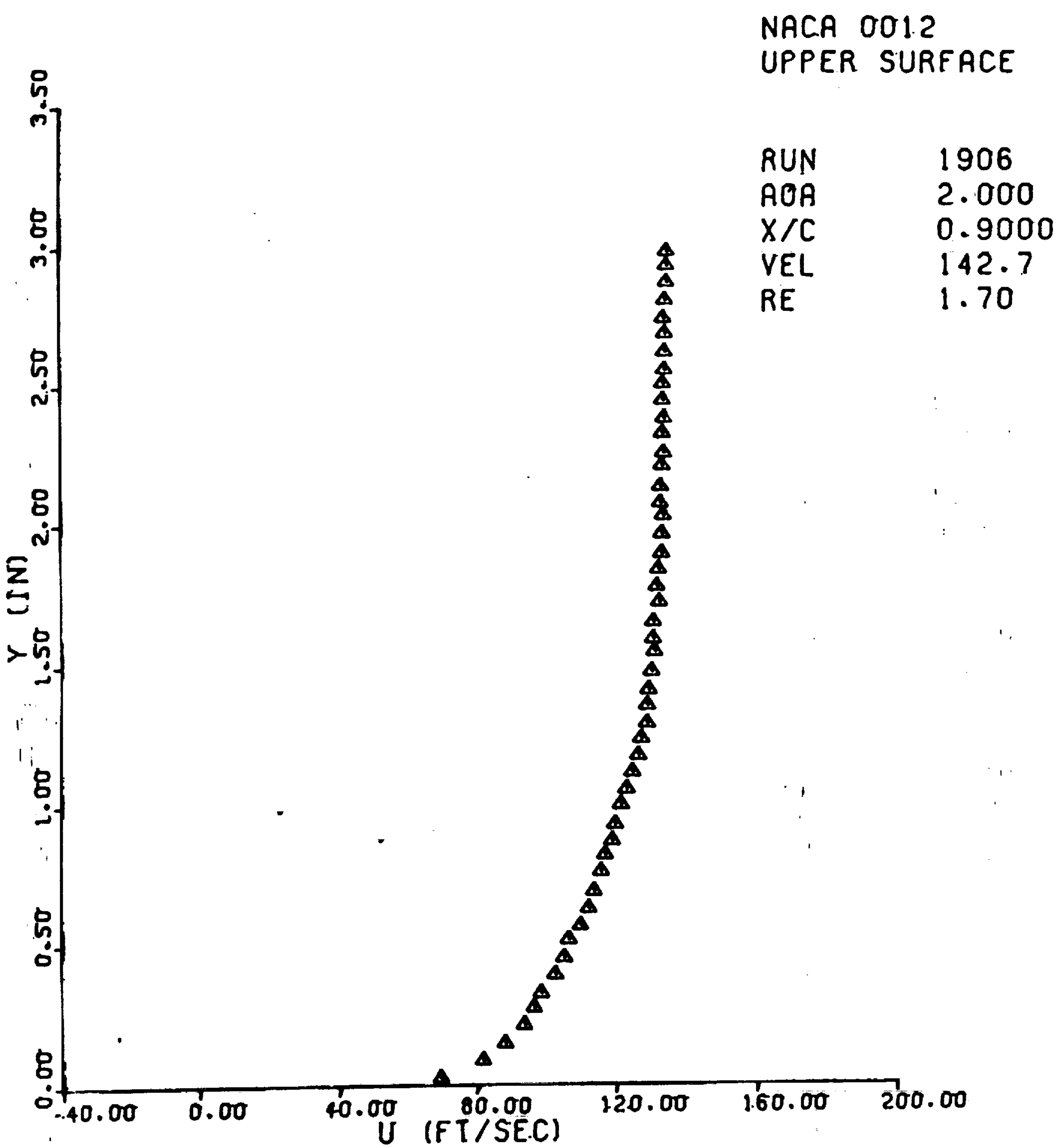
U (FT/SEC)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X/C 0.9000
VEL 142.7
RE 1.70
Y (IN)
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0.50
1.00
1.50
2.00
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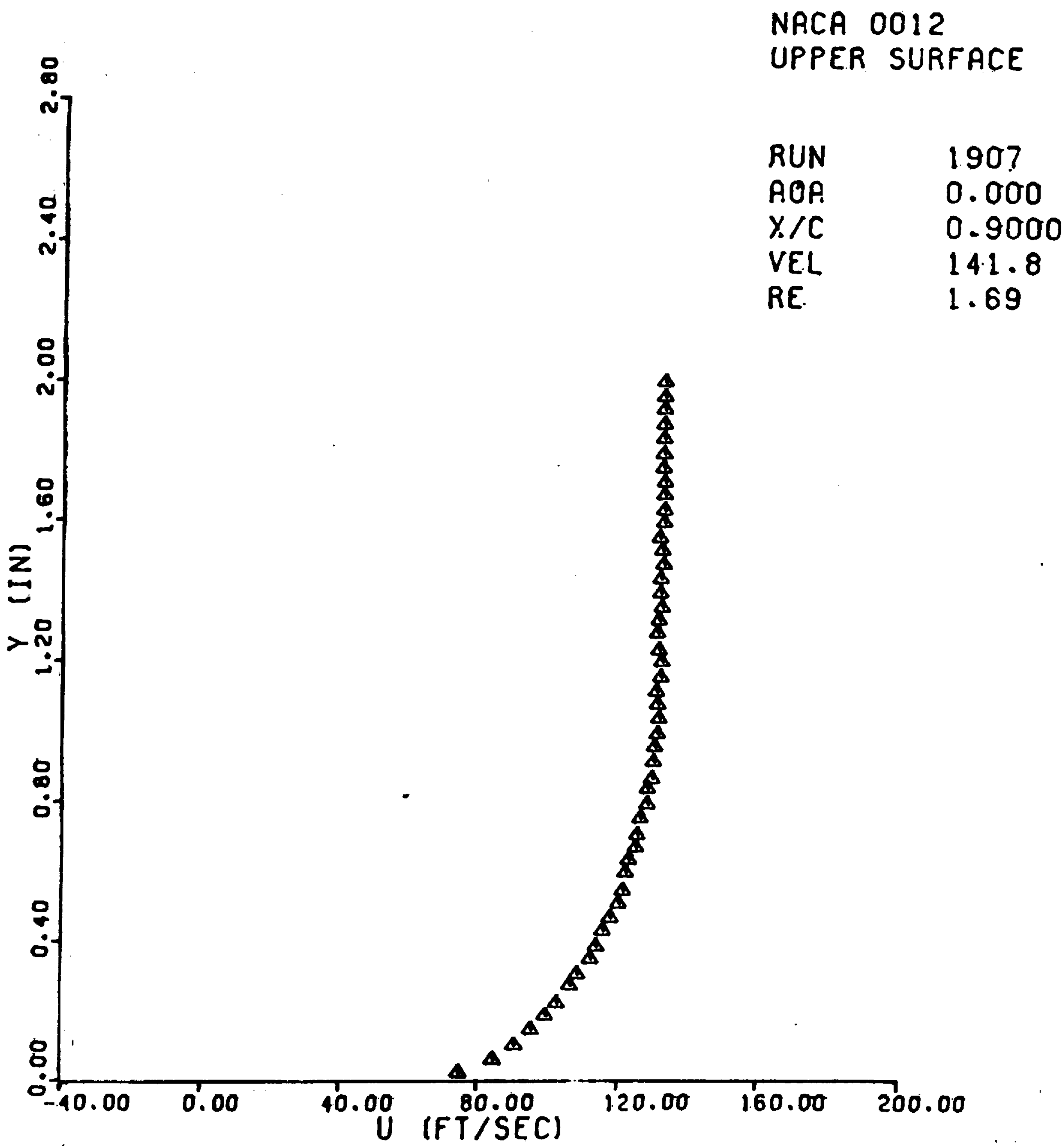
120.00
160.00
200.00
U (FT/SEC)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UPPER SURFACE
RUN 1907
AOA 0.000
X/C 0.9000
VEL 141.8
RE 1.69
Y (IN)
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0.40
0.80
1.20
1.60
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2.80
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120.00
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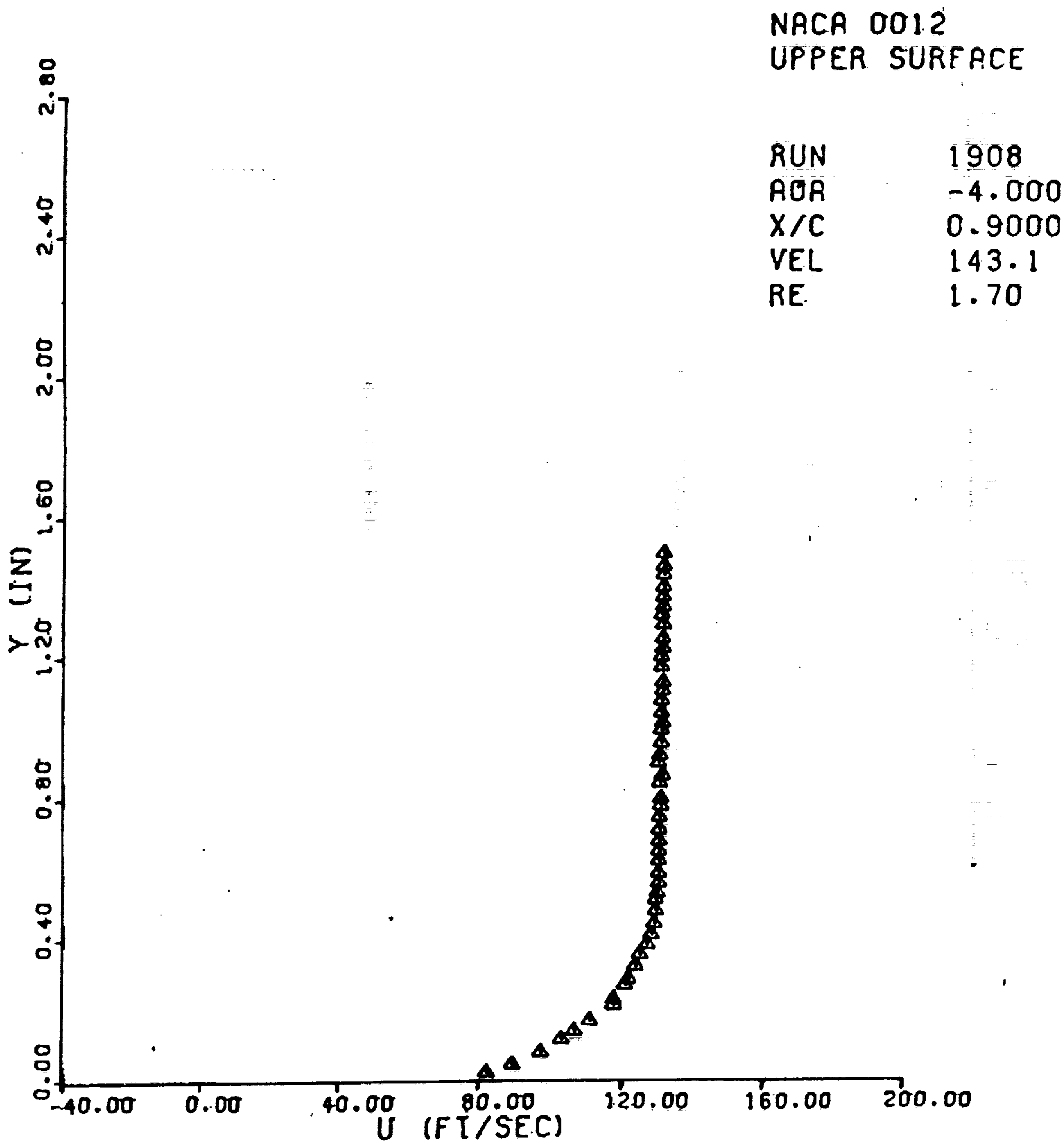
200.00
U (FT/SEC)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UPPER SURFACE
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X/C 0.9000
VEL 143.1
RE 1.70
Y (IN)
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0.80
1.20
1.60
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2.80
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120.00
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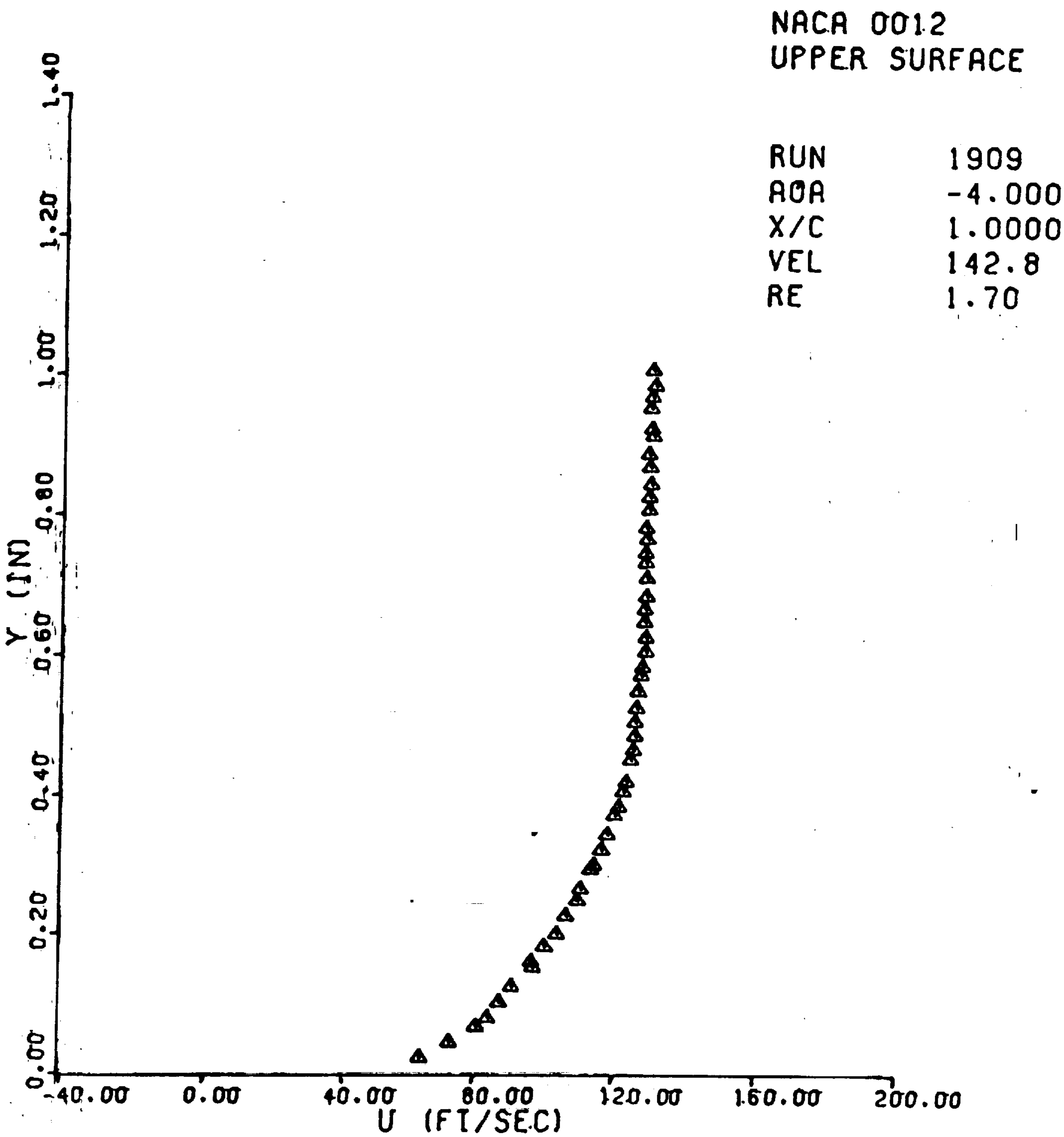
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1909
AOA -4.000
X/C 1.0000
VEL 142.8
RE 1.70
Y (IN)
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0.40
0.60
0.80
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1.40
-40.00
0.00
40.00
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120.00
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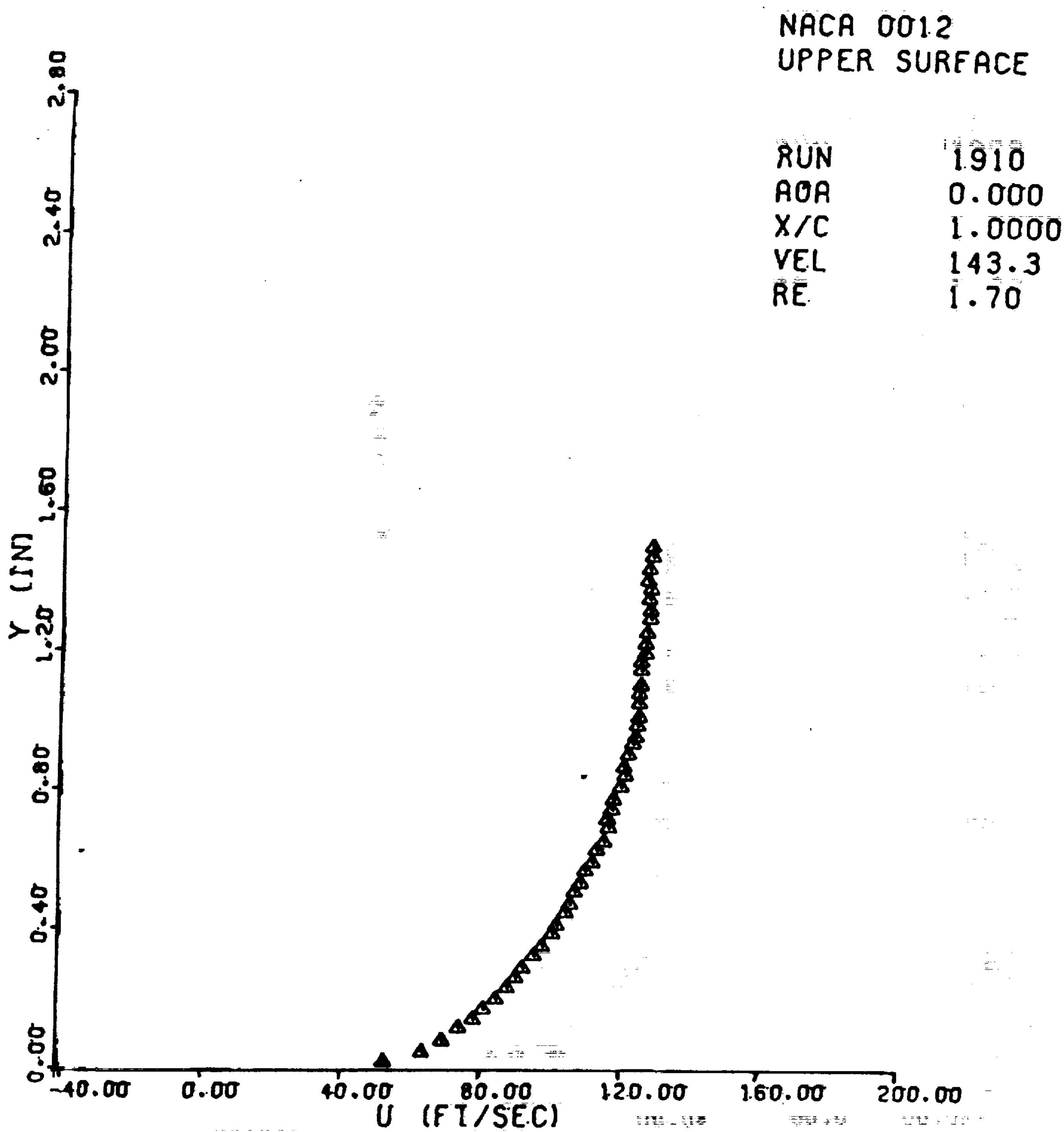
200.00
U (FT/SEC)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UPPER SURFACE
RUN 1910
AOA 0.000
X/C 1.0000
VEL 143.3
RE 1.70
Y (IN)
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0.80
1.20
1.60
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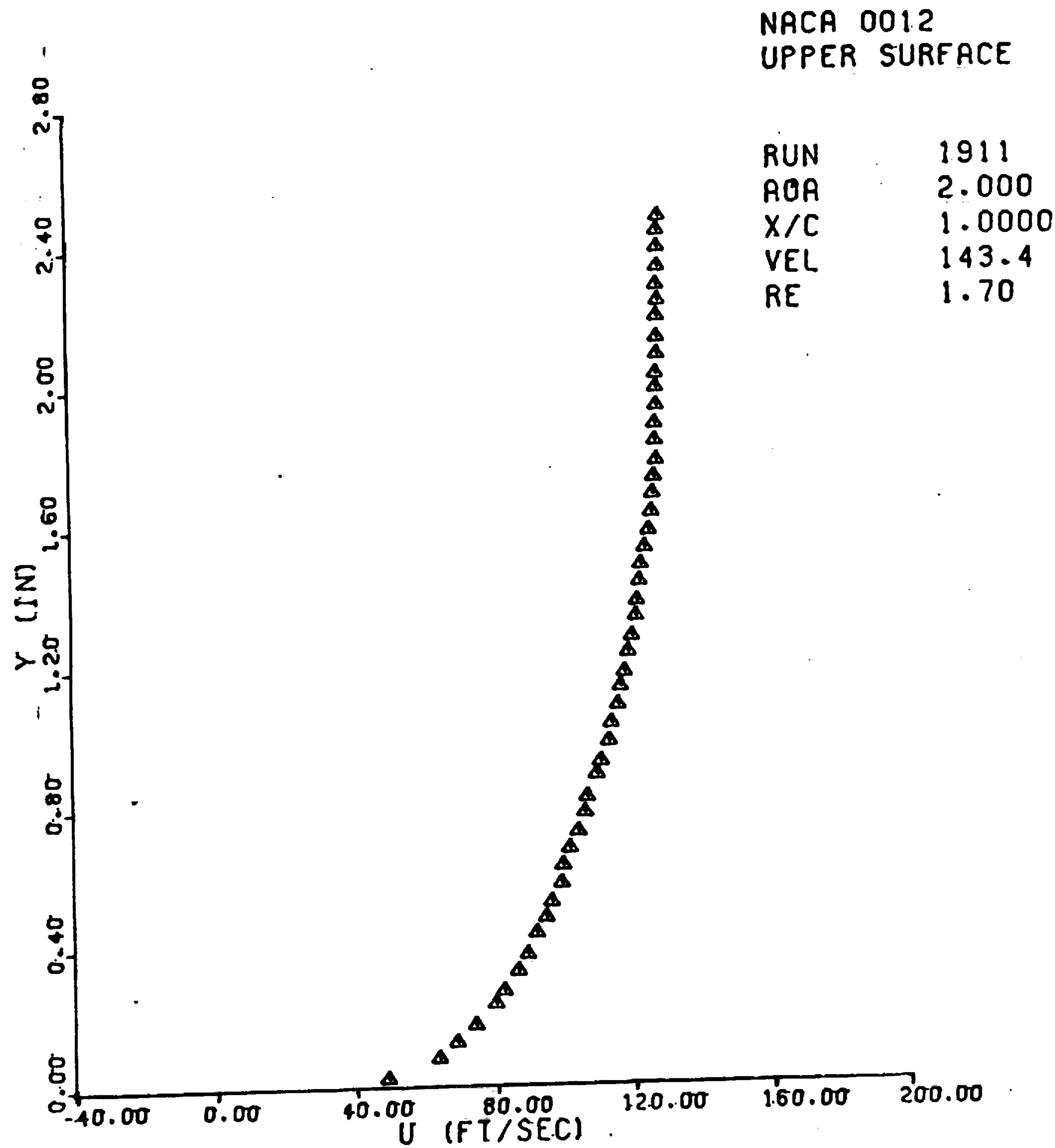
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1911
AOA 2.000
X/C 1.0000
VEL 143.4
RE 1.70
Y (IN)
0.00
0.40
0.80
1.20
1.60
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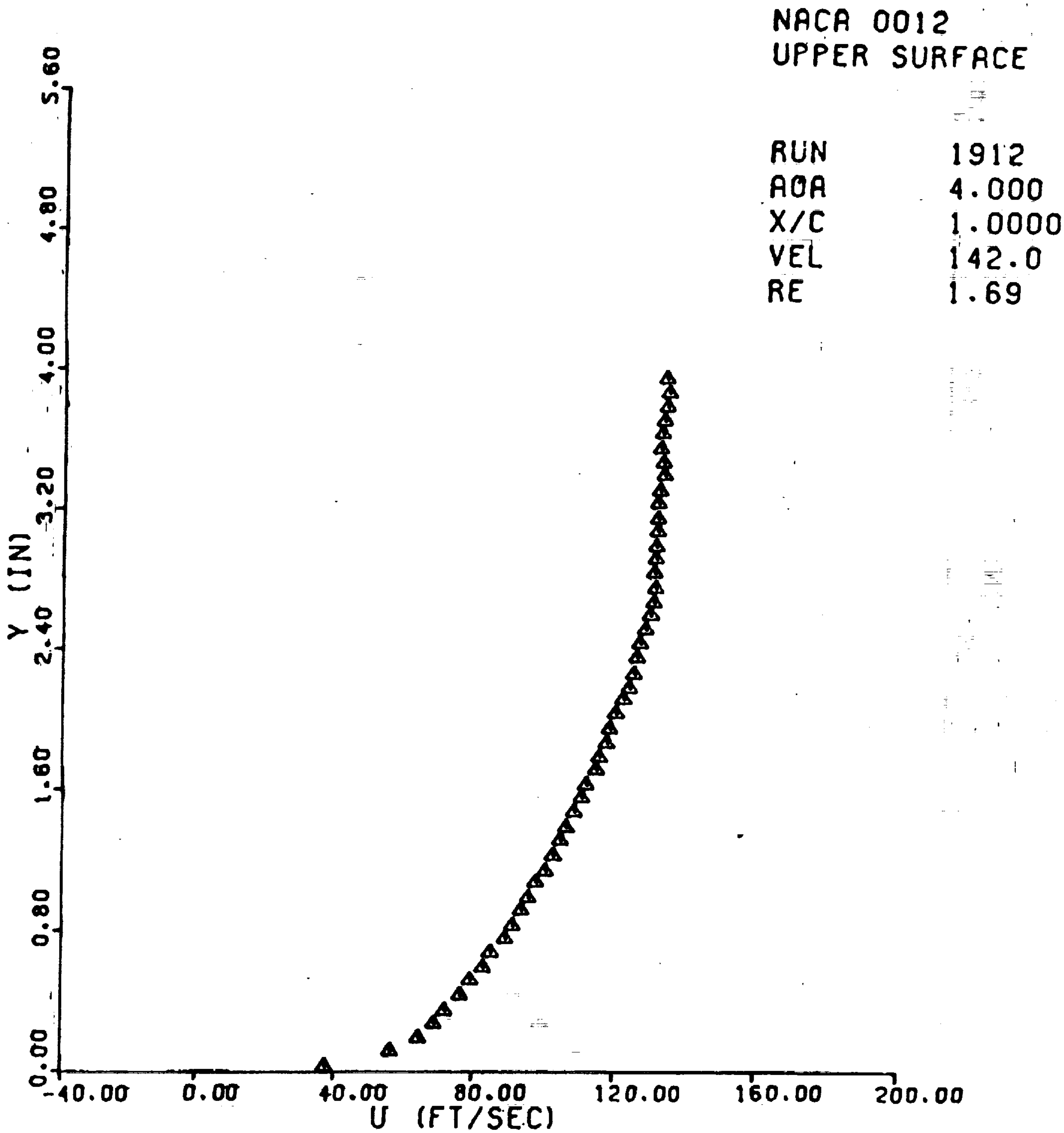
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1912
AOA 4.000
X/C 1.0000
VEL 142.0
RE 1.69
Y (IN)
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0.80
1.60
2.40
3.20
4.00
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5.60
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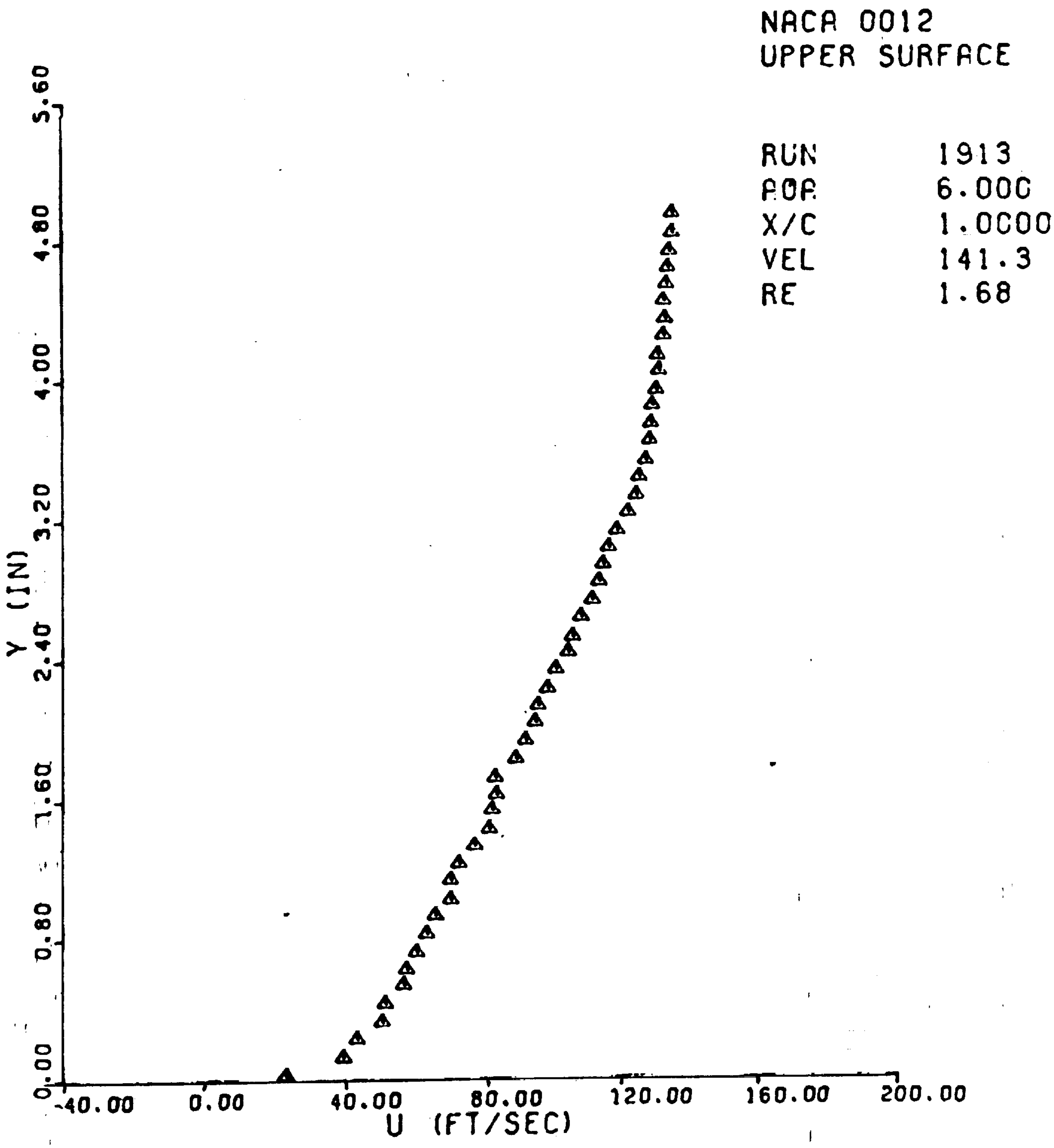
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1913
AOA 6.000
X/C 1.0000
VEL 141.3
RE 1.68
Y (IN)
0.00
0.80
1.60
2.40
3.20
4.00
4.80
5.60
-40.00
0.00
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120.00
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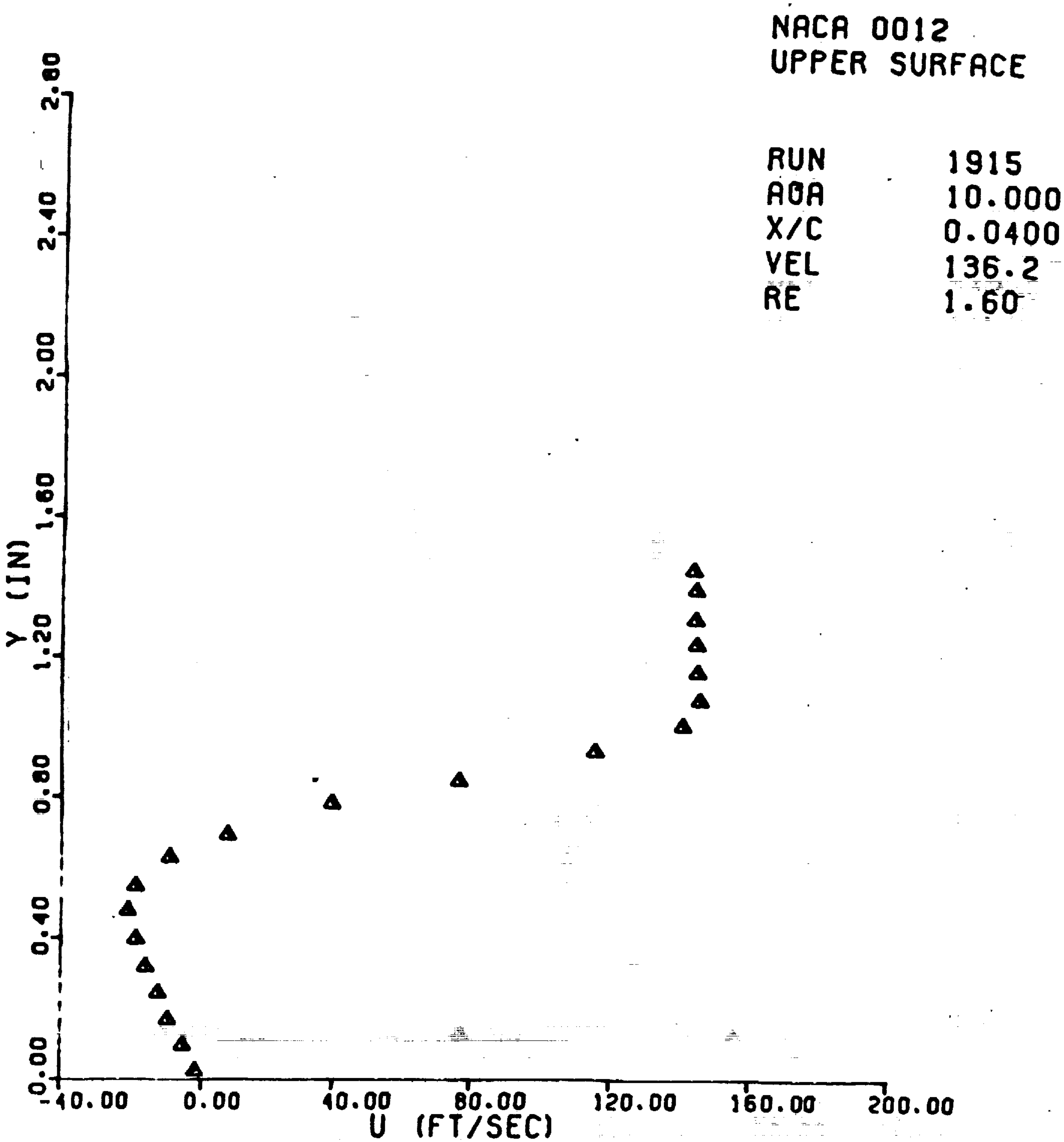
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1915
AOA 10.000
X/C 0.0400
VEL 136.2
RE 1.60
Y (IN)
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0.80
1.20
1.60
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2.80
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40.00
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120.00
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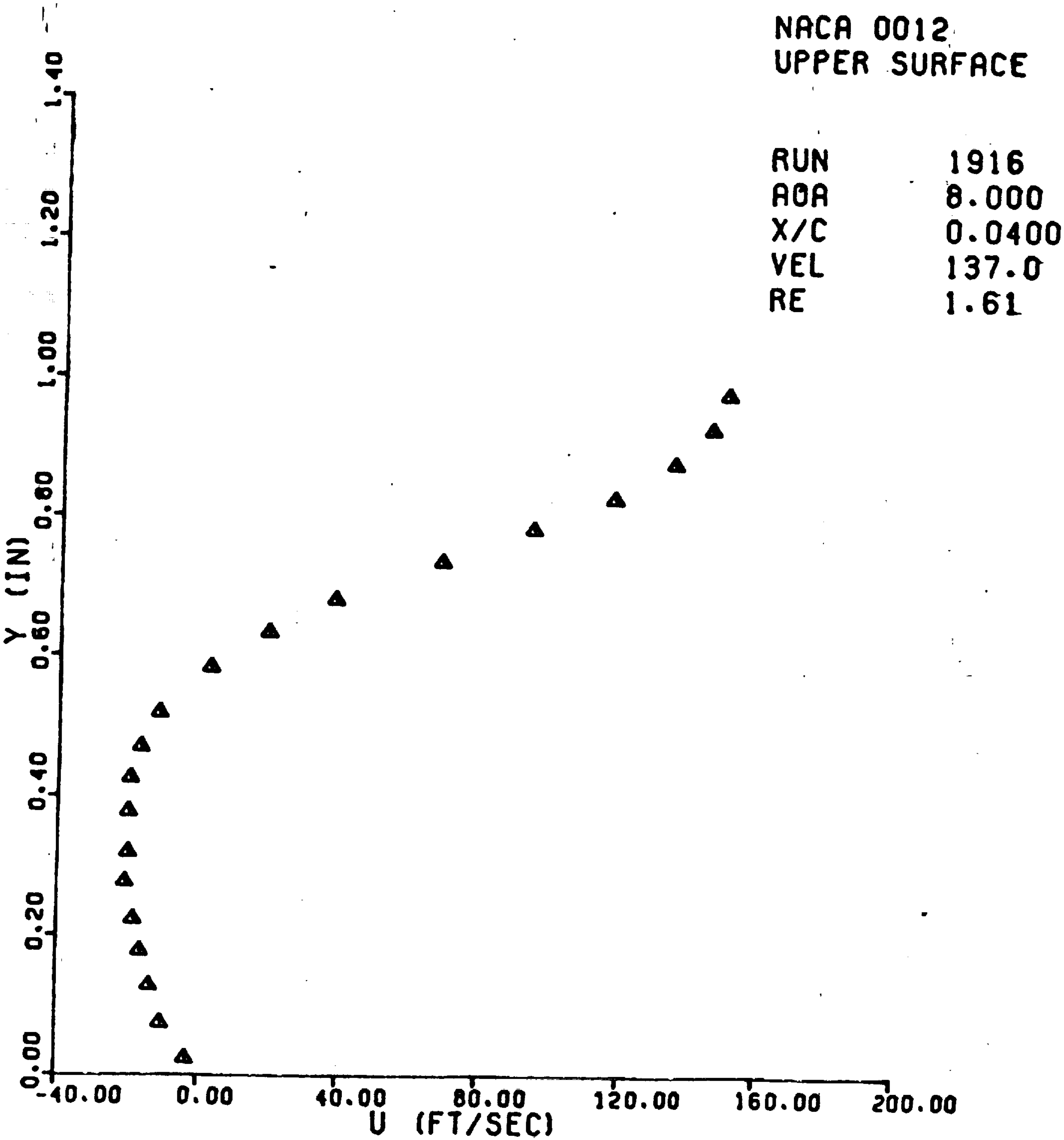
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1916
AOA 8.000
X/C 0.0400
VEL 137.0
RE 1.61
Y (IN)
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0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
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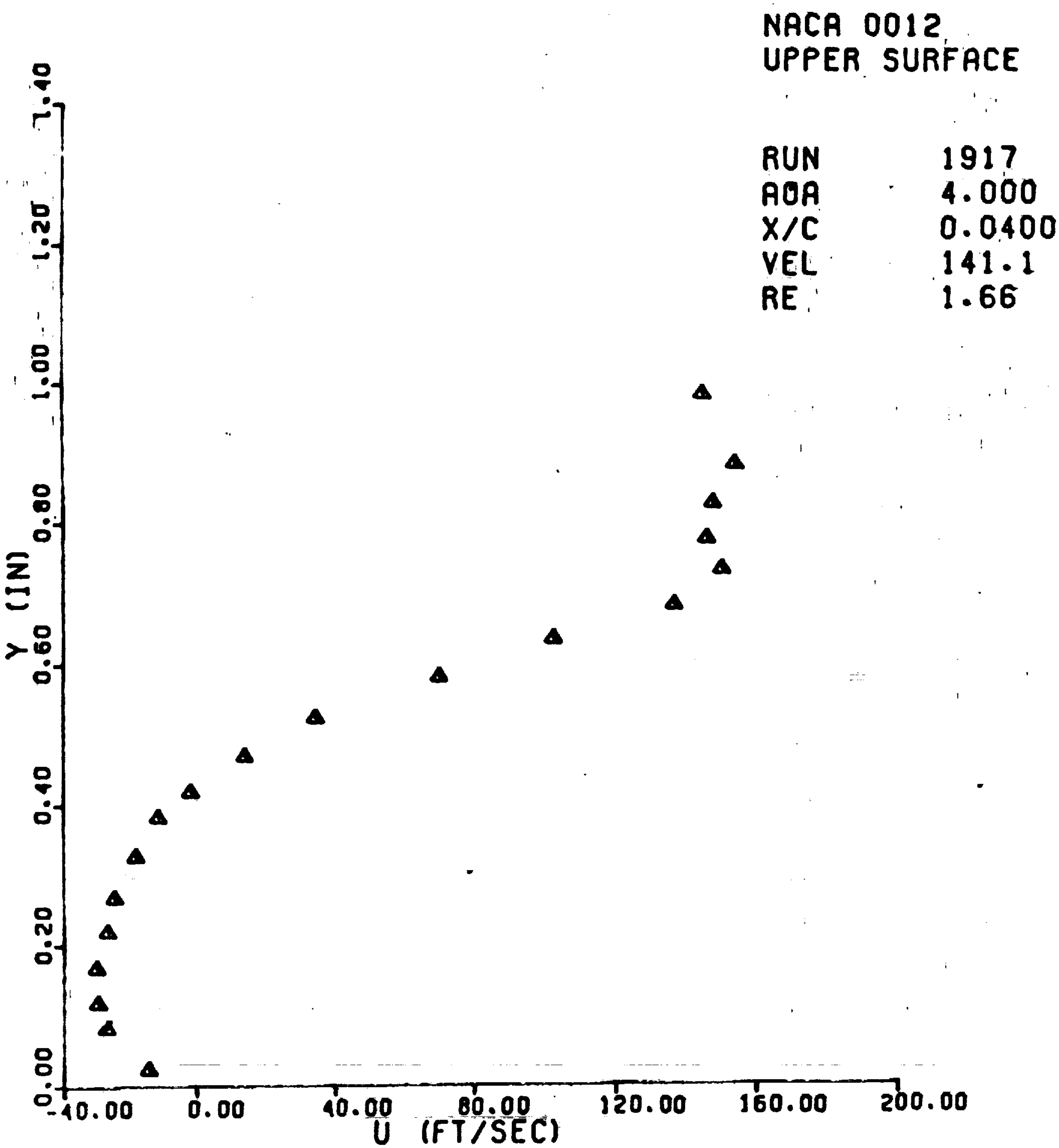
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1917
AOA 4.000
X/C 0.0400
VEL 141.1
RE 1.66
Y (IN)
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0.20
0.40
0.60
0.80
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1.40
-40.00
0.00
40.00
80.00
120.00
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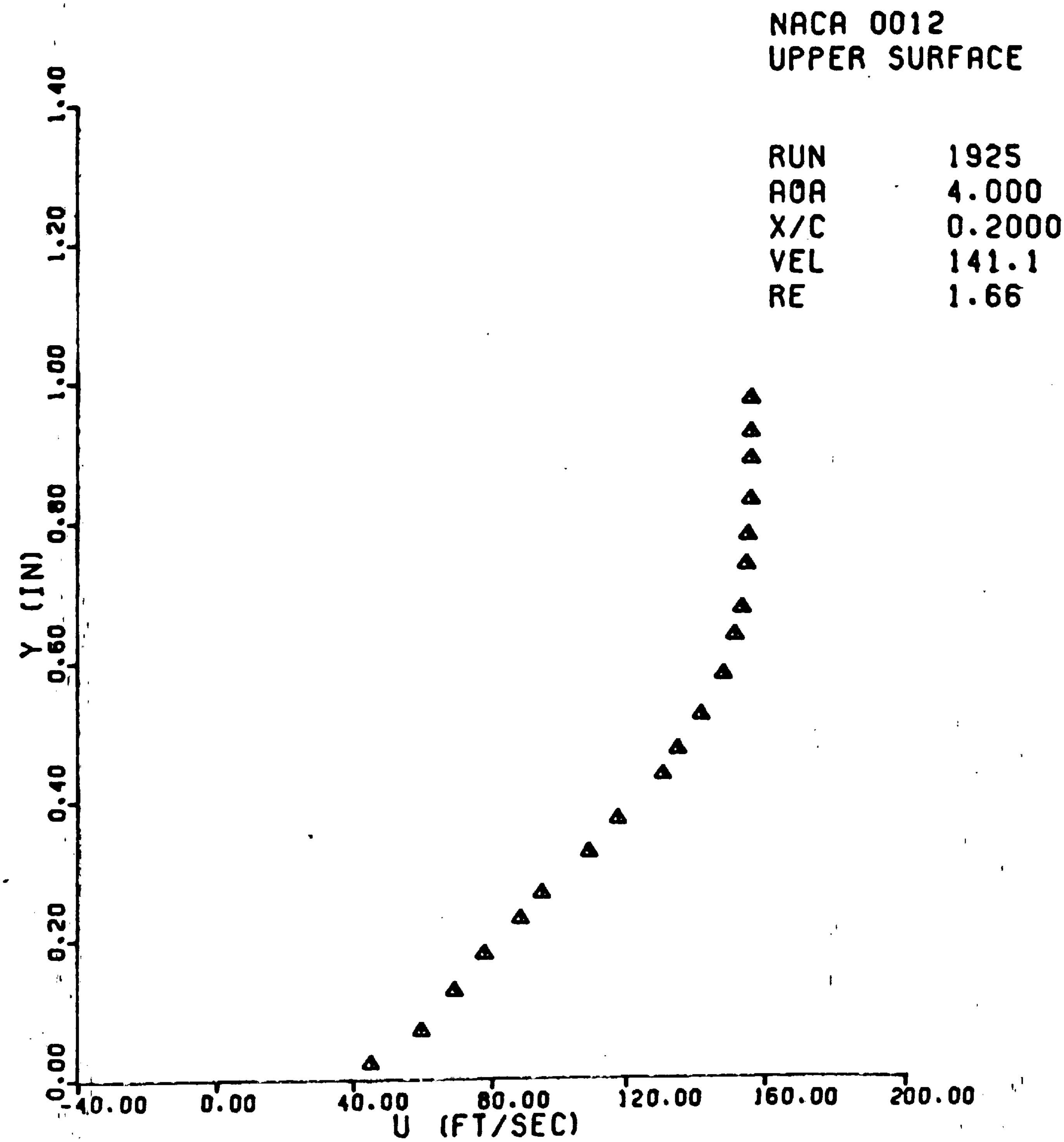
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1925
AOA 4.000
X/C 0.2000
VEL 141.1
RE 1.66
Y (IN)
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0.40
0.60
0.80
1.00
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1.40
-40.00
0.00
40.00
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120.00
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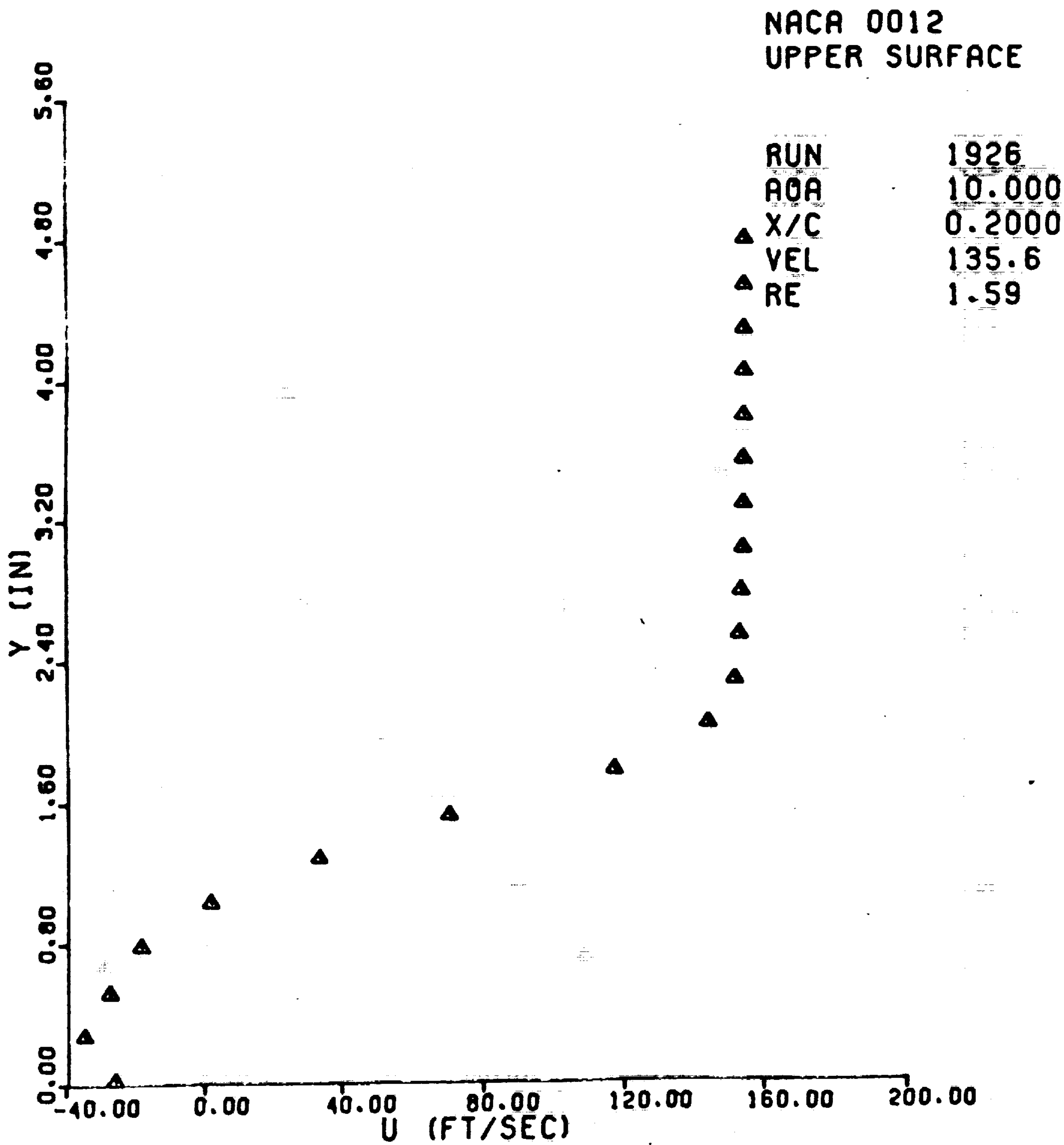
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1926
AOA 10.000
X/C 0.2000
VEL 135.6
RE 1.59
Y (IN)
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1.60
2.40
3.20
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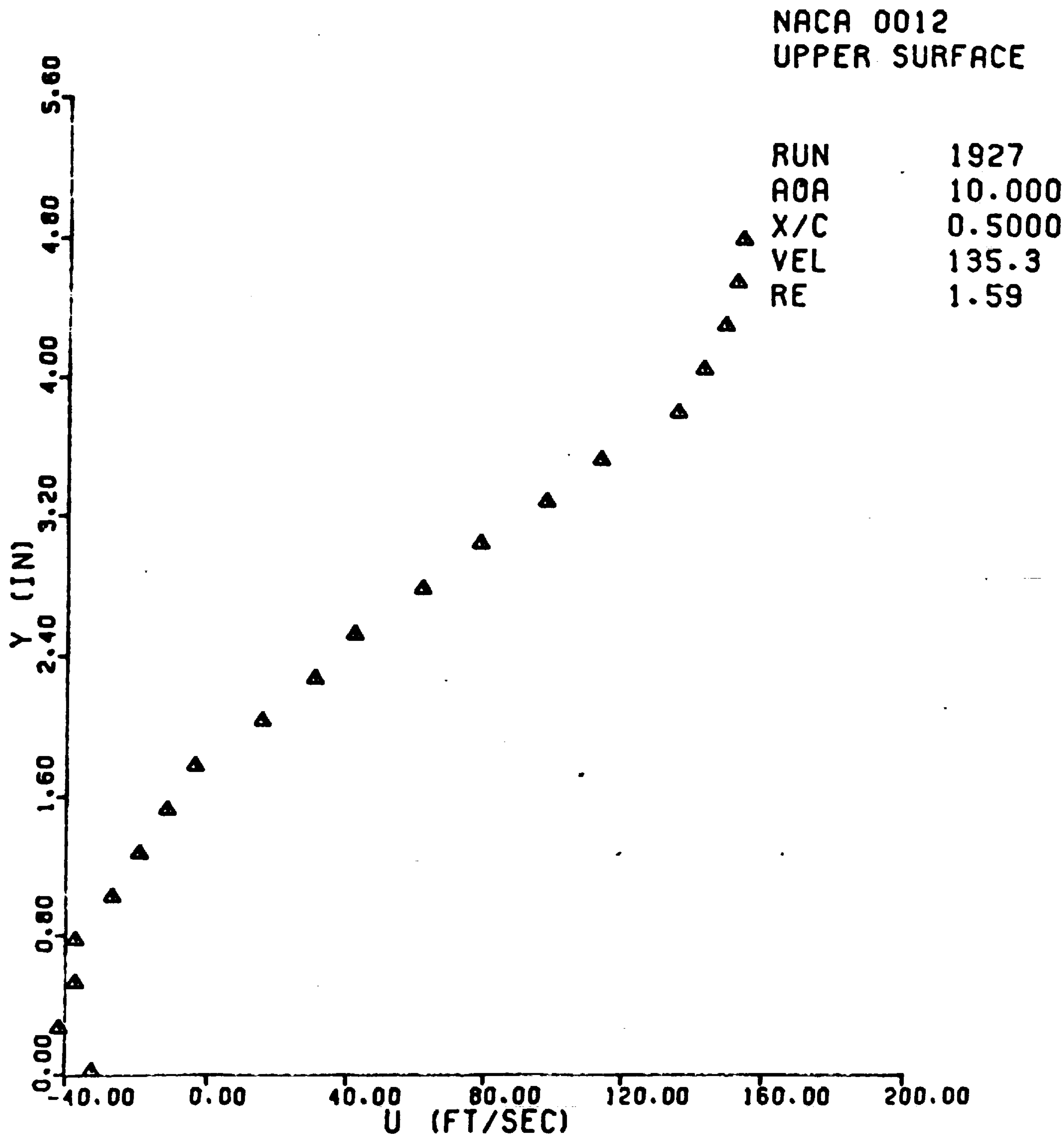
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1927
AOA 10.000
X/C 0.5000
VEL 135.3
RE 1.59
Y (IN)
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1.60
2.40
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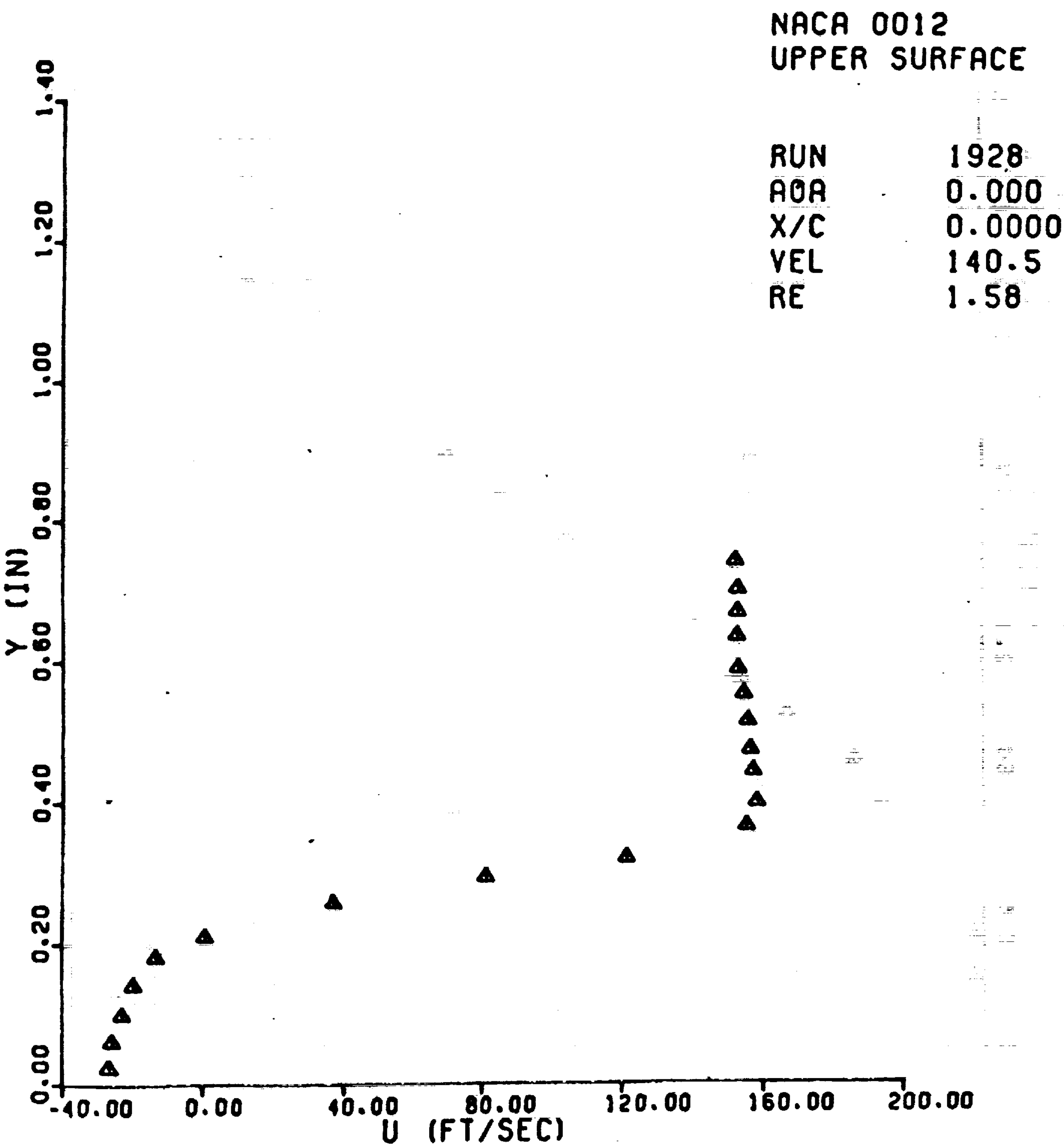
U (FT/SEC)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UPPER SURFACE
RUN 1928
AOA 0.000
X/C 0.0000
VEL 140.5
RE 1.58
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0.40
0.60
0.80
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1.40
-40.00
0.00
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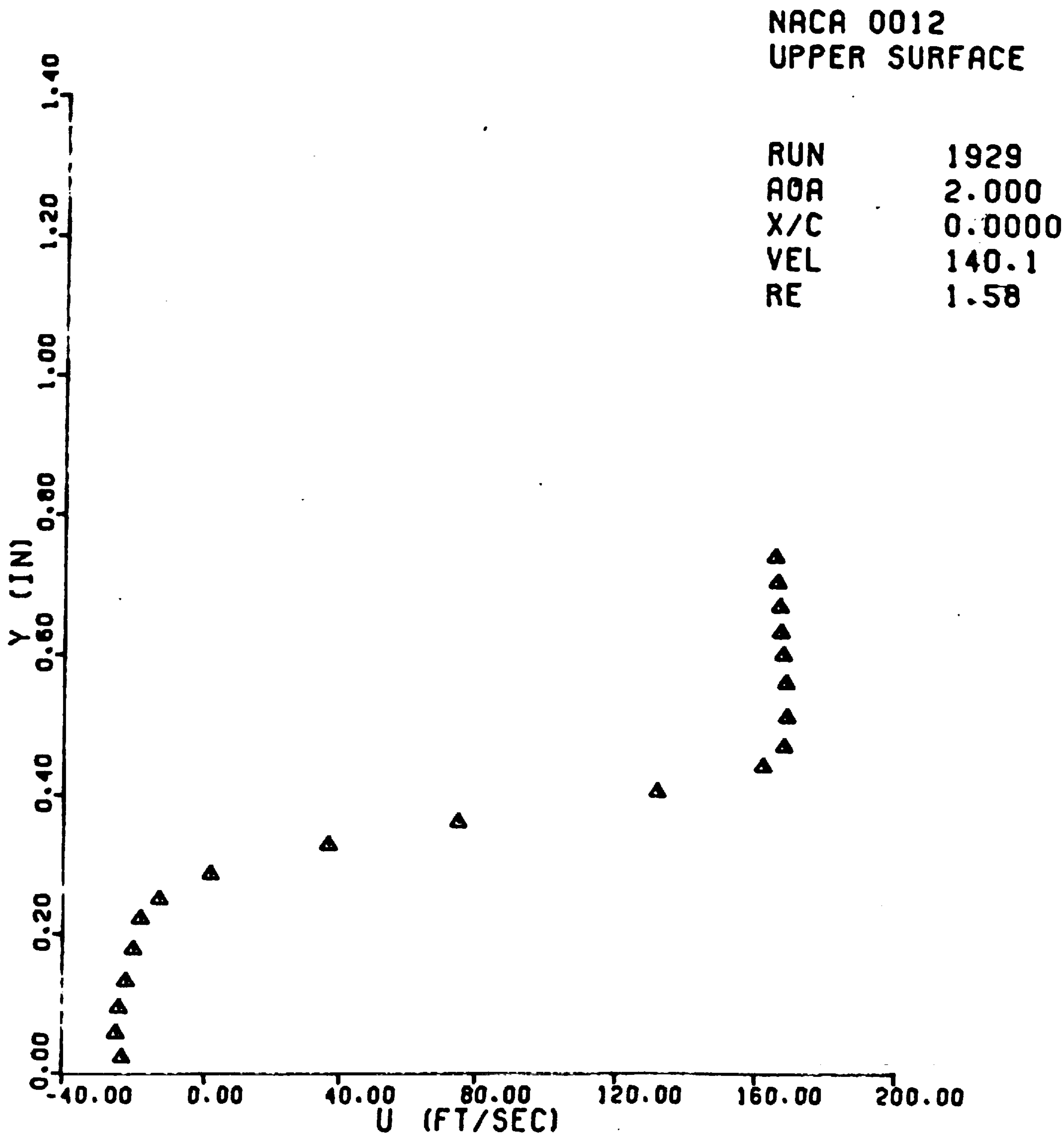
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1929
AOA 2.000
X/C 0.0000
VEL 140.1
RE 1.58
Y (IN)
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0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
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120.00
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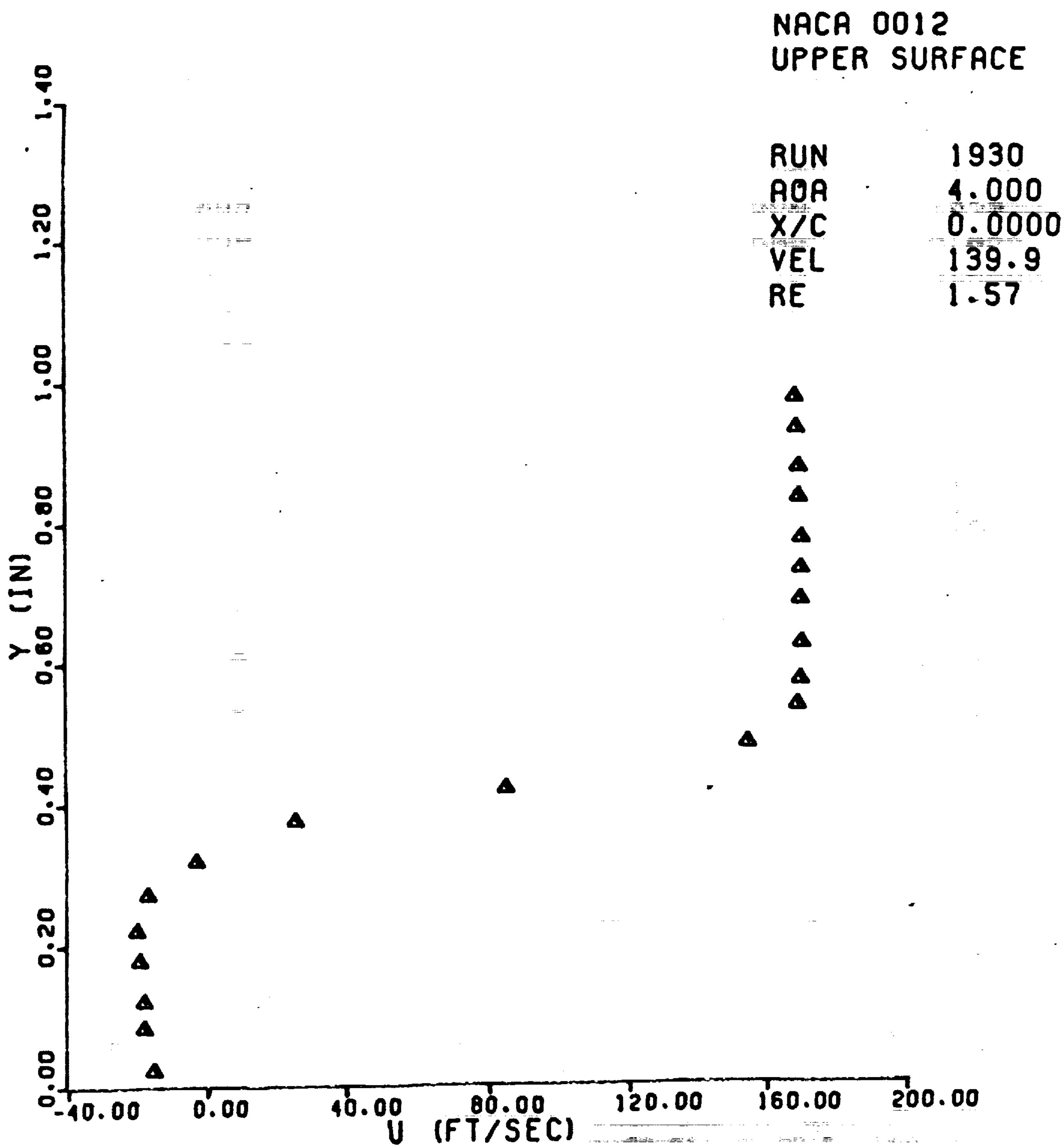
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1930
AOA 4.000
X/C 0.0000
VEL 139.9
RE 1.57
Y (IN)
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0.20
0.40
0.60
0.80
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1.40
-40.00
0.00
40.00
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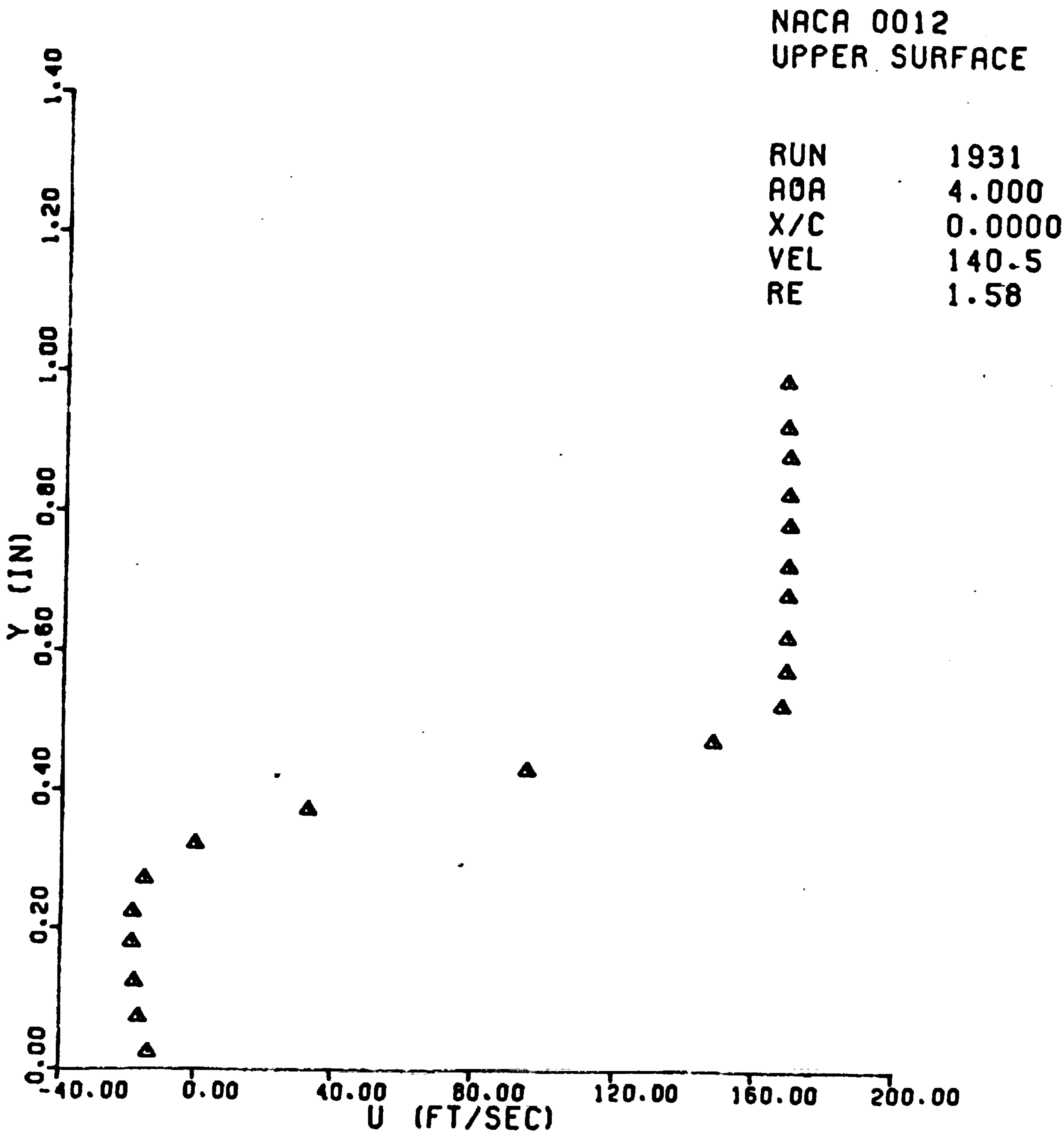
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1931
AOA 4.000
X/C 0.0000
VEL 140.5
RE 1.58
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
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1.00
1.20
1.40
-40.00
0.00
40.00
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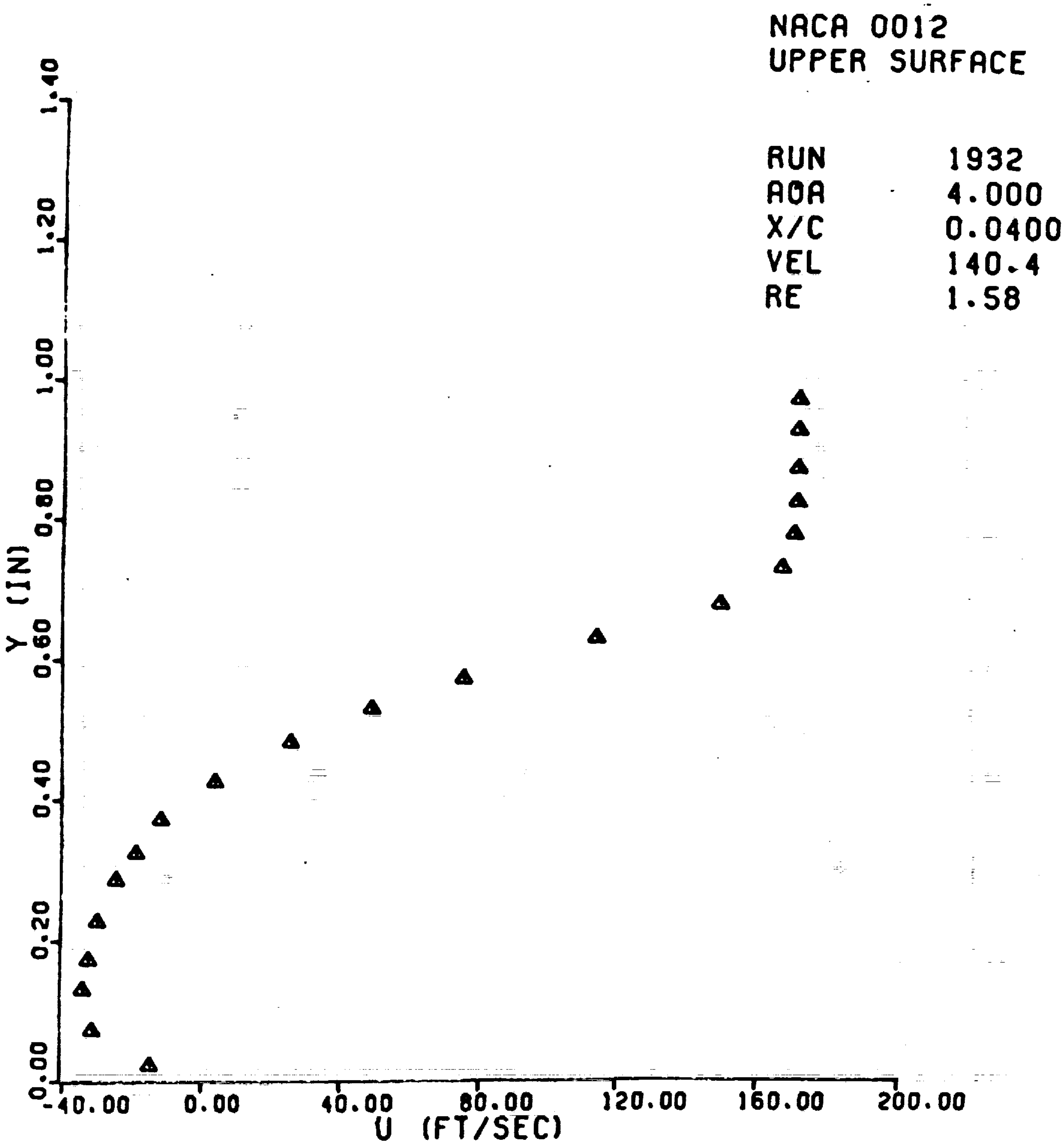
200.00


NACA 0012
UPPER SURFACE
RUN 1932
AOA 4.000
X/C 0.0400
VEL 140.4
RE 1.58
Y (IN)
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0.60
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1.40
-40.00
0.00
40.00
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120.00
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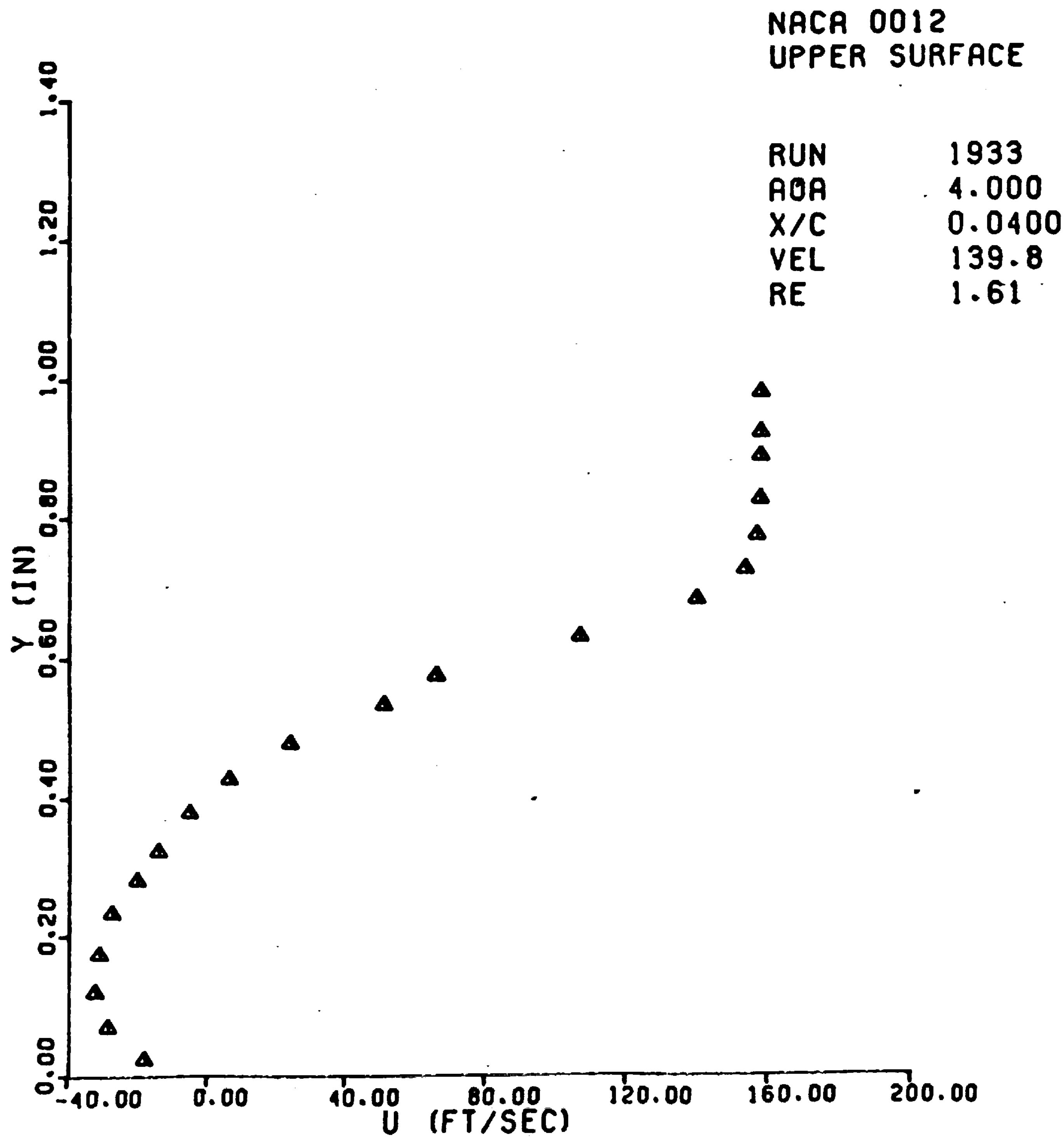
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1933
AOA 4.000
X/C 0.0400
VEL 139.8
RE 1.61
Y (IN)
U (FT/SEC)
0.00
0.20
0.40
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1.20
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-40.00
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40.00
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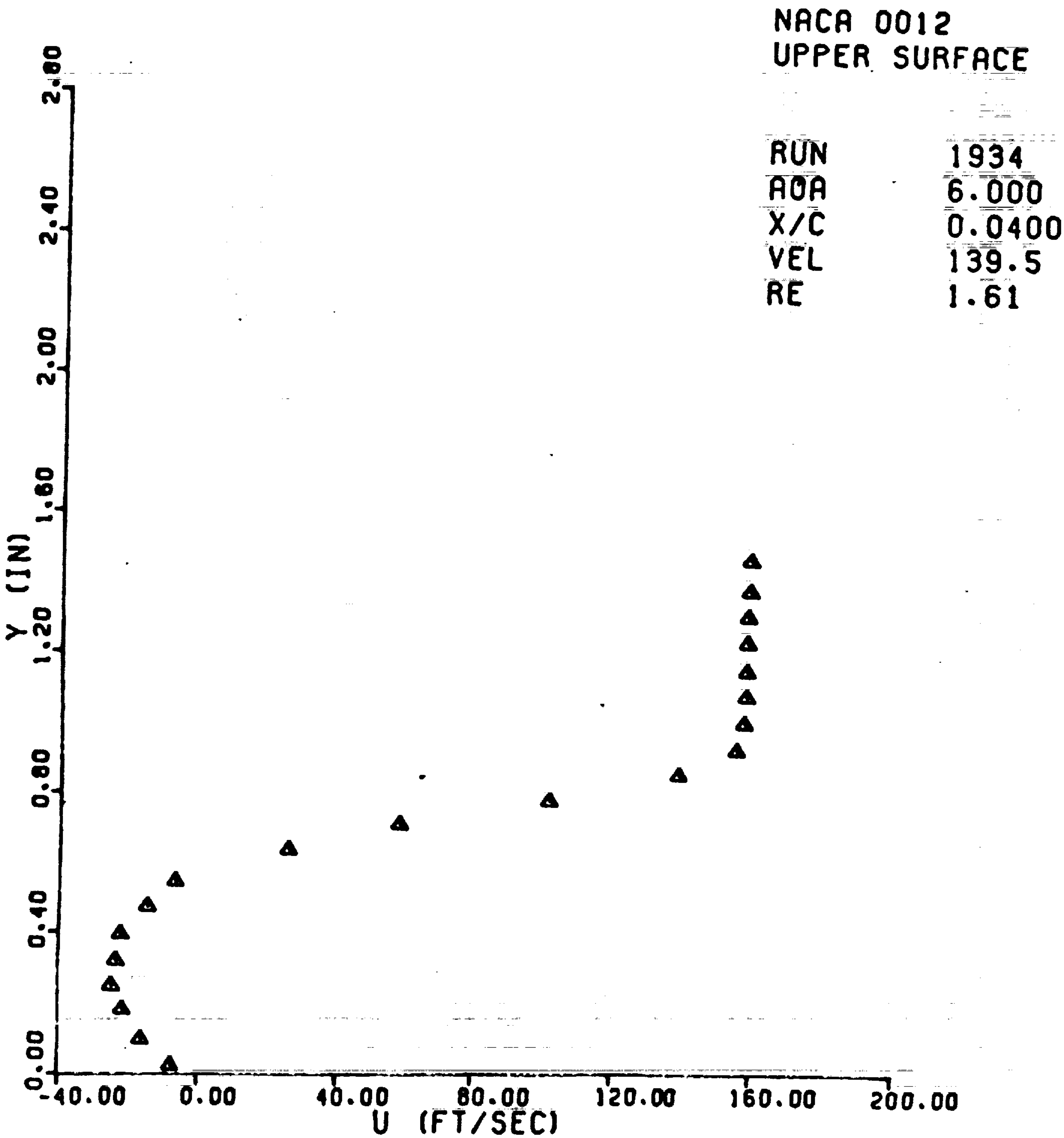

NACA 0012
UPPER SURFACE
RUN 1934
AOA 6.000
X/C 0.0400
VEL 139.5
RE 1.61
Y (IN)
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0.40
0.80
1.20
1.60
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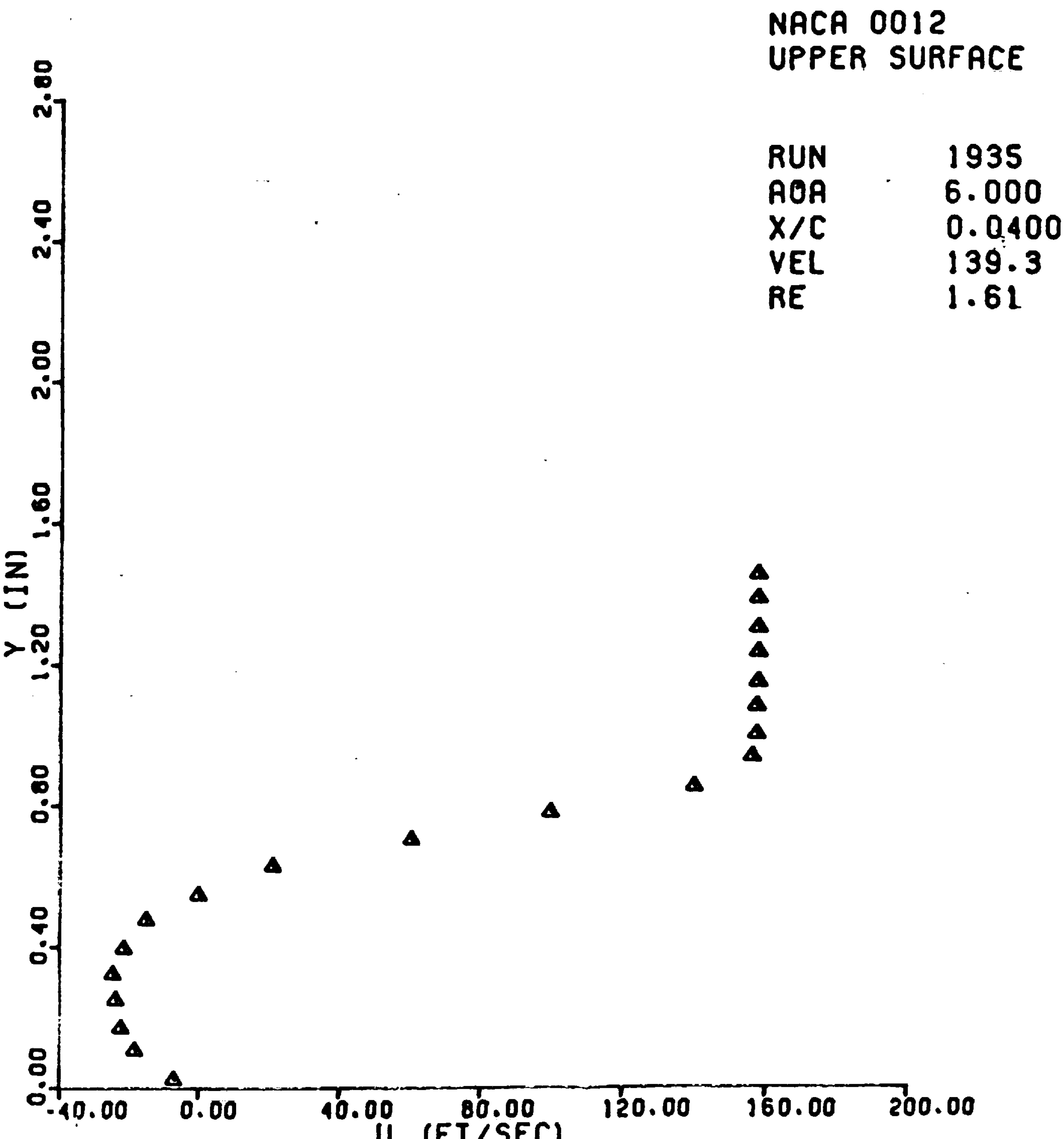
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1935
AOA 6.000
X/C 0.0400
VEL 139.3
RE 1.61
Y (IN)
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0.40
0.80
1.20
1.60
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2.80
-40.00
0.00
40.00
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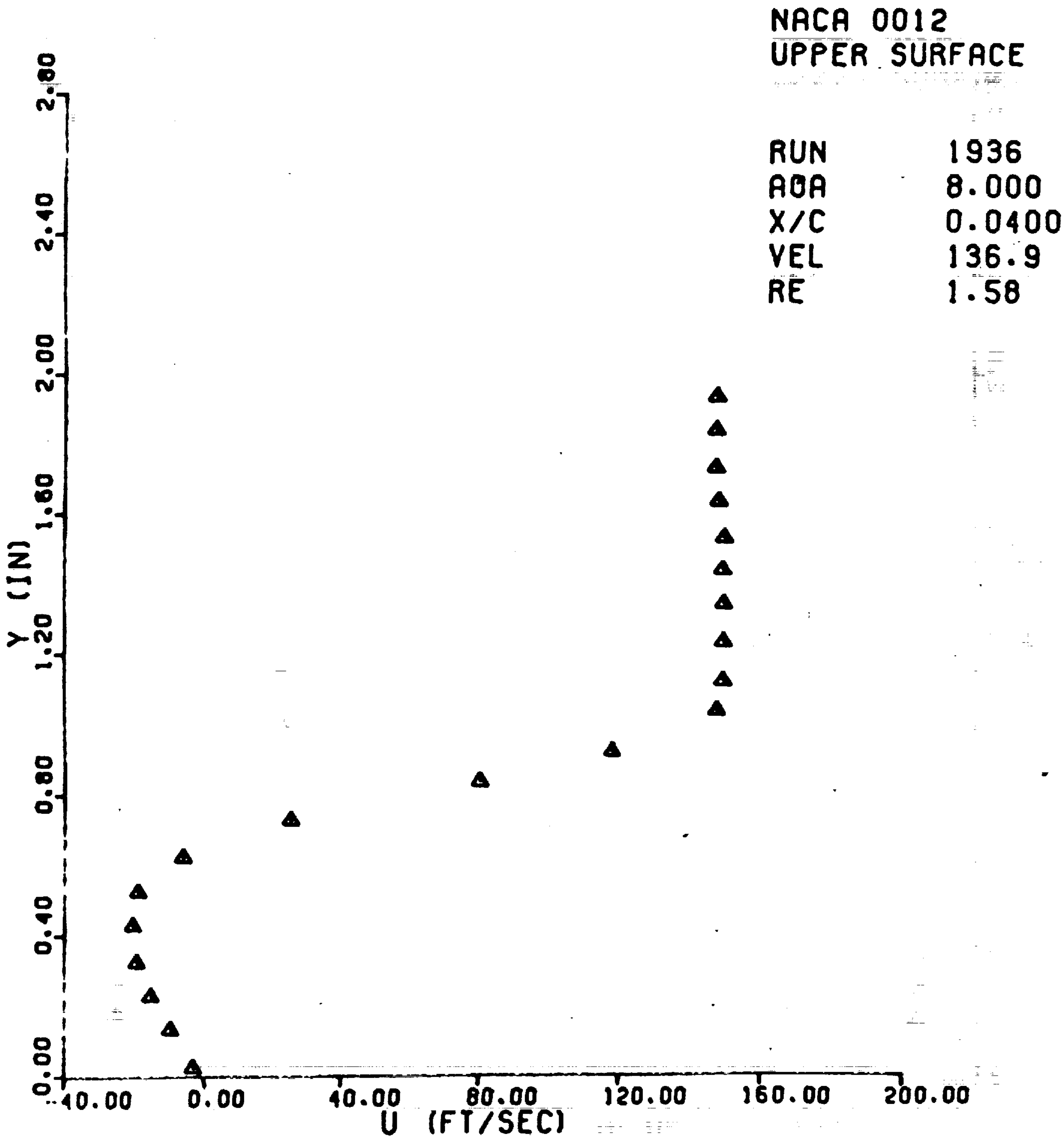
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1936
AOA 8.000
X/C 0.0400
VEL 136.9
RE 1.58
Y (IN)
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0.40
0.80
1.20
1.60
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2.80
-40.00
0.00
40.00
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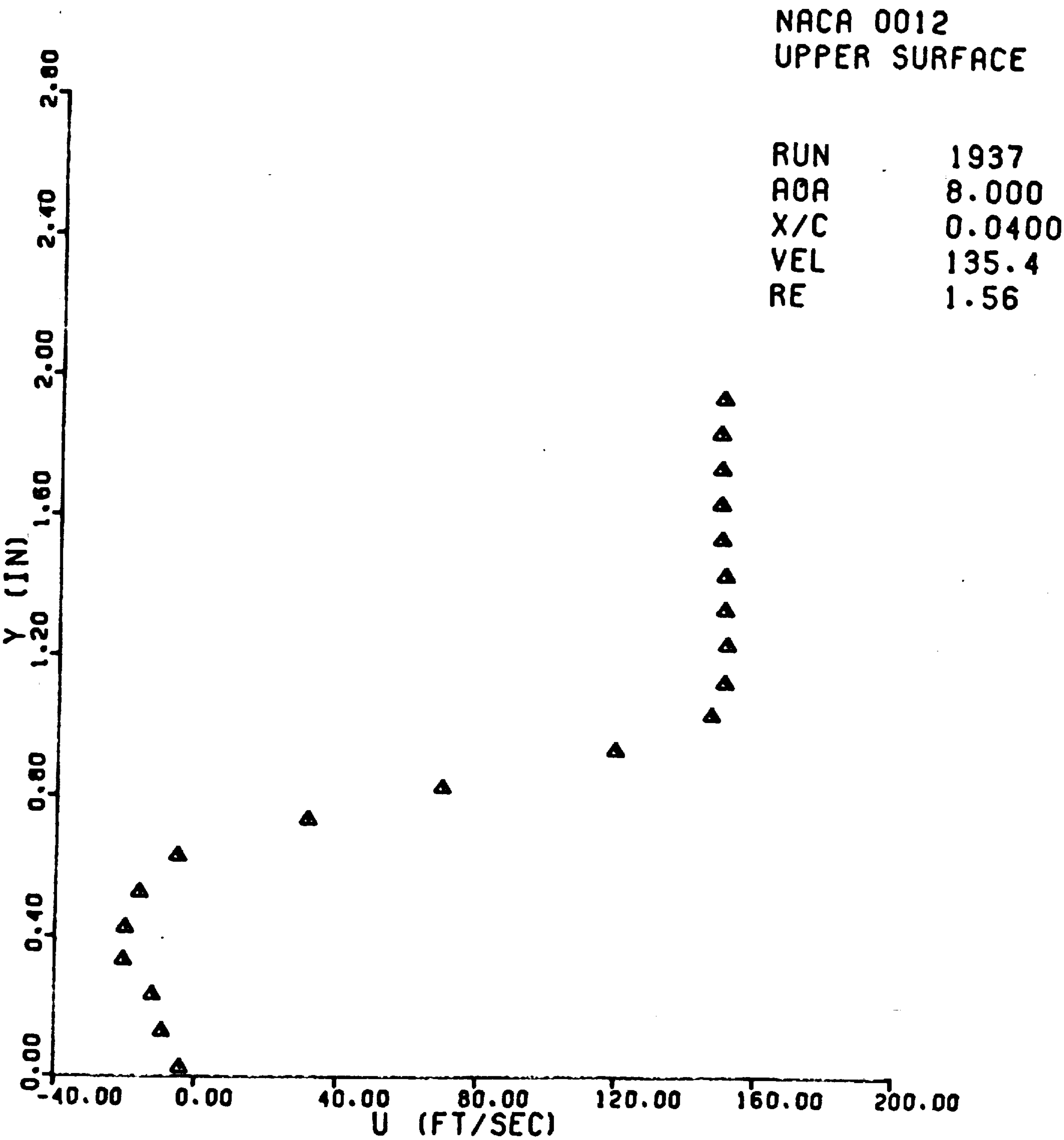
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1937
AOA 8.000
X/C 0.0400
VEL 135.4
RE 1.56
Y (IN)
0.00
0.40
0.80
1.20
1.60
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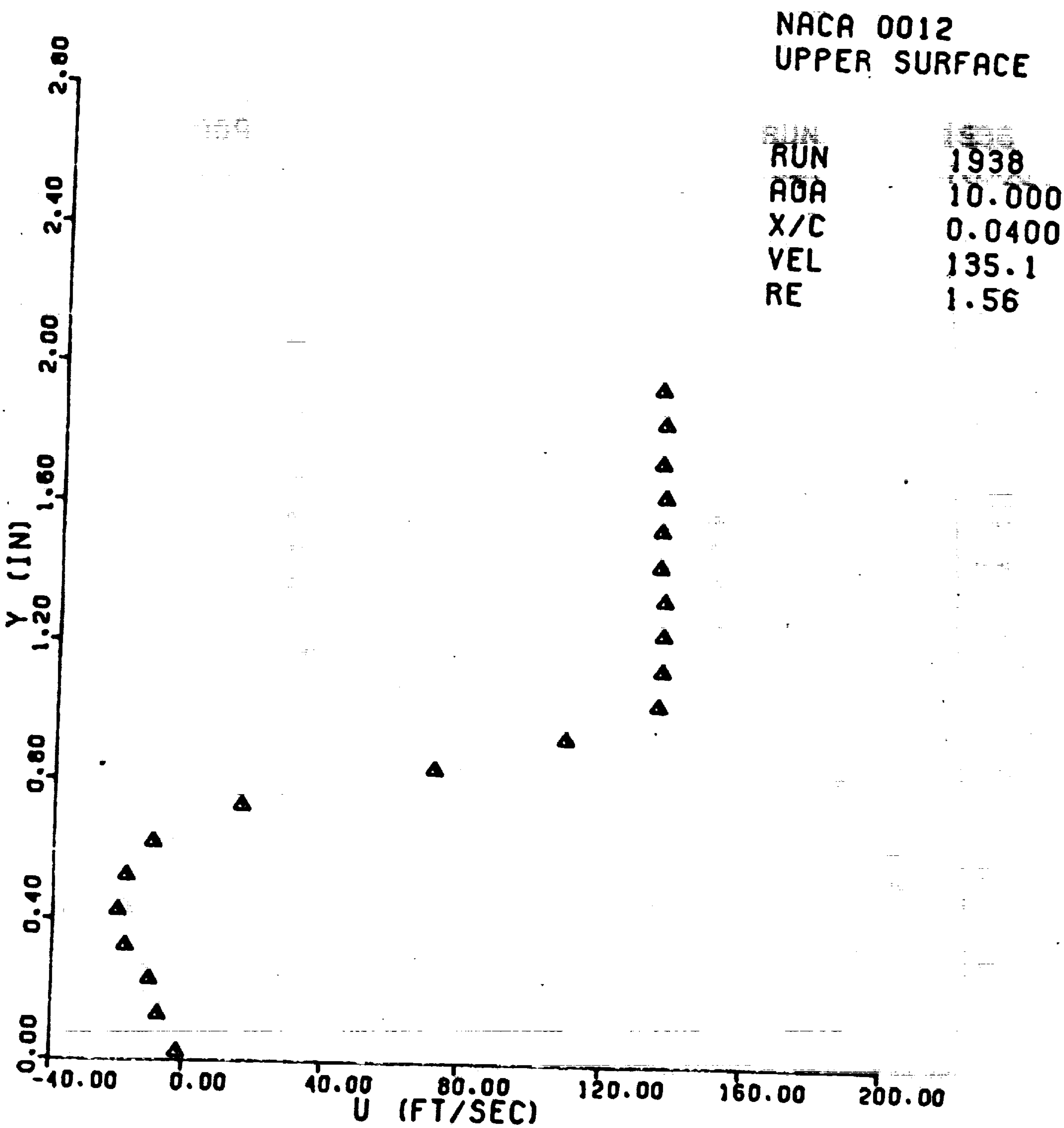
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1938
AOA 10.000
X/C 0.0400
VEL 135.1
RE 1.56
Y (IN)
0.00
0.40
0.80
1.20
1.60
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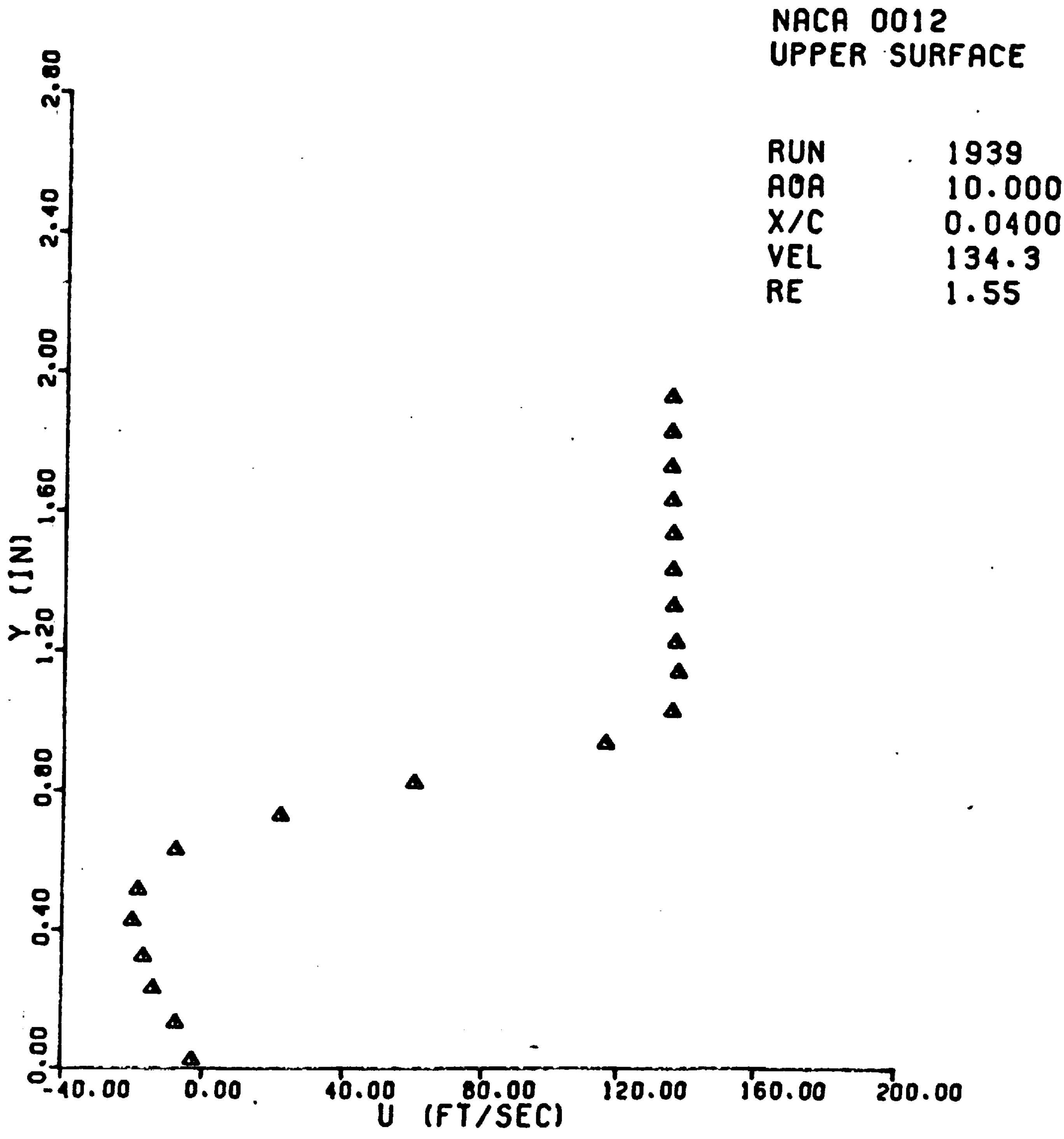
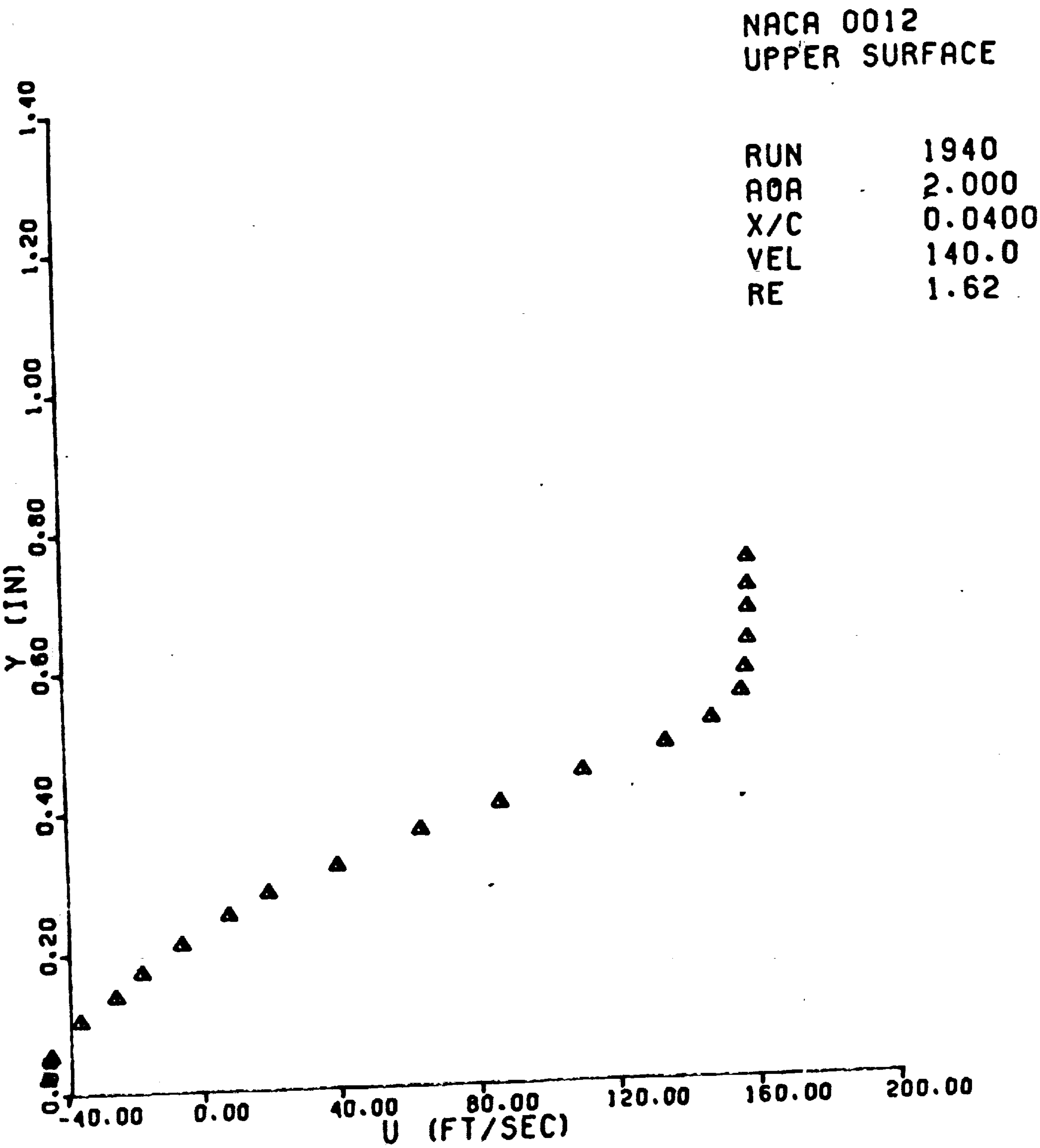
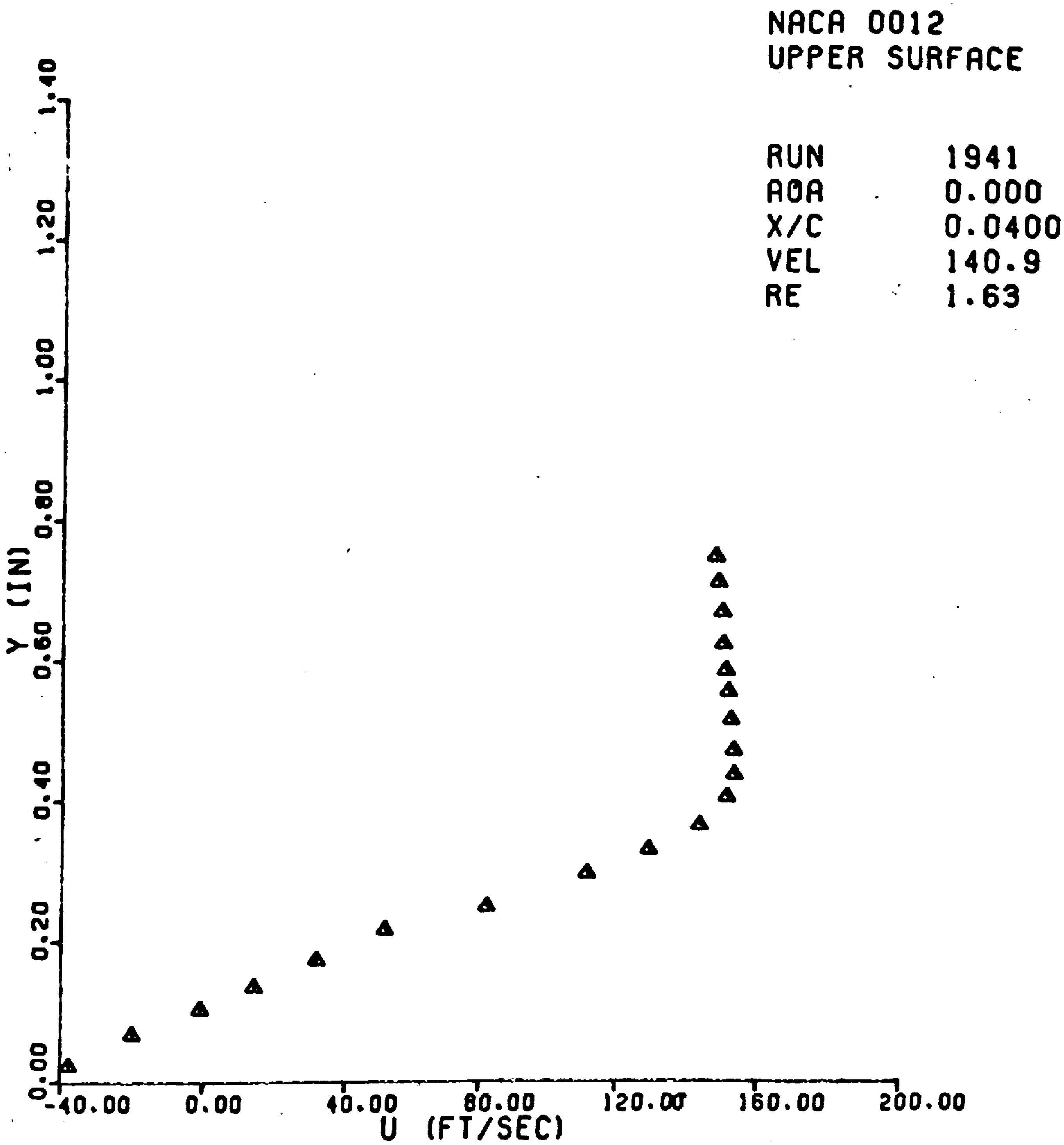
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



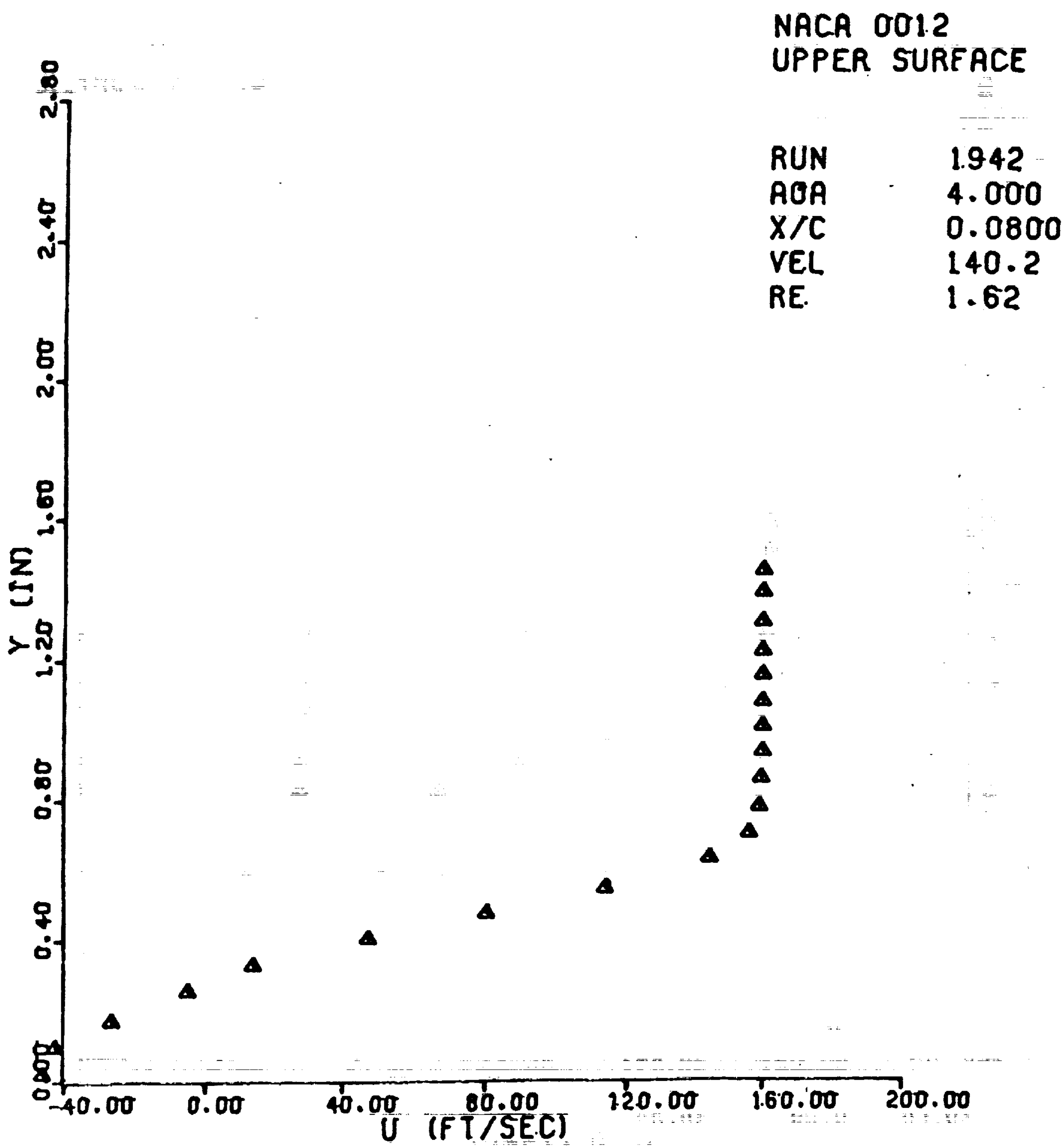
NACA 0012
UPPER SURFACE
RUN 1939
AOA 10.000
X/C 0.0400
VEL 134.3
RE 1.55
Y (IN)
U (FT/SEC)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00



NACA 0012
UPPER SURFACE
RUN 1940
AOA 2.000
X/C 0.0400
VEL 140.0
RE 1.62
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1941
AOA 0.000
X/C 0.0400
VEL 140.9
RE 1.63
Y (IN)
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1942
AOA 4.000
X/C 0.0800
VEL 140.2
RE 1.62
Y (IN)
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0.80
1.20
1.60
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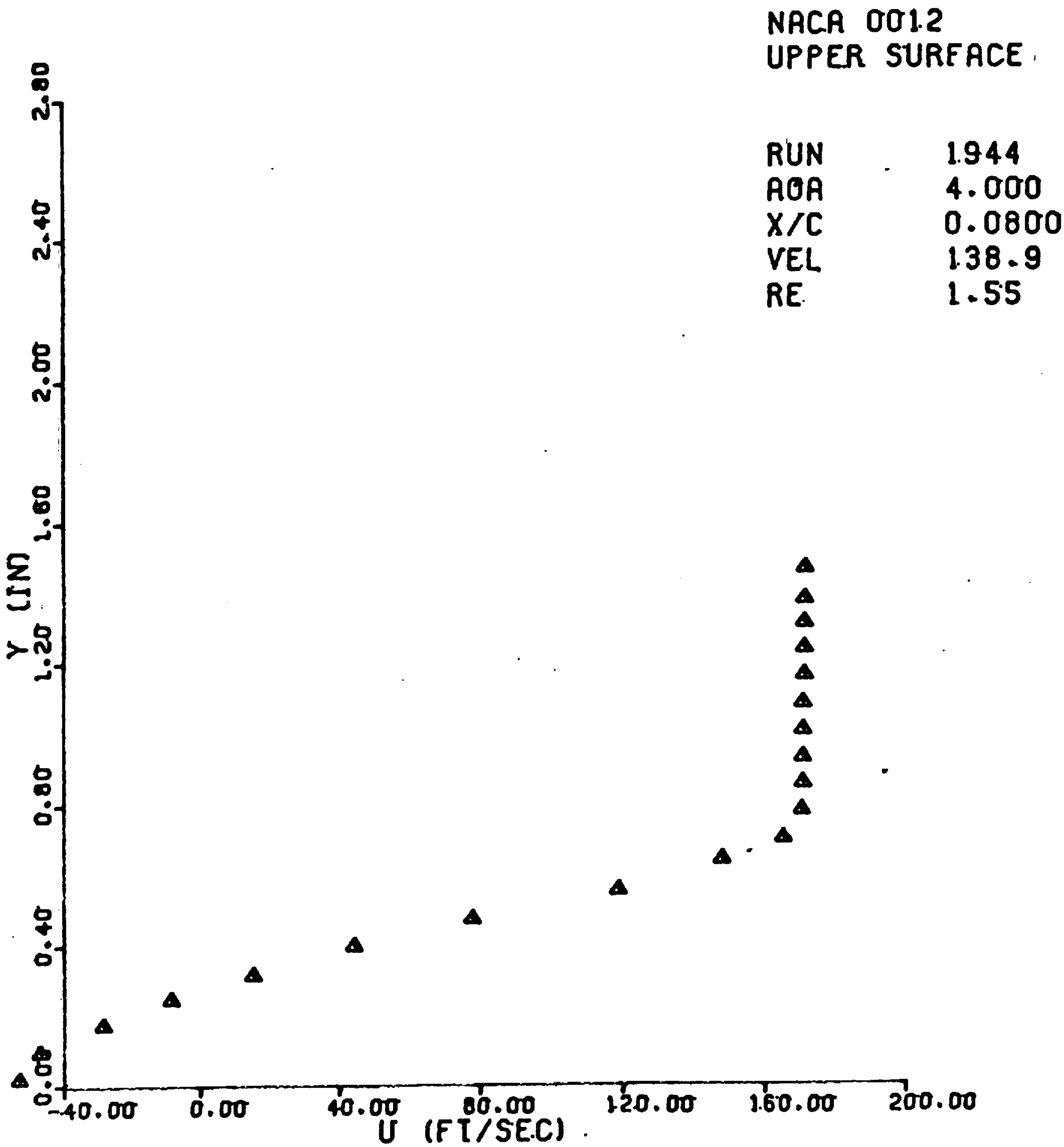
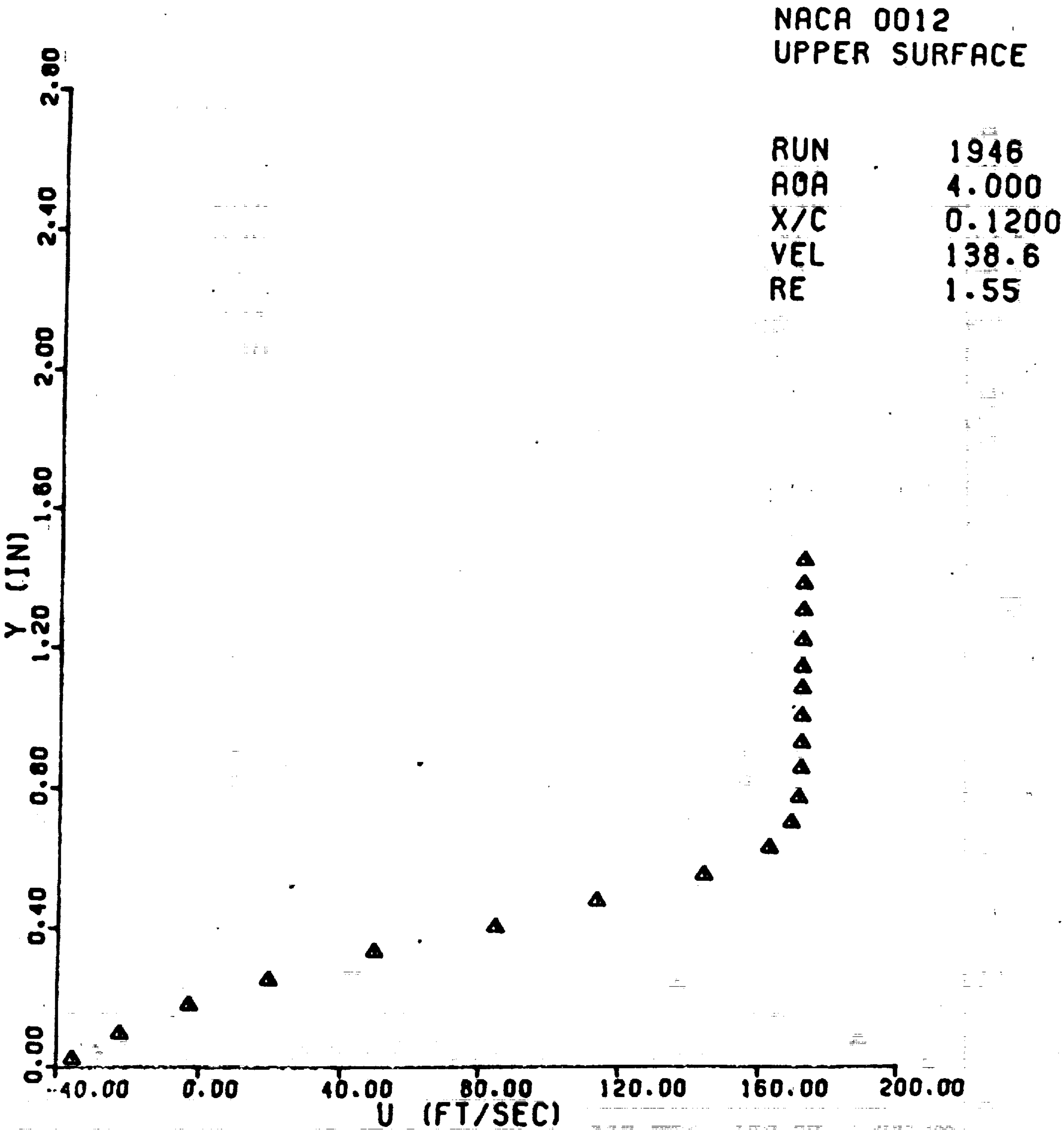
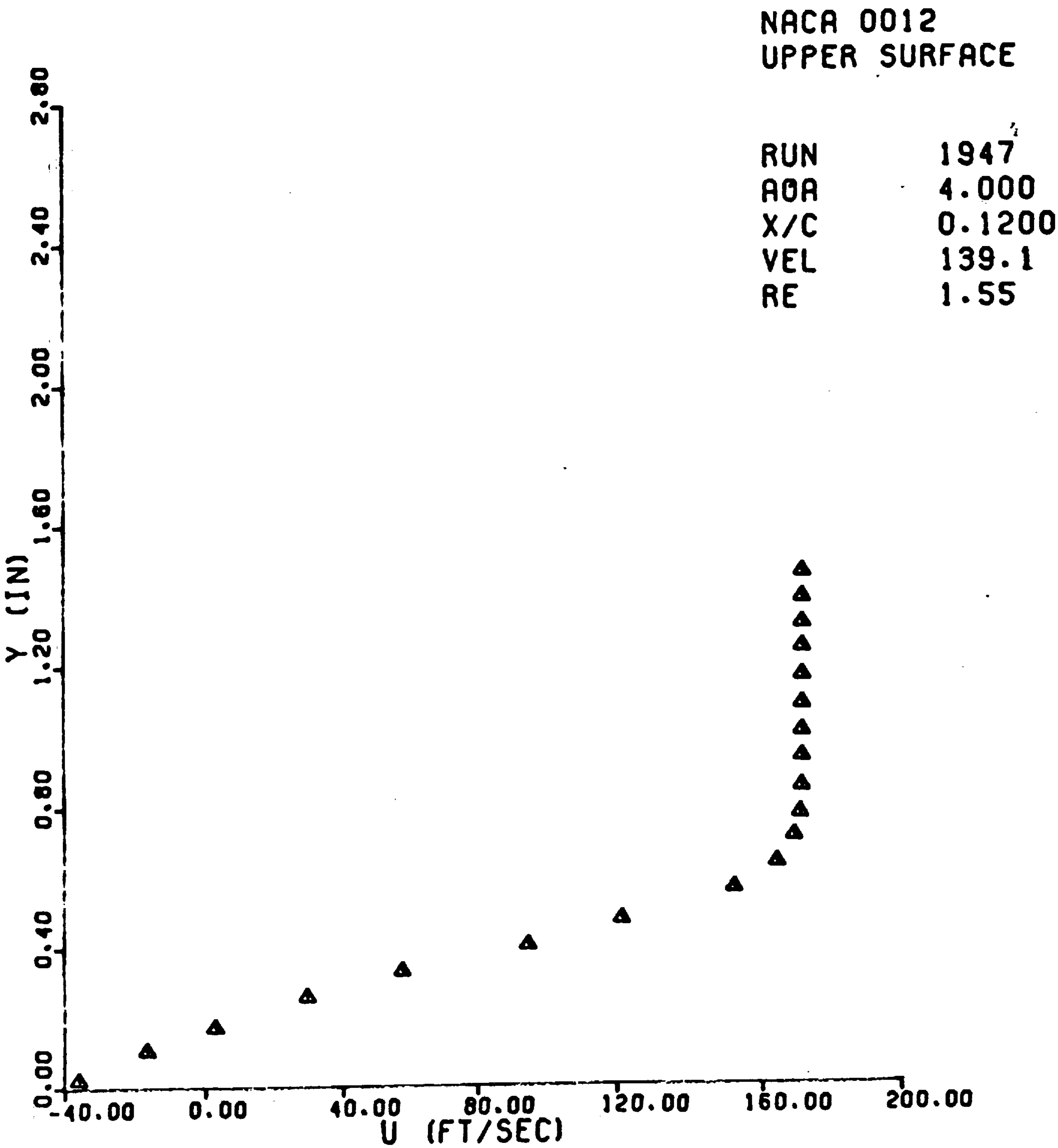
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

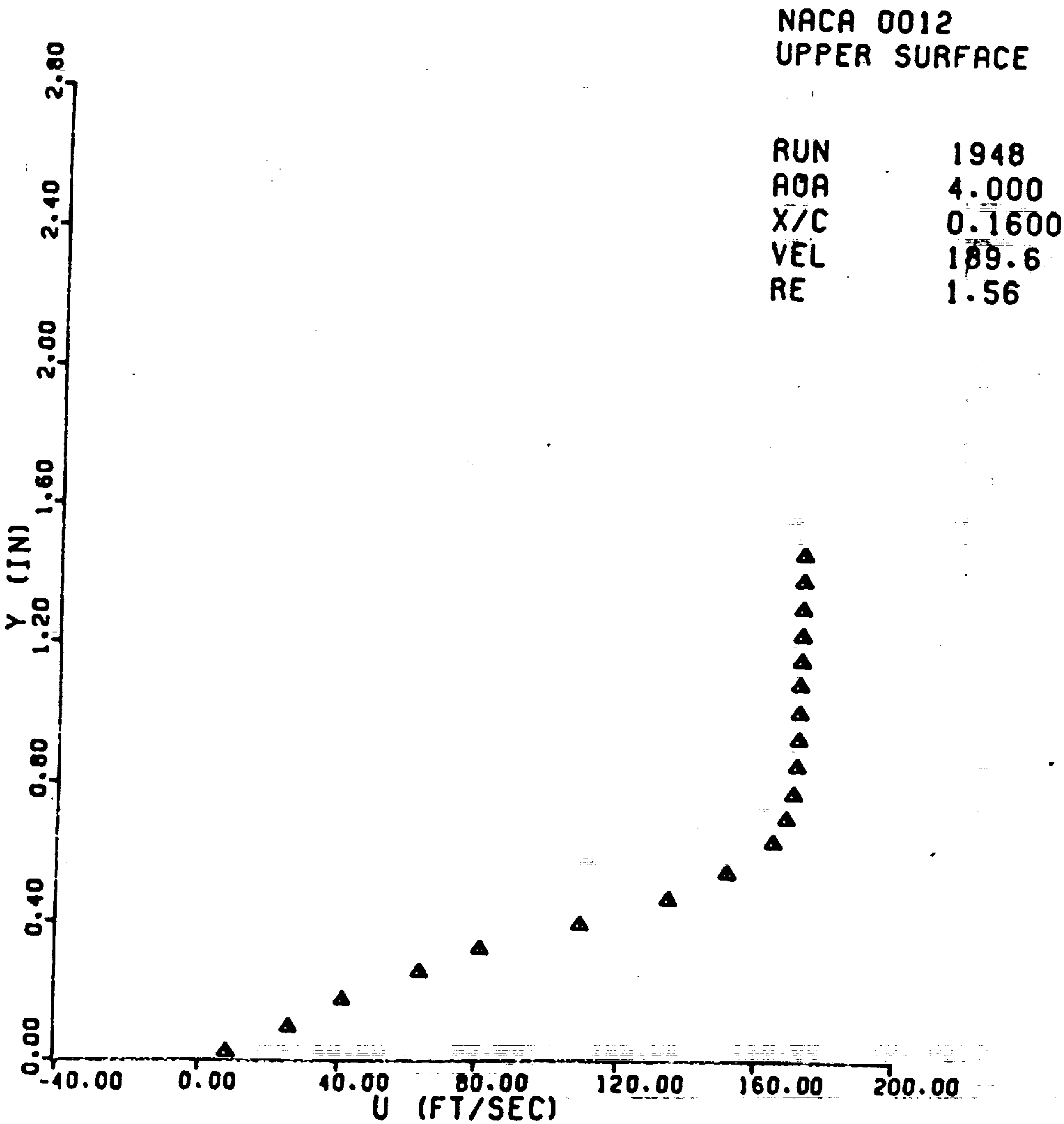


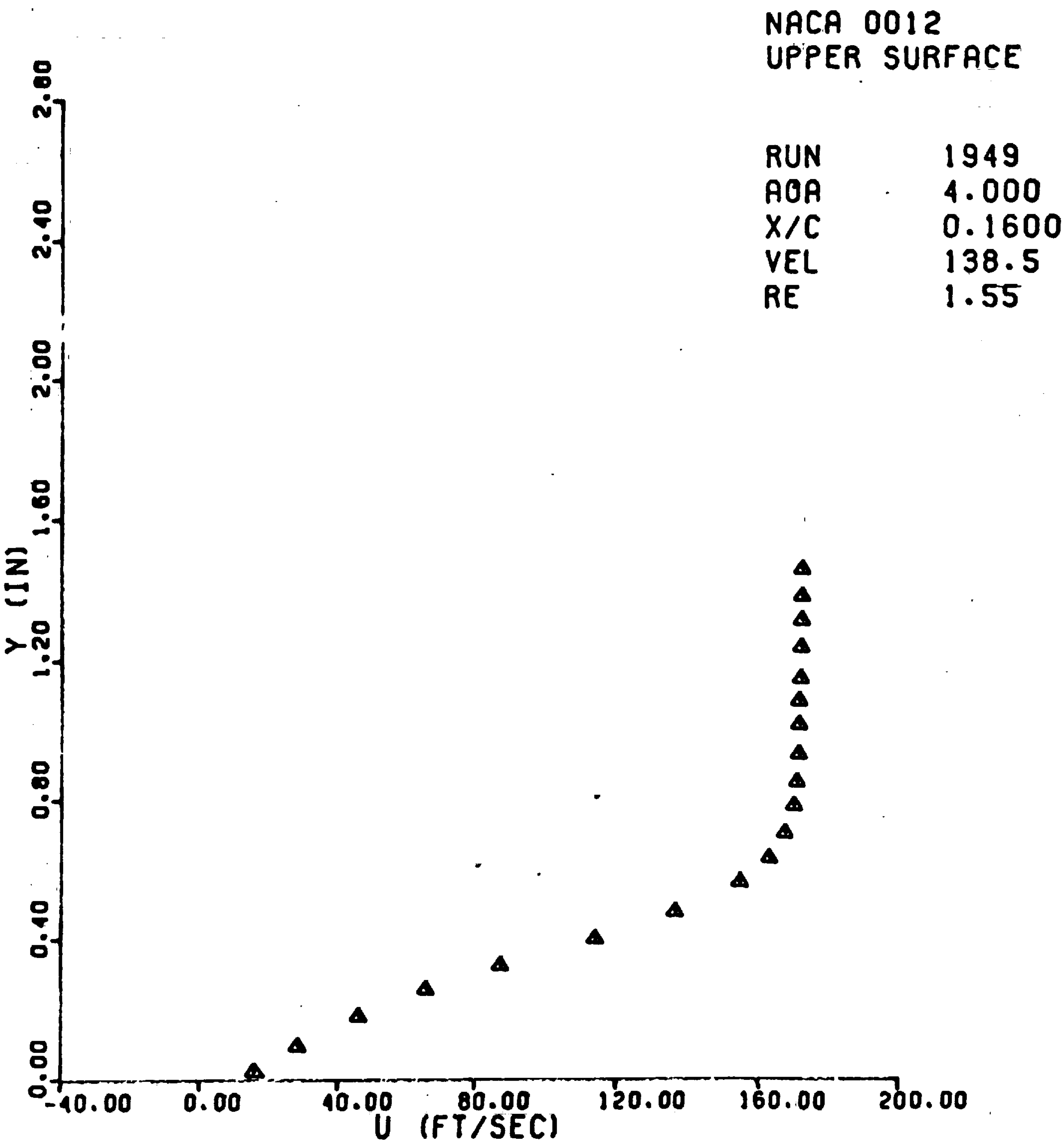
NACA 0012
UPPER SURFACE
RUN 1944
AOA 4.000
X/C 0.0800
VEL 138.9
RE 1.55
Y (IN)
U (FT/SEC)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00

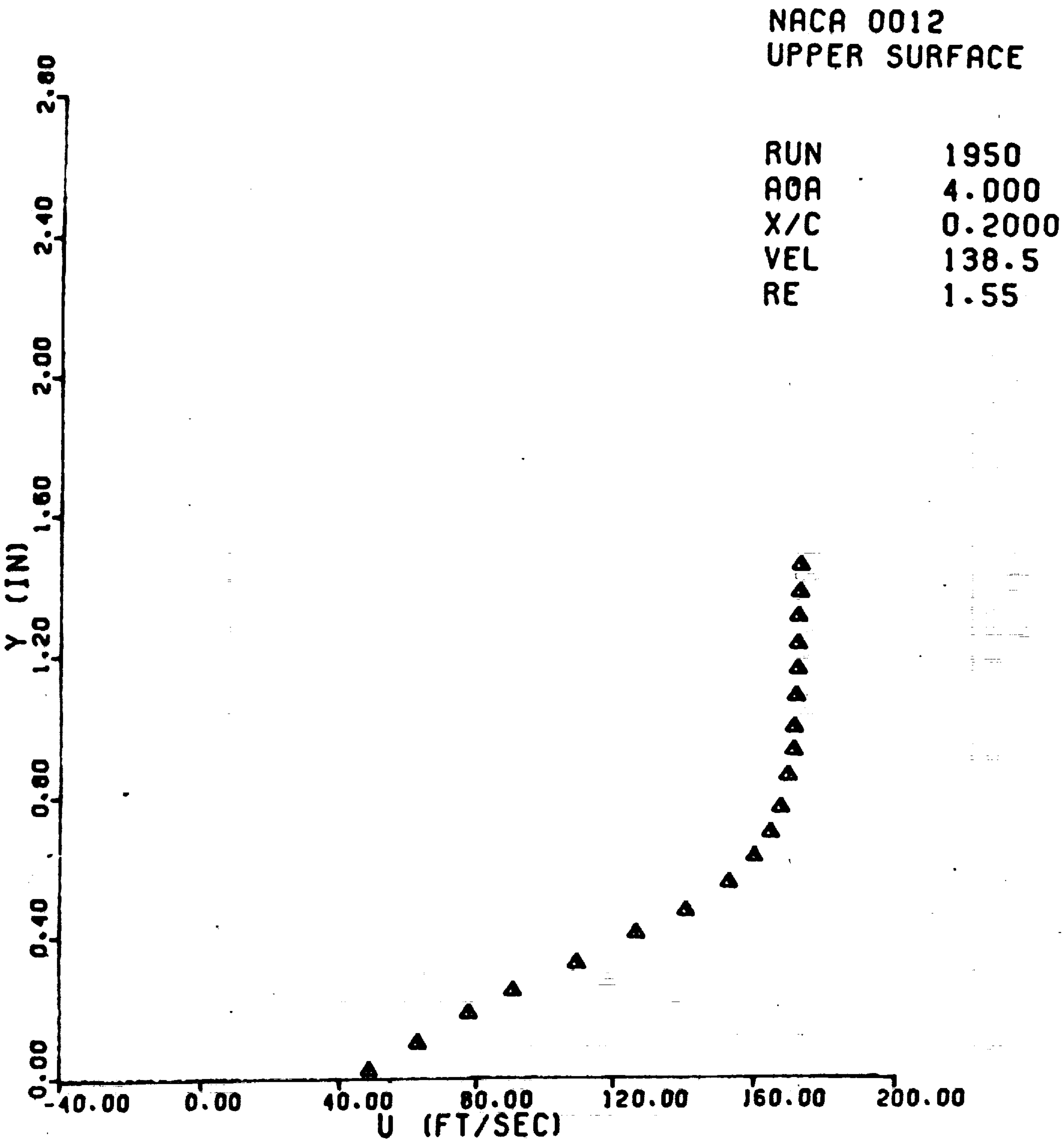


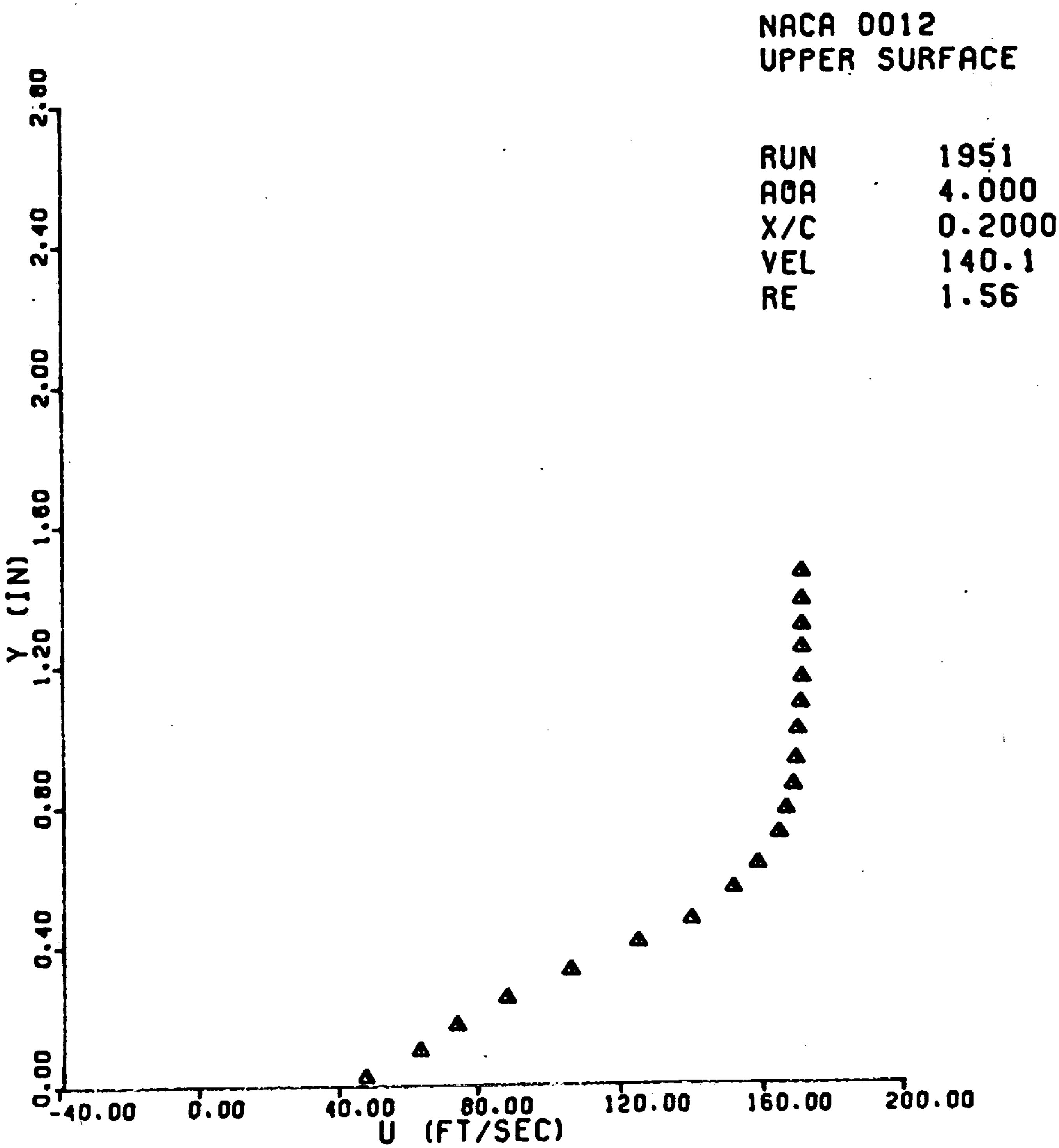
NACA 0012
UPPER SURFACE
RUN 1946
AOA 4.000
X/C 0.1200
VEL 138.6
RE 1.55
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

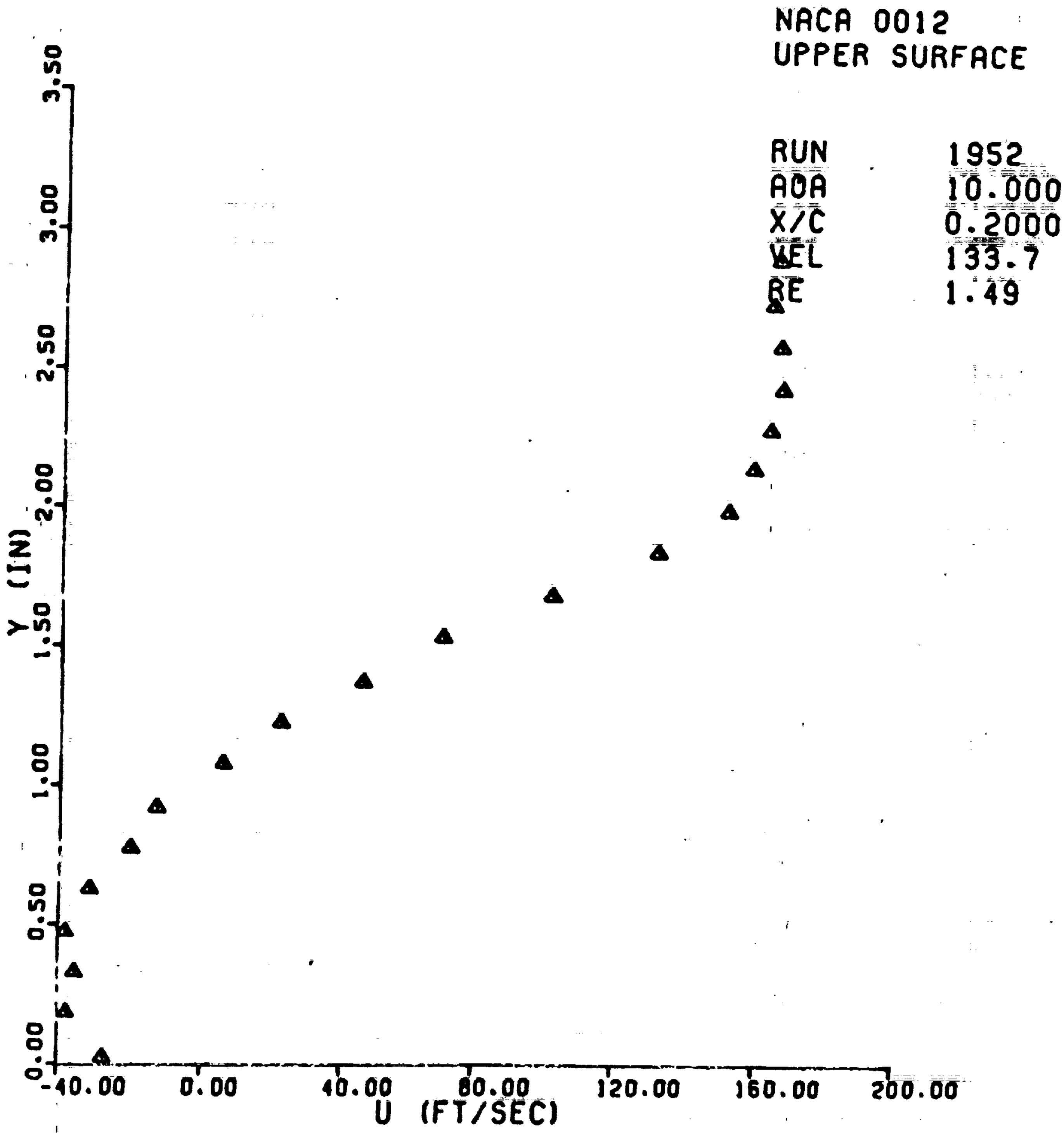

NACA 0012
UPPER SURFACE
RUN 1947
AOA 4.000
X/C 0.1200
VEL 139.1
RE 1.55
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

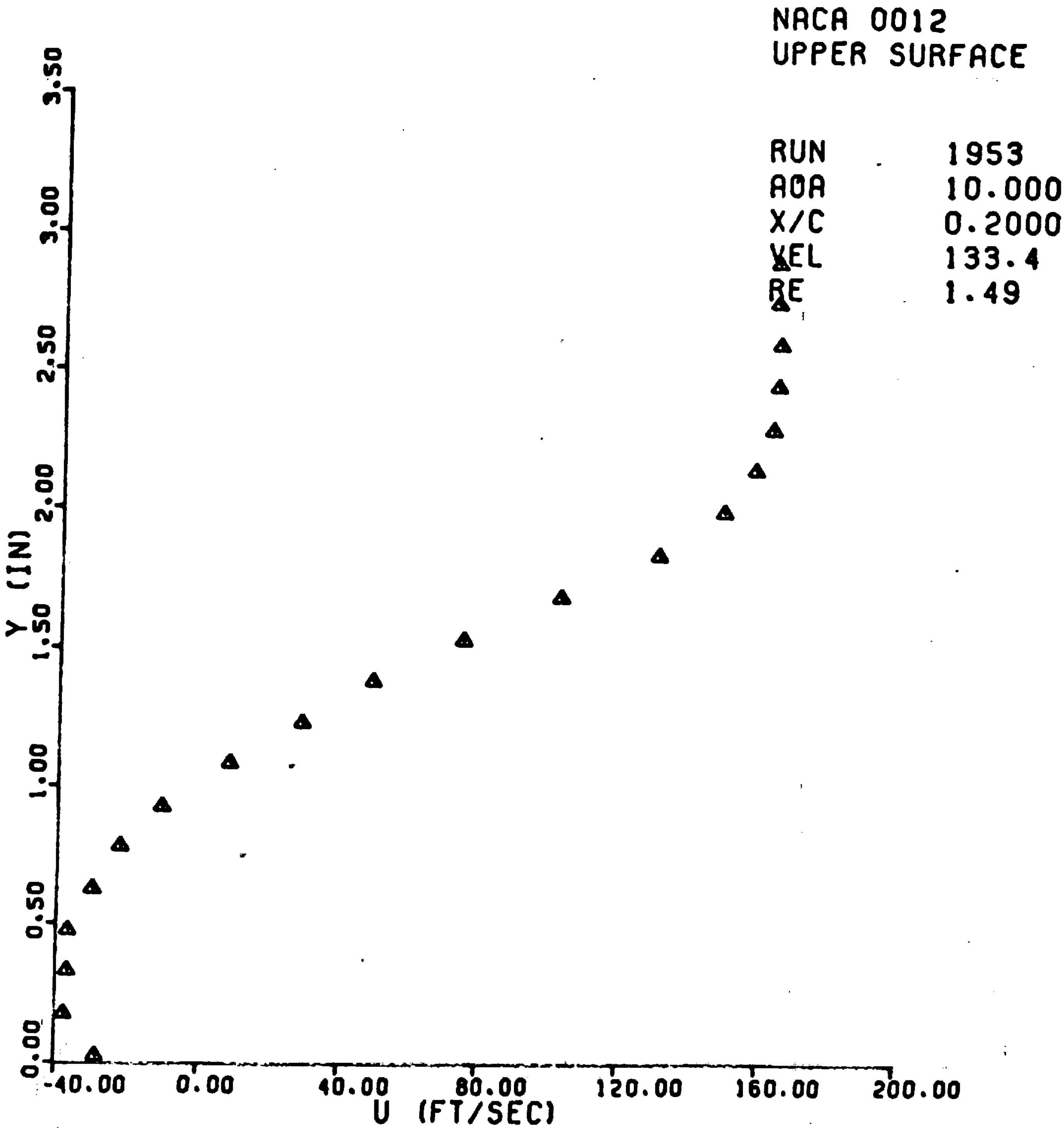

NACA 0012
UPPER SURFACE
RUN 1948
AOA 4.000
X/C 0.1600
VEL 189.6
RE 1.56
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

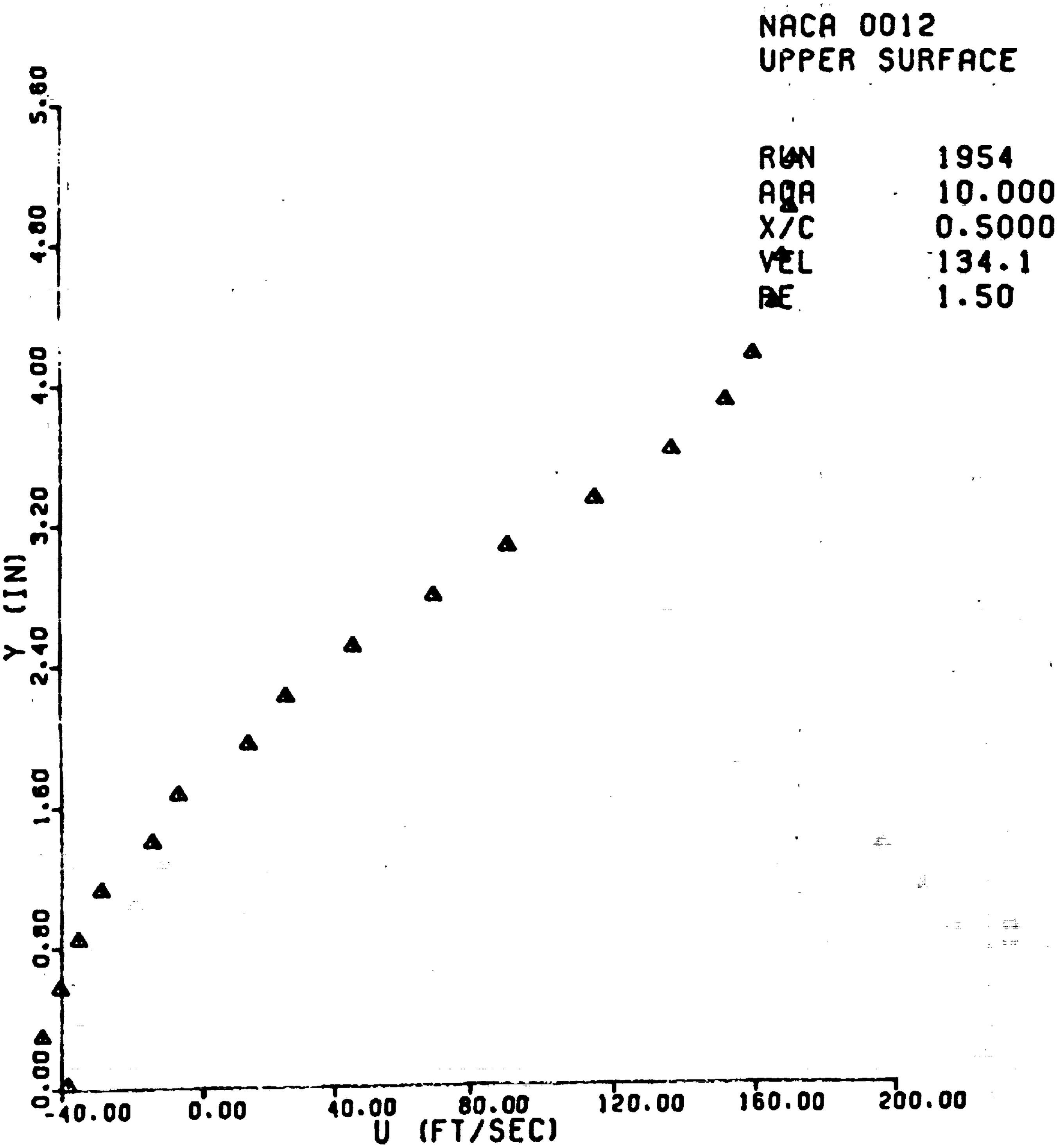

NACA 0012
UPPER SURFACE
RUN 1949
AOA 4.000
X/C 0.1600
VEL 138.5
RE 1.55
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)

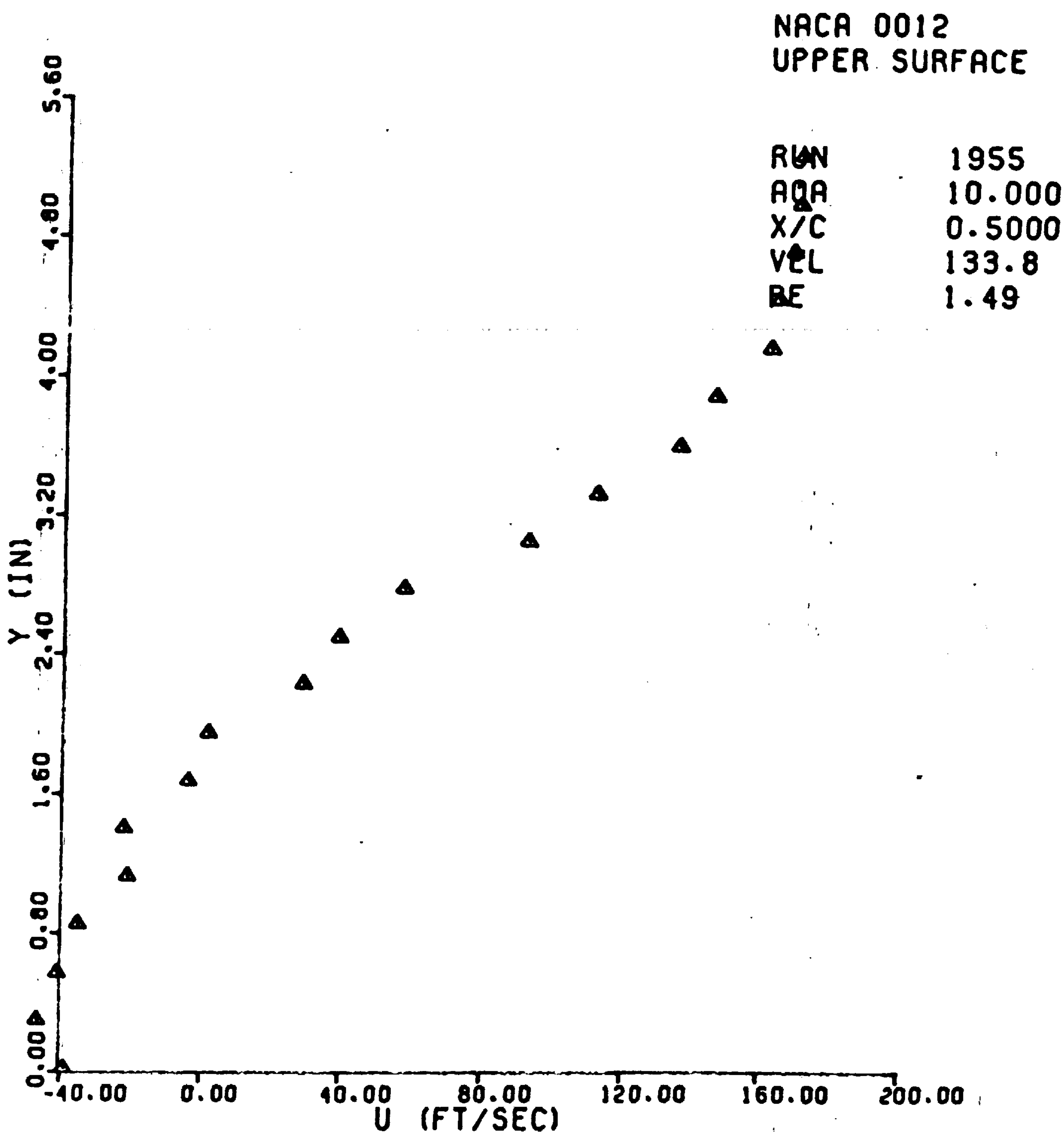

NACA 0012
UPPER SURFACE
RUN 1950
AOA 4.000
X/C 0.2000
VEL 138.5
RE 1.55
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1951
AOA 4.000
X/C 0.2000
VEL 140.1
RE 1.56
Y (IN)
0.00
0.40
0.80
1.20
1.60
2.00
2.40
2.80
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1952
AOA 10.000
X/C 0.2000
VEL 133.7
RE 1.49
Y (IN)
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1953
AOA 10.000
X/C 0.2000
VEL 133.4
RE 1.49
Y (IN)
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)


NACA 0012
UPPER SURFACE
RUN 1954
AOA 10.000
X/C 0.5000
VEL 134.1
RE 1.50
Y (IN)
0.00
0.80
1.60
2.40
3.20
4.00
4.80
5.60
-40.00
0.00
40.00
80.00
120.00
160.00
200.00
U (FT/SEC)



NACA 0012
UPPER SURFACE
RUN 1955
AOA 10.000
X/C 0.5000
VEL 133.8
RE 1.49
Y (IN)
0.00
0.80
1.60
2.40
3.20
4.00
4.80
5.60
U (FT/SEC)
-40.00
0.00
40.00
80.00
120.00
160.00
200.00

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2. Berkowitz, B., private communication, Cleveland, Ohio, August 28, 1987.

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5. Spring, S.A., "An Experimental Mapping of the Flow Field Behind a Glaze Ice Shape on a NACA 0012 Airfoil", M.S. thesis, Ohio State University, June 1987 or NASA CR 180847, January 1988..

6. Khodadoust, A., "A Flow Visualization Study of the Leading Edge Separation Bubble on a NACA 0012 Airfoil with Simulated Glaze Ice", M.S. thesis, Ohio State University, June 1987 or NASA CR 180846, January 1988.

7. Rae, W.H., Jr. and Pope, A., "Low-Speed Wind Tunnel Testing, 2nd ed., John Wiley and Sons, New York, 1984.

APPENDIX A:

LEWICE GENERATED ICE SHAPE DATA

TABLE A-1 NACA 0012 WITH LEWICE GENERATED ICE SHAPE

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
1	-0.0397258	0.0209887	-0.0397258	0.0209887
2	-0.0395021	0.0219327	-0.0394368	0.0187739
3	-0.0392784	0.0228768	-0.0391477	0.0165590
4	-0.0371860	0.0264358	-0.0384261	0.0144708
5	-0.0361336	0.0281729	-0.0377044	0.0123827
6	-0.0349663	0.0297330	-0.0370520	0.0118487
7	-0.0337991	0.0312931	-0.0363997	0.0113148
8	-0.0318727	0.0327903	-0.0358748	0.0109145
9	-0.0299463	0.0342875	-0.0353499	0.0105142
10	-0.0260944	0.0362561	-0.0353385	0.0107334
11	-0.0243584	0.0366475	-0.0354435	0.0109035
12	-0.0226224	0.0370390	-0.0350549	0.0104569
13	-0.0210185	0.0361053	-0.0346663	0.0100104
14	-0.0194146	0.0351717	-0.0342506	0.0097410
15	-0.0176209	0.0332288	-0.0338380	0.0094130
16	-0.0158271	0.0312859	-0.0331251	0.0085507
17	-0.0132960	0.0296543	-0.0326558	0.0080585
18	-0.0113360	0.0302507	-0.0321865	0.0075664
19	-0.0093761	0.0308472	-0.0318099	0.0075295
20	-0.0084920	0.0294908	-0.0318234	0.0075901
21	-0.0076084	0.0281344	-0.0313443	0.0067959
22	-0.0067246	0.0267780	-0.0311566	0.0065360
23	-0.0058408	0.0254216	-0.0309690	0.0062762
24	-0.0012267	0.0205534	-0.0306249	0.0058211
25	0.0027277	0.0202355	-0.0304601	0.0056235
26	0.0058190	0.0192381	-0.0302954	0.0054260
27	0.0084181	0.0190704	-0.0300480	0.0051661
28	0.0150000	0.0207970	-0.0297849	0.0048846
29	0.0200000	0.0237260	-0.0294323	0.0045890
30	0.0250000	0.0262300	-0.0290796	0.0042935
31	0.0300000	0.0284620	-0.0288989	0.0040803

TABLE A-1 (Cont.)

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
32	0.0350000	0.0304960	-0.0287181	0.0038671
33	0.0400000	0.0323620	-0.0278992	0.0036483
34	0.0450000	0.0340820	-0.0270803	0.0034296
35	0.0500000	0.0356740	-0.0274596	0.0032822
36	0.0600000	0.0385350	-0.0278388	0.0031348
37	0.0699999	0.0410380	-0.0273462	0.0025971
38	0.0799999	0.0432520	-0.0268727	0.0021552
39	0.0899999	0.0452280	-0.0263840	0.0017444
40	0.0999998	0.0470040	-0.0260379	0.0014901
41	0.1249999	0.0507320	-0.0258168	0.0012597
42	0.1499999	0.0536360	-0.0253123	0.0008046
43	0.1749998	0.0558790	-0.0248285	0.0004446
44	0.1999999	0.0575700	-0.0245602	0.0002429
45	0.2249998	0.0587940	-0.0242336	-0.0000399
46	0.2499999	0.0596120	-0.0237143	-0.0004378
47	0.2749999	0.0600760	-0.0228825	-0.0009938
48	0.2999998	0.0602260	-0.0222731	-0.0013331
49	0.3249999	0.0600940	-0.0214813	-0.0019043
50	0.3499998	0.0597070	-0.0209003	-0.0022729
51	0.3749999	0.0590900	-0.0200925	-0.0026773
52	0.3999999	0.0582620	-0.0192844	-0.0029136
53	0.4249998	0.0572430	-0.0187588	-0.0031224
54	0.4499999	0.0560510	-0.0187727	-0.0034259
55	0.4749998	0.0546980	-0.0167400	-0.0044982
56	0.4999999	0.0531980	-0.0151551	-0.0057894
57	0.5249999	0.0515600	-0.0135177	-0.0075600
58	0.5499999	0.0497930	-0.0128491	-0.0081216
59	0.5749999	0.0479060	-0.0122501	-0.0085348
60	0.5999998	0.0459040	-0.0116415	-0.0088872
61	0.6249999	0.0437950	-0.0114056	-0.0090624
62	0.6499999	0.0415850	-0.0113411	-0.0091992
63	0.6749999	0.0392810	-0.0108557	-0.0096547
64	0.6999999	0.0368870	-0.0104663	-0.0100318

TABLE A-1 (Cont.)

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
65	0.7249998	0.0344110	-0.0102387	-0.0102853
66	0.7499999	0.0318550	-0.0100506	-0.0105385
67	0.7749999	0.0292210	-0.0097993	-0.0108486
68	0.7999999	0.0265150	-0.0095997	-0.0111196
69	0.8249999	0.0237390	-0.0094684	-0.0113200
70	0.8499998	0.0208880	-0.0093277	-0.0115877
71	0.8749999	0.0179530	-0.0088601	-0.0121522
72	0.8999999	0.0149080	-0.0085053	-0.0125218
73	0.9249999	0.0117000	-0.0080397	-0.0130707
74	0.9499999	0.0082510	-0.0071573	-0.0138387
75	0.9699998	0.0052390	-0.0067184	-0.0142036
76	0.9799999	0.0036110	-0.0065683	-0.0144199
77	0.9899997	0.0018740	-0.0066512	-0.0143157
78	1.0000000	0.0000000	-0.0067529	-0.0146004
79			-0.0056217	-0.0170565
80			-0.0050705	-0.0189836
81			-0.0039896	-0.0227000
82			-0.0032762	-0.0251463
83			-0.0024487	-0.0282429
84			0.0031550	-0.0357178
85			0.0096623	-0.0410241
86			0.0163364	-0.0445028
87			0.0225710	-0.0467179
88			0.0282904	-0.0487042
89			0.0343906	-0.0506315
90			0.0410188	-0.0502881
91			0.0470315	-0.0477098
92			0.0578462	-0.0466736
93			0.0687209	-0.0471658
94			0.0793683	-0.0467616
95			0.0898905	-0.0457813
96			0.0999998	-0.0470040
97			0.1249999	-0.0507320

TABLE A-1 (Cont.)

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
98			0.1499999	-0.0536360
99			0.1749998	-0.0558790
100			0.1999999	-0.0575700
101			0.2249998	-0.0587940
102			0.2499999	-0.0596120
103			0.2749999	-0.0600760
104			0.2999998	-0.0602260
105			0.3249999	-0.0600940
106			0.3499998	-0.0597070
107			0.3749999	-0.0590900
108			0.3999999	-0.0582620
109			0.4249998	-0.0572430
110			0.4499999	-0.0560510
111			0.4749998	-0.0546980
112			0.4999999	-0.0531980
113			0.5249999	-0.0515600
114			0.5499999	-0.0497930
115			0.5749999	-0.0479060
116			0.5999998	-0.0459040
117			0.6249999	-0.0437950
118			0.6499999	-0.0415850
119			0.6749999	-0.0392810
120			0.6999999	-0.0368870
121			0.7249998	-0.0344110
122			0.7499999	-0.0318550
123			0.7749999	-0.0292210
124			0.7999999	-0.0265150
125			0.8249999	-0.0237390
126			0.8499998	-0.0208880
127			0.8749999	-0.0179530
128			0.8999999	-0.0149080
129			0.9249999	-0.0117000
130			0.9499999	-0.0082510

TABLE A-1 (Cont.)

No.	X_{upper}	Y_{upper}	X_{lower}	Y_{lower}
131			0.9699998	-0.0052390
132			0.9799999	-0.0036110
133			0.9899998	-0.0018740
134			1.0000000	0.0000000

NACA 0012 MODEL - LEWICE GENERATED ICE SHAPE

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1714	0.00	-0.01	-0.023	-0.022	------	------	------	0.0002	0.132	1.622
1715	0.00	-0.01	-0.029	-0.028	0.0227	0.0221	-.0007	-.0009	0.132	1.624
1716	1.00	1.03	0.087	0.083	0.0238	0.0232	0.0061	0.0066	0.132	1.625
1717	2.00	2.07	0.200	0.191	0.0262	0.0255	0.0136	0.0148	0.132	1.616
1718	3.00	3.11	0.304	0.289	0.0311	0.0302	0.0203	0.0221	0.131	1.604
1719	4.00	4.15	0.425	0.403	0.0414	0.0402	0.0275	0.0299	0.131	1.608
1720	5.00	5.18	0.530	0.501	0.0552	0.0534	0.0323	0.0353	0.129	1.591
1721	5.00	5.18	0.530	0.501	0.0544	0.0527	0.0298	0.0328	0.131	1.605
1722	6.00	6.19	0.604	0.569	0.0781	0.0752	0.0231	0.0267	0.129	1.589
1723	7.00	7.17	0.659	0.616	0.1100	0.1053	-.0097	-.0047	0.129	1.583
1724	7.00	7.17	0.671	0.626	0.1176	0.1124	-.0090	-.0040	0.128	1.592
1725	8.00	8.13	0.653	0.606	0.1453	0.1381	-.0444	-.0380	0.127	1.587
1726	9.00	9.11	0.635	0.587	0.1602	0.1518	-.0583	-.0513	0.126	1.566
1727	10.00	10.11	0.650	0.598	0.1852	0.1747	-.0657	-.0579	0.126	1.566
1728	8.00	8.16	0.687	0.638	0.1385	0.1318	-.0299	-.0239	0.126	1.577
1729	6.00	6.19	0.601	0.566	0.0728	0.0702	0.0235	0.0271	0.130	1.614
1730	0.00	-0.01	-0.026	-0.025	0.0215	0.0209	0.0007	0.0005	0.131	1.636
1731	-1.00	-1.04	-0.135	-0.128	0.0236	0.0230	-.0057	-.0066	0.132	1.650
1732	-2.00	-2.07	-0.229	-0.217	0.0248	0.0241	-.0084	-.0099	0.131	1.630
1733	-3.00	-3.11	-0.350	-0.333	0.0267	0.0260	-.0123	-.0146	0.132	1.637
1734	-4.00	-4.15	-0.472	-0.449	0.0252	0.0245	-.0164	-.0194	0.133	1.650
1735	-5.00	-5.19	-0.590	-0.561	0.0275	0.0268	-.0230	-.0267	0.132	1.638
1736	-6.00	-6.21	-0.681	-0.647	0.0300	0.0292	-.0241	-.0285	0.132	1.635
1737	-7.00	-7.25	-0.794	-0.754	0.0339	0.0329	-.0266	-.0317	0.132	1.636
1738	-8.00	-8.27	-0.870	-0.825	0.0401	0.0389	-.0290	-.0345	0.132	1.636
1739	-9.00	-9.29	-0.957	-0.906	0.0501	0.0485	-.0301	-.0362	0.131	1.628
1740	-10.00	-10.31	-1.019	-0.962	0.0628	0.0607	-.0291	-.0355	0.131	1.628
1741	-8.00	-8.27	-0.876	-0.830	0.0404	0.0392	-.0290	-.0346	0.131	1.624
1742	-6.00	-6.21	-0.683	-0.649	0.0287	0.0279	-.0235	-.0279	0.132	1.642
1743	-4.00	-4.14	-0.462	-0.439	0.0250	0.0243	-.0166	-.0196	0.131	1.630
1744	-2.00	-2.08	-0.245	-0.233	0.0227	0.0221	-.0083	-.0099	0.132	1.641
1745	-2.00	-2.07	-0.236	-0.225	0.0244	0.0238	-.0081	-.0096	0.132	1.636

NACA 0012 MODEL - LEWICE GENERATED ICE SHAPE, 36 GRIT ROUGHNESS

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1746	-2.34	-2.43	-0.289	-0.275	0.0306	0.0298	-.0129	-.0147	0.131	1.609
1747	-1.34	-1.40	-0.176	-0.167	0.0267	0.0260	-.0078	-.0089	0.130	1.594
1748	-0.34	-0.36	-0.071	-0.068	0.0263	0.0256	-.0021	-.0026	0.132	1.622
1749	0.66	0.67	0.035	0.034	0.0265	0.0258	0.0035	0.0037	0.131	1.608

NACA 0012 MODEL - LEWICE GENERATED ICE SHAPE, 36 GRIT ROUGHNESS

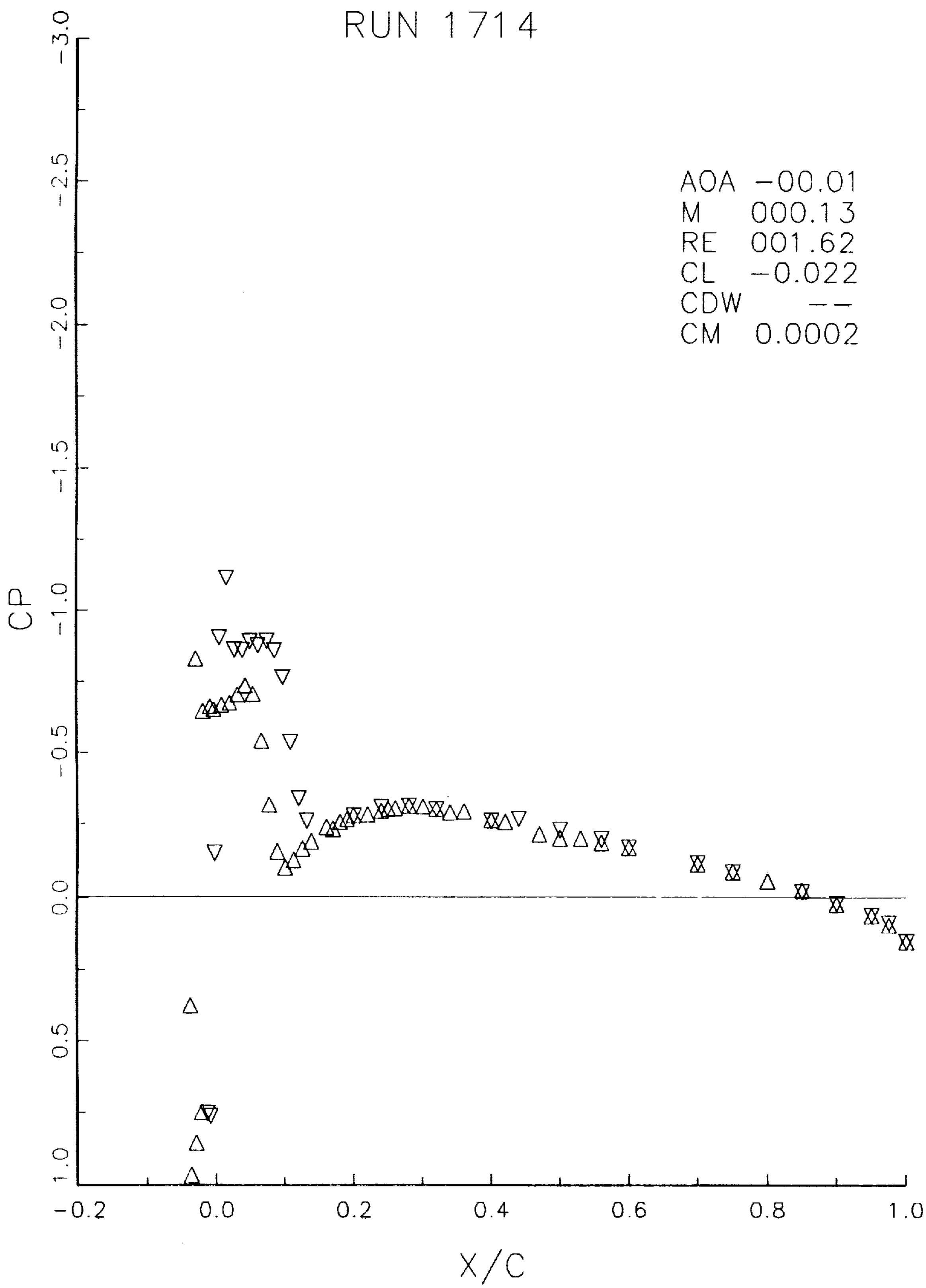
RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1750	1.66	1.72	0.157	0.149	0.0282	0.0274	0.0112	0.0121	0.131	1.610
1751	2.66	2.76	0.278	0.264	0.0316	0.0307	0.0188	0.0204	0.131	1.603
1752	3.66	3.79	0.371	0.352	0.0373	0.0362	0.0253	0.0274	0.132	1.615
1753	4.66	4.83	0.474	0.449	0.0454	0.0440	0.0331	0.0357	0.131	1.603
1754	5.66	5.85	0.569	0.536	0.0646	0.0624	0.0320	0.0352	0.130	1.596
1755	6.66	6.84	0.626	0.586	0.1015	0.0973	0.0043	0.0085	0.129	1.582
1756	7.66	7.80	0.638	0.594	0.1268	0.1210	-.0281	-.0226	0.128	1.572
1757	8.66	8.77	0.604	0.559	0.1511	0.1435	-.0512	-.0448	0.126	1.548
1758	9.66	9.75	0.547	0.505	0.1701	0.1609	-.0542	-.0479	0.126	1.544
1759	10.66	10.74	0.512	0.470	0.1936	0.1823	-.0560	-.0496	0.125	1.531
1760	9.66	9.75	0.530	0.489	0.1702	0.1610	-.0529	-.0468	0.126	1.568
1761	7.66	7.80	0.637	0.594	0.1235	0.1179	-.0295	-.0239	0.128	1.592
1762	5.66	5.85	0.558	0.526	0.0657	0.0635	0.0327	0.0358	0.131	1.625
1763	3.66	3.79	0.380	0.360	0.0373	0.0362	0.0262	0.0283	0.131	1.630
1764	1.66	1.72	0.160	0.152	0.0286	0.0278	0.0106	0.0115	0.132	1.645
1765	-0.34	-0.36	-0.070	-0.067	0.0256	0.0249	-.0032	-.0036	0.132	1.644
1766	-2.34	-2.43	-0.288	-0.273	0.0303	0.0295	-.0129	-.0147	0.132	1.643
1767	-2.34	-2.43	-0.279	-0.265	0.0314	0.0305	-.0086	-.0104	0.128	1.505
1768	-2.34	-2.43	-0.298	-0.283	0.0303	0.0295	-.0113	-.0132	0.128	1.512
1769	-3.34	-3.47	-0.406	-0.385	0.0367	0.0357	-.0160	-.0185	0.127	1.504
1770	-4.34	-4.50	-0.496	-0.470	0.0428	0.0415	-.0202	-.0233	0.127	1.503
1771	-5.34	-5.52	-0.570	-0.539	0.0531	0.0514	-.0233	-.0268	0.126	1.483
1772	-6.34	-6.53	-0.634	-0.597	0.0723	0.0697	-.0162	-.0202	0.125	1.479
1773	-7.34	-7.49	-0.660	-0.617	0.1108	0.1061	0.0260	0.0205	0.124	1.468
1774	-7.34	-7.50	-0.666	-0.621	0.1174	0.1122	0.0237	0.0182	0.126	1.483
1775	-8.34	-8.46	-0.639	-0.594	0.1401	0.1333	0.0474	0.0410	0.123	1.455
1776	-9.34	-9.43	-0.561	-0.519	0.1559	0.1479	0.0610	0.0544	0.123	1.462
1777	-7.34	-7.49	-0.659	-0.615	0.1161	0.1110	0.0230	0.0176	0.124	1.478
1778	-5.34	-5.52	-0.571	-0.540	0.0510	0.0494	-.0235	-.0270	0.127	1.519
1779	-3.34	-3.47	-0.389	-0.370	0.0345	0.0335	-.0170	-.0194	0.127	1.513
1780	-2.34	-2.43	-0.297	-0.282	0.0318	0.0309	-.0115	-.0134	0.128	1.531
1781	-3.34	-3.46	-0.386	-0.366	0.0352	0.0342	-.0176	-.0200	0.128	1.520

NACA 0012 MODEL - LEWICE GENERATED ICE SHAPE

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1782	-10.00	-10.31	-1.012	-0.956	0.0611	0.0591	-.0319	-.0382	0.128	1.559
1783	-11.00	-11.30	-1.012	-0.952	0.0795	0.0766	-.0202	-.0267	0.127	1.551
1784	-12.00	-12.29	-1.094	-1.026	0.0962	0.0924	0.0104	0.0024	0.125	1.523

NACA 0012 MODEL - LEWICE GENERATED ICE SHAPE

RUN	α_u (deg)	α (deg)	C_{l_u}	C_l	C_{d_u}	C_d	C_{m_u}	C_m	MACH	Re $x10^{-6}$
1785	-12.00	-12.29	-1.092	-1.015	0.1364	0.1299	0.0101	0.0021	0.127	1.544
1786	-13.00	-13.23	-1.021	-0.944	0.1634	0.1548	0.0415	0.0325	0.124	1.506
1787	-14.00	-14.21	-1.022	-0.939	0.1948	0.1834	0.0676	0.0571	0.122	1.489
1788	-12.00	-12.29	-1.090	-1.014	0.1328	0.1266	0.0052	-.0026	0.125	1.526
1789	-11.00	-11.32	-1.080	-1.032	------	------	-.0272	-.0345	0.129	1.568
1790	-11.00	-11.32	-1.079	-1.014	0.0824	0.0793	-.0266	-.0334	0.127	1.551


RUN 1714
AOA -00.01
M 000.13
RE 001.62
CL -0.022
CDW --
CM 0.0002
CP
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-2.0
-1.5
-1.0
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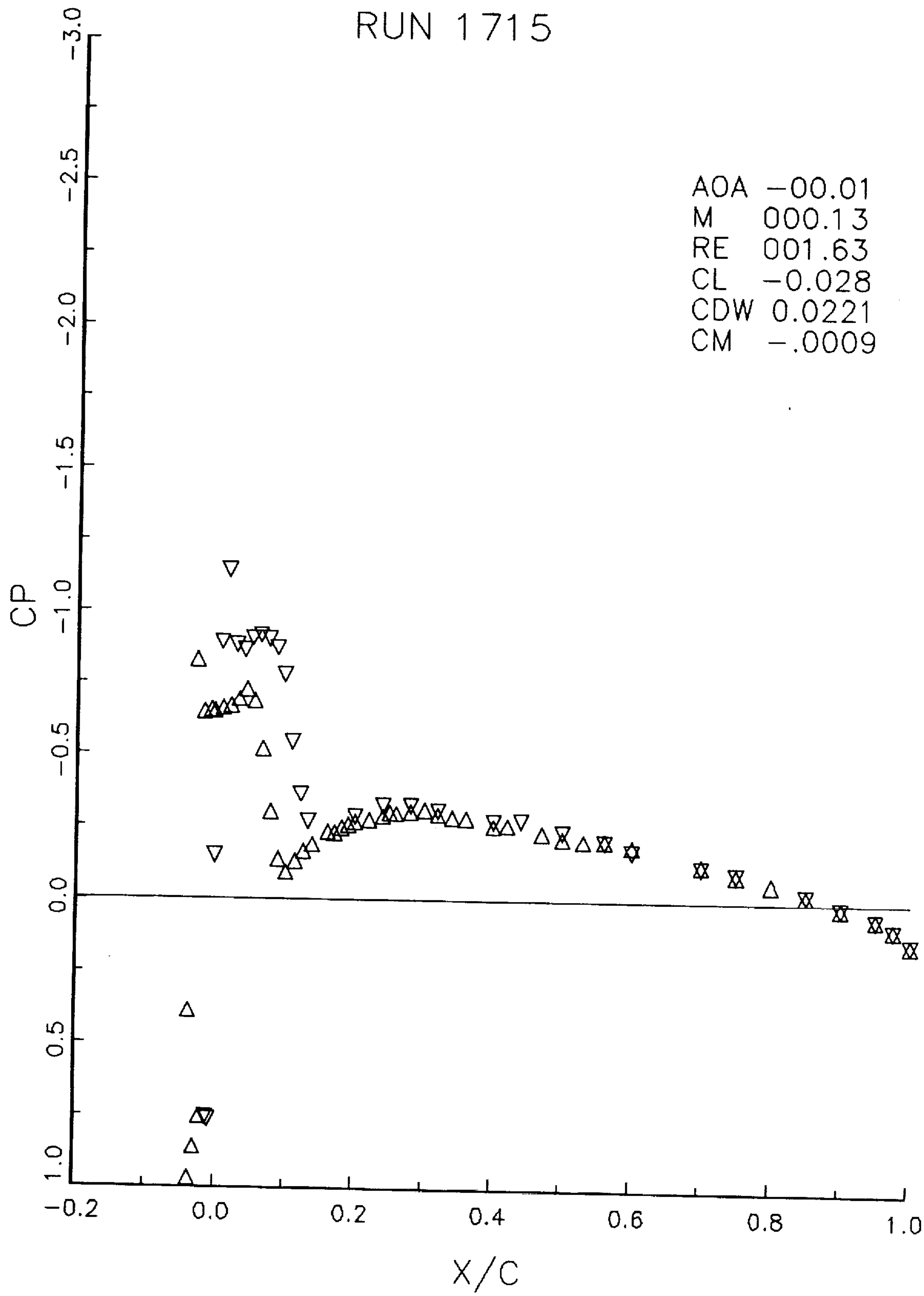
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1715
AOA -00.01
M 000.13
RE 001.63
CL -0.028
CDW 0.0221
CM -.0009
CP
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-1.5
-1.0
-0.5
0.0
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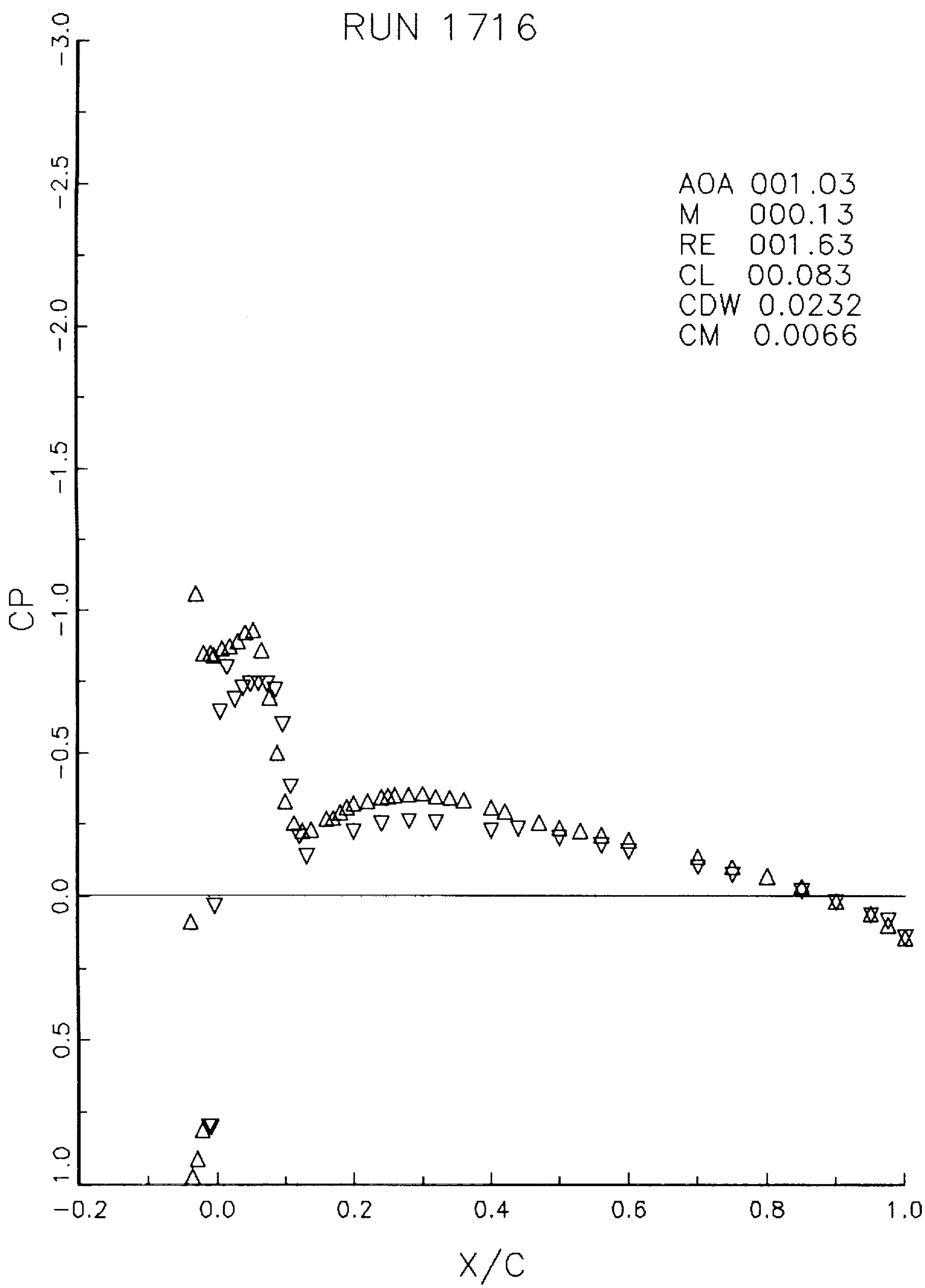
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C



RUN 1716
AOA 001.03
M 000.13
RE 001.63
CL 00.083
CDW 0.0232
CM 0.0066
CP
X/C
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-2.5
-2.0
-1.5
-1.0
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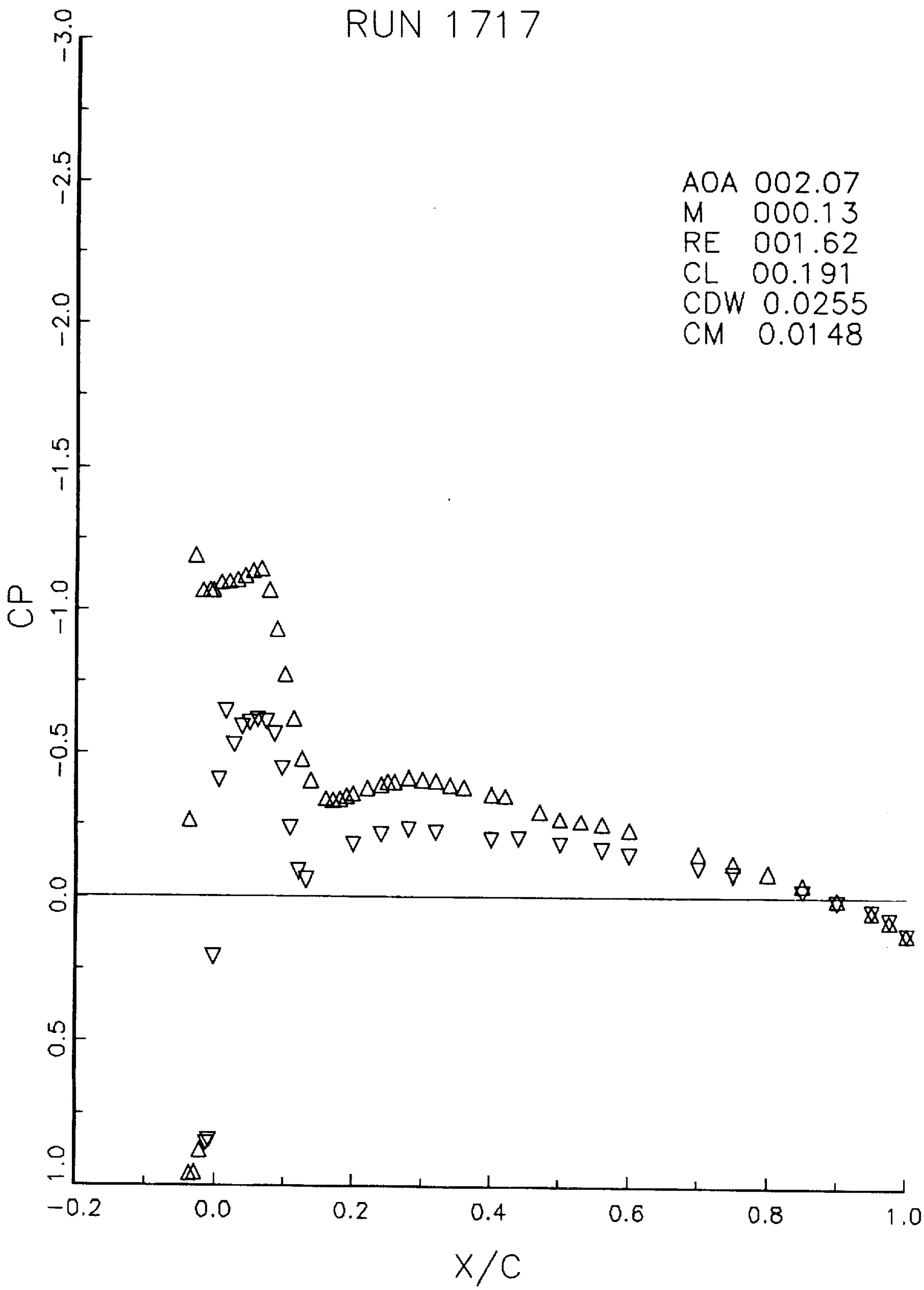
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1717
AOA 002.07
M 000.13
RE 001.62
CL 00.191
CDW 0.0255
CM 0.0148
CP
X/C
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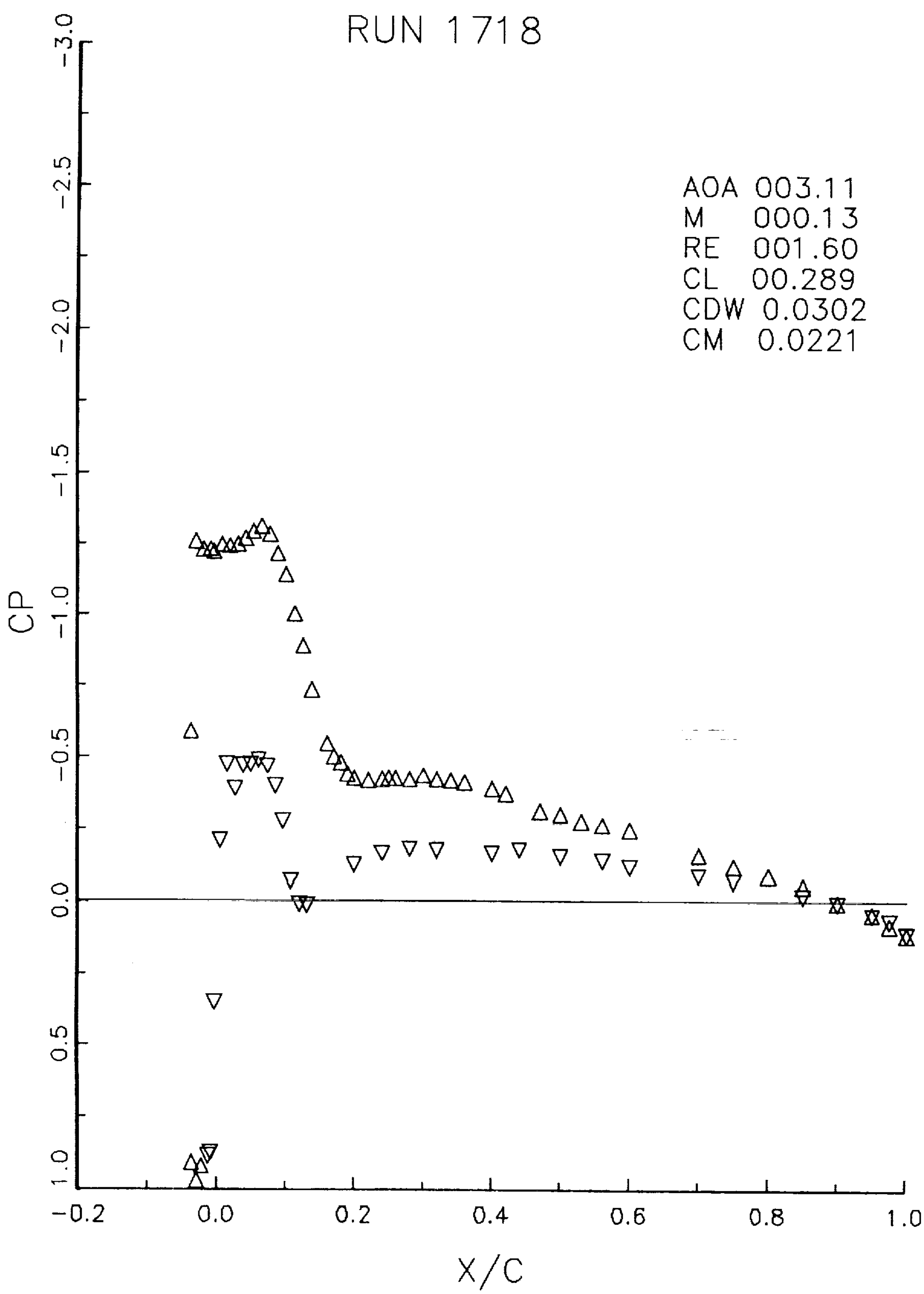

RUN 1718
AOA 003.11
M 000.13
RE 001.60
CL 00.289
CDW 0.0302
CM 0.0221
CP
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-1.0
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0.2
0.4
0.6
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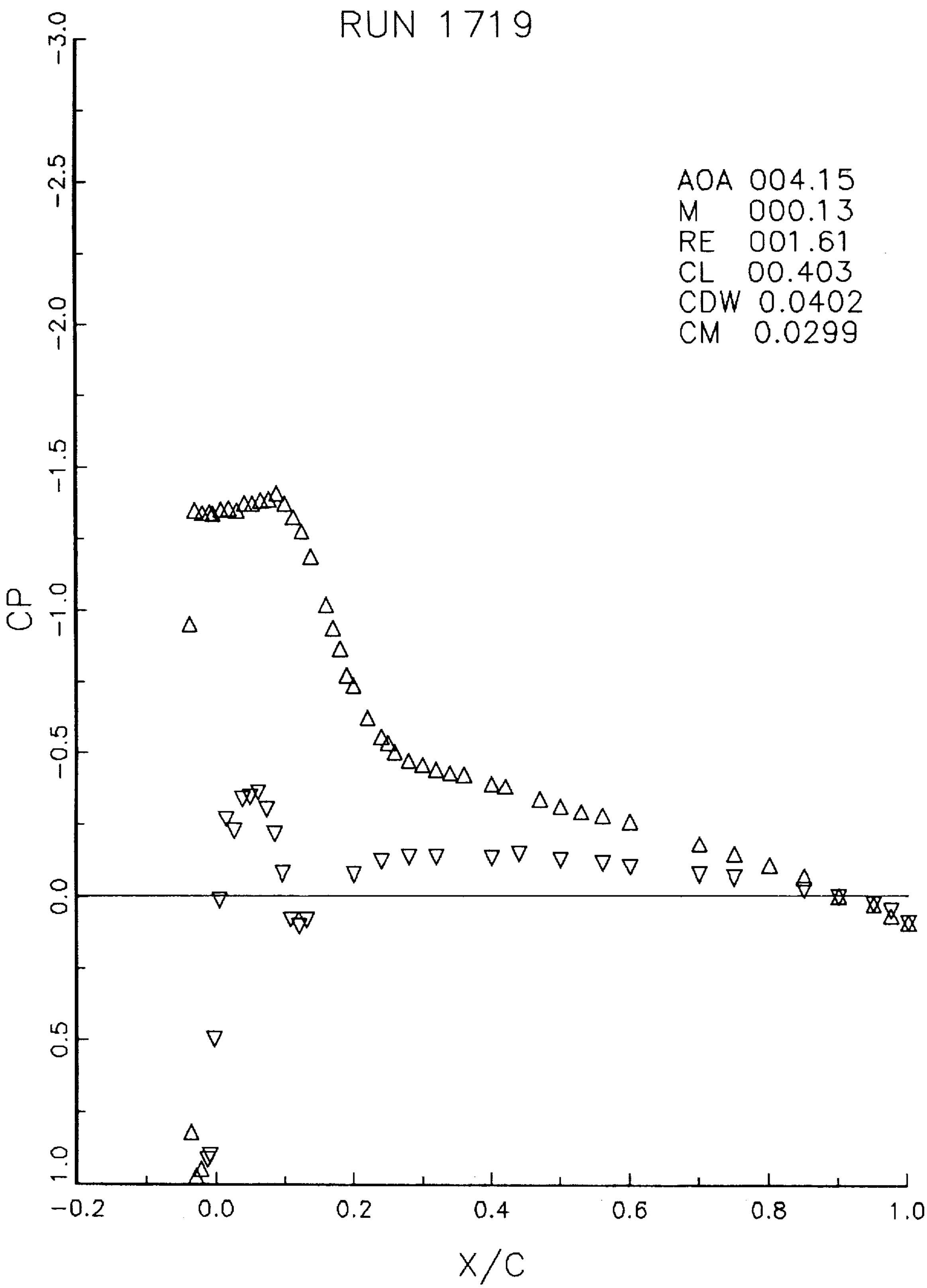
1.0
X/C



RUN 1719
AOA 004.15
M 000.13
RE 001.61
CL 00.403
CDW 0.0402
CM 0.0299
CP
X/C
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-2.0
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-0.2
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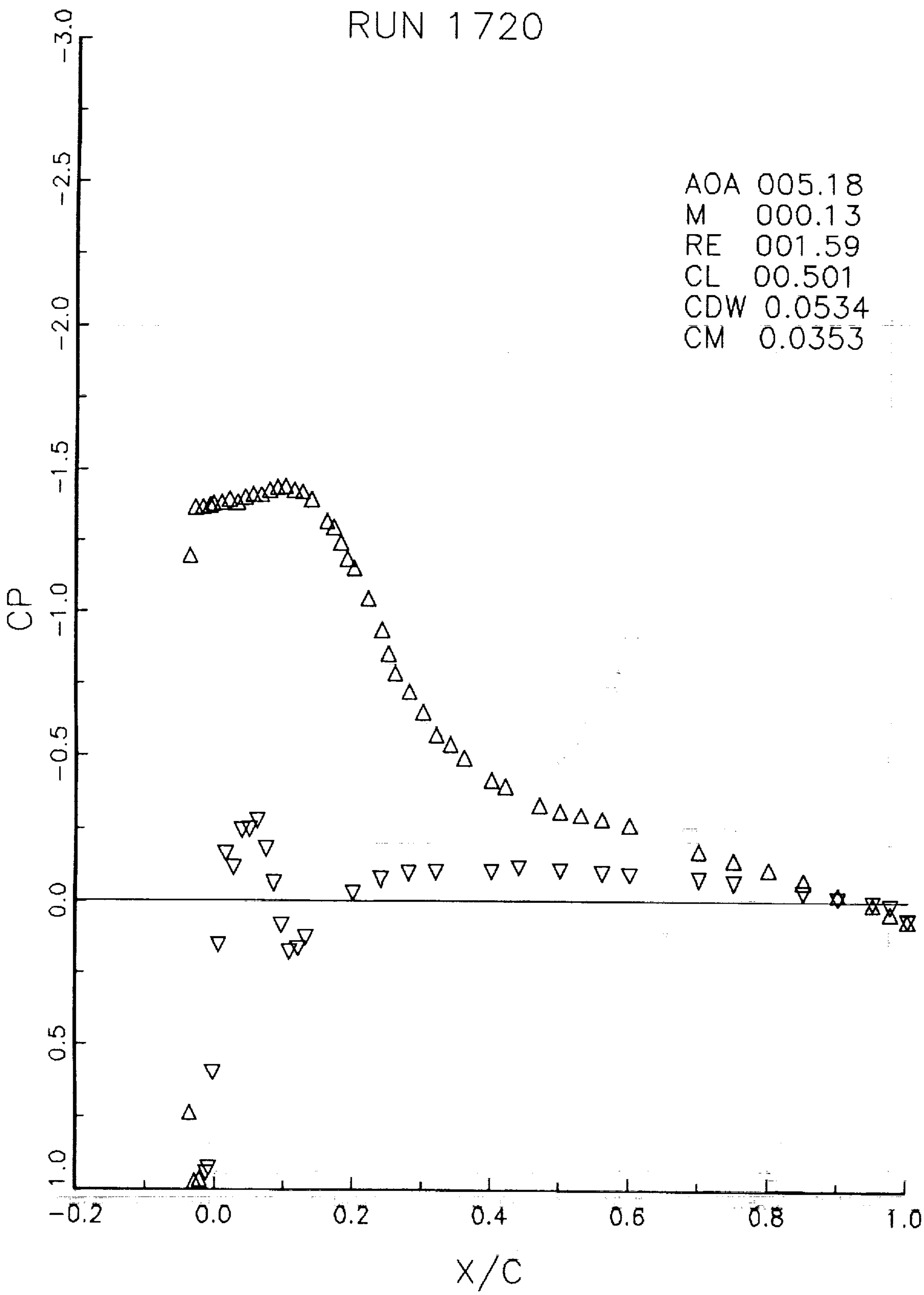
0.2
0.4
0.6
0.8
1.0


RUN 1720
AOA 005.18
M 000.13
RE 001.59
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CM 0.0353
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-1.0
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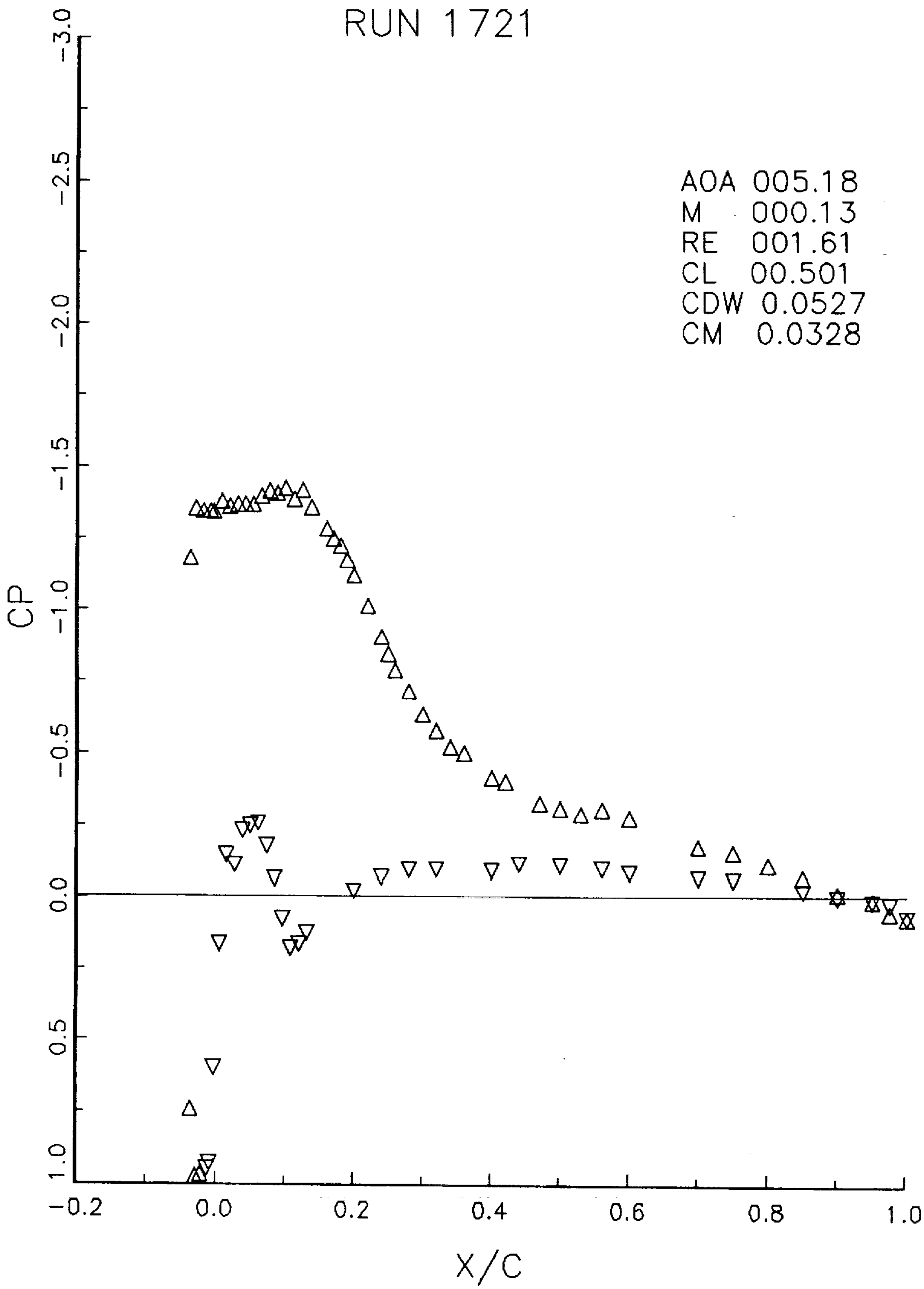
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1721
AOA 005.18
M 000.13
RE 001.61
CL 00.501
CDW 0.0527
CM 0.0328
CP
X/C
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-1.5
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-0.2
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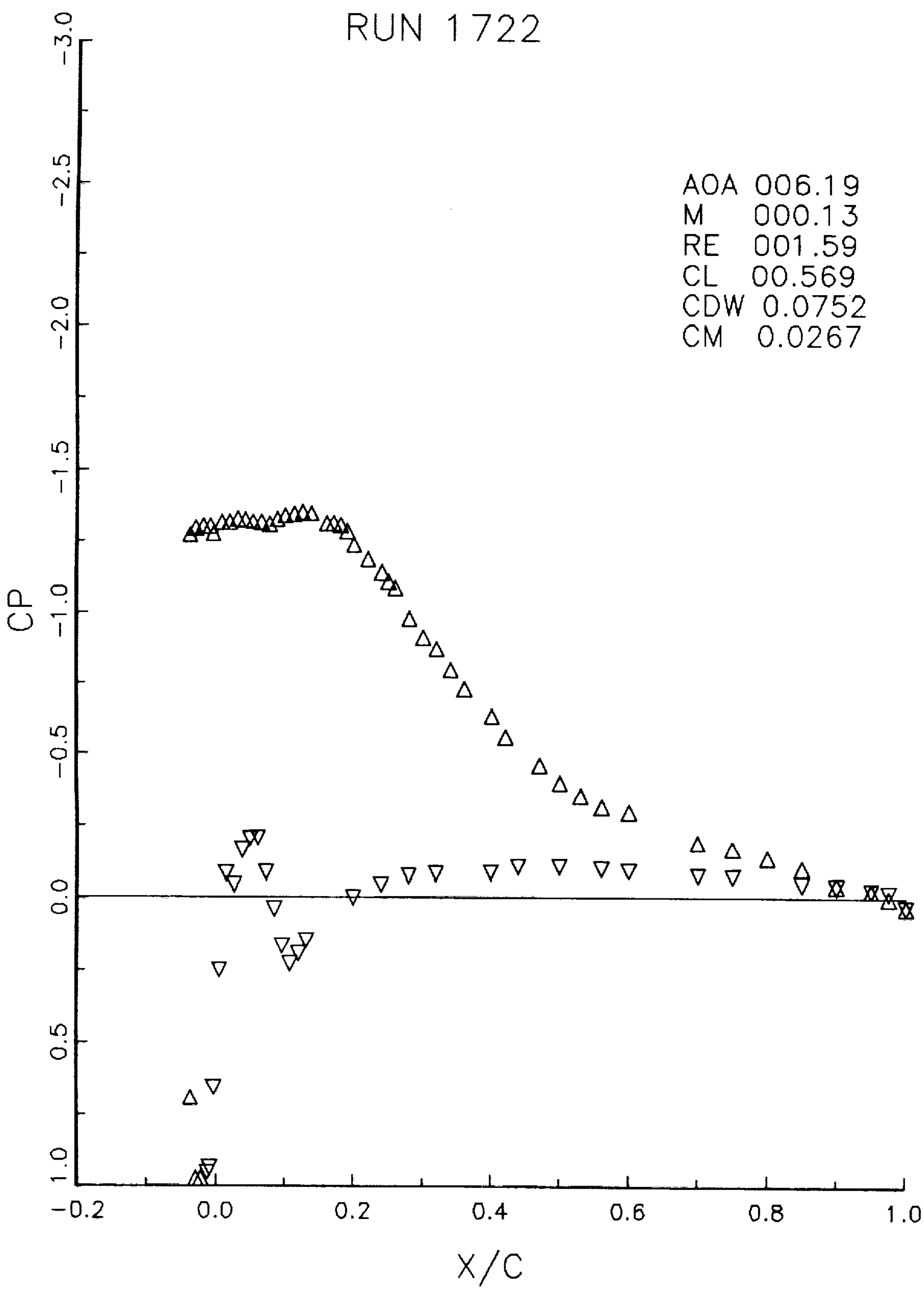
0.2
0.4
0.6
0.8
1.0



RUN 1722
AOA 006.19
M 000.13
RE 001.59
CL 00.569
CDW 0.0752
CM 0.0267
CP
X/C
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-2.5
-2.0
-1.5
-1.0
-0.5
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-0.2
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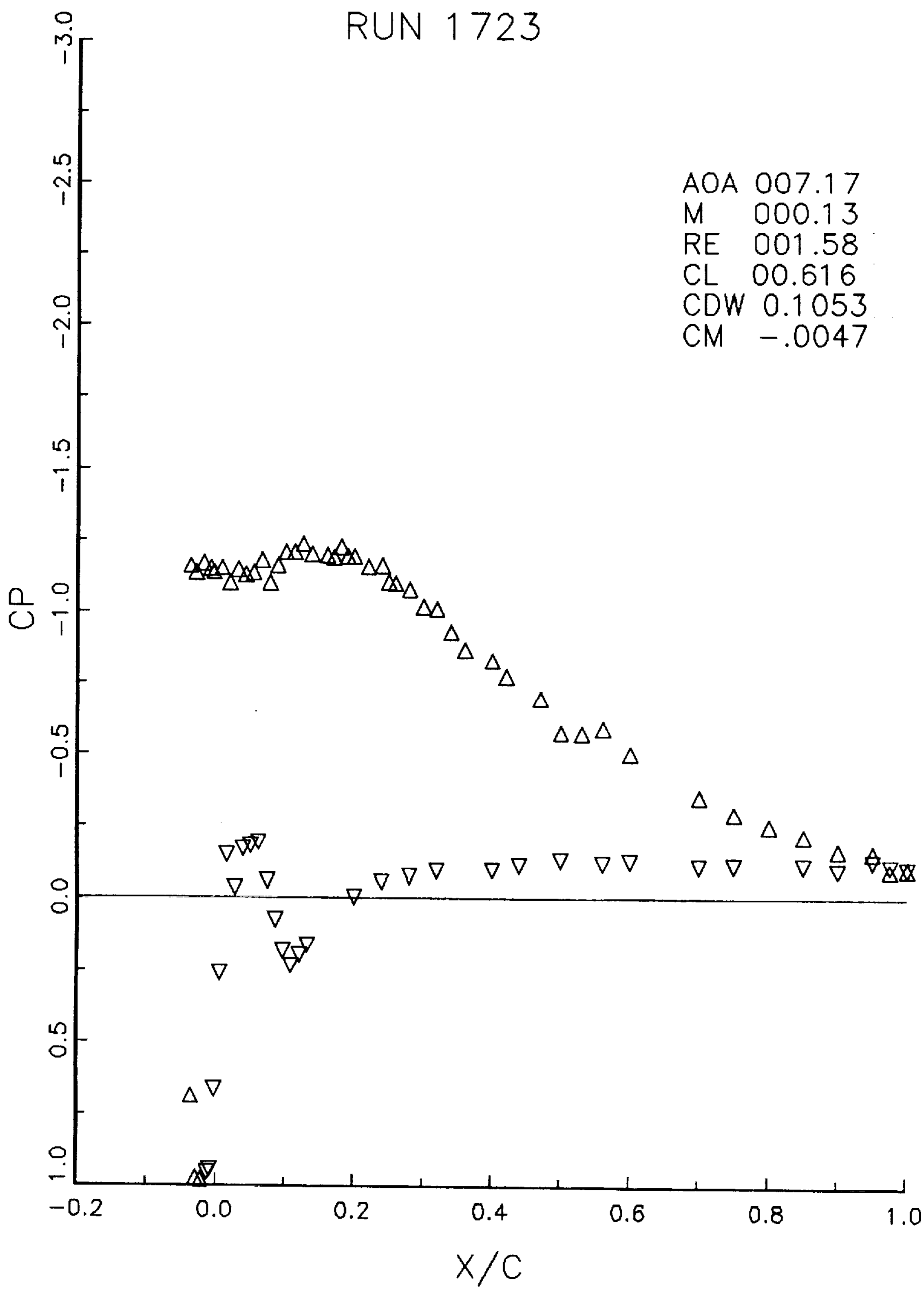
0.2
0.4
0.6
0.8
1.0


RUN 1723
AOA 007.17
M 000.13
RE 001.58
CL 00.616
CDW 0.1053
CM -.0047
CP
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-0.2
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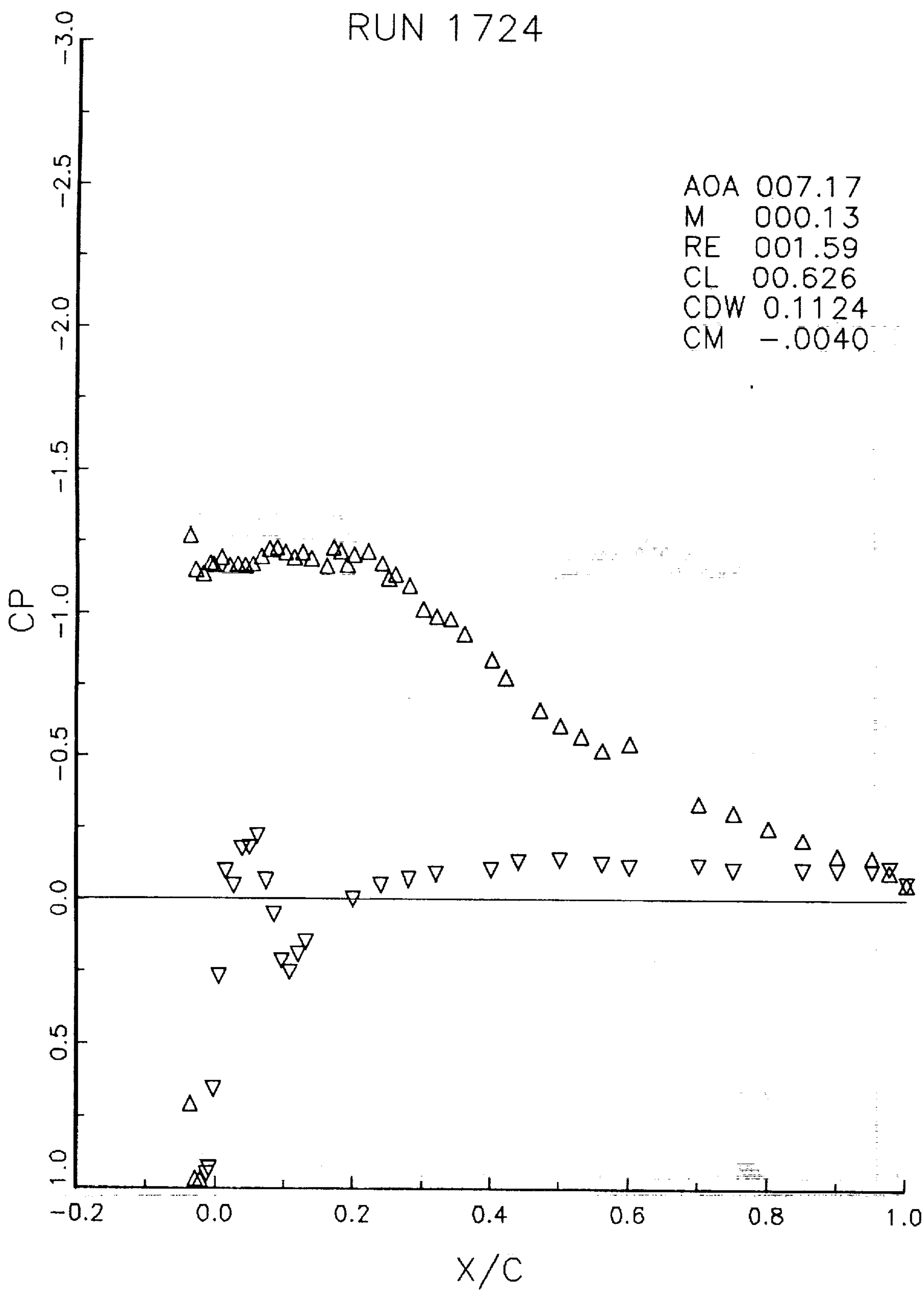
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1724
AOA 007.17
M 000.13
RE 001.59
CL 00.626
CDW 0.1124
CM -.0040
CP
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-0.2
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0.4
0.6
0.8
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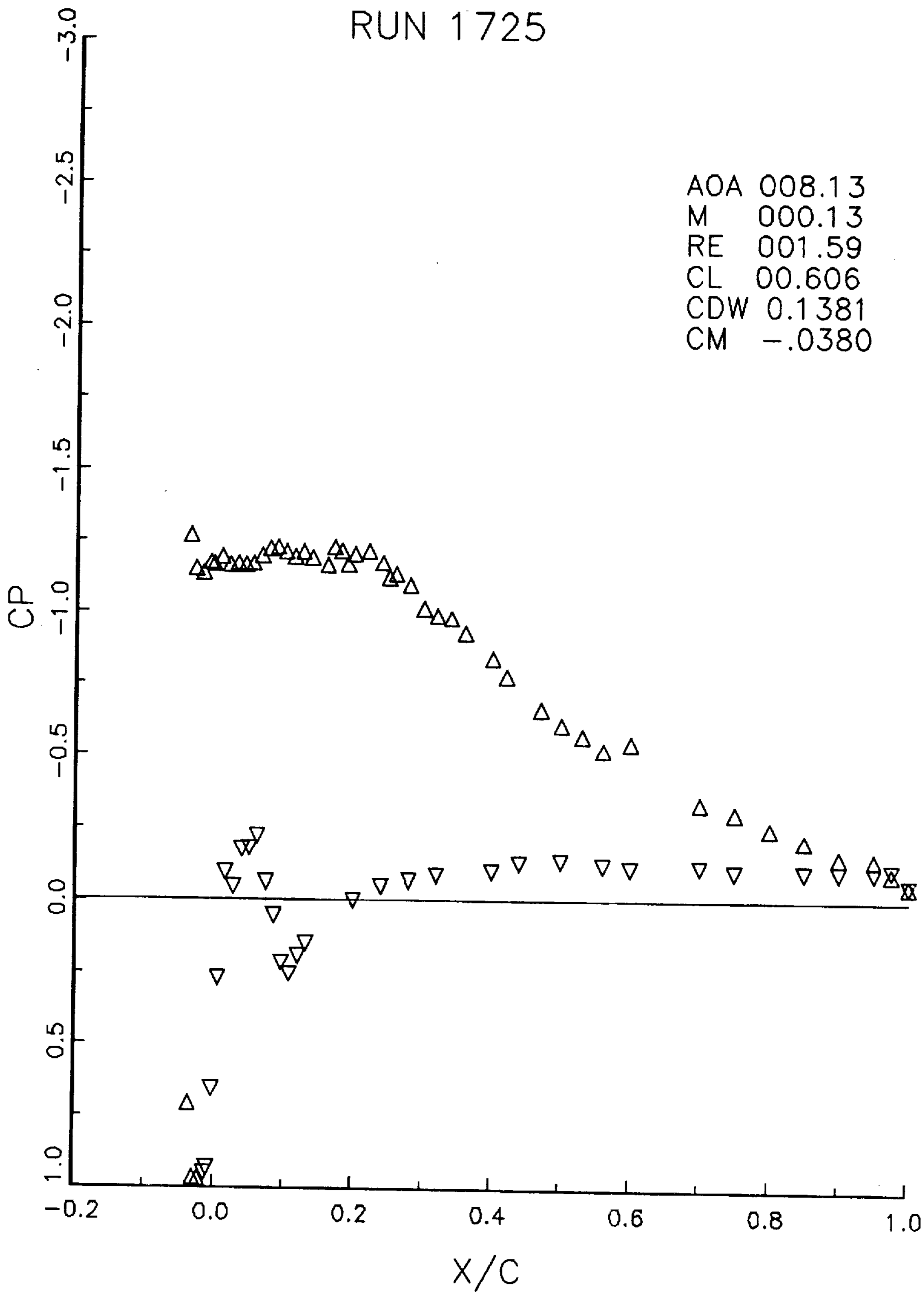
X/C



RUN 1725
AOA 008.13
M 000.13
RE 001.59
CL 00.606
CDW 0.1381
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CP
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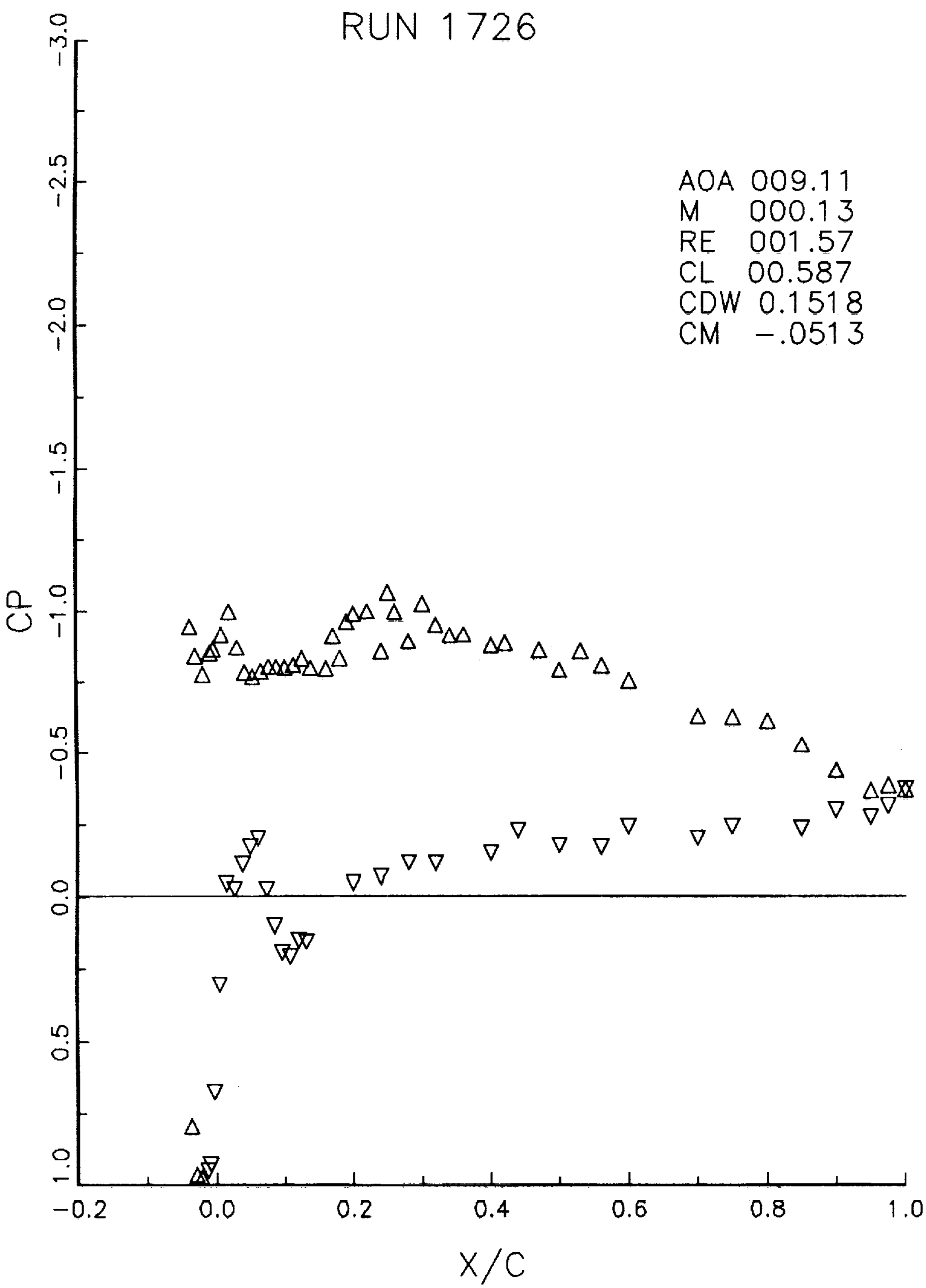
RUN 1726
AOA 009.11
M 000.13
RE 001.57
CL 00.587
CDW 0.1518
CM -.0513
CP
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-1.0
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-0.2
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0.2
0.4
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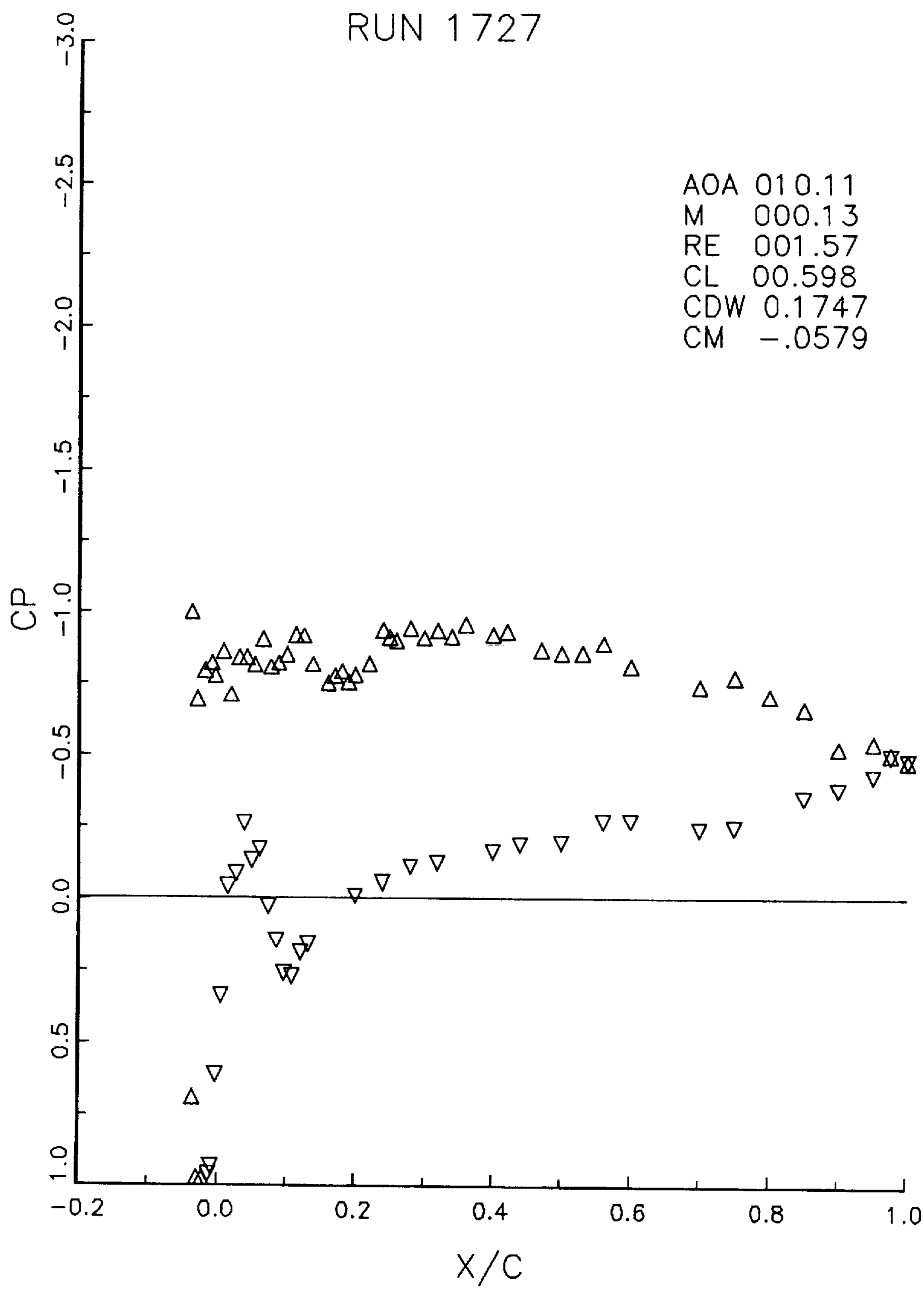
X/C



RUN 1727
AOA 010.11
M 000.13
RE 001.57
CL 00.598
CDW 0.1747
CM -.0579
CP
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-1.5
-1.0
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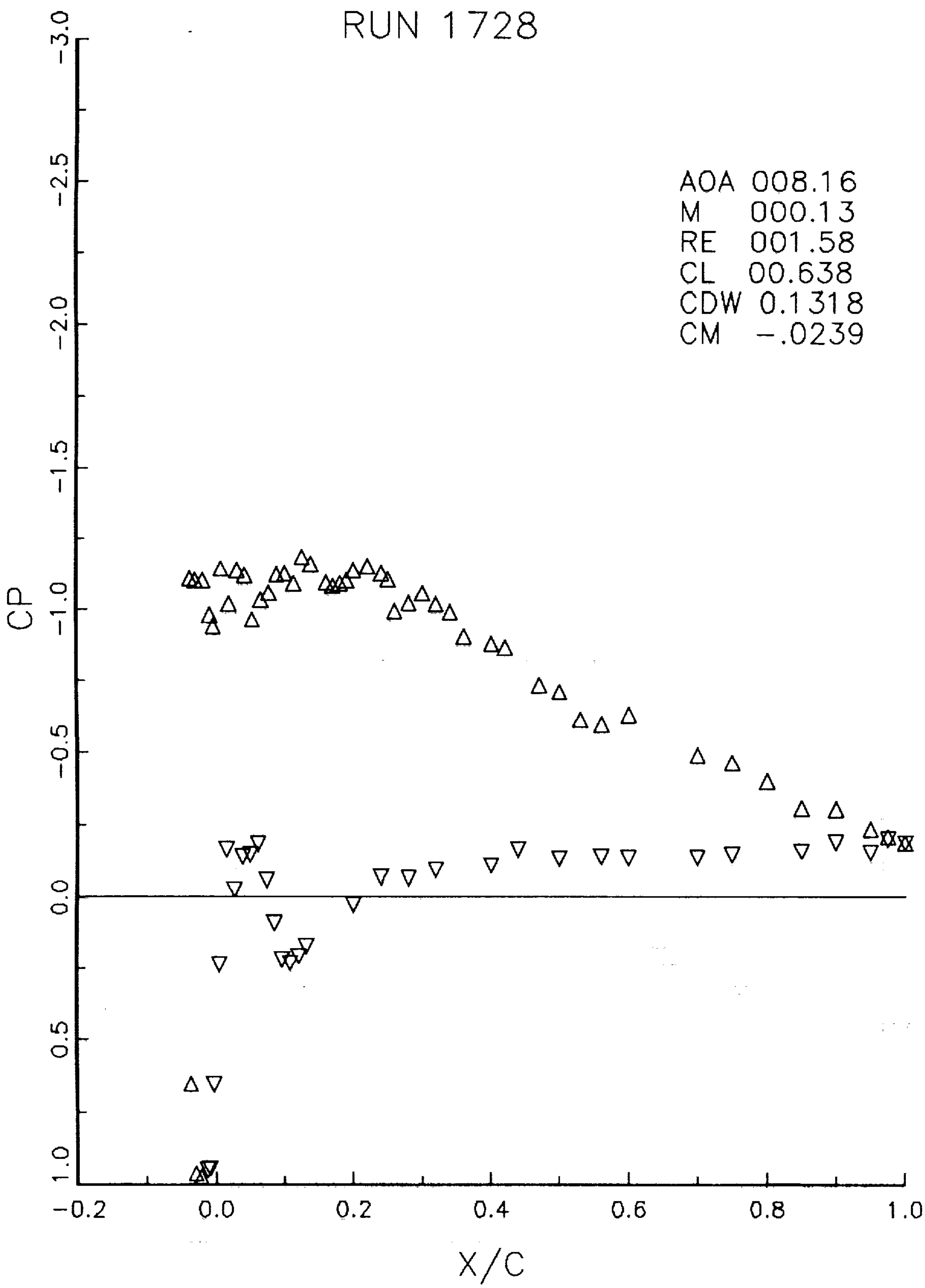
X/C


RUN 1728
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M 000.13
RE 001.58
CL 00.638
CDW 0.1318
CM -.0239
CP
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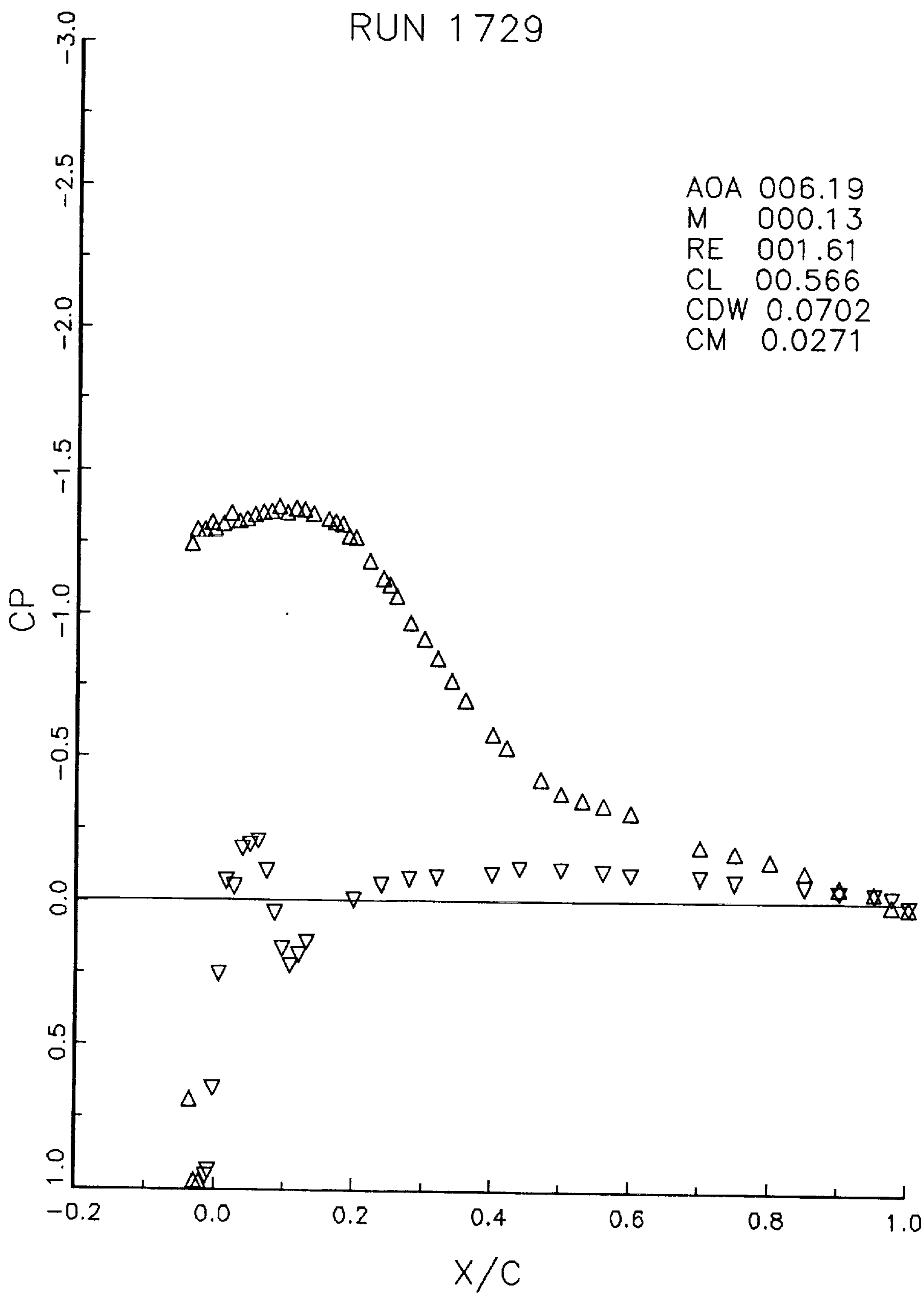
RUN 1729
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CL 00.566
CDW 0.0702
CM 0.0271
CP
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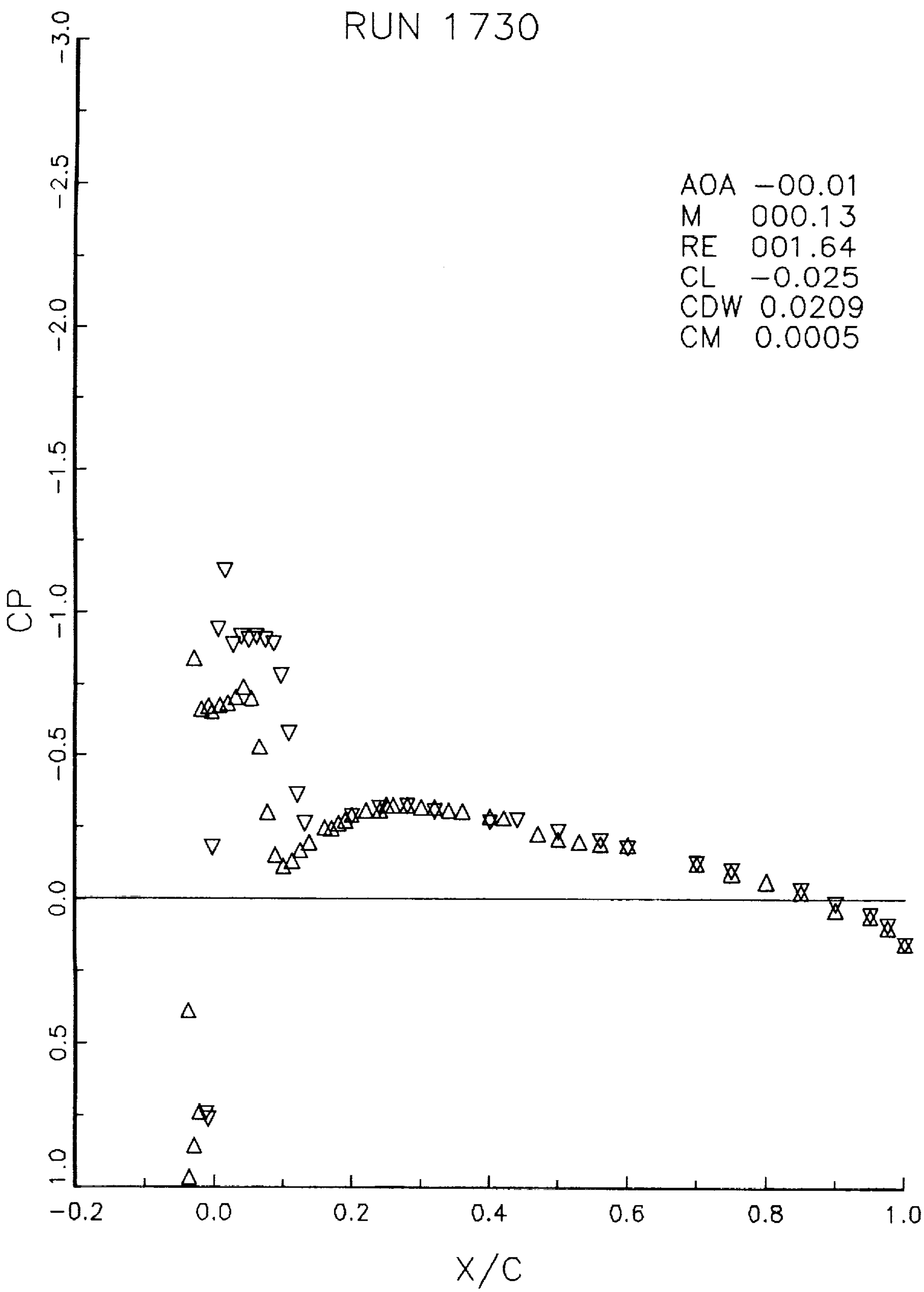

RUN 1730
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RE 001.64
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CDW 0.0209
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0.4
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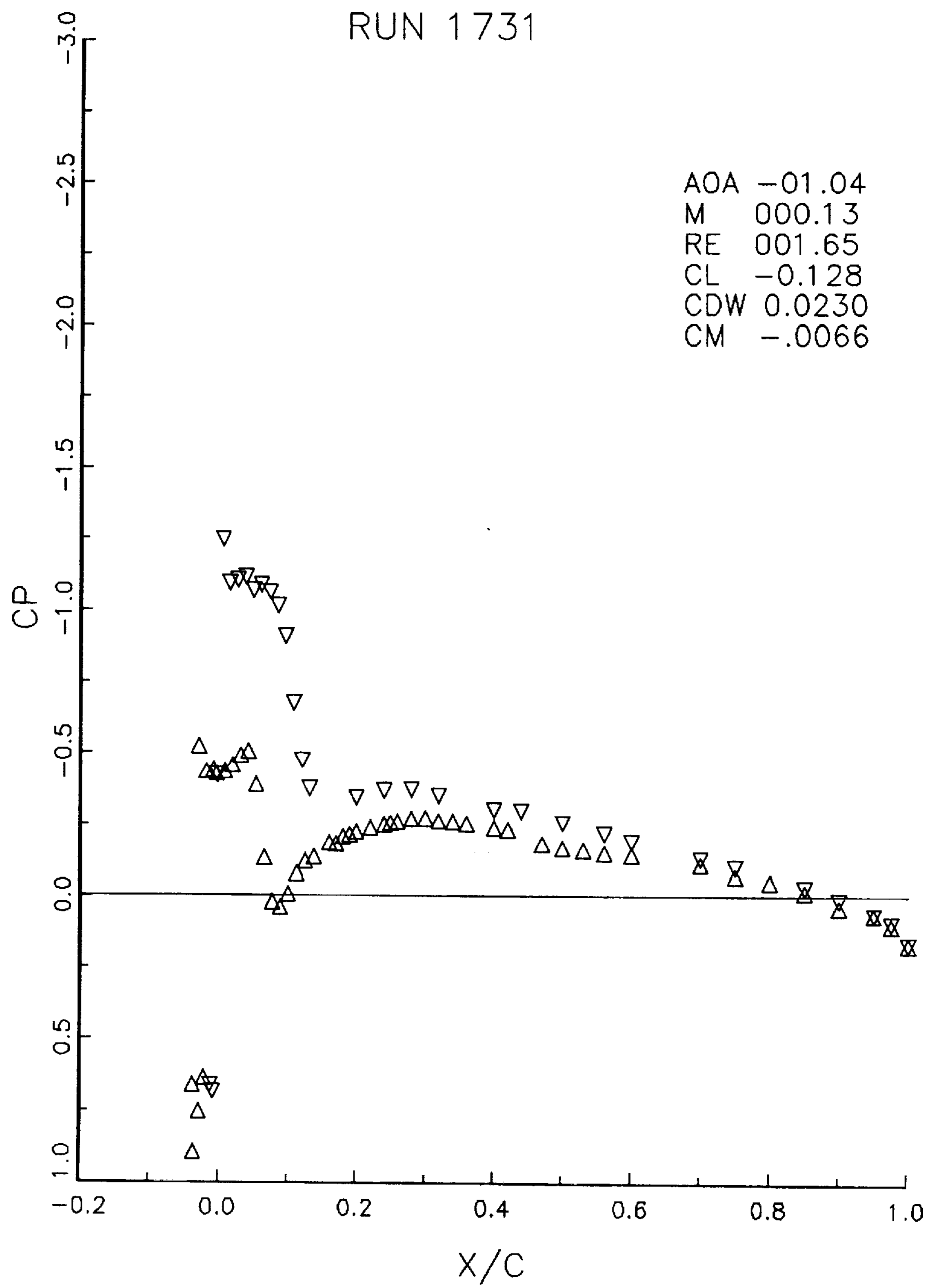

RUN 1731
AOA −01.04
M 000.13
RE 001.65
CL −0.128
CDW 0.0230
CM −.0066
CP
X/C
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-1.5
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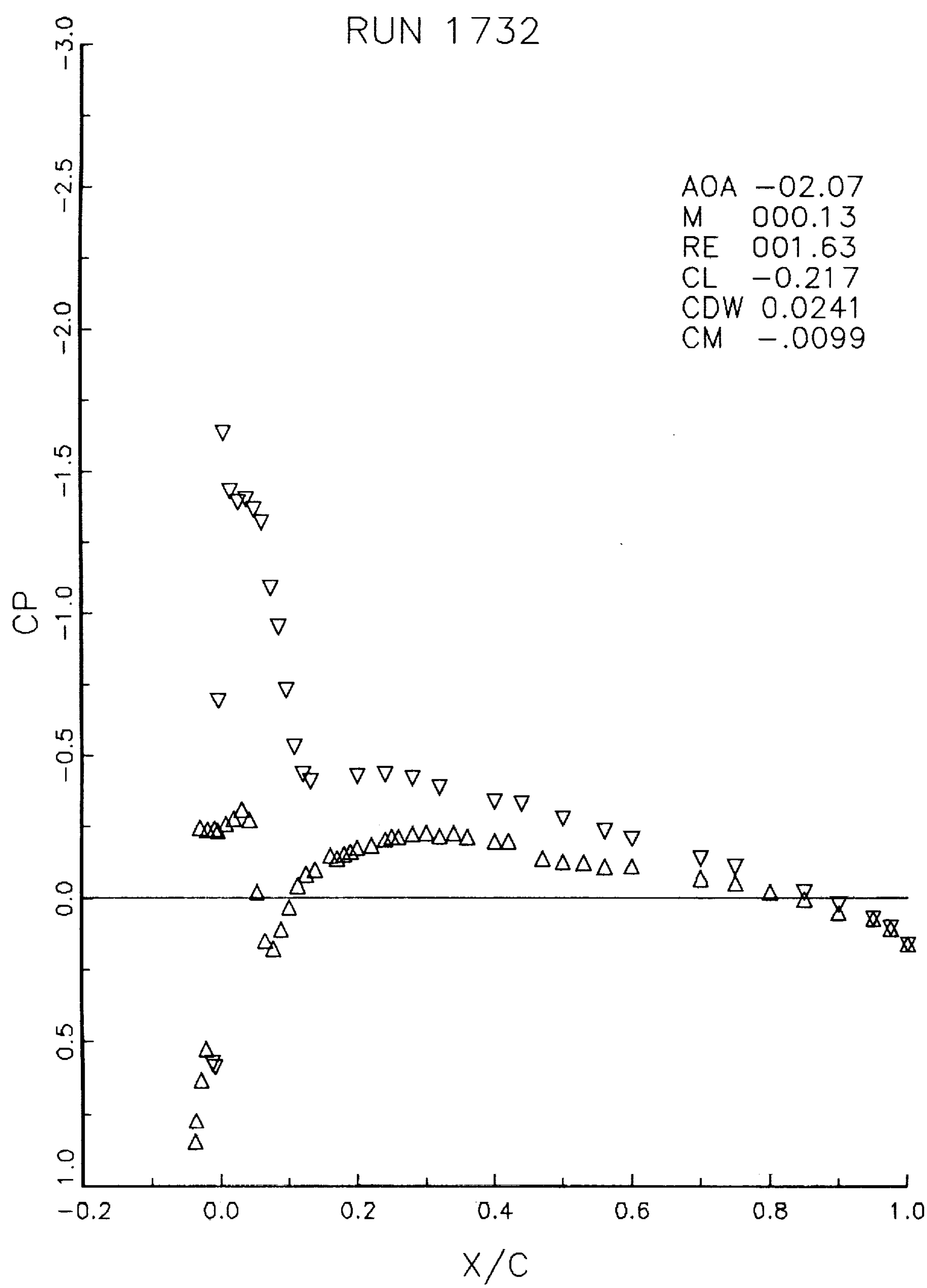

RUN 1732
AOA −02.07
M 000.13
RE 001.63
CL −0.217
CDW 0.0241
CM −.0099
CP
X/C
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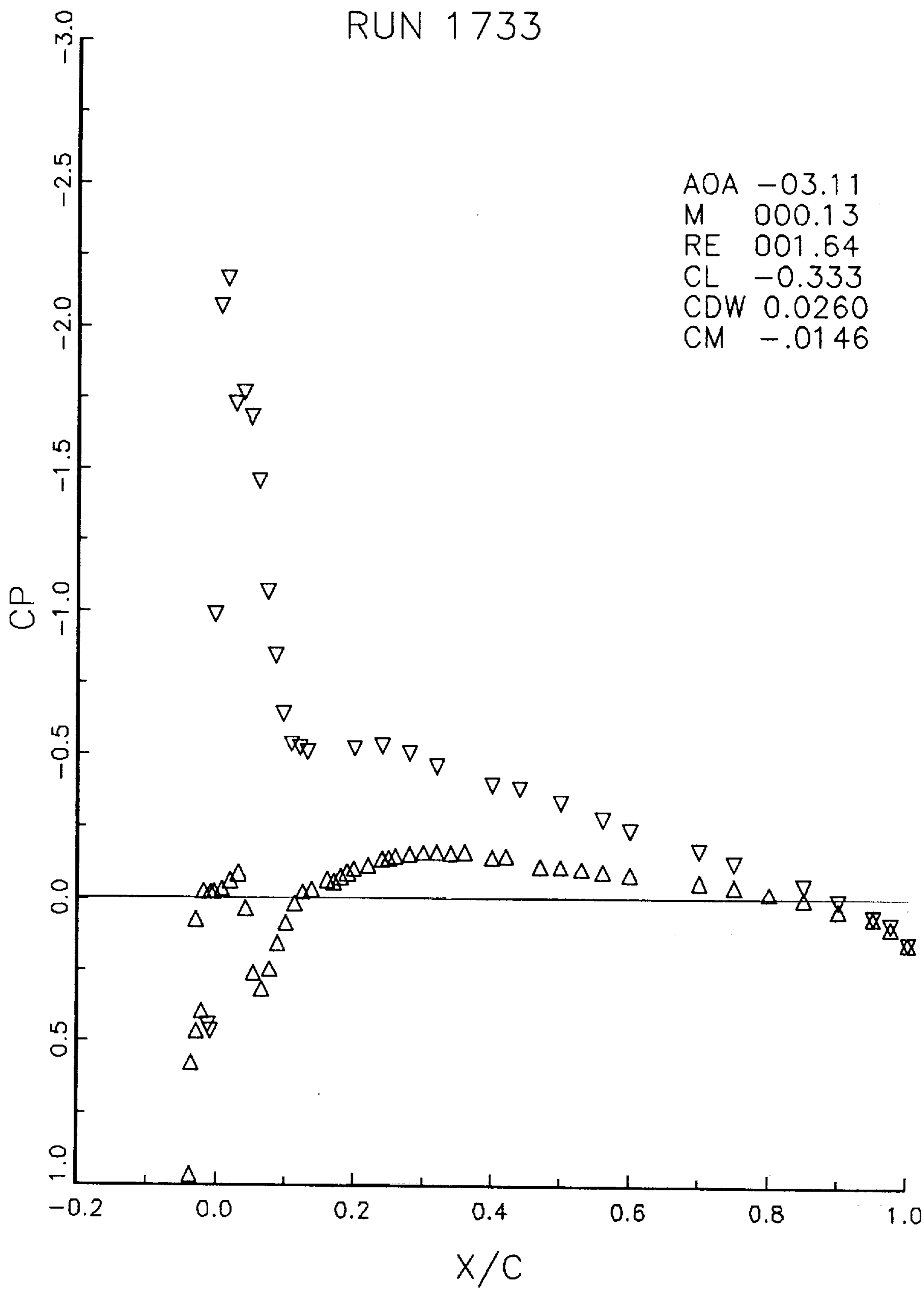
RUN 1733
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M 000.13
RE 001.64
CL −0.333
CDW 0.0260
CM −.0146
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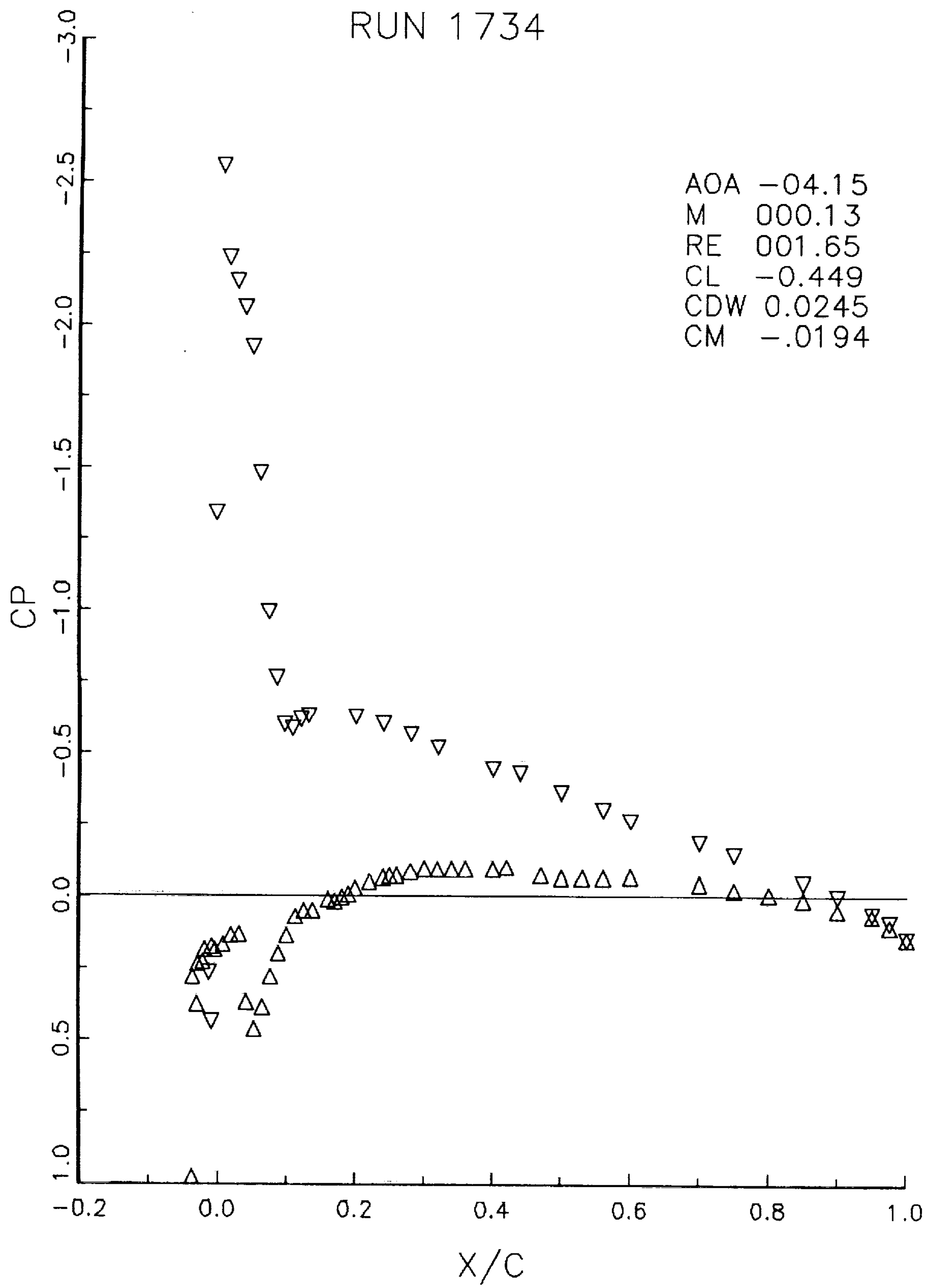
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1734
AOA -04.15
M 000.13
RE 001.65
CL -0.449
CDW 0.0245
CM -.0194
CP
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-1.0
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1.0
-0.2
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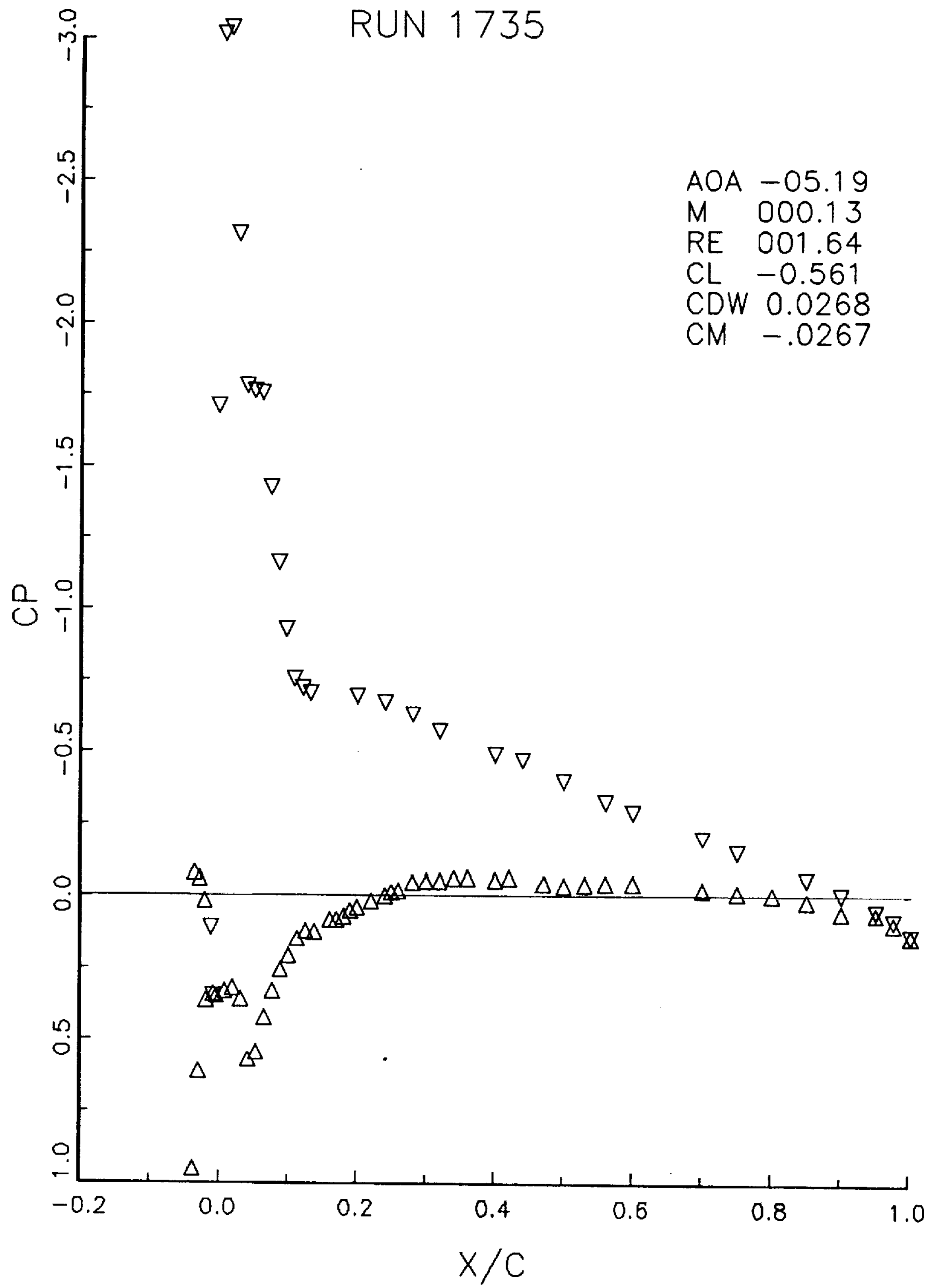
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1735
AOA −05.19
M 000.13
RE 001.64
CL −0.561
CDW 0.0268
CM −.0267
CP
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−2.0
−1.5
−1.0
−0.5
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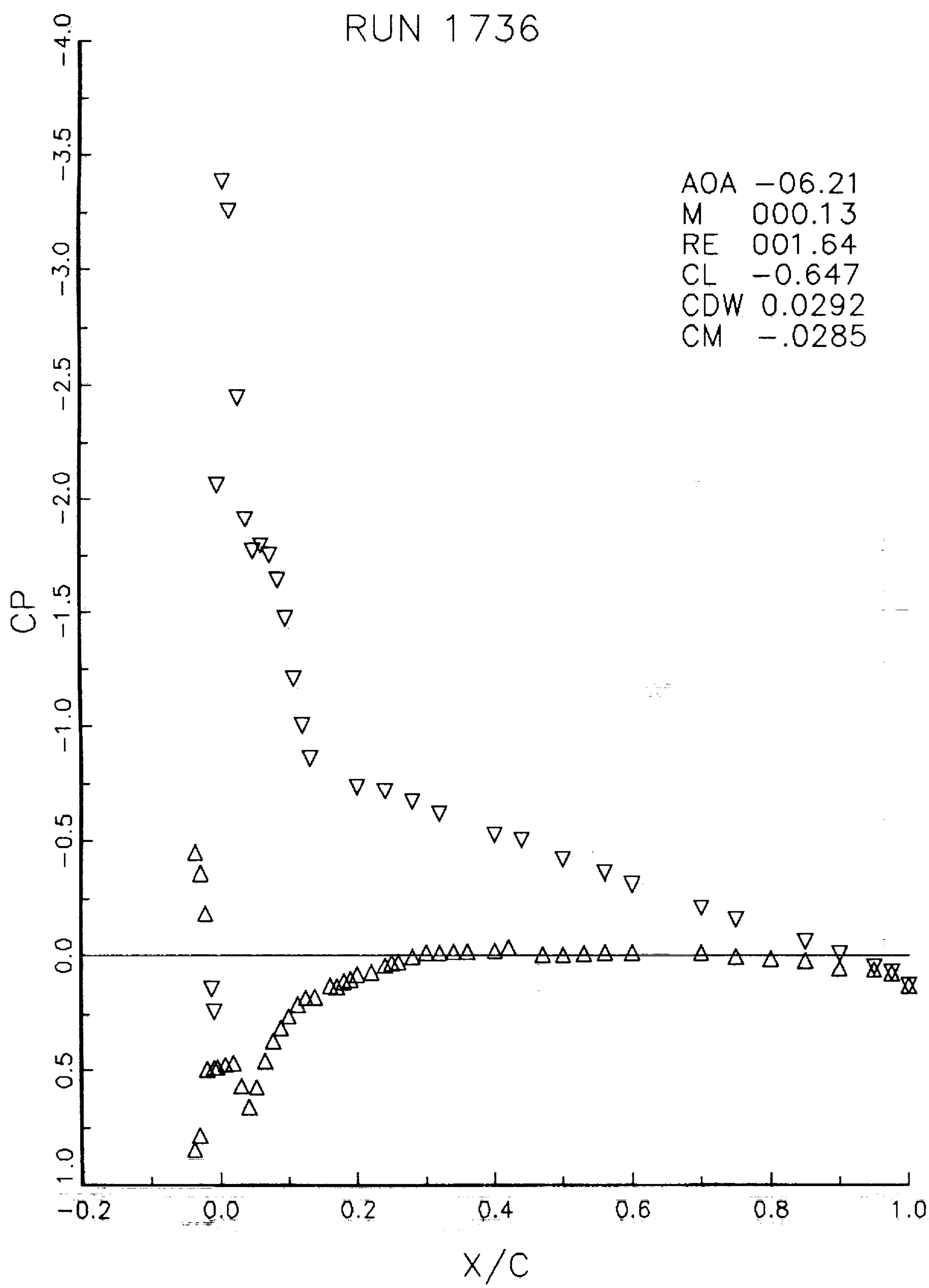
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1736
AOA −06.21
M 000.13
RE 001.64
CL −0.647
CDW 0.0292
CM −.0285
CP
X/C
−4.0
−3.5
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
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0.5
1.0
−0.2
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0.2
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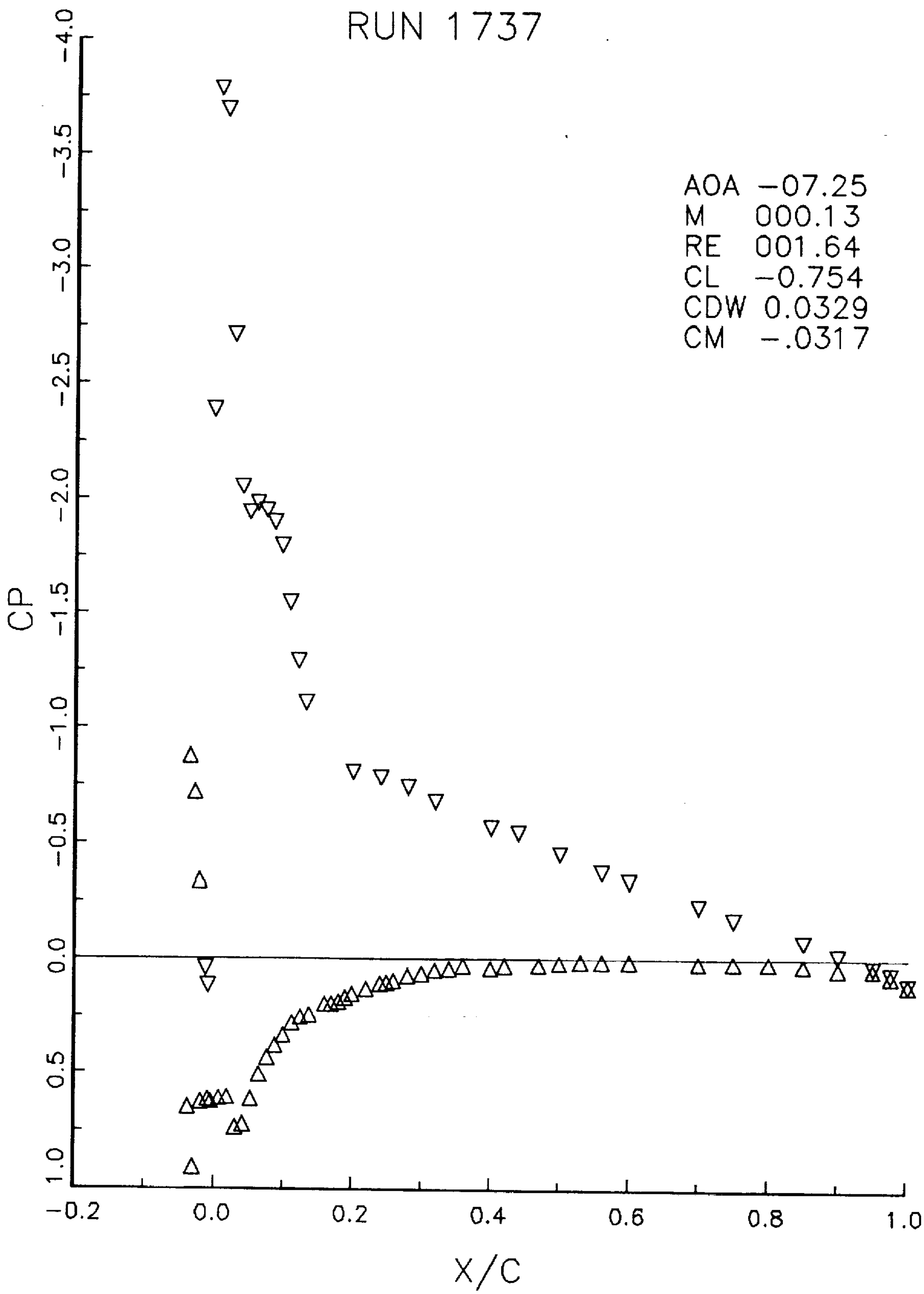
0.8
1.0



RUN 1737
AOA −07.25
M 000.13
RE 001.64
CL −0.754
CDW 0.0329
CM −.0317
CP
X/C
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−3.5
−3.0
−2.5
−2.0
−1.5
−1.0
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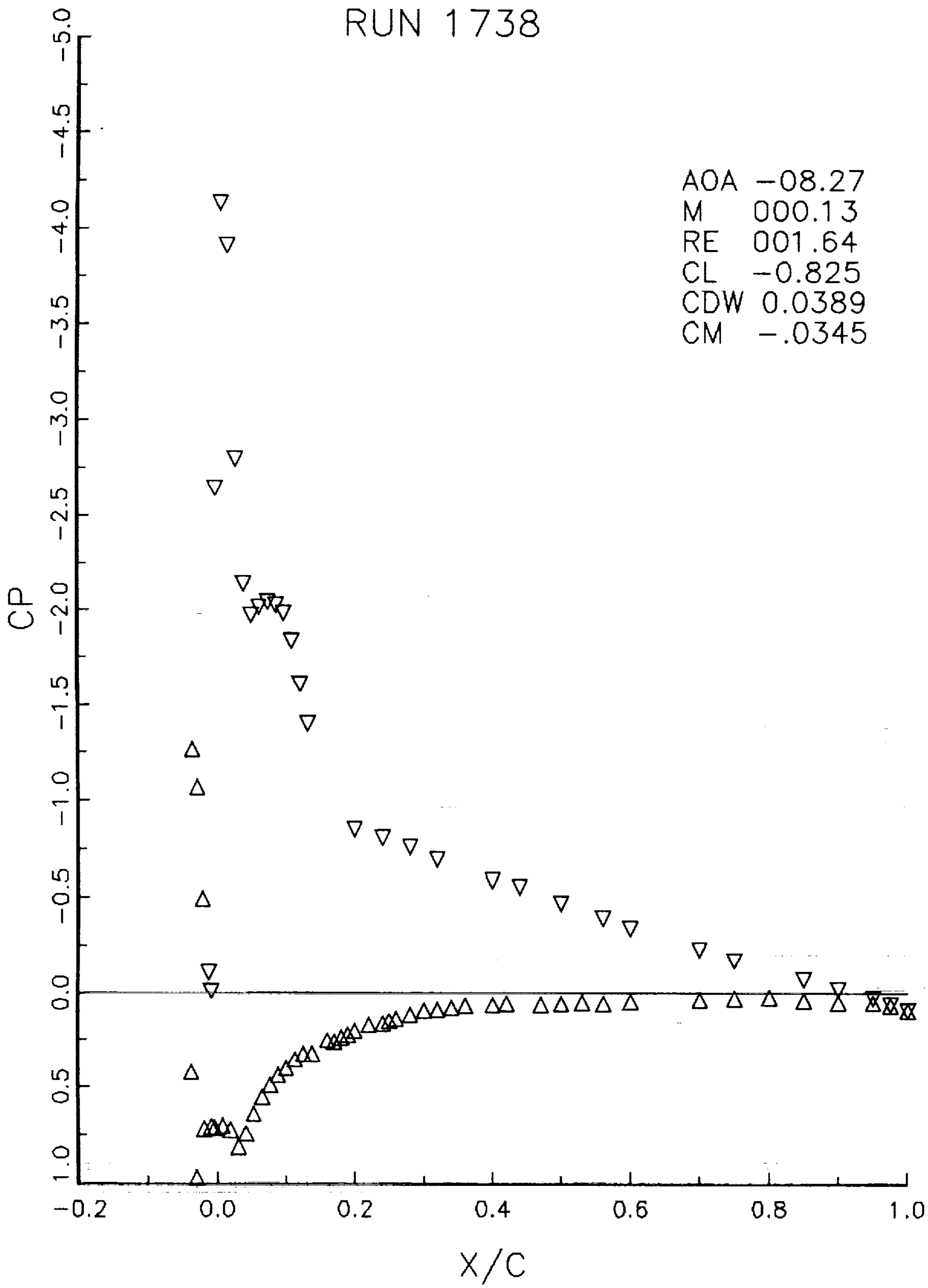
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1738
AOA −08.27
M 000.13
RE 001.64
CL −0.825
CDW 0.0389
CM −.0345
CP
X/C
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−4.5
−4.0
−3.5
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
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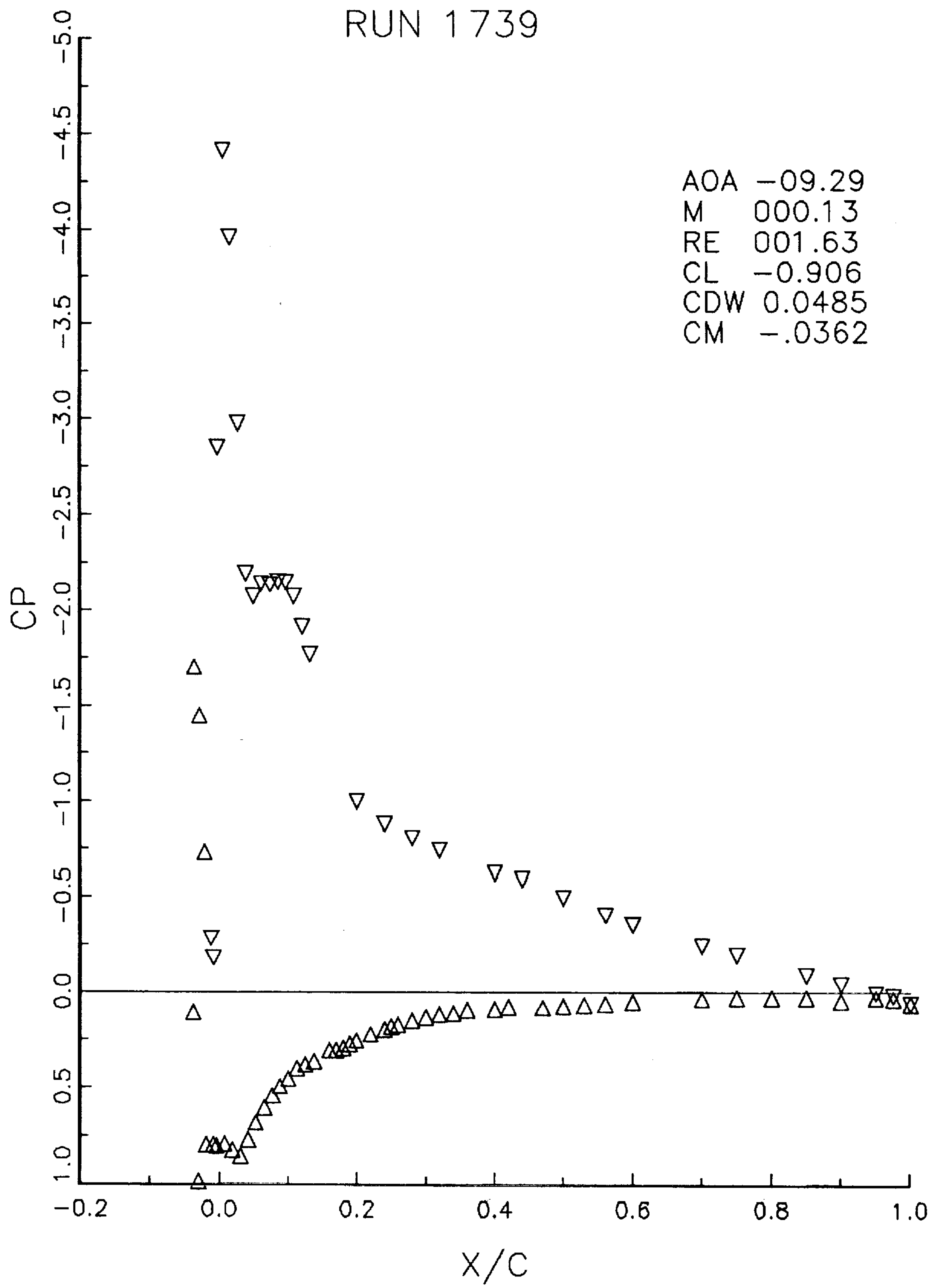
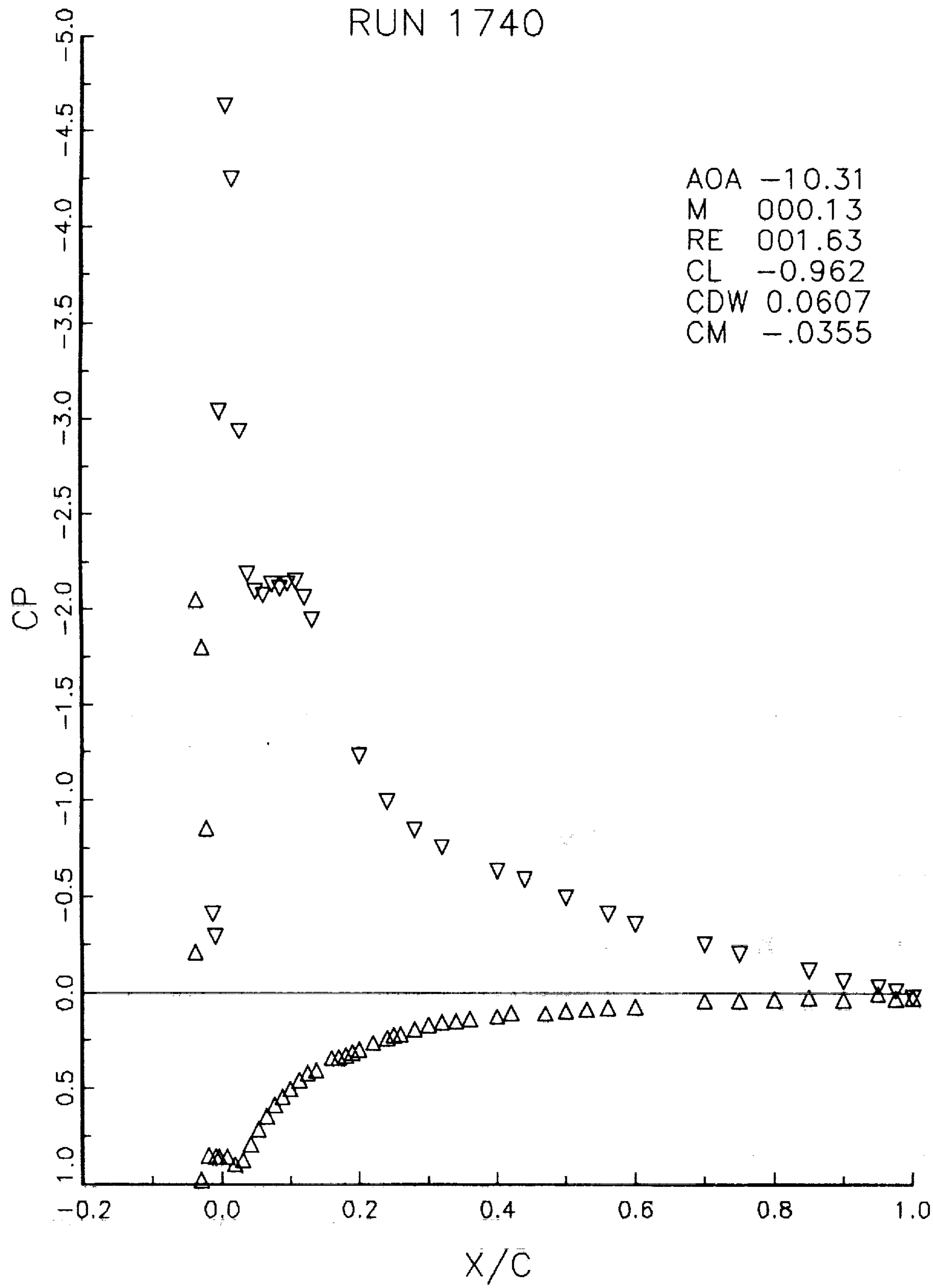
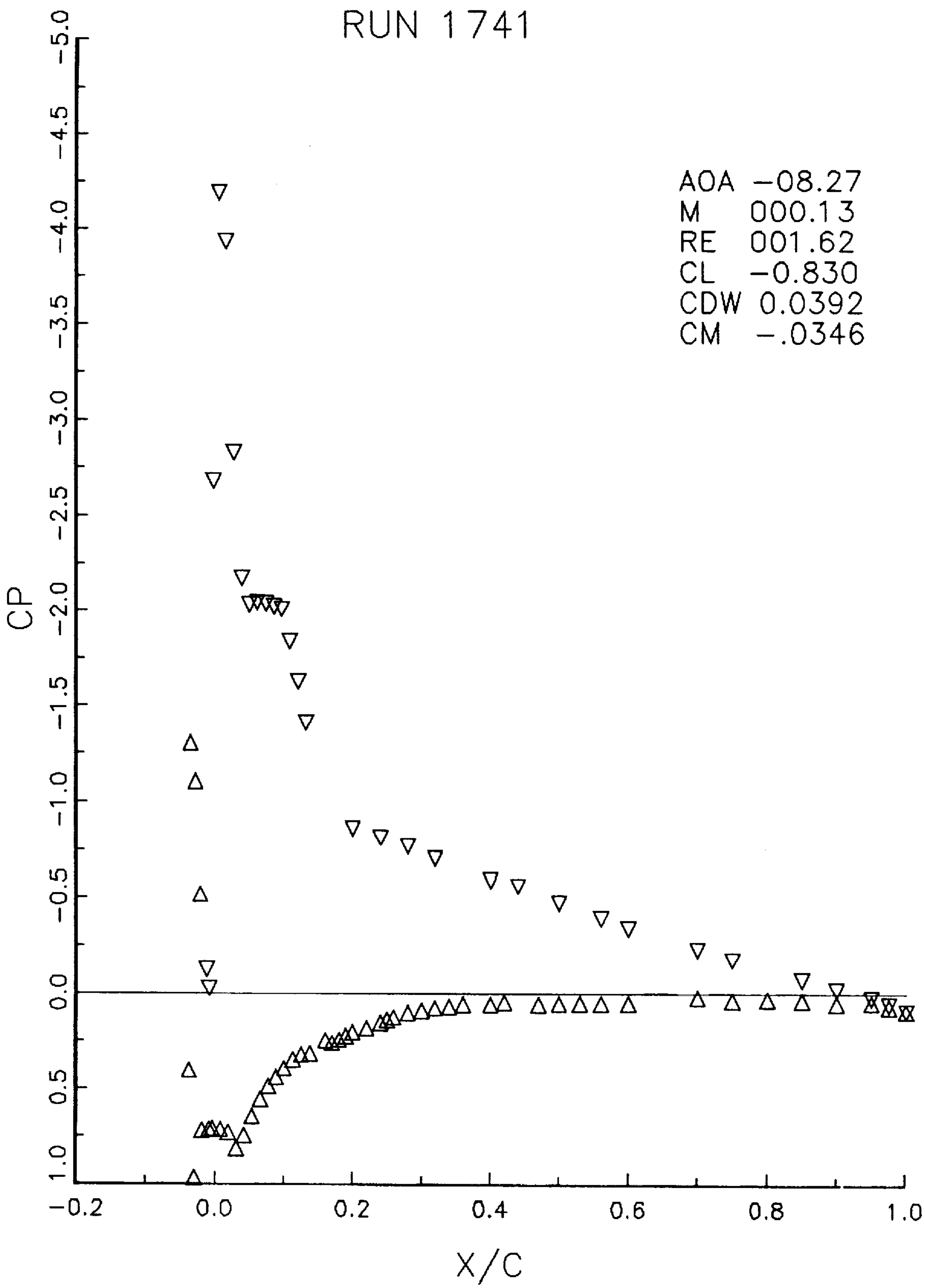
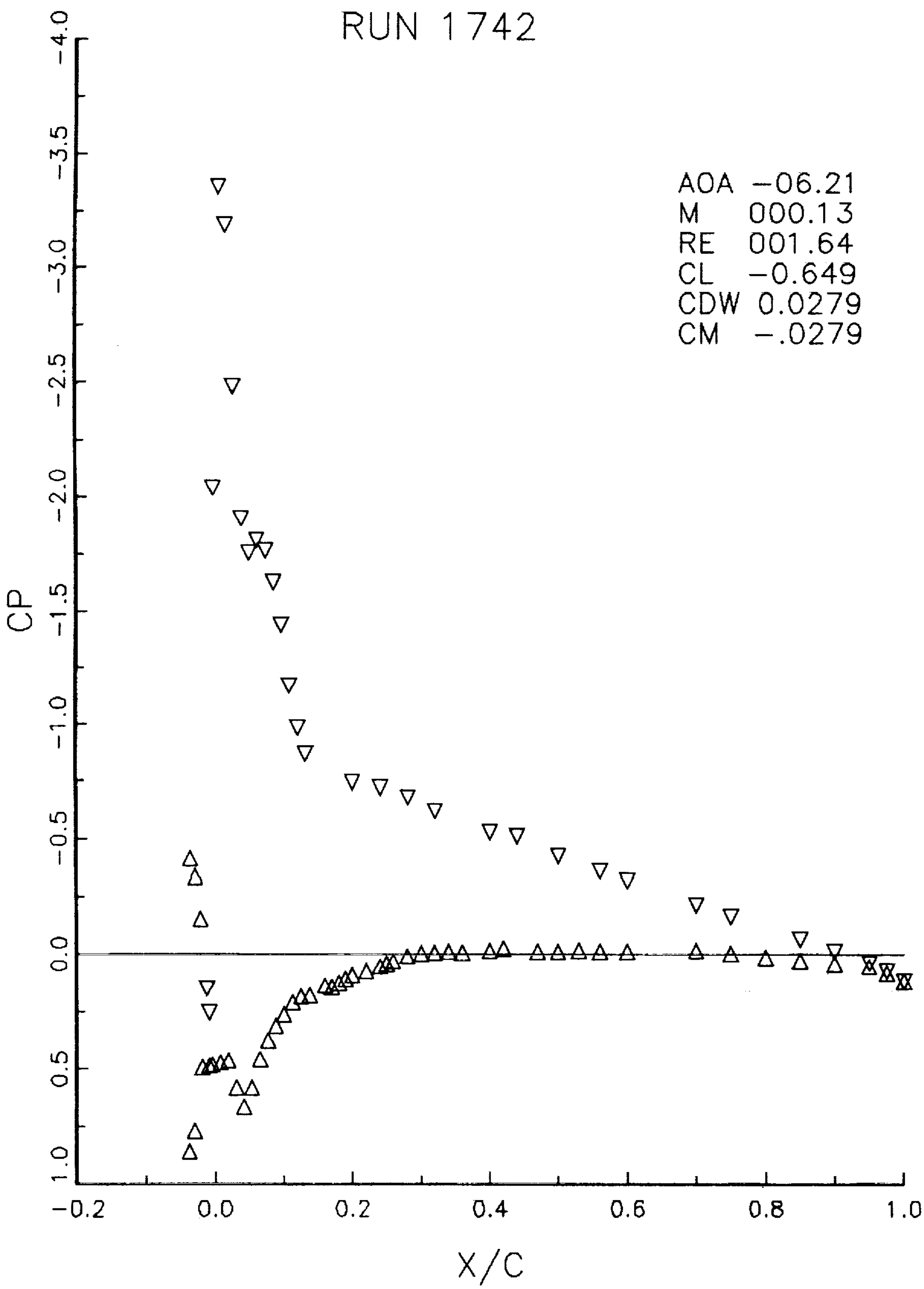
0.5
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0

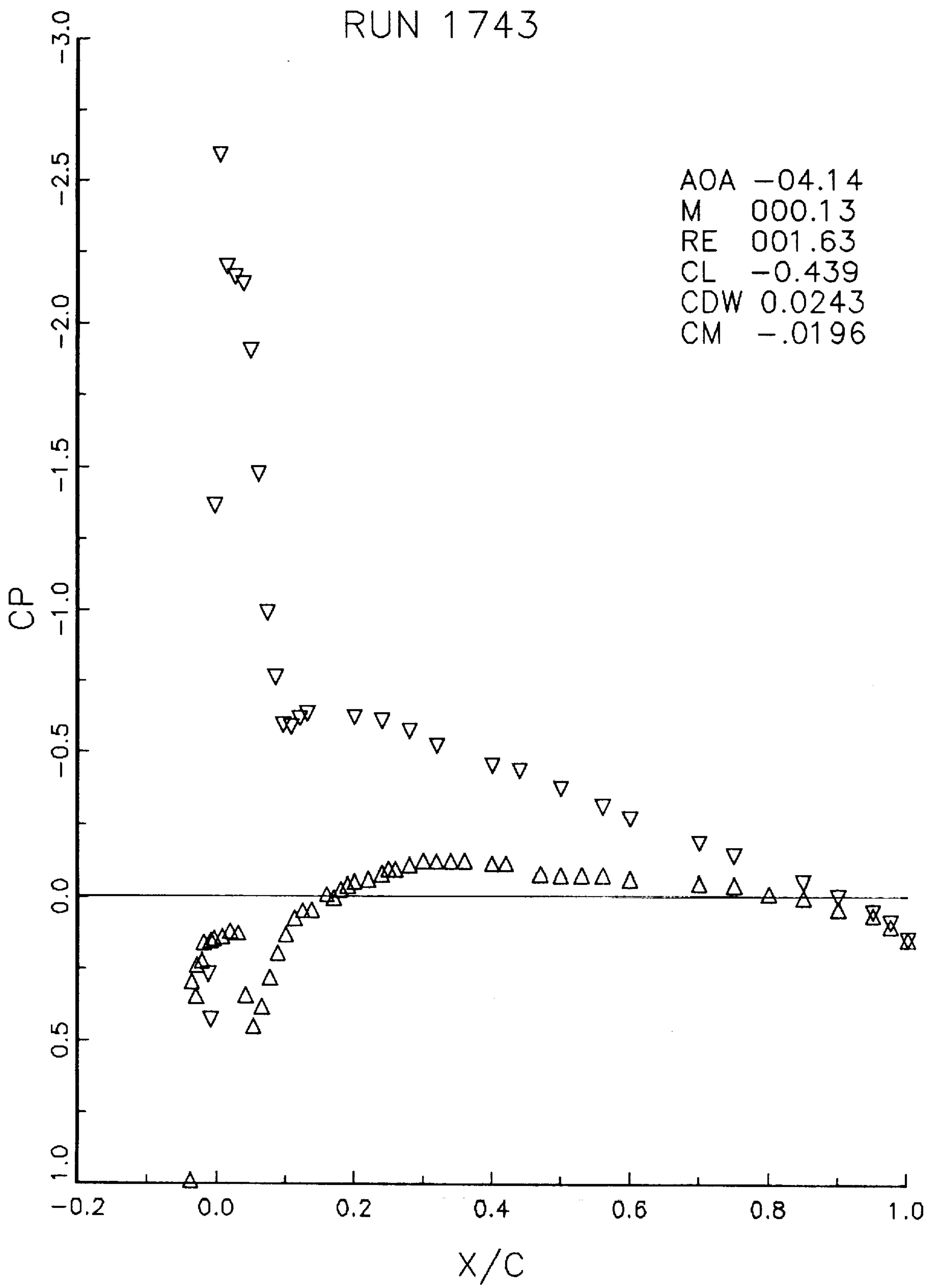

RUN 1739
AOA -09.29
M 000.13
RE 001.63
CL -0.906
CDW 0.0485
CM -.0362
CP
-5.0
-4.5
-4.0
-3.5
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1740
AOA −10.31
M 000.13
RE 001.63
CL −0.962
CDW 0.0607
CM −.0355
CP
X/C
−5.0
−4.5
−4.0
−3.5
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0

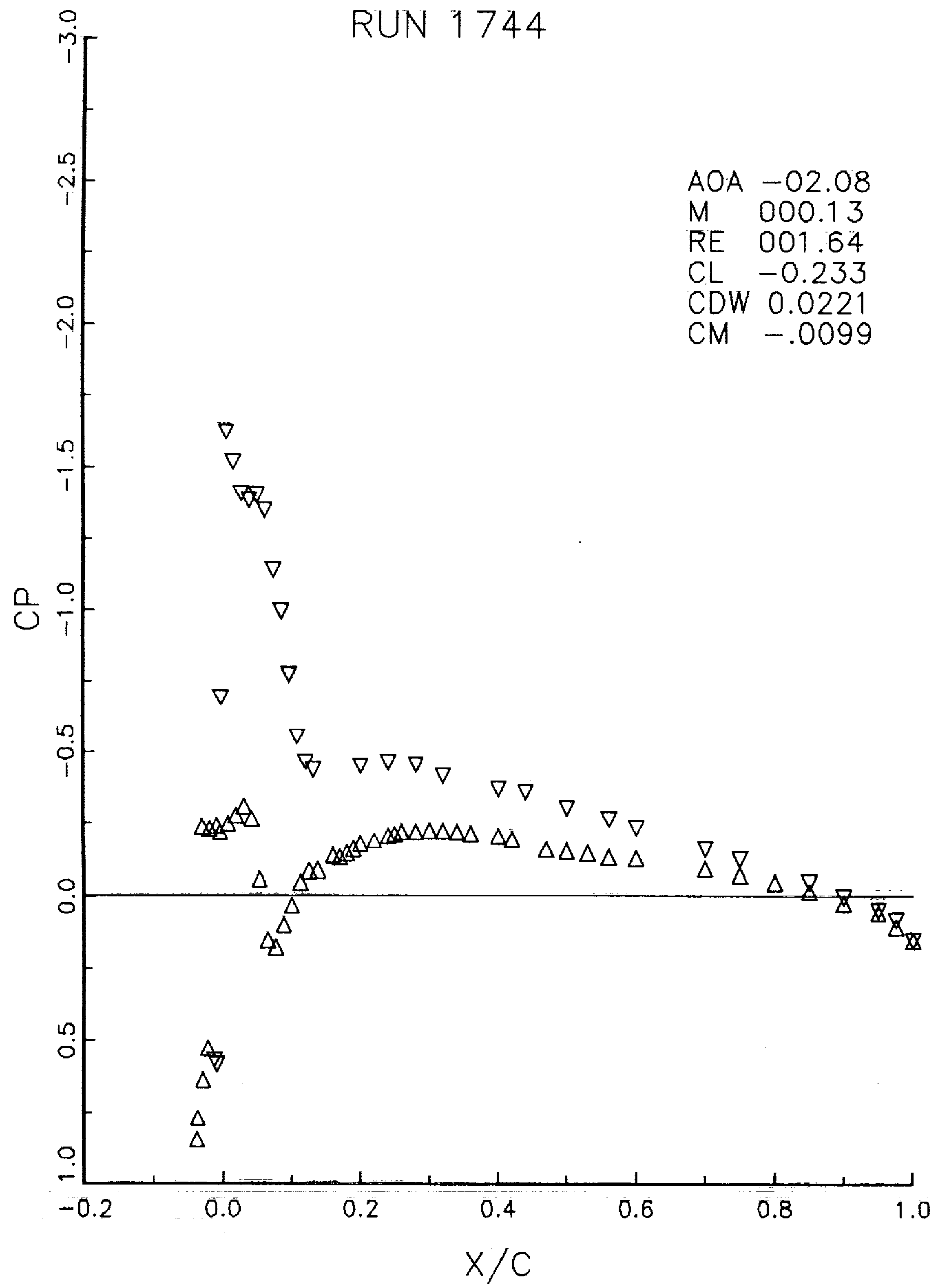


RUN 1741
AOA −08.27
M 000.13
RE 001.62
CL −0.830
CDW 0.0392
CM −.0346
CP
X/C
−5.0
−4.5
−4.0
−3.5
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1742
AOA -06.21
M 000.13
RE 001.64
CL -0.649
CDW 0.0279
CM -.0279
CP
-4.0
-3.5
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C



RUN 1743
AOA −04.14
M 000.13
RE 001.63
CL −0.439
CDW 0.0243
CM −.0196
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1744
AOA −02.08
M 000.13
RE 001.64
CL −0.233
CDW 0.0221
CM −.0099
CP
X/C
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
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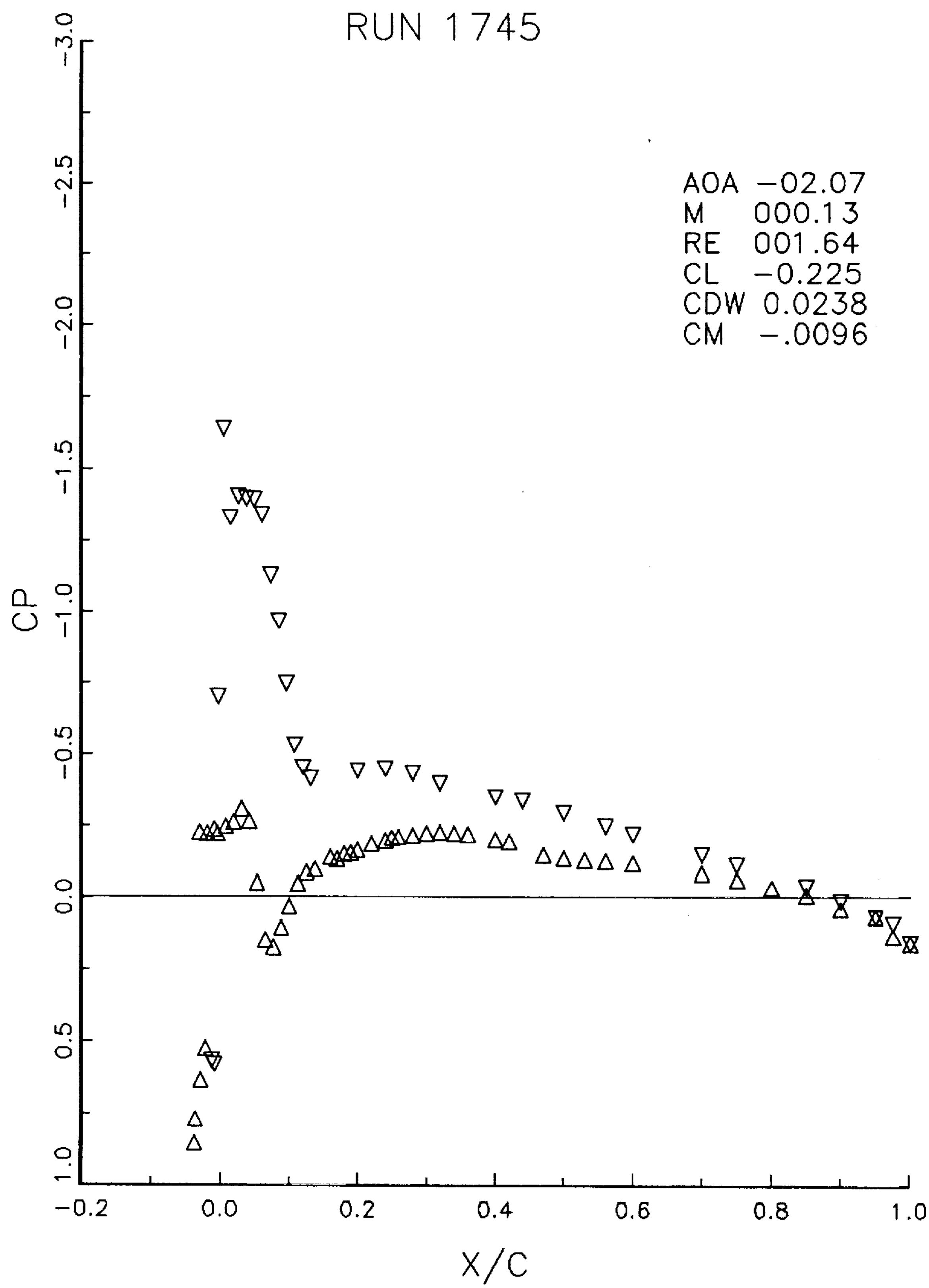
0.5
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0



RUN 1745
AOA −02.07
M 000.13
RE 001.64
CL −0.225
CDW 0.0238
CM −.0096
CP
X/C
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
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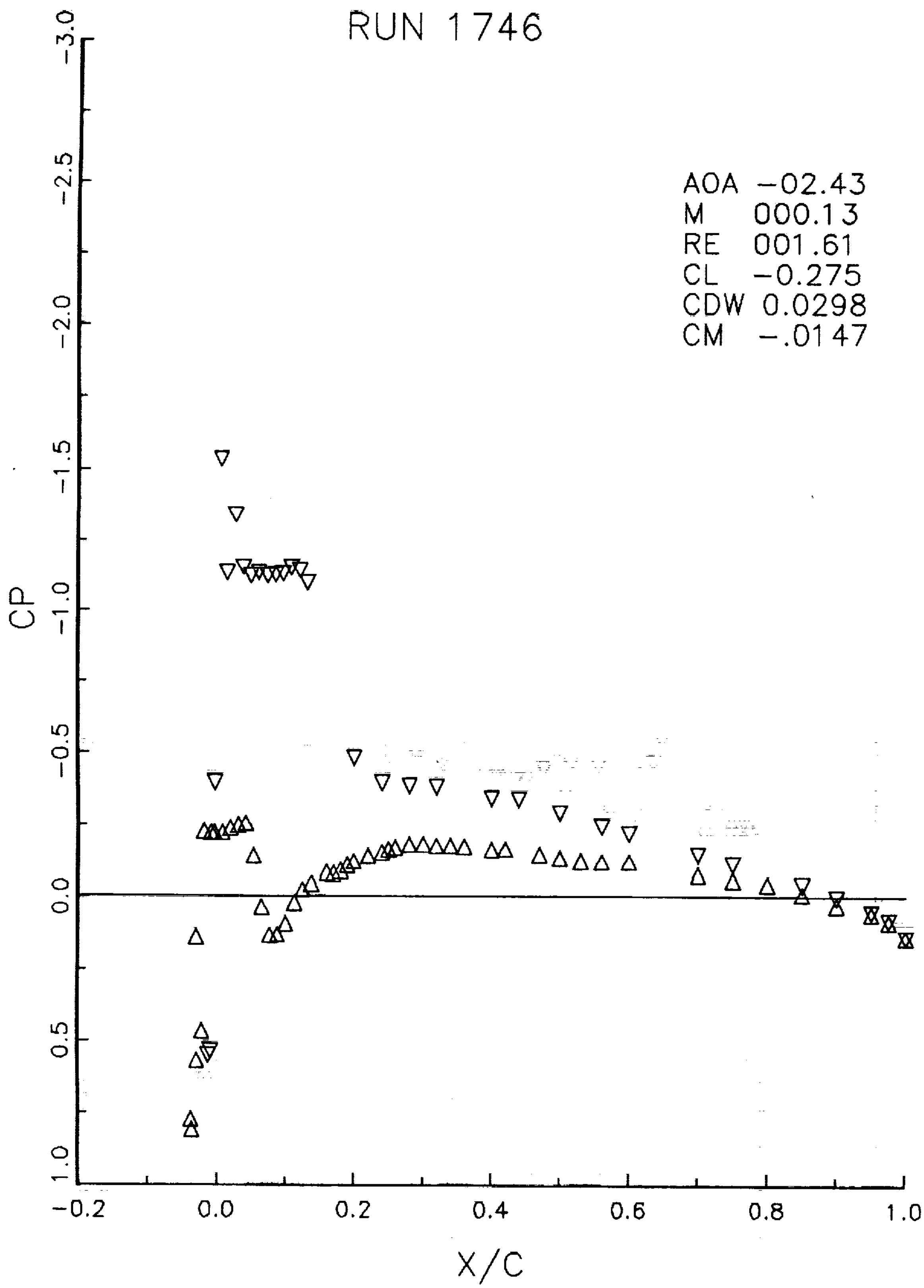
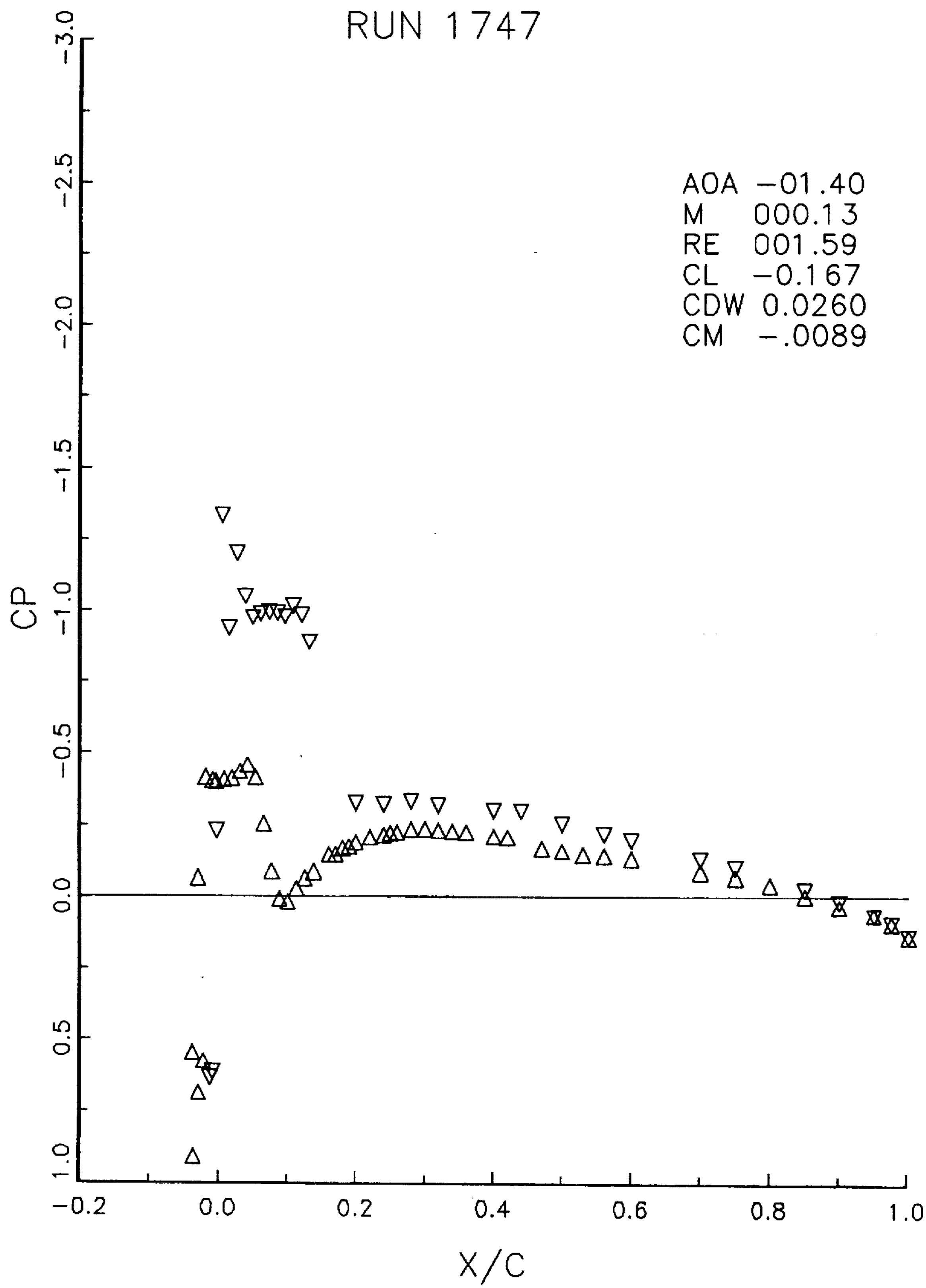
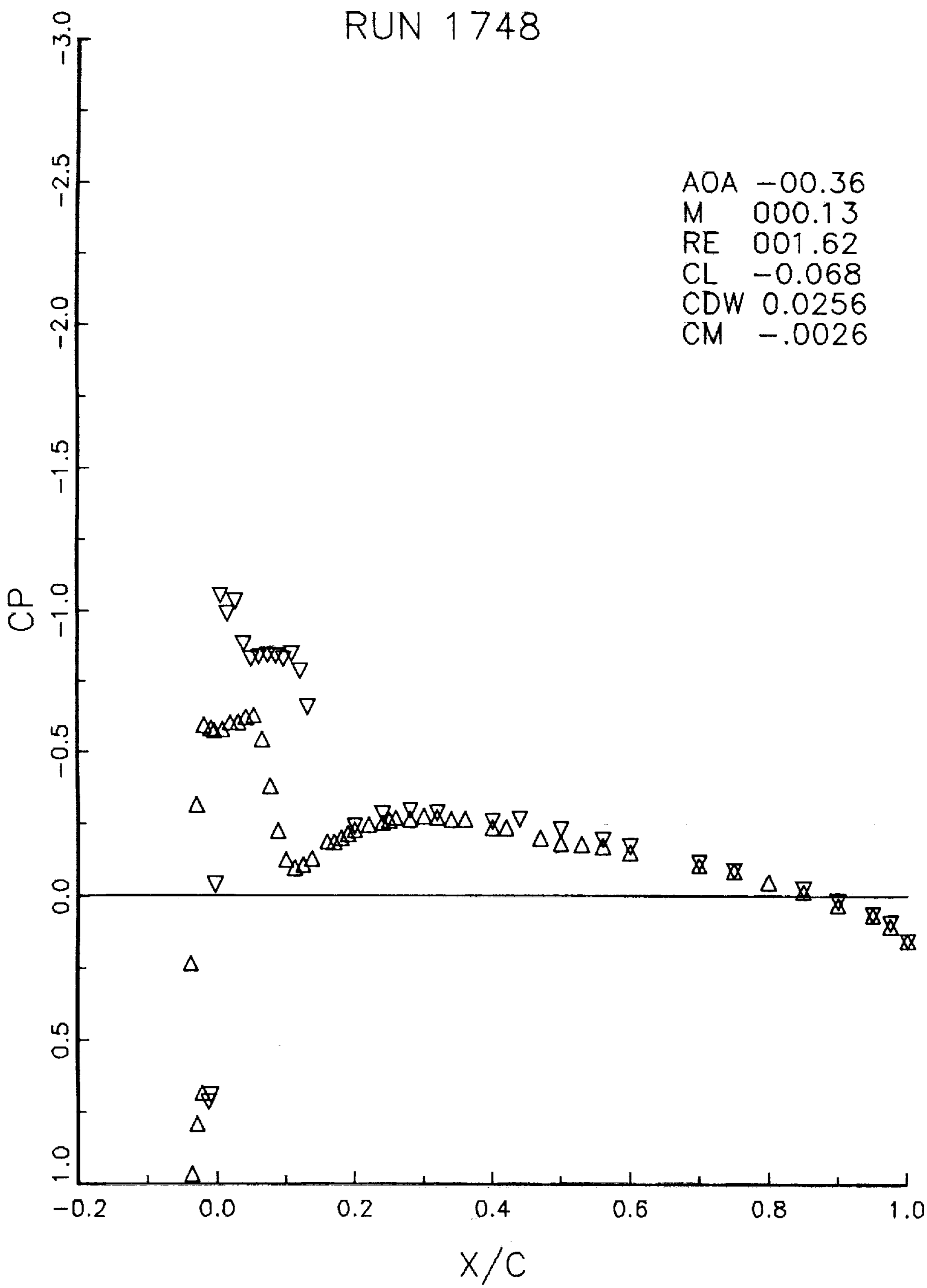
0.5
1.0
−0.2
0.0
0.2
0.4
0.6
0.8
1.0

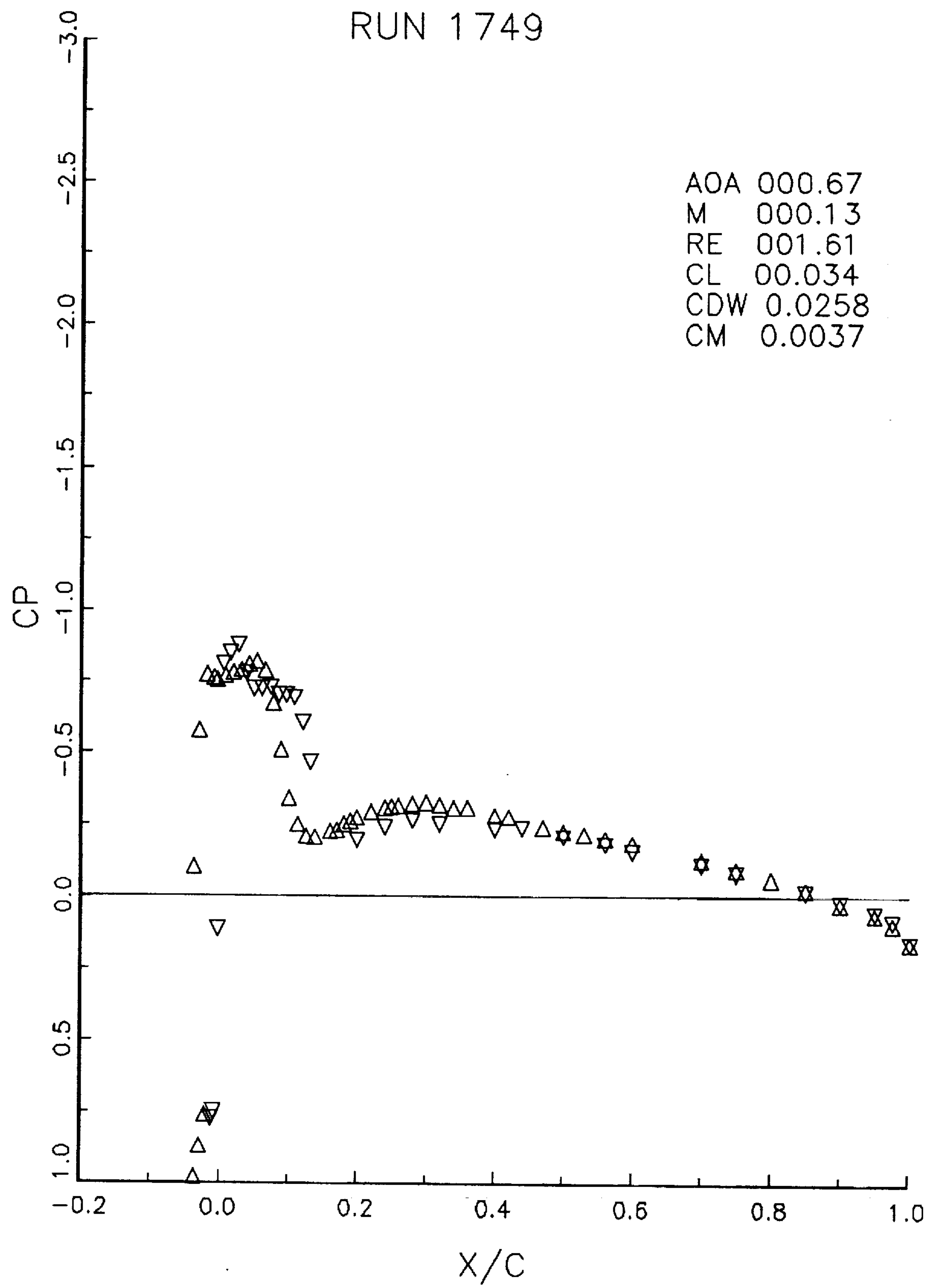


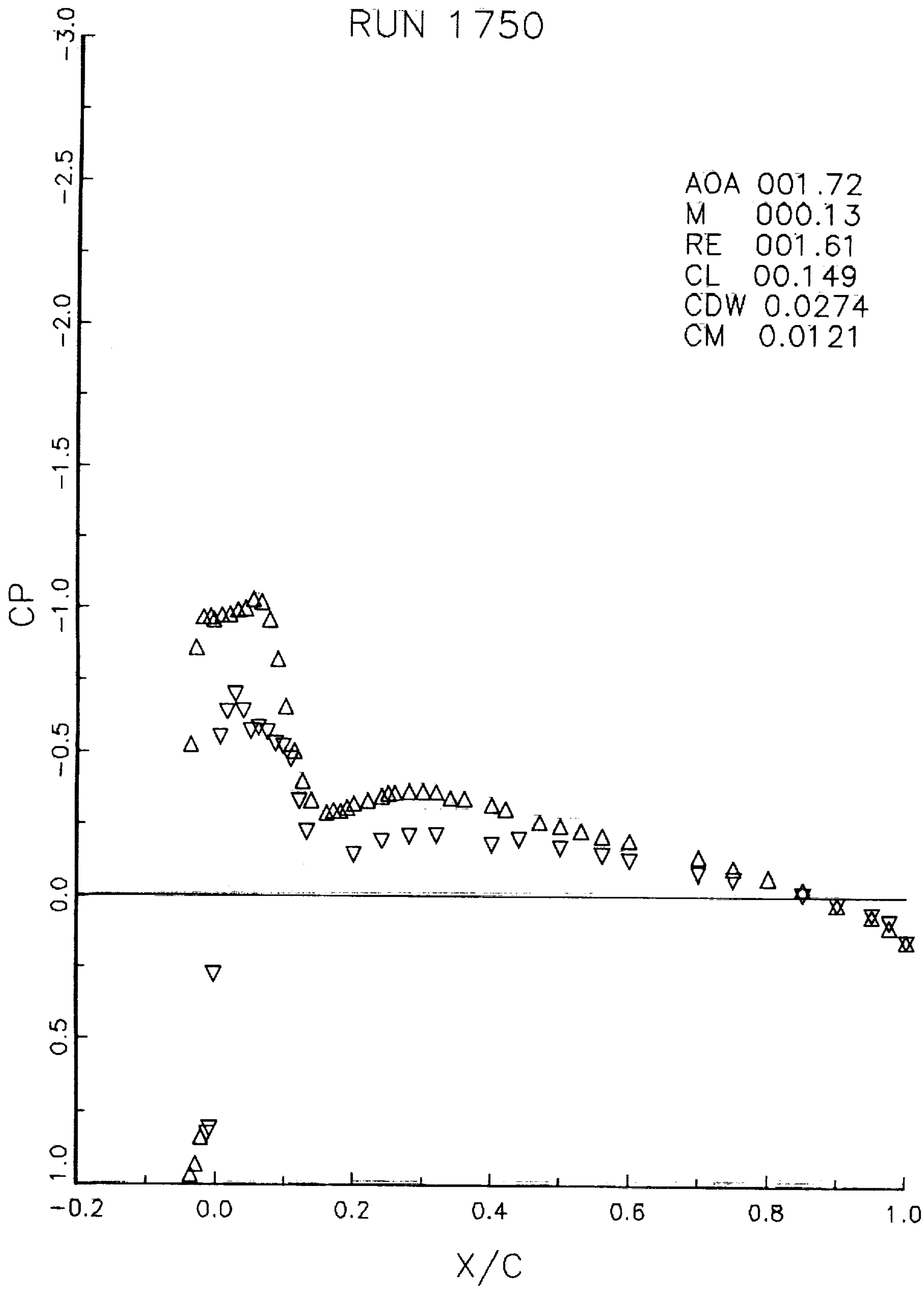
RUN 1746
AOA -02.43
M 000.13
RE 001.61
CL -0.275
CDW 0.0298
CM -.0147
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C



RUN 1747
AOA −01.40
M 000.13
RE 001.59
CL −0.167
CDW 0.0260
CM −.0089
CP
X/C


RUN 1748
AOA -00.36
M 000.13
RE 001.62
CL -0.068
CDW 0.0256
CM -.0026
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1749
AOA 000.67
M 000.13
RE 001.61
CL 00.034
CDW 0.0258
CM 0.0037
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1750
AOA 001.72
M 000.13
RE 001.61
CL 00.149
CDW 0.0274
CM 0.0121
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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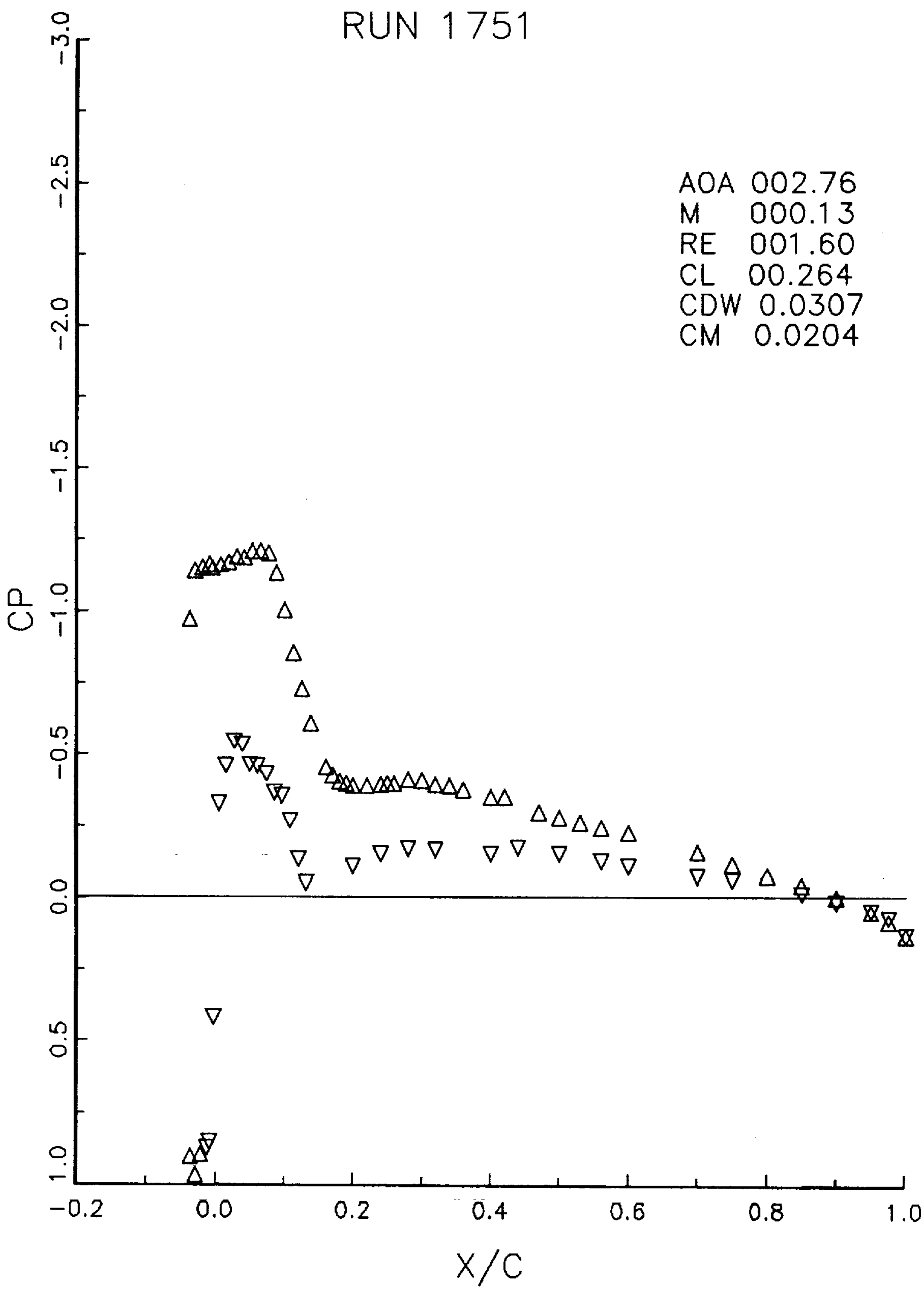
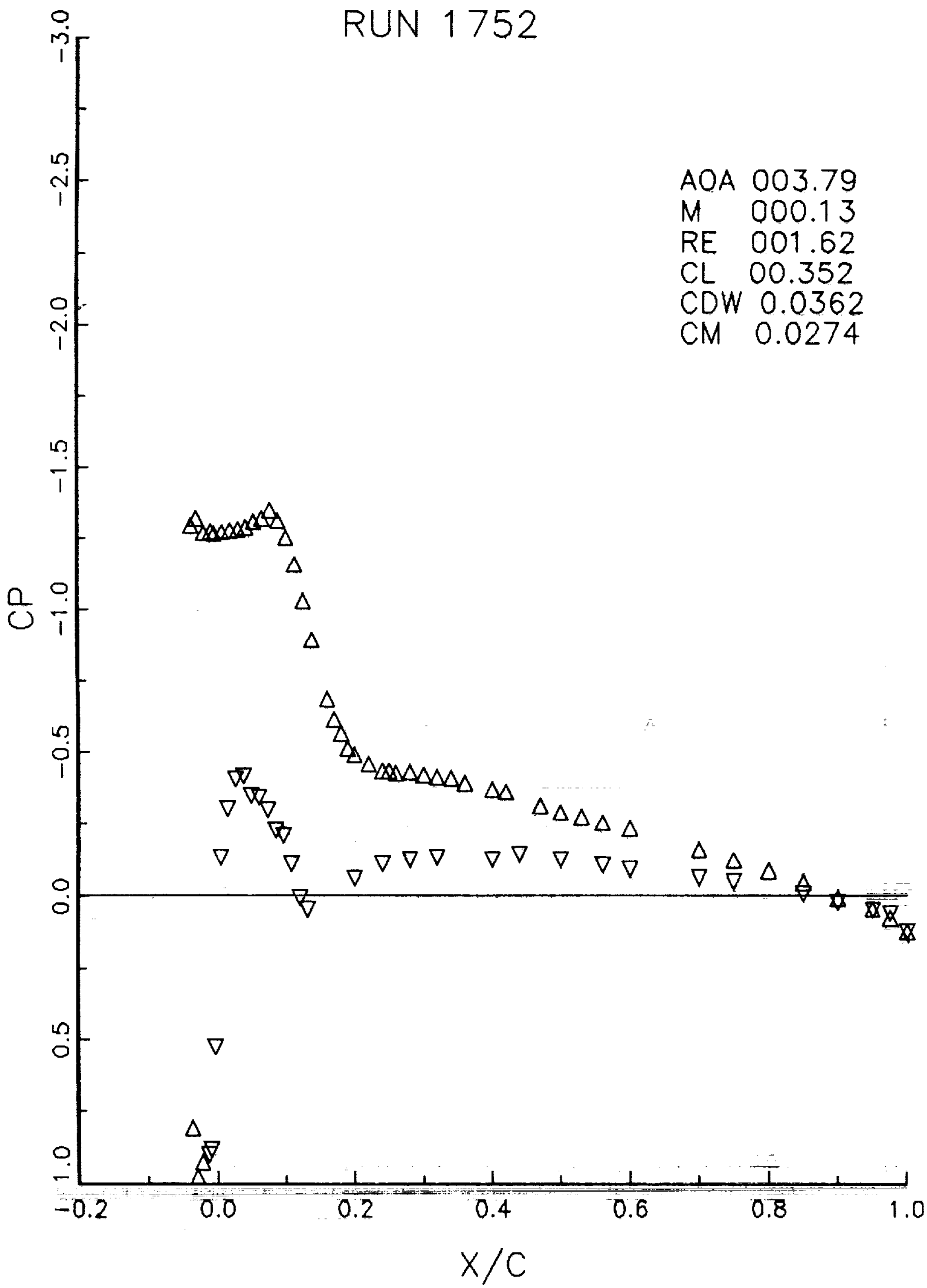
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1751
AOA 002.76
M 000.13
RE 001.60
CL 00.264
CDW 0.0307
CM 0.0204
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C



RUN 1752
AOA 003.79
M 000.13
RE 001.62
CL 00.352
CDW 0.0362
CM 0.0274
CP
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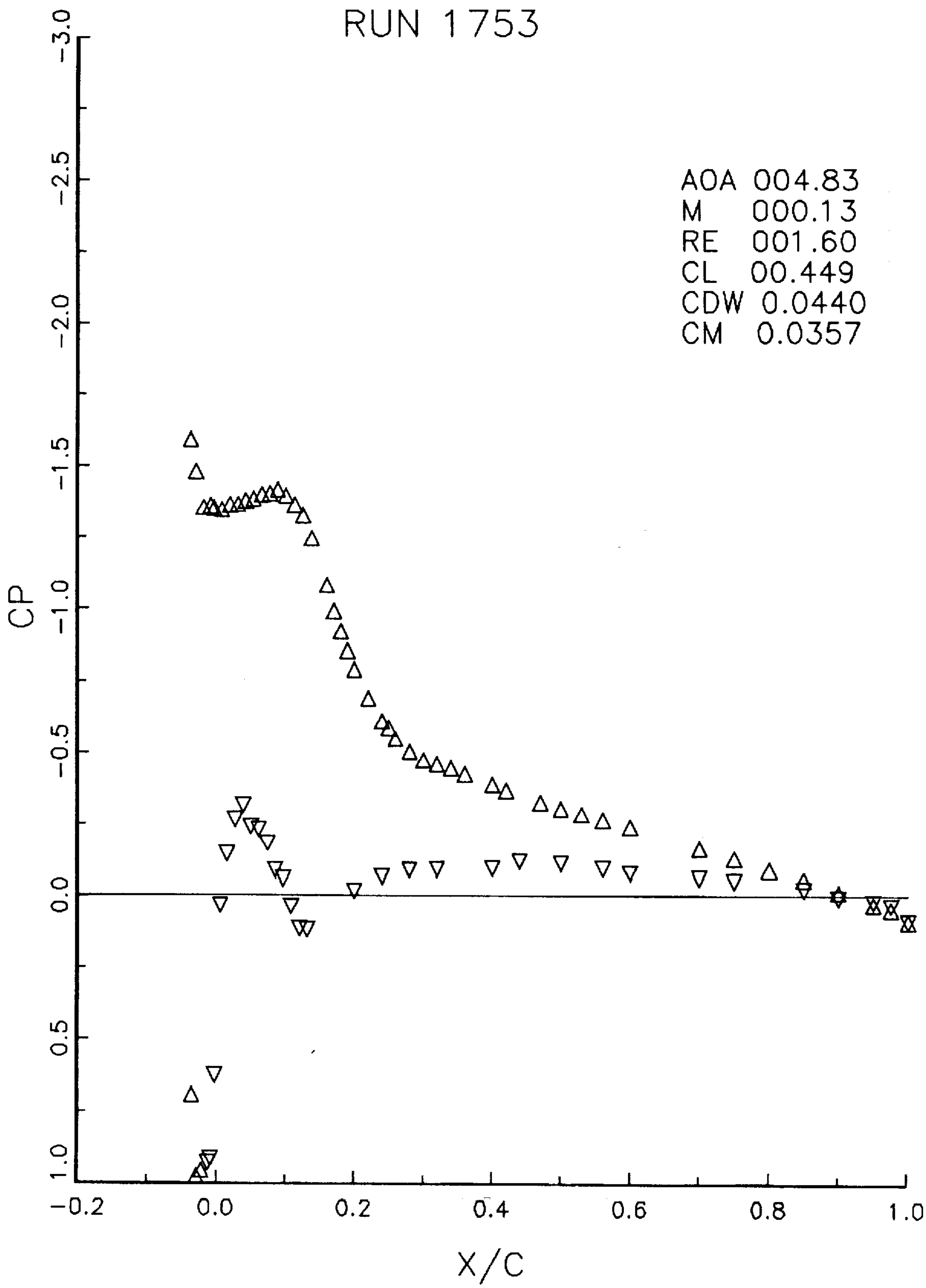
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1753
AOA 004.83
M 000.13
RE 001.60
CL 00.449
CDW 0.0440
CM 0.0357
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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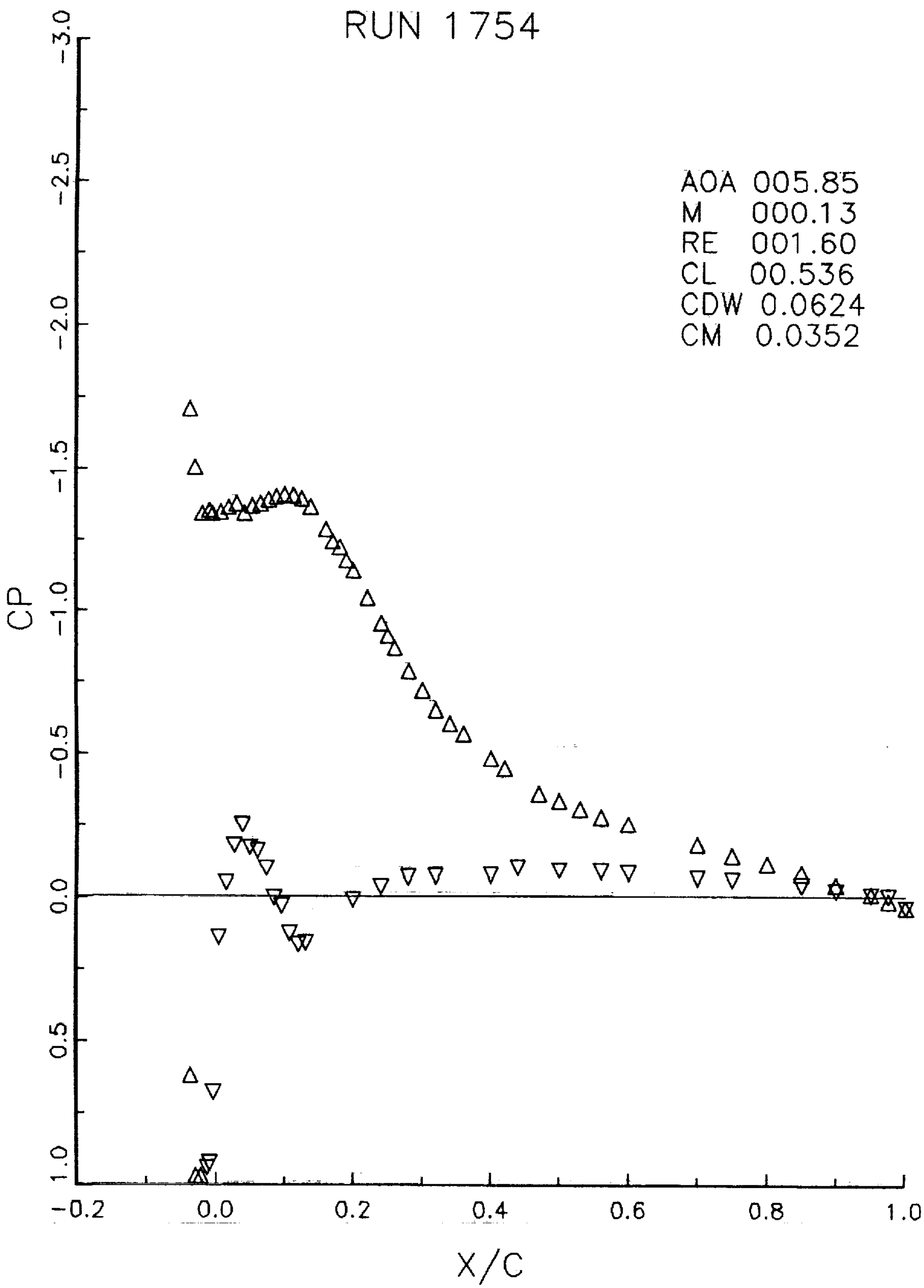
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1754
AOA 005.85
M 000.13
RE 001.60
CL 00.536
CDW 0.0624
CM 0.0352
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
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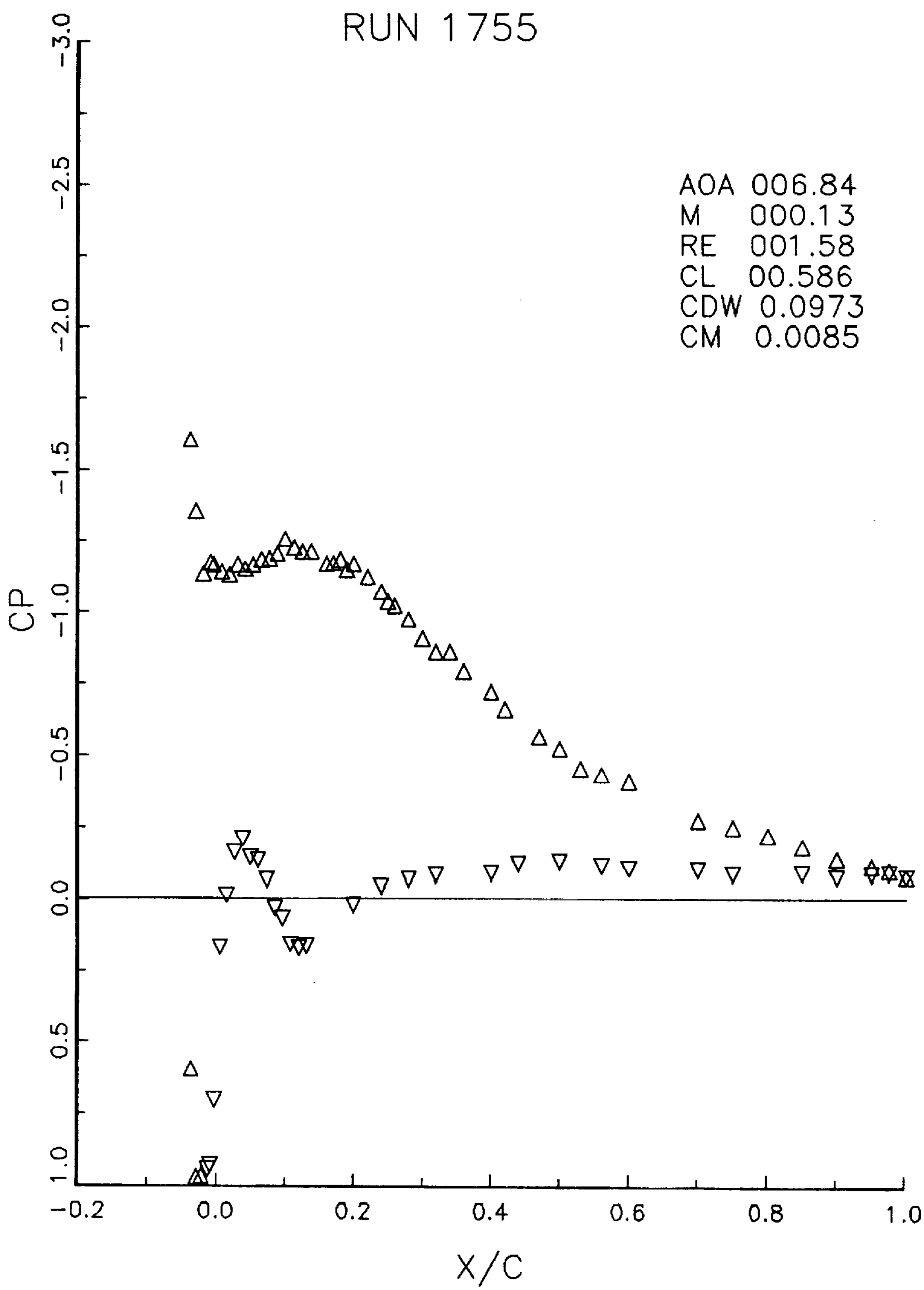
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0



RUN 1755
AOA 006.84
M 000.13
RE 001.58
CL 00.586
CDW 0.0973
CM 0.0085
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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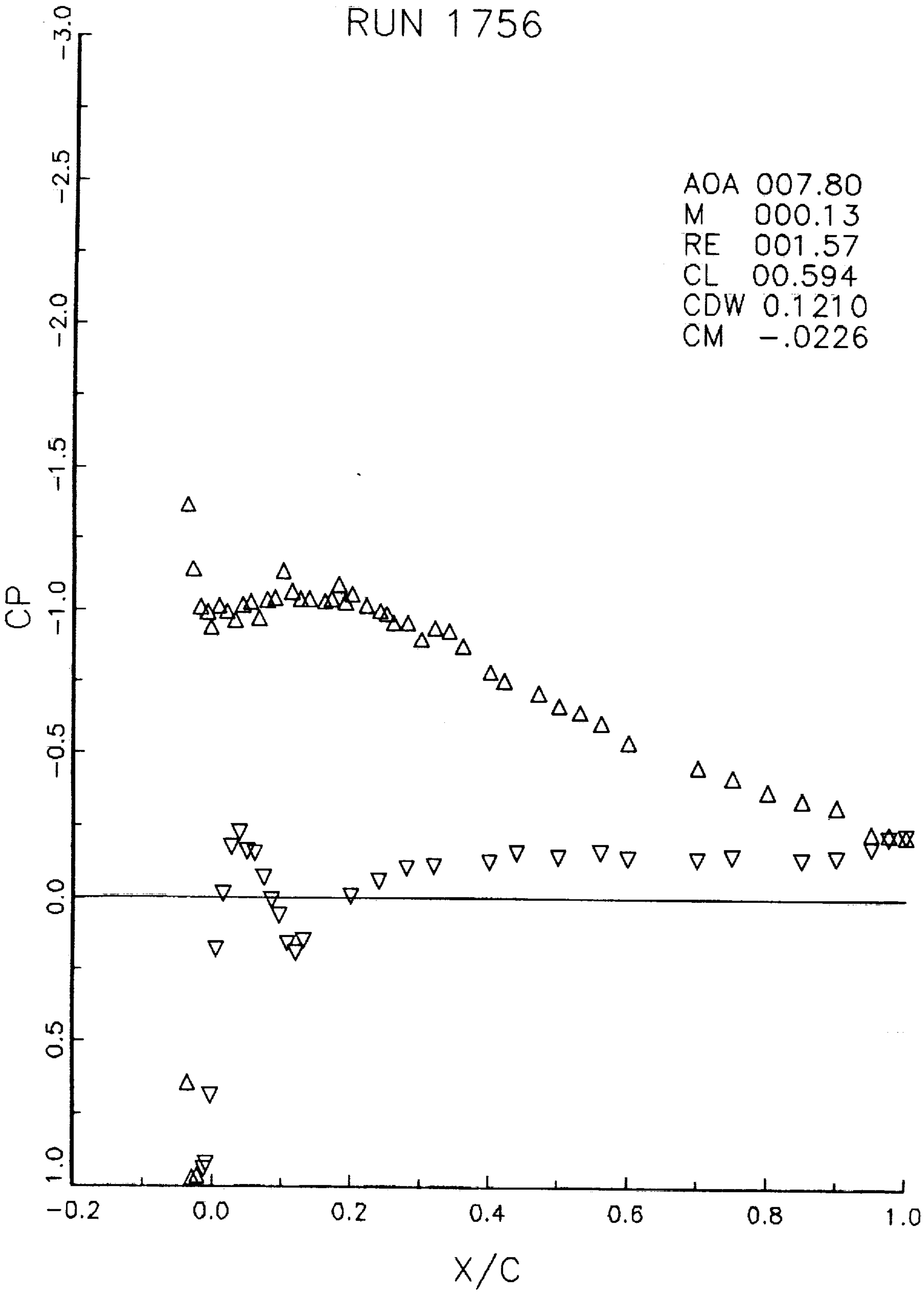
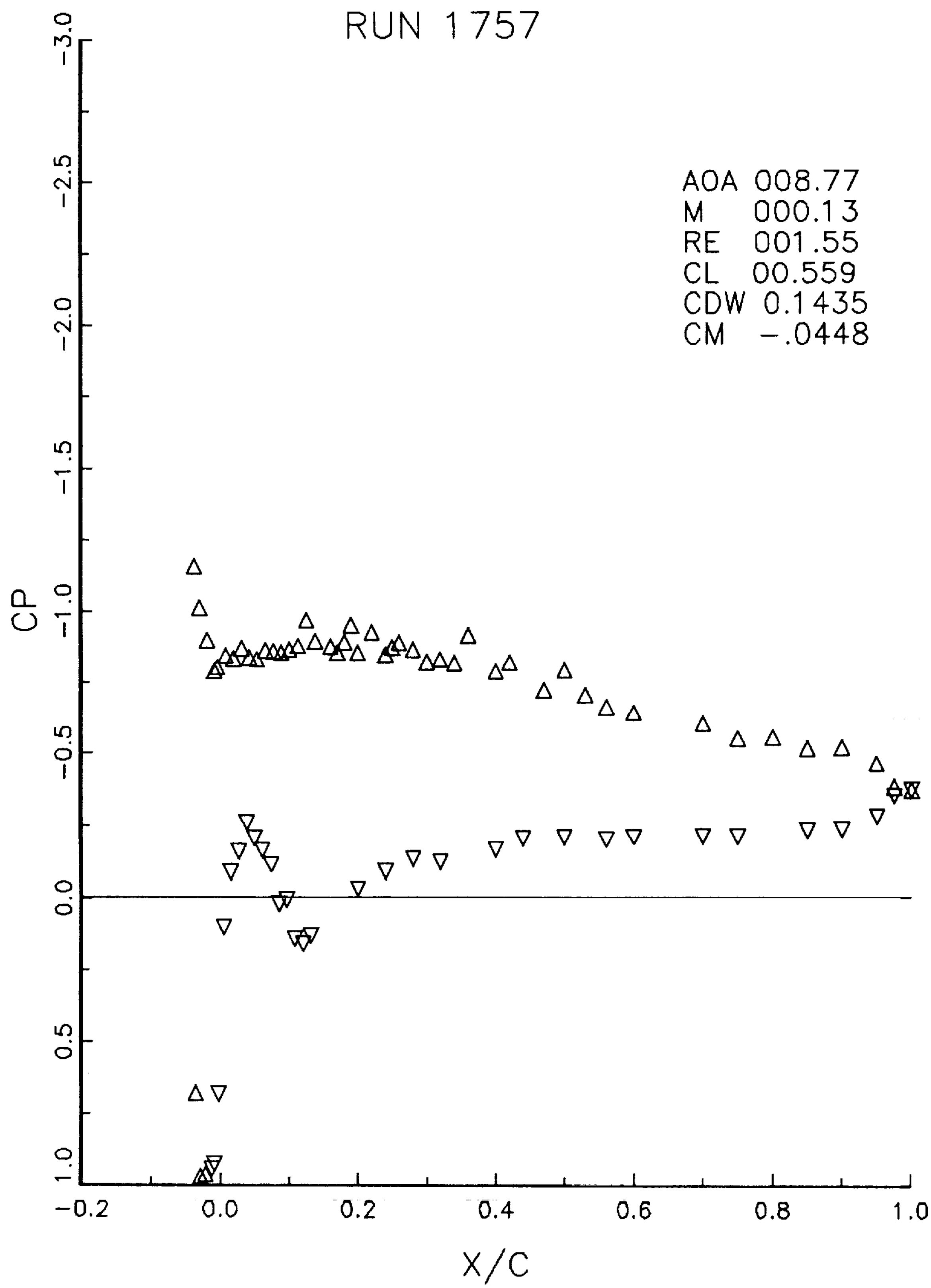
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1756
AOA 007.80
M 000.13
RE 001.57
CL 00.594
CDW 0.1210
CM -.0226
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
0.0
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C



RUN 1757
AOA 008.77
M 000.13
RE 001.55
CL 00.559
CDW 0.1435
CM -.0448
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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0.5
1.0
-0.2
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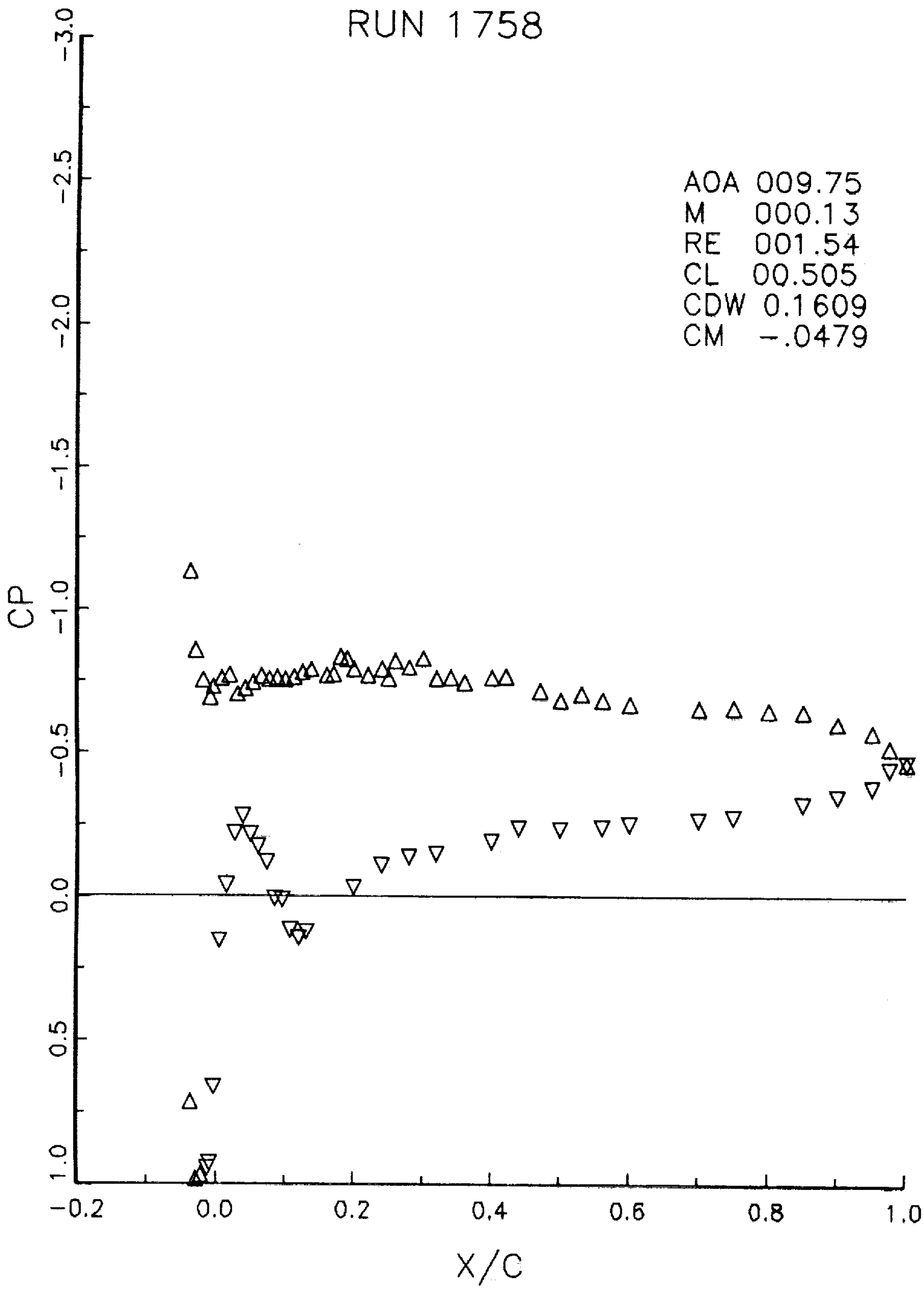
0.2
0.4
0.6
0.8
1.0


RUN 1758
AOA 009.75
M 000.13
RE 001.54
CL 00.505
CDW 0.1609
CM -.0479
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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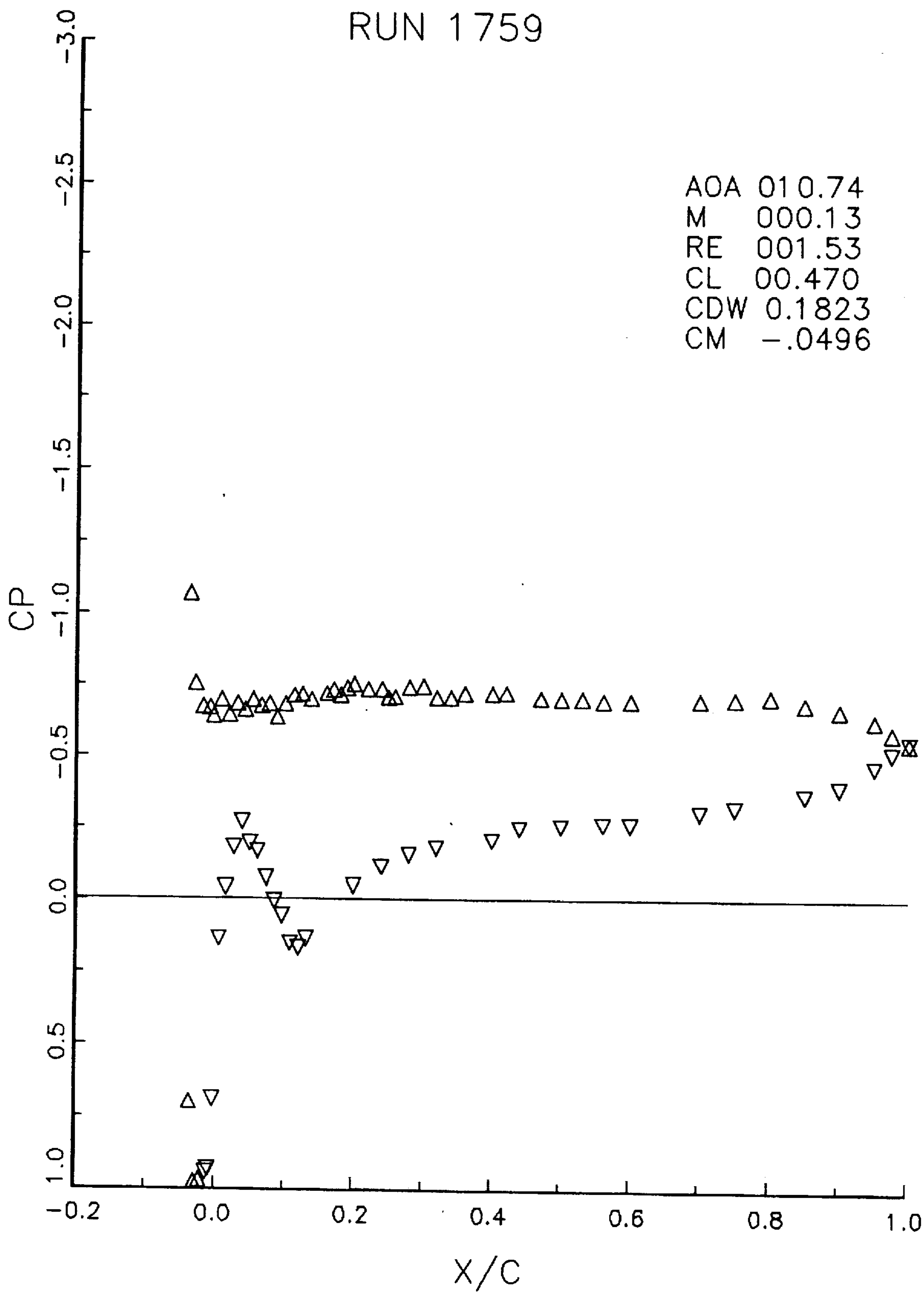
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1759
AOA 010.74
M 000.13
RE 001.53
CL 00.470
CDW 0.1823
CM -.0496
CP
-3.0
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-1.5
-1.0
-0.5
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1.0
-0.2
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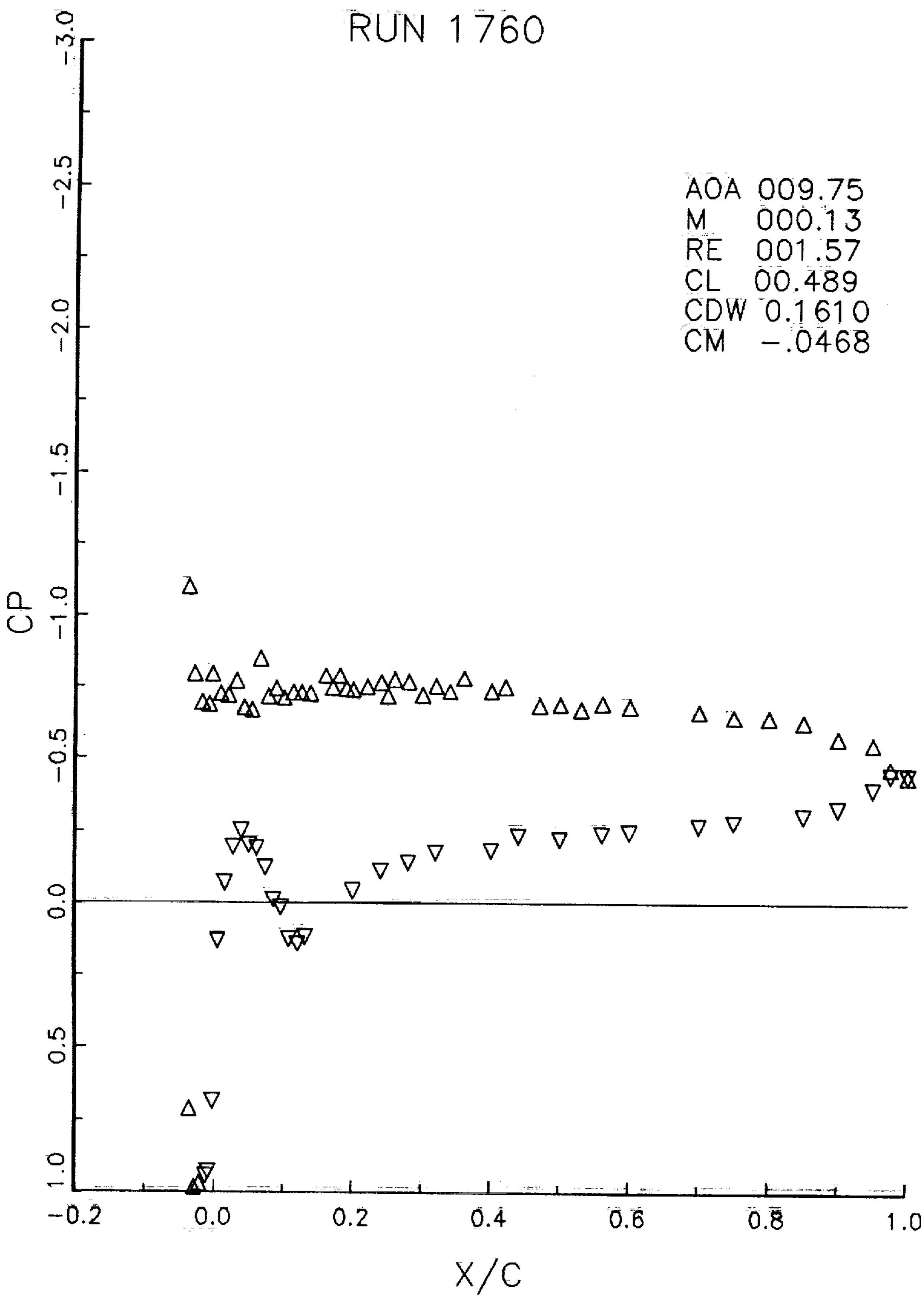
0.2
0.4
0.6
0.8
1.0
X/C



RUN 1760
AOA 009.75
M 000.13
RE 001.57
CL 00.489
CDW 0.1610
CM -.0468
CP
X/C
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-2.0
-1.5
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0.5
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-0.2
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0.2
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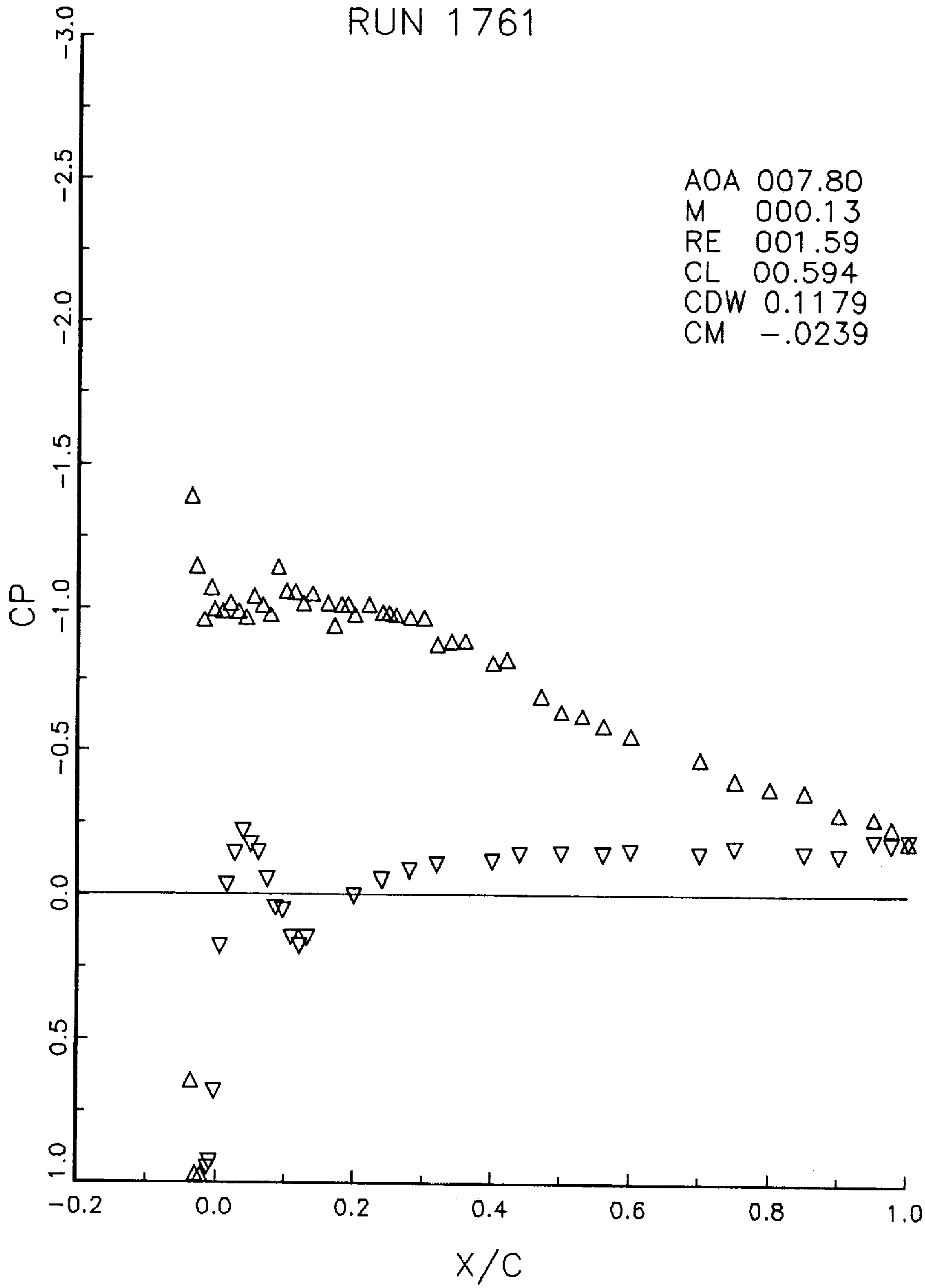
RUN 1761
AOA 007.80
M 000.13
RE 001.59
CL 00.594
CDW 0.1179
CM -.0239
CP
-3.0
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-2.0
-1.5
-1.0
-0.5
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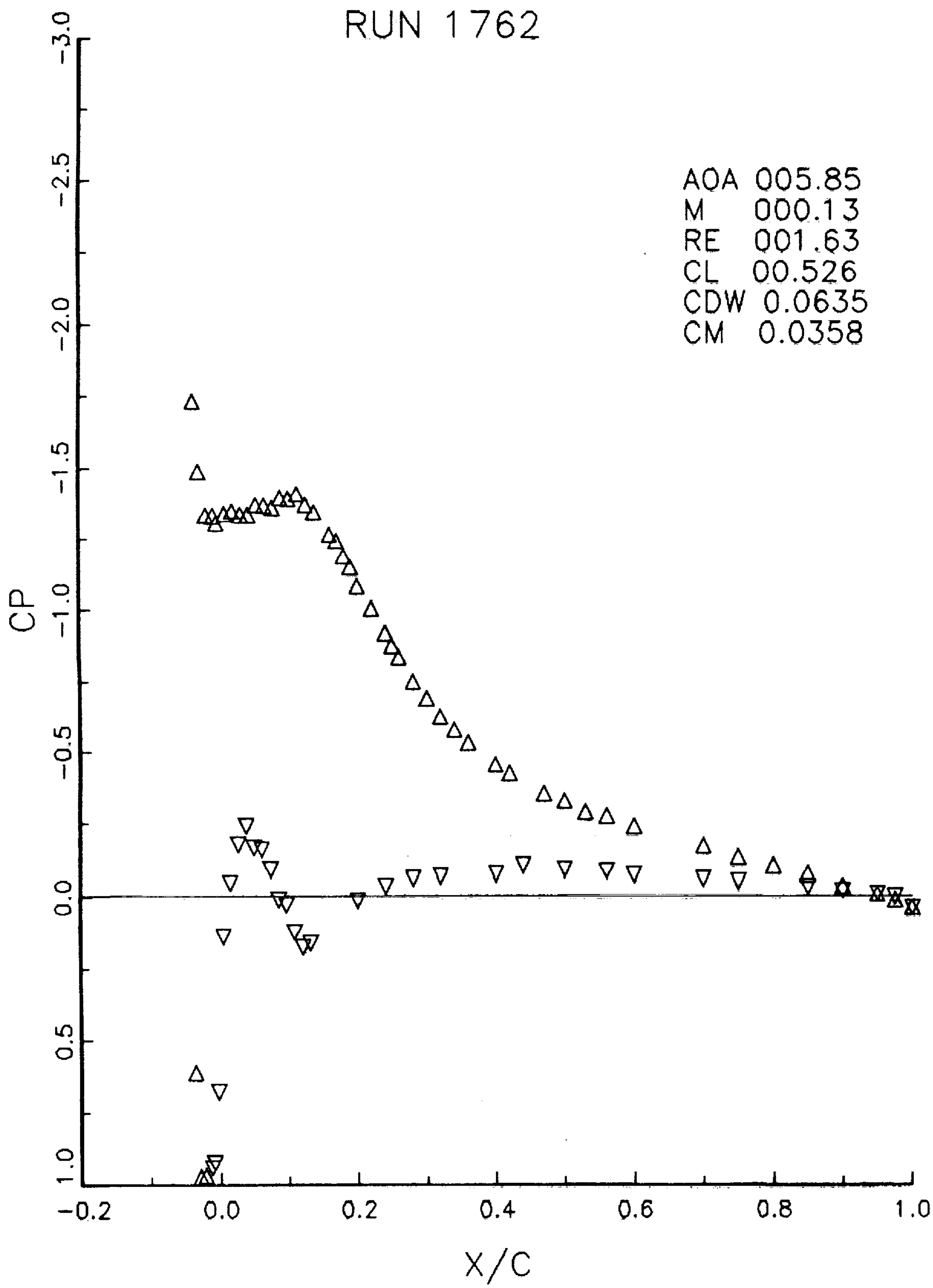
0.5
1.0
X/C
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1762
AOA 005.85
M 000.13
RE 001.63
CL 00.526
CDW 0.0635
CM 0.0358
CP
-3.0
-2.5
-2.0
-1.5
-1.0
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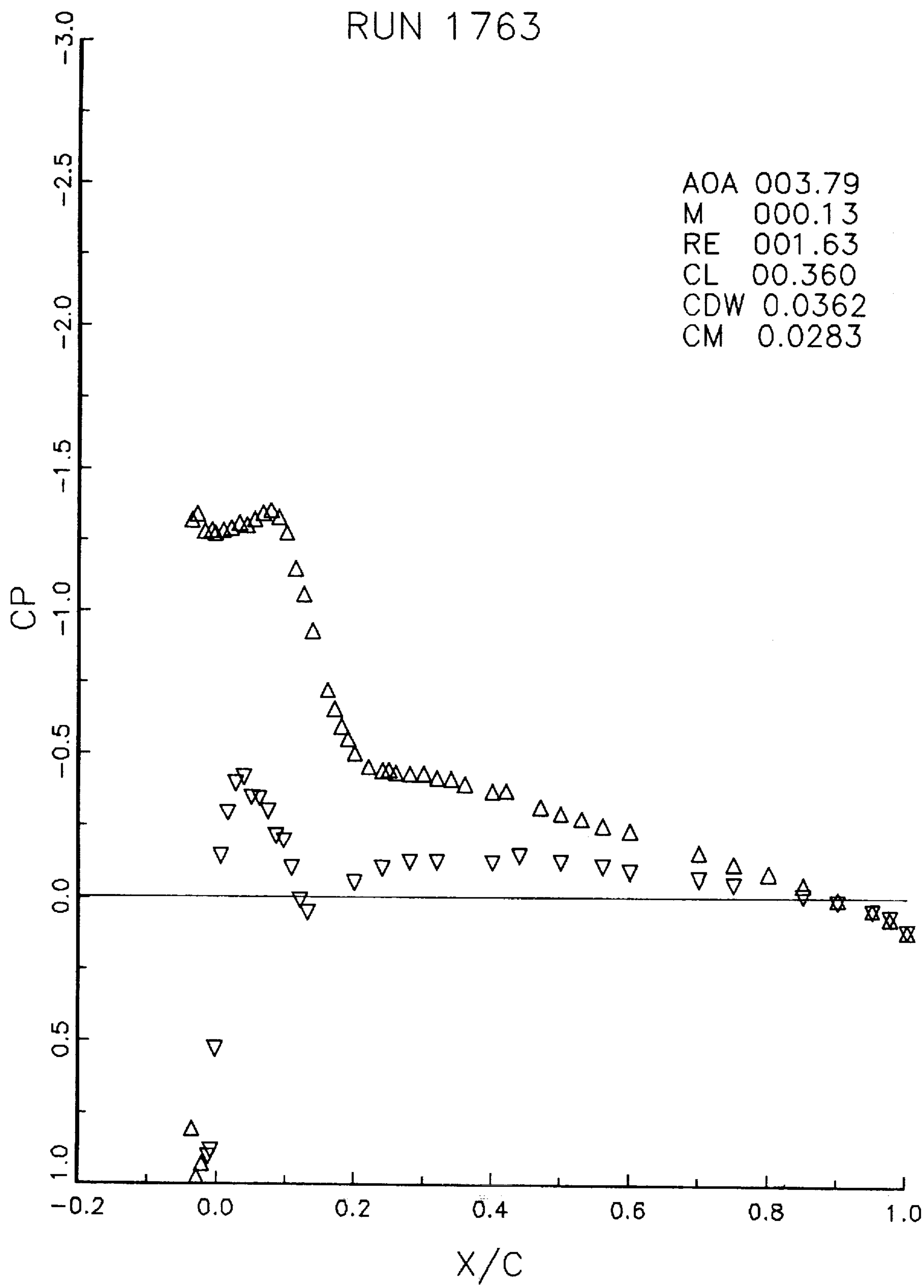
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1763
AOA 003.79
M 000.13
RE 001.63
CL 00.360
CDW 0.0362
CM 0.0283
CP
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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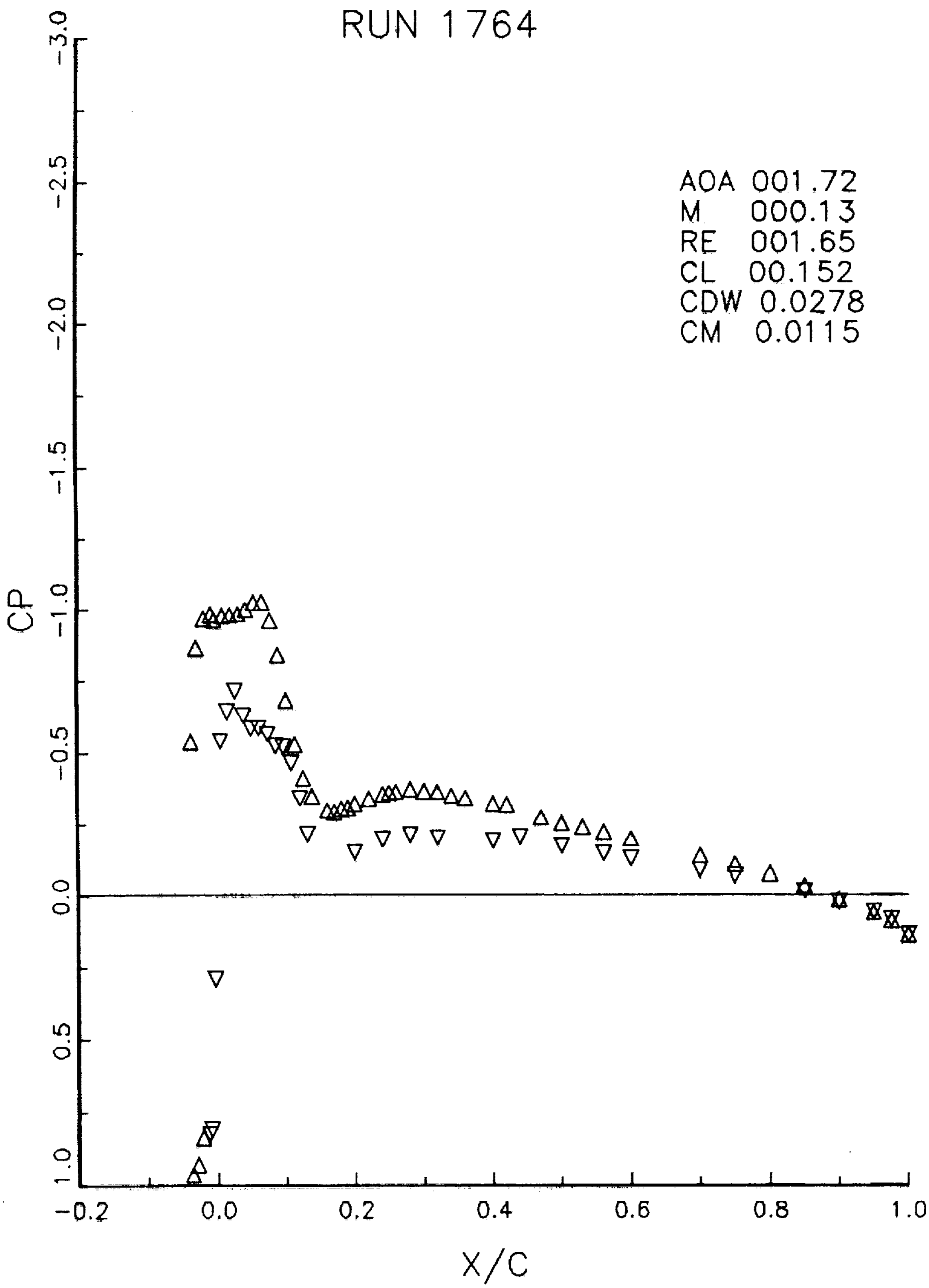
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0
X/C


RUN 1764
AOA 001.72
M 000.13
RE 001.65
CL 00.152
CDW 0.0278
CM 0.0115
CP
X/C
-3.0
-2.5
-2.0
-1.5
-1.0
-0.5
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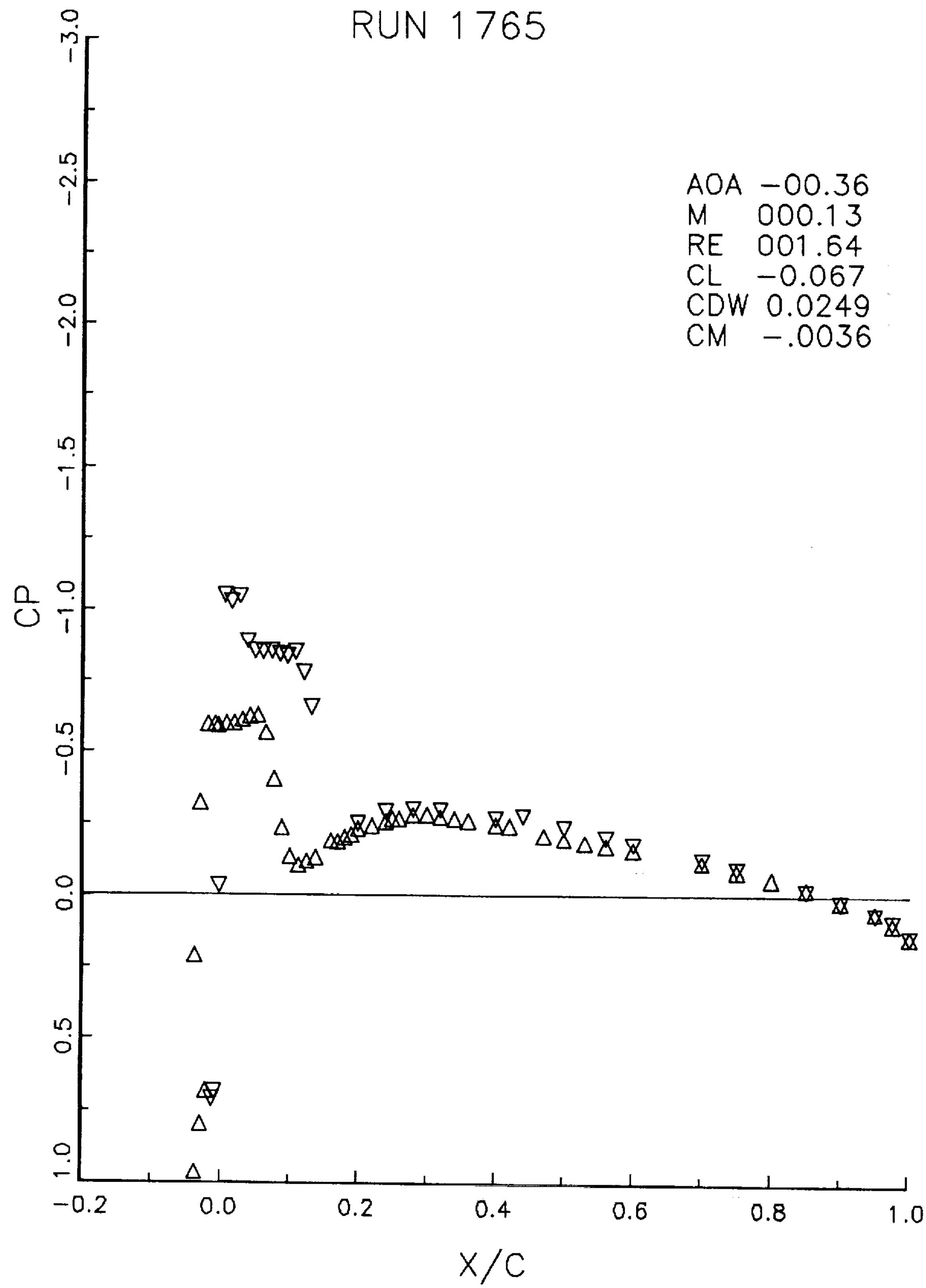
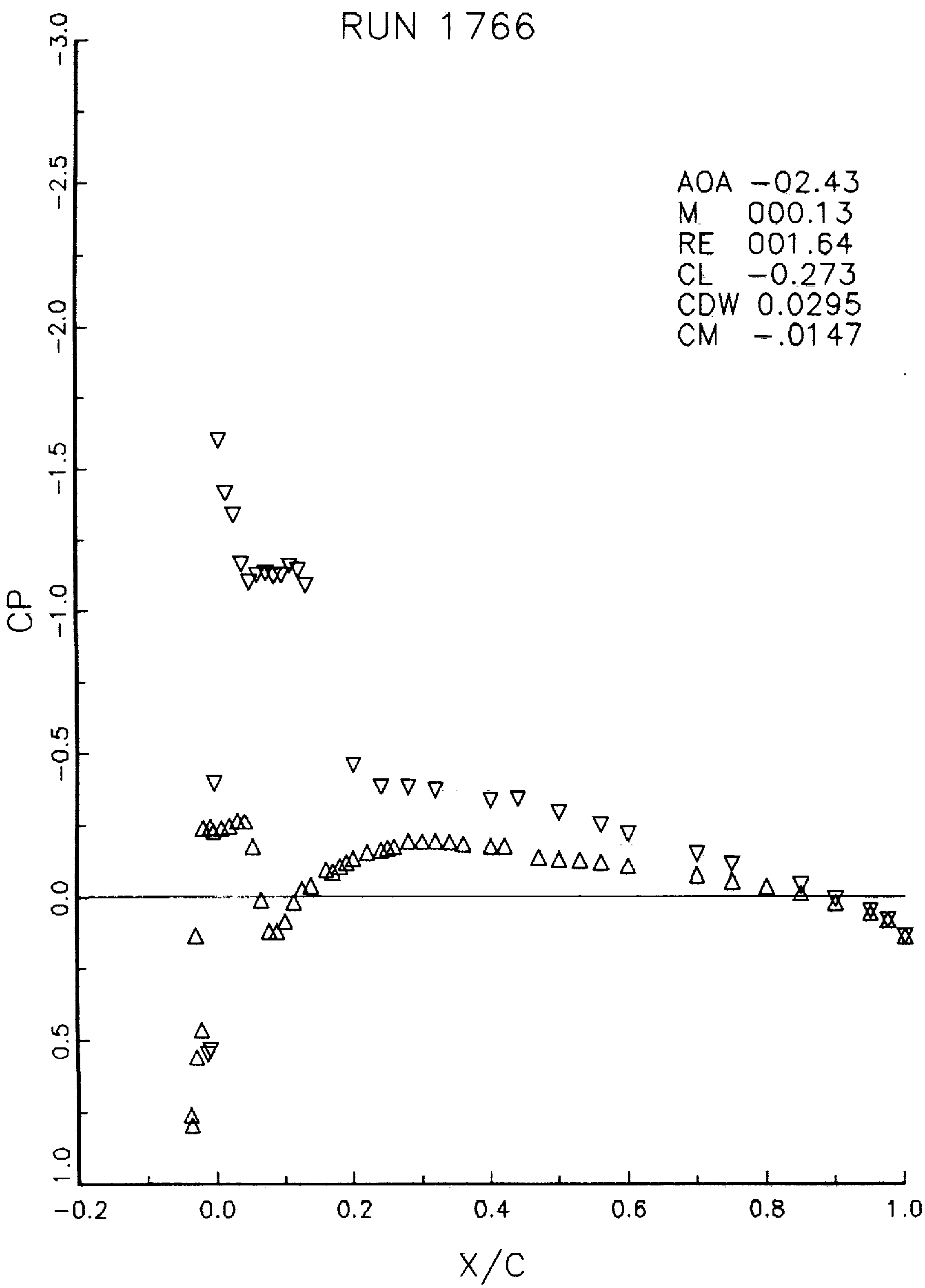
0.5
1.0
-0.2
0.0
0.2
0.4
0.6
0.8
1.0


RUN 1765
AOA −00.36
M 000.13
RE 001.64
CL −0.067
CDW 0.0249
CM −.0036
CP
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
X/C
−0.2
0.0
0.2
0.4
0.6
0.8
1.0



RUN 1766
AOA −02.43
M 000.13
RE 001.64
CL −0.273
CDW 0.0295
CM −.0147
CP
X/C
−3.0
−2.5
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
−0.2
0.0
0.2
0.4
0.6
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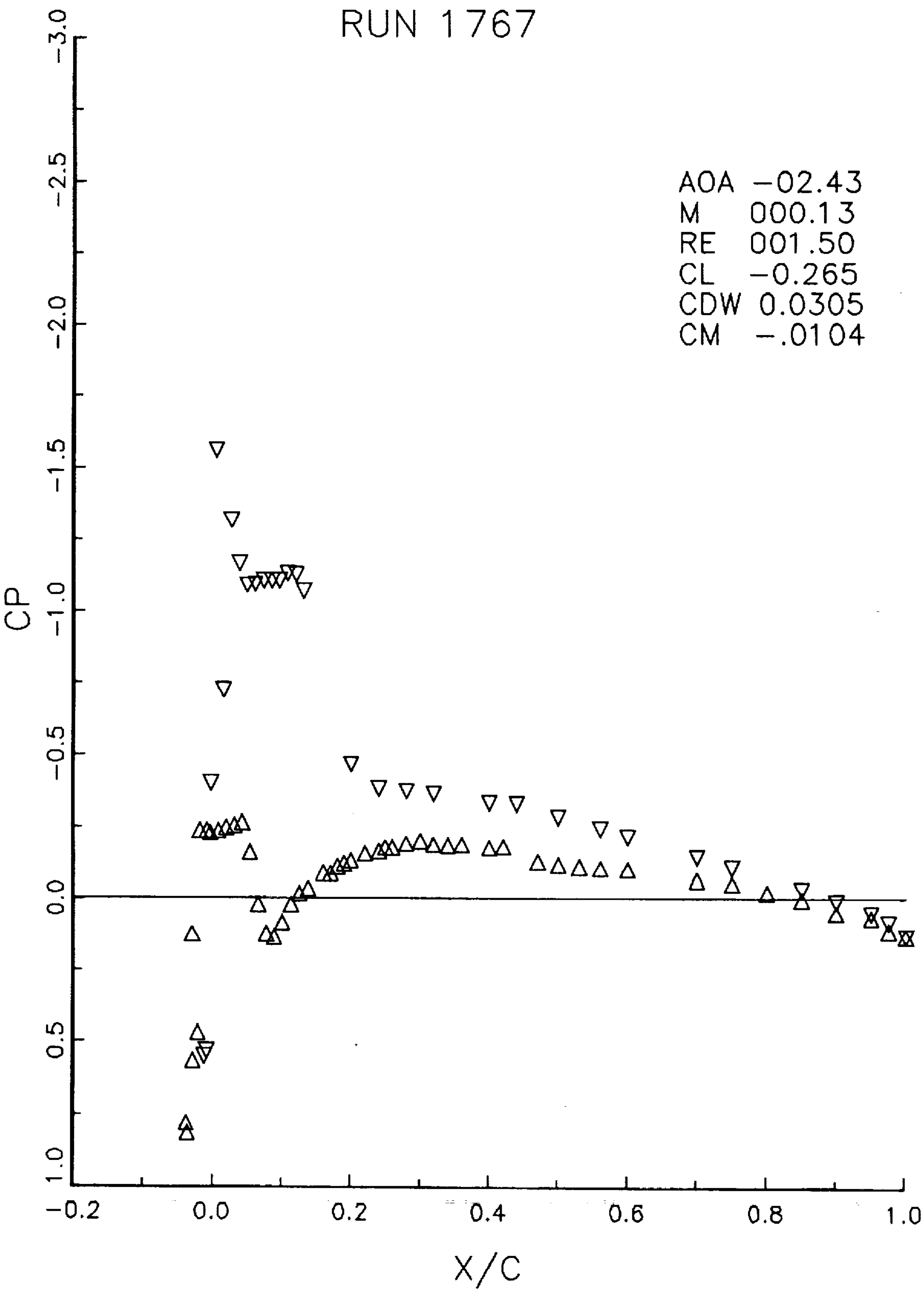
1.0



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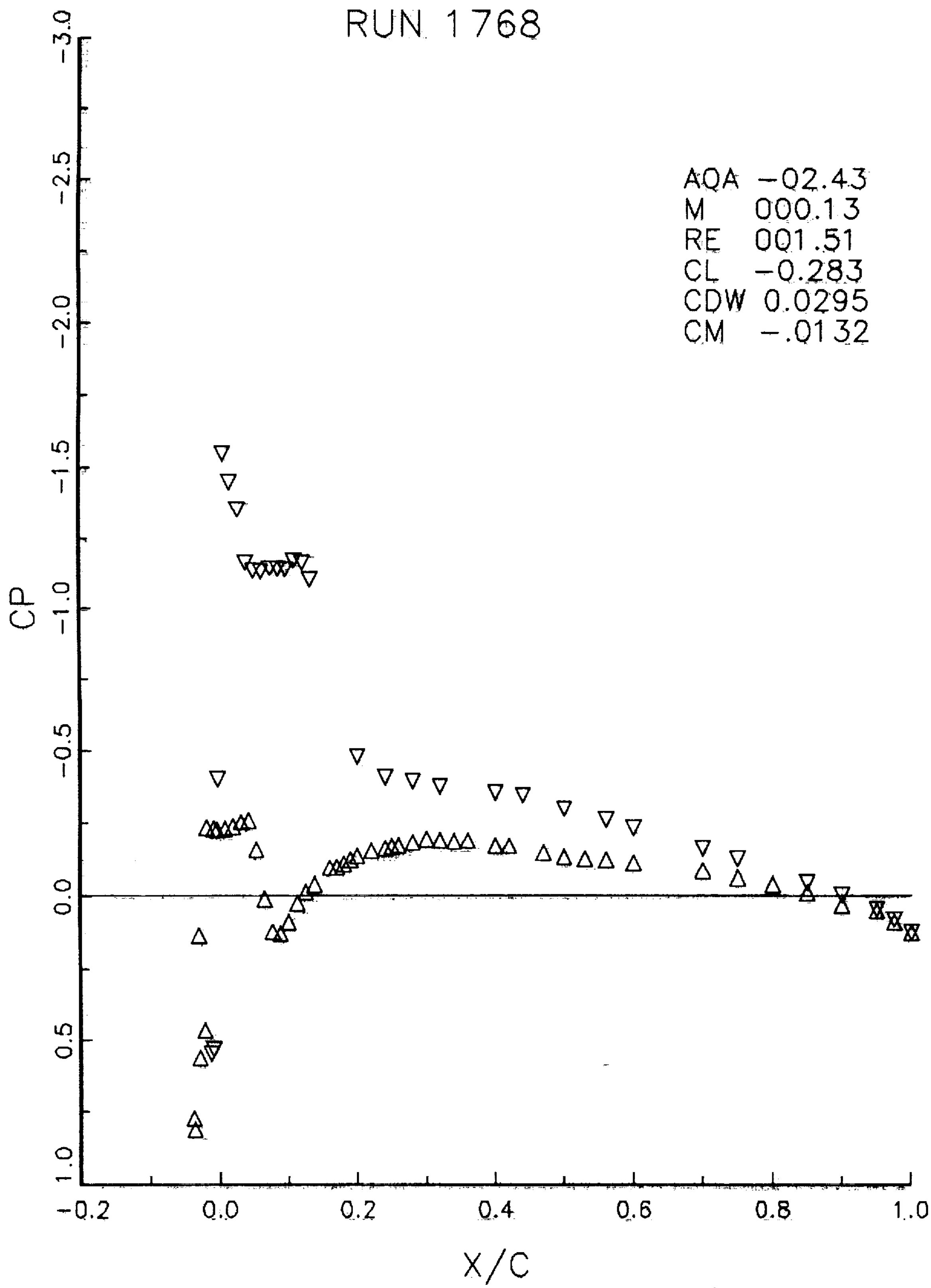

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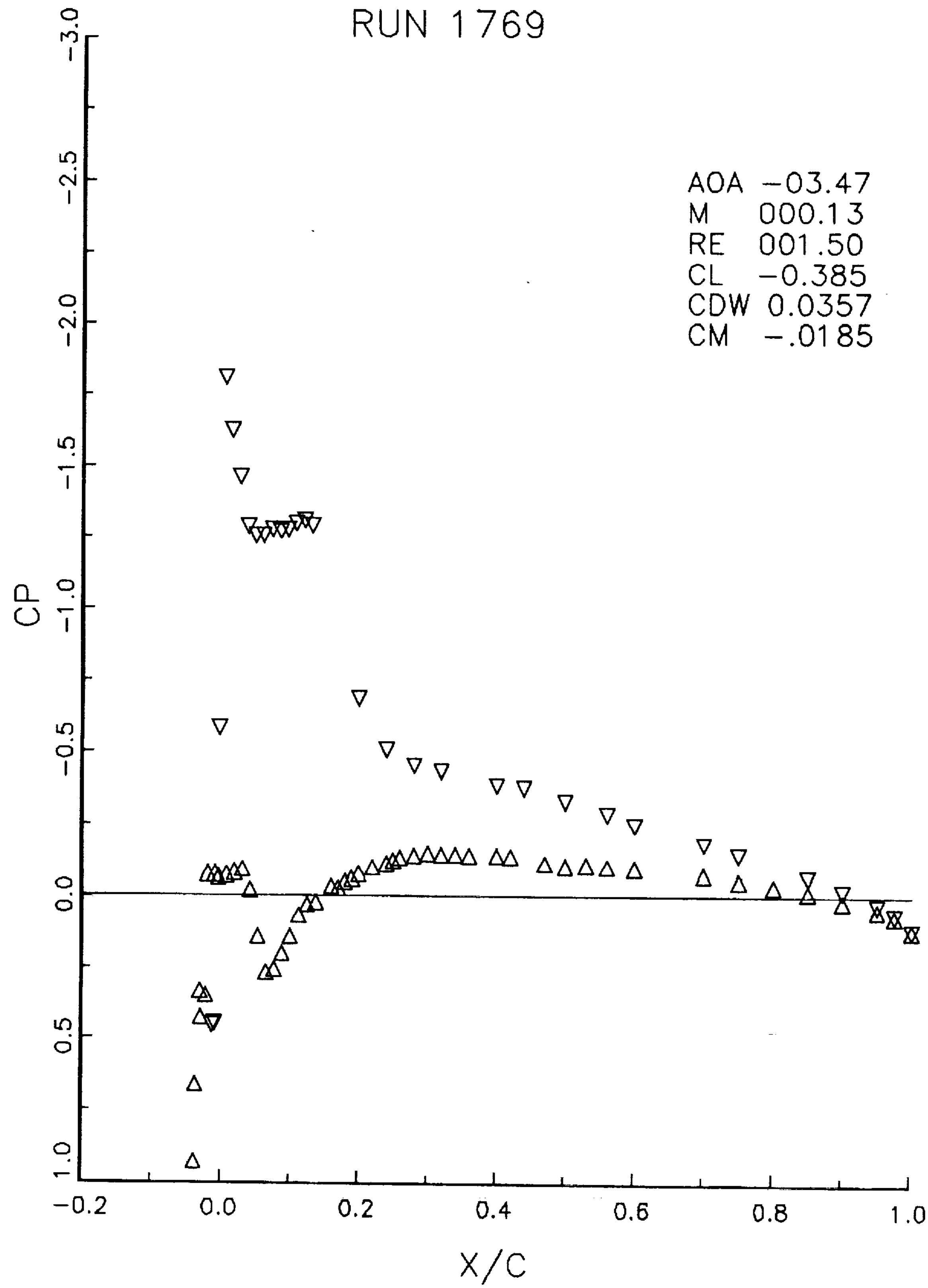
RUN 1769
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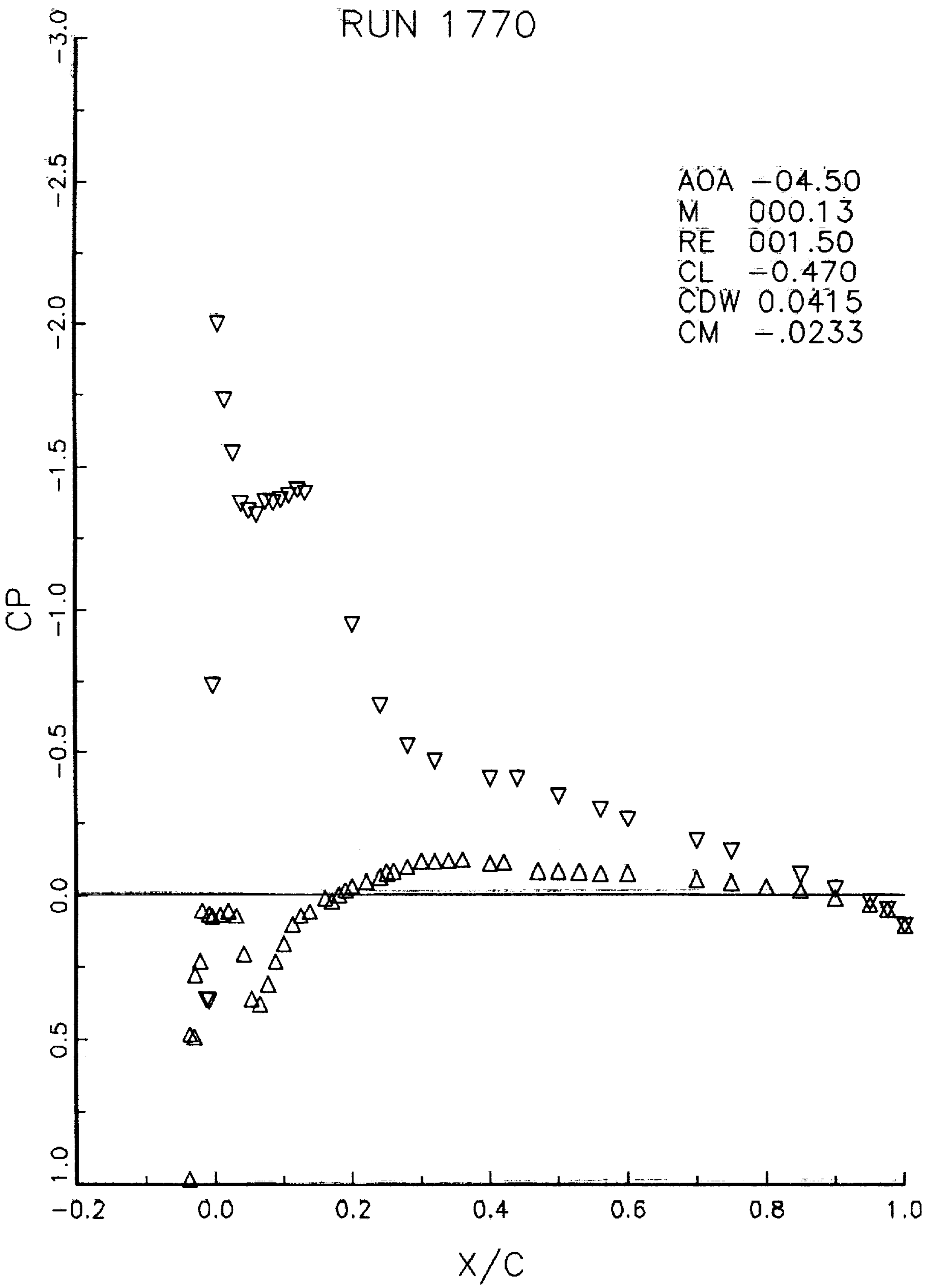
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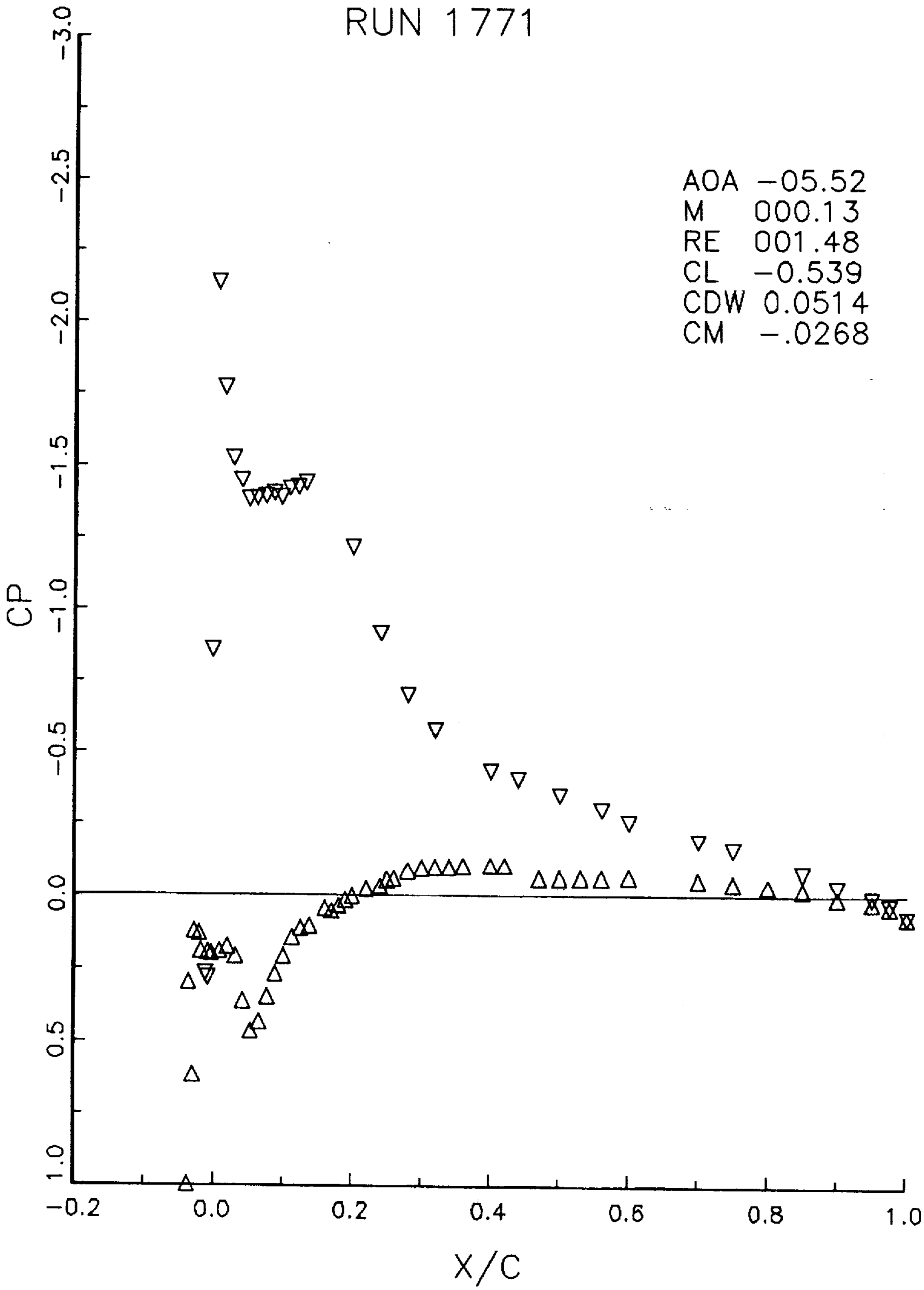

RUN 1771
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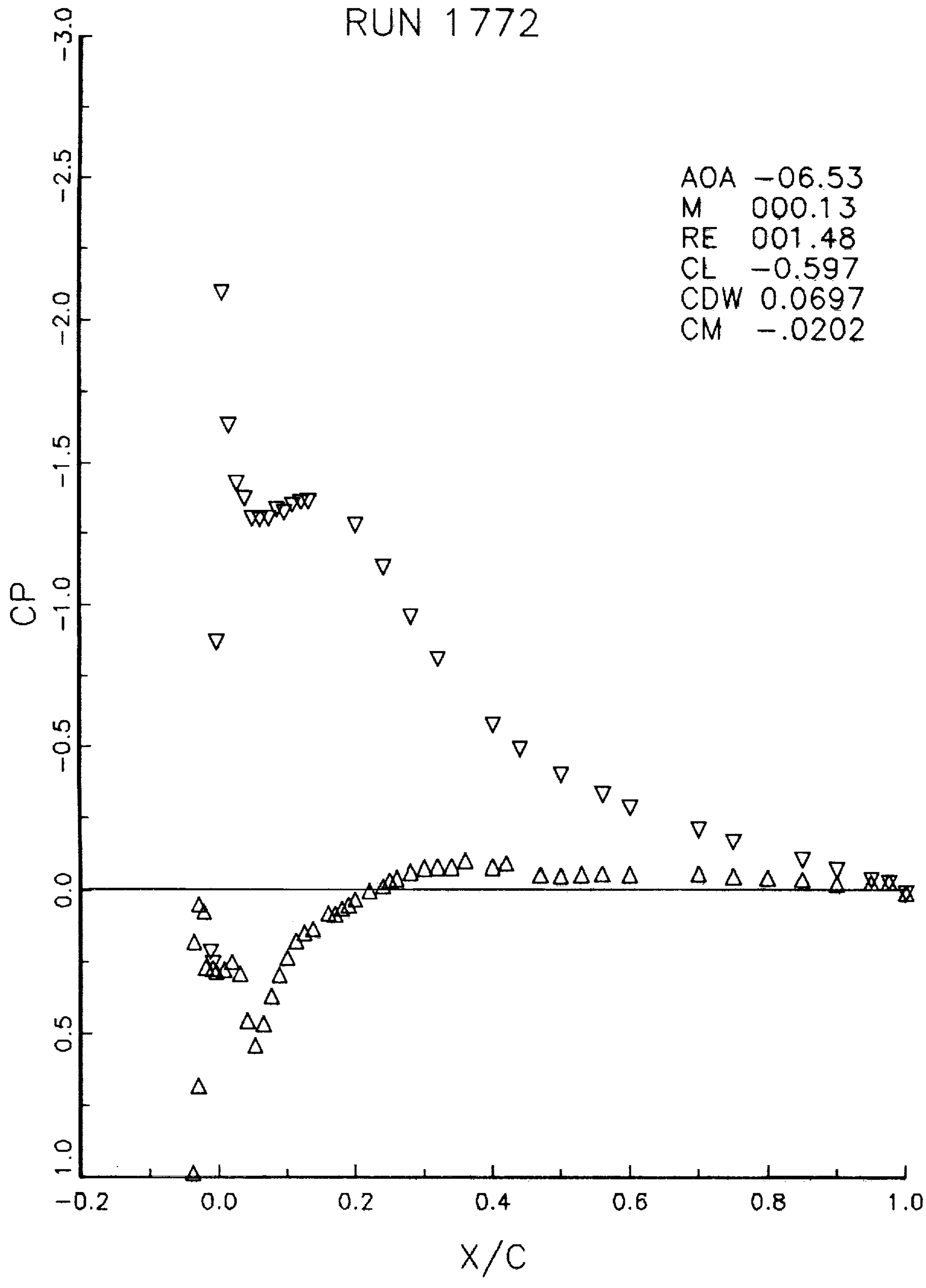
RUN 1772
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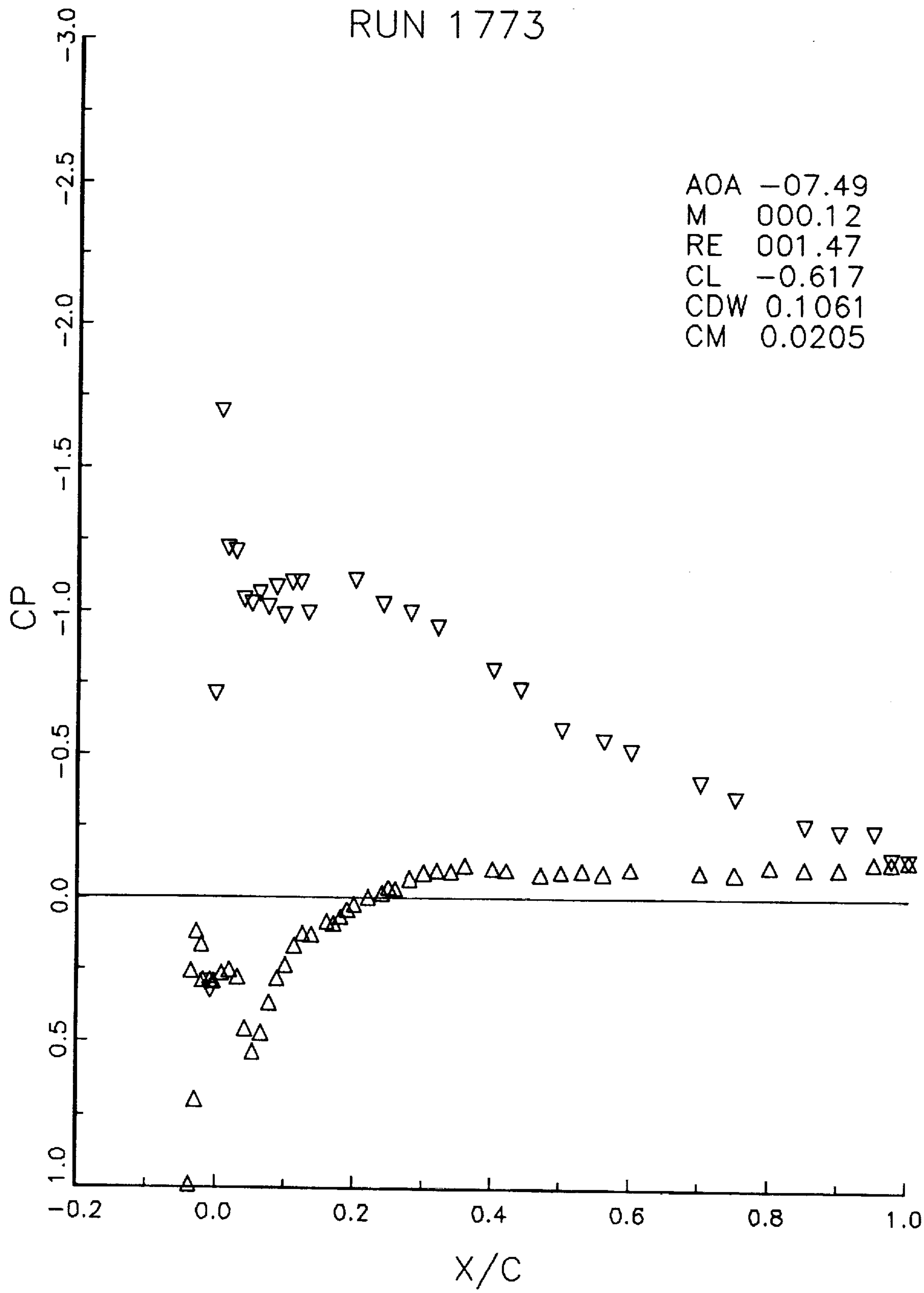
0.8
1.0


RUN 1773
AOA -07.49
M 000.12
RE 001.47
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CDW 0.1061
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CP
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-2.0
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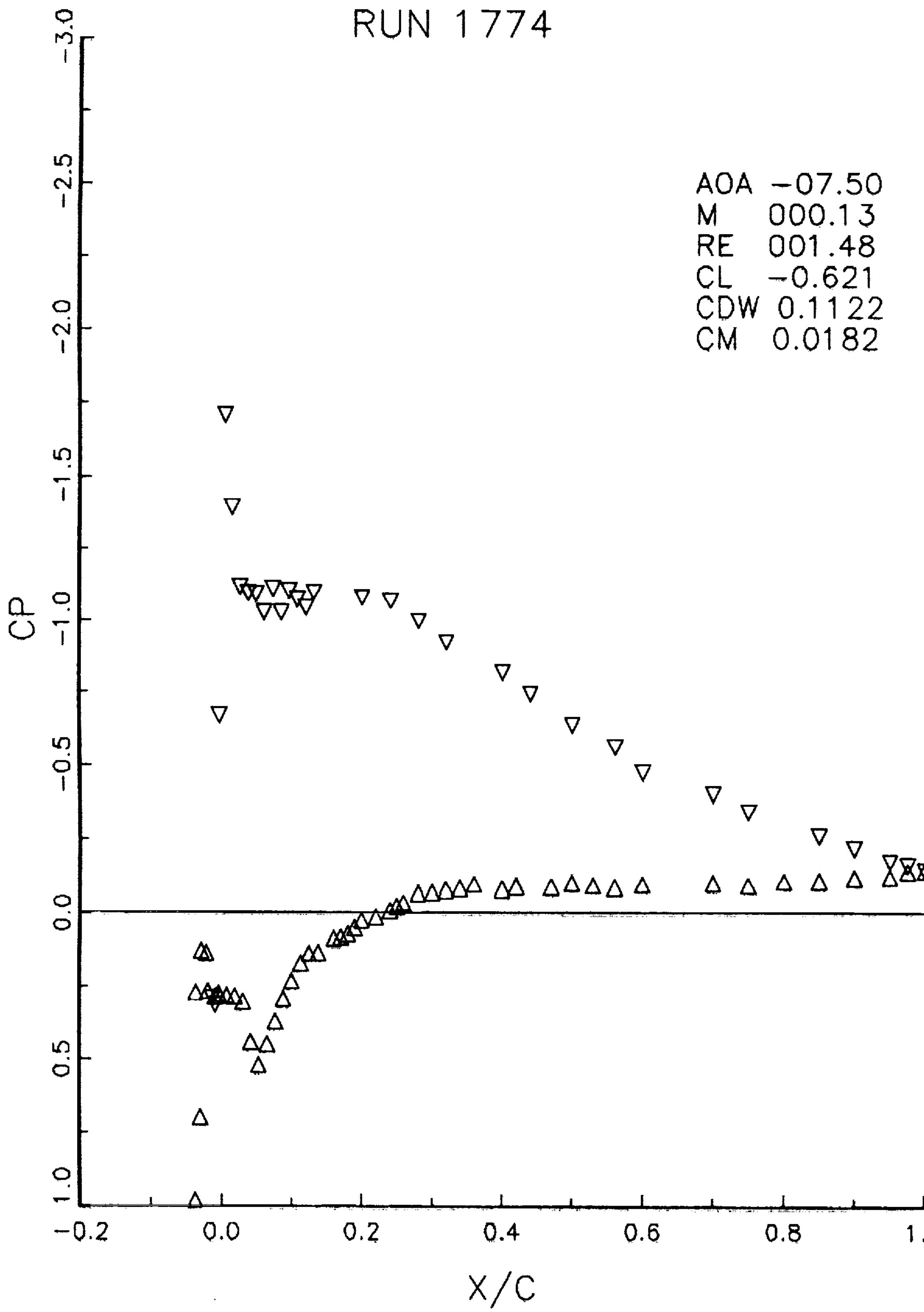
1.0


RUN 1774
AOA −07.50
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CDW 0.1122
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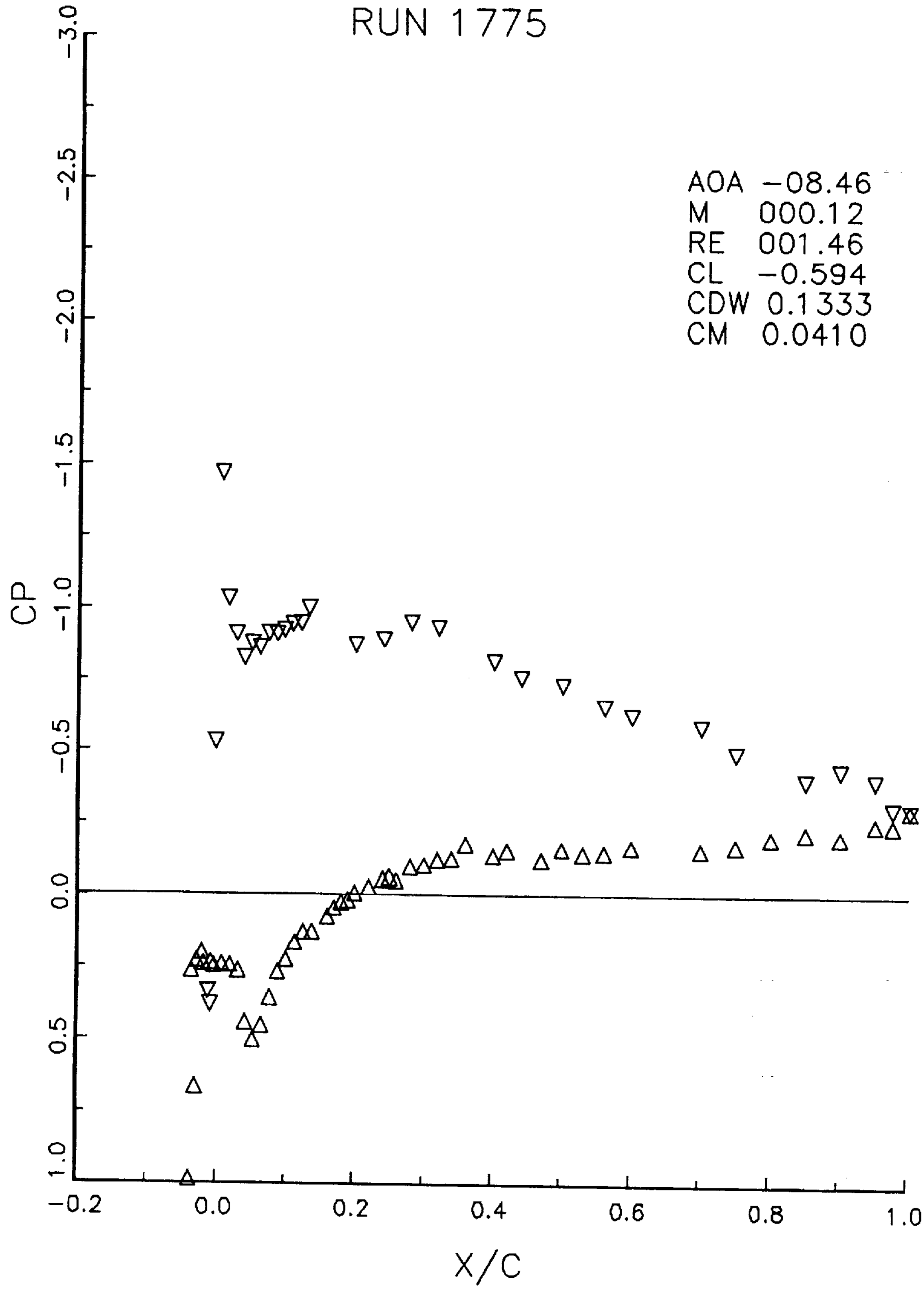
RUN 1775
AOA −08.46
M 000.12
RE 001.46
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CDW 0.1333
CM 0.0410
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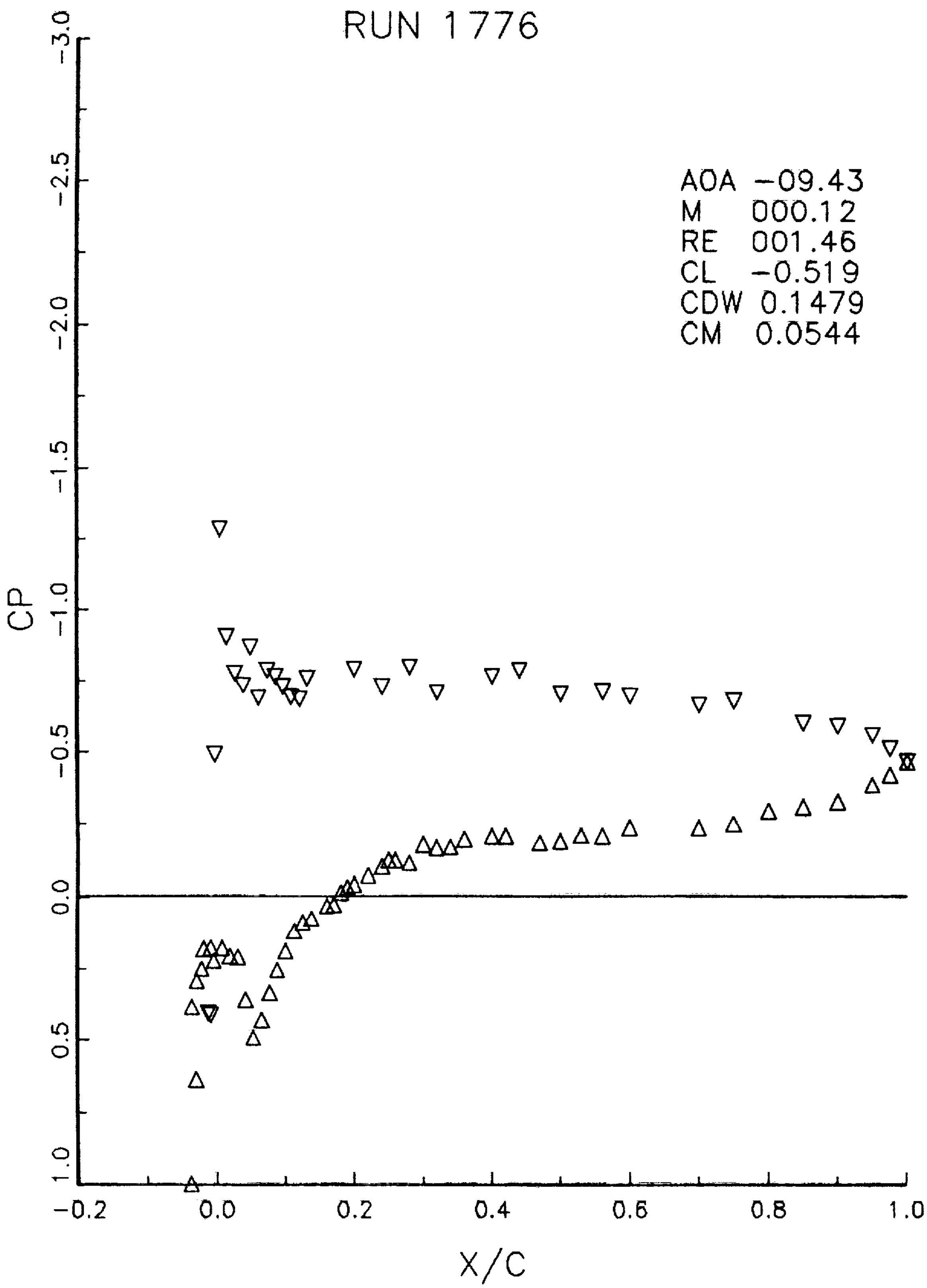
0.4
0.6
0.8
1.0
X/C



RUN 1776
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CL −0.519
CDW 0.1479
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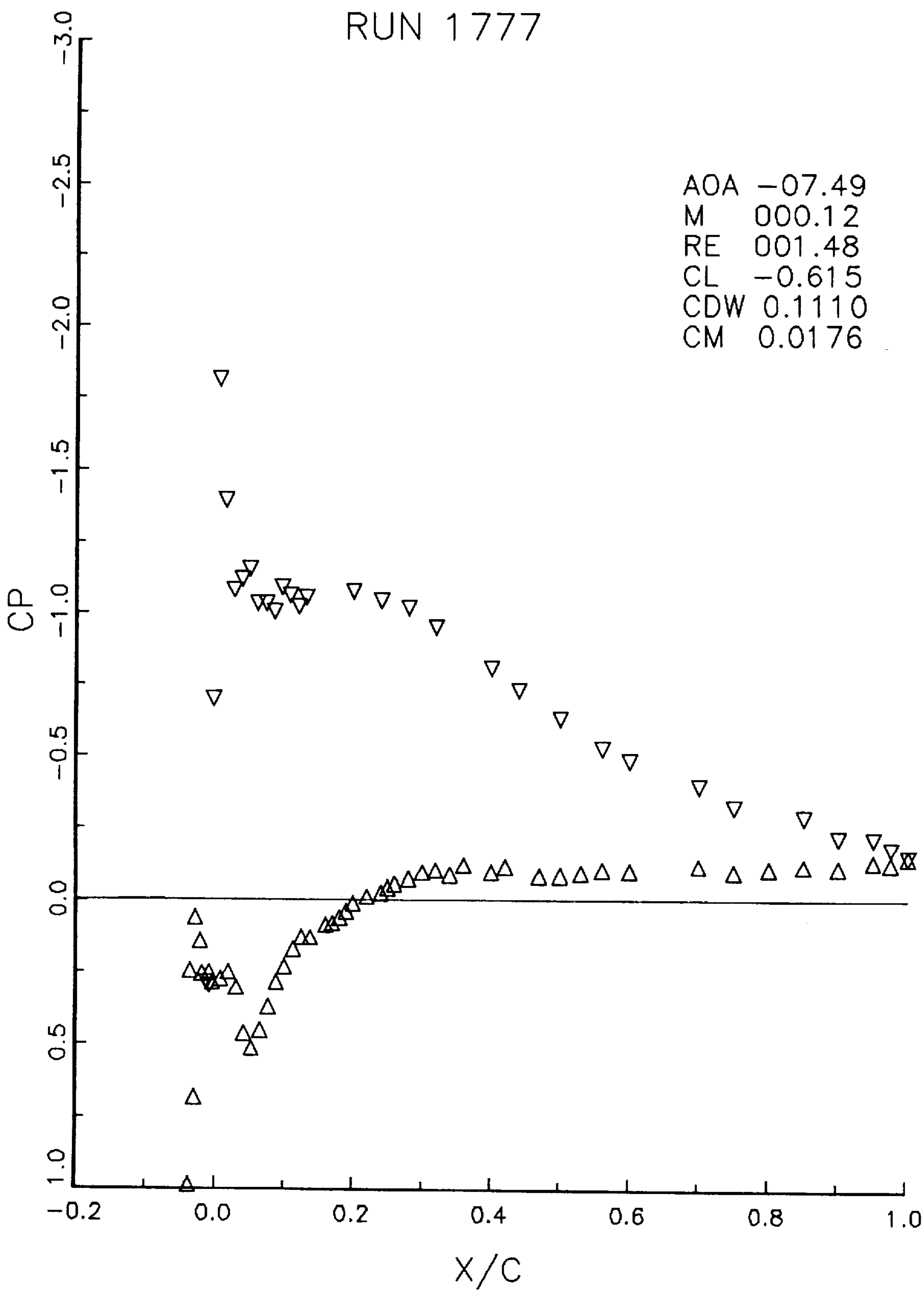
X/C


RUN 1777
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M 000.12
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CL −0.615
CDW 0.1110
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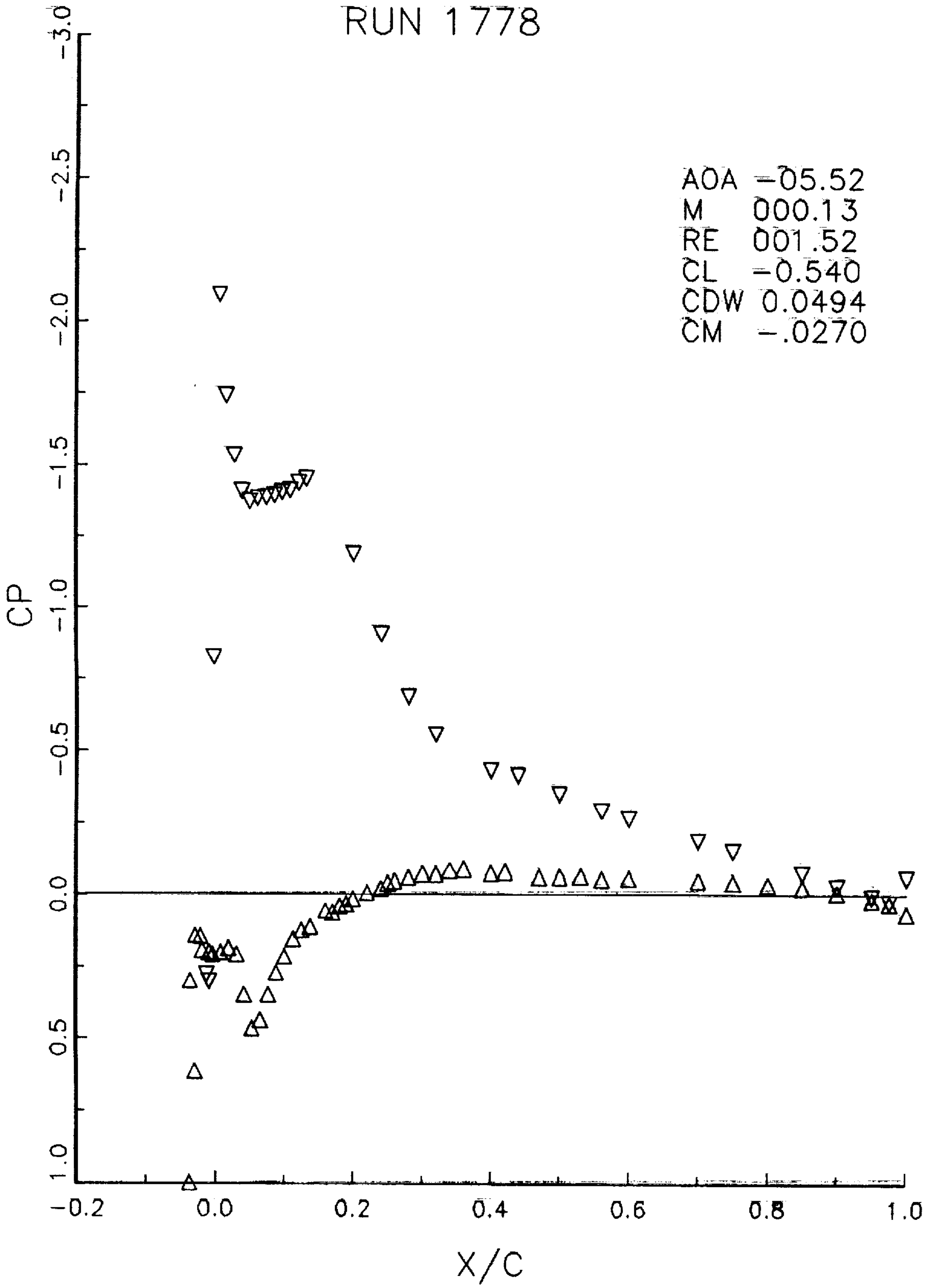

RUN 1778
AOA -05.52
M 000.13
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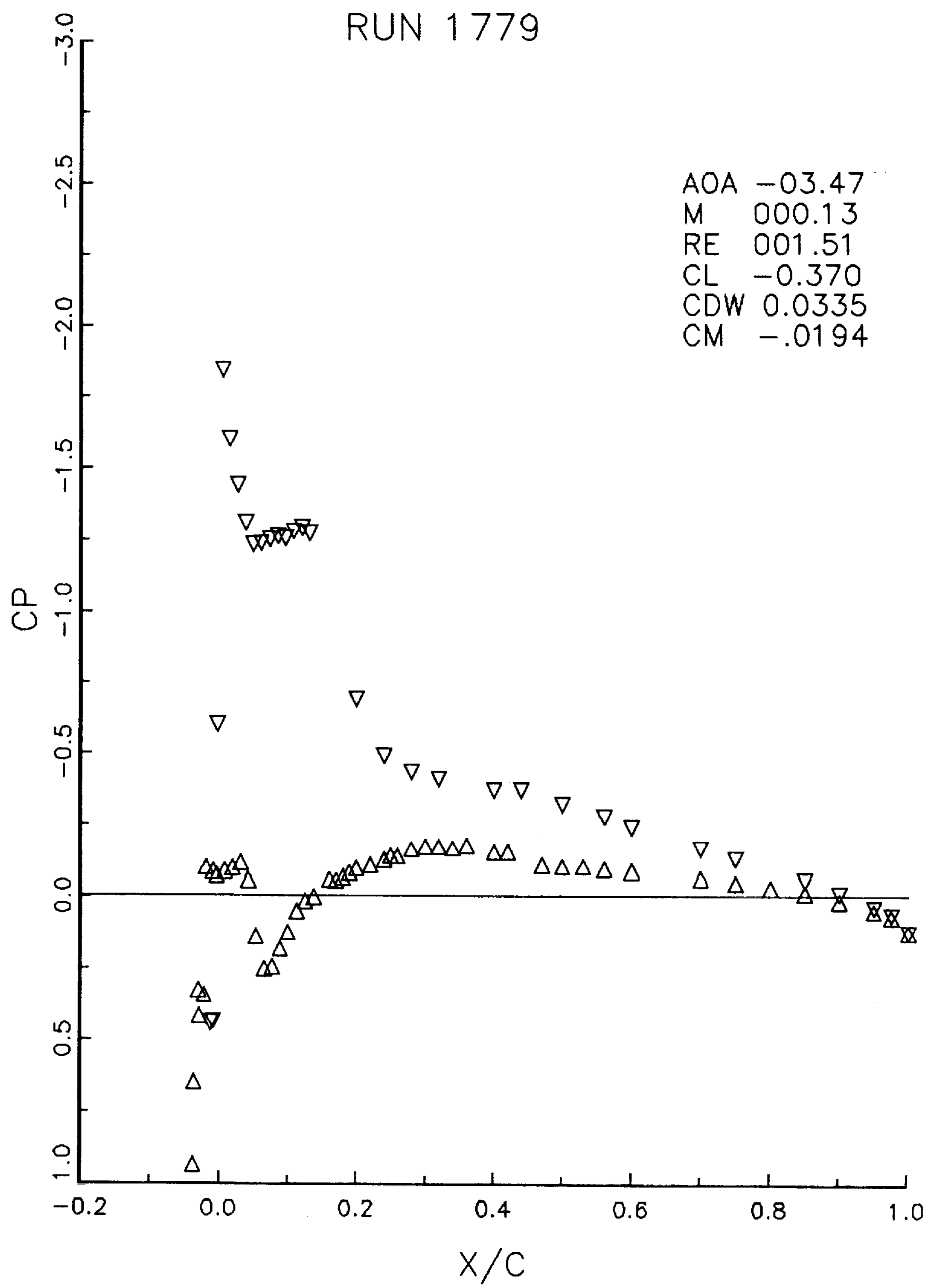
X/C

C-5



RUN 1779
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M 000.13
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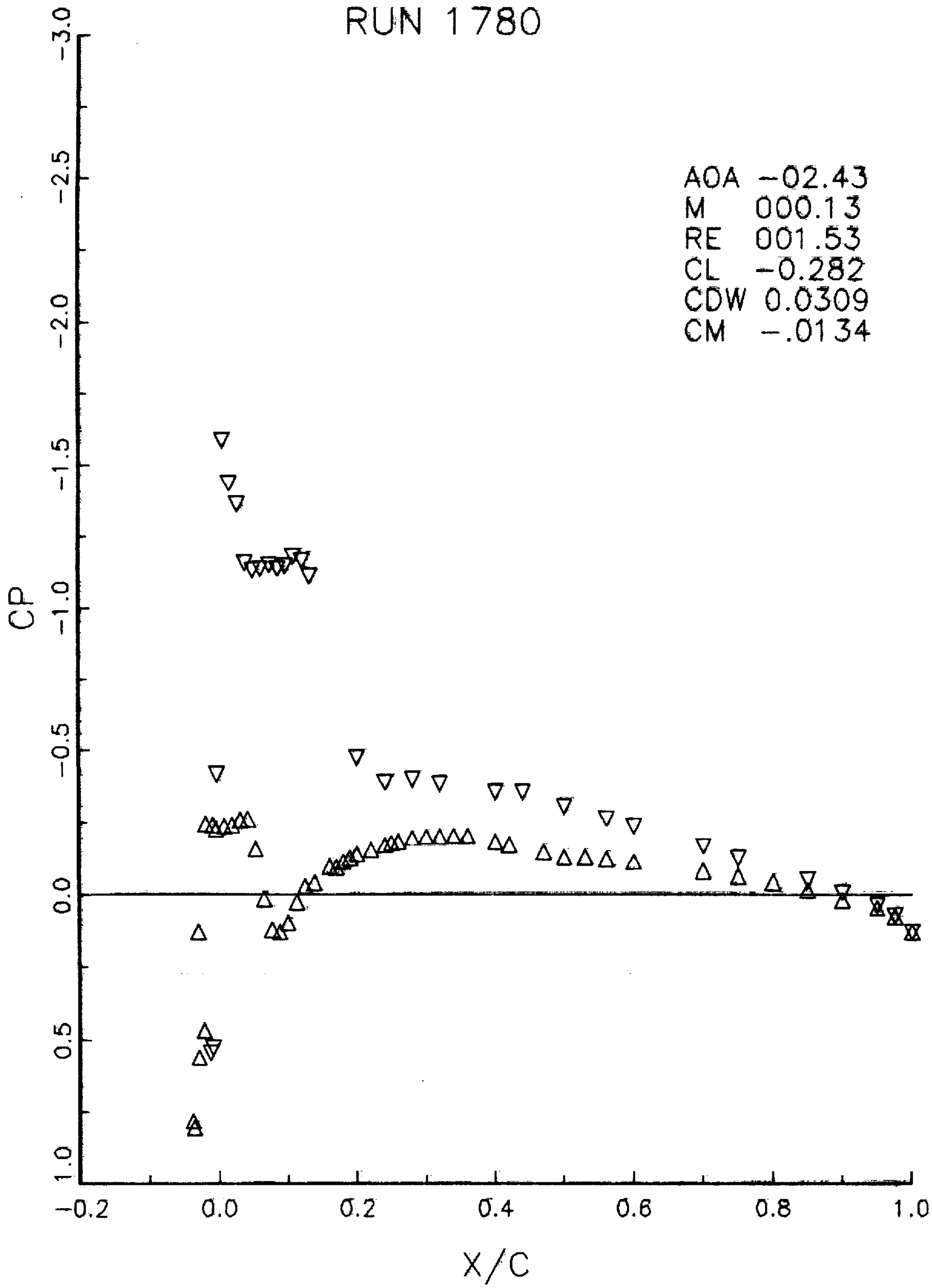

RUN 1780
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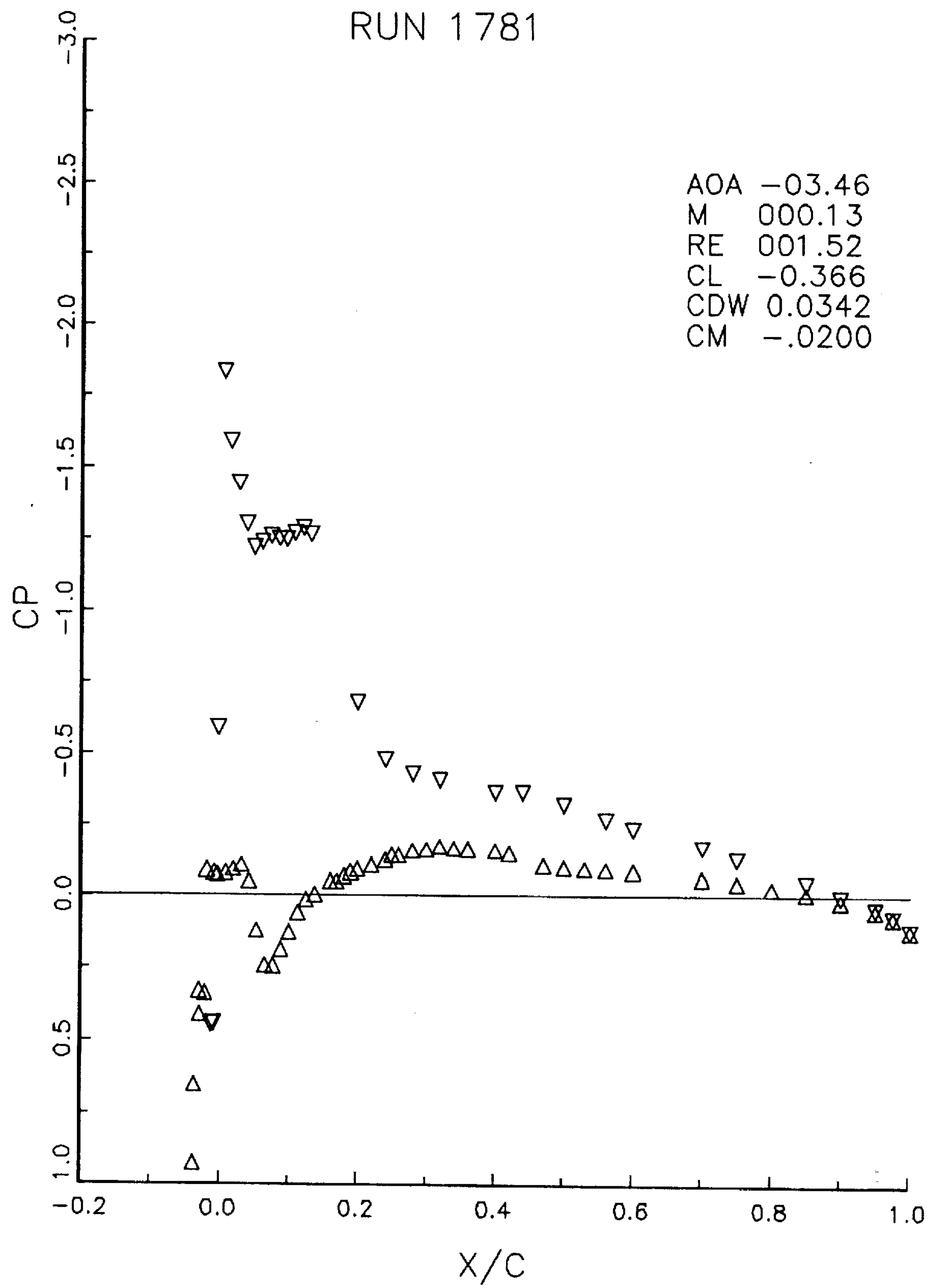
RUN 1781
AOA -03.46
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RE 001.52
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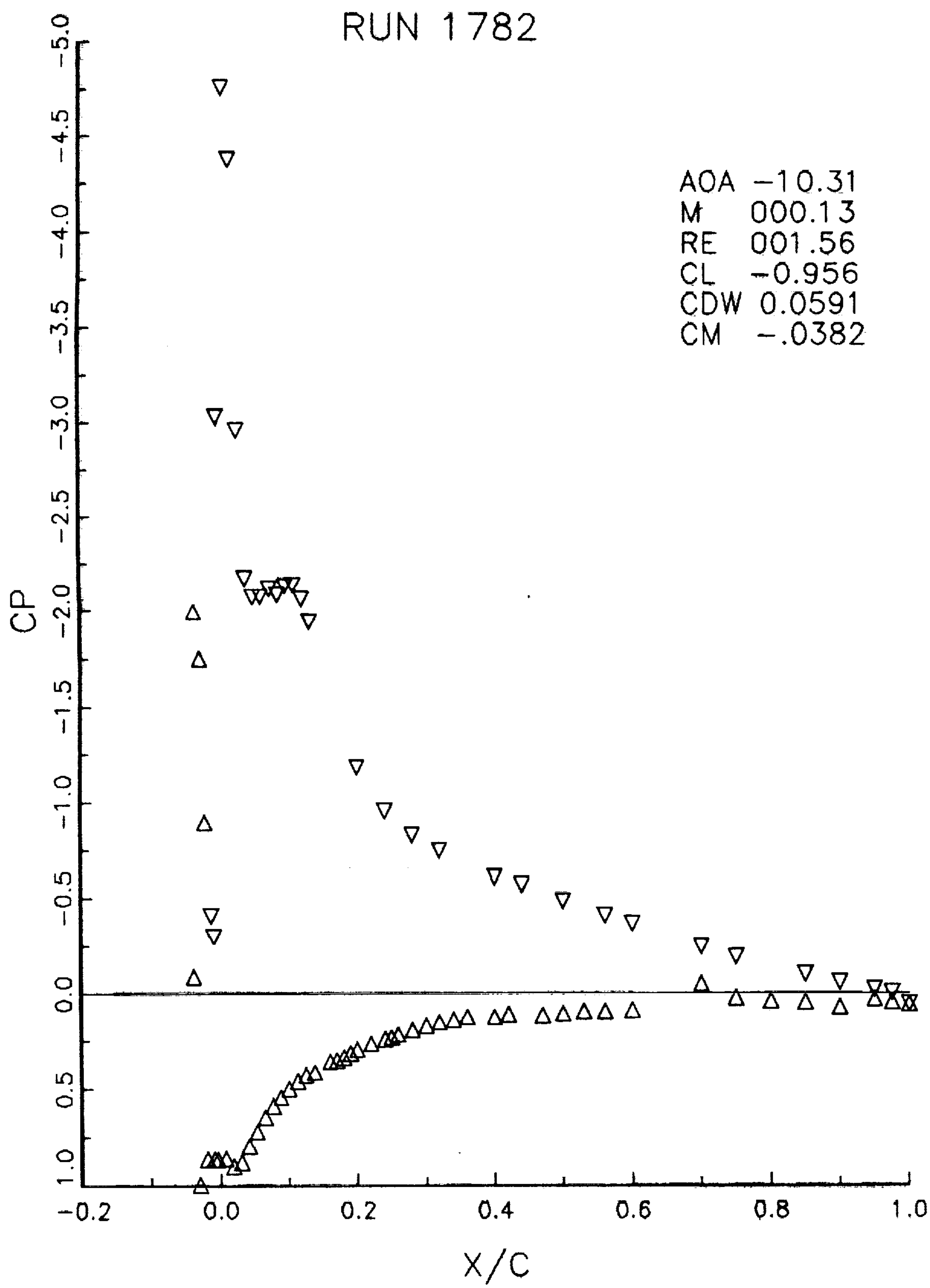

RUN 1782
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CM −.0382
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X/C
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−4.0
−3.5
−3.0
−2.5
−2.0
−1.5
−1.0
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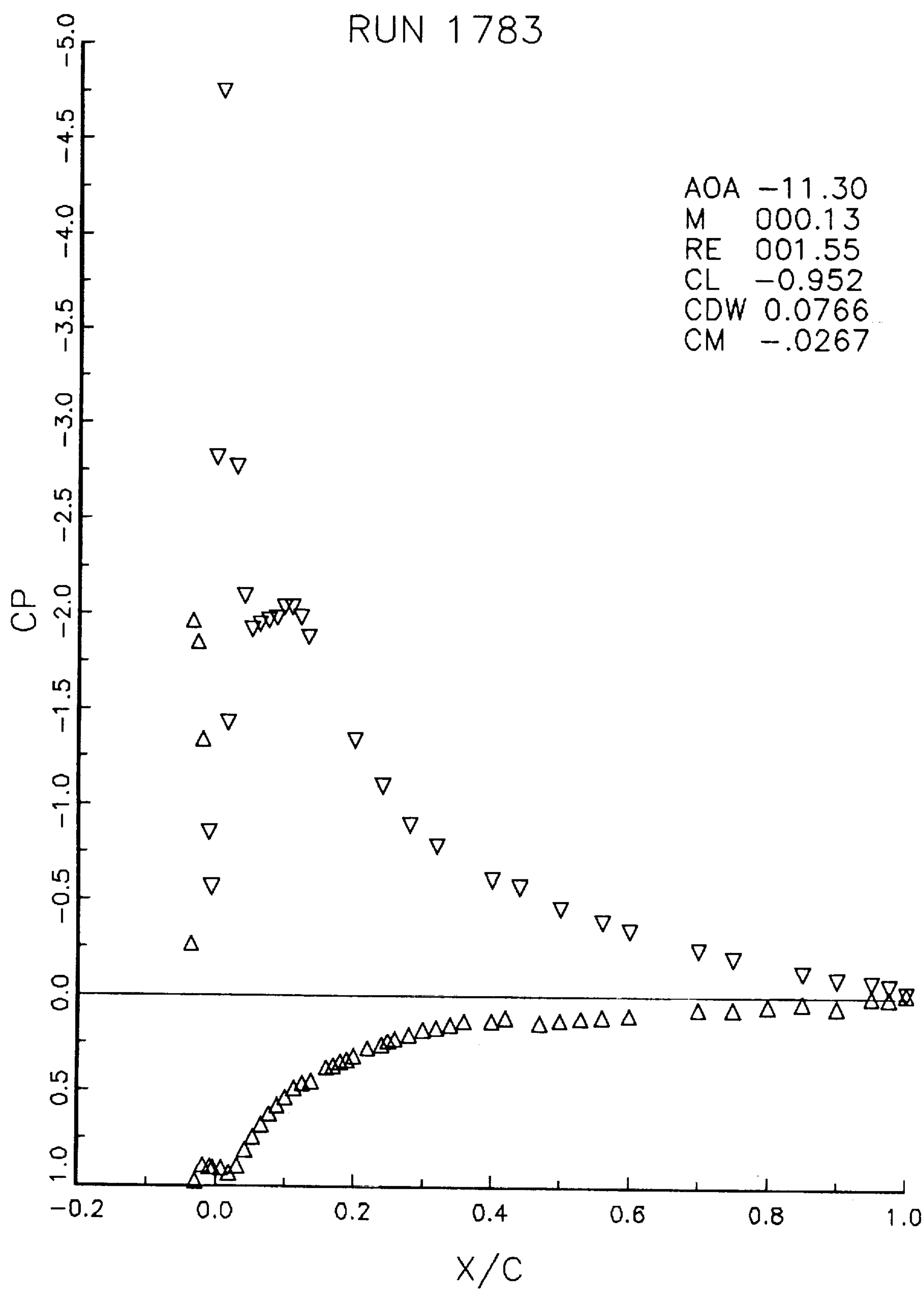
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M 000.13
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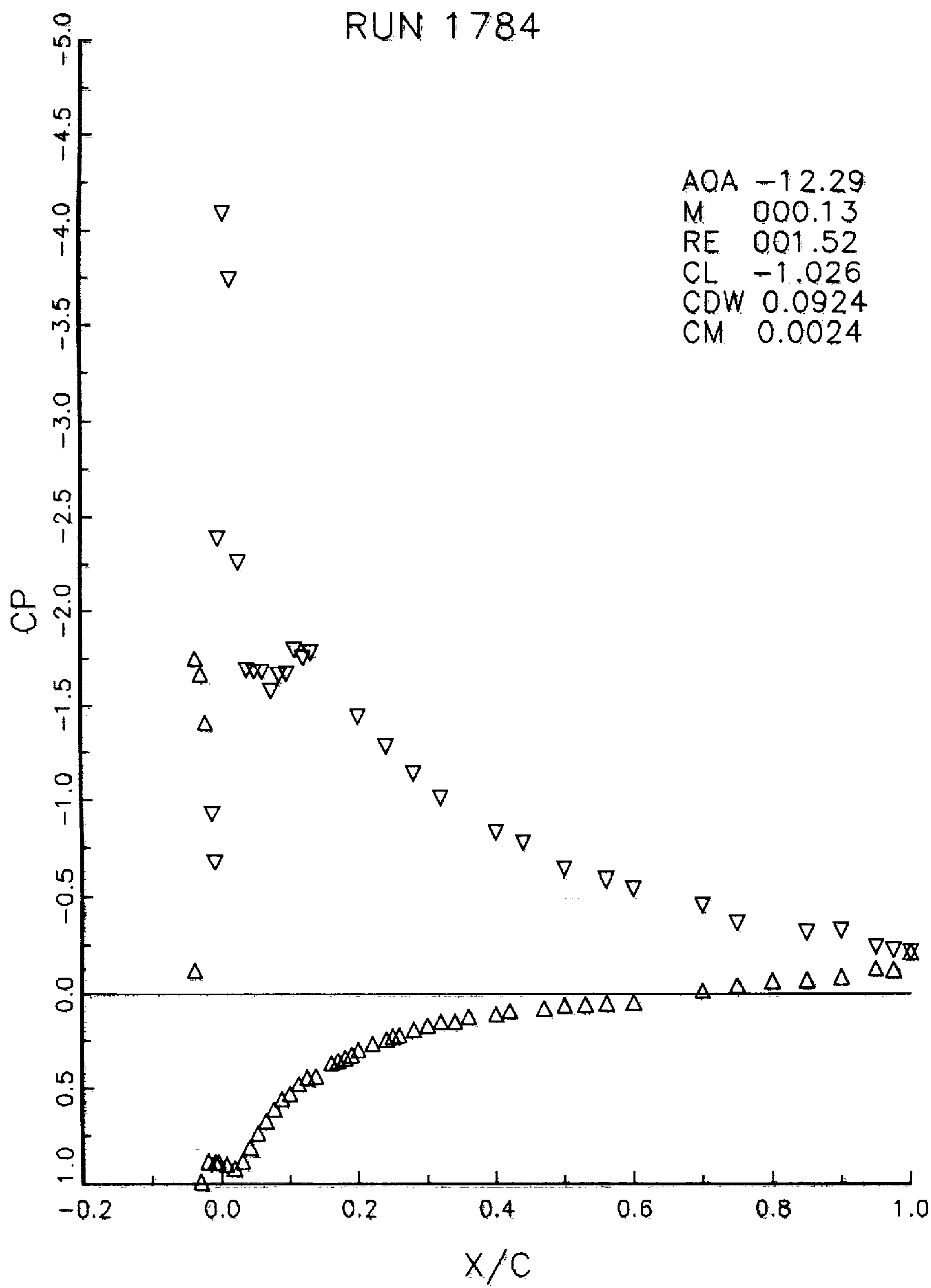
X/C


RUN 1784
AOA −12.29
M 000.13
RE 001.52
CL −1.026
CDW 0.0924
CM 0.0024
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X/C
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−3.0
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−2.0
−1.5
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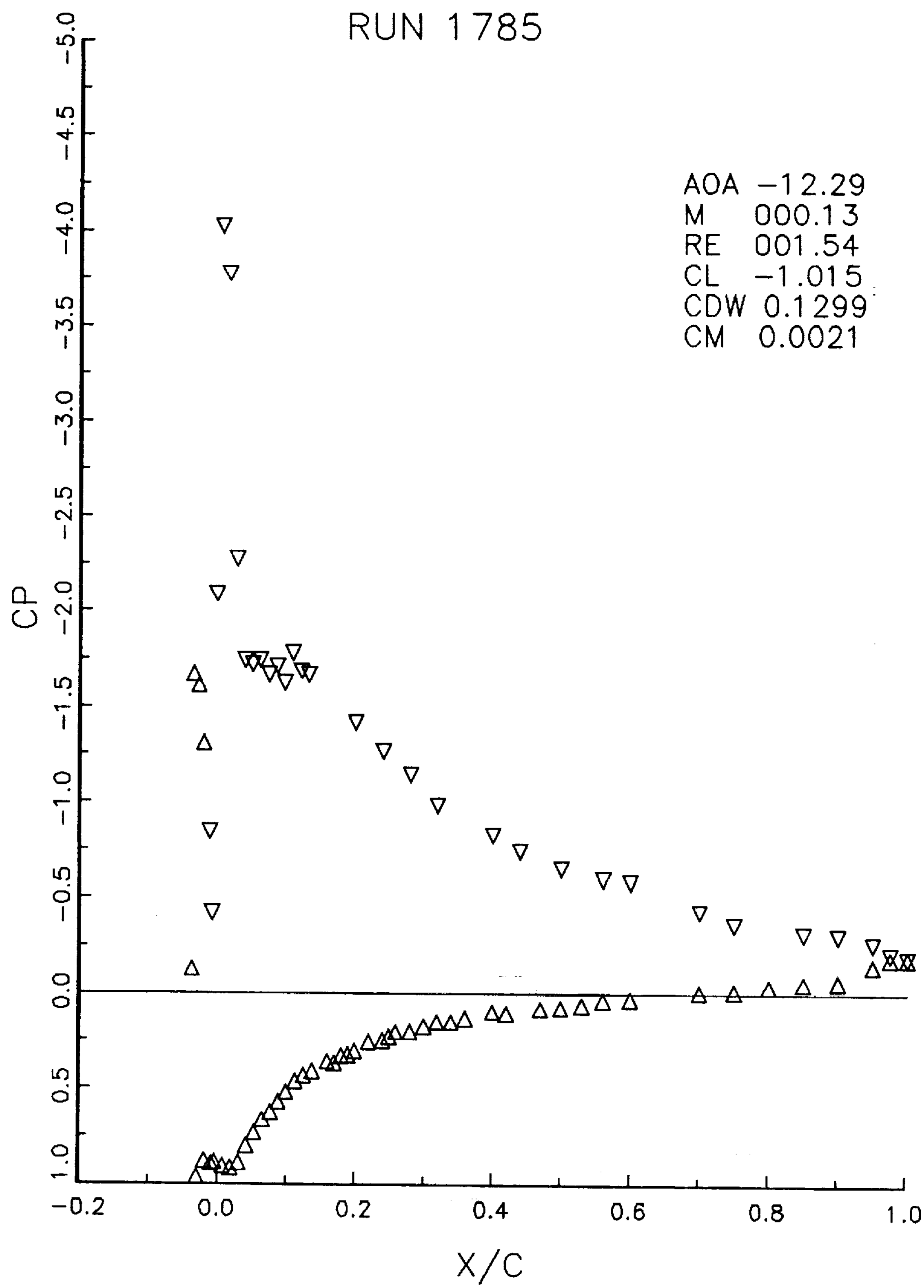

RUN 1785
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M 000.13
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CL -1.015
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CM 0.0021
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-2.0
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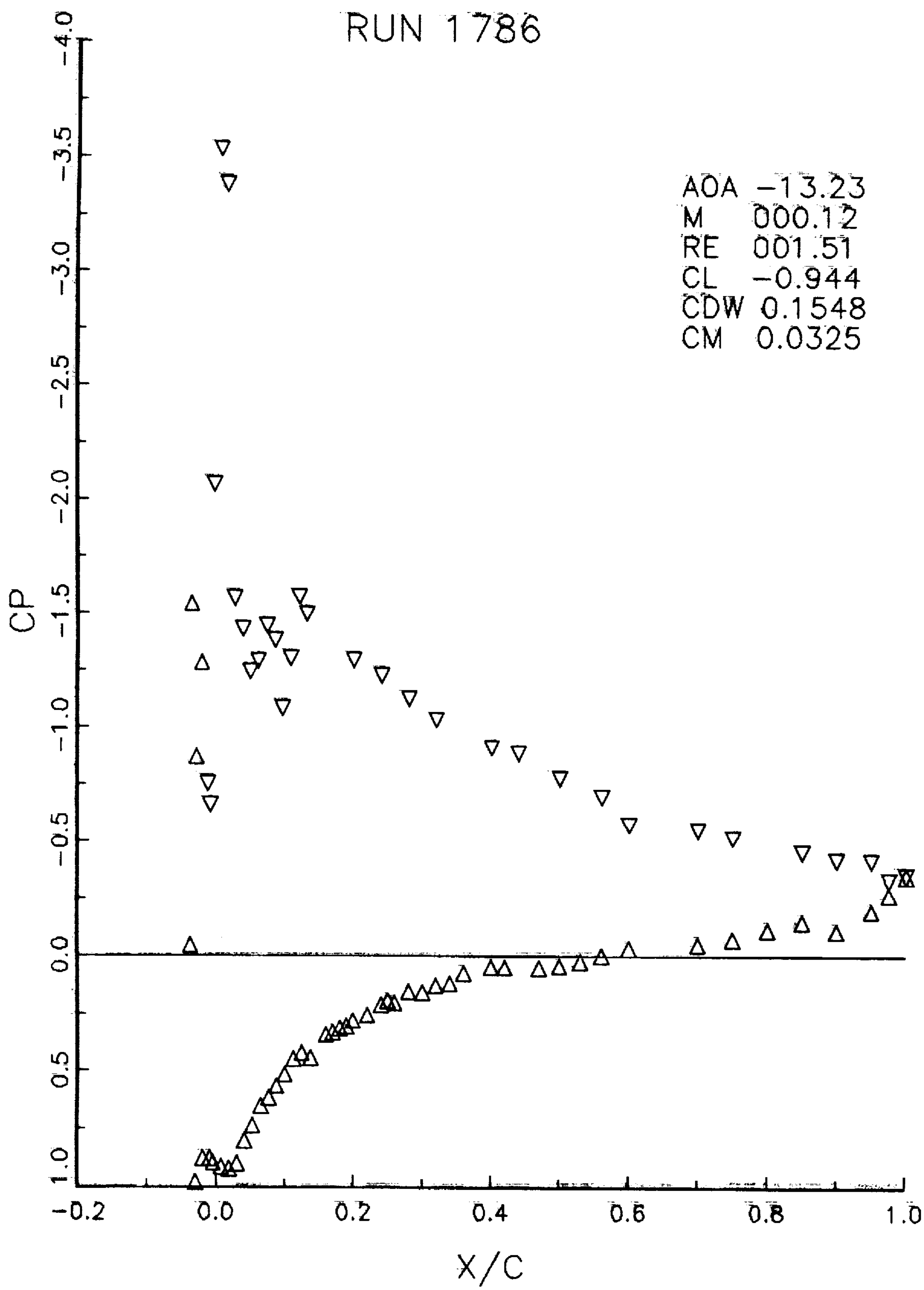
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RE 001.51
CL −0.944
CDW 0.1548
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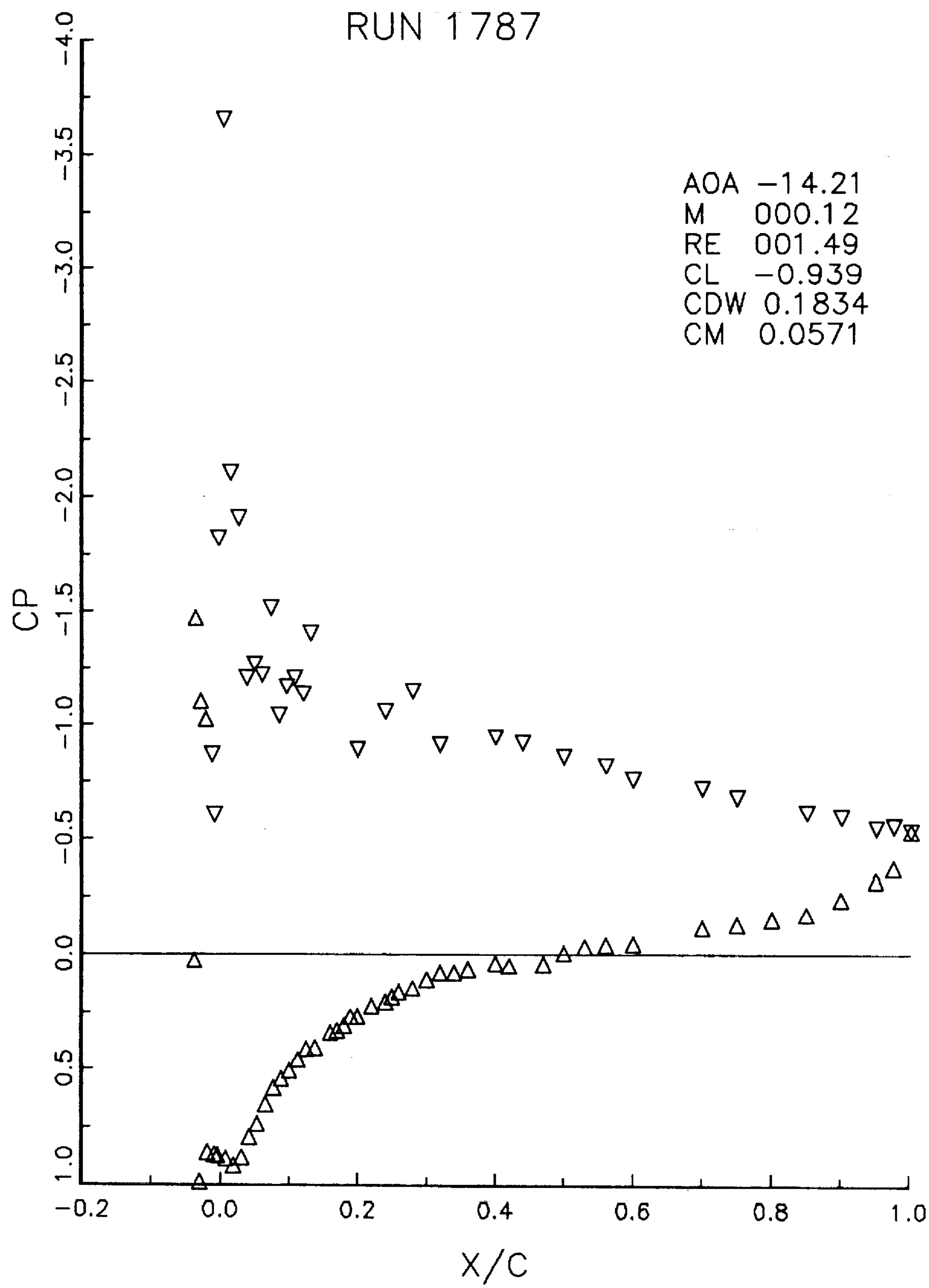
RUN 1787
AOA −14.21
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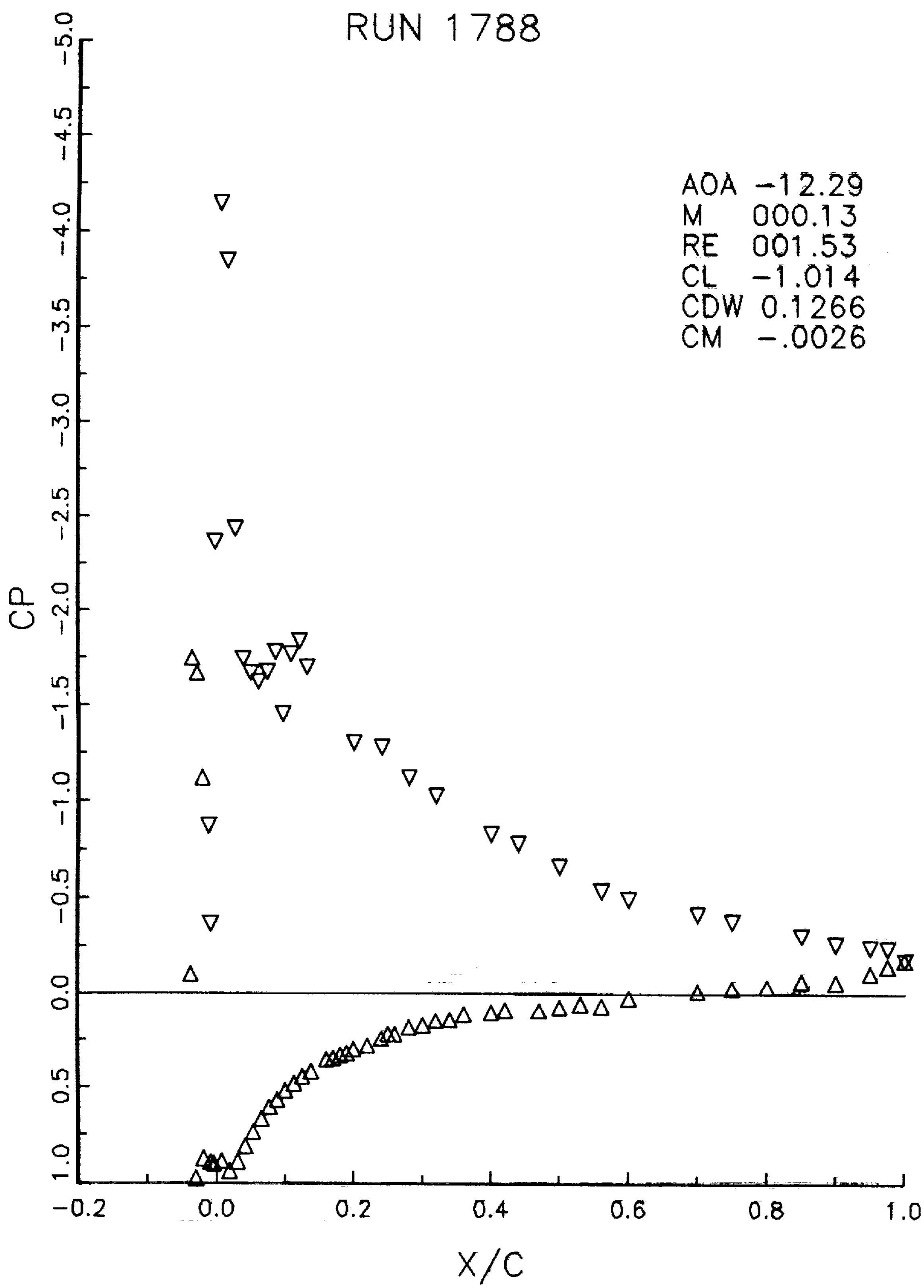
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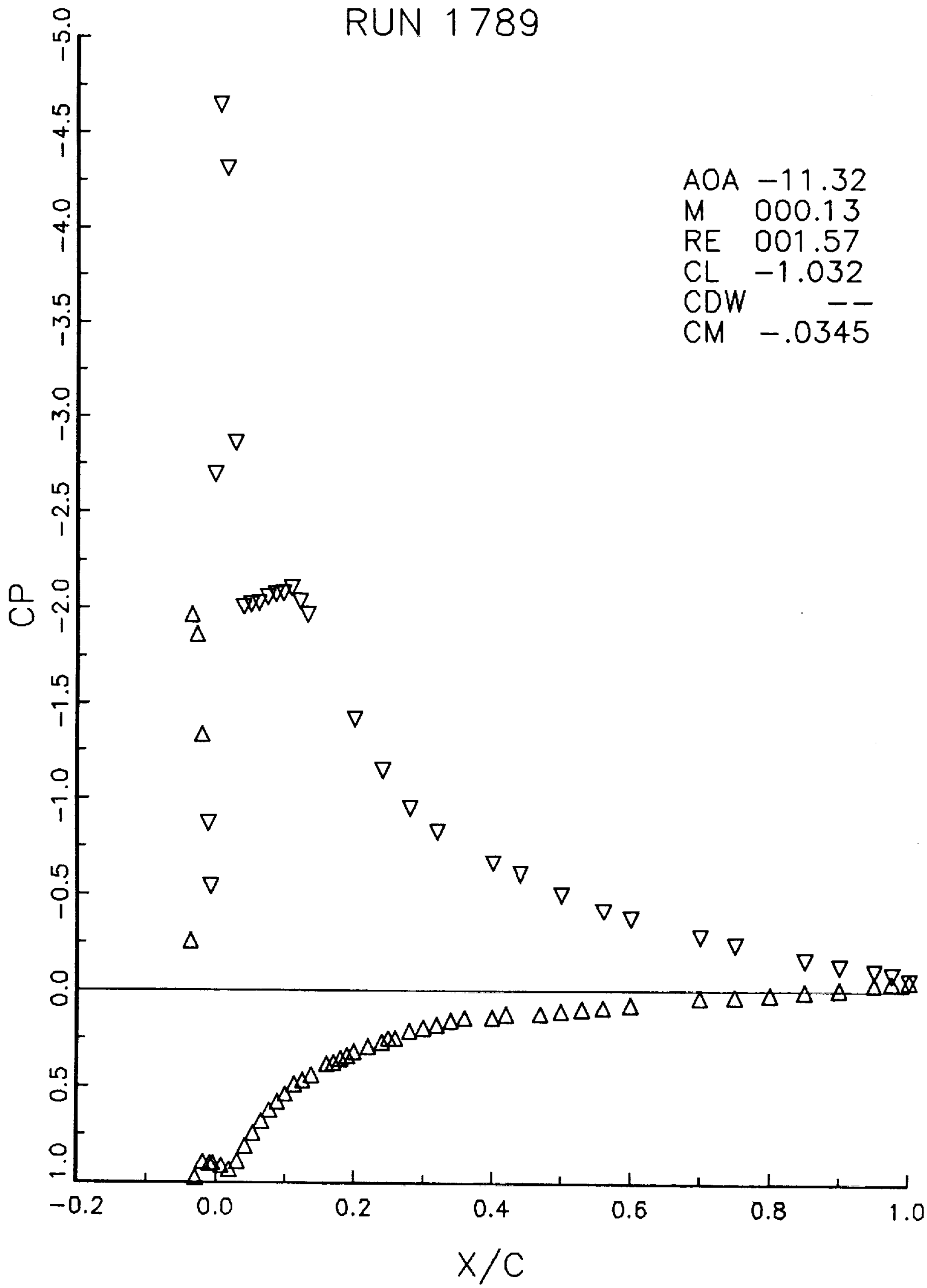
X/C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RE 001.57
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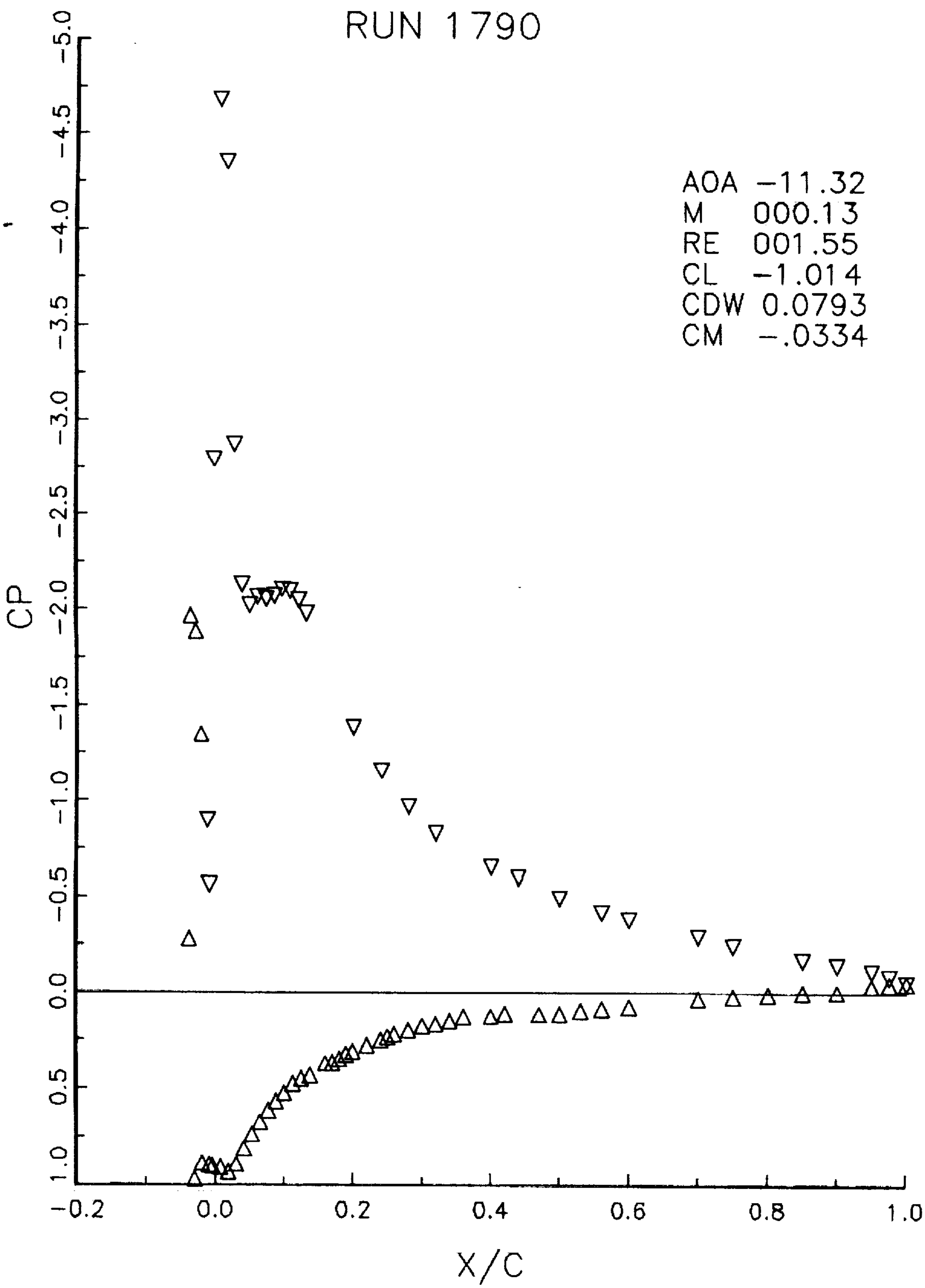
CDW --
CM −.0345
CP
X/C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M 000.13
RE 001.55
CL −1.014
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0.4
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0.8
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APPENDIX B:

NUMERICAL DATA

IBM compatible disks, 3 1/2 (1.44 MB) or 5 1/4 (1.2 MB), are available upon request, with the numerical data contained in this report. The data are contained on two disks, in several files, in the format given on the following pages. The contents of the disks are:

Disk No.	File Name	Contents
1	DATA1.DAT	Runs 1118-1126
1	DATA2.DAT	Runs 1149-1164,1166-1171
1	DATA3.DAT	Runs 1172-1182,1184-1193
1	DATA4.DAT	Runs 1218-1238,1240-1250
1	DATA5.DAT	Runs 1251-1261,1263-1272, 1276-1287
1	DATA6.DAT	Runs 1288-1313
1	DATA7.DAT	Runs 1344,1346-1287
1	DATA8.DAT	Runs 1850,1852,1856,1858-1860,1862-1870,1872-1874,1876,1879-1881,1885-1888
2	DATA9.DAT	Runs 1892-1995,1897,1899-1913
2	DATA10.DAT	Runs 1915-1917,1925-1942,1944,1946-1955
2	DATA11.DAT	Runs 1714-1734
2	DATA12.DAT	Runs 1735-1754
2	DATA13.DAT	Runs 1755-1774
2	DATA14.DAT	Runs 1775-1790
2	DATAFILE.HLP	List of formats for data files
2	TAB.ALL	Run Summary Tables
2	0012 COOR.DAT	NACA 0012 Airfoil Coordinates

THE REDUCED TUNNEL DATA FOR THE NACA 0012 RUNS LISTED IN THE ABOVE TABLES IS PRESENTED BELOW IN THE FOLLOWING FORMAT:

LINE 1	IRUN (I4)	RUN NUMBER
LINE 2	ICP,IW,IP,IS (4I1)	FOR WHICH A VALUE OF 0 DENOTES THE ABSENCE OF AND 1 DENOTES THE PRESENCE OF CP DATA, WAKE PROBE DATA, TOTAL PROBE BOUNDARY LAYER DATA, AND SPLIT FILM RESPECTIVELY.

FOR EACH VALUE OF 1 (FOR ICP,IW,IP,IS) THE RESPECTIVE DATA IMMEDIATELY FOLLOWS LINE 2. (IN THE CASE OF ICP=IW=1, THE WAKE DATA IMMEDIATELY FOLLOWS THE CP DATA; HOWEVER, CASES OF ICP=1,IW=0 ALSO EXIST. NO OTHER CASES OF SIMULTANEOUS DATA FOR A GIVEN RUN ARE PRESENT.)

[FOR ICP=1:]

LINE 3	NCPP (I5)	NUMBER OF CP DATA POINTS
LINE 4		HEADER LINE
LINES 5,6..NT	I, XOC, YOC, CP (1X, I5, 3F10.4)	NCPP LINES OF DATA WHERE: I - DATA POINT NUMBER XOC - TAP X/C-LOCATION YOC - TAP Y/C-LOCATION CP - PRESSURE COEFFICIENT

[FOR IW=1:]

LINE NT+1	NWP (I5)	NUMBER OF WAKE DATA POINTS
LINE NT+2		HEADER LINE
LINES NT+3, NT+4..	I, POS, QTUN, QWAK (I5, 3F10.3)	NWP LINES OF DATA WHERE: I - DATA POINT NUMBER POS - PROBE TRAVERSE POSITION (INCHES) QTUN - TUNNEL Q (PSI) QWAK - WAKE Q (PSI)

[FOR IP=1:]

LINE 3	NPP, AOA, XOC (I5, 2F10.7)	NPP - NUMBER OF TOTAL PROBE DATA POINTS AOA - ANGLE OF ATTACK (DEG) XOC - TOTAL PROBE X/C-LOCATION
LINE 4		HEADER LINE
LINES 5,6..	I, YLOC, UBAR (I5, 2E15.6)	NPP LINES OF DATA WHERE: I - DATA POINT NUMBER YLOC - PROBE Y-LOCATION (INCHES) UBAR - AVERAGE U VELOCITY (FT/SEC)

[FOR IS=1:]

LINE 3	NSP, AOA, XOC (I5, 2F10.7)	NSP - NUMBER OF SPLIT FILM DATA POINTS AOA - ANGLE OF ATTACK (DEG) XOC - SPLIT FILM X/C-LOCATION
LINE 4		HEADER LINE
LINES 5,6..	I, YLOC, UBAR, SIGMA, URMS, UPBAR (I5, 5E15.6)	NSP LINES OF DATA WHERE: I - DATA POINT NUMBER YLOC - SPLIT FILM Y-LOCATION (INCHES) UBAR - AVERAGE U VELOCITY (FT/SEC) SIGMA - TURBULENCE NO. (%) URMS - ROOT MEAN SQUARE U VELOCITY (FT/SEC) UPBAR - AVERAGE U PERTURBATION VELOCITY (FT/SEC)

APPENDIX C:

TECHNICAL PAPERS BASED ON THESE DATA

REPORT DOCUMENTATION PAGE

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OMB No. 0704-0188

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13. ABSTRACT ***(Maximum 200 words)***

This is the second volume of a report documenting the effect of a simulated ice accretion on the aerodynamic performance of a NACA 0012 airfoil. Both an experimentally measured and a computer generated ice shape are studied. The purpose of this report is to present the results of the measurements, not an analysis of the data. Surface pressure, integrated lift and pitching moment data are presented as well as drag from a wake survey. A split hot film probe was used to document the flow-field about the airfoil with simulated ice. Data in the separation bubbles, reattached boundary layer and wake are presented. Both tabulated and graphical data are presented in the paper. The data are also available on computer disk for easy access.

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