NASA Technical Paper 2713

1987

Pressure Measurements on a Thick Cambered and Twisted 58° Delta Wing at High Subsonic Speeds

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Summary

Experimental pressure data and surface oil flow photographs of a candidate self-trimming cambered and twisted thick delta wing obtained at the design Mach number (0.80) and lift coefficient (0.25) and associated angle of attack (6.08°) indicate that the desired attached flow was achieved over the model upper surface. In particular, the thin outboard sections showed typical leading-edge suction peaks and trailing-edge pressure recovery. Below this angle of attack, attached flow is also present over the wing. At higher angles of attack, a leading-edge vortex is formed outboard due to the 58° wing sweep and thin wing sections. Similar results were observed at the off-design Mach number for the range of test Mach number. The addition of vertical tails to the wing results in a recirculatory flow on the inboard side of the wing/vertical tail attachment region. Outboard, more positive pressure was measured than for the basic wing. The integration of the inboard section pressures shows essentially linear normal-force-coefficient variation with angle of attack, whereas pressure integrations over the outboard sections show nonlinear development due to the leading-edge vortex formation and tip stall. The sectional characteristics of the integrated pressure data for the tail-on configuration show similar trends to those of the wing alone at low to moderate angles of attack. Elliptical span-load distributions were not evident for any angle of attack and Mach number combination.

Inviscid theoretical predictions of the lower surface and most of the upper surface pressures for the design conditions agree well with experimental data; however, the upper surface pressure level peaks were generally underpredicted. At off-design conditions, the theory and experiment correlation is weaker with increasing angle of attack and is confined to the inboard lower surface region.

Comparison of the normal-force and pitching-moment results from the Vortex Lattice Method-Suction Analogy (VLM-SA), PAN AIR, and FLO-57 codes with experimental data show good agreement at the inboard stations for most of the available angle-of-attack range. FLO-28 estimates for pitching moments were more positive than measured data. The comparisons of the VLM-SA and FLO-57 low angle-of-attack, normal-force-coefficient slopes with experiment indicate good overall agreement. FLO-28 predictions yield slopes similar to the experimental ones, although they are offset by a decrement of approximately 0.01. Finally, the VLM-SA estimates were shown to have the best overall correlation with experimental pitching-moment-coefficient slopes.

Introduction

Numerous aerodynamic studies have been reported for delta-like wings (refs. 1 to 7). The resulting data included forces and moments, surface pressures, and flow visualizations. The configurations examined develop vortex flows which have their separation line fixed along the leading edge. These wings are either of the simple planar type (refs. 1 and 2) or the geometrically complex type employing geometric variations such as thickness, camber and twist, or both (refs. 3 to 7). However, experimental surface pressure data for delta-wing configurations having thickness, leading-edge roundness, and camber and twist are scarce as are comparisons with validated theoretical solutions.

The study of thick delta-like wings has recently gained renewed interest among researchers because of current and future military applications. A recently documented force and moment study (ref. 8) was conducted for a series of six thick delta wings with the purpose of determining which configuration best met the design goal of being self-trimming at the best lift-to-drag ratio, about the model reference center, at a cruise lift coefficient of 0.25, and at a Mach number of 0.80. The present report documents the pressure measurements and surface oil flow visualizations for the selected configuration W_6 from the force and moment study (portions of the present study and ref. 8 were summarized and documented in ref. 9). For this configuration, referred to herein as the "wing alone," the effects of vertical tails on the longitudinal aerodynamic characteristics are also assessed. Experimental results are compared and analyzed for the tail-off configuration with numerical estimates obtained from two panel codes, VLM-SA (ref. 10) and PAN AIR (ref. 11); a three-dimensional full potential code FLO-28 (ref. 12); and an Euler code, FLO-57 (ref. 13).

Symbols

A	theoretical aspect ratio, 2.5
b	theoretical span, 33.542 in. (B in tables I and II and appendixes A through I)
C_L	total lift coefficient, $\frac{\text{Lift}}{q_\infty S_{\text{ref}}}$
C_p	pressure coefficient, $\frac{p-p_\infty}{q_\infty}$
$C_{p,\ell}$	pressure coefficient on wing lower surface, $\frac{p_{\text{lower}}-p_\infty}{q_\infty}$ (CPL in appendixes A through I)

$C_{p,u}$ pressure coefficient on wing upper surface, $\frac{p_{upper}-p_\infty}{q_\infty}$ (CPU in appendixes A through I)

ΔC_p incremental pressure coefficient, $C_{p,\ell} - C_{p,u}$

C_p^* sonic pressure coefficient based on one-dimensional flow

c local chord, in. (C in tables I and II and appendixes A through I)

$\bar{c}$ mean aerodynamic chord of theoretical wing (fig. 1), 17.89 in.

c_m section pitching-moment coefficient about local leading edge, $\int_0^1 \left(\frac{x}{c}\right)\ \Delta C_p\ d\left(\frac{x}{c}\right)$

c_{m_α} section pitching-moment-coefficient-curve slope, $\frac{\partial c_m}{\partial \alpha}$, per degree

c_n section normal-force coefficient, $\int_0^1\ \Delta C_p\ d\left(\frac{x}{c}\right)$

c_{n_α} section normal-force-coefficient-curve slope, $\frac{\partial c_n}{\partial \alpha}$, per degree

M free-stream Mach number

M_d design Mach number

p static pressure, lbf/ft^2

q dynamic pressure, lbf/ft^2

S_{ref} reference area (based on theoretical wing, fig. 1), 3.125 ft^2

t local thickness

V_{m} vertical tail sets; large when m = 1, small when m = 2, (V1 or V2 in appendixes D through I)

W_6 wing configuration number 6 composed of centerbody with NACA-type airfoil sections and large tip twist (see ref. 8)

X, Y, Z coordinate axes centered at leading-edge apex, X positive downstream, Y positive toward right wing, Z positive upward

x streamwise distance from local leading edge, in. (X in table I and appendixes A through I); streamwise distance from coordinate axes, in. (X in table II)

y local span distance measured from coordinate axes, in. (Y in tables I and II and appendixes A through I)

α angle of attack, deg

ε twist angle, deg

η $= \frac{2y}{b}$

Subscripts:

av average

d design

max maximum

nom nominal

Abbreviations:

EXP experiment

FLO-28 three-dimensional, full-potential code (ref. 12)

FLO-57 Euler code (ref. 13)

NACA National Advisory Committee for Aeronautics

PAN AIR Panel Aerodynamics code (ref. 11)

VLM-SA Vortex Lattice Method-Suction Analogy (ref. 10)

Wind Tunnel

This investigation was conducted in the Langley 7- by 10-Foot High-Speed Tunnel. The wind tunnel is a continuous-flow, subsonic-transonic wind tunnel that operates at ambient temperature and pressure and continuously exchanges air with the surrounding atmosphere. Depending on the test model size, the test section velocity can range from very low speed to approximately $M = 0.94$. Additional information regarding the capability of this wind tunnel is given in reference 14.

Model Description

The model is a cambered and twisted thick delta wing with a leading-edge sweep of 58° and was "designed" (see ref. 8) without considering the vertical tails. A three-view drawing showing major dimensions of the model, as well as tail location and tail cant (15°), is presented in figure 1. The sting shroud, also shown in this figure, extends approximately 10 inches forward of the model trailing edge before blending with the wing. Photographs of the model with and without vertical tails are shown in figure 2. Detailed drawings of the two vertical tail

configurations tested are shown in their true projections in figure 3.

Since the model has thickness and twist, figures 4(a) and 4(b) show the spanwise variation of $(t/c)_{max}$ and twist, respectively. It is seen from figure 4(a) that the model has a thick section at the root, $(t/c)_{max} = 0.148$, and the section thickness across the span decreases to a minimum of $(t/c)_{max} = 0.081$ inboard of the tip. The large value of $(t/c)_{max}$ near the tip is associated with the chord decreasing faster than the thickness. The sectional characteristics were documented in reference 8. Figure 4(b) shows the model to have washout, that is, twist increasing with η.

The model was pressure instrumented via 138 orifices located on the upper and lower surfaces of the model. The orifices are only on the left side of the wing and are located in terms of fractional theoretical semispan values, nominally at the magnitudes of 0.00, 0.04, 0.10, 0.30, 0.60, and 0.80. The actual nondimensional and dimensional x and y values are given in tables I and II, respectively, as determined by surface measurements.

Test Conditions and Procedures

The experiment was conducted at Mach numbers of 0.75, 0.80, and 0.83 for which the Reynolds numbers based on $\bar{c}$ were 3.5×10^6, 3.75×10^6, and 3.85×10^6, respectively. These Mach numbers are below, equal to, and above, respectively, the design value and were selected to study the sensitivity of the pressure data due to small changes in Mach number near M_d.

During the test, the wing pressures were measured by three 1-psi differential pressure transducers each being connected to a 48-port pressure-scanning module. For each module, the first 46 ports and the 48th one (home port for reference value) were used. The remaining pressure port from each module was neither used nor stepped through during a data sampling cycle.

The upper surface oil flow study was conducted by coating the right wing panel with a mixture of fluorescent powder and multigrade, 50-weight motor oil. The resulting flow patterns were recorded by a still camera using ultraviolet strobe lights at the wing design Mach number (0.80) and at various model angles of attack. Photographs were taken for no more than 2 values of α on a given oil flow run. The configurations studied were the wing with and without the large vertical tails.

Each model configuration had a 0.063-inch-wide boundary-layer transition strip placed 0.50-inch aft of and parallel to the leading edge. The strip extends from root to tip on both the upper and lower surfaces and similarly for the vertical tails. The grain size selected for this test was No. 120 Carborundum[1] grit. The technique used in grit size determination and location was that described in reference 15.

Presentation of Pressure Data

Basic pressure data measured on the thick delta wing are presented in tabular and graphical form in appendixes A through I for tail-off and tail-on configurations for the three test Mach numbers. The order in which the various configurations are presented in the appendixes is shown in the following table:

Appendix	Configuration	Mach number
A	Wing alone	0.75
B	Wing alone	0.80
C	Wing alone	0.83
D	Wing + small vertical tail	0.75
E	Wing + small vertical tail	0.80
F	Wing + small vertical tail	0.83
G	Wing + large vertical tail	0.75
H	Wing + large vertical tail	0.80
I	Wing + large vertical tail	0.83

Each appendix is arranged so that the tabular data and its graphical presentation are on facing pages with two sequential angles of attack per page. Since the pressure orifices for $\eta = 0.00$ and $\eta = 0.05$ (the sting shroud region) were of limited number and do not provide a full chordwise pressure distribution, their measurements are only presented as tabulated data; whereas, those at $\eta = 0.10$, 0.30, 0.60, and 0.80 are of full chord and are graphically displayed. Though the tabulations are given to five decimal digits, the accuracy of the reported values is limited to four.

Discussion of Results

Basic C_p Data

The basic wing-pressure characteristics for various design and off-design conditions are discussed in the four subsections which follow. The first shows the effect of angle of attack M_d. The effects on $C_{p,u}$ of Mach number, vertical tail size at M_d, and combinations of vertical tail size and off-design Mach number are compared with those for the wing-alone $C_{p,u}$ over a nominal angle-of-attack range.

[1] Trademark of Harbison-Carborundum Corporation.

Wing alone at $M_d = 0.80$. The section pressure distributions presented in appendix B form the basis for the discussion which follows. The only parameter which varies is test α and it appears on the respective figures. Associated oil flow photographs for selected values of α are presented in figure 5 to highlight the flow structure on the wing upper surface and support the discussion of C_p data. At the design condition $C_{L,d} = 0.25$ (associated angle of attack of 6.08°), a well-defined, thin-airfoil-type flow exists outboard on the wing with a typical leading-edge suction peak. The effects of thickness and camber suppress that peak inboard but favorable pressure gradients still occur inboard. The attached flow nature is also reflected by the streak lines evident in the surface oil flow photograph (fig. 5(b)) for the wing near this test condition. Note that the lower surface pressure distribution shows there is a suction pressure over a significant fraction of local chord inboard and outboard and that the inboard values were more negative than those on the upper surface near the trailing edge. These lower surface inboard loadings are due to camber and contribute to nose-up pitching moment and are seen to exist over a wide range of α.

For $\alpha < 6.08°$, typical pressure distributions for the wing alone show that the suction peak changes from the lower surface to the upper surface in the outboard region as the angle of attack is increased ($-2.36° \leq \alpha \leq 4.81°$). Note that for $\alpha = -2.36°$, there appears to be a vortex formed behind the leading edge of the lower surface at the outermost span station. At $\alpha = 4.81°$, the flow is attached at all span stations as shown by the trailing-edge pressure recovery. For a slightly lower angle of attack ($\alpha = 4.16°$), the oil flow streak lines show the same flow type (fig. 5(a)).

For $6.08° < \alpha < 9.69°$, the leading-edge upper surface pressure distributions at $\eta = 0.60$ are changing from a suction peak to one having a plateau followed by a recompression. In addition, the recompression is a relative suction increase around $x/c = 0.25$ for $7.30° < \alpha < 9.69°$, which is an indication of vortical flow. This is reflected in the upper surface flow visualization photographs for $\alpha = 8.09°$ and 10.03° (figs. 5(c) and 5(d), respectively). The pressure plateau is likely associated with a secondary vortex. The chordwise (fixed y) presentation of the C_p data indicates that the peak values of $C_{p,u}$ associated with the secondary vortex are more negative than those for the primary. This is possible because the peak value of $C_{p,u}$ for the primary vortex becomes more positive with increasing x, due to the vortex core moving farther from the surface. However, if sufficient $C_{p,u}$ data were available at a fixed longitudinal position (constant x), one should expect to find the peak $C_{p,u}$ of the secondary vortex to be more positive than that of the primary.

Similar to the vortex analysis reported in reference 16, additional insights regarding the primary vortex can be extracted by examining the $C_{p,u}$ data with α by individual pressure ports. Figure 6(a) shows schematically the $C_{p,u}$ variation of a pressure port near the wing leading edge for both attached (essentially linear variation) and vortical flow (nonlinear behavior). During the early stage of vortex formation, the flow ahead of the pressure port gradually decelerates and is indicated by the increasing positive values of $C_{p,u}$. The most positive value of $C_{p,u}$ indicates that the vortex reattachment line has migrated directly above the pressure port. As the vortex moves further downstream, the values of $C_{p,u}$ become more negative and reach a peak value which corresponds to maximum suction imparted by the vortex core located above the pressure port. After the primary vortex moves downstream, the $C_{p,u}$ curve reflects a nonsymmetrical behavior with α; this is associated with the presence of a secondary vortex.

Based on the criterion just discussed, selected pressure ports at $\eta = 0.60$ (fig. 6(b)) are examined to determine the state of the vortex flow activity. Though not all ports show all the features of the criterion, those shown are sufficient to warrant the conclusions, and the features missing could well be attributed to an insufficient number of angles of attack at which measurements were made. For example, note how reattachment begins at $\alpha < 5°$ for $x/c = 0.05$ and moves progressively downstream with increasing α. Note also how the peak pressure for these ports occurs at higher angles of attack for the larger values of x/c. This, too, is indicative of the chordwise movement of the vortex system. These observations show strong evidence of a classical leading-edge vortex system centered around $\eta = 0.60$, but it is not confined to this station, as it must grow in size with chordwise distance and increasing α. Consequently, its effects are felt at y locations nearby and at downstream pressure ports.

For $\alpha > 9.69°$, leading-edge vortex upstream migration and large-scale upper surface flow separation have occurred, as shown by the more positive chordwise $C_{p,u}$ distribution and essentially linear variation.

The pressure distributions indicate that the outermost station is effective up to an angle of attack of 6.08°. A loss of the peak $C_{p,u}$ is observed at $\alpha = 7.30°$ and, beyond this angle of attack, followed by flow separation and eventual stall ($\alpha \geq 10.88°$). Tip section stall can be seen in the oil flow photographs shown in figures 5(c) and 5(d).

For the inboard stations, the wing pressure distributions for $\alpha = 8.52°$ show a recompression near 50 percent of the local chord. The exact location of the recompression could not be resolved precisely because of insufficient pressure orifice density on the wing upper surface. (The pressure orifices in this region are located at every 10 percent of the local chord for $x/c \geq 0.35$.)

Because this highly tapered wing has significant spanwise variations in its wing sections, complex flow types were expected at the high subsonic test Mach numbers and over the angle-of-attack range. These complex flows were reflected in both the pressure measurements as well as the surface oil flow streak lines. At positive angles of attack, the thick cambered sections inboard produced flow types which ranged from attached subcritical to supercritical flow. On the thin outboard part of the wing, the pressure was expected to exhibit typical attached flow suction peaks, though delayed in growth with angle of attack because of twist. This same part of the wing also developed a leading-edge vortex because of the thin sections and leading-edge sweep of the planform. At the midsemispan juncture where section thickness is moderate, the flow may be both subcritical and separated.

Mach number effects. In order to quantify the effects of off-design Mach number on the basic wing, the sensitive upper surface pressure distributions for the three test Mach numbers are compared in figure 7. The comparisons are made at each nominal test angle of attack. (Note that the actual angle of attack varied less than ±0.3° from the nominal value.)

As expected, more supercritical flow occurred at the highest test Mach number, $M = 0.83$, where the suction peak is followed by a steeper recompression gradient. ($C_p^*|_{M=0.75} = -0.591$, $C_p^*|_{M=0.80} = -0.435$, $C_p^*|_{M=0.83} = -0.353$.) This developed at $\alpha = 4.70°$on the inboard stations, $\eta = 0.10$ and 0.30 (fig. 7(g)), in the $0.3 < \frac{x}{c} < 0.5$ chord range. At $M = 0.75$ for the same inboard locations, the angle of attack at which supercritical flow was reached was 10.7° (fig. 7(l)) near $\frac{x}{c} = 0.3$. This critical flow region grows chordwise with angle of attack.

It is of interest to note that the $C_{p,u}$ characteristic of plateau/recompression/relative-suction-increase for $\eta = 0.60$ and $6.08° < \alpha < 9.69°$ at M_d (fig. 7(k)) was also observed at $M = 0.75$ and $M = 0.83$. The nominal angle of attack associated with this $C_{p,u}$ variation was 10.7° (fig. 7(l)) at the lower Mach number and at $\alpha = 8.40°$ (fig. 7(j)) at the higher Mach number.

At the outermost station, the angle of attack at which the tip stalled decreased with increasing Mach number as would be expected. Attached flow was maintained near the leading edge to $\alpha_{\text{nom}} = 7.2°$ for $M = 0.75$ and to $\alpha_{\text{nom}} = 6.0°$ for $M = 0.83$.

In summary, the pressure distributions for both inboard stations at any α and for the station $\eta = 0.60$ at $\alpha_{\text{nom}} < 8.4°$ (fig. 7(j)) indicate substantial effects associated with increasing Mach number over the forward part of the local chord. For the outboard station ($\eta = 0.80$) at $\alpha_{\text{nom}} > 8.4°$, the Mach number effect is seen to be the overriding influence on the $C_{p,u}$ distributions. These distributions show that the leading-edge vortex first forms at a lower α for the highest test M and at a higher α for the lower test M. For the outermost pressure station, $\eta = 0.80$, the magnitude of the Mach number effect is less extensive and is confined to the low to moderate range of α.

Vertical tail size effects at $M_d = 0.80$. From appendixes E and H, the characteristics of all lower α pressure distributions for the two tail-on configurations are generally similar to those of the wing-alone configuration in appendix B at M_d. The effect of vertical tail size on the wing upper surface pressure distributions ($\eta = 0.10$ to 0.80) is shown in figure 8 at M_d. Associated oil flow photographs for the larger vertical tail at selected values of α are shown in figure 9.

For $\alpha = 6.08°$ (fig. 8(h)) near the wing-alone design C_L, some difference in the pressure distributions was observed due to tail installation. In particular, the wing trailing-edge pressure distributions for $\eta = 0.10$ and 0.30 tended to be more negative with increasing tail size. Outboard of the vertical tail, the pressure distributions show that they were more positive for the midchord region ($0.2 < \frac{x}{c} < 0.7$) at $\eta = 0.60$, whereas at $\eta = 0.80$, the reductions are limited to the leading-edge region ($\frac{x}{c} \approx 0.10$).

Examination of the surface oil flow visualization indicates significant differences in the surface flow pattern aft of 60 percent root chord between the tail-on (fig. 9(b)) and tail-off (fig. 5(b)) configurations. A recirculatory flow resembling an airfoil-type trailing-edge separation was evident from the photograph of the surface streak lines on the inboard side of the wing/vertical tail attachment regions. It is likely that, at the center of the recirculatory flow, a free vortex exists which leaves the wing upper surface along the inner edge of the vertical tail. This inboard side recirculatory flow results from the potential flow velocity field (PAN AIR solution) being directed inward, making the outer tail surface the windward side. (See appendix J.)

The impact of the vertical tail on the wing upper surface flow field was evident even at low angles of attack. An oil flow photograph for the wing at low angle of attack ($\alpha = 4.27°$) is shown in figure 9(a). Qualitatively, from this figure, the inboard oil flow streak lines illustrate that the previously noted circulation, partially obscured due to the tail cant, is already in progress. Quantitatively, the pressure values for low α (figs. 8(a) to 8(h)), aft of midchord, were shown to be the same or more negative inboard ($\eta = 0.10$ and 0.30). This is also noted at $\eta = 0.60$ but to a lesser extent. In the leading-edge region, at $\eta = 0.60$ and 0.80, for this same low range of α the values of $C_{p,u}$ were indicated to be the same or more positive with the tails present. Among the various pressure distributions examined, it is of interest to note that, at $\alpha_{\text{nom}} = 4.7°$, the outboard $C_{p,u}$ distributions ($\eta = 0.80$) for both tail-on configurations are nearly the same as those of the wing alone.

Similar inboard pressure distribution trends were observed for $\alpha_{\text{nom}} > 6.0°$ (figs. 8(i) to 8(k)). However, the previous favorable pressure gradient aft of midchord at $\eta = 0.60$ was no longer present for $\alpha_{\text{nom}} > 9.6°$ (fig. 8(l)). Further outboard, at $\eta = 0.80$, leading-edge separation was delayed for $\alpha_{\text{nom}} \geq 7.2°$ due to the presence of the vertical tail. In particular, the pressure measurements for the large vertical tail configuration at $\alpha_{\text{nom}} = 8.4°$ (fig. 8(j)) and 9.6° (fig. 8(k)) exhibit local pressure distributions at the first half of the chord that indicate the presence of a complicated flow. The $C_{p,u}$ distribution for $\alpha_{\text{nom}} = 8.4°$ indicates a second suction peak near $\frac{x}{c} = 0.35$, which is more positive than the one near the leading edge and is associated with a local velocity increase. This may be due to the existence of a second vortex or to flow reexpansion. However, the surface oil flow streak lines, obtained near this angle of attack ($\alpha = 8.14°$), do not support the occurrence of either.

In general, the pressure distribution at any α for the aft portions of the inboard stations shows increased levels of suction associated with increasing tail size. Outboard, enhanced levels of suction were only measured at low to moderate angles of attack.

Combinational Mach number and vertical tail effects. Previous discussions have addressed the isolated Mach number and vertical tail effects on the basic wing through the angle-of-attack range. It was generally noted that values of $C_{p,u}$ were more positive with decreasing M and, at M_d, more negative inboard, aft of midchord, with the addition of the vertical tails. Since the wing alone was designed without the presence of the vertical tails, a combinational Mach number and vertical tail study was conducted to determine whether recovery of a basic wing $C_{p,u}$ distribution is possible for $M < M_d$ with the vertical tails on.

Figure 10 shows, for the angle-of-attack range, the basic wing $C_{p,u}$ distribution as well as those for the basic wing with each vertical tail set above and below M_d. (The $M > M_d$ data are presented for completeness.) Examination of the $C_{p,u}$ results indicate that at $M = 0.75(< M_d)$ no wing–vertical tail combination produced complete root to tip agreement, though there are isolated examples, where the agreement is good over part or full chord. In particular, good agreement is noted with (1) both vertical tail sets at $\eta = 0.10$ and $\alpha > 4.70°$, (2) small vertical tail sets at $\eta = 0.30$ and $\alpha = 10.70°$, and (3) large vertical tail sets at $\eta = 0.30$ and $\alpha = 11.90°$.

Integrated C_p Data

Mach number effects. The wing-alone pressure measurements were integrated chordwise by using a cubic spline routine (ref. 17) to obtain sectional normal-force c_n and sectional pitching-moment c_m characteristics. These values are shown in figure 11 for the angle-of-attack range and each test Mach number. Figure 11 shows that for the inboard stations both c_n and c_m have essentially linear variations with α for all Mach numbers, whereas the outboard stations show nonlinear increases. This increase is especially noticeable for $\eta = 0.60$ at $6.00° < \alpha < 10.00°$ due to the previously noted vortex presence which results in rearward load-center movement and increased nose-down section pitching moment. For $\alpha > 10.00°$, stalled flow is developed at this station, hence, the constant values of c_n and c_m. The outermost tip station shows little normal-force growth with angle of attack above $\alpha = 6.00°$, a relatively low value of α. This behavior is likely due to the flow separation indicated by the pressure distributions.

Span-load distributions for the basic wing as a function of α are presented in figure 12 for the three test Mach numbers. From these distributions the angle of attack by which leading-edge suction is lost in the tip region can be estimated. They are $\alpha = 8.29°$, 7.30°, and 7.47° for $M = 0.75$, 0.80, and 0.83, respectively. Although this was not part of the design constraints, elliptical span-load distribution was not achieved with the imposed model camber and twist for the angle-of-attack and Mach number ranges of this investigation.

Vertical tail size effects at $M_d = 0.80$. At low to moderate angles of attack, the effect of vertical tail on

the section normal-force and pitching-moment coefficients with angle of attack at $M_d = 0.80$ for the addition of each vertical tail set (fig. 13) indicates trends similar to those of the basic wing. The previously noted higher velocity at $\eta = 0.80$ due to the larger vertical tails caused the positive increments in section normal-force coefficient for the angle-of-attack range $8.00° \leq \alpha \leq 10.00°$ shown in figure 13(a). The section pitching-moment coefficients, shown in figure 13(b), indicate that the tail presence has not adversely affected the generally stable longitudinal characteristics. As with the basic wing at the design Mach number, the span-load distributions (fig. 14) for the two tail-on configurations are not elliptical for any angle of attack.

Theory and Experiment Comparisons

General Comments

In this section, comparisons between theoretical and experimental pressures and their chordwise integration are discussed. The codes used to generate the theoretical values are VLM-SA (ref. 10) and PAN AIR (ref. 11), both panel codes; FLO-28 (ref. 12), a three-dimensional full-potential code; and FLO-57 (ref. 13), an Euler code. For the half-wing, the number of panels in the VLM-SA and PAN AIR calculations were 168 (7 chordwise by 24 spanwise) and 434 (30 chordwise and 16 spanwise), respectively. Also for the half-wing, the computational mesh was $145 \times 17 \times 33$ for the FLO-28 code, and $96 \times 16 \times 16$ for the FLO-57 code. A PAN AIR type panel representation of the wing is shown in figure 15. The VLM-SA solutions (zero suction with camber and twist modeled) are presented for angles of attack from 0.00° to 16.00° in 2.00° increments, and from the PAN AIR, FLO-28, and FLO-57 codes, inviscid solutions are presented for as many as three angles of attack, 6.08°, 9.70°, and 13.00°. These angles of attack were selected because the associated pressure data illustrate three different surface flow phenomena at M_d. They are attached flow at $\alpha = 6.08°$, flow recompression followed by a vortex at $\alpha = 9.70°$, and large-scale tip separation at $\alpha = 13.00°$, respectively.

For computational ease and expediency, as well as the inability of all the codes to adequately model the sting shroud, only wing-alone solutions were obtained. Since the shroud region of the model was not sufficiently instrumented, an alternate study using PAN AIR was made to assess the impact of the shroud on the wing pressure field. Three solutions were obtained, at $\alpha = 6.08°$, 9.70°, and 13.00°, for the wing with and without shroud representation. The C_p results are presented in appendix J for four inboard stations at $\eta = 0.02$, 0.07, 0.13, and 0.20. The results indicate its effects to be confined to the shroud region, $\eta \leq 0.06$. The associated velocity fields indicate no significant changes in either the streamwise or spanwise velocity components in the shroud region in that for the most part the velocity fields are coincident. (See fig. J1. inset.)

The FLO-28 solutions for $\alpha = 6.08°$ and 9.70° were supplied by the Boeing Military Airplane Company under a cooperative agreement. The other solutions were obtained in-house by using the 4.997 version of VLM-SA, a commercially available version of PAN AIR (version 1.2), and a new version of FLO-57, called FLO-57 GWB (developed by Lockheed-California Company and supplied to the Langley Research Center under a cooperative agreement).

Chordwise integrations of experimental pressures are compared in two different ways with the theoretical results. The first is by examining the c_n and c_m results at different values of α as obtained from experiment and the VLM-SA, PAN AIR, FLO-28, and FLO-57 codes. The second comparison is that of the c_{n_α} and c_{m_α} variation at low α for all the preceding prediction methods. The c_{n_α} and c_{m_α} values for PAN AIR, FLO-28, and FLO-57 codes were obtained by a linear curve fit of the results at $\alpha = 6.08°$ and 9.70°.

Pressure Distribution Comparison

Theoretical and experimental pressure distributions for the selected angles of attack are presented in figures 16, 17, and 18. Each figure shows the pressures at four span stations, $\eta = 0.10$, 0.30, 0.60, and 0.80, and are for $\alpha = 6.08°$, 9.70°, and 13.00°, respectively. At $\alpha = 6.08°$, the lower surface and most of the upper surface pressures for the four stations are well predicted by the theories with the exception of the leading-edge values (fig. 16). Of the three codes, PAN AIR computed the highest overall upper surface suction pressures (second-order solutions) for $\eta = 0.10$, 0.30, and 0.80, whereas at $\eta = 0.60$, FLO-57 predictions are slightly higher. It is of interest to note that all three codes correctly predicted the upper and lower surface pressure crossing ahead of the trailing edge. Improvements in the theoretical and experimental correlation may be expected with refined computational panel and mesh density.

At the off-design angles of attack, $\alpha = 9.70°$ and 13.00° (figs. 17 and 18, respectively), the agreement between theoretical and experimental results is not as good. Lower surface pressure predictions still compared well, whereas the upper surface pressure predictions only approximated the trends but not the pressure level. Again, PAN AIR is shown to predict the more negative pressure values. Little agreement

was observed outboard, as expected, because the experimental data indicate local flow separation and the theoretical estimates assume attached flow for these higher angles of attack.

Integrated Pressure Comparison

The theoretical and experimental section normal-force and pitching-moment coefficient variations with angles of attack are presented in figures 19(a) and 19(b), respectively. Overall, the VLM-SA (zero-suction) solutions (fig. 19) show good c_n correlation for low to moderate angles of attack where attached flow is expected, particularly at the inboard stations. Although the theoretical and experimental c_n correlation at the outboard stations is not as good, the calculated results parallel the experimental data and differ from the data by a constant α offset. Similarly, the PAN AIR and FLO-57 solutions (fig. 19(a)) show favorable comparison with the experimental data for the available angle-of-attack range at the inboard stations and especially for $6.00° < \alpha < 9.00°$ at $\eta = 0.60$. The agreement is not as good outboard at higher angles of attack for VLM-SA, PAN AIR, and FLO-57 codes, due to previously cited local vortical flow ($\alpha > 9.50°$) at $\eta = 0.60$ and tip separation ($\alpha > 7.00°$) at $\eta = 0.80$. At $\eta = 0.60$, agreement between the PAN AIR results and experimental data is observed for $\alpha < \alpha|_{c_{n,\max}}$ consistent with the attached flow formulation of this code. However, at $\alpha = 9.70°$, the estimates are low because of vortex flow not accounted for in the code. For higher angles of attack at this station and for $\alpha > 8.00°$ at $\eta = 0.80$, the predictions are high due to flow separation. The agreement between the FLO-28 results and the experimental data at the tip station may be fortuitous, since the experimental data show nonlinear trends, indicative of separated flow, whereas FLO-28 yields attached flow solutions. Therefore, theoretical and experimental agreement was not expected here. This same figure shows that the FLO-57 solutions, which allow for automatic inclusion of a leading-edge vortex in the numerical calculation, have good agreement at $\eta = 0.60$ for angles of attack below $c_{n,\max}$. However, at $\alpha > 9.50°$, there is an underprediction of the c_n values; this is attributable to lower overall suction pressure being predicted than being measured. (See fig. 18(c).) It is of interest to note that, although the estimates overpredicted the $\eta = 0.80$ normal-force-coefficient values, the character of the experimental data curve is reproduced.

The VLM-SA, PAN AIR, and FLO-57 predictions of the pitching-moment coefficients (fig. 19(b)) for the inboard stations and $\alpha < 11.00°$ compare well with experimental data. However, the c_m agreement for each of these codes with experiment is poorer outboard due to occurrence of vortical flow and tip stall, singly or together, with increasing angle of attack. At $\eta = 0.60$ and $9.00° < \alpha < 12.00°$, as would be expected among the four numerical codes, the FLO-57 code came closest to predicting the increased nose-down experimental c_m values caused by the local vortex flow. It is of interest to note that at $\eta = 0.80$, the VLM-SA estimates parallel the experimental data up to $\alpha = 10.00°$ (similar to the c_n behavior for low to moderate angles of attack). These c_m estimates together with those of FLO-57 bracket the data for $9.70° < \alpha < 13.02°$. The agreement at $\alpha = 9.70°$ and $\eta = 0.80$ between the PAN AIR solution and experiment is most likely to be fortuitous because the curve for c_n versus α indicated stalled flow. The FLO-28 solutions showed good correlation with the experimental data at $\alpha = 6.08°$ for all stations, whereas at a higher angle of attack, $\alpha = 9.70°$, the pitching-moment coefficients for the inboard stations and the $\eta = 0.60$ station are generally more positive. The apparent agreement with experiment at $\eta = 0.80$ is not expected and it is for the same reason cited in the discussion for c_n versus α.

Figures 20(a) and (b) present the c_{n_α} and c_{m_α} low-α (generally 6.08° to 9.70°) variations with η, respectively, which have been determined from experiment and from various theories. As seen in figure 20(a), the two panel methods, VLM-SA and PAN AIR, and FLO-57 provide good overall agreement with the experimental c_{n_α}. The maximum deviation from experiment for these methods is noted to occur for the PAN AIR code at $\eta = 0.80$ where its value is approximately 6.9 percent higher than experiment. FLO-28 predicts the same c_{n_α} growth as experiment, though offset by a decrement of ≈ 0.01. The agreement between experimental data and predicted low-α pitching-moment-coefficient slopes was not as good as that of the normal-force-coefficient slopes. From figure 20(b), the VLM-SA estimates are shown to have the best overall correlation with experimental data. Here the maximum difference with experiment is about 7.7 percent more negative at $\eta = 0.30$. Regarding the other methods, only one did as well as the VLM-SA and that was at $\eta = 0.10$, where the FLO-57 prediction gave the closest agreement.

Conclusions

From a wind-tunnel and theoretical study of a cambered and twisted thick delta wing, the following conclusions are drawn:

1. For the wing alone, attached flow pressure distributions were indicated at the design Mach number at angles of attack up to the value (6.08°) for

the design lift coefficient. At higher angles of attack, the two inboard stations showed recompression near 60 percent of the local chord, whereas outboard the 0.60 semispan station indicated leading-edge suction plateau followed by recompression and vortical flows and the 0.80 semispan station indicated loss of leading-edge suction, flow separation, and tip stall.

2. A classical leading-edge vortex system, centered around the 0.60-semispan station, was determined to exist from the upper surface pressure versus angle-of-attack curves at various local fractional chord locations. The vortex system began its development at small values of angle of attack.

3. The region of supercritical flow increases with Mach number over the forward part of the local chord for both inboard stations over the angle-of-attack range and for the 0.60 semispan station at angles of attack less than 8.40°.

4. At 0.60 semispan, the upper surface pressure characteristic of a plateau/recompression/relative-suction-increase, first observed at the design Mach number at an angle of attack of 9.60°, was also noted at off-design Mach numbers. However, the angles of attack associated with this pressure characteristic were different, being 10.70° at the lower Mach number and 8.40° at the higher Mach number. For the outboard semispan station, Mach number effects resulted in only moderate decreases in upper surface pressure near the leading edge at low to moderate angles of attack.

5. A combinational Mach number and vertical tail study did not show recovery of the basic wing upper surface pressure distribution for a Mach number less than the design value.

6. The pressure distribution at any angle of attack for the aft portions of the inboard stations indicate increased levels of suction associated with increasing tail size. Outboard, enhanced levels of suction were only measured at low to moderate angles of attack.

7. Surface oil flows for the large tail-on configuration at a Mach number of 0.80 show a recirculatory flow on the inboard side of the wing–vertical tail attachment region which resembles that of an airfoil-type trailing-edge separation.

8. As expected, the span-load distributions of the experimental data for both tail-on and tail-off do not indicate an elliptical distribution for any angle of attack or Mach number combination.

9. Theoretical predictions of the lower surface and most of the upper surface pressure distributions agree well with experimental data at the design condition; the magnitude of the upper surface pressure peak values were underpredicted.

10. Above the angle of attack associated with the design lift coefficient, theoretical and experimental pressure agreement was limited to the two inboard stations; lower surface pressure agreement was good, whereas the upper surface pressure trend was only approximated.

11. The PAN AIR and FLO-57 normal-force-coefficient predictions for the inboard stations are good for the available angle-of-attack range, whereas the agreement is not as good outboard at the higher angles of attack.

12. PAN AIR and FLO-57 predictions compare well with the experimental data for the pitching-moment-coefficient variation with angle of attack at the inboard stations below an angle of attack of 11.00°, whereas FLO-28 predicts more positive values.

13. The Vortex Lattice Method-Suction Analogy (zero suction) solutions showed good normal-force and pitching-moment-coefficient correlation inboard for low to moderate angle of attack and showed not as good correlation outboard but one which parallels the experimental data by an angle-of-attack offset. These agreements are over a wider angle-of-attack range than those of FLO-57 and PAN AIR.

14. The comparisons of the Vortex Lattice Method-Suction Analogy, PAN AIR, and FLO-57 low-angle-of-attack, normal-force-coefficient slopes with experiment indicate good overall agreement.

15. The Vortex Lattice Method-Suction Analogy estimates were shown to have the best overall correlation with experimental pitching-moment-coefficient slopes.

NASA Langley Research Center
Hampton, VA 23665-5225
June 24, 1987

References

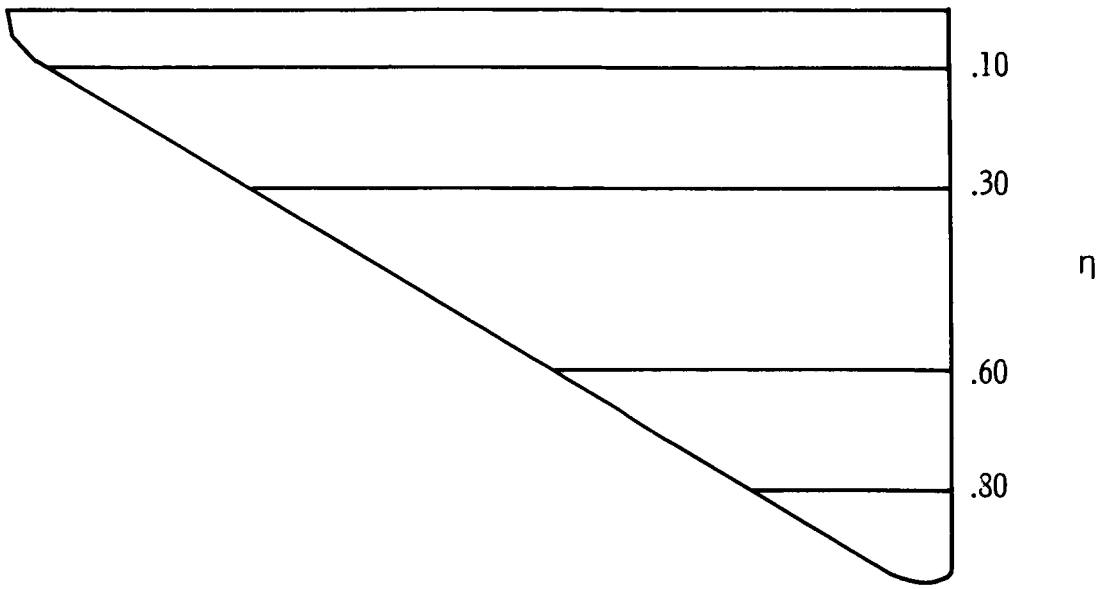
1. Graham, David: *Chordwise and Spanwise Loadings Measured at Low Speeds on a Large Triangular Wing Having an Aspect Ratio of 2 and a Thin, Subsonic-Type Airfoil Section.* NACA RM A50A04a, 1950.
2. Sutton, E. P.: *Some Observations of the Flow Over a Delta-Winged Model With 55-Deg Leading-Edge Sweep, at Mach Numbers Between 0.4 and 1.8.* R. & M. No. 3190, British Aeronautical Research Council, 1960.
3. Wick, Bradford H.: *Chordwise and Spanwise Loadings Measured at Low Speed on a Triangular Wing Having an Aspect Ratio of Two and an NACA 0012 Airfoil Section.* NACA TN 1650, 1948.
4. Orlik-Ruckemann, K.: *Experimental Determination of Pressure Distributions and Transition Lines of Plane Delta Wings at Low Speeds and Zero Yaw.* KTH-Aero TN 3, Royal Inst. of Technology, Div. of Aeronautics (Stockholm, Sweden), 1948.

5. Boyd, John W.; Migotsky, Eugene; and Wetzel, Benton E.: *A Study of Conical Camber for Triangular and Sweptback Wings.* NACA RM A55G19, 1955.
6. Mugler, John P., Jr.: *Effects of Two Leading-Edge Modifications on the Aerodynamic Characteristics of a Thin Low-Aspect-Ratio Delta Wing at Transonic Speeds.* NACA RM L56G12a, 1956.
7. Werlé, Henry: *Structures of Flow Separations Over Swept Wings.* ESA-TT-652, Oct. 1980, pp. 9–33.
8. Chu, Julio; Lamar, John E.; and Luckring, James M.: *Longitudinal Test and Evaluation of Six 58° Cambered and Twisted Thick Delta Wings at High Subsonic Speeds.* NASA TM-85786, 1985.
9. Chu, Julio; and Lamar, John E.: Summary of a High Subsonic Force/Pressure Experiment for 58° Cambered/Twisted Thick Delta Wings. AIAA-86-0169, Jan. 1986.
10. Lamar, John E.; and Herbert, Henry E.: *Production Version of the Extended NASA-Langley Vortex Lattice FORTRAN Computer Program. Volume I—User's Guide.* NASA TM-83303, 1982.
11. Sidwell, Kenneth W.; Baruah, Pranab K.; and Bussoletti, John E.: *PAN AIR—A Computer Program for Predicting Subsonic or Supersonic Linear Potential Flows About Arbitrary Configurations Using a Higher Order Panel Method. Volume II—User's Manual (Version 1.0).* NASA CR-3252, 1980.
12. Jameson, Antony; and Caughey, D. A.: A Finite Volume Method for Transonic Potential Flow Calculations. *A Collection of Technical Papers—AIAA 3rd Computational Fluid Dynamics Conference*, 1977, pp. 35-54. (Available as AIAA Paper 77-635.)
13. Raj, Pradeep; and Sikora, Josef S.: Free Vortex Flows: Recent Encounters With an Euler Code. AIAA-84-0135, Jan. 1984.
14. Fox, Charles H., Jr.; and Huffman, Jarrett K.: *Calibration and Test Capabilities of the Langley 7- by 10-Foot High Speed Tunnel.* NASA TM X-74027, 1977.
15. Braslow, Albert L.; and Knox, Eugene C.: *Simplified Method for Determination of Critical Height of Distributed Roughness Particles for Boundary-Layer Transition at Mach Numbers From 0 to 5.* NACA TN 4363, 1958.
16. Hess, Robert W.; Cazier, F. W., Jr.; and Wynne, Eleanor C. (appendix by E. Carson Yates, Jr.): *Steady and Unsteady Transonic Pressure Measurements on a Clipped Delta Wing for Pitching and Control-Surface Oscillations.* NASA TP-2594, 1986.
17. *Mathematical and Statistical Software at Langley.* Central Scientific Computing Complex Document N-3a, Vol. II, Sec. D1.11, NASA Langley Research Center, Mar. 1985.

Appendix A

Pressure Data for Wing Alone at $M = 0.75$

The C_p data for the wing alone (fig. 2(a)) at $M = 0.75$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.31°$ to $14.05°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.31 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.26902	.26902	.05273	.05273	.13595	.13595	-.13152	-.13152
.005	< >	< >	< >	< >	.28586	.03709	.10966	-.24402	< >	< >	< >	< >
.015	< >	< >	< >	< >	.24990	-.12369	.06704	-.46756	< >	< >	< >	< >
.025	< >	< >	< >	< >	.18780	-.22386	.01492	-.51017	.00952	-.06881	.23712	-1.30223
.040	< >	< >	< >	< >	.14245	-.20999	-.06418	-.45435	< >	< >	< >	< >
.050	< >	< >	< >	< >	.10643	-.23929	-.09556	-.47009	-.05018	-.65658	.20081	-1.23443
.065	< >	< >	< >	< >	.06817	-.24769	-.12003	-.43582	< >	< >	< >	< >
.075	< >	< >	< >	< >	.01702	-.22669	-.15589	-.40665	-.05784	-.66073	.15986	-1.16347
.090	< >	< >	< >	< >	.00498	-.23476	-.17792	-.38616	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.02571	-.24025	-.19732	-.38677	-.07202	-.52926	.15291	-1.02627
.125	< >	< >	< >	< >	-.08458	-.25252	-.23429	-.35936	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.16745	-.25284	-.25608	-.32683	-.08855	-.50159	.10402	*****
.200	< >	< >	< >	< >	-.21021	-.25759	-.28096	-.33332	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.28102	-.25652	-.29506	-.31423	-.09017	-.39415	.06814	-.71775
.300	< >	< >	< >	< >	-.30984	< >	-.31366	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.31750	< >	-.28801	< >	-.10485	< >	.03985	< >
.450	< >	< >	< >	< >	-.30637	-.30631	-.24139	-.31261	-.11626	-.35612	.00621	-.34131
.550	< >	< >	< >	< >	-.21468	< >	-.18078	< >	-.09243	< >	-.02502	< >
.650	< >	< >	-.01979	< >	-.09111	-.24470	-.09775	-.23768	-.09485	-.34663	-.05132	-.22118
.750	-.01766	< >	< >	< >	-.00499	< >	-.00070	< >	-.04011	-.24816	-.04840	-.18650
.850	.05091	-.06776	.05270	-.08999	.07021	-.06074	.09289	-.04892	-.04500	-.15164	-.04703	-.08838
.950	.08422	.03616	.11601	.01383	.15435	.05970	.17800	.10691	.05587	.08571	-.01808	.01042

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -1.12 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
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.015	< >	< >	< >	< >	.23314	-.06538	.02001	-.33005	< >	< >	< >	< >
.025	< >	< >	< >	< >	.16369	-.16865	-.03126	-.37628	-.10155	-.26803	.19471	-1.36256
.040	< >	< >	< >	< >	.09908	-.16116	-.11297	-.36606	< >	< >	< >	< >
.050	< >	< >	< >	< >	.06493	-.17934	-.13924	-.38339	-.14259	-.50722	.13547	-1.14203
.065	< >	< >	< >	< >	.03588	-.19219	-.18341	-.35944	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.00708	-.19162	-.20819	-.33369	-.13088	-.48749	.08951	-.75695
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.150	< >	< >	< >	< >	-.19709	-.22335	-.31337	-.28308	-.15536	-.38638	.04142	*****
.200	< >	< >	< >	< >	-.25036	-.22355	-.33895	-.28308	< >	< >	< >	< >
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.300	< >	< >	< >	< >	-.34753	< >	-.33623	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.35203	< >	-.31981	< >	-.14853	< >	-.01523	< >
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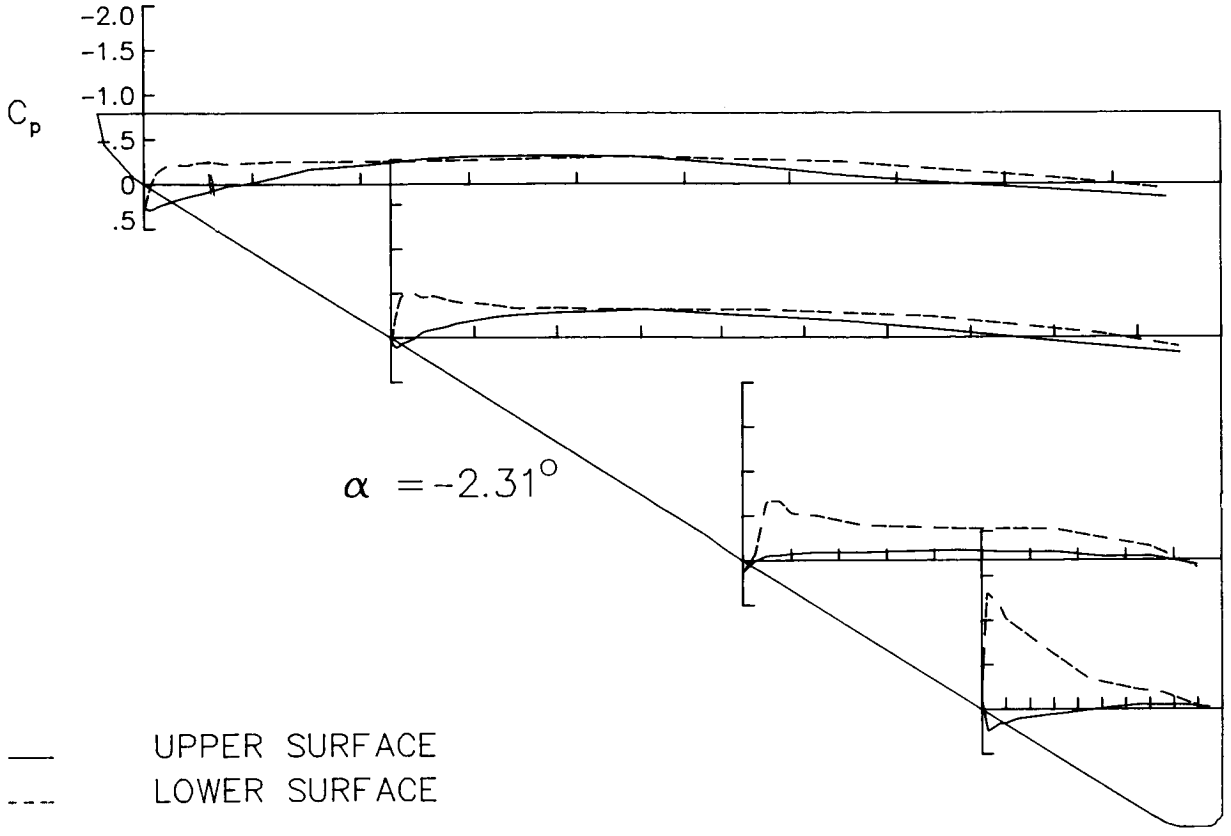
.750	-.03053	< >	< >	< >	-.01715	< >	-.01179	< >	-.06487	-.14079	-.05697	-.14904
.850	.04358	-.05744	.04314	-.07879	.06690	-.06000	.08361	-.04103	-.06210	-.13756	-.05115	-.06059
.950	.08416	.03863	.11733	.00865	.15877	.06265	.17465	.11089	.06868	.08537	-.00947	.04462

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
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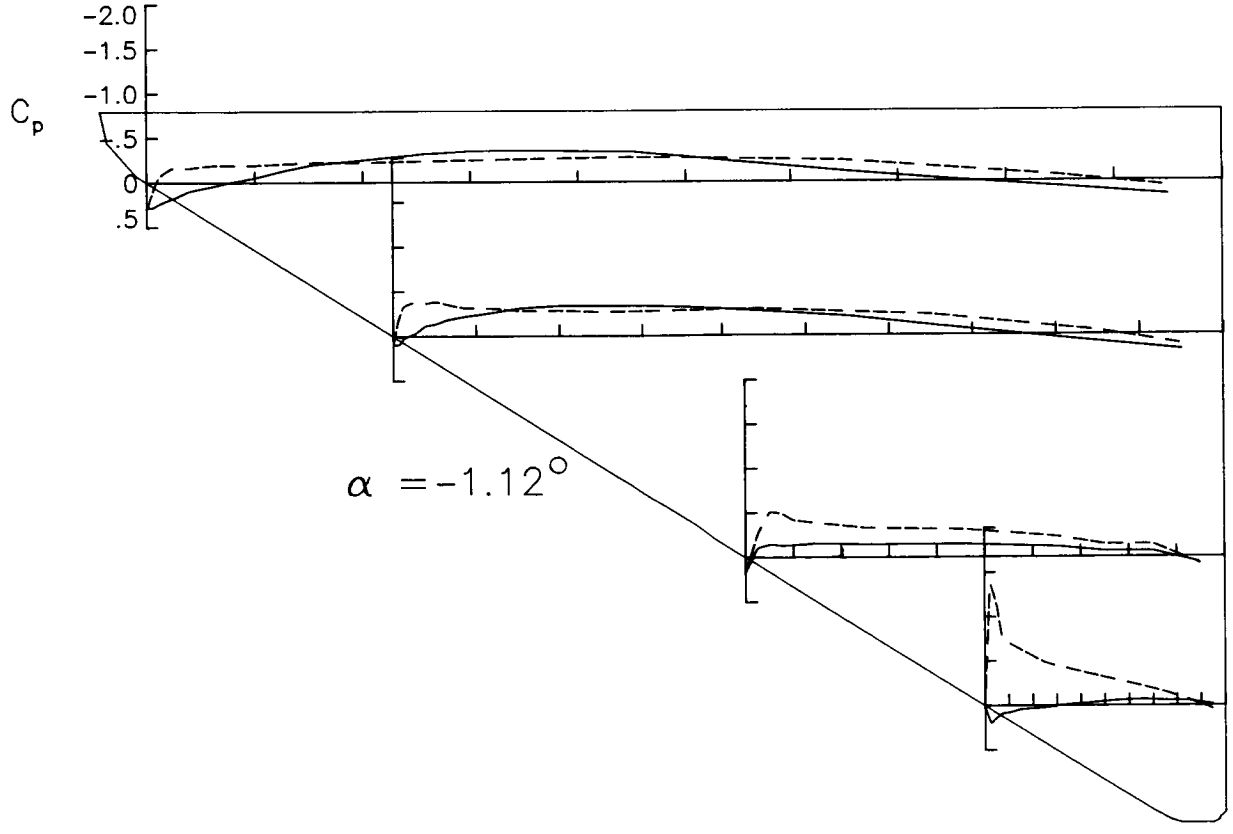
-1.0
.5
0
.5
C_p
$\alpha = -2.31°$
UPPER SURFACE
LOWER SURFACE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-1.5
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0
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C_p
$\alpha = -1.12°$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .96 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28791	.28791	.11283	.11283	.20979	.20979	.11915	.11915
.005	< >	< >	< >	< >	.26169	.13286	.06720	-.05616	< >	< >	< >	< >
.015	< >	< >	< >	< >	.21378	-.00306	-.02364	-.21844	< >	< >	< >	< >
.025	< >	< >	< >	< >	.13567	-.10467	-.10984	-.28299	-.22719	-.28070	.12026	-1.00786
.040	< >	< >	< >	< >	.07269	-.10558	-.16258	-.27779	< >	< >	< >	< >
.050	< >	< >	< >	< >	.03215	-.13172	-.19823	-.32360	-.25484	-.35528	.02859	-.85013
.065	< >	< >	< >	< >	.00698	-.14434	-.22408	-.29942	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.04618	-.15212	-.26696	-.27643	-.21873	-.37309	.00393	-.63931
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.100	< >	< >	< >	< >	-.10516	-.15553	-.28310	-.27273	-.21183	-.31799	.00680	-.56592
.125	< >	< >	< >	< >	-.16480	-.17209	-.31998	-.26247	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.23524	-.18980	-.35065	-.24110	-.21842	-.28182	-.02719	*****
.200	< >	< >	< >	< >	-.27222	-.19587	-.38141	-.24921	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.34887	-.20221	-.37011	-.23539	-.19437	-.28841	-.04616	-.40639
.300	< >	< >	< >	< >	-.38523	< >	-.38063	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.37746	< >	-.35092	< >	-.18437	< >	-.06458	< >
.450	< >	< >	< >	< >	-.34580	-.25557	-.30822	-.27111	-.17933	-.28612	-.07469	-.31322
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.650	< >	< >	-.04254	< >	-.11968	-.22668	-.12144	-.21499	-.16574	-.19673	-.09505	-.20069
.750	-.04670	< >	< >	< >	-.03424	< >	-.01392	< >	-.07707	-.12214	-.08102	-.12367
.850	.03970	-.04881	.04300	-.07615	.06180	-.05445	.08087	-.03834	-.07765	-.12487	-.05586	-.02670
.950	.08300	.03859	.11637	.01362	.15984	.06448	.16904	.11008	.08592	.08410	.00756	.06976

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

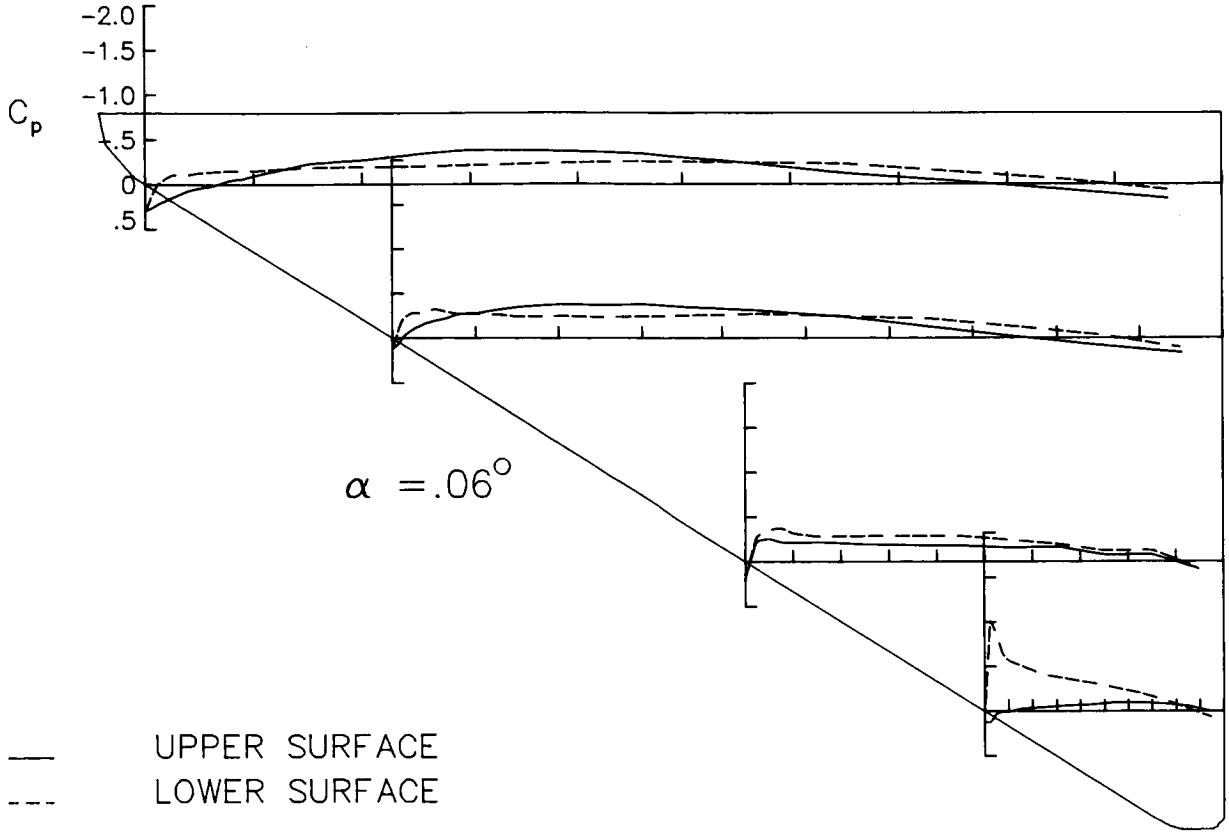
ANGLE OF ATTACK= 1.24 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

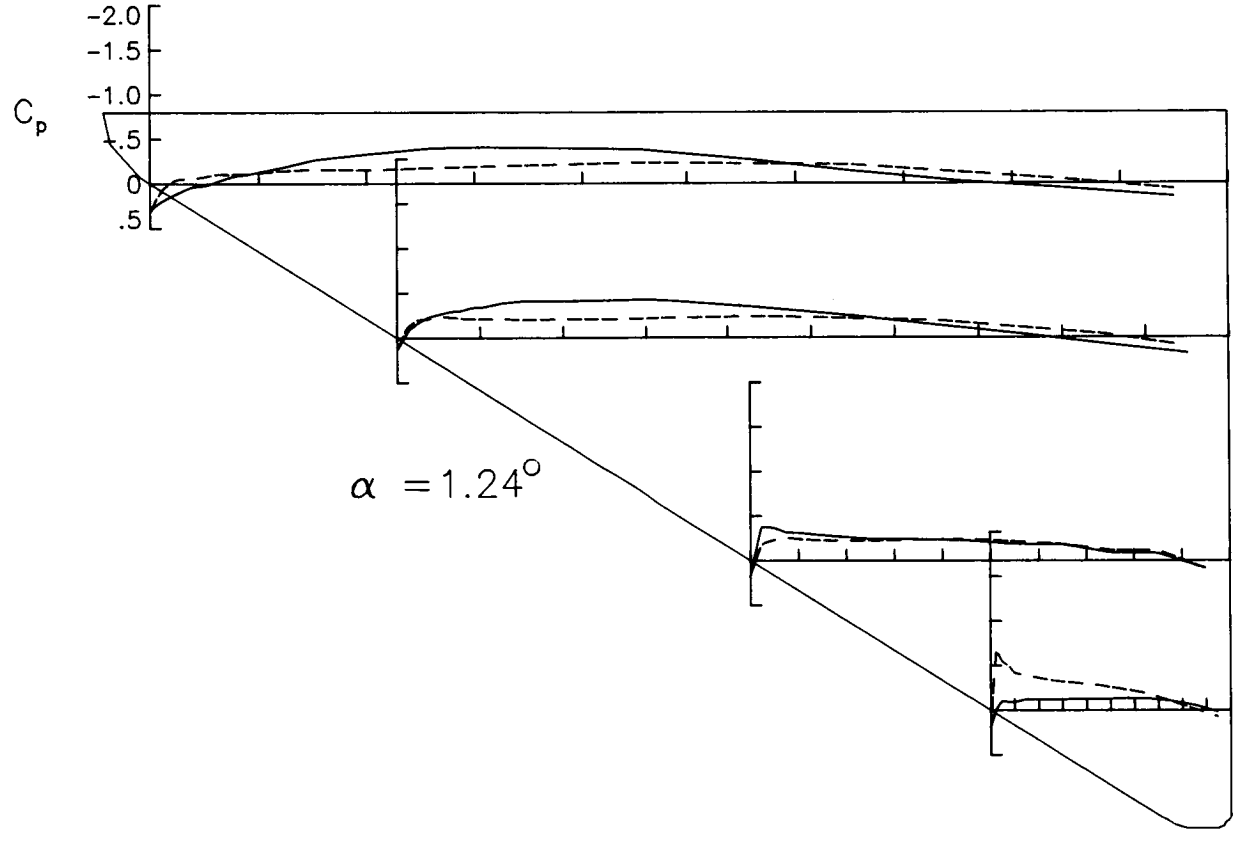
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30413	.30413	.11657	.11657	.18608	.18608	.20624	.20624
.005	< >	< >	< >	< >	.24091	.17234	.03141	.01201	< >	< >	< >	< >
.015	< >	< >	< >	< >	.18455	.06001	-.08153	-.11937	< >	< >	< >	< >
.025	< >	< >	< >	< >	.09549	-.04706	-.17697	-.20034	-.37515	-.18191	-.01456	-.65373
.040	< >	< >	< >	< >	.03606	-.05764	-.23404	-.21157	< >	< >	< >	< >
.050	< >	< >	< >	< >	.01434	-.08042	-.26537	-.23765	-.36360	-.23368	-.10544	-.54368
.065	< >	< >	< >	< >	-.03471	-.10530	-.29280	-.23023	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.08592	-.10367	-.30545	-.21897	-.31481	-.25511	-.09129	-.49725
.090	< >	< >	< >	< >	-.10109	-.11158	-.33570	-.21132	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.13618	-.12154	-.34315	-.21054	-.31064	-.24214	-.09099	-.41970
.125	< >	< >	< >	< >	-.18912	-.14513	-.38769	-.21206	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.26677	-.15720	-.41044	-.20124	-.28415	-.22569	-.12450	*****
.200	< >	< >	< >	< >	-.32702	-.15037	-.41074	-.21129	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.39320	-.17238	-.41768	-.20848	-.24338	-.22566	-.11914	-.33577
.300	< >	< >	< >	< >	-.40392	< >	-.42548	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.39617	< >	-.39582	< >	-.23944	< >	-.12699	< >
.450	< >	< >	< >	< >	-.37767	-.23114	-.33221	-.23729	-.22573	-.24307	-.12324	-.28029
.550	< >	< >	< >	< >	-.27091	< >	-.23945	< >	-.18459	< >	-.13596	< >
.650	< >	< >	-.04697	< >	-.13684	-.20711	-.13487	-.18985	-.17904	-.18370	-.13237	-.18993
.750	-.05154	< >	< >	< >	-.02546	< >	-.03812	< >	-.09074	-.11908	-.10435	-.10156
.850	.04135	-.05197	.04187	-.07588	.05777	-.04225	.07522	-.03670	-.07908	-.10942	-.05767	-.01475
.950	.08260	.03834	.11219	.01045	.15186	.06603	.18010	.10058	.09176	.08983	.01976	.07574

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =.06°
UPPER SURFACE
LOWER SURFACE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-1.5
-1.0
C_p
.5
0
.5
α =1.24°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.35 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30035	.30035	.11449	.11449	.13049	.13049	.22845	.22845
.005	< >	< >	< >	< >	.22386	.20322	-.00435	.07648	< >	< >	< >	< >
.015	< >	< >	< >	< >	.15190	.10885	-.13634	-.04978	< >	< >	< >	< >
.025	< >	< >	< >	< >	.06341	.00789	-.24921	-.12147	-.55087	-.10155	-.18978	-.34026
.040	< >	< >	< >	< >	.00312	-.00506	-.28997	-.14157	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.02675	-.04373	-.31831	-.17451	-.51240	-.14198	-.25897	-.36407
.065	< >	< >	< >	< >	-.06772	-.06117	-.34242	-.16658	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.12594	-.06267	-.36275	-.17008	-.43064	-.15946	-.23730	-.31974
.090	< >	< >	< >	< >	-.13389	-.06992	-.38386	-.17054	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.16366	-.08577	-.40159	-.16112	-.39578	-.17102	-.18951	-.30545
.125	< >	< >	< >	< >	-.23108	-.11076	-.43467	-.16629	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.30719	-.11633	-.45648	-.16031	-.35927	-.16483	-.22547	*****
.200	< >	< >	< >	< >	-.35382	-.12510	-.45941	-.18194	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.41972	-.14433	-.45539	-.17238	-.29215	-.18660	-.18292	-.26787
.300	< >	< >	< >	< >	-.44095	< >	-.47068	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.42473	< >	-.42485	< >	-.28892	< >	-.18216	< >
.450	< >	< >	< >	< >	-.40747	-.21269	-.35170	-.21226	-.26291	-.21551	-.18100	-.23949
.550	< >	< >	< >	< >	-.28328	< >	-.25923	< >	-.21168	< >	-.17958	< >
.650	< >	< >	-.05311	< >	-.14443	-.18508	-.15009	-.17151	-.19850	-.17481	-.16957	-.16402
.750	-.05486	< >	< >	< >	-.03705	< >	-.04088	< >	-.10175	-.10948	-.13155	-.09592
.850	.03633	-.04953	.03962	-.06803	.05605	-.03759	.07415	-.03441	-.04306	-.02470	-.06544	-.01374
.950	.08504	.03945	.11088	.01715	.14910	.07099	.17257	.09924	.08320	.08462	.02307	.07144

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

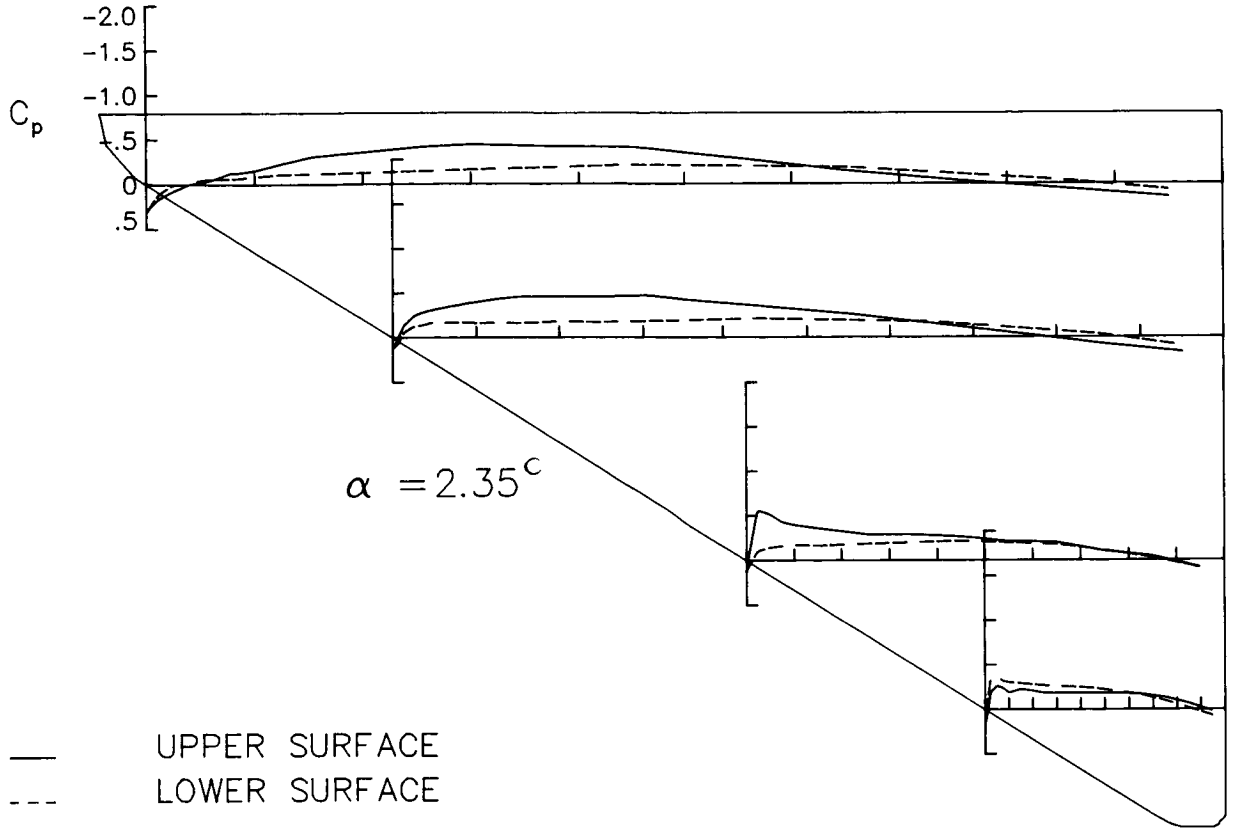
ANGLE OF ATTACK= 3.49 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30906	.30906	.10580	.10580	.03846	.03846	.17041	.17041
.005	< >	< >	< >	< >	.19881	.24225	-.04864	.11836	< >	< >	< >	< >
.015	< >	< >	< >	< >	.12367	.15504	-.20512	.01773	< >	< >	< >	< >
.025	< >	< >	< >	< >	.03146	.04860	-.33971	-.05122	-.75288	.00839	-.44089	-.14939
.040	< >	< >	< >	< >	-.03210	.03283	-.35834	-.07760	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.06825	-.00295	-.39314	-.11916	-.67176	-.06656	-.43382	-.19699
.065	< >	< >	< >	< >	-.10864	-.01767	-.41191	-.11838	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.16066	-.02143	-.41853	-.12012	-.53592	-.08163	-.39410	-.18465
.090	< >	< >	< >	< >	-.17518	-.03811	-.44753	-.11344	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.20372	-.04446	-.46059	-.11257	-.48586	-.10217	-.34067	-.19200
.125	< >	< >	< >	< >	-.26303	-.07134	-.48919	-.12911	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.34557	-.08379	-.50289	-.13045	-.43152	-.09998	-.31399	*****
.200	< >	< >	< >	< >	-.38506	-.09388	-.51028	-.14962	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.44998	-.11632	-.50308	-.13859	-.35206	-.14186	-.26209	-.20651
.300	< >	< >	< >	< >	-.47076	< >	-.50469	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.45656	< >	-.46414	< >	-.33827	< >	-.25473	< >
.450	< >	< >	< >	< >	-.42728	-.19003	-.38195	-.18650	-.29687	-.18532	-.23821	-.19949
.550	< >	< >	< >	< >	-.29520	< >	-.27810	< >	-.24067	< >	-.22706	< >
.650	< >	< >	-.05977	< >	-.15525	-.16326	-.16174	-.16216	-.19916	-.15421	-.20334	-.14602
.750	-.05539	< >	< >	< >	-.04787	< >	-.04309	< >	-.11658	-.09908	-.15178	-.08568
.850	.03364	-.04020	.03146	-.06403	.05011	-.03128	.07160	-.02875	-.03809	-.02656	-.08328	-.01470
.950	.08114	.04614	.10949	.01564	.15006	.06816	.16959	.09722	.08358	.07860	.01560	.06628

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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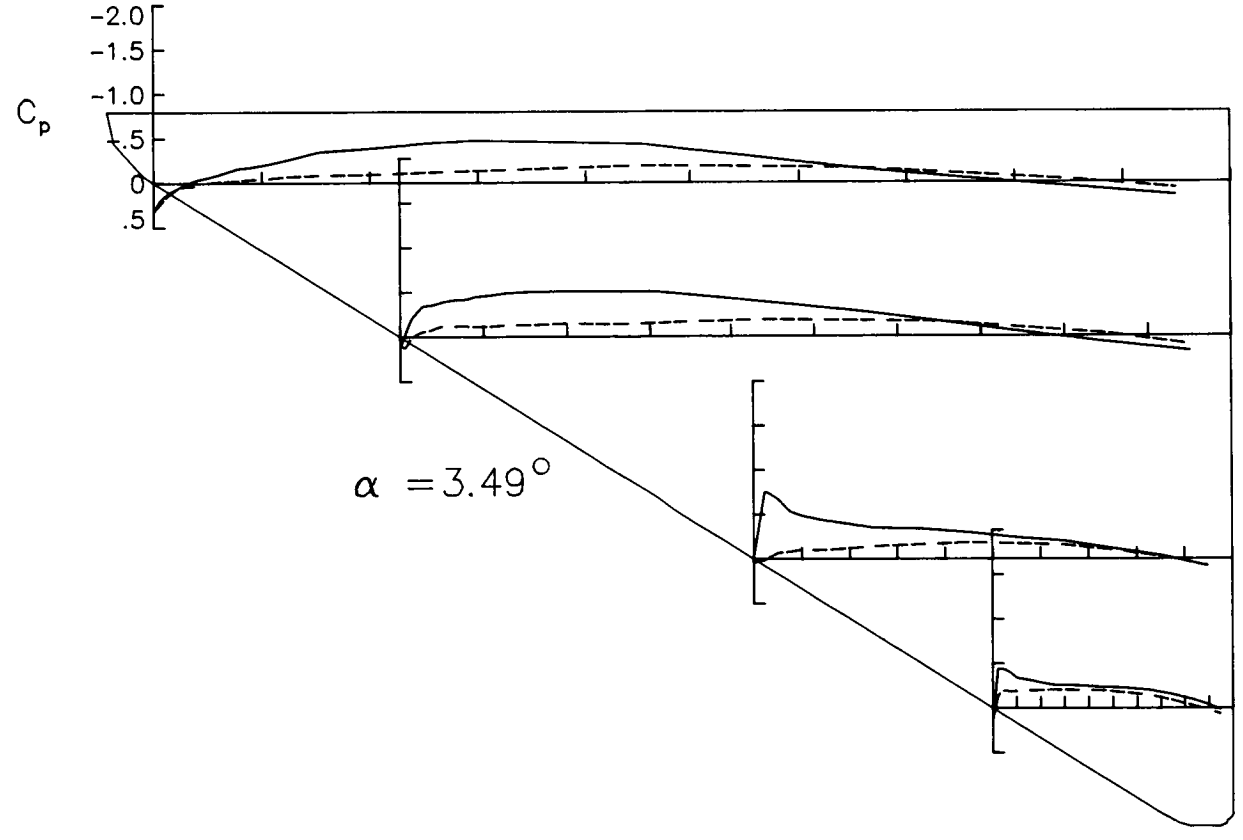
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 2.35^c$
UPPER SURFACE
LOWER SURFACE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-1.5
-1.0
.5
0
.5
C_p
$\alpha = 3.49^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.69 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30376	.30376	.09566	.09566	-.10059	-.10059	.05882	.05882
.005	< >	< >	< >	< >	.17984	.26520	-.10429	.16681	< >	< >	< >	< >
.015	< >	< >	< >	< >	.09739	.18756	-.30060	.08970	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.00662	.11117	-.41991	.00475	-1.06962	.08507	-.74581	.02895
.040	< >	< >	< >	< >	-.08539	.09148	-.43272	-.01755	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.10848	.04352	-.45507	-.06850	-.81428	.01966	-.68999	-.05947
.065	< >	< >	< >	< >	-.13378	.02125	-.48777	-.05691	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.19307	.00981	-.50002	-.06942	-.63585	-.01545	-.60277	-.07822
.090	< >	< >	< >	< >	-.22180	.00665	-.50759	-.07859	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.24740	.00067	-.50755	-.07542	-.61268	-.03792	-.51010	-.10032
.125	< >	< >	< >	< >	-.30081	-.04156	-.54424	-.08132	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.36770	-.05963	-.57674	-.07861	-.52645	-.06077	-.42887	*****
.200	< >	< >	< >	< >	-.41748	-.06648	-.57513	-.11051	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.50016	-.08052	-.53559	-.11481	-.40536	-.10314	-.34840	-.14062
.300	< >	< >	< >	< >	-.51252	< >	-.53665	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.48379	< >	-.50716	< >	-.36678	< >	-.32955	< >
.450	< >	< >	< >	< >	-.43829	-.15777	-.42049	-.16635	-.33299	-.14655	-.30308	-.16802
.550	< >	< >	< >	< >	-.31563	< >	-.29381	< >	-.28150	< >	-.26531	< >
.650	< >	< >	-.07452	< >	-.17059	-.16544	-.15795	-.13850	-.21289	-.13268	-.23880	-.14106
.750	-.07922	< >	< >	< >	-.05759	< >	-.04928	< >	-.12164	-.10018	-.18526	-.08513
.850	.02850	-.02279	.03625	-.05410	.05468	-.02899	.05615	-.01524	-.03385	-.02104	-.10449	-.00998
.950	.08836	.04679	.11535	.01145	.14988	.07778	.16356	.09222	.08010	.07901	.01474	.06225

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

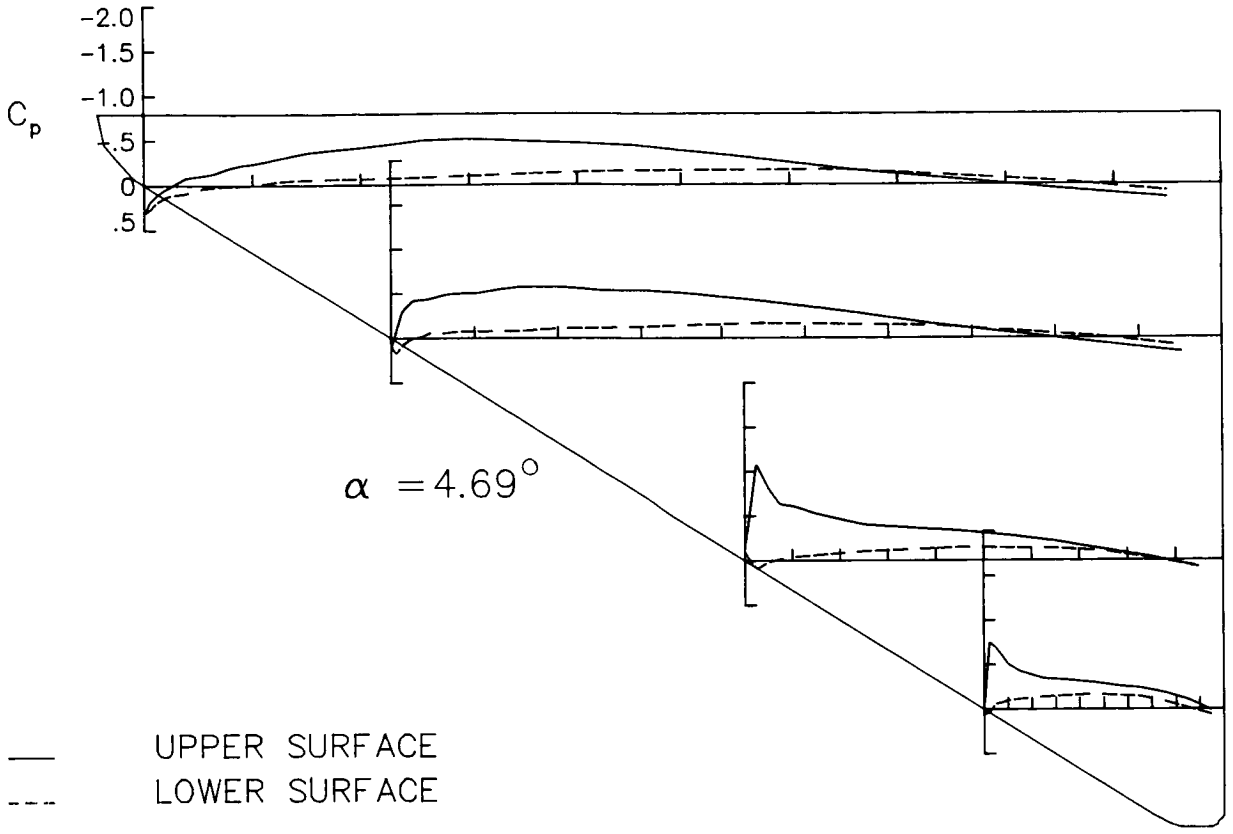
ANGLE OF ATTACK= 5.89 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

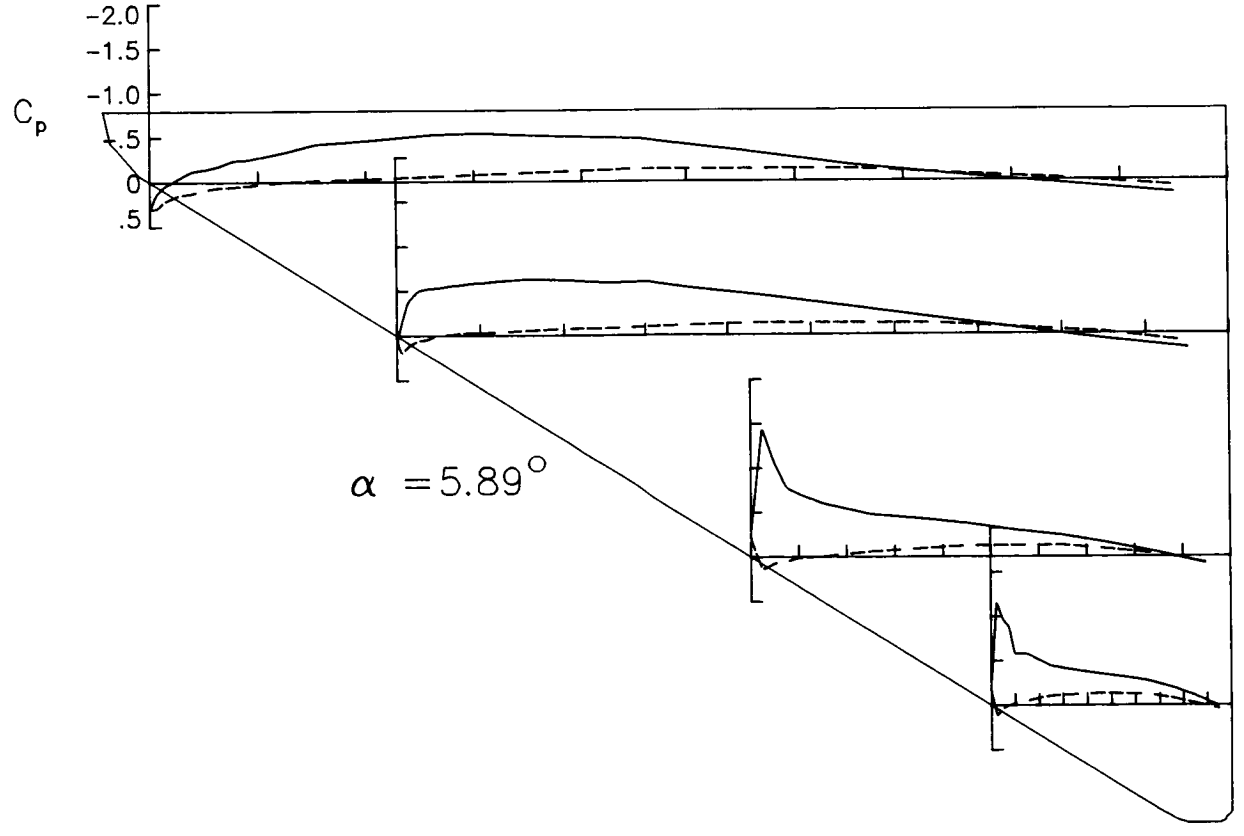
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29921	.29921	.05519	.05519	-.22539	-.22539	-.16861	-.16861
.005	< >	< >	< >	< >	.14344	.29452	-.17163	.18894	< >	< >	< >	< >
.015	< >	< >	< >	< >	.05270	.23354	-.37745	.12691	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.04700	.15125	-.50051	.06083	-1.42535	.13246	-1.14516	.10897
.040	< >	< >	< >	< >	-.12104	.12742	-.52702	.04097	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.14663	.08793	-.53683	-.00581	-1.05640	.07441	-.96956	.03410
.065	< >	< >	< >	< >	-.18246	.06263	-.55813	-.00936	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.24124	.05441	-.56754	-.02451	-.78164	.04717	-.87878	.00064
.090	< >	< >	< >	< >	-.24948	.04285	-.58397	-.03180	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.27969	.02948	-.58886	-.02791	-.70758	.01265	-.58310	-.02367
.125	< >	< >	< >	< >	-.33359	-.00047	-.61116	-.03996	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.41815	-.01602	-.62550	-.05076	-.60347	-.00535	-.57603	*****
.200	< >	< >	< >	< >	-.45925	-.03153	-.61661	-.07422	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.52291	-.05293	-.58963	-.07999	-.47925	-.05817	-.44329	-.10610
.300	< >	< >	< >	< >	-.53854	< >	-.59856	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.51281	< >	-.53172	< >	-.43194	< >	-.39416	< >
.450	< >	< >	< >	< >	-.47649	-.13891	-.43822	-.13521	-.37529	-.12370	-.35224	-.13300
.550	< >	< >	< >	< >	-.33559	< >	-.30517	< >	-.29954	< >	-.31690	< >
.650	< >	< >	-.07021	< >	-.17534	-.13467	-.17830	-.12253	-.23880	-.12760	-.27305	-.12042
.750	-.07482	< >	< >	< >	-.05929	< >	-.05798	< >	-.14530	-.08054	-.19883	-.07867
.850	.03058	-.02274	.03616	-.04900	.04370	-.01599	.06316	-.01771	-.04226	-.02679	-.10416	-.01999
.950	.07701	.05094	.10610	.02185	.14799	.06903	.16252	.09159	.08067	.07286	.01572	.04028

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 4.69^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 5.89^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.10 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28282	.28282	.02519	.02519	-.36362	-.36362	-.37858	-.37858
.005	< >	< >	< >	< >	.11314	.32182	-.23797	.19974	< >	< >	< >	< >
.015	< >	< >	< >	< >	.02249	.26655	-.48703	.16848	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.09490	.18446	-.63417	.12050	-1.51237	.17216	-1.25101	.14894
.040	< >	< >	< >	< >	-.16822	.17342	-.60652	.08426	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.20022	.13625	-.60429	.03749	-1.43464	.12538	-1.13665	.09663
.065	< >	< >	< >	< >	-.22539	.11193	-.62656	.03406	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.26646	.08855	-.65654	.03204	-1.22423	.09132	-.92753	.06707
.090	< >	< >	< >	< >	-.28840	.07332	-.66104	.02071	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.32527	.07222	-.64717	.01325	-.99573	.06247	-.78681	.01903
.125	< >	< >	< >	< >	-.38974	.04071	-.68310	-.01056	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.45357	.02190	-.68849	-.01173	-.79099	.03033	-.69586	*****
.200	< >	< >	< >	< >	-.48371	-.00529	-.70247	-.03357	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.55731	-.02200	-.65331	-.03623	-.51843	-.02859	-.53167	-.06522
.300	< >	< >	< >	< >	-.59381	< >	-.62243	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.55388	< >	-.56600	< >	-.44306	< >	-.46703	< >
.450	< >	< >	< >	< >	-.49022	-.10437	-.47319	-.11580	-.39280	-.09568	-.41339	-.10155
.550	< >	< >	< >	< >	-.33884	< >	-.33742	< >	-.32655	< >	-.35174	< >
.650	< >	< >	-.08715	< >	-.19188	-.12039	-.18364	-.11506	-.23625	-.09635	-.28149	-.10636
.750	-.08453	< >	< >	< >	-.07767	< >	-.05478	< >	-.14563	-.07353	-.19987	-.08706
.650	.02252	-.00309	.02479	-.02716	.03934	-.01270	.05426	-.01022	-.04531	-.02632	-.11576	-.03089
.950	.08467	.05545	.11371	.02552	.15676	.08057	.14339	.09367	.06746	.06326	-.00728	.02176

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 8.29 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
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.005	< >	< >	< >	< >	.08077	.34244	-.32441	.21425	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.02420	.30417	-.58137	.20404	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.14337	.22917	-.75074	.15410	-1.44006	.19726	-.80195	.16535
.040	< >	< >	< >	< >	-.21697	.21570	-.70368	.12819	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.23859	.17859	-.69796	.08397	-1.39269	.17206	-.77364	.12785
.065	< >	< >	< >	< >	-.26310	.15047	-.70551	.08292	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.31030	.13303	-.71255	.07088	-1.33153	.14720	-.71833	.10016
.090	< >	< >	< >	< >	-.33506	.11862	-.72393	.06073	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.36351	.10877	-.72701	.05327	-1.27566	.10313	-.73043	.05782
.125	< >	< >	< >	< >	-.42765	.07141	-.75282	.03067	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.48622	.05586	-.78004	.02647	-1.15502	.07569	-.67126	*****
.200	< >	< >	< >	< >	-.52636	.03405	-.76715	.00184	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.59992	.00433	-.70016	-.00693	-.90948	.00800	-.57573	-.04455
.300	< >	< >	< >	< >	-.62719	< >	-.67658	< >	< >	< >	< >	< >
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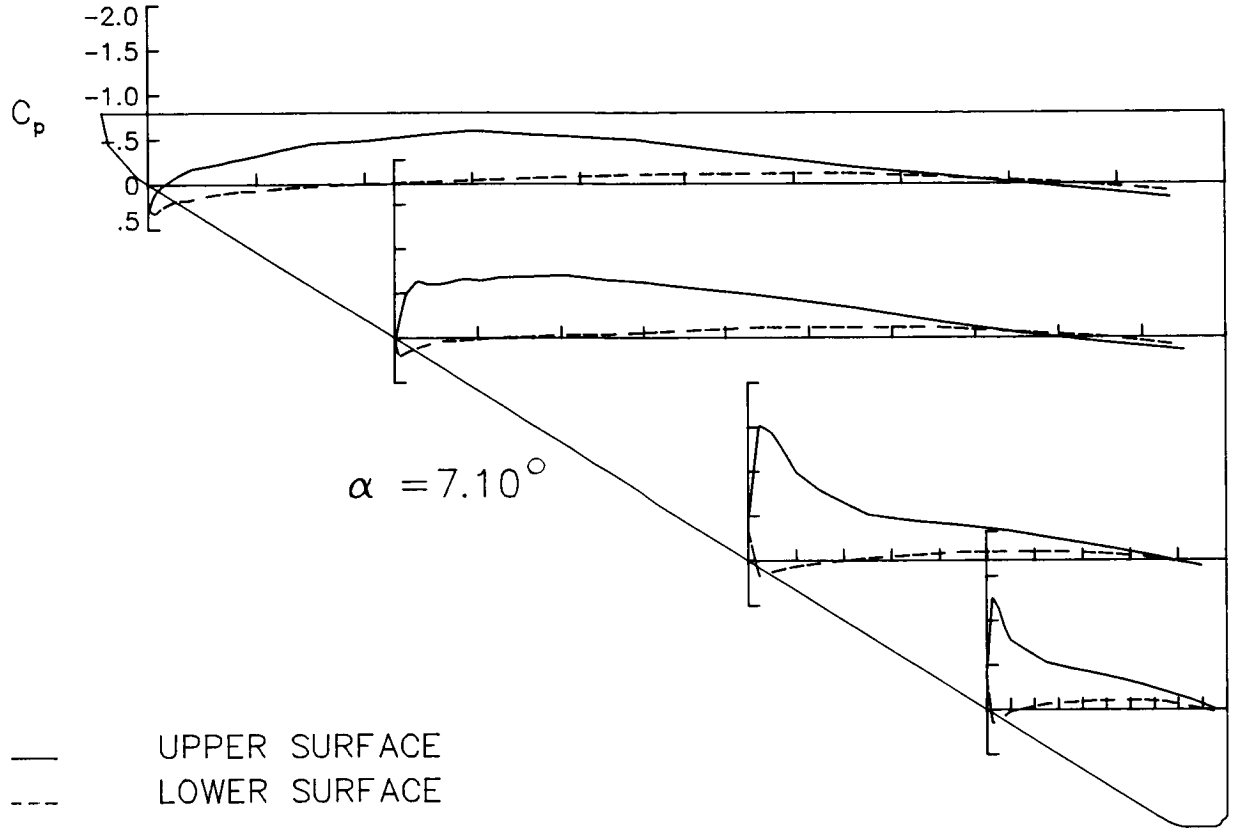
.450	< >	< >	< >	< >	-.51204	-.07920	-.50208	-.08190	-.42074	-.06821	-.43446	-.09792
.550	< >	< >	< >	< >	-.36370	< >	-.35209	< >	-.30260	< >	-.36725	< >
.650	< >	< >	-.08032	< >	-.20803	-.09574	-.18876	-.09312	-.22106	-.08747	-.31194	-.11538
.750	-.08875	< >	< >	< >	-.08498	< >	-.06885	< >	-.14996	-.07137	-.23508	-.10523
.850	.02002	-.00336	.02525	-.02944	.03971	-.00341	.04256	-.00824	-.06288	-.05907	-.18362	-.08557
.950	.07526	.05753	.10839	.02570	.15112	.07708	.13749	.08570	.03918	.05759	-.14080	-.08206

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

ORIGINAL PAGE IS OF POOR QUALITY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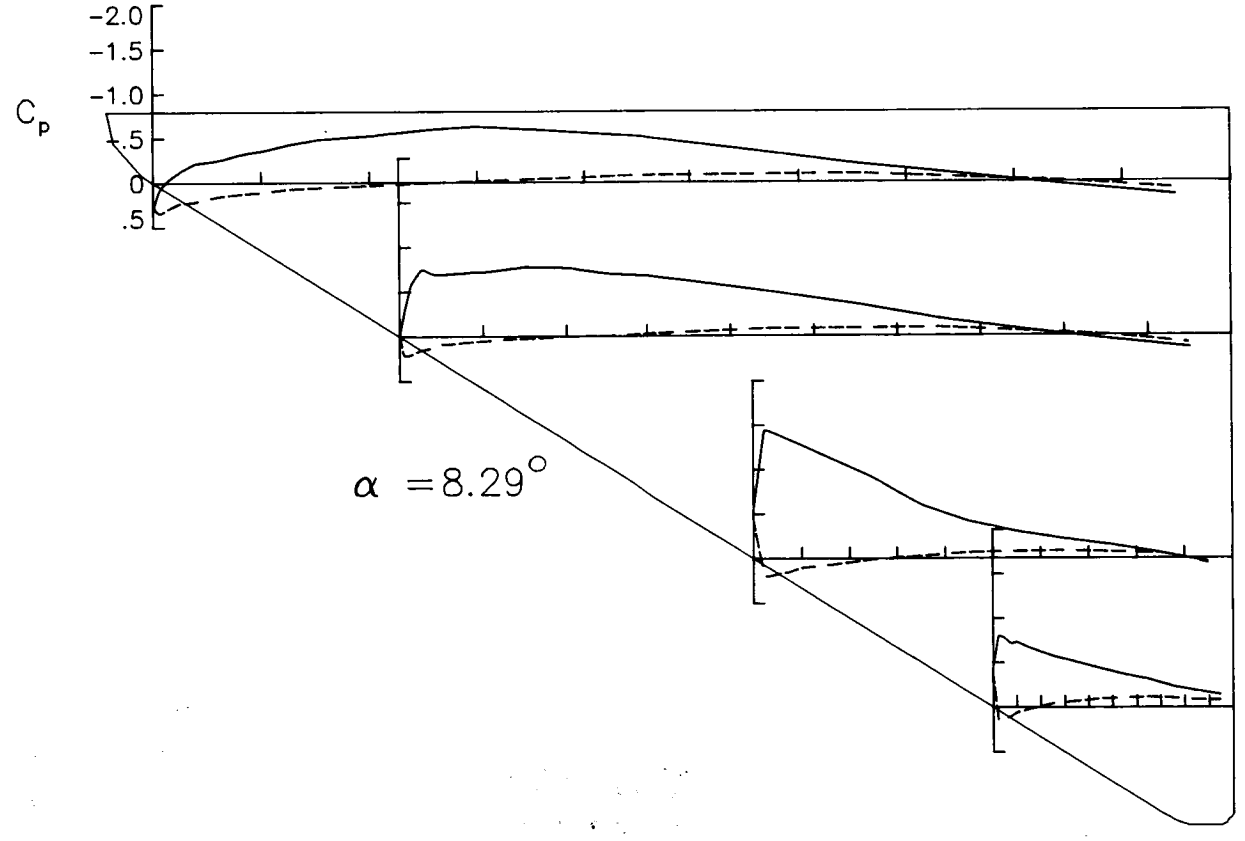
LOWER SURFACE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P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.44 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.25624	.25624	-.09084	-.09084	-.59509	-.59509	-.48207	-.48207
.005	< >	< >	< >	< >	.04449	.35455	-.39341	.20465	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.07161	.33259	-.70347	.22070	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.19340	.27283	-.90090	.19011	-1.46466	.20252	-.73550	.17279
.040	< >	< >	< >	< >	-.26428	.25190	-.81758	.16933	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.28162	.22677	-.78544	.12202	-1.45291	.20274	-.69131	.16026
.065	< >	< >	< >	< >	-.30180	.18652	-.78619	.12043	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.35314	.17199	-.79108	.11141	-1.41709	.18234	-.67442	.12489
.090	< >	< >	< >	< >	-.36661	.15316	-.81250	.09624	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.40215	.14172	-.81223	.09469	-1.41810	.13795	-.65940	.09845
.125	< >	< >	< >	< >	-.45820	.11620	-.82570	.06982	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.52879	.08815	-.83542	.05707	-1.33650	.10509	-.64648	*****
.200	< >	< >	< >	< >	-.55735	.06821	-.80815	.04090	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.63494	.03236	-.74120	.02042	-1.28037	.03662	-.59554	-.02096
.300	< >	< >	< >	< >	-.67345	< >	-.73144	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.62336	< >	-.63844	< >	-.95801	< >	-.53222	< >
.450	< >	< >	< >	< >	-.54334	-.04947	-.52482	-.05157	-.50407	-.04387	-.48502	-.08571
.550	< >	< >	< >	< >	-.37548	< >	-.36220	< >	-.25029	< >	-.42077	< >
.650	< >	< >	-.09037	< >	-.21497	-.07687	-.20539	-.08014	-.18599	-.08395	-.36416	-.13109
.750	-.09587	< >	< >	< >	-.09865	< >	-.08057	< >	-.13658	-.07073	-.32596	-.13883
.850	.01816	.00728	.01411	-.02803	.03206	.00675	.02667	-.00744	-.06505	-.02639	-.27782	-.14468
.950	.06774	.05973	.10479	.02959	.15163	.07464	.11560	.08149	.00480	.04093	-.24849	-.16712

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 10.67 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
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.015	< >	< >	< >	< >	-.12258	.35142	-.83957	.23483	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.23807	.30956	-1.01763	.22118	-1.42967	.20854	-.70274	.17167
.040	< >	< >	< >	< >	-.31432	.29623	-.93893	.20149	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.32357	.25768	-.88394	.17636	-1.38067	.22068	-.66560	.17235
.065	< >	< >	< >	< >	-.36006	.22836	-.86475	.15778	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.40615	.20947	-.85960	.15112	-1.35802	.21543	-.65455	.14853
.090	< >	< >	< >	< >	-.40914	.19767	-.89003	.13943	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.43792	.18398	-.89488	.13581	-1.31325	.17947	-.65023	.11528
.125	< >	< >	< >	< >	-.49743	.15497	-.89802	.10510	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.57790	.12819	-.92025	.09726	-1.34480	.14522	-.61665	*****
.200	< >	< >	< >	< >	-.60039	.10727	-.86665	.07000	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.68076	.07461	-.84242	.05503	-1.27904	.07425	-.58745	-.00013
.300	< >	< >	< >	< >	-.69009	< >	-.81264	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.65787	< >	-.67281	< >	-1.10315	< >	-.53883	< >
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.550	< >	< >	< >	< >	-.39870	< >	-.38456	< >	-.66787	< >	-.45027	< >
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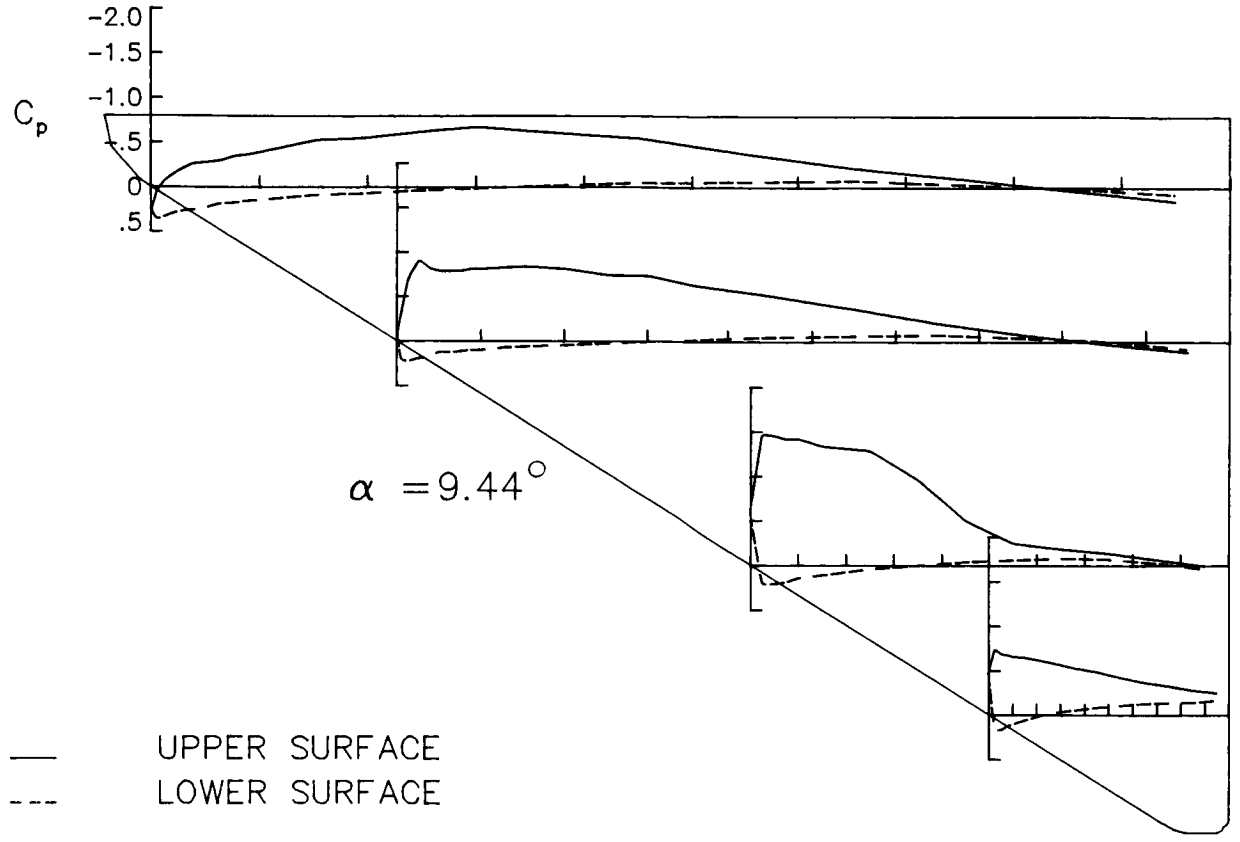
.750	-.10563	< >	< >	< >	-.10406	< >	-.10995	< >	-.31695	-.07582	-.36938	-.16058
.850	-.01118	.01513	.00511	-.01488	.01959	-.00702	-.00209	-.00572	-.20232	-.05642	-.36543	-.17376
.950	.06320	.07072	.10063	.02911	.14573	.07648	.10990	.06947	-.11458	-.01338	-.33318	-.23214

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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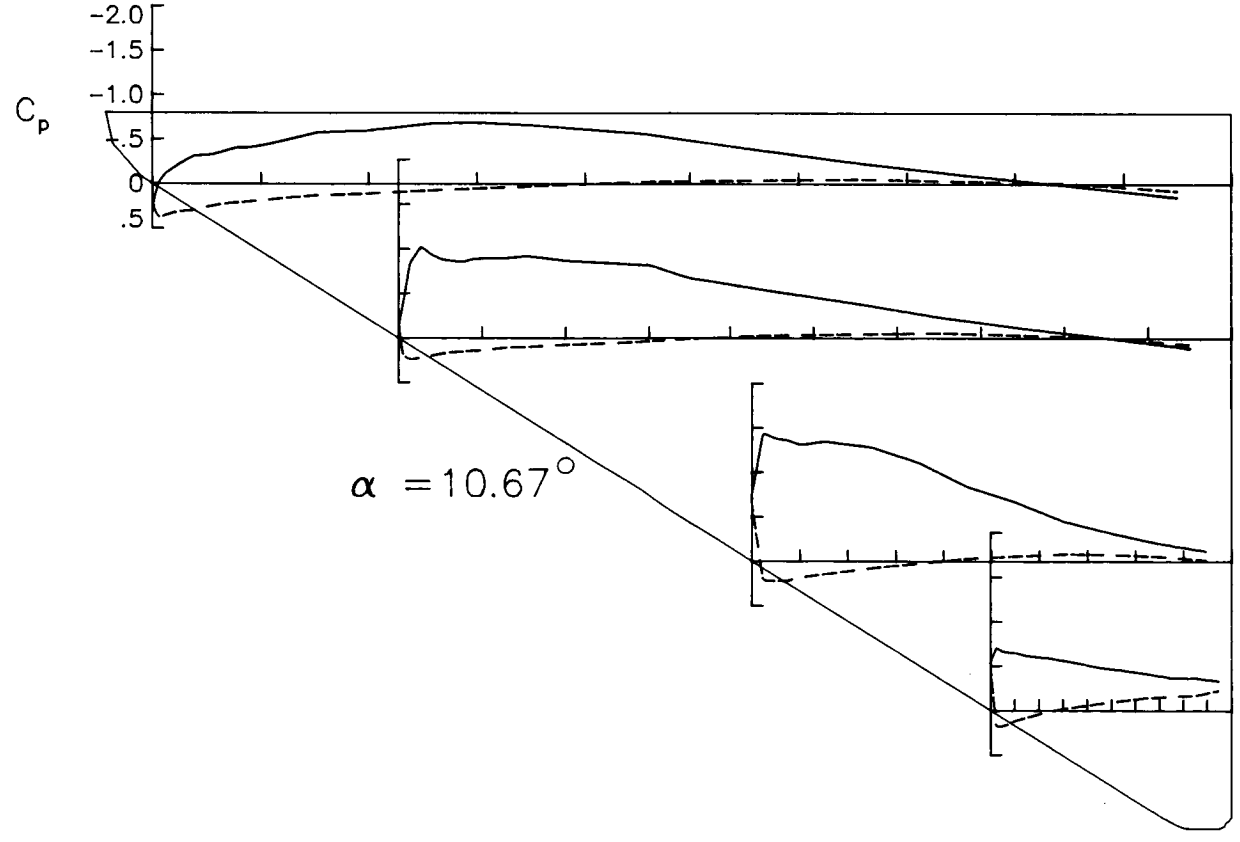
LOWER SURFACE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C_p
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P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 11.87 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.21107	.21107	-.23886	-.23886	-.80115	-.80115	-.61792	-.61792
.005	< >	< >	< >	< >	-.05344	.37348	-.57091	.16477	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.16259	.38461	-.94145	.23259	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.28752	.34703	-1.22616	.24229	-1.26504	.20502	-.66651	.16197
.040	< >	< >	< >	< >	-.37042	.33830	-1.05511	.24146	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.38067	.29078	-.98311	.20786	-1.21143	.24522	-.64916	.17173
.065	< >	< >	< >	< >	-.39305	.26523	-.96973	.19346	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.44315	.24337	-.94732	.18493	-1.17638	.24622	-.65090	.16068
.090	< >	< >	< >	< >	-.44800	.23292	-.95086	.16947	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.47938	.21918	-.94991	.16015	-1.16404	.20459	-.64568	.12471
.125	< >	< >	< >	< >	-.54416	.18274	-.95701	.14221	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.61489	.15952	-.98330	.13603	-1.12962	.16877	-.61833	*****
.200	< >	< >	< >	< >	-.63122	.12924	-.95017	.09843	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.71078	.11210	-.89168	.08766	-1.08573	.09621	-.59100	.01309
.300	< >	< >	< >	< >	-.73703	< >	-.84269	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.67995	< >	-.67089	< >	-1.01006	< >	-.53901	< >
.450	< >	< >	< >	< >	-.58035	.01119	-.57760	-.00914	-.91347	-.00831	-.50486	-.08381
.550	< >	< >	< >	< >	-.42726	< >	-.41800	< >	-.76814	< >	-.47142	< >
.650	< >	< >	-.12554	< >	-.25496	-.03667	-.26133	-.04493	-.64888	-.07712	-.44289	-.15450
.750	-.11985	< >	< >	< >	-.12557	< >	-.14080	< >	-.52795	-.08491	-.42373	-.18954
.850	-.02235	.01698	-.01014	-.01484	.00663	.00185	-.03342	-.00507	-.41547	-.08213	-.39879	-.19500
.950	.05189	.06075	.07785	.02619	.13680	.07517	.07395	.05268	-.30671	-.09246	-.38543	-.26276

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 13.03 DEGREES MACH NUMBER= 0.76 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.18538	.18538	-.30921	-.30921	-.80753	-.80753	-.66196	-.66196
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.015	< >	< >	< >	< >	-.21614	.39930	-1.06690	.22873	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.33644	.37967	-1.34820	.27108	-1.07012	.20245	-.66340	.13851
.040	< >	< >	< >	< >	-.42022	.36547	-1.18664	.26510	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.42432	.33152	-1.09040	.23577	-1.04227	.25509	-.65282	.17720
.065	< >	< >	< >	< >	-.44669	.30466	-1.08593	.22282	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.47251	.28359	-1.01635	.22003	-1.03088	.26763	-.64134	.16770
.090	< >	< >	< >	< >	-.48899	.27141	-1.01703	.20190	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.52138	.24657	-1.01995	.19370	-1.06533	.22932	-.62786	.13130
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.150	< >	< >	< >	< >	-.64835	.19902	-1.04163	.16111	-1.01983	.19225	-.60423	*****
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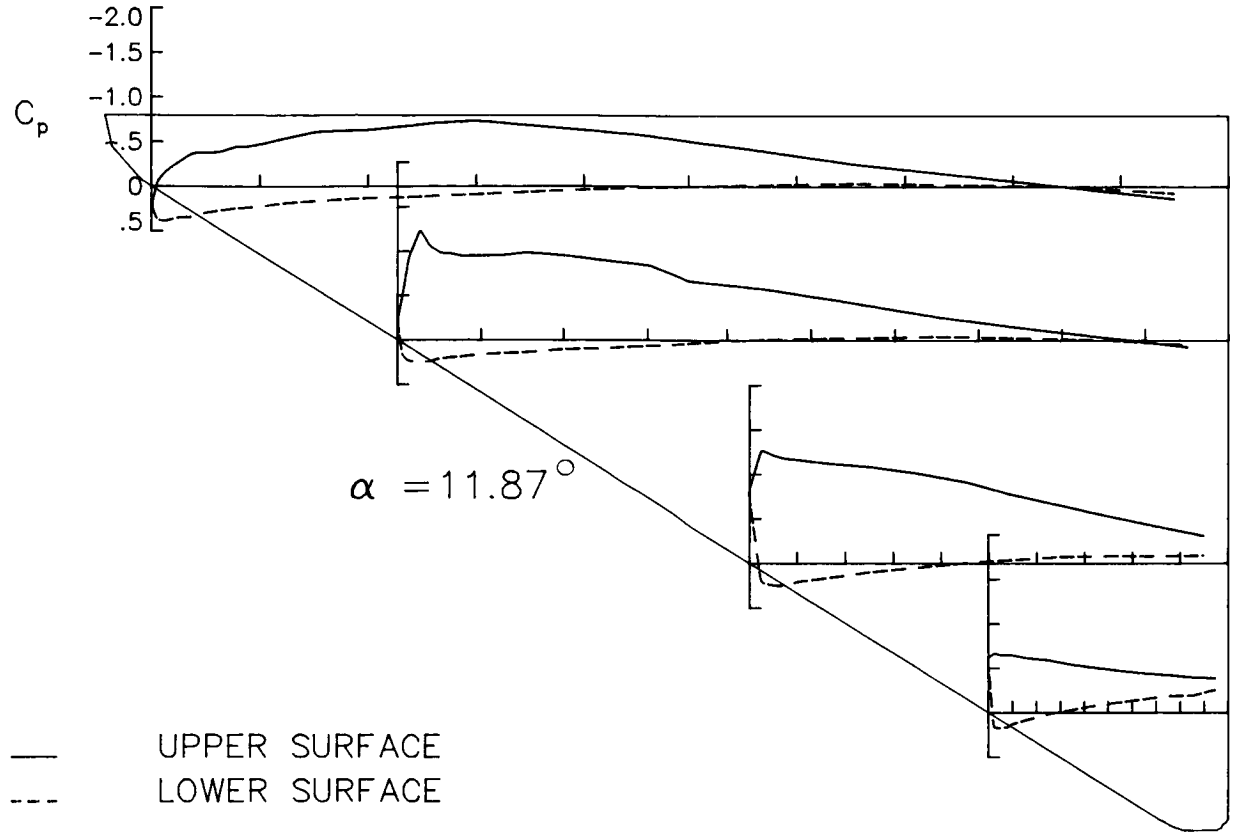
.650	< >	< >	-.14700	< >	-.28419	-.01640	-.31147	-.03149	-.64871	-.06323	-.46751	-.19582
.750	-.14673	< >	< >	< >	-.15739	< >	-.20108	< >	-.57919	-.09214	-.45962	-.21989
.850	-.05655	.02607	-.04558	-.00696	-.02158	.00524	-.09419	-.02028	-.48971	-.10919	-.44986	-.22811
.950	.02831	.05520	.06081	.02289	.11878	.07177	.03121	.01150	-.39791	-.15494	-.41922	-.30224

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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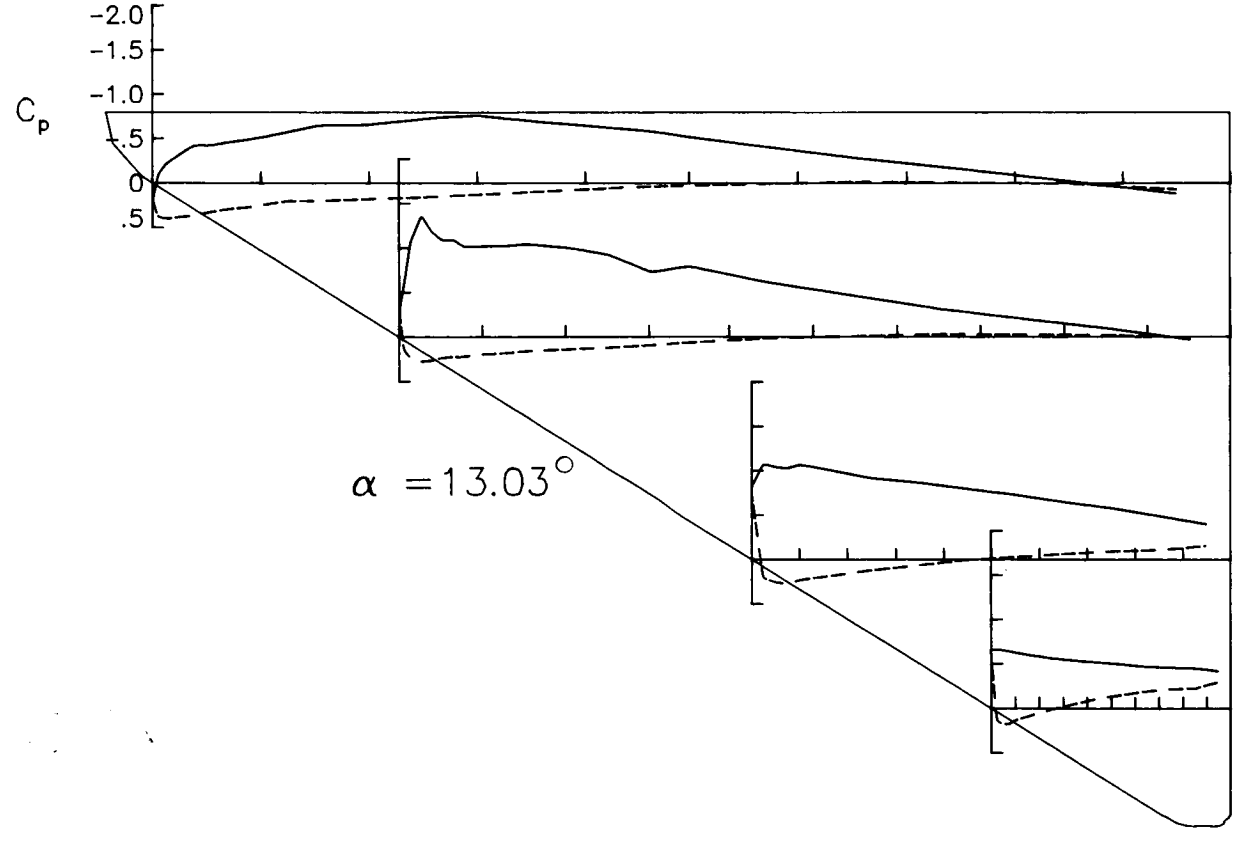
UPPER SURFACE
LOWER SURFACE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P R E S S U R E M E A S U R E M E N T S

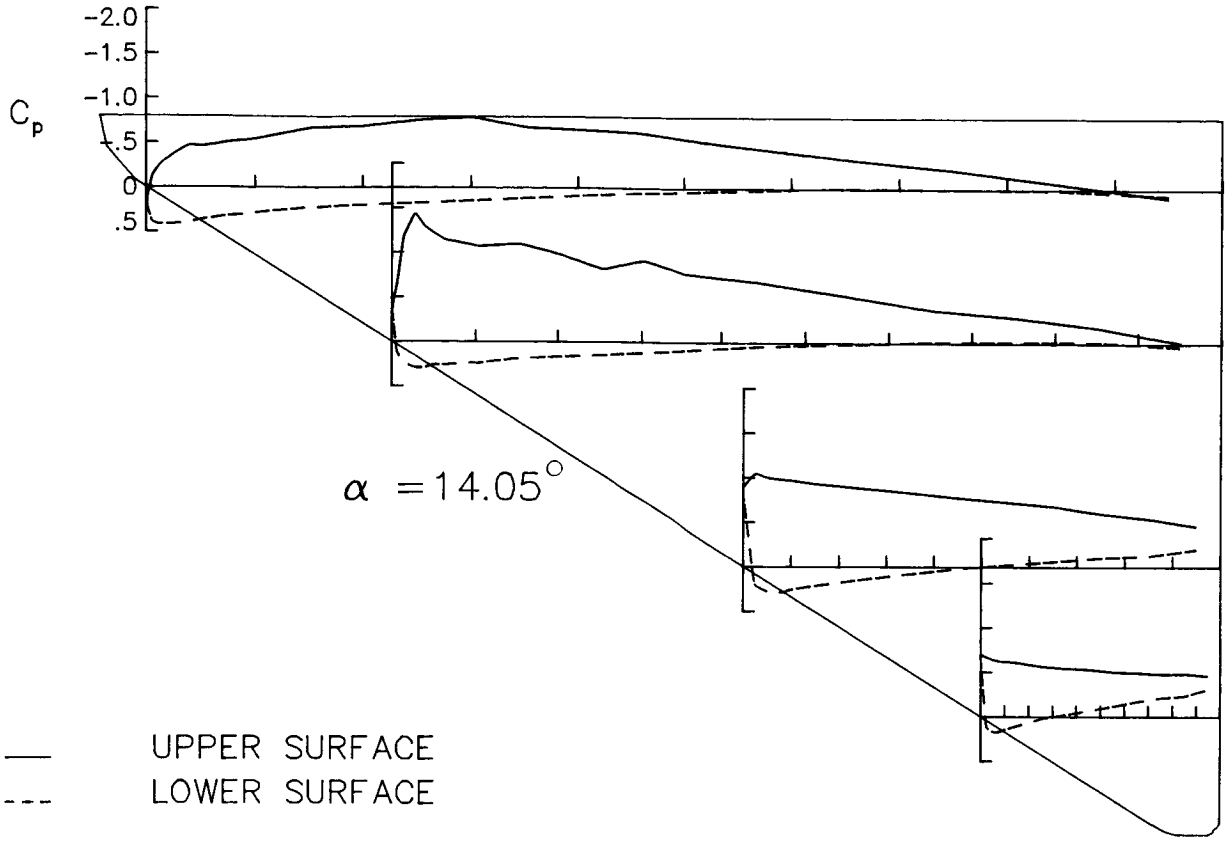
ANGLE OF ATTACK= 14.05 DEGREES MACH NUMBER= 0.75 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.16345	.16345	-.38222	-.38222	-.88838	-.88838	-.69916	-.69916
.005	< >	< >	< >	< >	-.14043	.38941	-.70722	.11339	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.26059	.41321	-1.18737	.21861	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.38523	.41013	-1.43346	.28712	-1.04029	.20287	-.66758	.11927
.040	< >	< >	< >	< >	-.46574	.39484	-1.29674	.29068	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.46222	.36157	-1.20892	.25812	-.99933	.27473	-.64172	.16993
.065	< >	< >	< >	< >	-.48417	.33977	-1.14109	.25575	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.51507	.31614	-1.12167	.24822	-.98057	.28988	-.62497	.16741
.090	< >	< >	< >	< >	-.52944	.30425	-1.09878	.23745	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.55347	.28465	-1.07454	.23966	-.96792	.25163	-.61871	.14135
.125	< >	< >	< >	< >	-.60792	.25236	-1.08940	.21104	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.67505	.22509	-1.09855	.18603	-.93025	.20956	-.60898	*****
.200	< >	< >	< >	< >	-.69090	.19522	-.98274	.16259	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.76519	.17064	-.82334	.14567	-.88049	.13762	-.56598	.02160
.300	< >	< >	< >	< >	-.79010	< >	-.91462	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.67886	< >	-.77410	< >	-.82974	< >	-.54443	< >
.450	< >	< >	< >	< >	-.62437	.05755	-.67957	.04120	-.77386	.01492	-.53159	-.07018
.550	< >	< >	< >	< >	-.46829	< >	-.52144	< >	-.72789	< >	-.50377	< >
.650	< >	< >	-.20891	< >	-.33288	-.01030	-.37309	-.01637	-.67781	-.06601	-.49476	-.17180
.750	-.20481	< >	< >	< >	-.21415	< >	-.28980	< >	-.59773	-.10899	-.47959	-.21497
.850	-.09299	.02327	-.08827	-.01420	-.05887	.01090	-.17878	-.01933	-.54025	-.12972	-.48439	-.23717
.950	.00147	.05778	.04224	.01812	.09185	.06414	-.01321	.03507	-.45513	-.20300	-.45919	-.31607

< > NO PRESSURE PORT AT THIS LOCATION

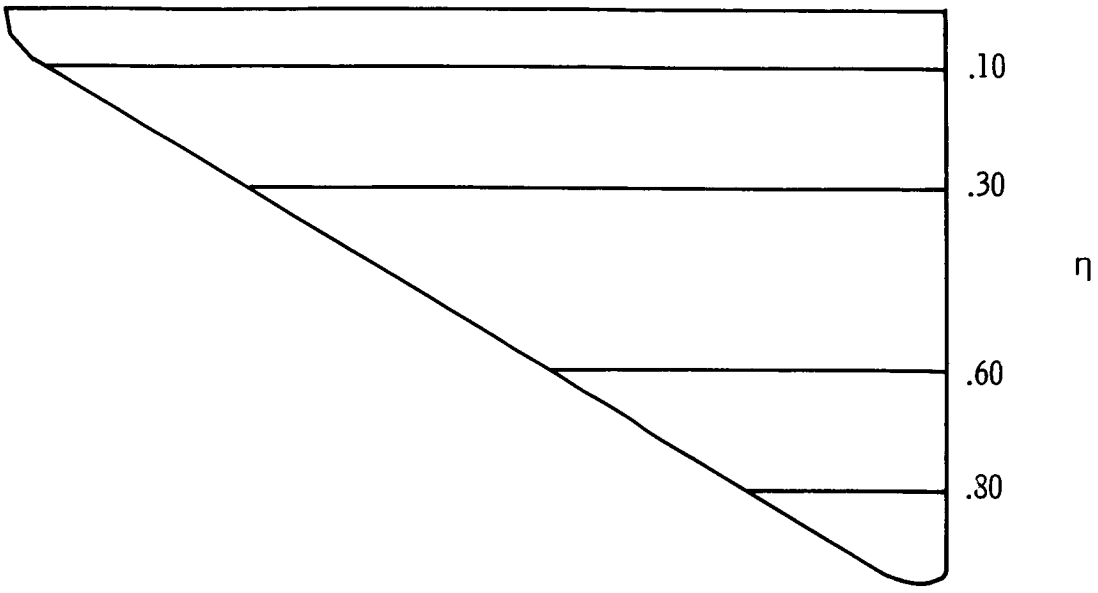
***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 14.05^\circ$
UPPER SURFACE
LOWER SURFACE

Appendix B

Pressure Data for Wing Alone at $M = 0.80$

The C_p data for the wing alone (fig. 2(a)) at $M = 0.80$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.36°$ to $13.02°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.36 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28242	.28242	.05007	.05007	.12762	.12762	-.10731	-.10731
.005	< >	< >	< >	< >	.30686	.04885	.10891	-.23794	< >	< >	< >	< >
.015	< >	< >	< >	< >	.26745	-.10718	.05836	-.45829	< >	< >	< >	< >
.025	< >	< >	< >	< >	.20720	-.17689	-.01413	-.49660	-.01111	-.83680	.23735	-1.20354
.040	< >	< >	< >	< >	.14631	-.19441	-.06626	-.44313	< >	< >	< >	< >
.050	< >	< >	< >	< >	.11617	-.23136	-.09786	-.45547	-.06169	-.69538	.19429	-1.19264
.065	< >	< >	< >	< >	.08385	-.23141	-.13660	-.44613	< >	< >	< >	< >
.075	< >	< >	< >	< >	.03546	-.22101	-.16307	-.41241	-.07030	-.65403	.14834	-1.15191
.090	< >	< >	< >	< >	.01666	-.22603	-.18182	-.40390	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.02402	-.23194	-.19849	-.38104	-.07859	-.54271	.13496	-1.11407
.125	< >	< >	< >	< >	-.08125	-.24363	-.24092	-.37554	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.15340	-.26428	-.28108	-.32302	-.09716	-.43337	.09804	*****
.200	< >	< >	< >	< >	-.20749	-.25581	-.30774	-.34779	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.29504	-.26478	-.31165	-.32232	-.09653	-.40754	.06988	-1.01581
.300	< >	< >	< >	< >	-.33222	< >	-.32941	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.32933	< >	-.31191	< >	-.11225	< >	.03713	< >
.450	< >	< >	< >	< >	-.32819	-.32534	-.26526	-.34538	-.12144	-.36929	.00681	-.27861
.550	< >	< >	< >	< >	-.22391	< >	-.19106	< >	-.09874	< >	-.02196	< >
.650	< >	< >	-.02238	< >	-.09849	-.27341	-.09178	-.25543	-.08095	-.23841	-.04873	-.20921
.750	-.02059	< >	< >	< >	-.00701	< >	.00328	< >	-.04237	-.13799	-.05624	-.18090
.850	.05958	-.06938	.05650	-.08843	.07937	-.05929	.09314	-.03874	.00648	-.05205	-.05669	-.09629
.950	.10289	.03792	.12790	.01420	.16673	.07893	.18251	.12091	.08803	.09875	-.03425	.00582

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

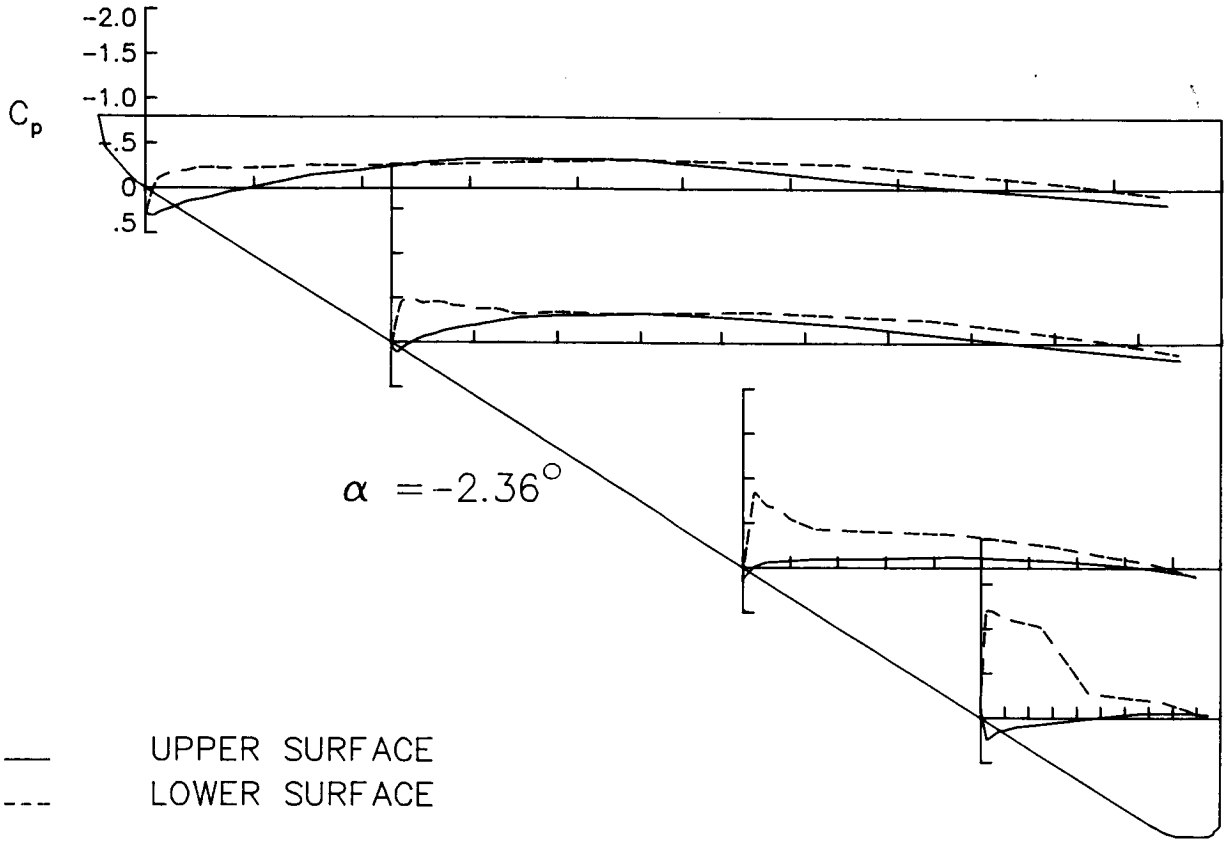
ANGLE OF ATTACK= -1.12 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

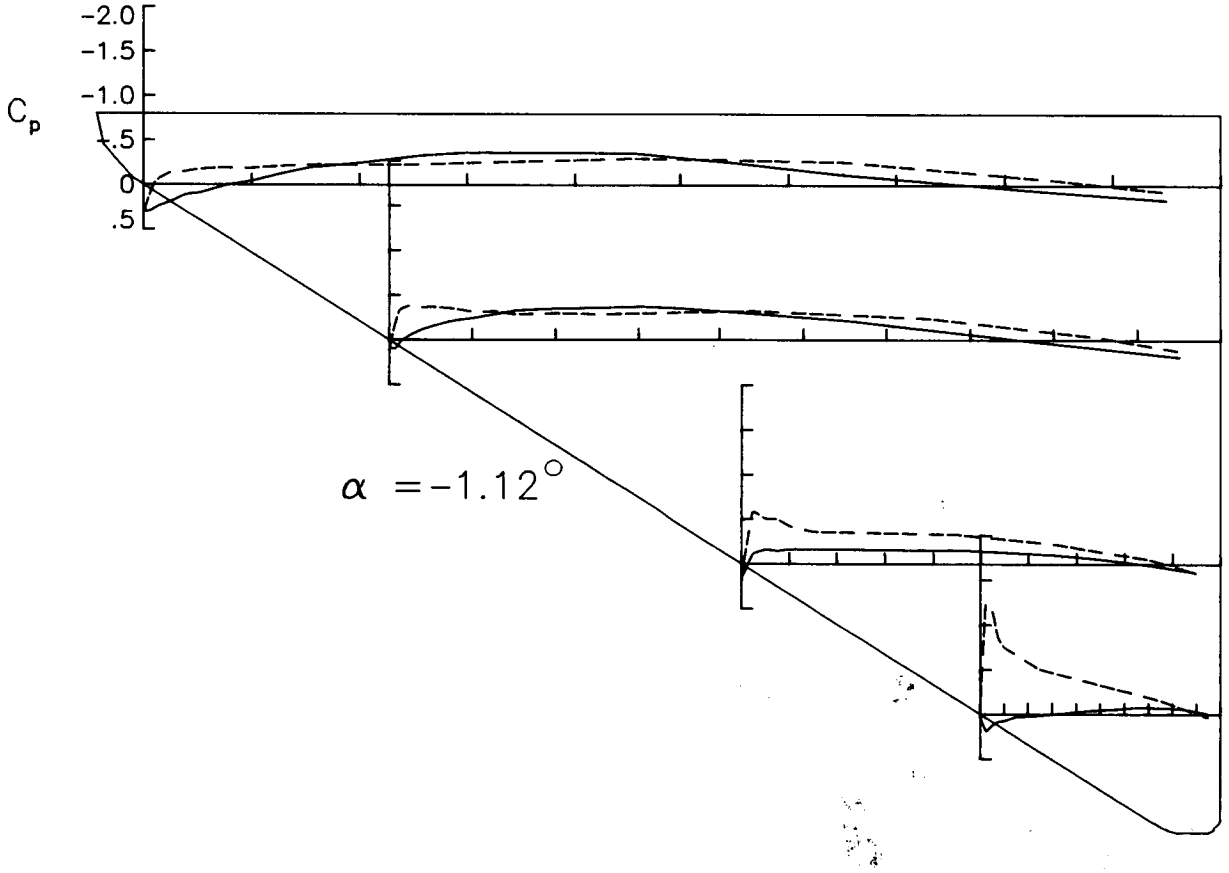
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29633	.29633	.08574	.08574	.18086	.18086	.03198	.03198
.005	< >	< >	< >	< >	.29245	.10295	.09690	-.13865	< >	< >	< >	< >
.015	< >	< >	< >	< >	.24652	-.04491	.01810	-.33276	< >	< >	< >	< >
.025	< >	< >	< >	< >	.17900	-.13600	-.06194	-.38035	-.11454	-.58252	.18902	-1.24210
.040	< >	< >	< >	< >	.11175	-.14819	-.11460	-.36234	< >	< >	< >	< >
.050	< >	< >	< >	< >	.08886	-.17373	-.15430	-.36895	-.15927	-.50878	.12604	-1.15371
.065	< >	< >	< >	< >	.04646	-.18584	-.18771	-.35950	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.00154	-.19050	-.21629	-.35035	-.14672	-.49893	.08421	-.85046
.090	< >	< >	< >	< >	-.02023	-.18677	-.23061	-.33236	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.05209	-.18859	-.24689	-.31420	-.16298	-.42482	.07191	-.75180
.125	< >	< >	< >	< >	-.11862	-.20848	-.28784	-.31744	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.19308	-.22682	-.33012	-.28800	-.16611	-.36180	.03022	*****
.200	< >	< >	< >	< >	-.24424	-.22184	-.35103	-.29952	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.33107	-.23119	-.35984	-.28640	-.15991	-.35199	.01182	-.50365
.300	< >	< >	< >	< >	-.36163	< >	-.37082	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.36228	< >	-.34977	< >	-.15415	< >	-.01315	< >
.450	< >	< >	< >	< >	-.35366	-.29644	-.29110	-.32234	-.15395	-.32906	-.03971	-.36293
.550	< >	< >	< >	< >	-.24546	< >	-.21516	< >	-.13016	< >	-.05483	< >
.650	< >	< >	-.03216	< >	-.11517	-.25979	-.10940	-.23897	-.10384	-.22640	-.07572	-.22448
.750	-.03612	< >	< >	< >	-.01685	< >	-.00853	< >	-.05445	-.13640	-.07172	-.15294
.850	.05321	-.06019	.05163	-.08529	.07935	-.05502	.09008	-.03575	.01055	-.05385	-.05551	-.05636
.950	.09549	.04566	.12873	.01702	.16406	.07372	.18754	.11856	.09440	.09900	-.00405	.03549

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = -2.36^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = -1.12^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .09 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29629	.29629	.10662	.10662	.19269	.19269	.14637	.14637
.005	< >	< >	< >	< >	.27651	.14414	.06307	-.06019	< >	< >	< >	< >
.015	< >	< >	< >	< >	.21789	.01527	-.02538	-.21846	< >	< >	< >	< >
.025	< >	< >	< >	< >	.14878	-.07028	-.11634	-.28303	-.26299	-.38548	.09963	-.96559
.040	< >	< >	< >	< >	.07491	-.08363	-.17321	-.27637	< >	< >	< >	< >
.050	< >	< >	< >	< >	.04920	-.12323	-.20337	-.28730	-.26785	-.37006	.02297	-.89059
.065	< >	< >	< >	< >	.01404	-.14403	-.23279	-.29517	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.03869	-.13903	-.26622	-.28190	-.24106	-.36730	.00391	-.65626
.090	< >	< >	< >	< >	-.05287	-.14837	-.28139	-.27357	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.09049	-.14654	-.30780	-.26595	-.24136	-.32057	-.00863	-.54711
.125	< >	< >	< >	< >	-.14627	-.17553	-.33597	-.26900	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.23363	-.19018	-.38536	-.24217	-.23726	-.29249	-.05090	*****
.200	< >	< >	< >	< >	-.27936	-.18856	-.40589	-.26396	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.37292	-.20260	-.40361	-.25427	-.20259	-.29679	-.05723	-.41694
.300	< >	< >	< >	< >	-.39599	< >	-.41638	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.39878	< >	-.38324	< >	-.20019	< >	-.07159	< >
.450	< >	< >	< >	< >	-.38547	-.26850	-.32362	-.28462	-.20073	-.29049	-.08256	-.33535
.550	< >	< >	< >	< >	-.27100	< >	-.22942	< >	-.15920	< >	-.09949	< >
.650	< >	< >	-.03675	< >	-.12682	-.24284	-.12810	-.22632	-.12005	-.20988	-.10780	-.20499
.750	-.04424	< >	< >	< >	-.02123	< >	-.01483	< >	-.07187	-.12455	-.08331	-.11101
.850	.04725	-.05525	.05138	-.07922	.07071	-.05181	.08393	-.03092	.00222	-.04137	-.05207	-.01516
.950	.09780	.04154	.12566	.02244	.16238	.07882	.18722	.11575	.10219	.10456	.01684	.07938

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

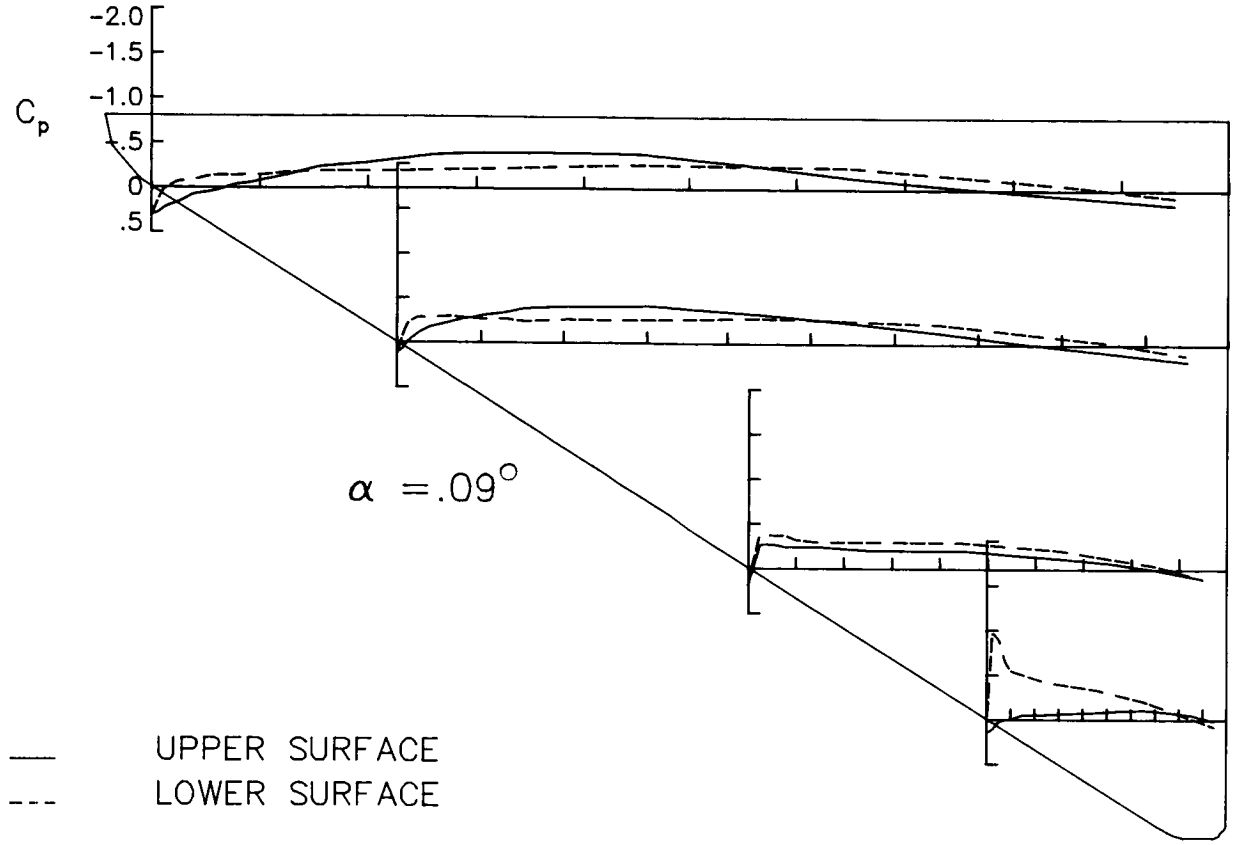
ANGLE OF ATTACK= 1.31 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

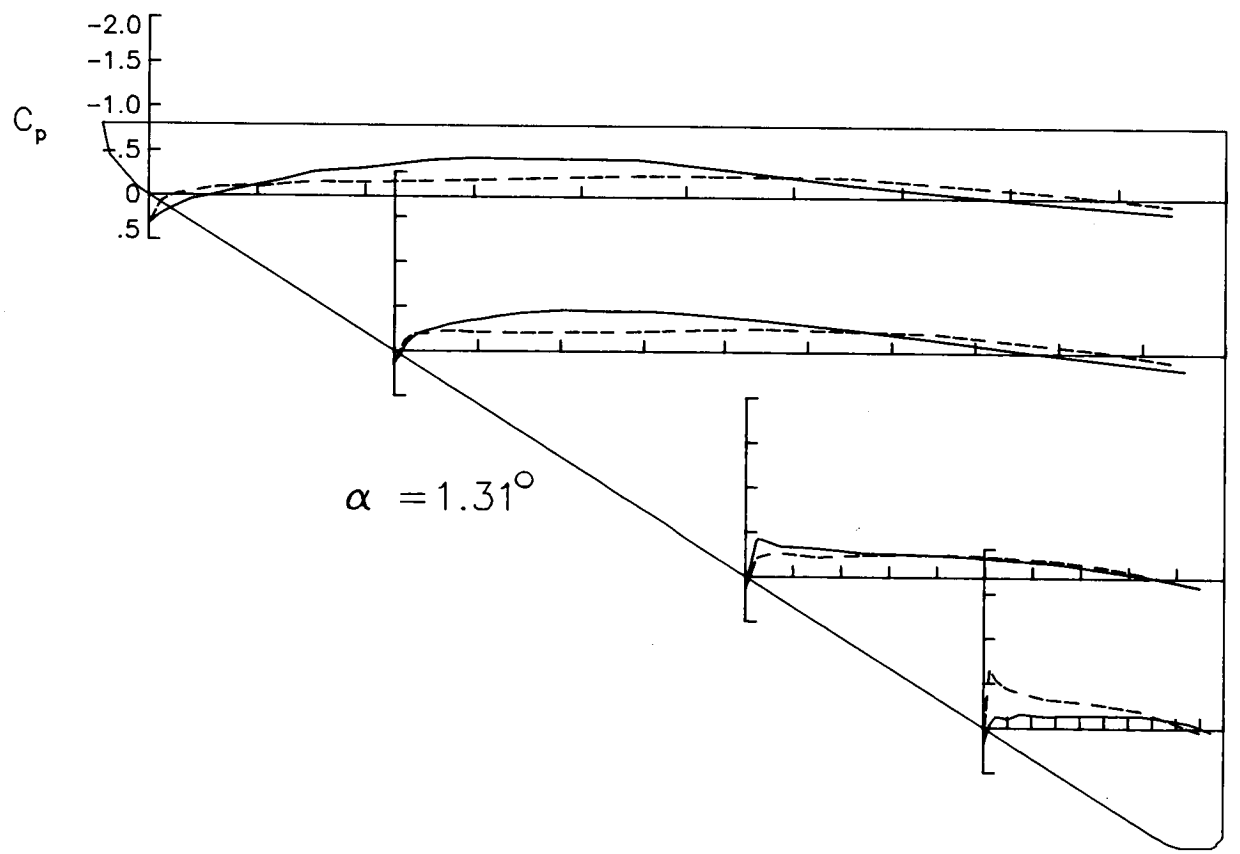
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30754	.30754	.11685	.11685	.16450	.16450	.19456	.19456
.005	< >	< >	< >	< >	.25711	.19188	.04312	.01996	< >	< >	< >	< >
.015	< >	< >	< >	< >	.19846	.06930	-.08228	-.12281	< >	< >	< >	< >
.025	< >	< >	< >	< >	.11080	-.01261	-.19080	-.19527	-.41906	-.21170	-.03718	-.64440
.040	< >	< >	< >	< >	.04594	-.03827	-.23001	-.19538	< >	< >	< >	< >
.050	< >	< >	< >	< >	.01128	-.06939	-.26404	-.22187	-.38277	-.25149	-.12711	-.54160
.065	< >	< >	< >	< >	-.02023	-.09505	-.30049	-.22566	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.06491	-.10052	-.32379	-.22977	-.33957	-.26334	-.11656	-.48429
.090	< >	< >	< >	< >	-.08904	-.11201	-.34547	-.21533	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.12751	-.10015	-.35944	-.21679	-.33412	-.24988	-.10239	-.43828
.125	< >	< >	< >	< >	-.18490	-.13071	-.39974	-.21192	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.27145	-.15609	-.43139	-.20500	-.31803	-.22174	-.15643	*****
.200	< >	< >	< >	< >	-.31423	-.15761	-.46129	-.21742	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.40532	-.17193	-.44762	-.21344	-.26660	-.24590	-.13050	-.32736
.300	< >	< >	< >	< >	-.43501	< >	-.45087	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.42421	< >	-.42195	< >	-.25381	< >	-.14094	< >
.450	< >	< >	< >	< >	-.41490	-.23795	-.35540	-.25928	-.23263	-.24978	-.14430	-.27758
.550	< >	< >	< >	< >	-.28568	< >	-.25082	< >	-.19561	< >	-.14146	< >
.650	< >	< >	-.05006	< >	-.14360	-.22301	-.14096	-.21174	-.15757	-.18496	-.14088	-.19312
.750	-.05235	< >	< >	< >	-.03187	< >	-.02445	< >	-.08246	-.11829	-.10550	-.10346
.850	.04412	-.05087	.04572	-.07328	.07031	-.04596	.08167	-.02437	-.00776	-.01822	-.06135	-.00197
.950	.09413	.05004	.12760	.01964	.16194	.07619	.18334	.11499	.10014	.10220	.03635	.09117

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
-.5
0
.5
C_p
α =.09°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
-.5
0
.5
C_p
α =1.31°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.43 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30193	.30193	.12197	.12197	.09998	.09998	.21803	.21803
.005	< >	< >	< >	< >	.23904	.21847	.00591	.07942	< >	< >	< >	< >
.015	< >	< >	< >	< >	.17429	.11333	-.13531	-.05403	< >	< >	< >	< >
.025	< >	< >	< >	< >	.07923	.03509	-.25204	-.13134	-.62344	-.11099	-.22201	-.33303
.040	< >	< >	< >	< >	.01259	.01156	-.28378	-.13777	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.01581	-.02716	-.32153	-.15922	-.54712	-.14650	-.28952	-.33803
.065	< >	< >	< >	< >	-.05596	-.05471	-.34921	-.17366	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.10520	-.06752	-.38028	-.17435	-.45409	-.18262	-.27621	-.32208
.090	< >	< >	< >	< >	-.12548	-.06128	-.40048	-.17462	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.16098	-.06600	-.40906	-.17410	-.43145	-.17630	-.23151	-.30824
.125	< >	< >	< >	< >	-.22414	-.10255	-.45257	-.17833	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.29803	-.12080	-.48366	-.16026	-.38481	-.15828	-.25675	*****
.200	< >	< >	< >	< >	-.34571	-.12948	-.50875	-.18102	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.44491	-.14123	-.50252	-.18410	-.32473	-.19422	-.19717	-.26089
.300	< >	< >	< >	< >	-.47452	< >	-.50134	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.45821	< >	-.46371	< >	-.29729	< >	-.20796	< >
.450	< >	< >	< >	< >	-.44324	-.21872	-.38277	-.23588	-.27091	-.22789	-.19412	-.24263
.550	< >	< >	< >	< >	-.30243	< >	-.27441	< >	-.22279	< >	-.19338	< >
.650	< >	< >	-.05327	< >	-.15588	-.20354	-.14528	-.18626	-.16162	-.17365	-.17075	-.17545
.750	-.05719	< >	< >	< >	-.03905	< >	-.02994	< >	-.09272	-.11064	-.13362	-.09723
.850	.04444	-.04091	.04549	-.07069	.06083	-.03724	.07533	-.02428	-.00582	-.01729	-.06934	.00099
.950	.09155	.05188	.12860	.02494	.16488	.07508	.17960	.11045	.10409	.09443	.03231	.08775

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

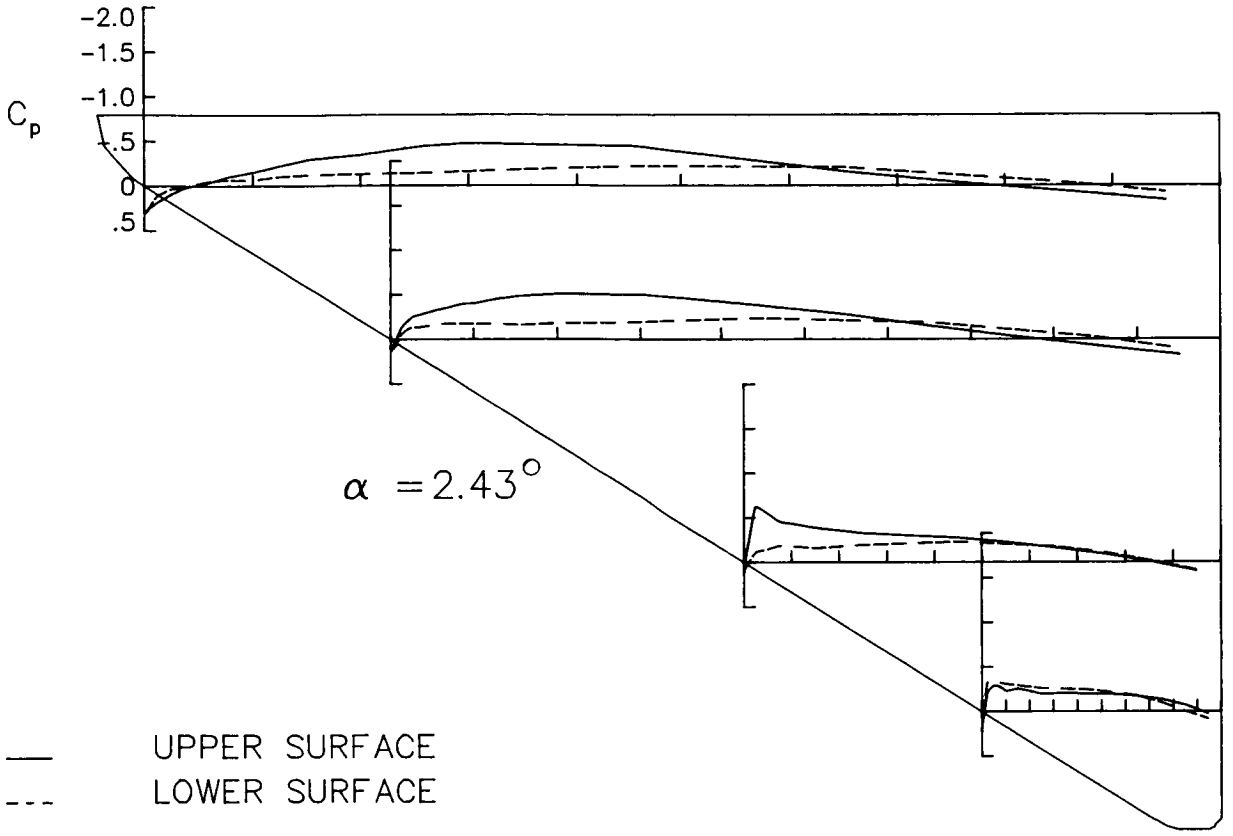
ANGLE OF ATTACK= 3.59 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

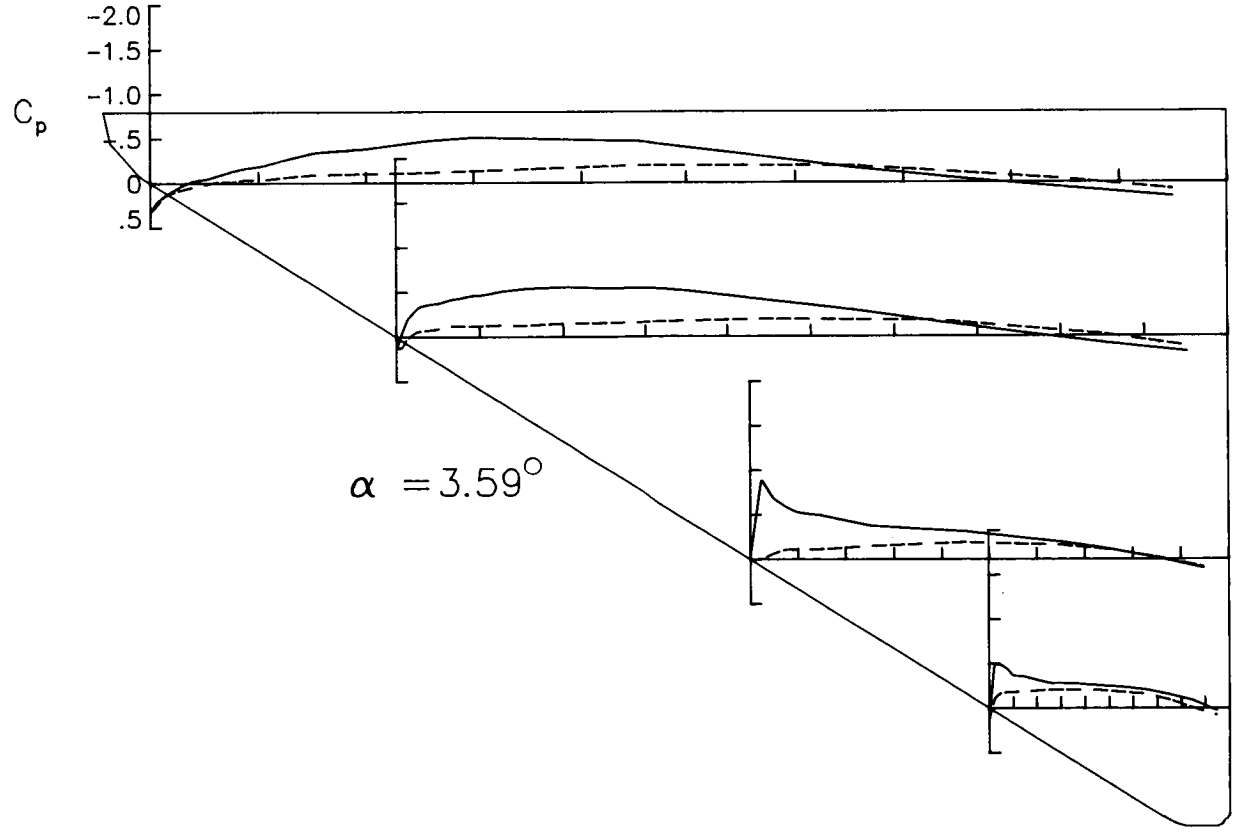
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31594	.31594	.11972	.11972	.00829	.00829	.14242	.14242
.005	< >	< >	< >	< >	.21800	.25287	-.03871	.12338	< >	< >	< >	< >
.015	< >	< >	< >	< >	.14584	.15720	-.20013	.02621	< >	< >	< >	< >
.025	< >	< >	< >	< >	.04325	.08725	-.33117	-.05648	-.88372	-.00564	-.49164	-.11331
.040	< >	< >	< >	< >	-.02296	.05049	-.36197	-.07146	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.04889	.01564	-.38026	-.09071	-.68415	-.06410	-.48160	-.16870
.065	< >	< >	< >	< >	-.08958	-.01344	-.41511	-.11947	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.13964	-.01366	-.43427	-.11887	-.58781	-.10759	-.44184	-.17867
.090	< >	< >	< >	< >	-.16566	-.03533	-.45899	-.11892	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.19211	-.03173	-.46758	-.12194	-.52505	-.10655	-.36845	-.18062
.125	< >	< >	< >	< >	-.25917	-.06334	-.51088	-.13178	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.33929	-.08952	-.53617	-.12579	-.49039	-.11253	-.35269	*****
.200	< >	< >	< >	< >	-.38034	-.10272	-.55583	-.15008	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.47177	-.11265	-.53971	-.15303	-.37806	-.14799	-.28306	-.20497
.300	< >	< >	< >	< >	-.50699	< >	-.54650	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.49168	< >	-.51028	< >	-.34142	< >	-.27721	< >
.450	< >	< >	< >	< >	-.46205	-.19382	-.41010	-.19492	-.31007	-.18870	-.25530	-.20096
.550	< >	< >	< >	< >	-.31721	< >	-.29316	< >	-.25114	< >	-.23781	< >
.650	< >	< >	-.05924	< >	-.16493	-.18780	-.15952	-.17792	-.19328	-.15597	-.20818	-.15835
.750	-.06479	< >	< >	< >	-.04370	< >	-.03839	< >	-.11282	-.10760	-.15263	-.09298
.850	.03921	-.03295	.04167	-.05948	.06089	-.03435	.07681	-.02190	-.01555	-.02311	-.08520	-.00206
.950	.09440	.05267	.12320	.02591	.16305	.07863	.17537	.10942	.10294	.08781	.03156	.08039

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 2.43^\circ$
UPPER SURFACE
LOWER SURFACE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-1.0
C_p
.5
0
.5
$\alpha = 3.59^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.81 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31852	.31852	.09906	.09906	-.10800	-.10800	.00814	.00814
.005	< >	< >	< >	< >	.19332	.28030	-.09242	.16118	< >	< >	< >	< >
.015	< >	< >	< >	< >	.11142	.20737	-.27900	.08100	< >	< >	< >	< >
.025	< >	< >	< >	< >	.00958	.12651	-.41310	.00936	-1.24645	.07433	-.83767	.03503
.040	< >	< >	< >	< >	-.06526	.09981	-.43350	-.01363	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.09486	.06301	-.45302	-.04991	-1.02328	.01278	-.77948	-.04112
.065	< >	< >	< >	< >	-.12642	.03340	-.48297	-.06470	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.18204	.01753	-.49479	-.05991	-.67086	-.03840	-.66330	-.06119
.090	< >	< >	< >	< >	-.19550	.00881	-.53007	-.08356	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.23001	.01033	-.53527	-.07065	-.62038	-.04575	-.56471	-.10271
.125	< >	< >	< >	< >	-.29760	-.03277	-.56611	-.09667	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.37591	-.05466	-.60582	-.08924	-.56872	-.06350	-.47209	*****
.200	< >	< >	< >	< >	-.41227	-.06070	-.61678	-.11100	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.51112	-.08289	-.61839	-.11569	-.44007	-.10909	-.37308	-.14092
.300	< >	< >	< >	< >	-.54267	< >	-.60968	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.52366	< >	-.54091	< >	-.39073	< >	-.35387	< >
.450	< >	< >	< >	< >	-.49145	-.16690	-.43453	-.18028	-.35002	-.16279	-.32306	-.17159
.550	< >	< >	< >	< >	-.33516	< >	-.31107	< >	-.27840	< >	-.28903	< >
.650	< >	< >	-.06295	< >	-.17585	-.16863	-.16759	-.15733	-.21104	-.14216	-.23751	-.14472
.750	-.07042	< >	< >	< >	-.05856	< >	-.04006	< >	-.12200	-.09224	-.18138	-.08362
.850	.03717	-.02501	.03705	-.05566	.05623	-.02818	.07233	-.01317	-.02606	-.02903	-.08908	-.00791
.950	.09383	.05457	.12533	.02409	.16937	.07967	.17385	.10041	.09757	.07957	.02756	.06843

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

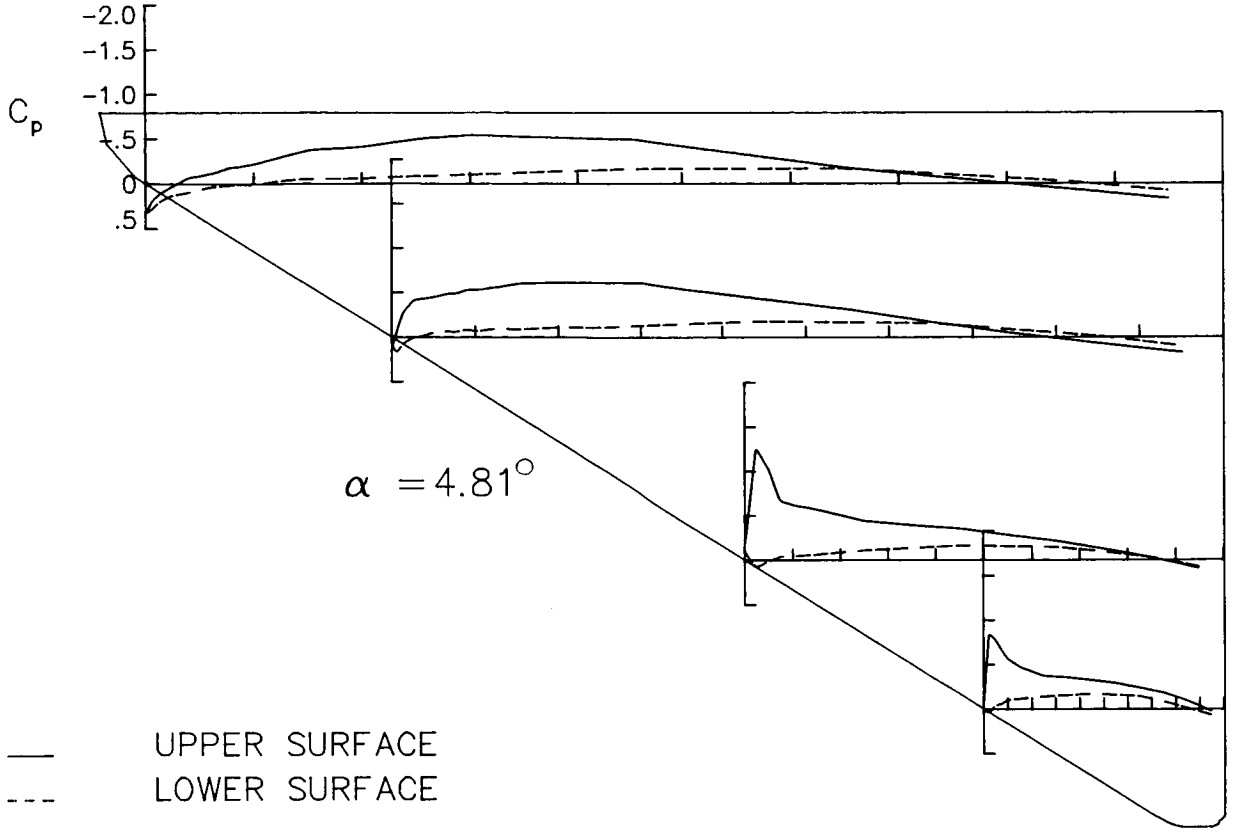
ANGLE OF ATTACK= 6.08 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31378	.31378	.06968	.06968	-.22297	-.22297	-.19276	-.19276
.005	< >	< >	< >	< >	.16133	.31455	-.15466	.19074	< >	< >	< >	< >
.015	< >	< >	< >	< >	.07678	.24616	-.37054	.13867	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.03049	.18172	-.51953	.06922	-1.54228	.13114	-1.21944	.11622
.040	< >	< >	< >	< >	-.10909	.15108	-.51243	.04233	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.13246	.10759	-.53122	.00381	-1.44270	.06372	-1.14098	.04333
.065	< >	< >	< >	< >	-.16844	.07694	-.54829	-.01055	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.22023	.06601	-.55840	-.01899	-1.24106	.03816	-1.05937	.00695
.090	< >	< >	< >	< >	-.23503	.05150	-.60323	-.02451	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.26835	.04361	-.59364	-.02464	-.78008	.00760	-.78327	-.02107
.125	< >	< >	< >	< >	-.32773	.00674	-.63128	-.04494	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.41216	-.01498	-.67815	-.04577	-.58944	-.01219	-.60957	*****
.200	< >	< >	< >	< >	-.44744	-.02636	-.65077	-.07294	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.54111	-.05302	-.67658	-.08292	-.49360	-.06296	-.45669	-.09982
.300	< >	< >	< >	< >	-.60127	< >	-.70378	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.55416	< >	-.58511	< >	-.43833	< >	-.42009	< >
.450	< >	< >	< >	< >	-.53007	-.13898	-.46327	-.14497	-.38094	-.12958	-.37642	-.13742
.550	< >	< >	< >	< >	-.34779	< >	-.31778	< >	-.30554	< >	-.32383	< >
.650	< >	< >	-.07288	< >	-.18846	-.14304	-.17569	-.13537	-.21831	-.12500	-.26792	-.13001
.750	-.06979	< >	< >	< >	-.06635	< >	-.04596	< >	-.13162	-.08438	-.18709	-.08519
.850	.03707	-.02190	.03843	-.04472	.05499	-.01863	.06619	-.01281	-.03153	-.02255	-.09338	-.01852
.950	.09479	.05797	.12328	.02982	.16432	.08245	.16463	.09827	.09221	.08072	.03001	.05138

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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-1.0
C_p
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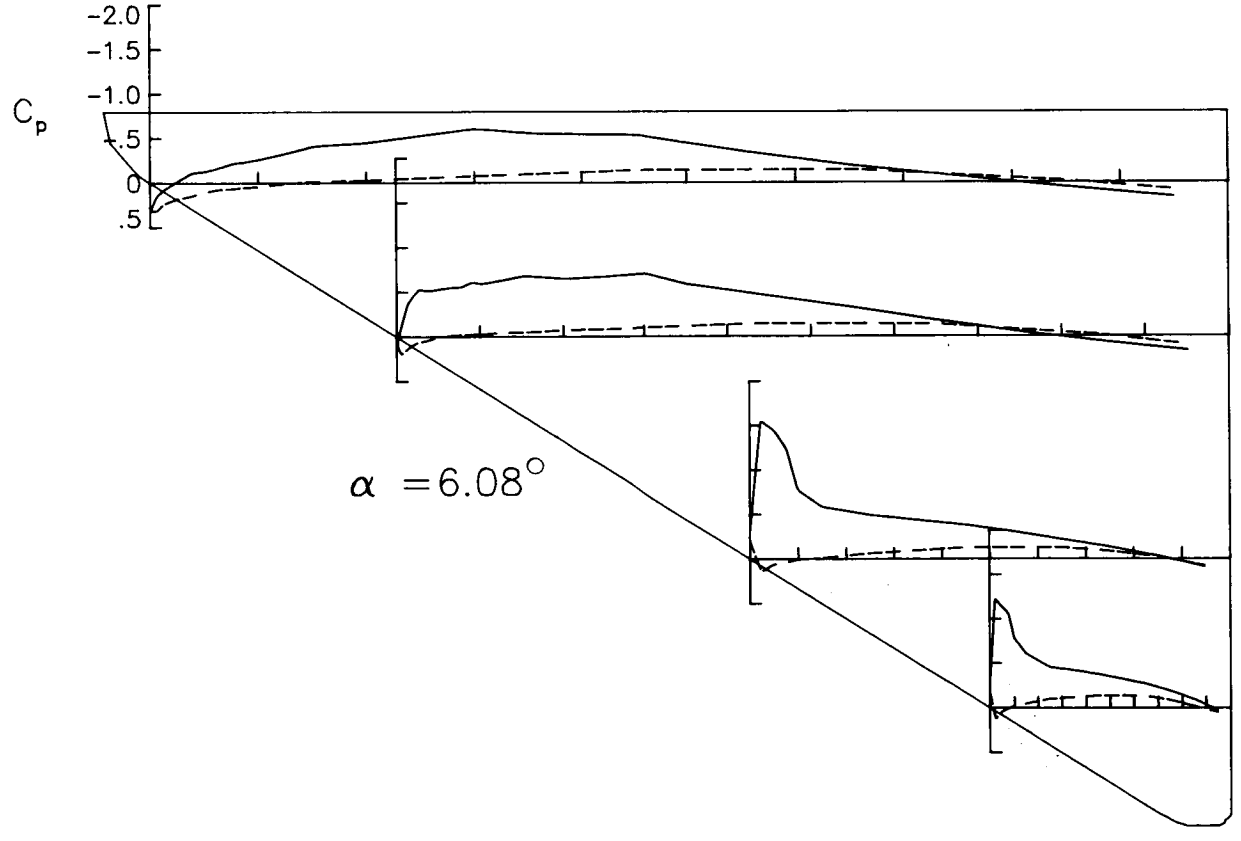
0
.5
$\alpha = 4.81^\circ$
UPPER SURFACE
LOWER SURFACE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-1.0
C_p
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0
.5
$\alpha = 6.08^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.30 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30247	.30247	.03360	.03360	-.32800	-.32800	-.31373	-.31373
.005	< >	< >	< >	< >	.13117	.33726	-.22703	.20105	< >	< >	< >	< >
.015	< >	< >	< >	< >	.03324	.28540	-.45874	.17167	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.07443	.22130	-.62767	.11976	-1.63195	.16883	-.89138	.14612
.040	< >	< >	< >	< >	-.16046	.18896	-.60204	.09588	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.17853	.14564	-.60790	.05878	-1.61759	.12140	-.79290	.08690
.065	< >	< >	< >	< >	-.21182	.12174	-.61144	.03721	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.25486	.10843	-.63421	.02519	-1.56875	.08807	-.75258	.06002
.090	< >	< >	< >	< >	-.27642	.09328	-.66005	.02118	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.30294	.08077	-.68506	.01426	-1.27413	.05941	-.72046	.02552
.125	< >	< >	< >	< >	-.37099	.05196	-.69130	-.00774	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.45002	.01986	-.74224	-.01011	-.93160	.02559	-.66172	*****
.200	< >	< >	< >	< >	-.48044	.00114	-.74678	-.03879	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56710	-.01402	-.73395	-.04085	-.48856	-.03651	-.57792	-.07179
.300	< >	< >	< >	< >	-.64485	< >	-.74651	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.58646	< >	-.73430	< >	-.43113	< >	-.49384	< >
.450	< >	< >	< >	< >	-.60039	-.10087	-.47453	-.11283	-.39649	-.10280	-.41161	-.11044
.550	< >	< >	< >	< >	-.36500	< >	-.33699	< >	-.30502	< >	-.34730	< >
.650	< >	< >	-.07536	< >	-.19348	-.12448	-.18241	-.11677	-.21433	-.11105	-.27898	-.13001
.750	-.07669	< >	< >	< >	-.06929	< >	-.05536	< >	-.12322	-.08540	-.19614	-.10153
.850	.03055	-.00551	.03634	-.03682	.05155	-.01616	.06062	-.01171	-.02000	-.02126	-.13169	-.05220
.950	.09761	.05760	.12517	.02967	.16492	.08826	.15469	.09741	.09026	.06962	-.04029	-.02595

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

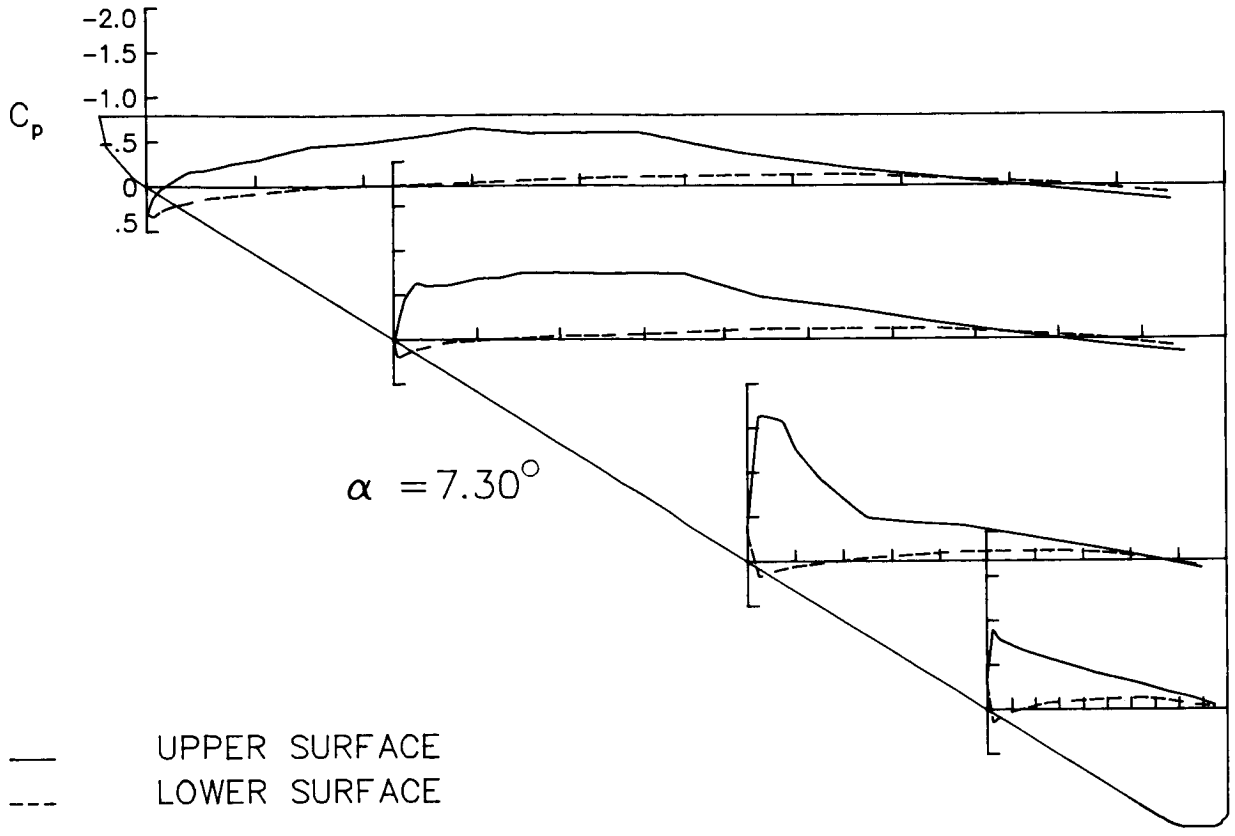
ANGLE OF ATTACK= 8.52 DEGREES MACH NUMBER= 0.81 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29339	.29339	-.02215	-.02215	-.43083	-.43083	-.40751	-.40751
.005	< >	< >	< >	< >	.09270	.35487	-.29344	.22154	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.00543	.32209	-.56861	.20715	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.11275	.26289	-.73851	.15460	-1.70714	.18726	-.79387	.16399
.040	< >	< >	< >	< >	-.19533	.23145	-.71999	.13758	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.21245	.18769	-.66936	.10616	-1.72561	.15628	-.71211	.12606
.065	< >	< >	< >	< >	-.25819	.16556	-.69375	.08523	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.30099	.14546	-.69843	.06944	-1.65627	.13427	-.69509	.10083
.090	< >	< >	< >	< >	-.30636	.13159	-.72134	.05768	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.34368	.12646	-.74402	.05847	-1.60927	.09568	-.67649	.05867
.125	< >	< >	< >	< >	-.40023	.08647	-.76224	.03501	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.48756	.05900	-.79268	.02713	-1.31714	.06156	-.64684	*****
.200	< >	< >	< >	< >	-.51554	.04054	-.79467	-.00447	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.61068	.01131	-.80923	-.00775	-.98118	.00437	-.60183	-.03916
.300	< >	< >	< >	< >	-.66636	< >	-.81023	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.63973	< >	-.78453	< >	-.39970	< >	-.52833	< >
.450	< >	< >	< >	< >	-.65474	-.07967	-.48069	-.09044	-.37486	-.08988	-.46098	-.10464
.550	< >	< >	< >	< >	-.38096	< >	-.33665	< >	-.29253	< >	-.39845	< >
.650	< >	< >	-.07926	< >	-.20619	-.10616	-.19515	-.10107	-.21866	-.10896	-.34441	-.14150
.750	-.08523	< >	< >	< >	-.07994	< >	-.07326	< >	-.13282	-.07813	-.31602	-.13130
.850	.02804	-.00968	.02817	-.03014	.04970	-.00732	.04348	-.00751	-.04450	-.03112	-.25040	-.12400
.950	.08704	.06200	.11944	.03009	.16509	.08290	.14453	.08734	.05369	.05623	-.19382	-.11879

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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-1.5
-1.0
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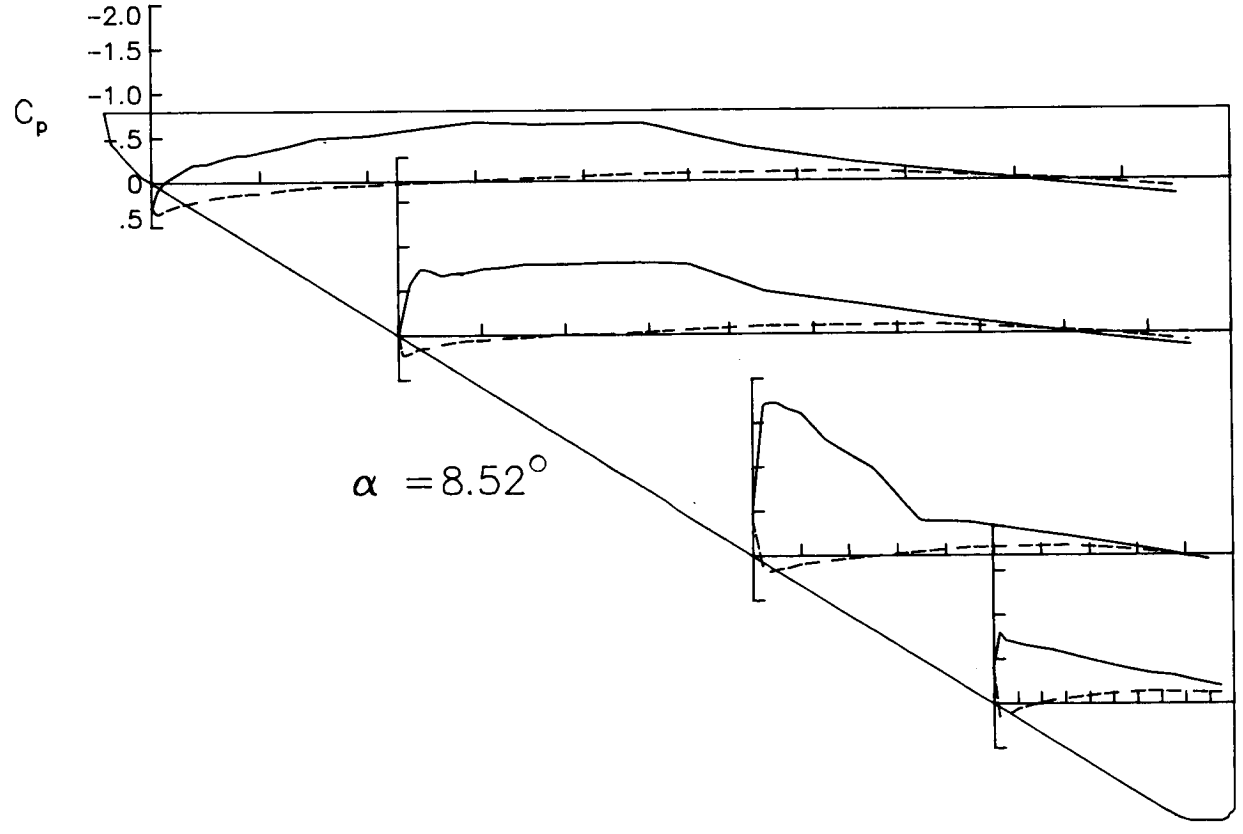
.5
C_p
$\alpha = 7.30^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
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0
.5
C_p
$\alpha = 8.52^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.69 DEGREES MACH NUMBER= 0.80 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.27464	.27464	-.06774	-.06774	-.51715	-.51715	-.48516	-.48516
.005	< >	< >	< >	< >	.06847	.37415	-.35366	.21452	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.04692	.35187	-.65950	.22420	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.16114	.30308	-.87845	.19183	-1.66015	.19619	-.71399	.17294
.040	< >	< >	< >	< >	-.24381	.27993	-.79966	.17406	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.26250	.23401	-.77793	.15380	-1.57563	.19102	-.69572	.15195
.065	< >	< >	< >	< >	-.28712	.19472	-.75896	.12227	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.33651	.18609	-.75934	.11229	-1.57180	.17210	-.67228	.11677
.090	< >	< >	< >	< >	-.35092	.16394	-.77207	.10312	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.38219	.15874	-.79001	.09271	-1.42863	.13378	-.66927	.08864
.125	< >	< >	< >	< >	-.43723	.12101	-.82294	.07196	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.52435	.09196	-.86479	.06890	-1.34289	.09557	-.63596	*****
.200	< >	< >	< >	< >	-.54235	.07692	-.86977	.03609	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.63307	.04586	-.85457	.01419	-1.20459	.02767	-.58429	-.02230
.300	< >	< >	< >	< >	-.69395	< >	-.87362	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.68212	< >	-.84173	< >	-1.00278	< >	-.53580	< >
.450	< >	< >	< >	< >	-.69959	-.04894	-.49482	-.06111	-.73861	-.05386	-.47468	-.09890
.550	< >	< >	< >	< >	-.39046	< >	-.35253	< >	-.50806	< >	-.43685	< >
.650	< >	< >	-.09160	< >	-.22298	-.08871	-.22084	-.08922	-.39153	-.10146	-.39706	-.15686
.750	-.09883	< >	< >	< >	-.08631	< >	-.09180	< >	-.21745	-.08676	-.35972	-.16144
.850	.01238	.00066	.01965	-.03056	.03708	-.01121	.02403	-.00977	-.14512	-.05652	-.33087	-.16482
.950	.08391	.06462	.11572	.02956	.15874	.08596	.12196	.07565	-.04017	.01327	-.30595	-.19944

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

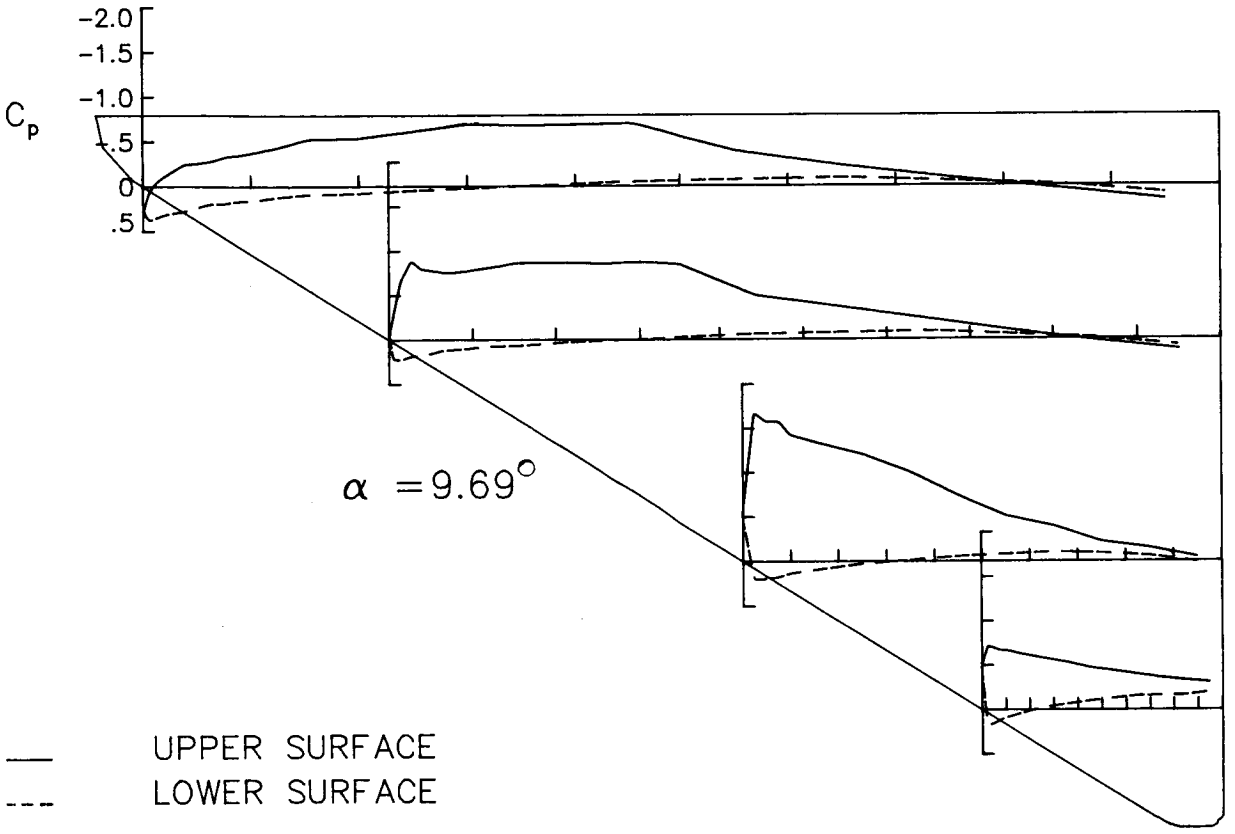
ANGLE OF ATTACK= 10.88 DEGREES MACH NUMBER= 0.81 CONFIGURATION : TAILS OFF

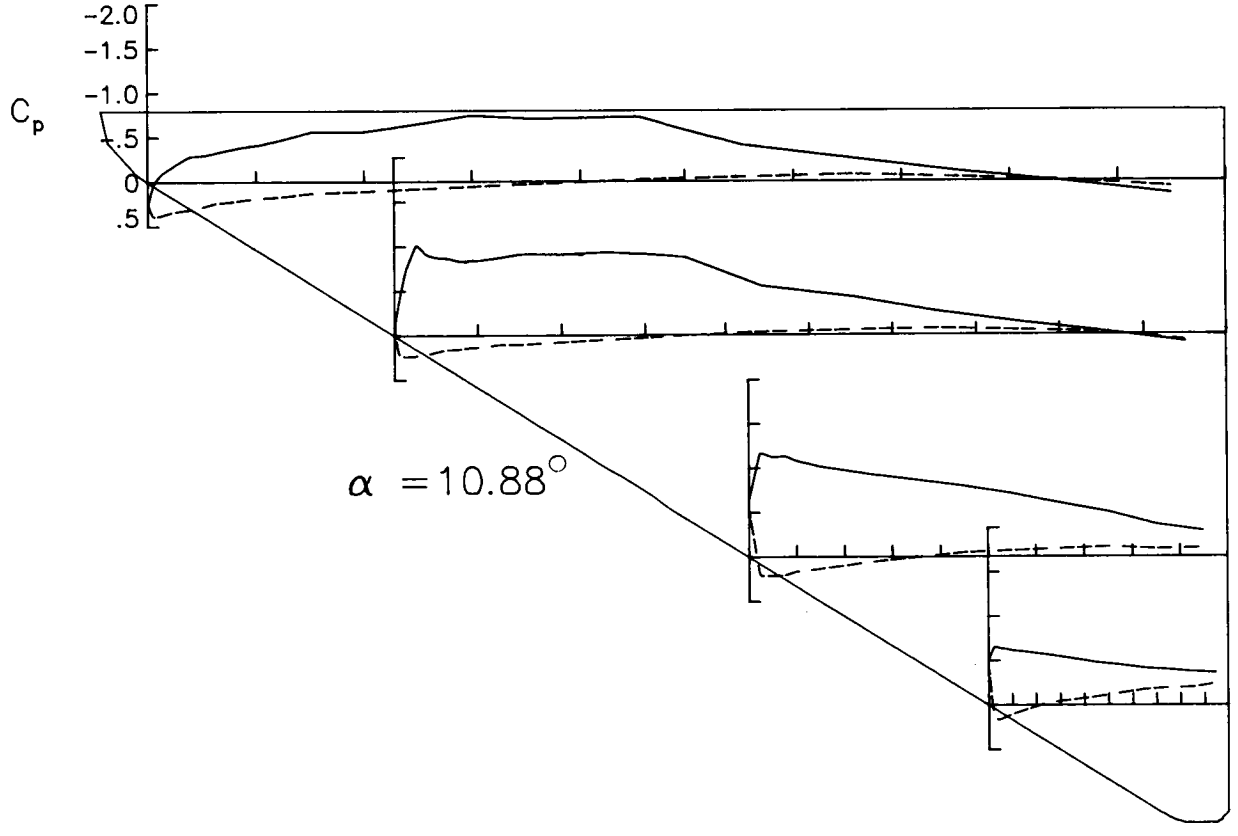
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.25486	.25486	-.12799	-.12799	-.59640	-.59640	-.49585	-.49585
.005	< >	< >	< >	< >	.02118	.38713	-.43923	.21249	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.08671	.37715	-.73199	.23707	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.20367	.33354	-1.00922	.23043	-1.16722	.20639	-.65457	.16258
.040	< >	< >	< >	< >	-.28583	.31294	-.90524	.21413	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.30078	.27834	-.87000	.18630	-1.12363	.20960	-.63844	.15631
.065	< >	< >	< >	< >	-.33300	.23829	-.85980	.16069	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.36663	.22372	-.83002	.15645	-1.13367	.20408	-.63056	.13039
.090	< >	< >	< >	< >	-.39081	.20496	-.83447	.14006	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.41443	.18548	-.84189	.13279	-1.08208	.16430	-.61454	.10049
.125	< >	< >	< >	< >	-.47608	.16575	-.87166	.10269	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.56097	.12939	-.90920	.10229	-1.01553	.13450	-.60291	*****
.200	< >	< >	< >	< >	-.56049	.10801	-.90552	.07498	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.66684	.08075	-.92974	.05109	-.93160	.06026	-.56527	-.02625
.300	< >	< >	< >	< >	-.74204	< >	-.90550	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.70642	< >	-.86936	< >	-.86473	< >	-.52364	< >
.450	< >	< >	< >	< >	-.72466	-.01915	-.54858	-.03451	-.79534	-.04871	-.47848	-.09324
.550	< >	< >	< >	< >	-.40944	< >	-.42093	< >	-.70944	< >	-.45044	< >
.650	< >	< >	-.11068	< >	-.25772	-.07548	-.25866	-.07159	-.60352	-.08906	-.41570	-.17752
.750	-.12985	< >	< >	< >	-.11123	< >	-.13705	< >	-.50359	-.11067	-.39860	-.19485
.850	-.01538	.00904	-.00395	-.02801	.00924	-.00978	-.03066	-.02634	-.36176	-.08706	-.37599	-.20158
.950	.05441	.05673	.09243	.02512	.14680	.06958	.08858	.06619	-.28717	-.09945	-.36422	-.24579

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PPESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 9.69^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 10.88^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 11.98 DEGREES MACH NUMBER= 0.81 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.24399	.24399	-.17786	-.17786	-.63066	-.63066	-.55081	-.55081
.005	< >	< >	< >	< >	-.01154	.39590	-.49075	.19839	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.13104	.39676	-.85893	.24512	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.24847	.37048	-1.12888	.25871	-.99125	.22170	-.63884	.14948
.040	< >	< >	< >	< >	-.32701	.34298	-1.00356	.23472	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.33963	.30487	-.93830	.22223	-.96230	.23485	-.62517	.15430
.065	< >	< >	< >	< >	-.36280	.27436	-.93538	.19844	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.40390	.25626	-.90713	.17617	-.91497	.22882	-.61244	.13562
.090	< >	< >	< >	< >	-.42118	.24274	-.90619	.17099	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.43502	.23308	-.90165	.16395	-.91726	.19124	-.59181	.10493
.125	< >	< >	< >	< >	-.50151	.19204	-.91130	.14349	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.60180	.16679	-.94888	.12522	-.89044	.15641	-.58135	*****
.200	< >	< >	< >	< >	-.60079	.13898	-.95658	.09923	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.68034	.10911	-.92133	.09140	-.83344	.07680	-.54252	-.00991
.300	< >	< >	< >	< >	-.77362	< >	-.88406	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.73319	< >	-.83202	< >	-.77978	< >	-.51654	< >
.450	< >	< >	< >	< >	-.69214	.00317	-.64423	-.01424	-.73457	-.02837	-.47364	-.10621
.550	< >	< >	< >	< >	-.46354	< >	-.50287	< >	-.67918	< >	-.44946	< >
.650	< >	< >	-.18110	< >	-.32115	-.04923	-.35924	-.06397	-.62066	-.09835	-.44700	-.18456
.750	-.17466	< >	< >	< >	-.17366	< >	-.23184	< >	-.54449	-.12341	-.42099	-.21114
.850	-.06580	.00640	-.06523	-.02840	-.02686	-.01286	-.08908	-.02417	-.46977	-.11053	-.41566	-.22352
.950	.02798	.04990	.06572	.01663	.10674	.06531	.03887	.03983	-.37712	-.16726	-.40517	-.28885

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

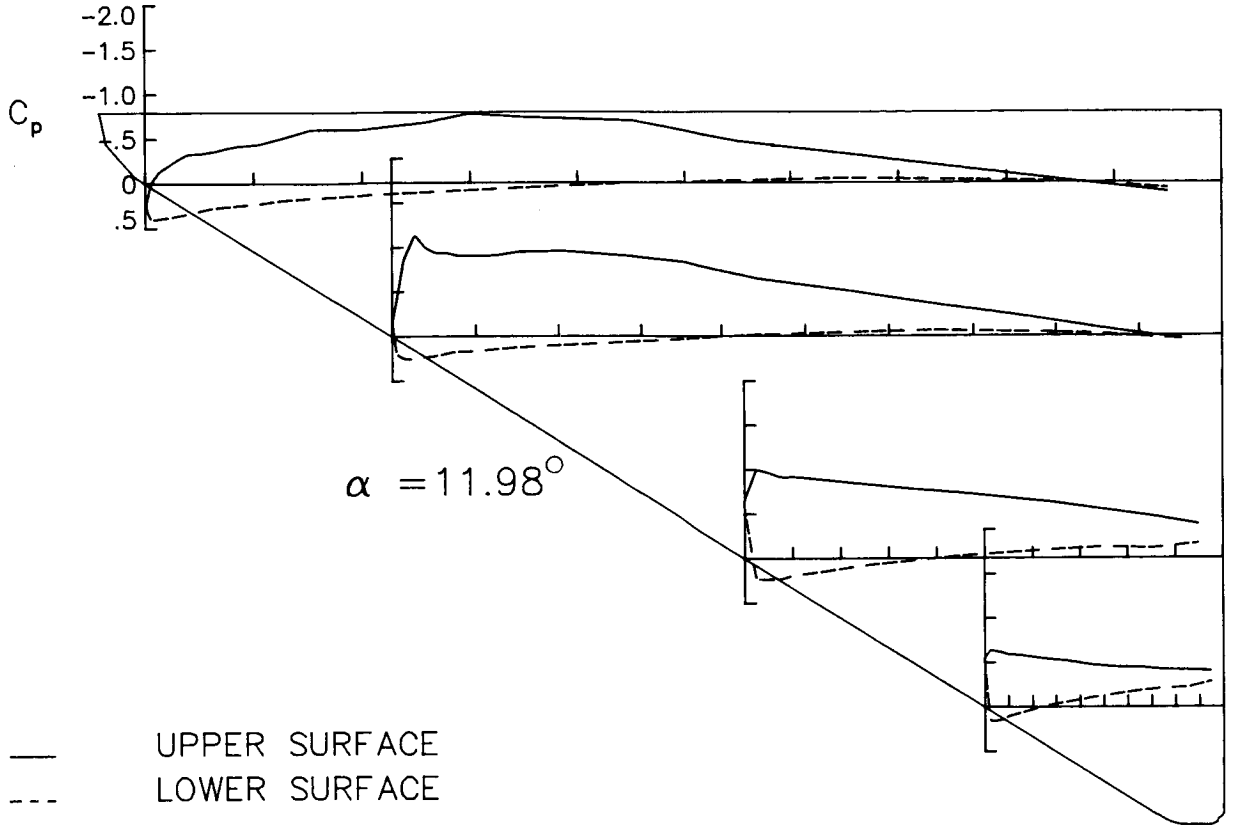
ANGLE OF ATTACK= 13.02 DEGREES MACH NUMBER= 0.81 CONFIGURATION : TAILS OFF

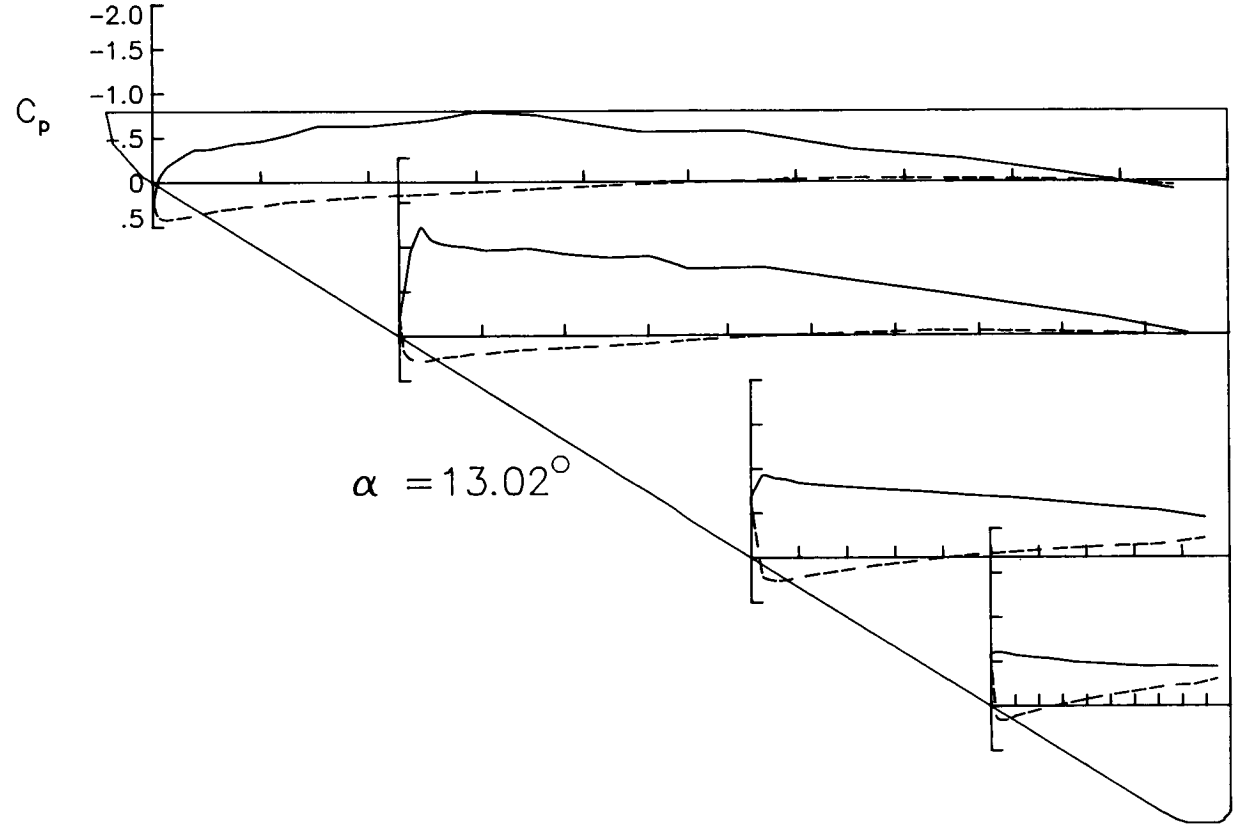
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.22097	.22097	-.23519	-.23519	-.67380	-.67380	-.58717	-.58717
.005	< >	< >	< >	< >	-.04657	.39875	-.54608	.17941	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.17027	.42009	-.95219	.25119	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.28439	.40072	-1.22211	.27521	-.93176	.21967	-.61235	.13804
.040	< >	< >	< >	< >	-.36720	.37654	-1.08166	.27408	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.37327	.34202	-1.03285	.24490	-.89600	.25920	-.60367	.15927
.065	< >	< >	< >	< >	-.40329	.30983	-1.01130	.23178	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.43751	.29169	-1.00076	.22084	-.87990	.25181	-.59009	.14557
.090	< >	< >	< >	< >	-.44572	.27034	-.98413	.19920	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.47016	.26557	-.96314	.20092	-.84214	.21770	-.57665	.11130
.125	< >	< >	< >	< >	-.53170	.22213	-.96361	.17487	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.63096	.20217	-.98216	.15511	-.81585	.17594	-.55778	*****
.200	< >	< >	< >	< >	-.63140	.16084	-.91481	.13340	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.70023	.13757	-.87543	.11275	-.77742	.09647	-.53312	.00730
.300	< >	< >	< >	< >	-.78683	< >	-.89000	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.75322	< >	-.74912	< >	-.74734	< >	-.49603	< >
.450	< >	< >	< >	< >	-.56253	.02576	-.76331	.00748	-.70410	-.02396	-.48000	-.10262
.550	< >	< >	< >	< >	-.56676	< >	-.61076	< >	-.67070	< >	-.46053	< >
.650	< >	< >	-.25556	< >	-.36522	-.04400	-.47798	-.05388	-.62351	-.09816	-.44724	-.18649
.750	-.25067	< >	< >	< >	-.26175	< >	-.33548	< >	-.57384	-.12611	-.45328	-.23144
.850	-.13175	.00249	-.12811	-.03804	-.09126	-.01939	-.19714	-.02528	-.52881	-.14416	-.44571	-.24289
.950	-.02190	.04437	.02543	.00755	.08990	.04384	-.01307	.01139	-.44455	-.21547	-.44025	-.30920

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

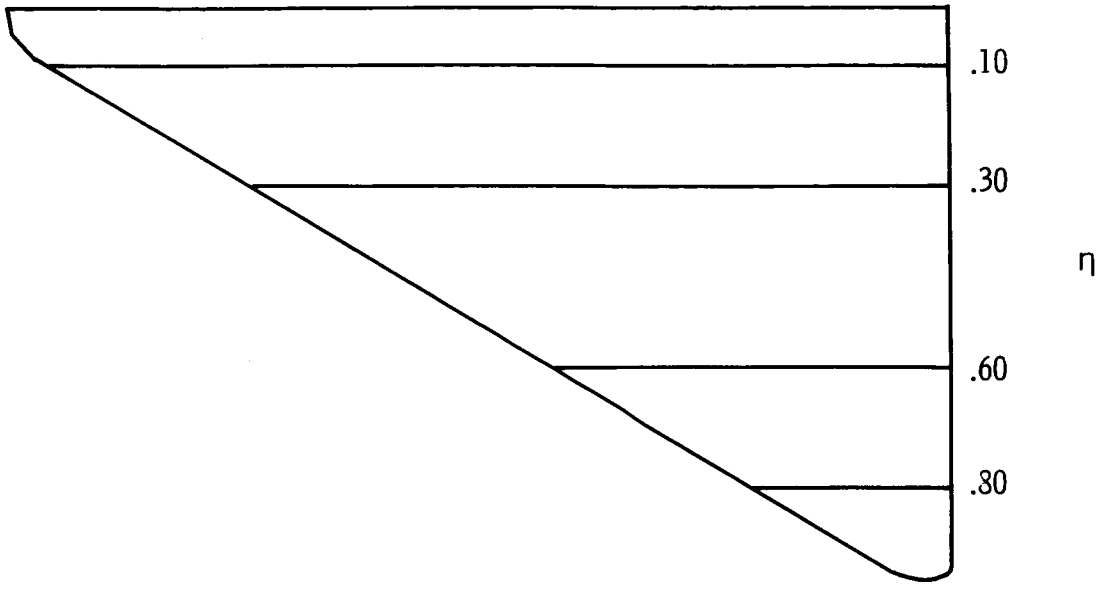

-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 11.98^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 13.02^\circ$

Appendix C

Pressure Data for Wing Alone at $M = 0.83$

The C_p data for the wing alone (fig. 2(a)) at $M = 0.83$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from 0.13° to 10.89°. The following sketch indicates the spanwise locations of the pressure ports:



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P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .13 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31089	.31089	.09269	.09269	.17993	.17993	.14283	.14283
.005	< >	< >	< >	< >	.27812	.15137	.07421	-.05603	< >	< >	< >	< >
.015	< >	< >	< >	< >	.22893	.02634	-.02963	-.20561	< >	< >	< >	< >
.025	< >	< >	< >	< >	.15652	-.03421	-.12162	-.28302	-.26895	-.12281	.09127	-.99624
.040	< >	< >	< >	< >	.08959	-.07521	-.17421	-.27277	< >	< >	< >	< >
.050	< >	< >	< >	< >	.05840	-.11104	-.20405	-.28685	-.29727	-.36606	.00503	-.86405
.065	< >	< >	< >	< >	.02559	-.13571	-.24172	-.29449	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.03000	-.13904	-.26368	-.27820	-.26193	-.36612	-.01349	-.67526
.090	< >	< >	< >	< >	-.04360	-.13361	-.29332	-.28280	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.08070	-.13738	-.30538	-.27041	-.25670	-.32844	-.00703	-.52723
.125	< >	< >	< >	< >	-.14175	-.16712	-.34520	-.27015	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.22175	-.19004	-.38653	-.24286	-.25637	-.31632	-.06243	*****
.200	< >	< >	< >	< >	-.27126	-.18782	-.42584	-.26510	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.37138	-.20456	-.41982	-.25781	-.22937	-.29796	-.05430	-.41599
.300	< >	< >	< >	< >	-.41152	< >	-.44102	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.41030	< >	-.39847	< >	-.22678	< >	-.08386	< >
.450	< >	< >	< >	< >	-.40084	-.27653	-.33499	-.30599	-.19527	-.30087	-.09074	-.34336
.550	< >	< >	< >	< >	-.26977	< >	-.23560	< >	-.17179	< >	-.10762	< >
.650	< >	< >	-.04408	< >	-.13648	-.25627	-.12258	-.22965	-.16966	-.21848	-.10748	-.20274
.750	-.04307	< >	< >	< >	-.02027	< >	-.01148	< >	-.07301	-.16063	-.09381	-.10509
.850	.05049	-.05887	.05325	-.07724	.07218	-.05076	.09013	-.02662	-.07184	-.12409	-.05067	-.00613
.950	.10696	.05001	.13395	.02512	.17236	.09003	.18753	.12207	.07429	.10897	.02325	.08807

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

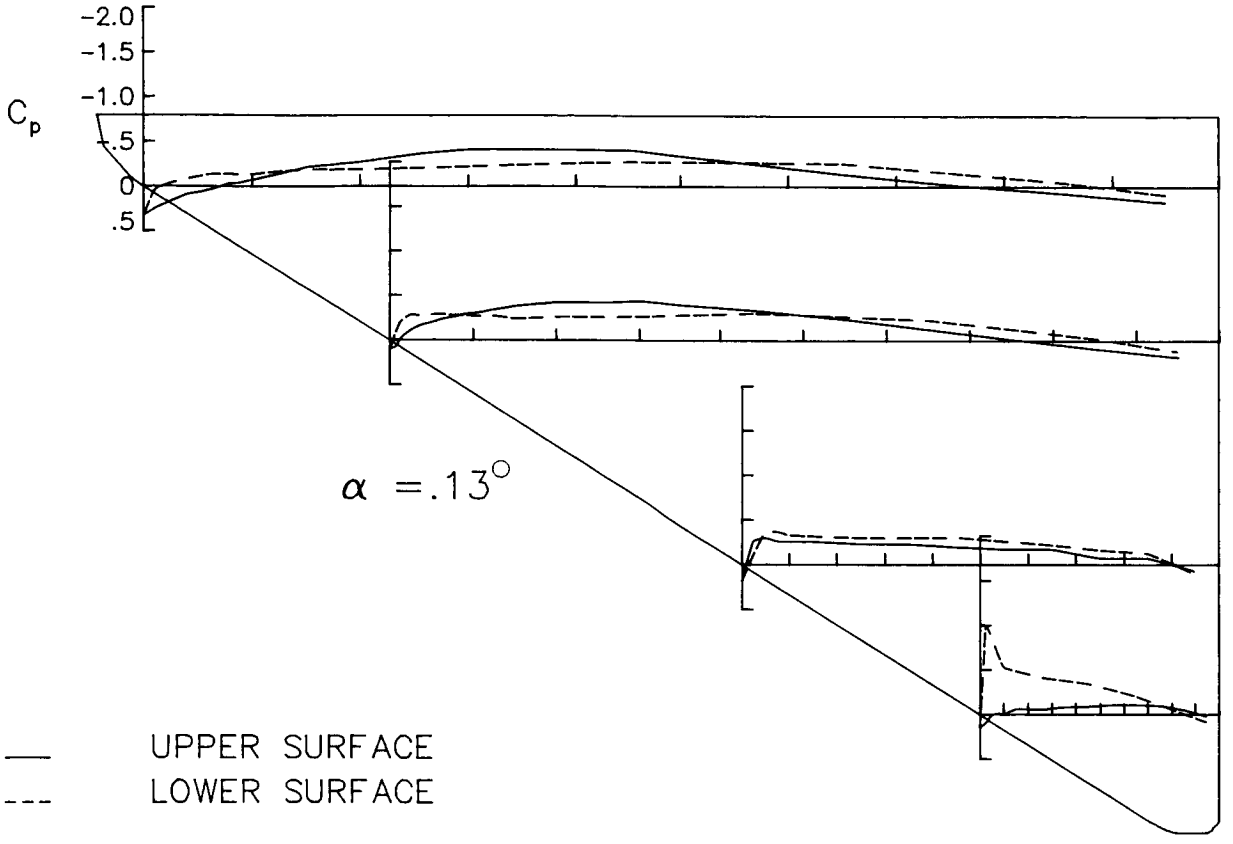
ANGLE OF ATTACK= 1.34 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

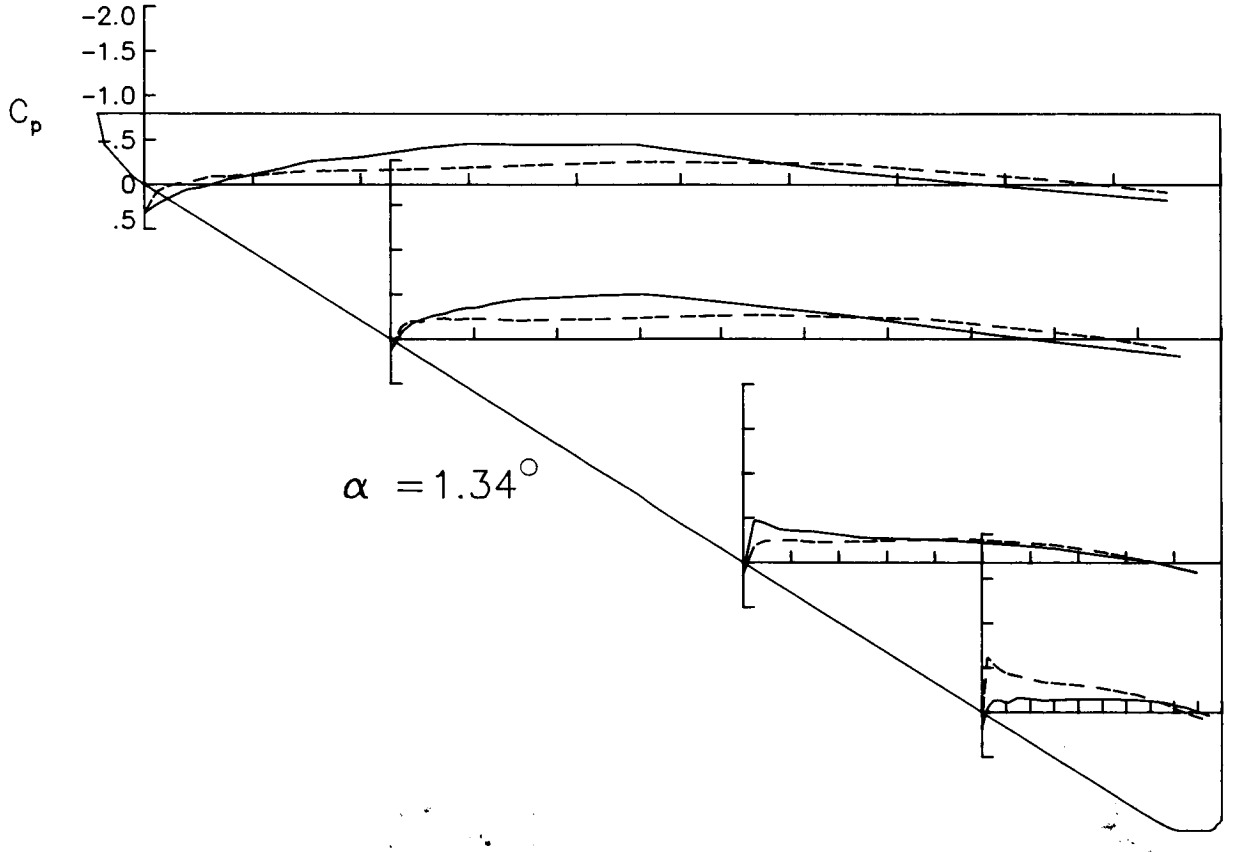
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31114	.31114	.11274	.11274	.15380	.15380	.18101	.18101
.005	< >	< >	< >	< >	.26768	.19457	.03587	.01849	< >	< >	< >	< >
.015	< >	< >	< >	< >	.21272	.08109	-.08014	-.13650	< >	< >	< >	< >
.025	< >	< >	< >	< >	.12266	.00320	-.18262	-.20196	-.46937	-.18875	-.05393	-.61434
.040	< >	< >	< >	< >	.05585	-.02839	-.22507	-.19645	< >	< >	< >	< >
.050	< >	< >	< >	< >	.02943	-.05654	-.26485	-.22022	-.43292	-.24574	-.13246	-.53953
.065	< >	< >	< >	< >	-.01202	-.09311	-.28886	-.23335	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.06406	-.08922	-.32692	-.21673	-.37511	-.24714	-.13628	-.47927
.090	< >	< >	< >	< >	-.08299	-.10448	-.34840	-.22681	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.12033	-.10098	-.35512	-.23045	-.35758	-.25194	-.10526	-.43871
.125	< >	< >	< >	< >	-.17855	-.12949	-.40648	-.22153	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.26147	-.15235	-.44629	-.20869	-.34535	-.22983	-.16396	*****
.200	< >	< >	< >	< >	-.30814	-.16062	-.46837	-.22283	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.41330	-.17469	-.49285	-.22631	-.27979	-.23987	-.13440	-.34029
.300	< >	< >	< >	< >	-.45958	< >	-.50149	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.44821	< >	-.46089	< >	-.26296	< >	-.14609	< >
.450	< >	< >	< >	< >	-.45182	-.25839	-.37047	-.27160	-.24151	-.26953	-.14776	-.29096
.550	< >	< >	< >	< >	-.29770	< >	-.26261	< >	-.20303	< >	-.14794	< >
.650	< >	< >	-.05050	< >	-.14302	-.23319	-.13695	-.22067	-.15810	-.19887	-.13767	-.19369
.750	-.04749	< >	< >	< >	-.03049	< >	-.01855	< >	-.07867	-.11810	-.11182	-.10307
.850	.04851	-.04863	.05263	-.07543	.07412	-.04627	.08896	-.02317	-.01465	-.01463	-.05440	.00704
.950	.10337	.05547	.13611	.03257	.17643	.08642	.19175	.12343	.11379	.10682	.04057	.09745

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =.13°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =1.34°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.50 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30953	.30953	.11689	.11689	.08347	.08347	.21134	.21134
.005	< >	< >	< >	< >	.24878	.22928	-.00576	.07256	< >	< >	< >	< >
.015	< >	< >	< >	< >	.17811	.13093	-.12851	-.04995	< >	< >	< >	< >
.025	< >	< >	< >	< >	.09469	.05250	-.24806	-.13057	-.69528	-.09515	-.28208	-.32229
.040	< >	< >	< >	< >	.02343	.01320	-.29581	-.13271	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.00471	-.01528	-.31454	-.15775	-.57667	-.15370	-.30133	-.32537
.065	< >	< >	< >	< >	-.04042	-.04358	-.34807	-.17776	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.09443	-.04922	-.37666	-.16662	-.49597	-.20530	-.28995	-.31457
.090	< >	< >	< >	< >	-.11599	-.05822	-.40407	-.17802	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.15508	-.06275	-.42383	-.16534	-.45713	-.17039	-.24036	-.29804
.125	< >	< >	< >	< >	-.21487	-.09390	-.45205	-.18207	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.29512	-.12008	-.50029	-.17148	-.42053	-.16830	-.28446	*****
.200	< >	< >	< >	< >	-.34574	-.13066	-.51428	-.19038	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.44074	-.14301	-.53676	-.19073	-.34260	-.20420	-.22051	-.26818
.300	< >	< >	< >	< >	-.49502	< >	-.57043	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.46368	< >	-.49875	< >	-.30638	< >	-.21392	< >
.450	< >	< >	< >	< >	-.51362	-.22655	-.40410	-.23897	-.28805	-.22904	-.20412	-.24258
.550	< >	< >	< >	< >	-.31571	< >	-.28042	< >	-.22887	< >	-.19894	< >
.650	< >	< >	-.05195	< >	-.15356	-.21985	-.14325	-.19800	-.16793	-.17472	-.17387	-.17884
.750	-.05875	< >	< >	< >	-.03601	< >	-.02942	< >	-.09763	-.10971	-.13565	-.09625
.850	.04997	-.03970	.05158	-.06526	.06891	-.03701	.08700	-.02392	.00128	-.01540	-.06295	.00974
.950	.10106	.05193	.13071	.03144	.17406	.08516	.19064	.12240	.11452	.10374	.04586	.09832

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

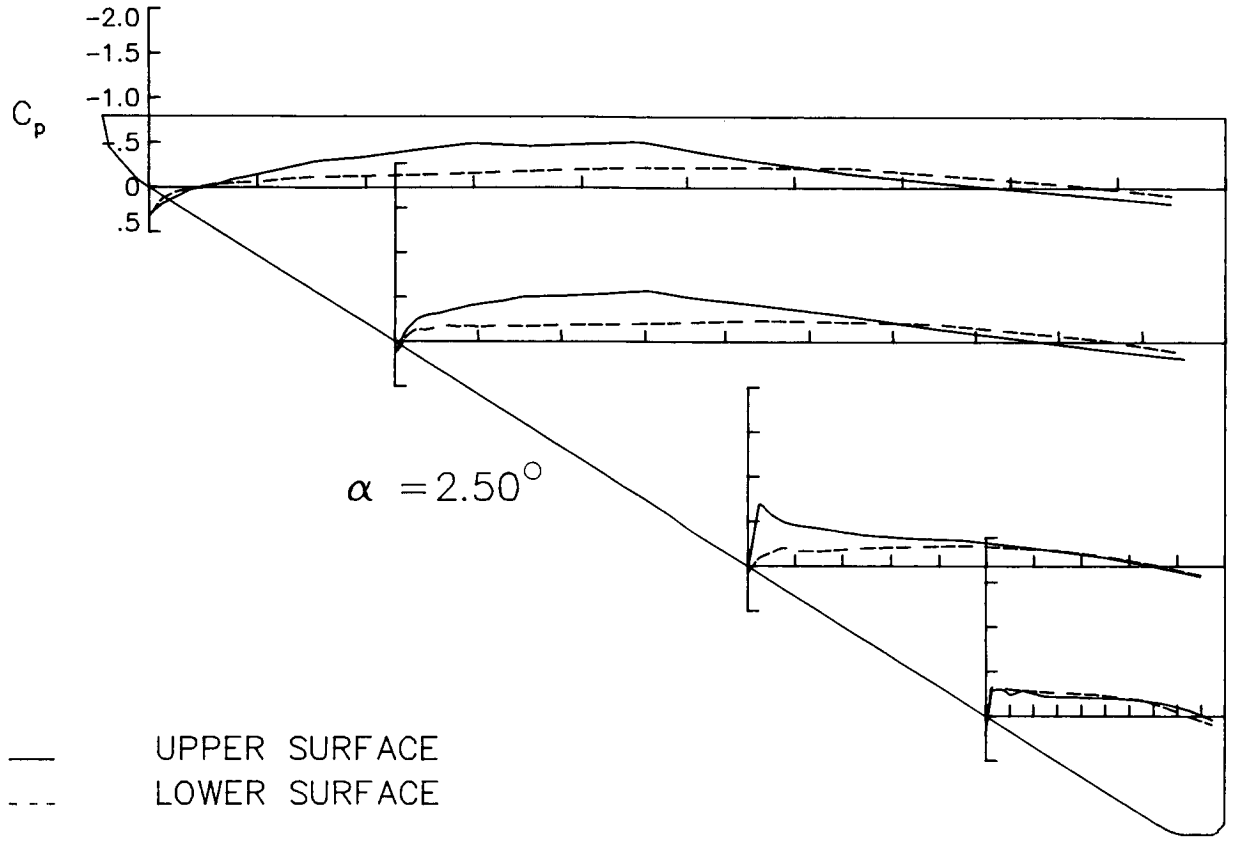
ANGLE OF ATTACK= 3.68 DEGREES MACH NUMBER= 0.83 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31526	.31526	.11413	.11413	-.01521	-.01521	.13377	.13377
.005	< >	< >	< >	< >	.22621	.26477	-.04298	.12463	< >	< >	< >	< >
.015	< >	< >	< >	< >	.15567	.16831	-.19441	.01931	< >	< >	< >	< >
.025	< >	< >	< >	< >	.05616	.09962	-.31780	-.05617	-1.00362	.00754	-.53219	-.09499
.040	< >	< >	< >	< >	-.01424	.06315	-.35185	-.06647	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.03870	.02709	-.37806	-.09524	-.79319	-.06804	-.52927	-.15436
.065	< >	< >	< >	< >	-.08213	-.00183	-.40909	-.12410	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.12886	-.01171	-.42683	-.11944	-.68760	-.10084	-.48577	-.16905
.090	< >	< >	< >	< >	-.15021	-.02538	-.45625	-.12129	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.18279	-.03003	-.47171	-.11737	-.55197	-.11120	-.40384	-.18442
.125	< >	< >	< >	< >	-.24314	-.05726	-.51585	-.13992	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.32921	-.08810	-.56328	-.12607	-.47581	-.11791	-.40598	*****
.200	< >	< >	< >	< >	-.37232	-.09443	-.56044	-.15061	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.46118	-.11525	-.57059	-.15672	-.38992	-.15421	-.29472	-.20970
.300	< >	< >	< >	< >	-.54736	< >	-.61437	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.49449	< >	-.61209	< >	-.36019	< >	-.28914	< >
.450	< >	< >	< >	< >	-.56676	-.20874	-.40585	-.21128	-.32663	-.20278	-.26752	-.20381
.550	< >	< >	< >	< >	-.31989	< >	-.29327	< >	-.25563	< >	-.25252	< >
.650	< >	< >	-.05398	< >	-.16130	-.19866	-.15601	-.18128	-.19416	-.15980	-.21258	-.16016
.750	-.06019	< >	< >	< >	-.04300	< >	-.03372	< >	-.10254	-.10191	-.15480	-.08710
.850	.04059	-.03603	.04855	-.06119	.06281	-.03994	.08355	-.02239	-.01257	-.02077	-.07706	.00392
.950	.10372	.05639	.13691	.02763	.17288	.08737	.18031	.11616	.11007	.09851	.04109	.08436

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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-1.0
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C_p
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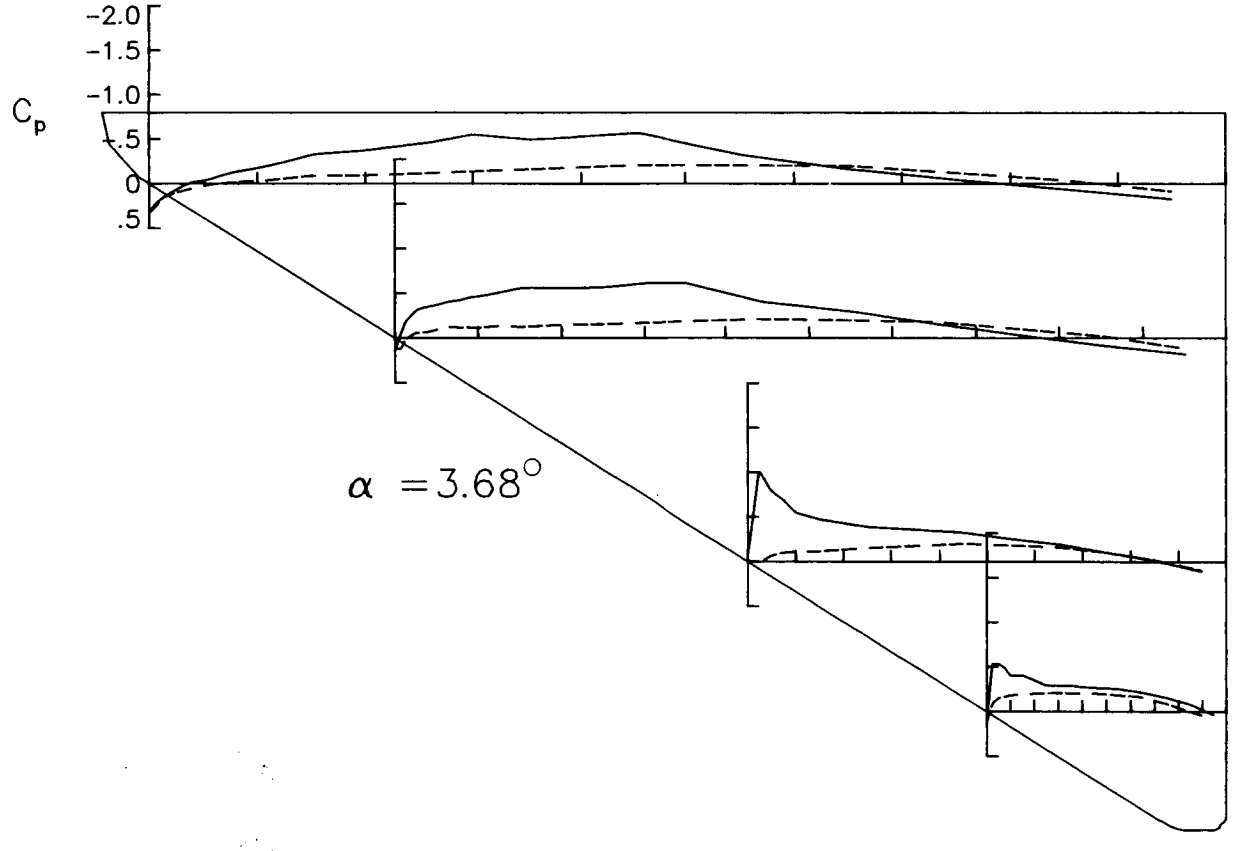
UPPER SURFACE
LOWER SURFACE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P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.90 DEGREES MACH NUMBER= 0.83 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32094	.32094	.09749	.09749	-.11565	-.11565	-.03482	-.03482
.005	< >	< >	< >	< >	.20559	.29552	-.09712	.16124	< >	< >	< >	< >
.015	< >	< >	< >	< >	.12685	.21624	-.26779	.08030	< >	< >	< >	< >
.025	< >	< >	< >	< >	.02180	.14806	-.39729	.00562	-1.30240	.06814	-.89421	.03755
.040	< >	< >	< >	< >	-.05253	.10227	-.42487	-.01218	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.07308	.06822	-.44444	-.04661	-1.21124	-.01048	-.81830	-.03879
.065	< >	< >	< >	< >	-.11128	.04175	-.46760	-.06313	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.16699	.02822	-.48350	-.08219	-.92021	-.03699	-.75924	-.06302
.090	< >	< >	< >	< >	-.18637	.01665	-.52205	-.07316	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.21624	.00907	-.52978	-.06698	-.78186	-.05819	-.65103	-.09041
.125	< >	< >	< >	< >	-.28116	-.02412	-.56087	-.09522	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.37100	-.04910	-.61139	-.09557	-.60058	-.07317	-.52911	*****
.200	< >	< >	< >	< >	-.39981	-.06034	-.62118	-.12011	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.50490	-.08750	-.64145	-.12299	-.43000	-.11123	-.37099	-.15051
.300	< >	< >	< >	< >	-.56763	< >	-.65334	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.56994	< >	-.66188	< >	-.40963	< >	-.35883	< >
.450	< >	< >	< >	< >	-.59132	-.16833	-.40546	-.18510	-.36566	-.16499	-.33726	-.16654
.550	< >	< >	< >	< >	-.32741	< >	-.30501	< >	-.28253	< >	-.28827	< >
.650	< >	< >	-.05587	< >	-.16759	-.18067	-.16594	-.16478	-.22497	-.14722	-.25520	-.14461
.750	-.06437	< >	< >	< >	-.05516	< >	-.03426	< >	-.11244	-.09698	-.16698	-.08603
.850	.04534	-.02662	.04788	-.05708	.06795	-.02871	.07754	-.01948	-.00107	-.02681	-.08191	-.00930
.950	.10244	.05471	.13676	.03384	.16624	.08684	.17749	.11091	.11303	.08818	.04388	.07658

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

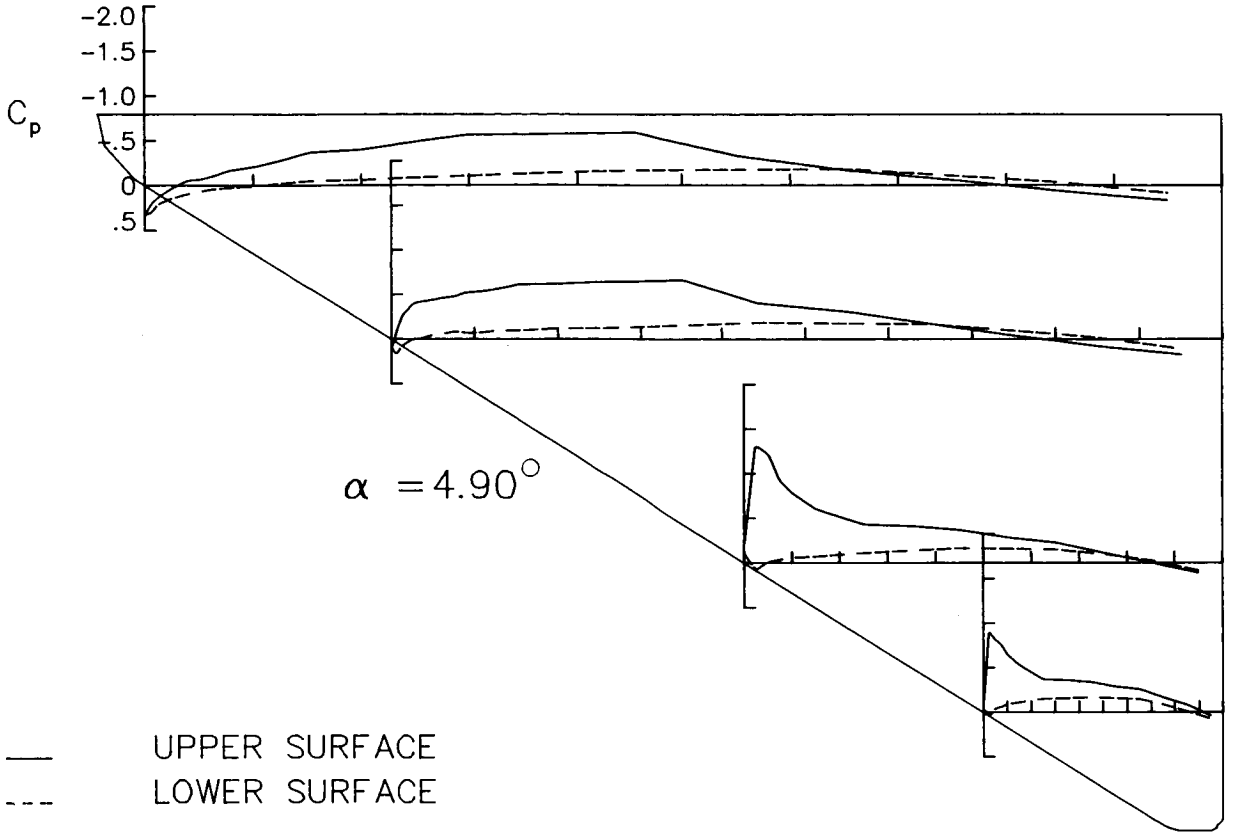
ANGLE OF ATTACK= 6.21 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31962	.31962	.06753	.06753	-.21759	-.21759	-.19468	-.19468
.005	< >	< >	< >	< >	.17787	.32552	-.16128	.19664	< >	< >	< >	< >
.015	< >	< >	< >	< >	.08563	.25640	-.35472	.13661	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.01899	.19385	-.50874	.06049	-1.43412	.11796	-1.22140	.11285
.040	< >	< >	< >	< >	-.09139	.15979	-.50319	.04761	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.12573	.11829	-.51406	.00329	-1.39359	.06014	-1.12650	.04359
.065	< >	< >	< >	< >	-.15086	.08623	-.53390	-.01374	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.20671	.07396	-.53961	-.02118	-1.39630	.02638	-1.09384	.00624
.090	< >	< >	< >	< >	-.22588	.05869	-.58124	-.02217	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.25523	.05504	-.59692	-.02798	-1.19250	-.00875	-.87660	-.02283
.125	< >	< >	< >	< >	-.31615	.01976	-.62723	-.05275	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.39638	-.00901	-.66860	-.04551	-.85851	-.02643	-.62359	*****
.200	< >	< >	< >	< >	-.43694	-.02729	-.70503	-.07424	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.54168	-.05444	-.69458	-.08719	-.46872	-.08887	-.48890	-.10011
.300	< >	< >	< >	< >	-.59139	< >	-.73629	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.59263	< >	-.72827	< >	-.39701	< >	-.40706	< >
.450	< >	< >	< >	< >	-.61883	-.13936	-.54148	-.15547	-.38178	-.13840	-.36868	-.13561
.550	< >	< >	< >	< >	-.37447	< >	-.29551	< >	-.30065	< >	-.31362	< >
.650	< >	< >	-.06247	< >	-.17365	-.15766	-.16004	-.14834	-.21029	-.13054	-.24540	-.13422
.750	-.06127	< >	< >	< >	-.05903	< >	-.04139	< >	-.11425	-.09356	-.16173	-.09085
.850	.04244	-.02211	.04774	-.04581	.06241	-.02567	.06727	-.00937	-.02420	-.01447	-.08176	-.02122
.950	.10752	.06432	.13552	.02990	.17706	.09310	.17160	.10471	.10093	.07986	.02287	.04609

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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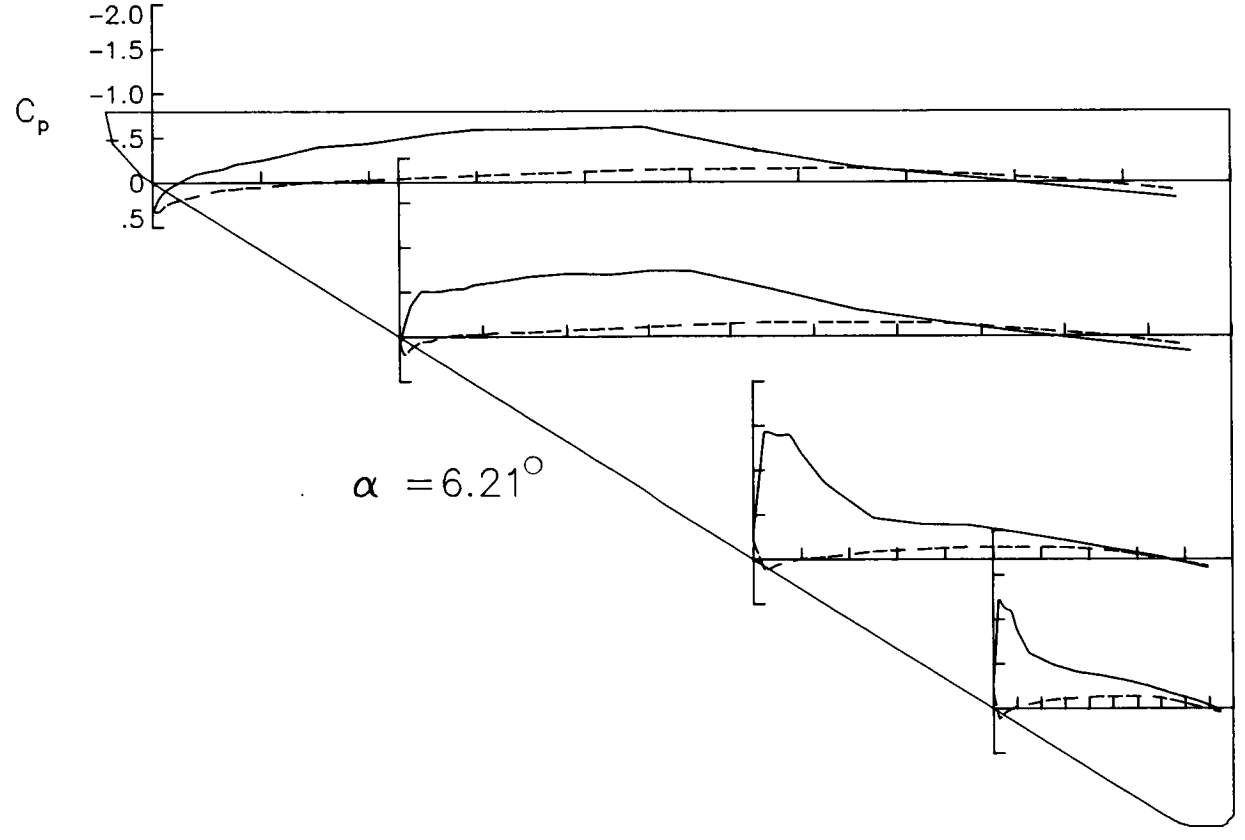
LOWER SURFACE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-1.0
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.5
C_p
$\alpha = 6.21^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.47 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31443	.31443	.02680	.02680	-.29907	-.29907	-.33551	-.33551
.005	< >	< >	< >	< >	.14182	.34570	-.21066	.20910	< >	< >	< >	< >
.015	< >	< >	< >	< >	.04948	.29567	-.44093	.16578	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.05879	.23513	-.60113	.12206	-1.52741	.16009	-.89678	.14769
.040	< >	< >	< >	< >	-.13665	.20678	-.58658	.09199	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.16183	.15636	-.59067	.05906	-1.53050	.10327	-.79686	.09395
.065	< >	< >	< >	< >	-.19360	.12886	-.60229	.03591	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.24601	.11132	-.60596	.03491	-1.54202	.07182	-.78777	.06041
.090	< >	< >	< >	< >	-.25727	.09899	-.63448	.01868	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.29281	.09005	-.65559	.00795	-1.50689	.04251	-.75665	.02381
.125	< >	< >	< >	< >	-.34715	.05173	-.68844	-.00598	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.44299	.02915	-.73323	-.00508	-1.13274	.01169	-.71994	*****
.200	< >	< >	< >	< >	-.45891	.02139	-.75358	-.04202	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56311	-.01767	-.75901	-.05163	-.83452	-.04301	-.60028	-.07349
.300	< >	< >	< >	< >	-.64922	< >	-.79390	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.63630	< >	-.77010	< >	-.37850	< >	-.50577	< >
.450	< >	< >	< >	< >	-.66500	-.11116	-.76286	-.12782	-.35124	-.10932	-.42806	-.12162
.550	< >	< >	< >	< >	-.46395	< >	-.28524	< >	-.30396	< >	-.35592	< >
.650	< >	< >	-.06050	< >	-.18449	-.12953	-.16569	-.12851	-.20442	-.12443	-.29210	-.13283
.750	-.05773	< >	< >	< >	-.06040	< >	-.04636	< >	-.12123	-.08665	-.22175	-.09936
.850	.04172	-.01749	.04774	-.04311	.06548	-.02151	.05990	-.01271	-.01988	-.03170	-.14824	-.06474
.950	.10300	.06846	.13732	.03545	.18278	.09043	.15765	.09552	.08871	.07227	-.07701	-.03846

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 8.66 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29949	.29949	-.00849	-.00849	-.37685	-.37685	-.37594	-.37594
.005	< >	< >	< >	< >	.11458	.36234	-.28445	.22808	< >	< >	< >	< >
.015	< >	< >	< >	< >	.01071	.33412	-.54157	.21253	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.09122	.27777	-.71891	.16188	-1.57359	.17897	-.76272	.14900
.040	< >	< >	< >	< >	-.17920	.24058	-.68058	.13554	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.19998	.19697	-.65605	.10488	-1.56165	.14397	-.71262	.11407
.065	< >	< >	< >	< >	-.23047	.17539	-.67328	.08556	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.28231	.15538	-.65902	.07812	-1.53031	.12454	-.68542	.09757
.090	< >	< >	< >	< >	-.29141	.13664	-.68435	.05619	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.31850	.12778	-.69993	.06183	-1.35704	.08883	-.67096	.05045
.125	< >	< >	< >	< >	-.39014	.09688	-.72816	.03238	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.47587	.06222	-.78205	.02368	-1.27838	.04550	-.65152	*****
.200	< >	< >	< >	< >	-.48241	.04556	-.79146	-.00622	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.58826	.01973	-.82050	-.00745	-1.12123	-.01261	-.60945	-.06065
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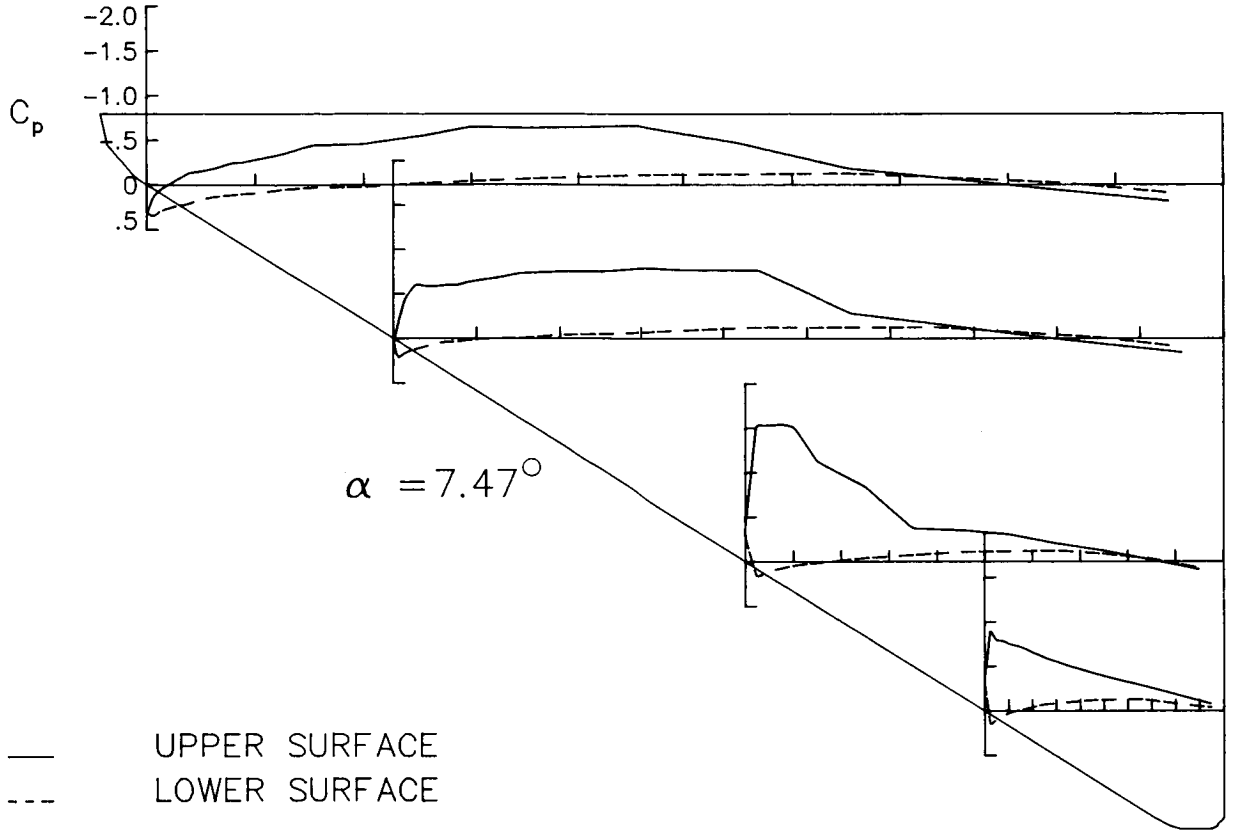
.450	< >	< >	< >	< >	-.68795	-.08835	-.79031	-.09912	-.63250	-.08950	-.47918	-.11395
.550	< >	< >	< >	< >	-.55406	< >	-.31123	< >	-.45545	< >	-.42015	< >
.650	< >	< >	-.06646	< >	-.20358	-.11009	-.18925	-.11732	-.29055	-.11912	-.36592	-.16359
.750	-.06457	< >	< >	< >	-.07385	< >	-.06815	< >	-.19044	-.09626	-.32043	-.15382
.850	.03087	-.00903	.03777	-.03929	.06000	-.02020	.03133	-.01954	-.05864	-.05238	-.25708	-.13260
.950	.09463	.06299	.12779	.02981	.17817	.08846	.13986	.09181	.00760	.02006	-.22770	-.15016

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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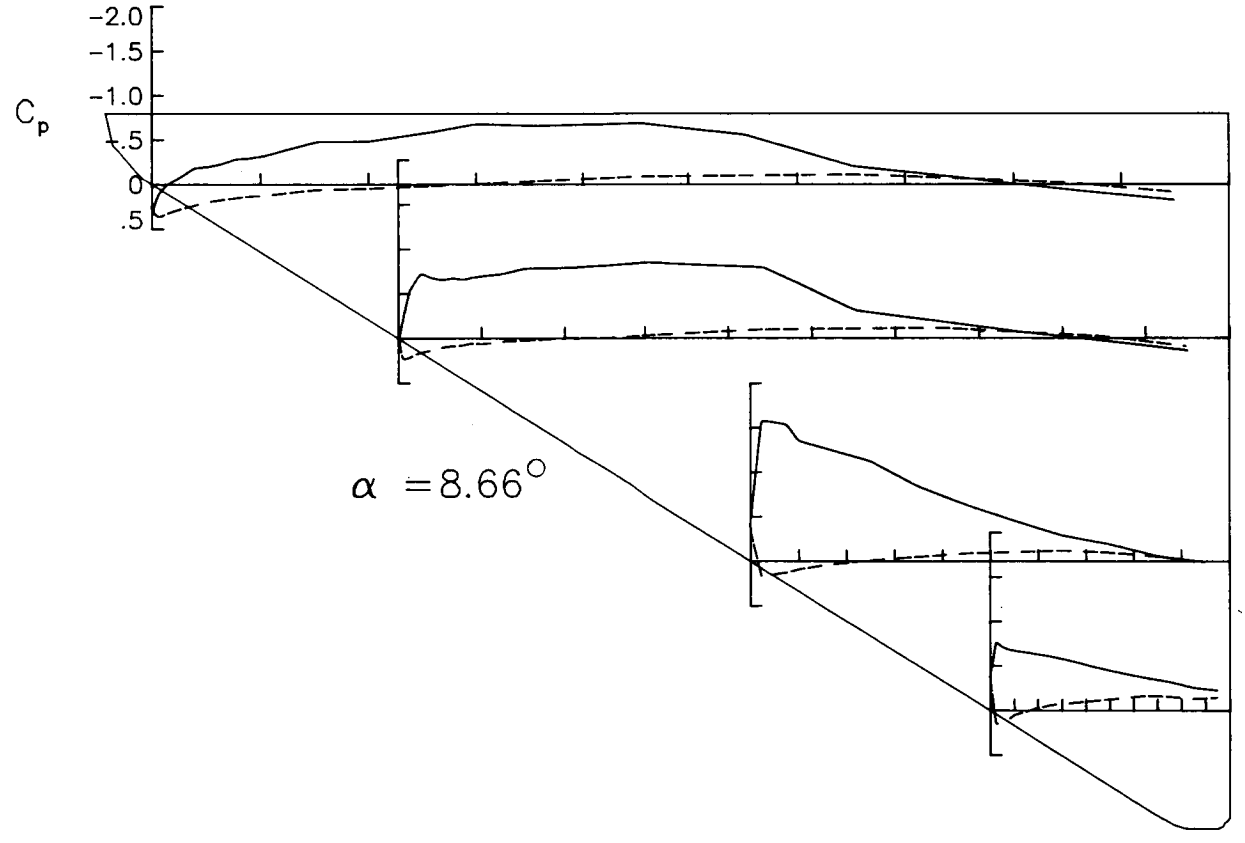
$\alpha = 7.47^\circ$
UPPER SURFACE
LOWER SURFACE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C_p
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P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.78 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28470	.28470	-.05915	-.05915	-.45081	-.45081	-.42405	-.42405
.005	< >	< >	< >	< >	.09259	.38447	-.35460	.22888	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.01705	.35797	-.59307	.22928	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.14521	.31486	-.83678	.19932	-1.29250	.19401	-.66903	.15266
.040	< >	< >	< >	< >	-.21772	.27954	-.75556	.17194	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.23616	.23928	-.73807	.14313	-1.30946	.17518	-.63468	.13163
.065	< >	< >	< >	< >	-.26618	.20675	-.75679	.12042	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.30930	.19006	-.73039	.11056	-1.29638	.16357	-.62858	.10636
.090	< >	< >	< >	< >	-.32747	.17738	-.73435	.09958	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.35239	.16134	-.74344	.09123	-1.08080	.11118	-.61702	.06876
.125	< >	< >	< >	< >	-.41615	.12936	-.78629	.07091	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.51466	.10280	-.81763	.05947	-1.08150	.08502	-.60254	*****
.200	< >	< >	< >	< >	-.53163	.07606	-.83774	.02987	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.59644	.04389	-.86720	.01588	-1.00913	.02240	-.56728	-.04200
.300	< >	< >	< >	< >	-.69887	< >	-.89498	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.67942	< >	-.88509	< >	-.93208	< >	-.52875	< >
.450	< >	< >	< >	< >	-.72870	-.05542	-.84323	-.07311	-.81145	-.07142	-.49056	-.11261
.550	< >	< >	< >	< >	-.57089	< >	-.35309	< >	-.67811	< >	-.44204	< >
.650	< >	< >	-.09594	< >	-.22767	-.10015	-.24311	-.09826	-.54597	-.11301	-.40016	-.16911
.750	-.09217	< >	< >	< >	-.09806	< >	-.12343	< >	-.40718	-.11247	-.36247	-.18939
.850	.01120	-.01237	.01859	-.03761	.04443	-.01880	.00276	-.02164	-.28175	-.08435	-.32844	-.17669
.950	.08186	.06190	.11328	.02633	.16618	.08525	.11245	.07880	-.17718	-.05667	-.29923	-.21442

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

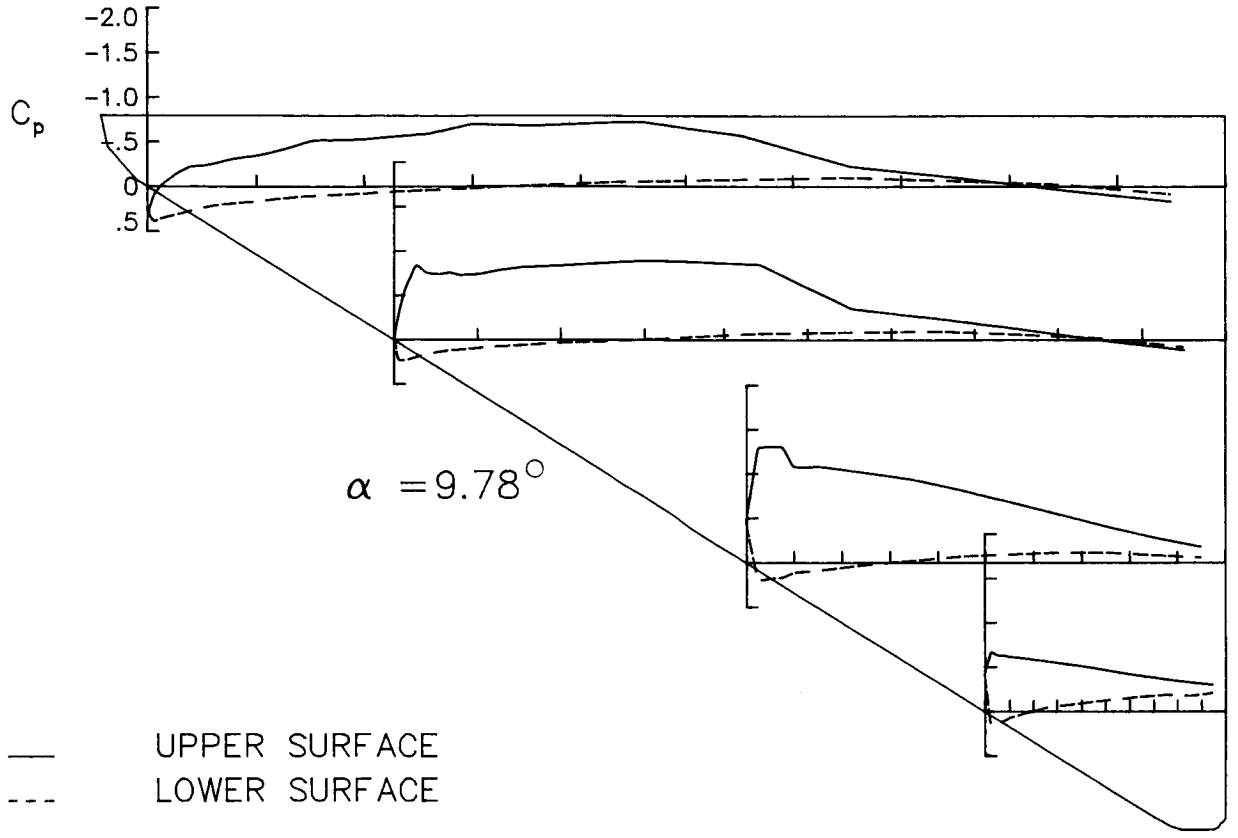
ANGLE OF ATTACK= 10.89 DEGREES MACH NUMBER= 0.84 CONFIGURATION : TAILS OFF

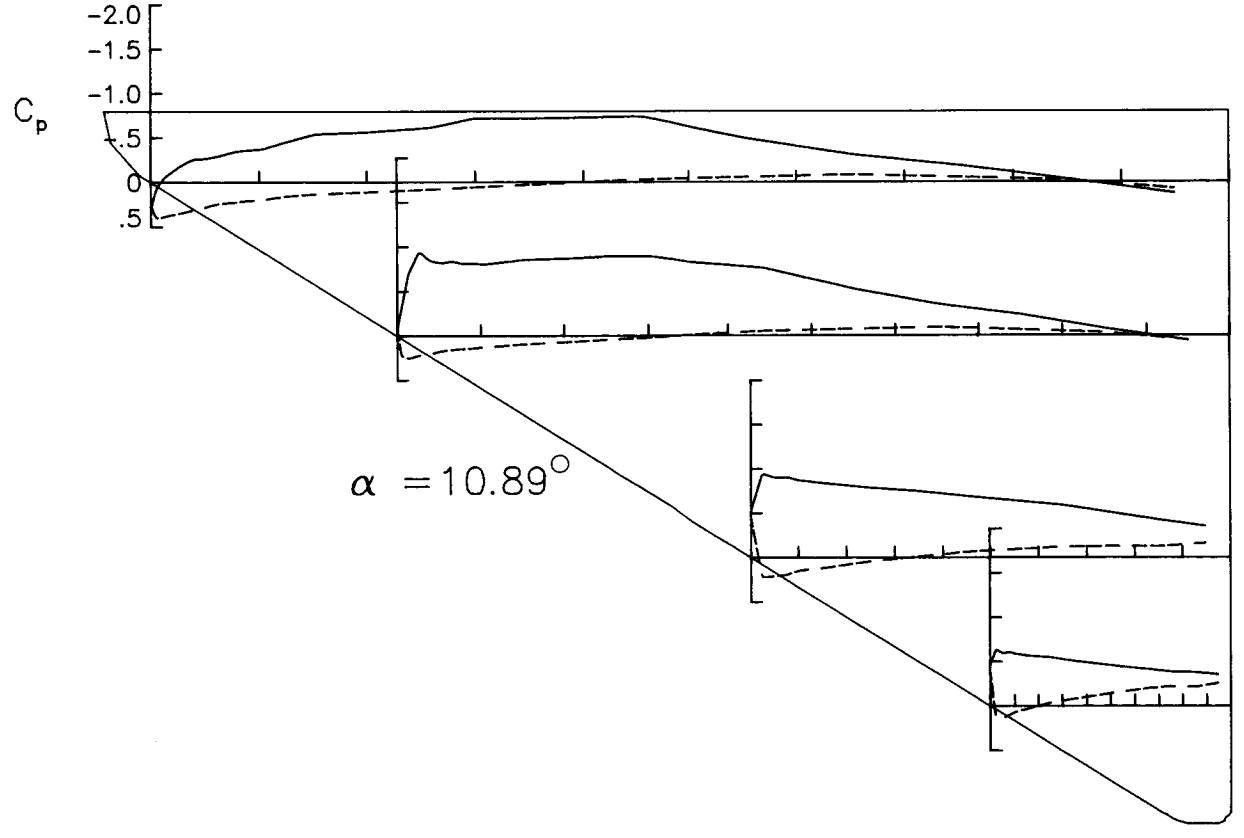
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.26952	.26952	-.10752	-.10752	-.49839	-.49839	-.44854	-.44854
.005	< >	< >	< >	< >	.05609	.40172	-.39520	.22207	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.05492	.38637	-.70110	.25061	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.17905	.35275	-.93506	.22314	-.93735	.21650	-.63181	.14881
.040	< >	< >	< >	< >	-.25468	.31744	-.84898	.20664	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.27118	.28003	-.81969	.17570	-.90380	.20669	-.59611	.13654
.065	< >	< >	< >	< >	-.30052	.24182	-.83460	.15727	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.34426	.22645	-.81007	.14667	-.90448	.19270	-.60818	.10329
.090	< >	< >	< >	< >	-.35931	.20912	-.81340	.13984	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.37422	.20047	-.80159	.12910	-.87461	.14792	-.58975	.06975
.125	< >	< >	< >	< >	-.45163	.15826	-.82785	.11045	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.54000	.13492	-.85373	.09280	-.84031	.11694	-.56765	*****
.200	< >	< >	< >	< >	-.56287	.11060	-.86726	.06948	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.61594	.08540	-.89275	.04384	-.78938	.04008	-.54808	-.03646
.300	< >	< >	< >	< >	-.71675	< >	-.89258	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.71749	< >	-.82653	< >	-.75073	< >	-.50505	< >
.450	< >	< >	< >	< >	-.73940	-.03026	-.75578	-.05082	-.69422	-.06553	-.47305	-.12337
.550	< >	< >	< >	< >	-.49431	< >	-.51783	< >	-.64159	< >	-.44040	< >
.650	< >	< >	-.17456	< >	-.30854	-.08336	-.34761	-.09313	-.59325	-.11965	-.41352	-.19786
.750	-.18352	< >	< >	< >	-.18360	< >	-.22911	< >	-.50942	-.12824	-.38506	-.22116
.850	-.05118	-.01681	-.04207	-.03858	-.03050	-.02119	-.07345	-.03049	-.42543	-.12538	-.37800	-.21545
.950	.04907	.05105	.07746	.01225	.12975	.07640	.05965	.05307	-.35201	-.16311	-.35403	-.26154

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

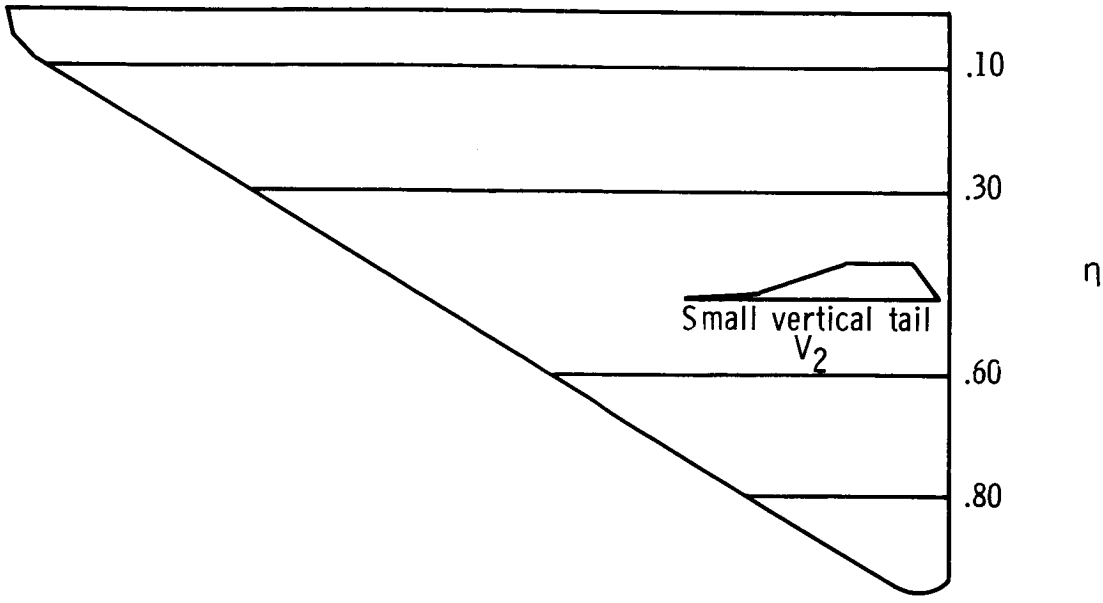

-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 9.78^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 10.89^\circ$

Appendix D

Pressure Data for Wing With Small Vertical Tail at $M = 0.75$

The C_p data for the wing with small vertical tail (fig. 2(b)) at $M = 0.75$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.34°$ to $13.00°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.34 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.27520	.27520	.05947	.05947	.13254	.13254	-.16167	-.16167
.005	< >	< >	< >	< >	.29216	.04333	.10559	-.24193	< >	< >	< >	< >
.015	< >	< >	< >	< >	.25330	-.12382	.06418	-.47045	< >	< >	< >	< >
.025	< >	< >	< >	< >	.19821	-.18943	.00380	-.48039	.00804	-.83687	.23016	-1.31353
.040	< >	< >	< >	< >	.13150	-.21630	-.05704	-.50002	< >	< >	< >	< >
.050	< >	< >	< >	< >	.10392	-.22749	-.08997	-.43262	-.03094	-.63510	.19574	-1.20565
.065	< >	< >	< >	< >	.07251	-.24281	-.13494	-.41355	< >	< >	< >	< >
.075	< >	< >	< >	< >	.02497	-.23639	-.16263	-.39629	-.05347	-.61795	.16200	-1.14995
.090	< >	< >	< >	< >	.00147	-.23529	-.16943	-.37833	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.02506	-.23159	-.19455	-.37583	-.05949	-.50306	.14703	-1.02835
.125	< >	< >	< >	< >	-.08432	-.24852	-.22159	-.35353	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.16928	-.26188	-.26658	-.30510	-.07912	-.42336	.11026	-.95115
.200	< >	< >	< >	< >	-.21612	-.25301	-.28918	-.32316	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.28730	-.26009	-.28961	-.30793	-.07575	-.39697	.06558	-.73042
.300	< >	< >	< >	< >	-.31644	< >	-.30064	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.30579	< >	-.28955	< >	-.07860	< >	.03894	< >
.450	< >	< >	< >	< >	-.30246	-.30676	-.23780	-.32180	-.08157	-.34625	.00640	*****
.550	< >	< >	< >	< >	-.21756	< >	-.17384	< >	-.07460	< >	-.01929	< >
.650	< >	< >	-.03807	< >	-.09956	-.25274	-.10857	-.23949	-.08218	-.22883	-.04482	-.21123
.750	-.03561	< >	< >	< >	-.02477	< >	-.06620	< >	-.06369	*****	-.04957	*****
.850	.03157	-.07152	.02788	-.08399	.05094	-.05973	.03081	-.04570	-.00616	-.03105	-.05778	-.08210
.950	.07149	.03062	.10612	.00221	.14260	.05955	.16078	.10578	.07464	.09110	-.01496	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

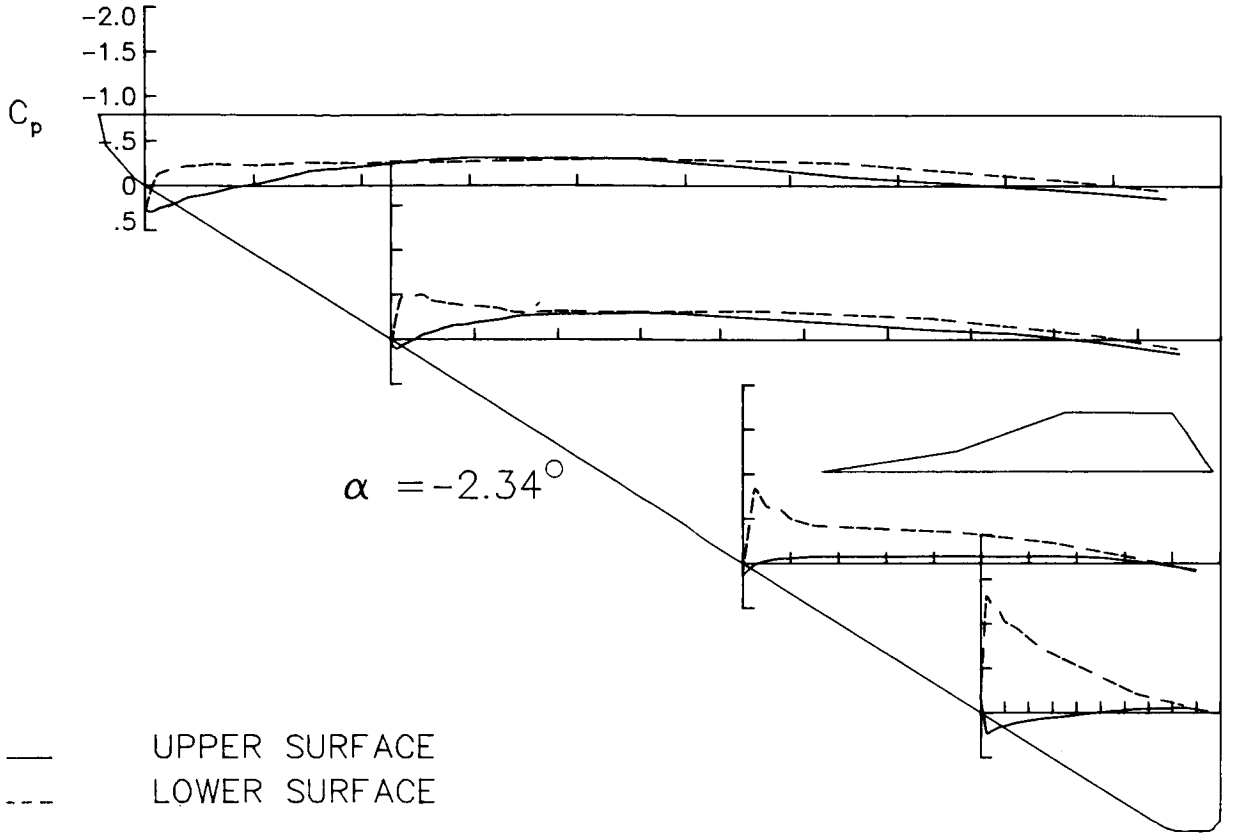
ANGLE OF ATTACK= -1.15 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

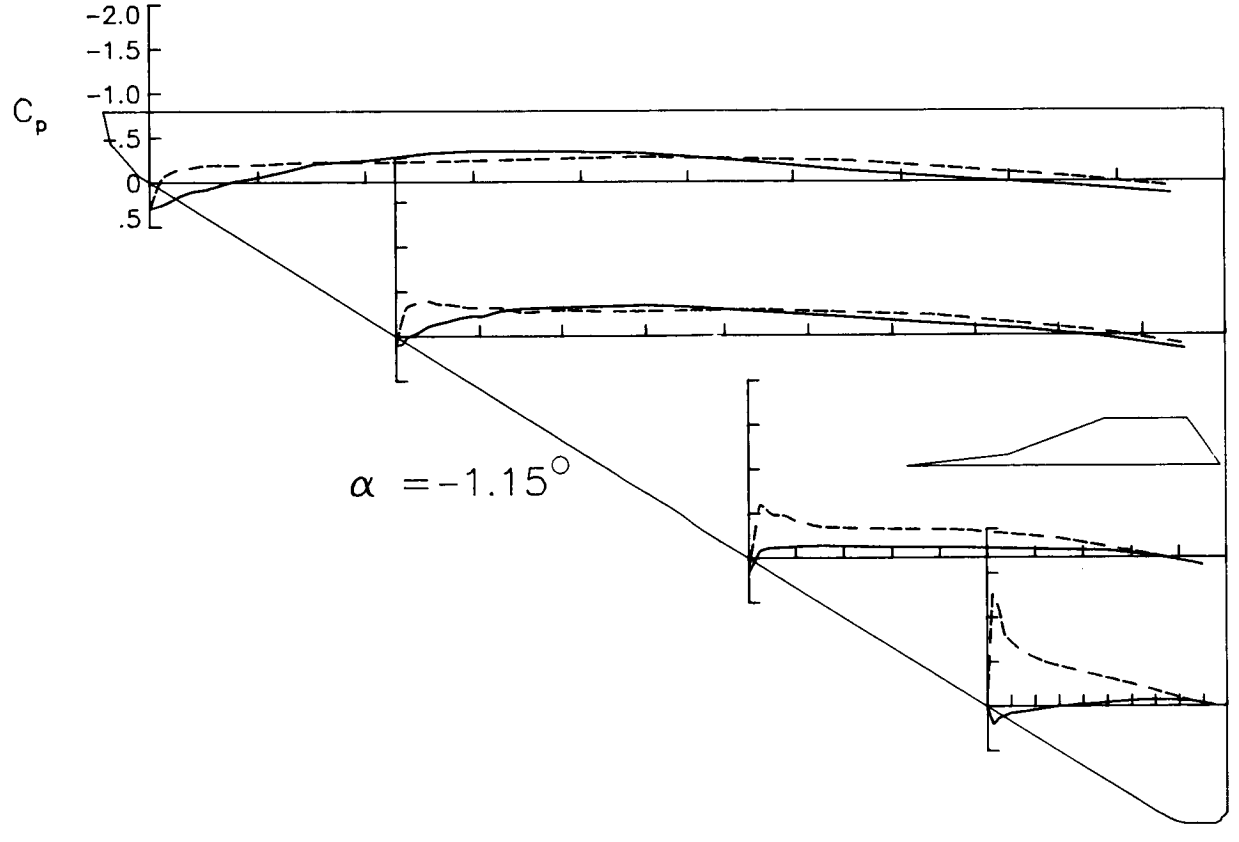
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29077	.29077	.09702	.09702	.18975	.18975	-.00750	-.00750
.005	< >	< >	< >	< >	.27624	.09212	.09025	-.13474	< >	< >	< >	< >
.015	< >	< >	< >	< >	.24328	-.05780	.01064	-.32637	< >	< >	< >	< >
.025	< >	< >	< >	< >	.15871	-.14036	-.04189	-.37237	-.08408	-.59873	.20044	-1.26671
.040	< >	< >	< >	< >	.10410	-.16167	-.11120	-.39804	< >	< >	< >	< >
.050	< >	< >	< >	< >	.07965	-.18838	-.14359	-.35978	-.11670	-.48966	.12968	-1.09034
.065	< >	< >	< >	< >	.03427	-.19644	-.17410	-.35391	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.01291	-.19014	-.20599	-.33810	-.11918	-.47826	.10243	-.79933
.090	< >	< >	< >	< >	-.03103	-.19559	-.22513	-.31949	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.06393	-.19562	-.22585	-.31713	-.12902	-.41816	.07500	-.72858
.125	< >	< >	< >	< >	-.12234	-.21390	-.28334	-.31304	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.20652	-.22402	-.30959	-.26534	-.13832	-.35096	.05869	-.60939
.200	< >	< >	< >	< >	-.24069	-.22143	-.32291	-.29068	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.32288	-.22792	-.33420	-.27430	-.12543	-.33046	.01697	-.48874
.300	< >	< >	< >	< >	-.34607	< >	-.34442	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.34564	< >	-.32137	< >	-.11803	< >	-.01509	< >
.450	< >	< >	< >	< >	-.32284	-.28027	-.26797	-.29054	-.11361	-.31245	-.03078	*****
.550	< >	< >	< >	< >	-.23427	< >	-.19994	< >	-.10145	< >	-.05295	< >
.650	< >	< >	-.05229	< >	-.12179	-.23347	-.12956	-.22475	-.08870	-.21583	-.07106	-.21493
.750	-.04634	< >	< >	< >	-.03283	< >	-.07402	< >	-.07745	*****	-.06881	*****
.850	.02006	-.06229	.02707	-.08626	.04203	-.05867	.02011	-.04394	-.01727	-.02527	-.05416	-.05429
.950	.06609	.03180	.09986	.00952	.13949	.05815	.15862	.10375	.08471	.08790	-.00622	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = -2.34^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = -1.15^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .07 DEGREES MACH NUMBER= 0.76 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29668	.29668	.11611	.11611	.20519	.20519	.11038	.11038
.005	< >	< >	< >	< >	.26265	.12499	.07226	-.04599	< >	< >	< >	< >
.015	< >	< >	< >	< >	.20682	.00721	-.02739	-.23127	< >	< >	< >	< >
.025	< >	< >	< >	< >	.12821	-.07831	-.10904	-.27329	-.21206	-.38720	.11641	-.98857
.040	< >	< >	< >	< >	.06956	-.10200	-.16920	-.30214	< >	< >	< >	< >
.050	< >	< >	< >	< >	.03602	-.13267	-.20049	-.29697	-.22280	-.35355	.04347	-.86892
.065	< >	< >	< >	< >	.00539	-.14384	-.22680	-.28282	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.04811	-.15111	-.25754	-.27050	-.21849	-.35266	.02481	-.63301
.090	< >	< >	< >	< >	-.06705	-.15554	-.26742	-.27274	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.09435	-.15345	-.28756	-.25548	-.21218	-.32154	.00715	-.56295
.125	< >	< >	< >	< >	-.16653	-.17419	-.32967	-.25650	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.23660	-.18957	-.35899	-.22365	-.20259	-.28382	-.03015	-.47830
.200	< >	< >	< >	< >	-.27879	-.18584	-.37603	-.24527	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.35520	-.19699	-.36661	-.23437	-.17034	-.27894	-.04388	-.40600
.300	< >	< >	< >	< >	-.37160	< >	-.38014	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.36934	< >	-.35458	< >	-.15876	< >	-.06152	< >
.450	< >	< >	< >	< >	-.36165	-.25654	-.29266	-.26691	-.13526	-.26859	-.08032	*****
.550	< >	< >	< >	< >	-.25470	< >	-.22770	< >	-.11616	< >	-.09491	< >
.650	< >	< >	-.05643	< >	-.13009	-.21875	-.14053	-.21097	-.11251	-.20100	-.09368	-.19845
.750	-.05906	< >	< >	< >	-.04979	< >	-.09338	< >	-.09097	*****	-.08758	*****
.850	.01564	-.05815	.01125	-.07991	.02988	-.05071	.01280	-.03928	-.02132	-.02272	-.05300	-.02465
.950	.06954	.03763	.09392	.00903	.13753	.06506	.15747	.10071	.08531	.08186	.01336	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

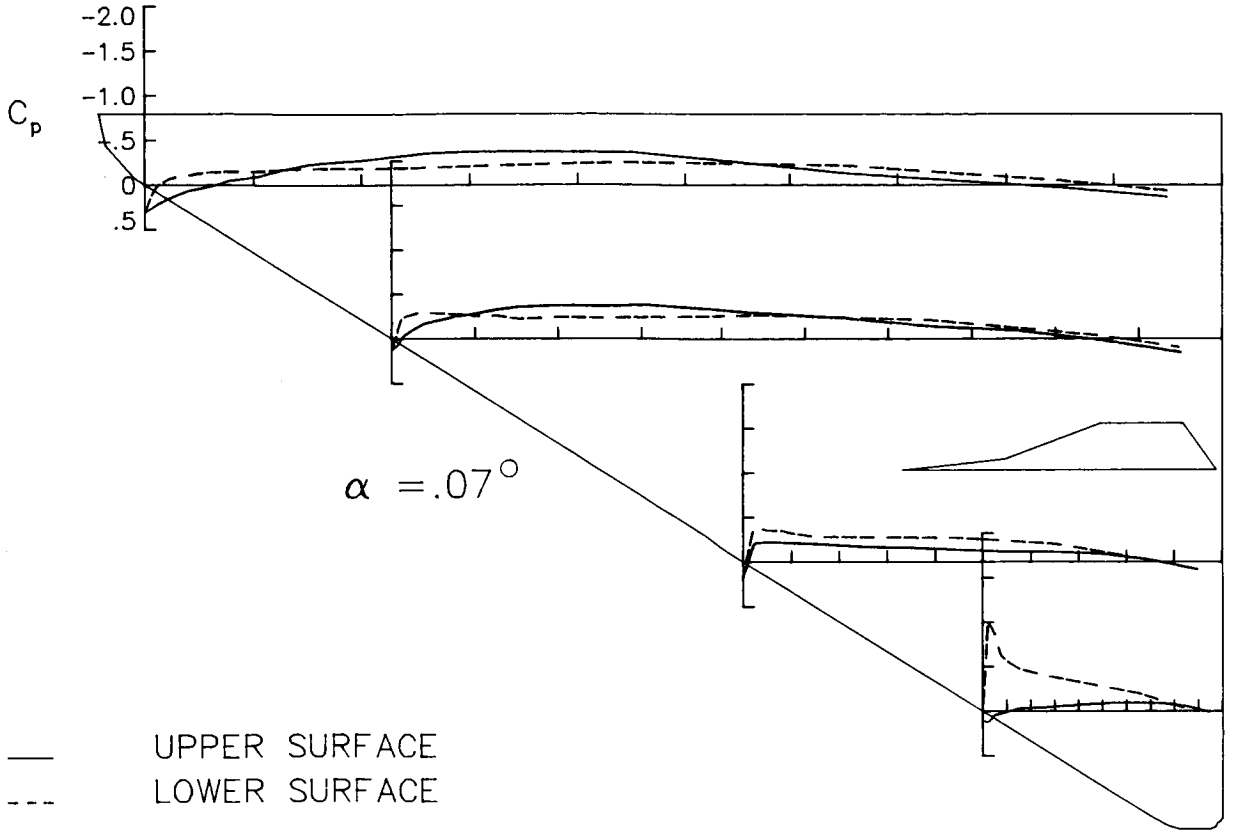
ANGLE OF ATTACK= 1.25 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

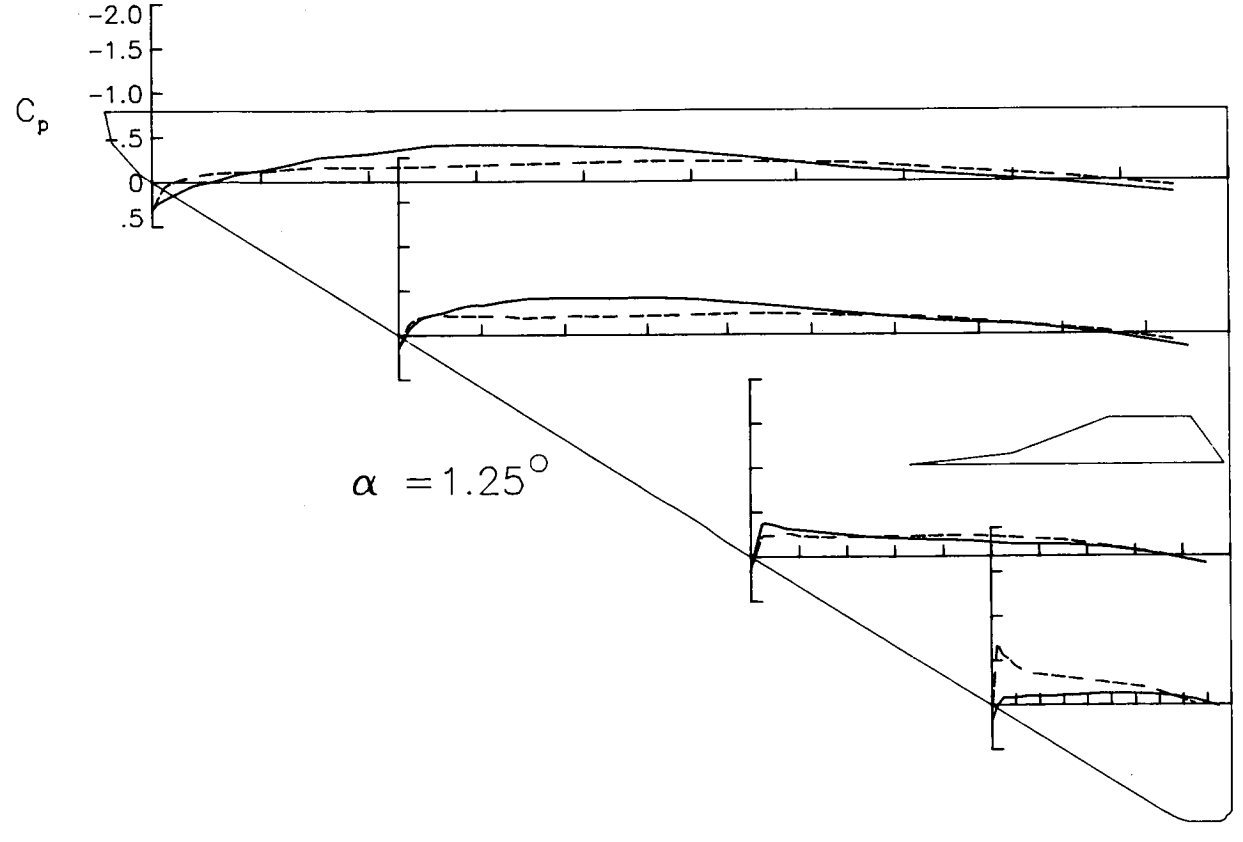
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30203	.30203	.13062	.13062	.17187	.17187	.18862	.18862
.005	< >	< >	< >	< >	.23800	.17408	.03425	.02375	< >	< >	< >	< >
.015	< >	< >	< >	< >	.18938	.05385	-.07920	-.12819	< >	< >	< >	< >
.025	< >	< >	< >	< >	.10412	-.02041	-.18431	-.19398	-.37391	-.23435	-.00051	-.67127
.040	< >	< >	< >	< >	.03778	-.05430	-.22459	-.21782	< >	< >	< >	< >
.050	< >	< >	< >	< >	.00450	-.08733	-.24940	-.22556	-.35144	-.23692	-.08330	-.56227
.065	< >	< >	< >	< >	-.03177	-.10402	-.28578	-.21385	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.08348	-.10784	-.31762	-.21139	-.31268	-.26157	-.08458	-.50966
.090	< >	< >	< >	< >	-.10929	-.11300	-.33656	-.20952	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.13676	-.11707	-.33792	-.21060	-.30141	-.23524	-.08719	-.44156
.125	< >	< >	< >	< >	-.19015	-.14158	-.37599	-.21058	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.26814	-.16313	-.40602	-.18857	-.27363	-.21996	-.10291	-.36448
.200	< >	< >	< >	< >	-.31388	-.15917	-.41775	-.21357	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.40596	-.16932	-.41088	-.20784	-.22040	-.22485	-.10548	-.32990
.300	< >	< >	< >	< >	-.41526	< >	-.42092	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.40709	< >	-.40077	< >	-.19555	< >	-.11512	< >
.450	< >	< >	< >	< >	-.37567	-.22652	-.33385	-.24043	-.18046	-.24231	-.13187	*****
.550	< >	< >	< >	< >	-.27044	< >	-.23629	< >	-.13586	< >	-.13223	< >
.650	< >	< >	-.06467	< >	-.14158	-.20289	-.15340	-.18928	-.13354	-.18272	-.12464	-.19456
.750	-.06882	< >	< >	< >	-.06371	< >	-.10918	< >	-.09662	*****	-.10454	*****
.850	.00747	-.04831	.00290	-.06532	.02518	-.04760	-.00589	-.03630	-.01832	-.02770	-.06065	-.01421
.950	.06758	.03240	.09690	.01041	.13857	.06592	.15349	.09695	.08682	.09025	.01916	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =.07°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =1.25°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.36 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31557	.31557	.12974	.12974	.12100	.12100	.22648	.22648
.005	< >	< >	< >	< >	.21497	.20927	.00644	.07481	< >	< >	< >	< >
.015	< >	< >	< >	< >	.15478	.09758	-.14063	-.04636	< >	< >	< >	< >
.025	< >	< >	< >	< >	.07045	.03301	-.24298	-.11969	-.54973	-.10543	-.15464	-.36629
.040	< >	< >	< >	< >	-.00155	-.00339	-.29189	-.14642	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.03247	-.05174	-.31826	-.15971	-.47112	-.13957	-.21857	-.37264
.065	< >	< >	< >	< >	-.07209	-.06429	-.34532	-.17083	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.11826	-.07125	-.36024	-.16456	-.43085	-.16966	-.22134	-.32945
.090	< >	< >	< >	< >	-.14244	-.07443	-.39428	-.15927	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.17302	-.07599	-.39796	-.17073	-.38226	-.16513	-.18290	-.31653
.125	< >	< >	< >	< >	-.22834	-.10578	-.43405	-.16114	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.30203	-.12677	-.46170	-.14486	-.35718	-.16090	-.18744	-.27613
.200	< >	< >	< >	< >	-.34315	-.12985	-.46785	-.18621	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.41796	-.14100	-.45852	-.17634	-.27632	-.18353	-.17166	-.25696
.300	< >	< >	< >	< >	-.44735	< >	-.45639	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.43312	< >	-.43295	< >	-.24155	< >	-.17820	< >
.450	< >	< >	< >	< >	-.40215	-.21515	-.35890	-.22134	-.20374	-.21137	-.17499	*****
.550	< >	< >	< >	< >	-.28919	< >	-.25948	< >	-.16048	< >	-.17580	< >
.650	< >	< >	-.07646	< >	-.15593	-.18450	-.16790	-.17410	-.14558	-.16904	-.16422	-.17413
.750	-.07627	< >	< >	< >	-.06796	< >	-.12125	< >	-.11322	*****	-.12352	*****
.850	-.00251	-.04317	-.00244	-.07074	.01551	-.04541	.00038	-.03227	-.03381	-.02419	-.07690	-.00875
.950	.06196	.04139	.08830	.01647	.13014	.06408	.14548	.09443	.09032	.08093	.02565	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

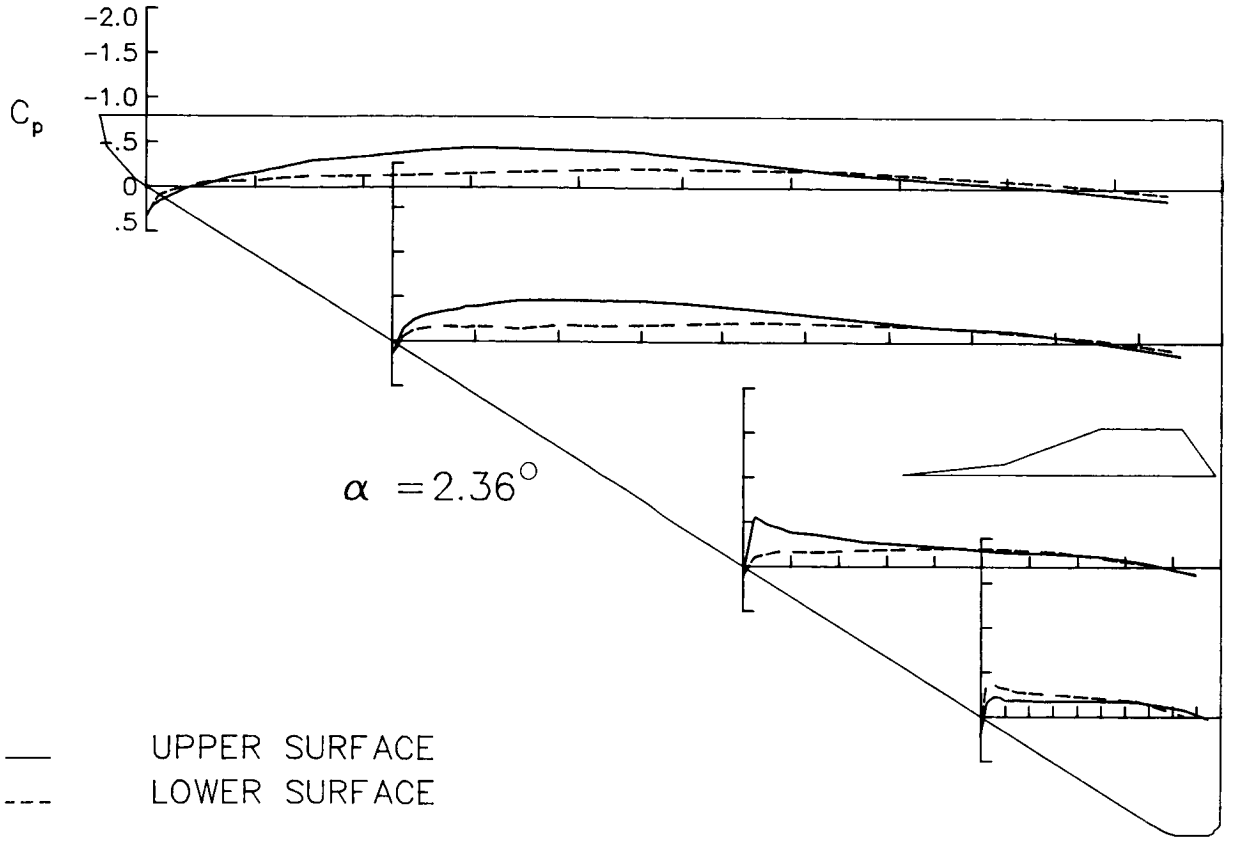
ANGLE OF ATTACK= 3.51 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31261	.31261	.12836	.12836	.03388	.03388	.16876	.16876
.005	< >	< >	< >	< >	.20250	.23982	-.03367	.13062	< >	< >	< >	< >
.015	< >	< >	< >	< >	.13219	.14600	-.21028	.02130	< >	< >	< >	< >
.025	< >	< >	< >	< >	.03345	.06706	-.31636	-.05761	-.76218	.00182	-.38440	-.14394
.040	< >	< >	< >	< >	-.04014	.03721	-.35712	-.08779	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.06988	-.00125	-.38352	-.09662	-.65618	-.04818	-.40835	-.19895
.065	< >	< >	< >	< >	-.10759	-.01875	-.41267	-.11143	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.15519	-.02899	-.42897	-.11447	-.52661	-.08886	-.37836	-.18915
.090	< >	< >	< >	< >	-.17095	-.03807	-.44189	-.11636	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.20042	-.04699	-.44794	-.12149	-.49346	-.09807	-.31127	-.19271
.125	< >	< >	< >	< >	-.26241	-.07006	-.48688	-.14022	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.35194	-.08959	-.51308	-.11288	-.43384	-.10628	-.28207	-.20225
.200	< >	< >	< >	< >	-.38351	-.10179	-.51780	-.14534	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.46260	-.11074	-.50198	-.13854	-.33080	-.14836	-.24698	-.20829
.300	< >	< >	< >	< >	-.48207	< >	-.49939	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.46072	< >	-.46028	< >	-.27931	< >	-.24106	< >
.450	< >	< >	< >	< >	-.41553	-.18454	-.37693	-.18875	-.23670	-.18430	-.23339	*****
.550	< >	< >	< >	< >	-.30601	< >	-.27542	< >	-.18248	< >	-.21940	< >
.650	< >	< >	-.08457	< >	-.17312	-.16943	-.19468	-.15948	-.15379	-.15178	-.18831	-.15446
.750	-.08666	< >	< >	< >	-.07969	< >	-.13909	< >	-.11420	*****	-.14675	*****
.850	-.00804	-.03553	-.00122	-.06154	.01116	-.04021	-.01064	-.03323	-.03794	-.01679	-.08651	-.01003
.950	.06228	.04123	.09090	.01144	.13329	.06755	.14037	.08941	.08368	.07582	.01022	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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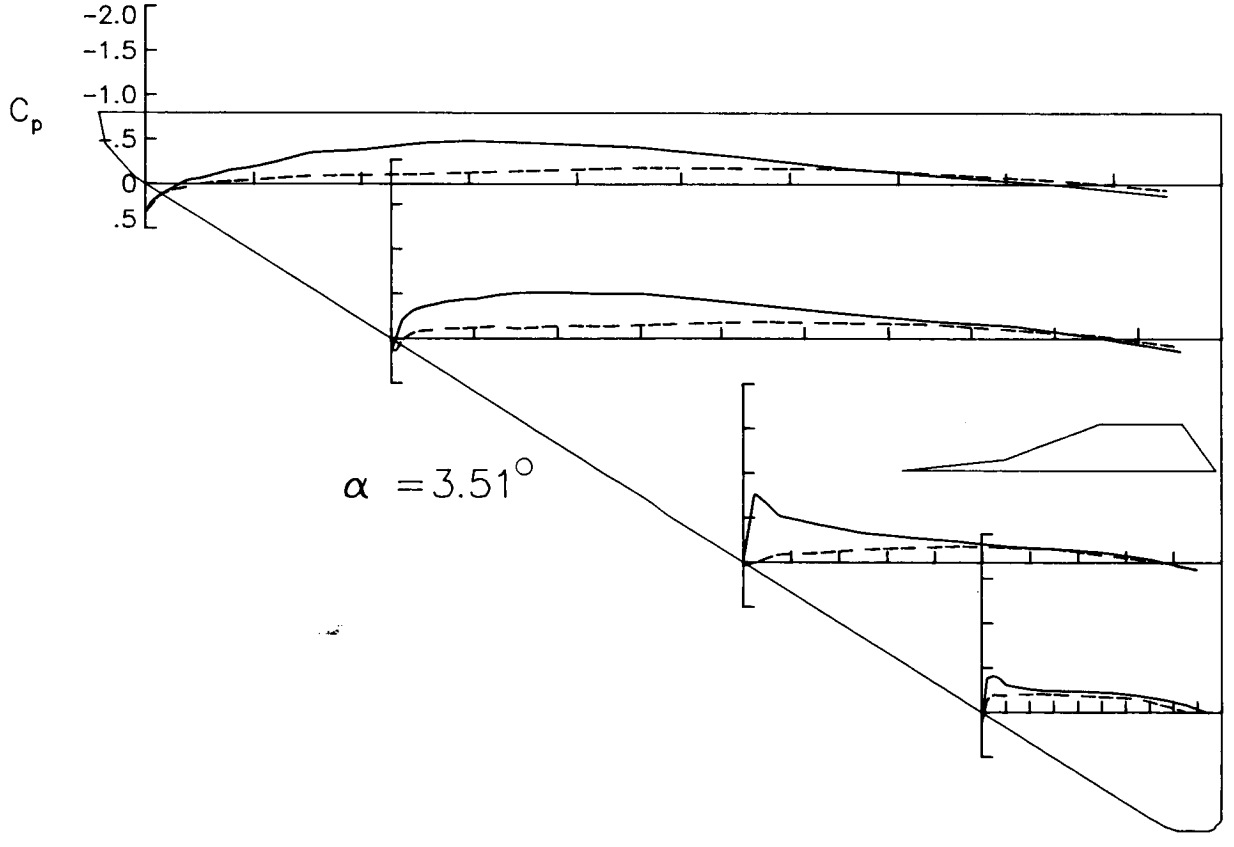
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 2.36^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 3.51^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.68 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30795	.30795	.11138	.11138	-.08989	-.08989	.06496	.06496
.005	< >	< >	< >	< >	.17829	.27131	-.08463	.16370	< >	< >	< >	< >
.015	< >	< >	< >	< >	.09628	.18817	-.29409	.07494	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.00177	.12258	-.40207	.00998	-1.05808	.07683	-.65389	.00588
.040	< >	< >	< >	< >	-.08528	.08149	-.44460	-.02274	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.11019	.04300	-.45155	-.04496	-.84972	.01734	-.64422	-.06222
.065	< >	< >	< >	< >	-.15006	.02197	-.46217	-.06528	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.19519	.01125	-.49761	-.06433	-.64386	-.02149	-.56832	-.08803
.090	< >	< >	< >	< >	-.21149	.00644	-.50081	-.07403	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.25183	-.00999	-.51646	-.07947	-.57735	-.03147	-.48697	-.10436
.125	< >	< >	< >	< >	-.30491	-.03051	-.54284	-.08831	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.37850	-.05506	-.57991	-.08178	-.52077	-.05939	-.40443	-.11595
.200	< >	< >	< >	< >	-.41176	-.06809	-.57051	-.10923	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.49619	-.08193	-.55260	-.11067	-.38865	-.10423	-.32348	-.15556
.300	< >	< >	< >	< >	-.50889	< >	-.54223	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.49116	< >	-.49402	< >	-.31972	< >	-.31143	< >
.450	< >	< >	< >	< >	-.45089	-.15913	-.41758	-.16454	-.27101	-.15509	-.28782	*****
.550	< >	< >	< >	< >	-.31581	< >	-.29807	< >	-.20964	< >	-.26740	< >
.650	< >	< >	-.09814	< >	-.18423	-.14814	-.19651	-.14034	-.16751	-.13800	-.22880	-.13788
.750	-.08756	< >	< >	< >	-.09053	< >	-.14430	< >	-.13024	*****	-.17172	*****
.850	-.01680	-.02788	-.00573	-.05285	.00037	-.03821	-.01629	-.03179	-.04226	-.02599	-.09911	-.01095
.950	.05843	.04160	.08699	.01811	.12908	.06701	.13877	.08833	.08615	.06766	.01066	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

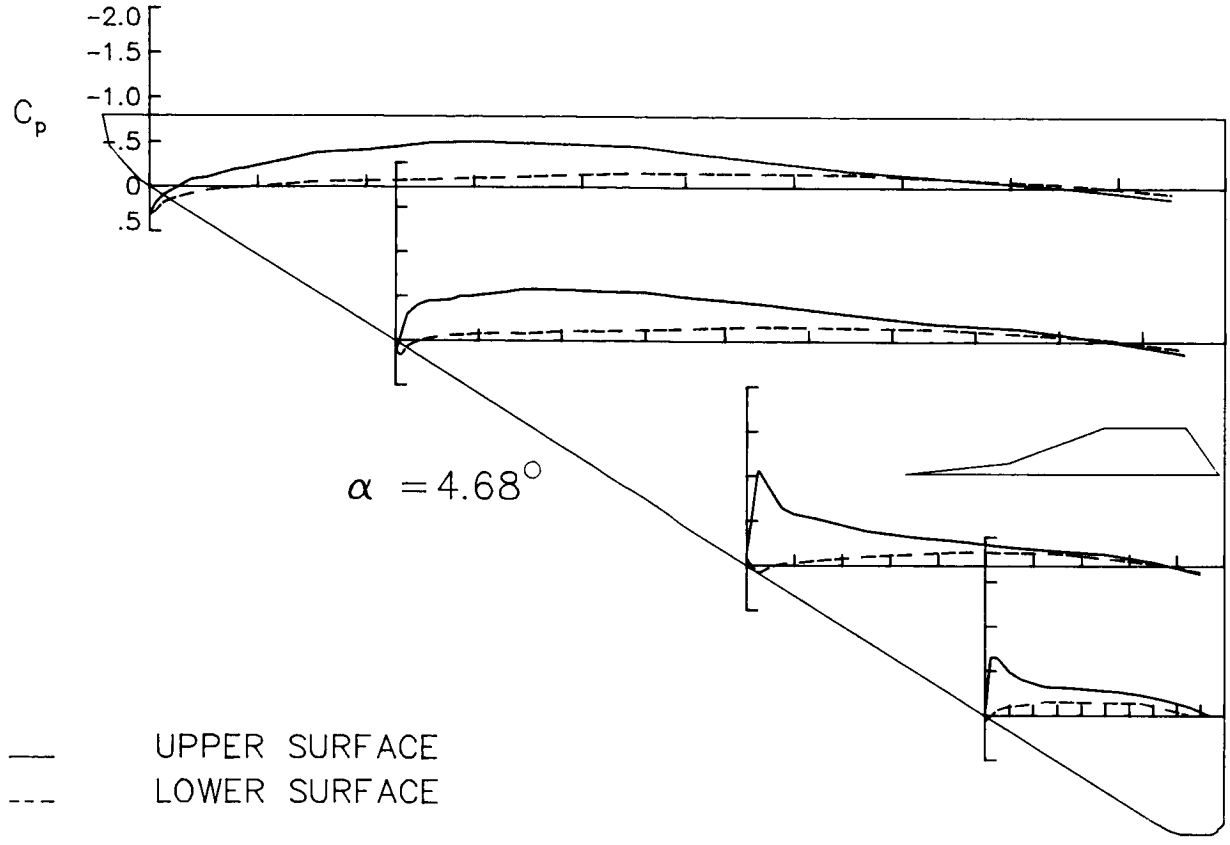
ANGLE OF ATTACK= 5.89 DEGREES MACH NUMBER= 0.76 CONFIGURATION : SMALL TAILS(V2) ON

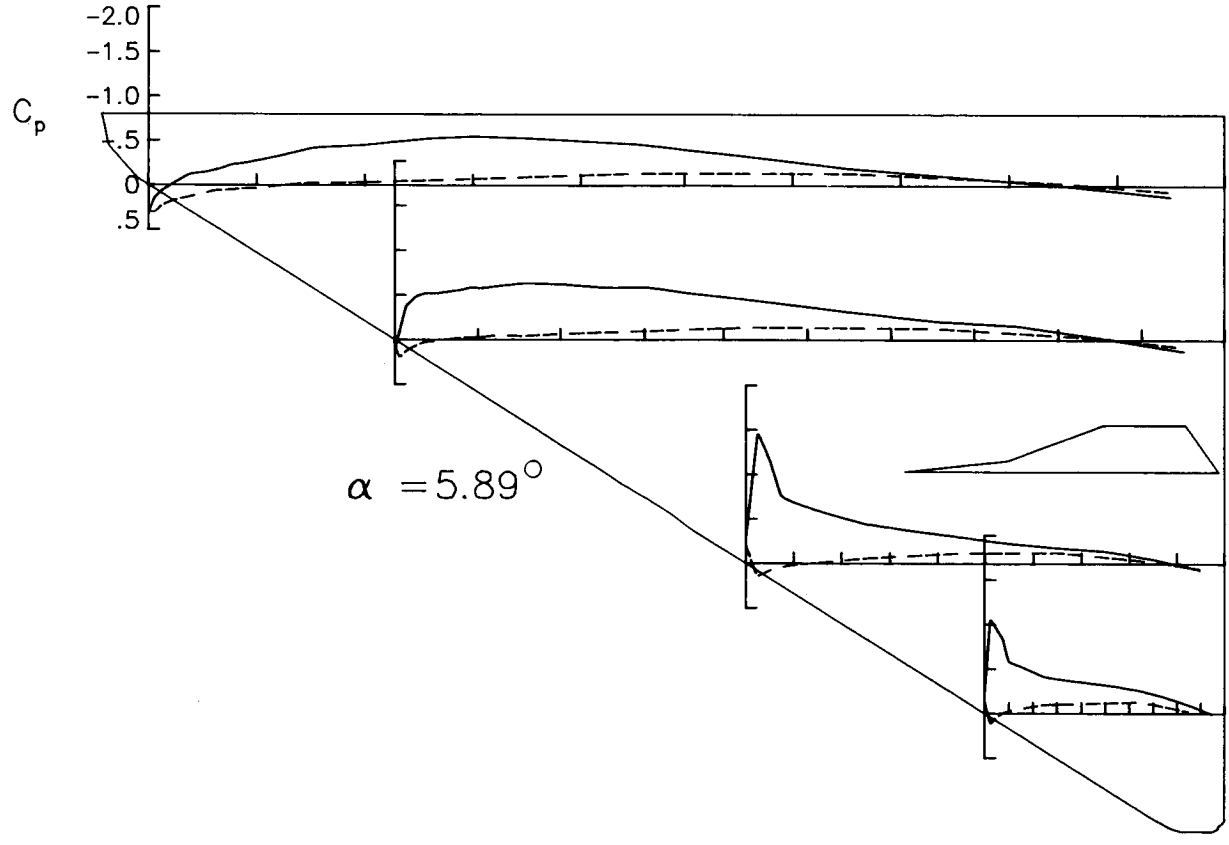
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30215	.30215	.07842	.07842	-.22799	-.22799	-.15299	-.15299
.005	< >	< >	< >	< >	.13988	.29655	-.13889	.18867	< >	< >	< >	< >
.015	< >	< >	< >	< >	.05941	.23349	-.38087	.12945	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.04407	.16545	-.49337	.06336	-1.45228	.13570	-1.04985	.10991
.040	< >	< >	< >	< >	-.12407	.13216	-.52204	.02337	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.14689	.09148	-.52148	.01272	-1.16005	.08024	-.94860	.04119
.065	< >	< >	< >	< >	-.17989	.05870	-.54249	-.00439	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.23247	.04985	-.55693	-.01945	-.75690	.03875	-.83334	-.00297
.090	< >	< >	< >	< >	-.24640	.03690	-.58311	-.02476	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.28124	.03280	-.57795	-.02920	-.68670	.01810	-.58420	-.02956
.125	< >	< >	< >	< >	-.33921	-.00234	-.60454	-.05186	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.41905	-.02539	-.63174	-.04242	-.59386	-.01056	-.52474	-.05671
.200	< >	< >	< >	< >	-.45059	-.03438	-.61892	-.06652	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.52377	-.05296	-.58285	-.08250	-.44398	-.06072	-.40933	-.10034
.300	< >	< >	< >	< >	-.54602	< >	-.58732	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.52370	< >	-.52571	< >	-.36539	< >	-.36831	< >
.450	< >	< >	< >	< >	-.45943	-.13540	-.43390	-.14005	-.29704	-.11882	-.33750	*****
.550	< >	< >	< >	< >	-.33235	< >	-.30960	< >	-.22815	< >	-.30178	< >
.650	< >	< >	-.10127	< >	-.19188	-.13719	-.20881	-.12650	-.17813	-.12393	-.25444	-.12944
.750	-.10058	< >	< >	< >	-.09392	< >	-.15663	< >	-.13955	*****	-.18388	*****
.850	-.01398	-.02172	-.00760	-.04305	.00109	-.02435	-.02116	-.02168	-.04995	-.02134	-.09641	-.01979
.950	.05637	.04585	.08466	.01506	.12556	.06924	.12569	.07965	.06955	.05979	.00905	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = 4.68^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = 5.89^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.09 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29543	.29543	.03634	.03634	-.36002	-.36002	-.36529	-.36529
.005	< >	< >	< >	< >	.10958	.31714	-.20824	.20419	< >	< >	< >	< >
.015	< >	< >	< >	< >	.02539	.26890	-.47801	.15663	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.08961	.21687	-.60965	.10916	-1.56368	.17646	-1.37746	.14732
.040	< >	< >	< >	< >	-.16560	.17010	-.61536	.07829	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.19340	.13212	-.61029	.05973	-1.47472	.13066	-1.29209	.09150
.065	< >	< >	< >	< >	-.22837	.10368	-.62349	.03954	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.27538	.09027	-.64176	.02675	-1.21277	.09395	-1.05950	.05730
.090	< >	< >	< >	< >	-.29041	.07394	-.65934	.01109	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.32240	.07632	-.64897	.00790	-.97828	.05965	-.69524	.02310
.125	< >	< >	< >	< >	-.37889	.04066	-.67801	-.00203	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.45477	.01559	-.69012	-.01243	-.77246	.03490	-.63352	-.01320
.200	< >	< >	< >	< >	-.48507	.00184	-.68268	-.03766	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56516	-.02159	-.64597	-.04627	-.49581	-.02691	-.48723	-.06089
.300	< >	< >	< >	< >	-.57638	< >	-.62766	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.55562	< >	-.56729	< >	-.38928	< >	-.43010	< >
.450	< >	< >	< >	< >	-.49715	-.10579	-.46422	-.11329	-.31575	-.09835	-.37423	*****
.550	< >	< >	< >	< >	-.35082	< >	-.32715	< >	-.23790	< >	-.32237	< >
.650	< >	< >	-.10238	< >	-.20335	-.11372	-.21656	-.11524	-.19783	-.10511	-.26614	-.11260
.750	-.10297	< >	< >	< >	-.10205	< >	-.15663	< >	-.14674	*****	-.19208	*****
.850	-.02011	-.00604	-.01625	-.03699	-.00272	-.01940	-.03035	-.01549	-.06400	-.02014	-.10125	-.03005
.950	.05392	.05252	.08717	.02385	.12427	.07143	.11856	.07948	.05971	.06227	.01467	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

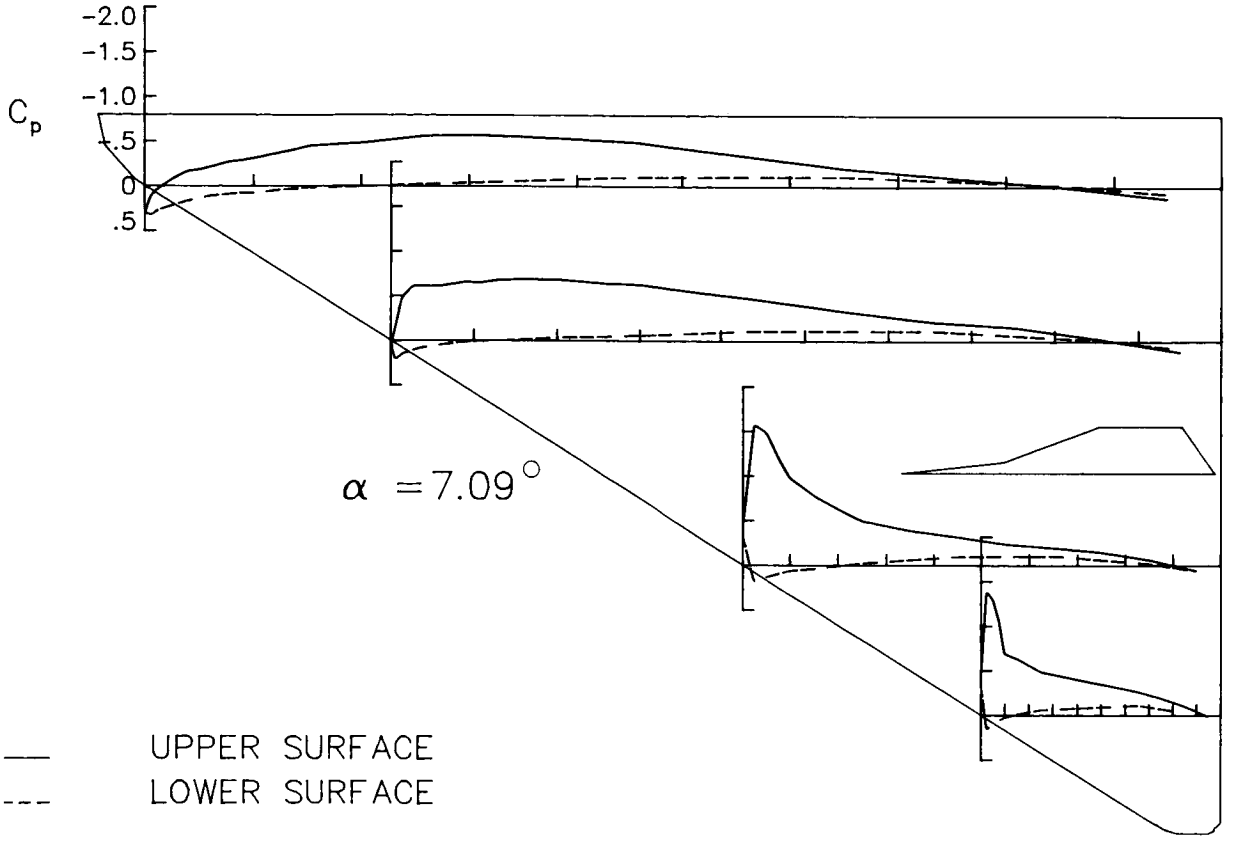
ANGLE OF ATTACK= 8.29 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28004	.28004	-.01043	-.01043	-.47940	-.47940	-.38661	-.38661
.005	< >	< >	< >	< >	.07122	.33956	-.28781	.19861	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.01968	.30547	-.58461	.17868	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.12462	.25697	-.71593	.15013	-1.51951	.19550	-.78875	.16960
.040	< >	< >	< >	< >	-.21644	.21779	-.72077	.11502	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.23881	.17842	-.68901	.10060	-1.44865	.16873	-.71781	.13137
.065	< >	< >	< >	< >	-.27074	.14499	-.70686	.08034	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.30982	.12967	-.71847	.07039	-1.37998	.13551	-.69372	.09293
.090	< >	< >	< >	< >	-.33443	.11813	-.73453	.05773	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.36385	.11114	-.72551	.05417	-1.29649	.11469	-.67793	.05764
.125	< >	< >	< >	< >	-.41474	.07825	-.73993	.03577	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.49534	.05064	-.77583	.02391	-1.25047	.06795	-.63522	.02310
.200	< >	< >	< >	< >	-.52697	.03121	-.76397	.00309	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.60570	.01551	-.70097	-.01260	-.85937	.01272	-.56146	-.03696
.300	< >	< >	< >	< >	-.61924	< >	-.67944	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.59277	< >	-.61392	< >	-.46018	< >	-.48748	< >
.450	< >	< >	< >	< >	-.52664	-.07525	-.49832	-.08390	-.28698	-.07190	-.42032	*****
.550	< >	< >	< >	< >	-.37130	< >	-.33806	< >	-.21033	< >	-.36438	< >
.650	< >	< >	-.11232	< >	-.21681	-.09091	-.22590	-.09315	-.17790	-.09433	-.29681	-.12133
.750	-.10670	< >	< >	< >	-.11338	< >	-.16478	< >	-.14263	*****	-.24020	*****
.850	-.02512	.00324	-.02009	-.02831	-.00860	-.01300	-.03591	-.01119	-.07055	-.02646	-.17608	-.07924
.950	.04772	.05456	.07930	.02074	.12670	.07027	.10333	.07605	.03127	.06820	-.11916	*****

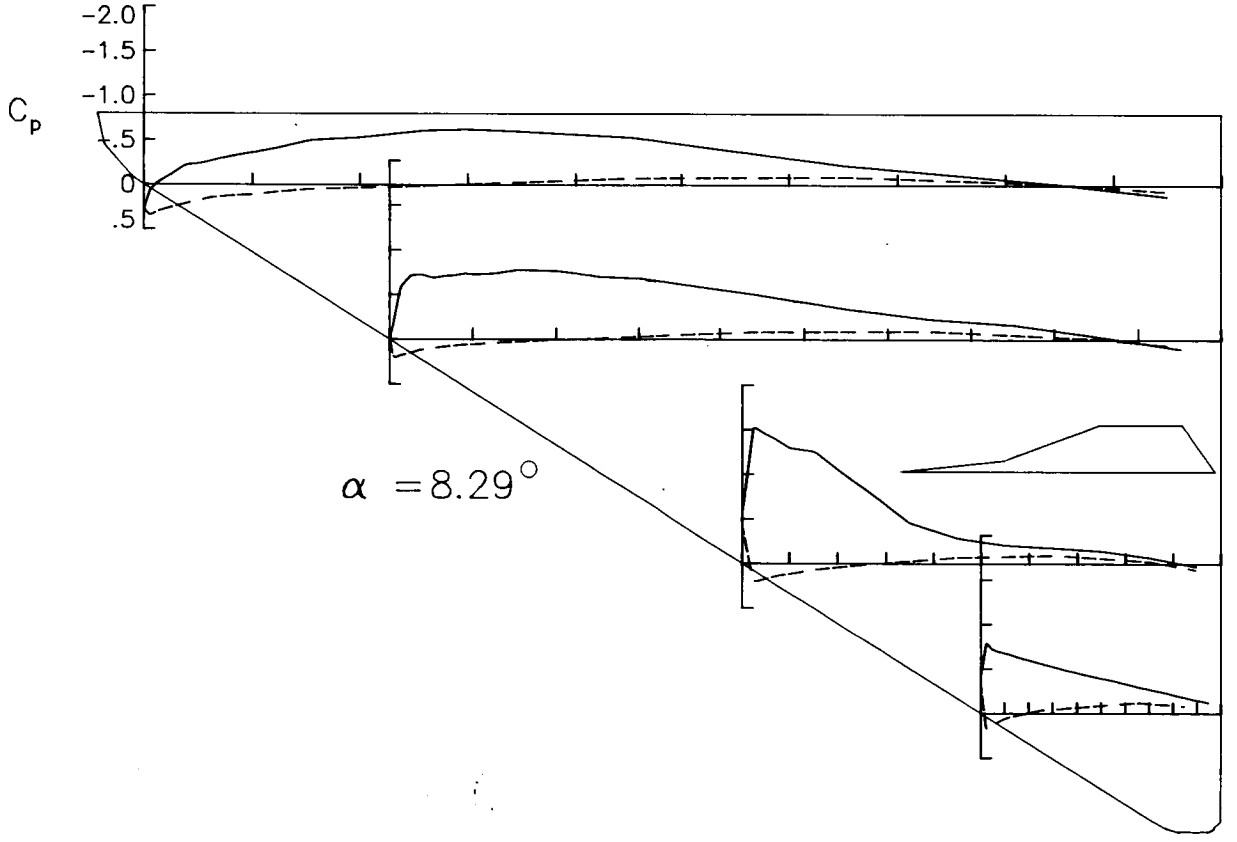
< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT



UPPER SURFACE

LOWER SURFACE



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.45 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.26790	.26790	-.06794	-.06794	-.59869	-.59869	-.48013	-.48013
.005	< >	< >	< >	< >	.03874	.35793	-.35351	.20045	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.06637	.33492	-.68598	.20488	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.18016	.29344	-.84453	.19075	-1.55222	.20531	-.71380	.17934
.040	< >	< >	< >	< >	-.26631	.25180	-.81902	.16321	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.28133	.21498	-.77636	.14358	-1.50600	.19915	-.68814	.16260
.065	< >	< >	< >	< >	-.31151	.18805	-.77870	.11868	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.35953	.16783	-.78239	.11245	-1.48187	.16766	-.67080	.13280
.090	< >	< >	< >	< >	-.37220	.16258	-.79913	.09868	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.40065	.14276	-.81366	.08964	-1.48504	.14425	-.64722	.10000
.125	< >	< >	< >	< >	-.45282	.11152	-.81259	.07198	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.53065	.08732	-.84445	.04484	-1.45876	.10159	-.63678	.06614
.200	< >	< >	< >	< >	-.55997	.06466	-.80124	.03424	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.63648	.04411	-.75493	.02249	-1.27580	.04140	-.57902	-.01779
.300	< >	< >	< >	< >	-.64868	< >	-.75586	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.62915	< >	-.64850	< >	-.76806	< >	-.52572	< >
.450	< >	< >	< >	< >	-.54314	-.05289	-.51726	-.05453	-.28022	-.05096	-.48568	*****
.550	< >	< >	< >	< >	-.38317	< >	-.36037	< >	-.15476	< >	-.44081	< >
.650	< >	< >	-.11708	< >	-.23171	-.08230	-.23371	-.06953	-.14193	-.09030	-.38489	-.13829
.750	-.11981	< >	< >	< >	-.11768	< >	-.16426	< >	-.13176	*****	-.35413	*****
.850	-.02830	.00466	-.02235	-.02240	-.01164	-.00799	-.03921	-.01643	-.08794	-.03574	-.31944	-.12924
.950	.04820	.05918	.08053	.02712	.12811	.07450	.09013	.06727	.00884	.03605	-.28325	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

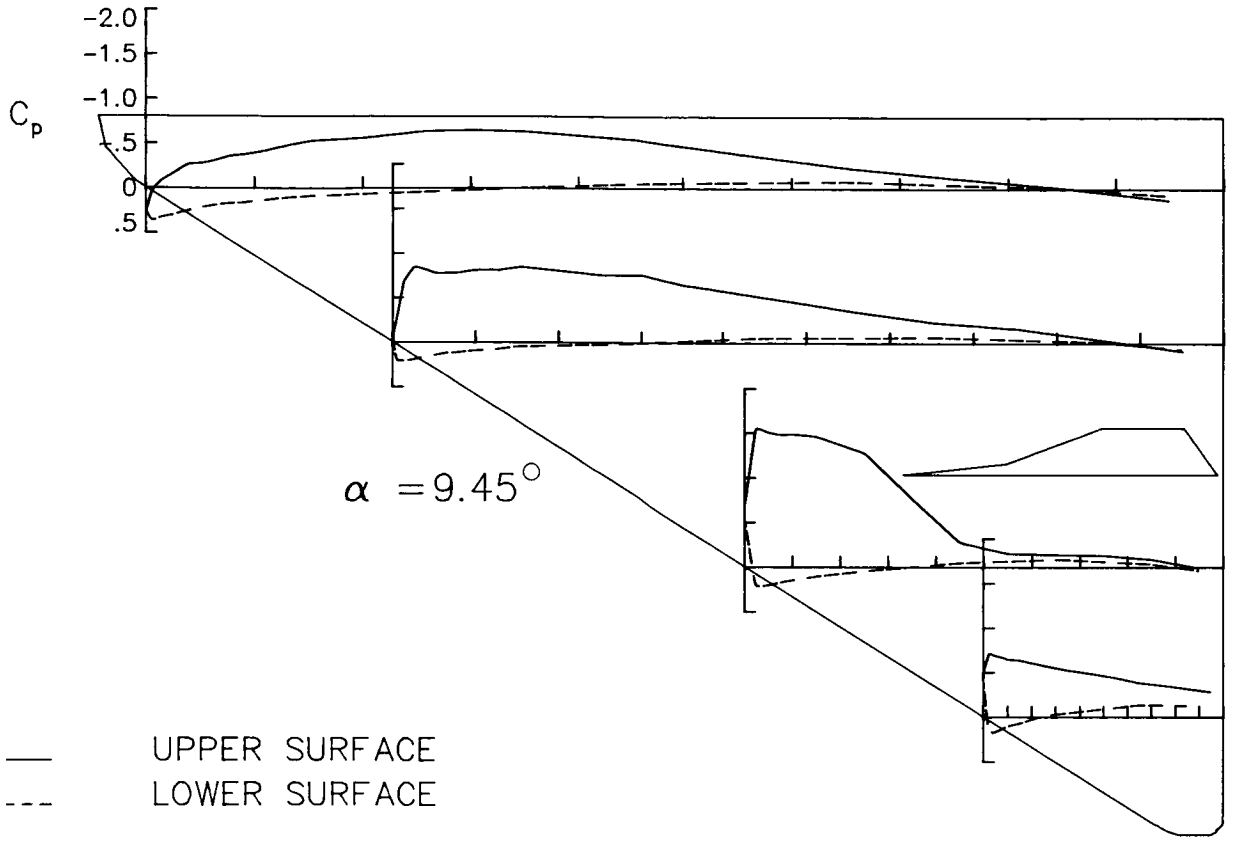
ANGLE OF ATTACK= 10.67 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.24621	.24621	-.14057	-.14057	-.71037	-.71037	-.55029	-.55029
.005	< >	< >	< >	< >	-.00798	.36710	-.43610	.18812	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.11997	.36053	-.82089	.21579	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.22607	.32794	-.95871	.22058	-1.52673	.20726	-.69190	.17360
.040	< >	< >	< >	< >	-.31274	.29596	-.93034	.19691	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.33298	.25895	-.88522	.17580	-1.46009	.22087	-.66003	.17662
.065	< >	< >	< >	< >	-.35840	.22663	-.87322	.16798	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.40416	.20777	-.86863	.15145	-1.43131	.20425	-.64899	.15347
.090	< >	< >	< >	< >	-.41124	.19571	-.87045	.13470	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.44088	.18242	-.88340	.12614	-1.41818	.18008	-.62700	.12093
.125	< >	< >	< >	< >	-.50503	.15439	-.88477	.10232	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.57343	.12111	-.91792	.07429	-1.39768	.13453	-.59518	.08333
.200	< >	< >	< >	< >	-.59786	.10138	-.86779	.07125	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.67240	.07988	-.83913	.05350	-1.30870	.06832	-.55490	.00739
.300	< >	< >	< >	< >	-.69598	< >	-.80889	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.64772	< >	-.67758	< >	-1.12062	< >	-.51061	< >
.450	< >	< >	< >	< >	-.56758	-.02436	-.53286	-.02937	-.84331	-.02712	-.46972	*****
.550	< >	< >	< >	< >	-.40275	< >	-.38421	< >	-.55205	< >	-.42800	< >
.650	< >	< >	-.12397	< >	-.24388	-.05837	-.24609	-.06126	-.29830	-.08076	-.40361	-.14290
.750	-.12394	< >	< >	< >	-.13229	< >	-.17234	< >	-.18073	*****	-.38764	*****
.850	-.03172	.01445	-.02126	-.01416	-.00768	-.00035	-.05443	-.00874	-.11856	-.05049	-.36208	-.16556
.950	.04099	.06266	.06788	.02100	.12581	.07303	.06730	.06351	-.04822	.00127	-.35320	*****

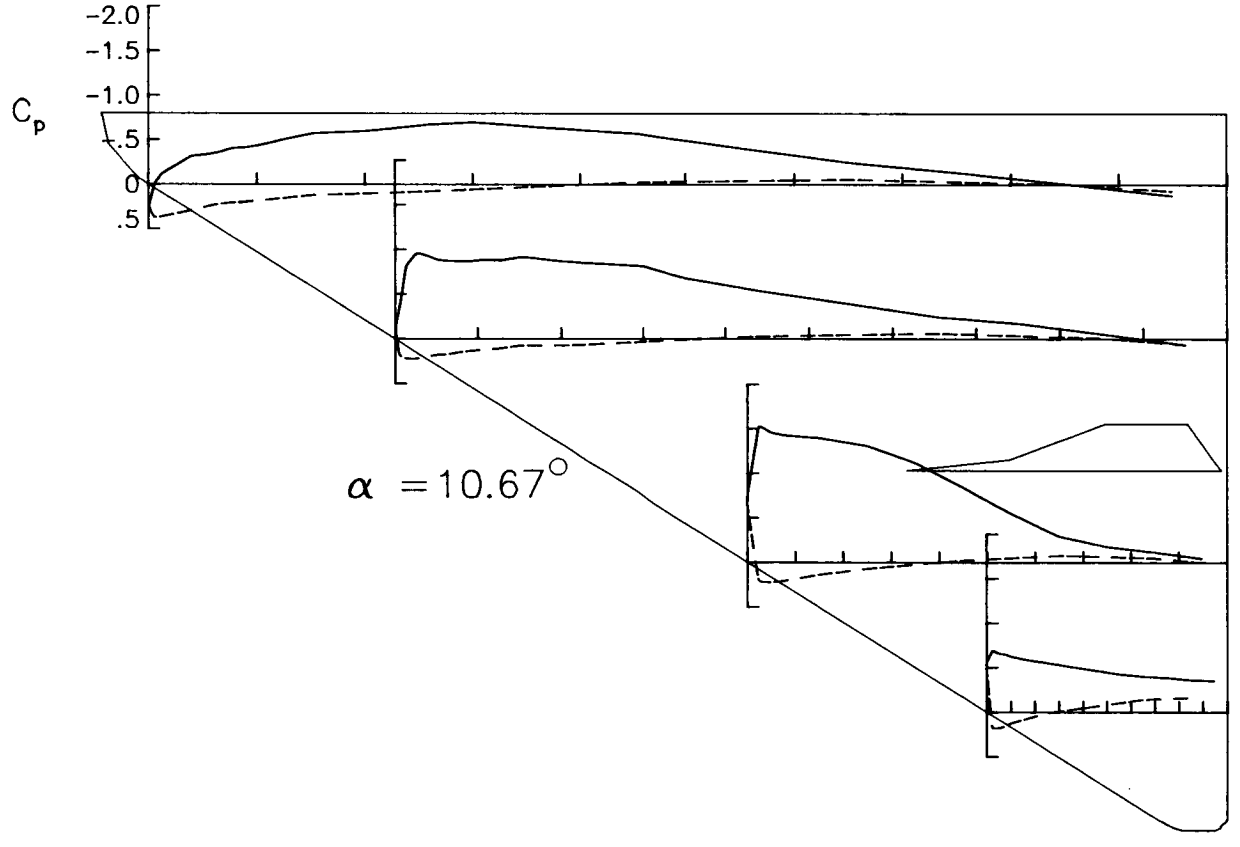
< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT



UPPER SURFACE

LOWER SURFACE



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 11.87 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.22321	.22321	-.20526	-.20526	-.80885	-.80885	-.62337	-.62337
.005	< >	< >	< >	< >	-.04942	.38015	-.51967	.16471	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.17003	.38683	-.94313	.21986	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.27660	.36674	-1.17602	.24673	-1.31426	.20625	-.65890	.15307
.040	< >	< >	< >	< >	-.35778	.32898	-1.03859	.23568	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.37750	.29915	-.98783	.21698	-1.24815	.24768	-.63792	.18556
.065	< >	< >	< >	< >	-.40451	.26530	-.96035	.20104	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.44455	.24384	-.94155	.18703	-1.23217	.22831	-.61769	.16212
.090	< >	< >	< >	< >	-.44602	.23446	-.95210	.17759	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.48988	.22040	-.96381	.16753	-1.22211	.20841	-.60821	.13356
.125	< >	< >	< >	< >	-.54216	.18523	-.96259	.14393	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.62252	.16299	-.96076	.10531	-1.18703	.17371	-.58083	.09860
.200	< >	< >	< >	< >	-.63434	.13204	-.93738	.10566	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.70965	.11668	-.91485	.08468	-1.16368	.09771	-.55079	.02300
.300	< >	< >	< >	< >	-.73358	< >	-.86267	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.68587	< >	-.68243	< >	-1.10266	< >	-.51236	< >
.450	< >	< >	< >	< >	-.59004	.00169	-.58890	-.00639	-.97106	-.00957	-.47852	*****
.550	< >	< >	< >	< >	-.42448	< >	-.41207	< >	-.80592	< >	-.45522	< >
.650	< >	< >	-.13515	< >	-.26302	-.03966	-.28000	-.04355	-.61553	-.07606	-.43584	-.14684
.750	-.13689	< >	< >	< >	-.13962	< >	-.19636	< >	-.46162	*****	-.41738	*****
.850	-.04282	.02110	-.03706	-.01425	-.01679	.00651	-.07577	-.00488	-.33381	-.07778	-.39981	-.18804
.950	.03700	.06414	.06603	.01992	.11815	.07648	.05537	.04776	-.21074	-.05139	-.38850	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

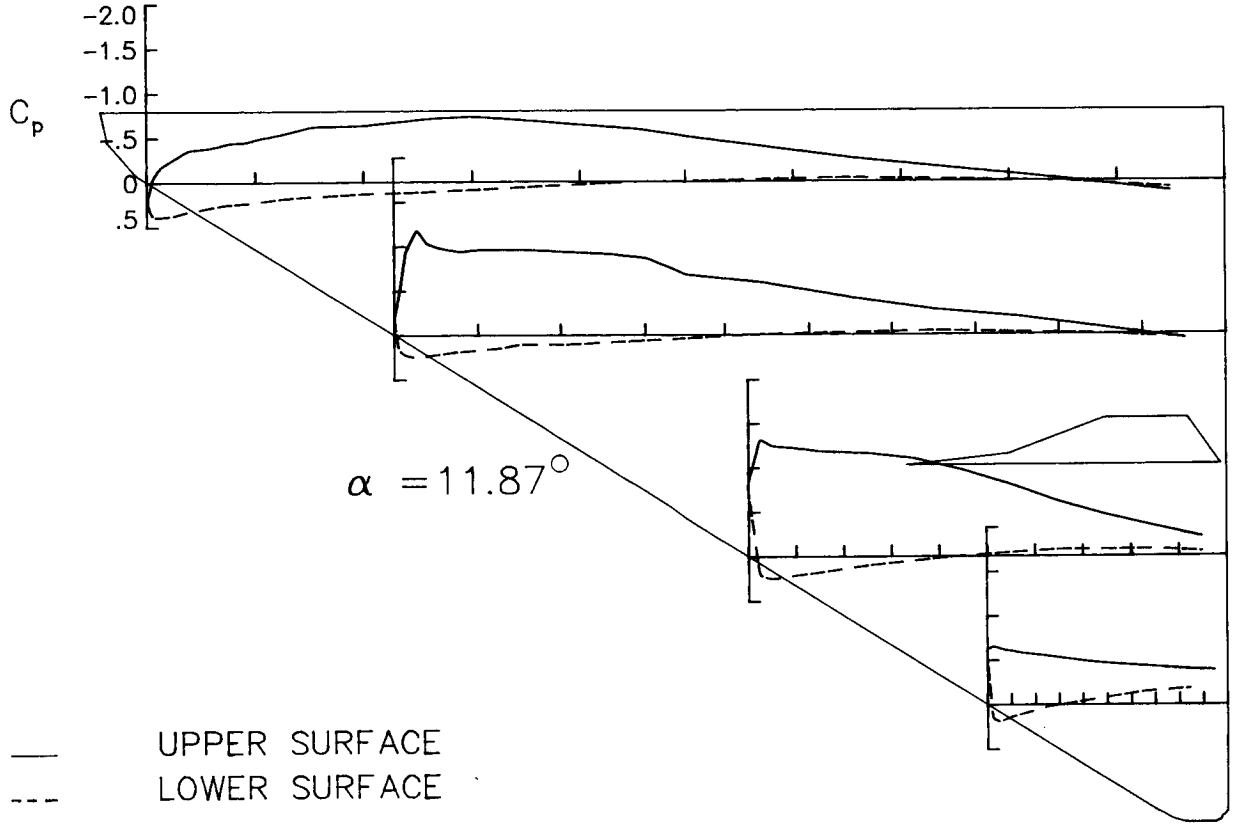
ANGLE OF ATTACK= 13.00 DEGREES MACH NUMBER= 0.75 CONFIGURATION : SMALL TAILS(V2) ON

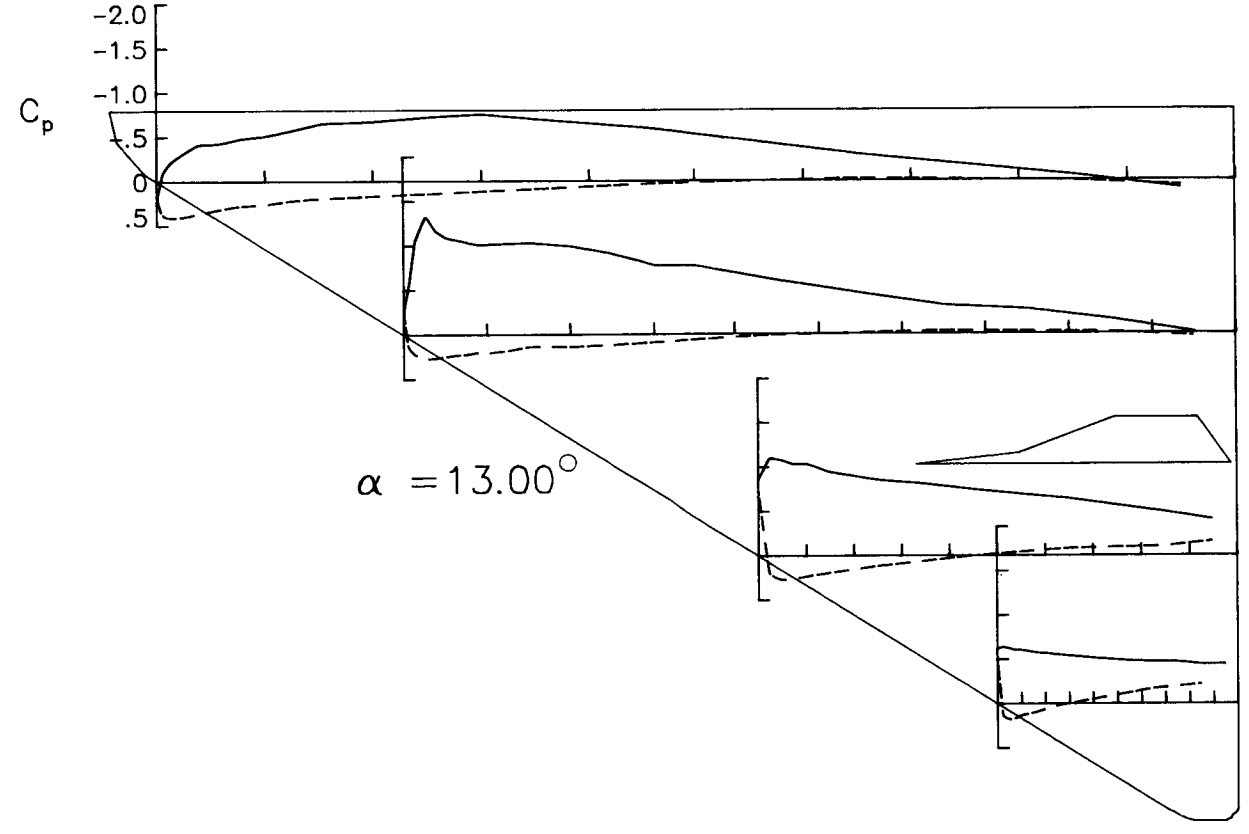
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.19462	.19462	-.27772	-.27772	-.83863	-.83863	-.61689	-.61689
.005	< >	< >	< >	< >	-.09542	.37958	-.59174	.13878	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.21212	.40855	-1.04813	.21585	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.33155	.39683	-1.31976	.26818	-1.09671	.20793	-.64253	.13751
.040	< >	< >	< >	< >	-.41184	.36659	-1.16640	.26459	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.42034	.33157	-1.08679	.24534	-1.07583	.26956	-.62433	.17614
.065	< >	< >	< >	< >	-.44228	.30213	-1.05983	.22963	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.48086	.27810	-1.03233	.22086	-1.03268	.25856	-.60699	.16093
.090	< >	< >	< >	< >	-.49313	.26895	-1.01021	.20037	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.51489	.25959	-1.01611	.20369	-1.03409	.23213	-.60791	.12995
.125	< >	< >	< >	< >	-.57218	.21845	-1.02670	.17601	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.64984	.19467	-1.02957	.13695	-.94337	.19003	-.58262	.10035
.200	< >	< >	< >	< >	-.66939	.16798	-.99202	.13459	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.72614	.14336	-.90394	.11657	-.85461	.11693	-.55402	.02165
.300	< >	< >	< >	< >	-.74932	< >	-.77513	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.69249	< >	-.76912	< >	-.80910	< >	-.52800	< >
.450	< >	< >	< >	< >	-.59273	.03413	-.61474	.01401	-.74363	.00089	-.50359	*****
.550	< >	< >	< >	< >	-.44569	< >	-.45239	< >	-.69075	< >	-.48429	< >
.650	< >	< >	-.16556	< >	-.29167	-.02251	-.31745	-.03229	-.64113	-.08050	-.47362	-.17242
.750	-.16904	< >	< >	< >	-.17436	< >	-.27145	< >	-.56513	*****	-.47050	*****
.850	-.07807	.01277	-.07467	-.01760	-.05496	.00670	-.15696	-.01442	-.49043	-.10519	-.44397	-.22228
.950	.00229	.05415	.03948	.01972	.09341	.06063	-.00904	.03104	-.40327	-.16075	-.44693	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

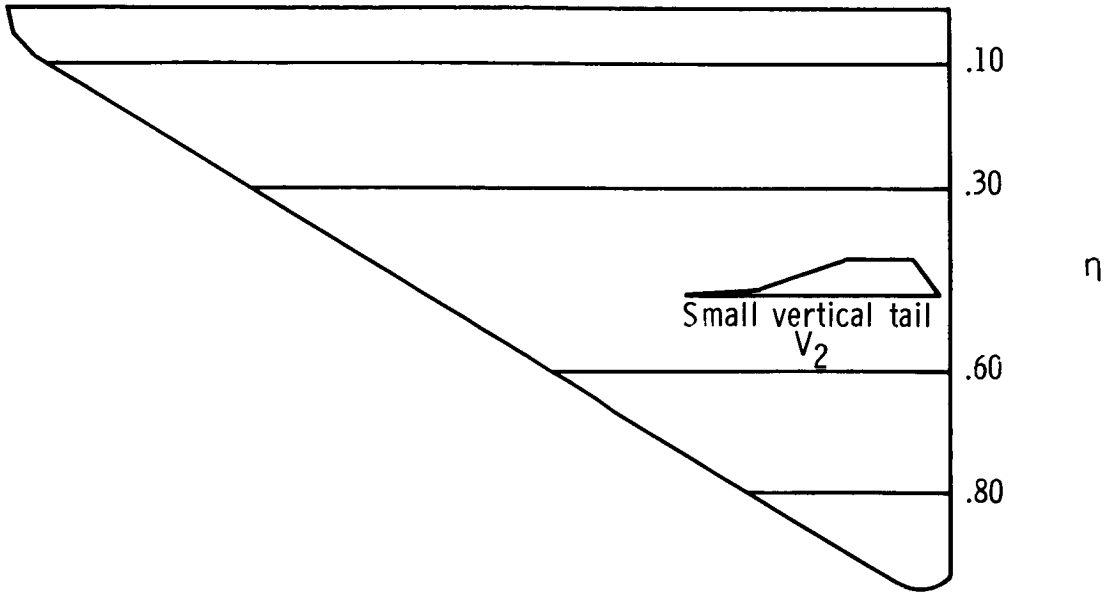

-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 11.87^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 13.00^\circ$

Appendix E

Pressure Data for Wing With Small Vertical Tail at $M = 0.80$

The C_p data for the wing with small vertical tail (fig. 2(b)) at $M = 0.80$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.33°$ to $11.97°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.33 DEGREES MACH NUMBER= 0.81 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28555	.28555	.05349	.05349	.13749	.13749	-.12073	-.12073
.005	< >	< >	< >	< >	.30505	.05797	.10689	-.23247	< >	< >	< >	< >
.015	< >	< >	< >	< >	.26778	-.10409	.06086	-.44198	< >	< >	< >	< >
.025	< >	< >	< >	< >	.20593	-.18411	.00178	-.48723	.00050	-.83040	.23208	-1.22779
.040	< >	< >	< >	< >	.15028	-.20267	-.05986	-.50191	< >	< >	< >	< >
.050	< >	< >	< >	< >	.12594	-.22589	-.09808	-.44777	-.03544	-.64713	.18775	-1.18462
.065	< >	< >	< >	< >	.07831	-.23314	-.13566	-.44067	< >	< >	< >	< >
.075	< >	< >	< >	< >	.03287	-.23367	-.16396	-.40695	-.06265	-.65200	.15840	-1.16361
.090	< >	< >	< >	< >	.01850	-.22686	-.17324	-.38887	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.02512	-.23052	-.19523	-.38221	-.07153	-.53076	.13835	-1.13414
.125	< >	< >	< >	< >	-.07950	-.24763	-.24094	-.36497	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.15105	-.25969	-.27619	-.30939	-.08737	-.43968	.10939	-1.07276
.200	< >	< >	< >	< >	-.21081	-.25875	-.29471	-.33971	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.29909	-.26565	-.30932	-.32424	-.07587	-.40569	.06604	-.92812
.300	< >	< >	< >	< >	-.32543	< >	-.32513	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.32997	< >	-.30091	< >	-.08119	< >	.03751	< >
.450	< >	< >	< >	< >	-.32139	-.32313	-.26502	-.35032	-.08052	-.36605	.00545	*****
.550	< >	< >	< >	< >	-.22742	< >	-.18187	< >	-.07324	< >	-.02634	< >
.650	< >	< >	-.03985	< >	-.10447	-.27216	-.09816	-.25309	-.08232	-.24181	-.04676	-.17693
.750	-.03687	< >	< >	< >	-.02470	< >	-.06908	< >	-.07022	*****	-.05437	*****
.850	.03036	-.07219	.03078	-.08888	.04577	-.06172	.02733	-.04578	-.01103	-.03314	-.05916	-.08239
.950	.08537	.04047	.11065	.01732	.15129	.07599	.16641	.11598	.08712	.10065	-.01797	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

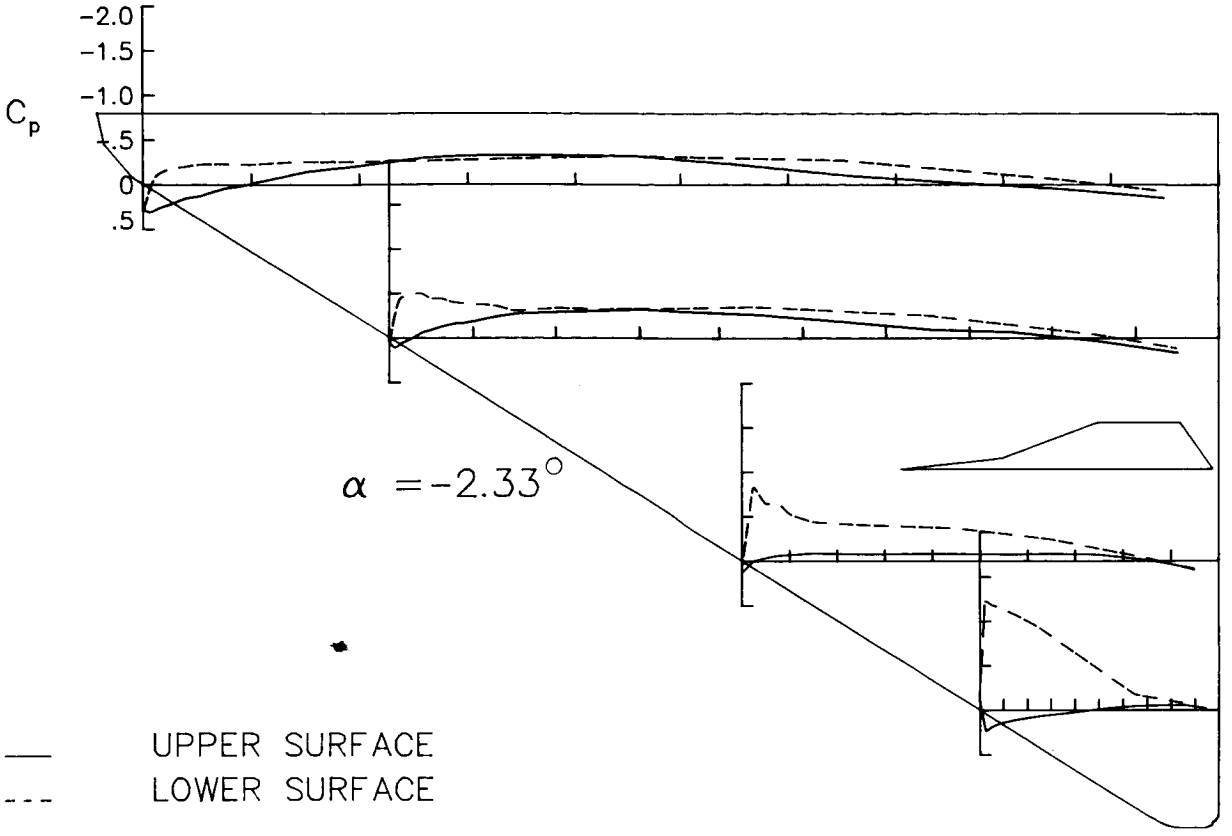
ANGLE OF ATTACK= -1.13 DEGREES MACH NUMBER= 0.81 CONFIGURATION : SMALL TAILS(V2) ON

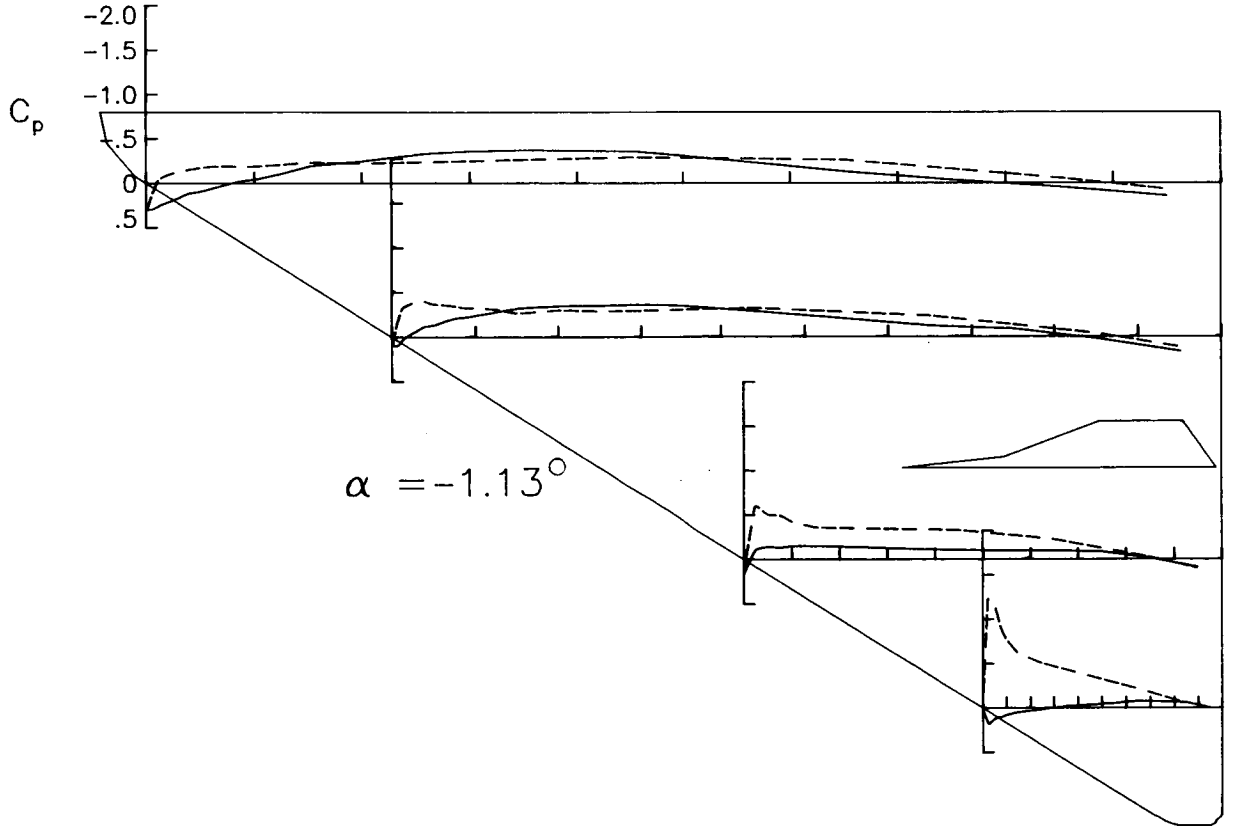
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29635	.29635	.09105	.09105	.18192	.18192	.01491	.01491
.005	< >	< >	< >	< >	.28991	.10776	.09595	-.13954	< >	< >	< >	< >
.015	< >	< >	< >	< >	.24690	-.04853	.01943	-.32543	< >	< >	< >	< >
.025	< >	< >	< >	< >	.18118	-.11542	-.05548	-.38084	-.10916	-.60108	.18136	-1.23616
.040	< >	< >	< >	< >	.11660	-.14790	-.11576	-.40358	< >	< >	< >	< >
.050	< >	< >	< >	< >	.08771	-.17440	-.13680	-.36681	-.14129	-.50519	.12281	-1.15195
.065	< >	< >	< >	< >	.04616	-.18915	-.18116	-.35654	< >	< >	< >	< >
.075	< >	< >	< >	< >	.00161	-.19194	-.21353	-.34457	-.13186	-.49326	.10333	-.91298
.090	< >	< >	< >	< >	-.02510	-.18517	-.22503	-.32547	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.04927	-.19160	-.24671	-.32966	-.14995	-.42494	.07948	-.77410
.125	< >	< >	< >	< >	-.10711	-.20950	-.28249	-.30513	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.19412	-.23210	-.32290	-.26710	-.14891	-.36053	.04732	-.61612
.200	< >	< >	< >	< >	-.24547	-.22361	-.34713	-.30082	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.32972	-.23517	-.35214	-.28768	-.13695	-.34853	.01670	-.50543
.300	< >	< >	< >	< >	-.35684	< >	-.36292	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.36676	< >	-.34669	< >	-.11645	< >	-.01897	< >
.450	< >	< >	< >	< >	-.35374	-.28908	-.28508	-.32252	-.10594	-.32846	-.03443	*****
.550	< >	< >	< >	< >	-.24675	< >	-.20041	< >	-.09754	< >	-.05313	< >
.650	< >	< >	-.05275	< >	-.12696	-.25791	-.12058	-.23344	-.09752	-.22459	-.07744	-.21427
.750	-.05029	< >	< >	< >	-.03322	< >	-.08612	< >	-.08503	*****	-.06955	*****
.850	.02411	-.06049	.02376	-.08175	.04532	-.05590	.02243	-.03891	-.01239	-.02301	-.05973	-.05453
.950	.07630	.04446	.10545	.01836	.14577	.06994	.16719	.11557	.09209	.10300	-.00098	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = -2.33^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = -1.13^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .08 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30695	.30695	.10634	.10634	.19314	.19314	.11366	.11366
.005	< >	< >	< >	< >	.27313	.14770	.07517	-.05379	< >	< >	< >	< >
.015	< >	< >	< >	< >	.22930	.00604	-.01866	-.22451	< >	< >	< >	< >
.025	< >	< >	< >	< >	.15278	-.06333	-.11070	-.29108	-.23687	-.41516	.11653	-1.01755
.040	< >	< >	< >	< >	.08414	-.10172	-.16943	-.30869	< >	< >	< >	< >
.050	< >	< >	< >	< >	.05118	-.12229	-.20109	-.29272	-.24536	-.36308	.02729	-.88740
.065	< >	< >	< >	< >	.01761	-.14099	-.23991	-.29465	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.03426	-.14471	-.26092	-.28524	-.24353	-.37891	.01836	-.67598
.090	< >	< >	< >	< >	-.05658	-.14890	-.28232	-.27431	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.09398	-.14896	-.29726	-.27617	-.23148	-.32782	.01442	-.56392
.125	< >	< >	< >	< >	-.14341	-.17704	-.33155	-.26331	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.23534	-.19627	-.37281	-.23336	-.22367	-.29538	-.03189	-.49558
.200	< >	< >	< >	< >	-.27570	-.19336	-.40299	-.26073	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.37256	-.20674	-.39290	-.25078	-.18292	-.29929	-.03827	-.41913
.300	< >	< >	< >	< >	-.39867	< >	-.40864	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.39094	< >	-.38351	< >	-.16546	< >	-.06777	< >
.450	< >	< >	< >	< >	-.38573	-.27695	-.32352	-.28594	-.13997	-.29025	-.08362	*****
.550	< >	< >	< >	< >	-.26618	< >	-.21860	< >	-.11744	< >	-.09642	< >
.650	< >	< >	-.05949	< >	-.13556	-.23924	-.14437	-.22464	-.10945	-.21083	-.10182	-.20697
.750	-.06024	< >	< >	< >	-.04979	< >	-.09880	< >	-.09829	*****	-.08655	*****
.850	.01520	-.06137	.01990	-.07815	.03394	-.05350	.01323	-.03292	-.01726	-.02309	-.05974	-.02129
.950	.07752	.04652	.10233	.01841	.14642	.07408	.16538	.11322	.09600	.10471	.01741	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

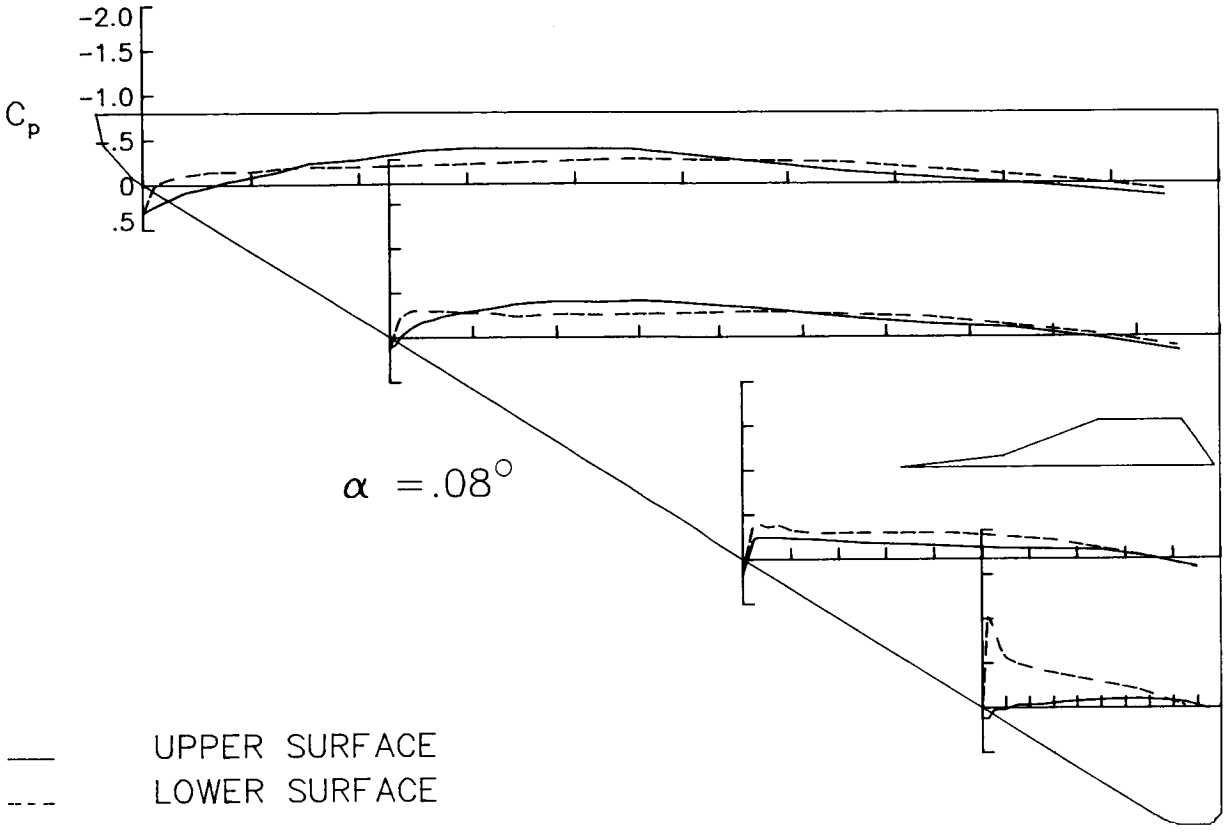
ANGLE OF ATTACK= 1.29 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

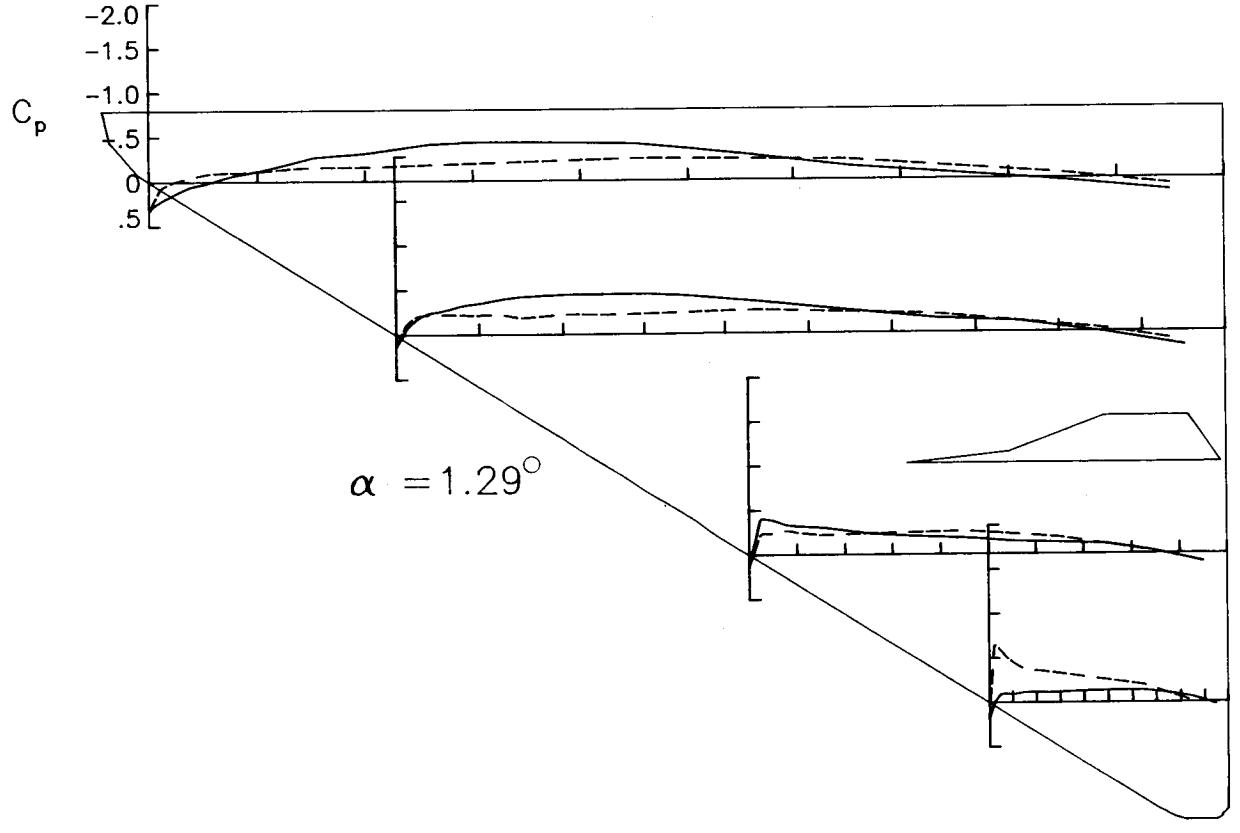
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31530	.31530	.12209	.12209	.17221	.17221	.18908	.18908
.005	< >	< >	< >	< >	.25979	.18936	.03415	.01718	< >	< >	< >	< >
.015	< >	< >	< >	< >	.20612	.06855	-.07922	-.11924	< >	< >	< >	< >
.025	< >	< >	< >	< >	.11654	-.00702	-.18416	-.20231	-.40252	-.23448	-.01080	-.64614
.040	< >	< >	< >	< >	.05274	-.04010	-.23881	-.22340	< >	< >	< >	< >
.050	< >	< >	< >	< >	.02183	-.07969	-.26055	-.22535	-.38433	-.24124	-.09335	-.58598
.065	< >	< >	< >	< >	-.02105	-.09591	-.28710	-.22434	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.06710	-.10212	-.32064	-.22455	-.33794	-.27138	-.09930	-.50883
.090	< >	< >	< >	< >	-.09082	-.10245	-.33799	-.21564	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.12554	-.11250	-.35378	-.21784	-.32079	-.25138	-.09188	-.45425
.125	< >	< >	< >	< >	-.18562	-.13869	-.39647	-.21988	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.26880	-.15748	-.42427	-.18541	-.30625	-.22376	-.11601	-.37661
.200	< >	< >	< >	< >	-.31002	-.15746	-.44677	-.22552	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.40843	-.17647	-.45011	-.21890	-.23759	-.24142	-.11375	-.34517
.300	< >	< >	< >	< >	-.43215	< >	-.45276	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.43006	< >	-.42432	< >	-.20461	< >	-.12494	< >
.450	< >	< >	< >	< >	-.40735	-.24674	-.35179	-.26098	-.18537	-.26362	-.13594	*****
.550	< >	< >	< >	< >	-.28911	< >	-.24775	< >	-.14284	< >	-.13833	< >
.650	< >	< >	-.07094	< >	-.14680	-.22018	-.15711	-.20556	-.12956	-.18932	-.13577	-.19536
.750	-.06856	< >	< >	< >	-.06051	< >	-.11731	< >	-.11037	*****	-.10543	*****
.850	.00570	-.05045	.01168	-.07593	.02856	-.05325	.00603	-.03704	-.02487	-.02103	-.05725	-.00705
.950	.07604	.04047	.09853	.02155	.14291	.07353	.16218	.10748	.10114	.09689	.03052	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
α =.08°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
α =1.29°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.44 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32130	.32130	.12829	.12829	.12213	.12213	.22350	.22350
.005	< >	< >	< >	< >	.24067	.21828	.01159	.07398	< >	< >	< >	< >
.015	< >	< >	< >	< >	.17328	.11348	-.13864	-.04437	< >	< >	< >	< >
.025	< >	< >	< >	< >	.08624	.04410	-.24972	-.12414	-.62128	-.10428	-.20225	-.36831
.040	< >	< >	< >	< >	.01946	.00315	-.28640	-.15933	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.01731	-.03194	-.31670	-.16185	-.53596	-.13424	-.25726	-.36632
.065	< >	< >	< >	< >	-.05369	-.05384	-.34040	-.17349	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.10715	-.06193	-.37786	-.16624	-.44501	-.17795	-.22565	-.33021
.090	< >	< >	< >	< >	-.11708	-.07009	-.39333	-.17167	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.16080	-.07397	-.40984	-.17392	-.41560	-.17323	-.18922	-.31718
.125	< >	< >	< >	< >	-.22121	-.10351	-.44601	-.17446	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.30004	-.12064	-.47476	-.15068	-.37633	-.16484	-.21153	-.28832
.200	< >	< >	< >	< >	-.35384	-.13053	-.50795	-.18588	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.43950	-.14150	-.48969	-.18644	-.30086	-.19803	-.17788	-.27435
.300	< >	< >	< >	< >	-.46326	< >	-.50487	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.45306	< >	-.44987	< >	-.24455	< >	-.18144	< >
.450	< >	< >	< >	< >	-.44005	-.21570	-.37857	-.23181	-.20744	-.21903	-.18836	*****
.550	< >	< >	< >	< >	-.30116	< >	-.26835	< >	-.16447	< >	-.17971	< >
.650	< >	< >	-.08031	< >	-.15838	-.20112	-.16619	-.19186	-.14128	-.17950	-.16511	-.17563
.750	-.07627	< >	< >	< >	-.07056	< >	-.13971	< >	-.11339	*****	-.12823	*****
.850	.00773	-.04172	.00742	-.06815	.02183	-.03871	.00455	-.03284	-.02776	-.02068	-.07250	-.00042
.950	.06843	.04843	.10071	.02392	.14334	.07041	.15978	.10272	.10292	.08865	.03369	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

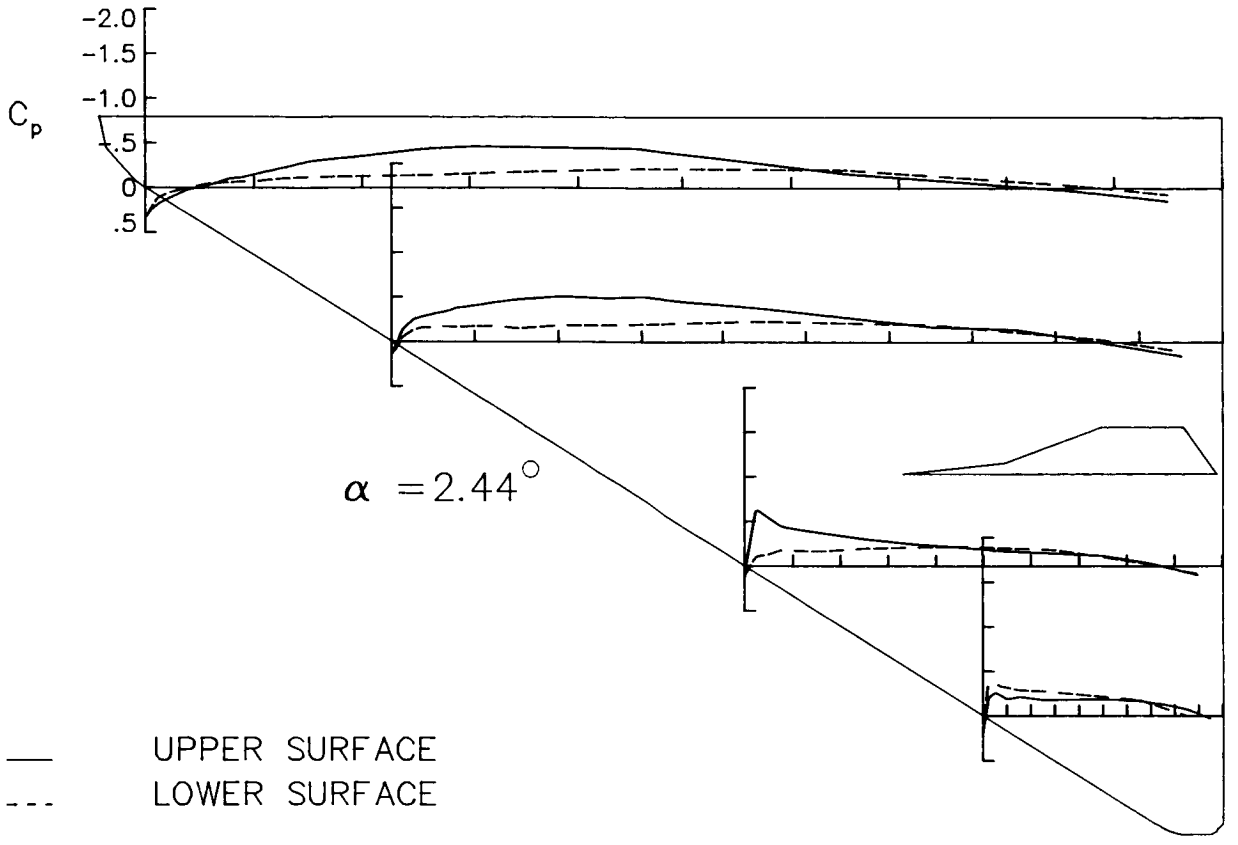
ANGLE OF ATTACK= 3.60 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

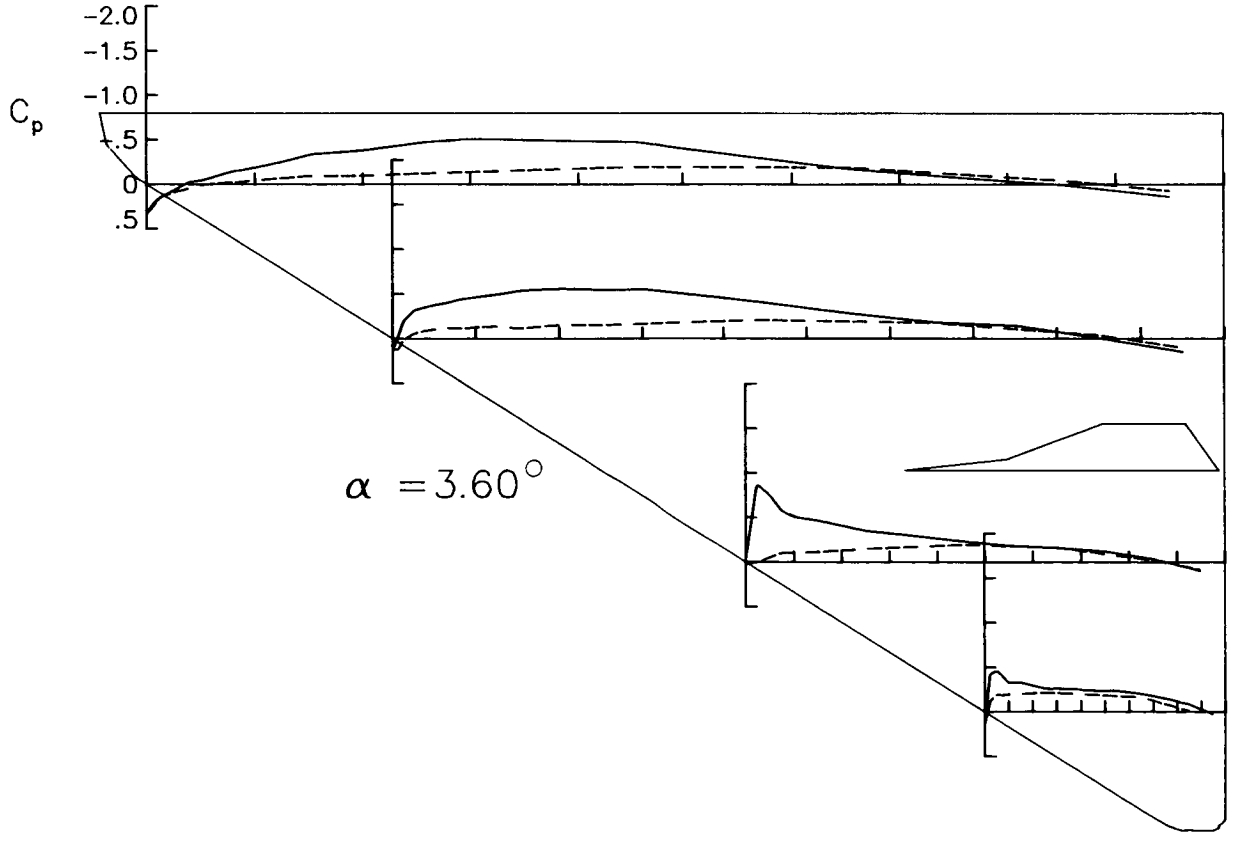
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32379	.32379	.11822	.11822	.02180	.02180	.17384	.17384
.005	< >	< >	< >	< >	.22320	.25658	-.02516	.12093	< >	< >	< >	< >
.015	< >	< >	< >	< >	.14691	.15661	-.19910	.01939	< >	< >	< >	< >
.025	< >	< >	< >	< >	.05469	.09132	-.31924	-.05331	-.85997	-.00146	-.42303	-.12485
.040	< >	< >	< >	< >	-.02248	.05269	-.35218	-.08612	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.04966	.00915	-.38090	-.10370	-.74787	-.05365	-.45274	-.18952
.065	< >	< >	< >	< >	-.09185	-.00872	-.40193	-.11931	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.14079	-.02097	-.43507	-.11835	-.57514	-.10277	-.39584	-.18637
.090	< >	< >	< >	< >	-.15970	-.02758	-.45106	-.11562	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.19370	-.04320	-.46743	-.12959	-.50733	-.10656	-.32785	-.19782
.125	< >	< >	< >	< >	-.25186	-.06758	-.49849	-.13739	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.33599	-.09364	-.53718	-.11452	-.46688	-.11581	-.32535	-.20165
.200	< >	< >	< >	< >	-.37822	-.09663	-.55800	-.15539	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.47366	-.11943	-.54552	-.15118	-.35200	-.14999	-.25991	-.21605
.300	< >	< >	< >	< >	-.50498	< >	-.54866	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.49111	< >	-.50180	< >	-.29465	< >	-.25591	< >
.450	< >	< >	< >	< >	-.47006	-.19356	-.40771	-.20700	-.23525	-.19618	-.23573	*****
.550	< >	< >	< >	< >	-.31785	< >	-.27917	< >	-.18533	< >	-.23498	< >
.650	< >	< >	-.08700	< >	-.17065	-.18529	-.18067	-.17329	-.15984	-.16299	-.20020	-.16119
.750	-.08371	< >	< >	< >	-.07486	< >	-.14261	< >	-.11983	*****	-.14895	*****
.850	-.00284	-.03985	-.00125	-.06570	.01070	-.04054	-.00196	-.03572	-.03562	-.02065	-.08048	-.00809
.950	.07121	.05158	.10081	.02389	.14177	.07537	.15027	.10092	.09895	.08597	.02925	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 2.44^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 3.60^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.79 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32741	.32741	.10151	.10151	-.10251	-.10251	.03632	.03632
.005	< >	< >	< >	< >	.19082	.28088	-.07447	.16181	< >	< >	< >	< >
.015	< >	< >	< >	< >	.12609	.20218	-.27894	.08203	< >	< >	< >	< >
.025	< >	< >	< >	< >	.00684	.14451	-.39739	.00975	-1.19947	.06751	-.76804	.00892
.040	< >	< >	< >	< >	-.05843	.08816	-.43317	-.02642	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.09254	.06024	-.44420	-.04231	-1.03206	.01260	-.71691	-.05621
.065	< >	< >	< >	< >	-.12679	.03156	-.47207	-.06342	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.17544	.02041	-.49570	-.06940	-.65848	-.03168	-.61419	-.07876
.090	< >	< >	< >	< >	-.19739	.00745	-.52501	-.07755	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.22793	.00012	-.52536	-.08607	-.61313	-.04966	-.51043	-.10169
.125	< >	< >	< >	< >	-.28610	-.03184	-.56985	-.08883	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.37477	-.05307	-.59354	-.08882	-.54608	-.05889	-.45005	-.12394
.200	< >	< >	< >	< >	-.41209	-.06505	-.61506	-.11211	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.51005	-.08978	-.60765	-.11824	-.41241	-.11493	-.34194	-.15604
.300	< >	< >	< >	< >	-.55605	< >	-.58526	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.51729	< >	-.53929	< >	-.33809	< >	-.32896	< >
.450	< >	< >	< >	< >	-.49435	-.16875	-.43096	-.17596	-.27174	-.16336	-.29491	*****
.550	< >	< >	< >	< >	-.33373	< >	-.29757	< >	-.20631	< >	-.27502	< >
.650	< >	< >	-.09389	< >	-.18632	-.16857	-.19397	-.15918	-.16538	-.14275	-.23424	-.14661
.750	-.09338	< >	< >	< >	-.08264	< >	-.15191	< >	-.13799	*****	-.17235	*****
.850	-.00327	-.03350	.00072	-.05558	.00820	-.03108	-.00739	-.02545	-.03780	-.01950	-.09226	-.01325
.950	.06765	.05143	.09403	.02181	.13953	.07470	.13985	.09378	.09078	.07717	.03162	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

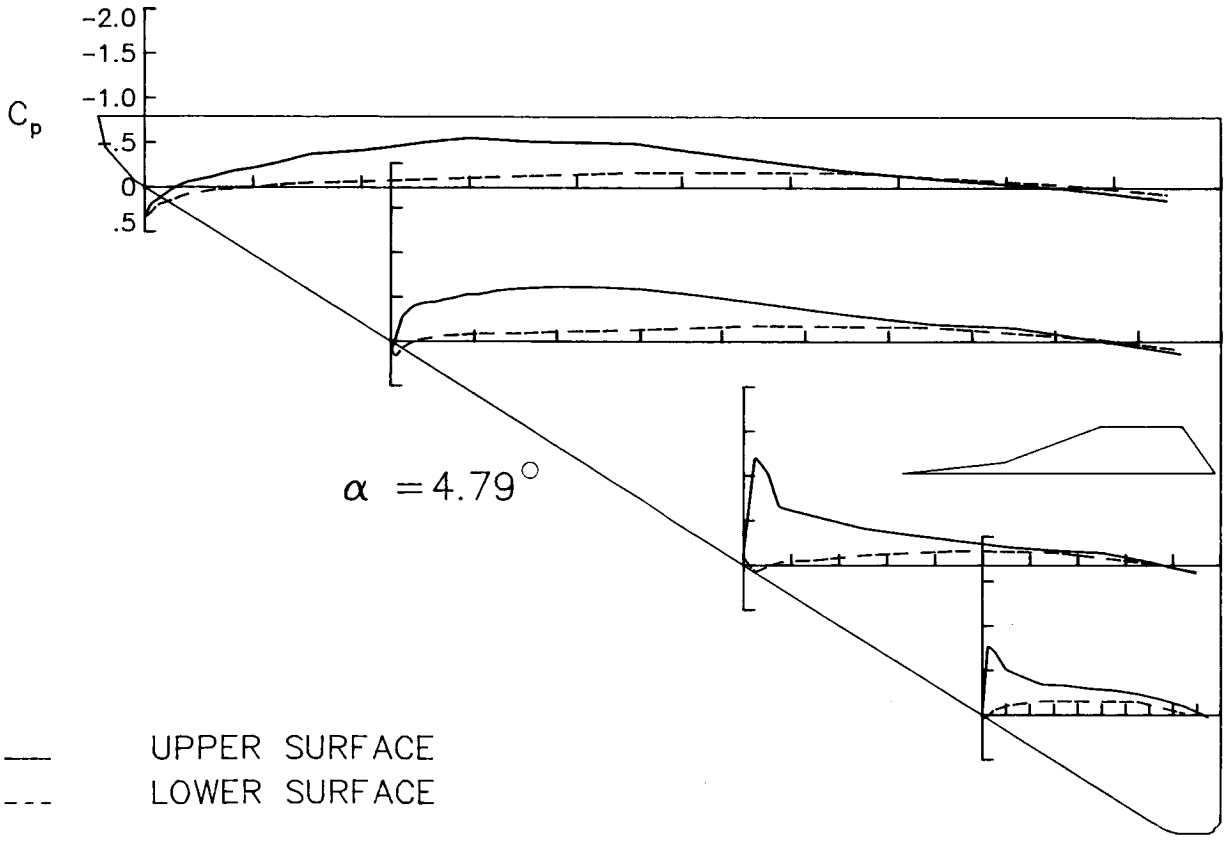
ANGLE OF ATTACK= 6.04 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

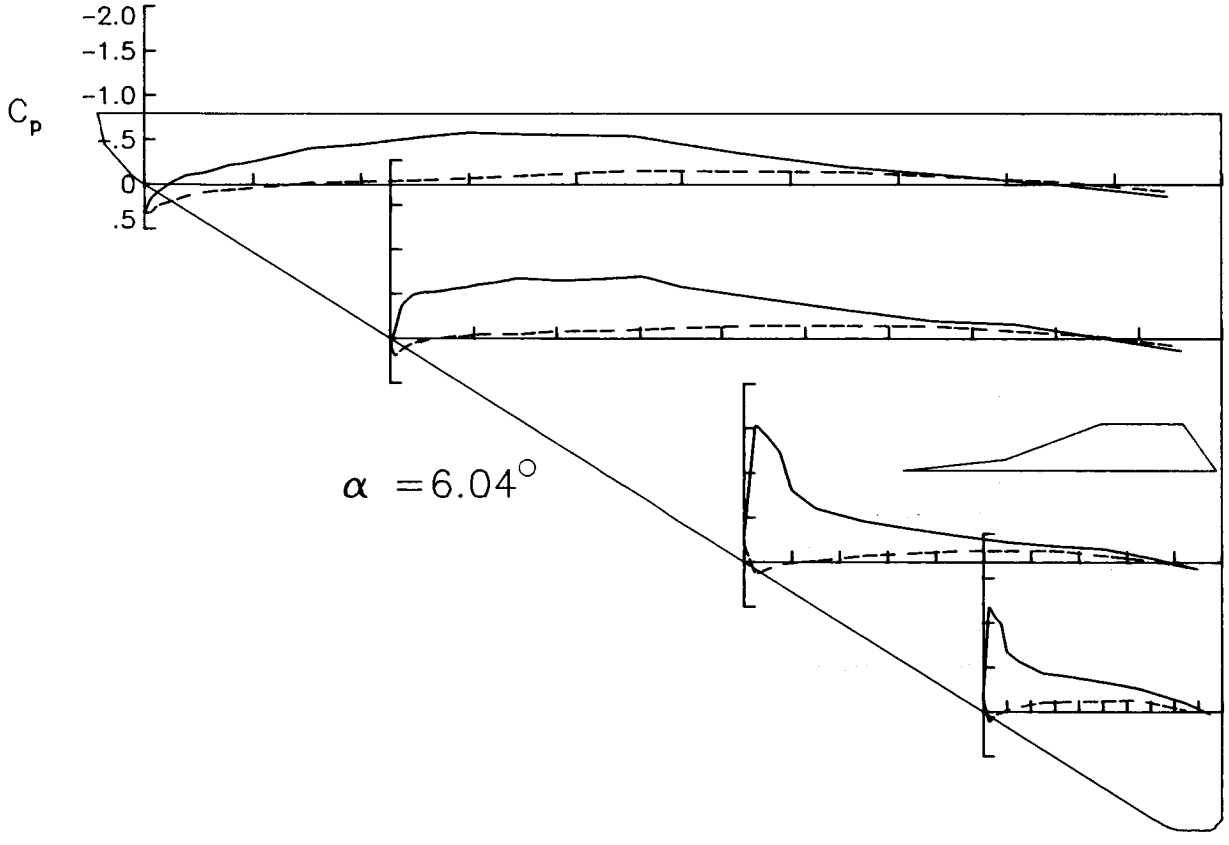
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31823	.31823	.07375	.07375	-.22017	-.22017	-.15490	-.15490
.005	< >	< >	< >	< >	.16665	.31611	-.13306	.18887	< >	< >	< >	< >
.015	< >	< >	< >	< >	.08380	.24569	-.36831	.12928	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.03334	.19130	-.48812	.06163	-1.52966	.12611	-1.17469	.10982
.040	< >	< >	< >	< >	-.09992	.13923	-.51594	.02759	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.12821	.09502	-.52142	.00912	-1.39698	.07397	-1.06174	.03675
.065	< >	< >	< >	< >	-.16912	.07298	-.53833	-.00658	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.22079	.06089	-.56062	-.02245	-1.22203	.02927	-.98608	.00911
.090	< >	< >	< >	< >	-.23428	.05051	-.57531	-.02322	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.26816	.03498	-.60093	-.04098	-.81196	.00735	-.67407	-.02021
.125	< >	< >	< >	< >	-.32840	.01162	-.63083	-.05109	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.40663	-.01831	-.67449	-.04582	-.60568	-.01443	-.56752	-.05653
.200	< >	< >	< >	< >	-.44997	-.03404	-.64844	-.08231	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.53694	-.04710	-.66796	-.08457	-.45869	-.07357	-.43240	-.10738
.300	< >	< >	< >	< >	-.58070	< >	-.69334	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.55945	< >	-.57683	< >	-.37139	< >	-.39831	< >
.450	< >	< >	< >	< >	-.53732	-.15155	-.45577	-.14595	-.29449	-.12791	-.35610	*****
.550	< >	< >	< >	< >	-.35035	< >	-.31452	< >	-.22600	< >	-.31080	< >
.650	< >	< >	-.09998	< >	-.19523	-.13903	-.19640	-.13828	-.18206	-.12860	-.26067	-.13135
.750	-.09008	< >	< >	< >	-.09544	< >	-.15842	< >	-.14954	*****	-.17942	*****
.850	-.00932	-.02420	-.00527	-.04418	.00766	-.02630	-.00981	-.02533	-.04873	-.01889	-.09371	-.01459
.950	.06688	.05694	.09060	.02871	.13665	.07794	.13650	.08642	.07862	.07311	.02983	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = 4.79^\circ$
UPPER SURFACE
LOWER SURFACE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-1.5
-1.0
-.5
0
.5
C_p
$\alpha = 6.04^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.29 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31026	.31026	.03659	.03659	-.33570	-.33570	-.33914	-.33914
.005	< >	< >	< >	< >	.12351	.33545	-.20130	.20900	< >	< >	< >	< >
.015	< >	< >	< >	< >	.04169	.28643	-.46785	.17823	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.06784	.23545	-.58242	.11717	-1.66098	.16250	-1.26849	.13949
.040	< >	< >	< >	< >	-.15152	.18859	-.60305	.08555	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.17623	.14245	-.59513	.05744	-1.54165	.11964	-1.23769	.08415
.065	< >	< >	< >	< >	-.20467	.12182	-.61432	.03797	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.25843	.10196	-.63073	.02384	-1.50572	.08714	-1.11352	.05442
.090	< >	< >	< >	< >	-.27842	.08850	-.67113	.01801	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.30320	.08062	-.66575	.01044	-1.26423	.05887	-.79688	.02066
.125	< >	< >	< >	< >	-.36896	.04704	-.68038	-.00439	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.44926	.01728	-.73760	-.00890	-1.07713	.02068	-.64261	-.01507
.200	< >	< >	< >	< >	-.48415	-.00268	-.73379	-.04012	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56778	-.01448	-.70523	-.04543	-.50176	-.03116	-.49435	-.06598
.300	< >	< >	< >	< >	-.64879	< >	-.74872	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.58666	< >	-.71638	< >	-.35758	< >	-.41610	< >
.450	< >	< >	< >	< >	-.59557	-.11218	-.46920	-.11640	-.29612	-.10349	-.35897	*****
.550	< >	< >	< >	< >	-.36070	< >	-.32932	< >	-.21635	< >	-.30119	< >
.650	< >	< >	-.10442	< >	-.19970	-.12634	-.20875	-.12014	-.17763	-.11407	-.24046	-.13061
.750	-.09976	< >	< >	< >	-.10212	< >	-.15533	< >	-.13700	*****	-.16438	*****
.850	-.01318	-.01111	-.00898	-.03987	.00281	-.02161	-.01817	-.01580	-.05249	-.02003	-.09510	-.03711
.950	.06593	.05383	.09542	.02755	.13659	.08002	.11087	.08135	.06836	.06652	.00115	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

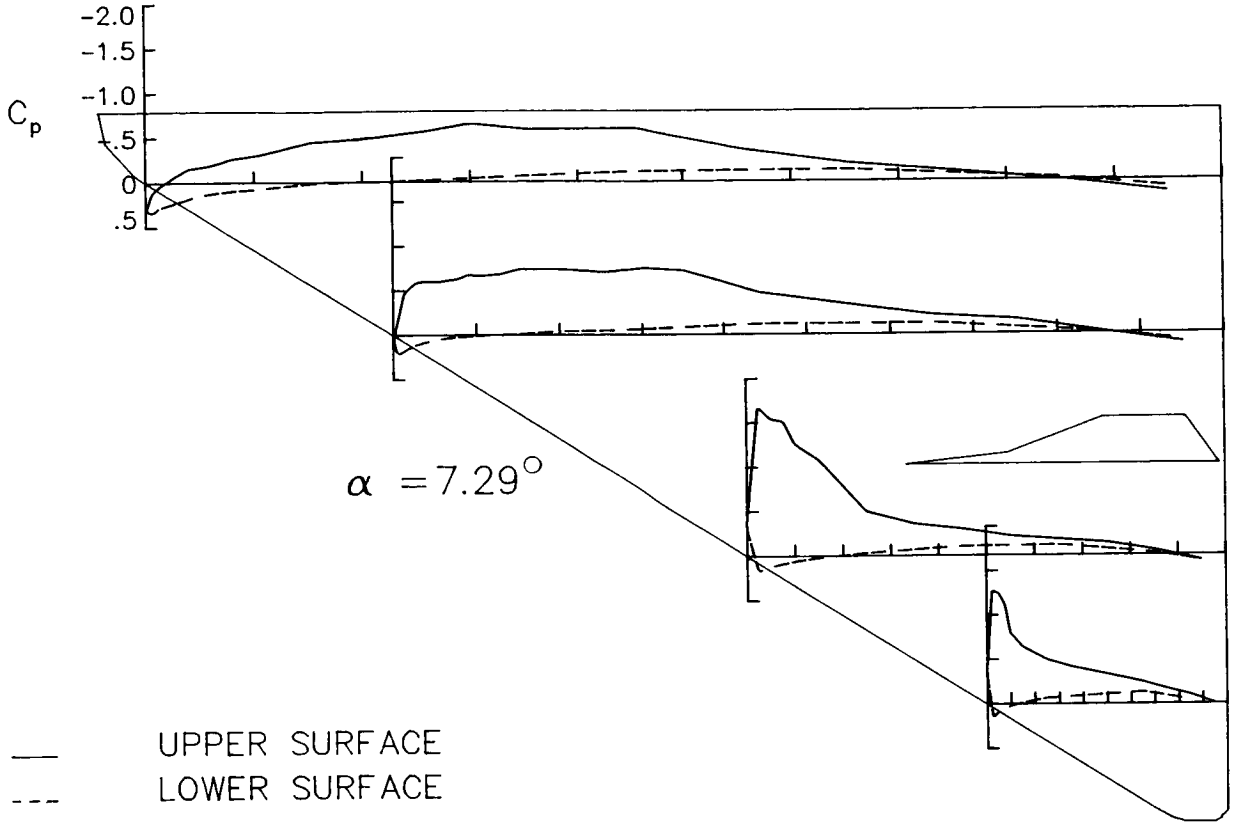
ANGLE OF ATTACK= 8.51 DEGREES MACH NUMBER= 0.80 CONFIGURATION : SMALL TAILS(V2) ON

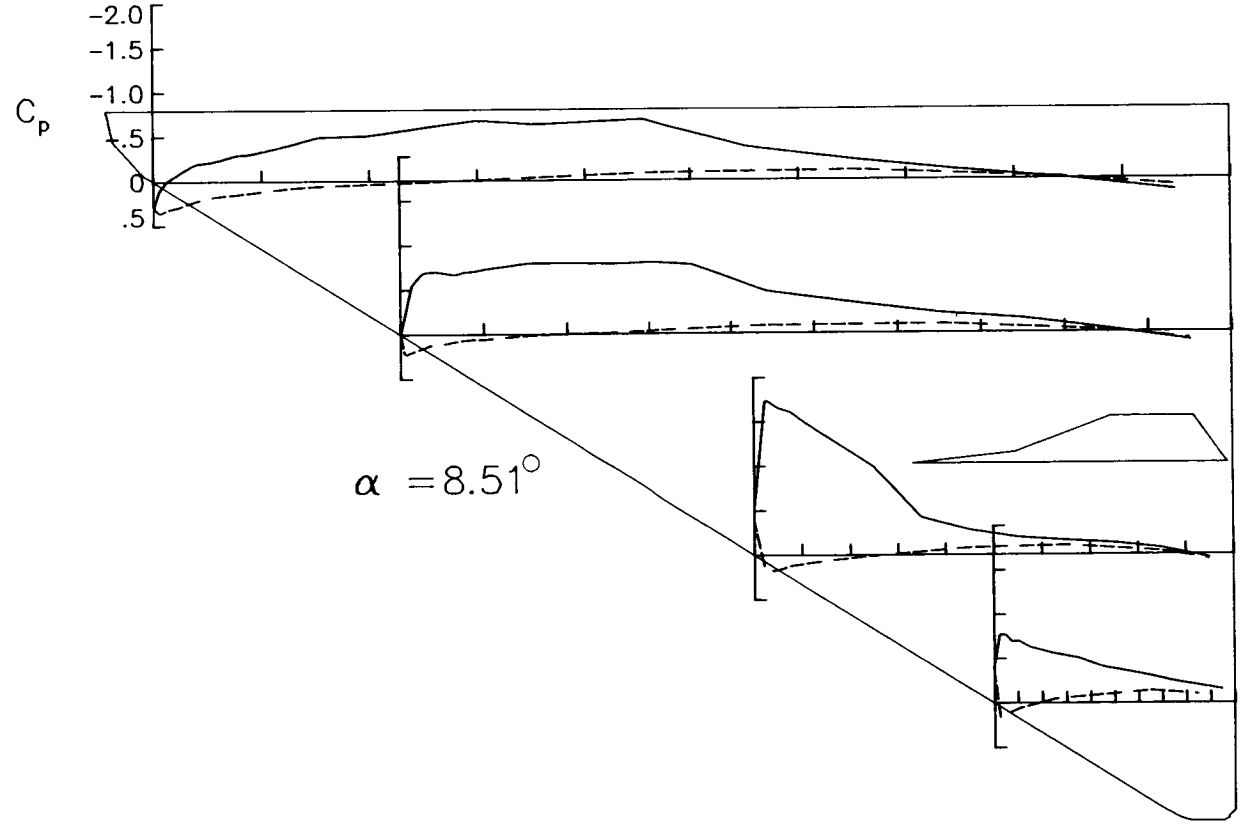
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29658	.29658	-.01301	-.01301	-.42742	-.42742	-.39516	-.39516
.005	< >	< >	< >	< >	.10418	.35329	-.26035	.22170	< >	< >	< >	< >
.015	< >	< >	< >	< >	.00049	.32420	-.54425	.19998	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.11300	.28001	-.68338	.16180	-1.73702	.18223	-.77157	.16198
.040	< >	< >	< >	< >	-.19538	.22454	-.70022	.11772	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.21617	.18386	-.68595	.10861	-1.65746	.16269	-.76524	.12177
.065	< >	< >	< >	< >	-.24876	.16180	-.67020	.08529	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.29351	.14867	-.69733	.06794	-1.61069	.12044	-.69632	.09324
.090	< >	< >	< >	< >	-.30376	.13240	-.70795	.05728	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.34120	.11371	-.73253	.05602	-1.51753	.09865	-.70247	.06221
.125	< >	< >	< >	< >	-.40121	.08112	-.76178	.03350	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.49007	.05813	-.79505	.01777	-1.33806	.06163	-.63200	.02583
.200	< >	< >	< >	< >	-.50838	.03643	-.79880	-.00770	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.61171	.01543	-.79034	-.01299	-.99133	.00596	-.55839	-.04752
.300	< >	< >	< >	< >	-.66998	< >	-.80044	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.62939	< >	-.77241	< >	-.42749	< >	-.50524	< >
.450	< >	< >	< >	< >	-.67921	-.07909	-.47095	-.08599	-.28259	-.08069	-.40896	*****
.550	< >	< >	< >	< >	-.36871	< >	-.33360	< >	-.19783	< >	-.35918	< >
.650	< >	< >	-.10349	< >	-.22070	-.10598	-.22058	-.09775	-.16068	-.10396	-.30582	-.13914
.750	-.10528	< >	< >	< >	-.10101	< >	-.15419	< >	-.12888	*****	-.24359	*****
.850	-.01505	-.01045	-.01288	-.03646	.00005	-.01335	-.03455	-.02068	-.06930	-.03452	-.19841	-.09815
.950	.06108	.05765	.09323	.03063	.13569	.07913	.09640	.07581	.04168	.05654	-.15279	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 7.29^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 8.51^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.68 DEGREES MACH NUMBER= 0.81 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28514	.28514	-.05278	-.05278	-.52214	-.52214	-.45039	-.45039
.005	< >	< >	< >	< >	.07119	.37291	-.32729	.21963	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.03746	.34835	-.63271	.22775	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.15932	.32372	-.81166	.19411	-1.65315	.19374	-.68609	.16564
.040	< >	< >	< >	< >	-.23904	.27003	-.77667	.16774	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.25150	.22772	-.77493	.14744	-1.60098	.19149	-.66442	.14699
.065	< >	< >	< >	< >	-.28896	.19841	-.76427	.12526	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.33415	.18104	-.75759	.10871	-1.49899	.16054	-.65021	.11600
.090	< >	< >	< >	< >	-.34758	.16650	-.76684	.10110	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.37934	.15820	-.78074	.08933	-1.52136	.13443	-.63814	.08477
.125	< >	< >	< >	< >	-.43954	.12071	-.81856	.07790	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.52526	.09180	-.85892	.04881	-1.39334	.09122	-.60947	.04913
.200	< >	< >	< >	< >	-.54514	.06964	-.85503	.03139	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.64025	.05080	-.85016	.01512	-1.20860	.03394	-.55539	-.02333
.300	< >	< >	< >	< >	-.70195	< >	-.86496	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.67347	< >	-.84464	< >	-.96198	< >	-.48858	< >
.450	< >	< >	< >	< >	-.70108	-.05335	-.48611	-.06313	-.69232	-.05769	-.43593	*****
.550	< >	< >	< >	< >	-.38735	< >	-.35258	< >	-.35861	< >	-.39113	< >
.650	< >	< >	-.10578	< >	-.22420	-.08334	-.23472	-.08640	-.23130	-.10108	-.35123	-.14802
.750	-.10815	< >	< >	< >	-.11523	< >	-.16760	< >	-.12848	*****	-.31858	*****
.850	-.02140	-.00366	-.02062	-.03535	-.00272	-.00967	-.04929	-.01620	-.09196	-.05279	-.28061	-.14200
.950	.05786	.05678	.09164	.02578	.13689	.08056	.08074	.06754	-.00949	.01941	-.25694	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

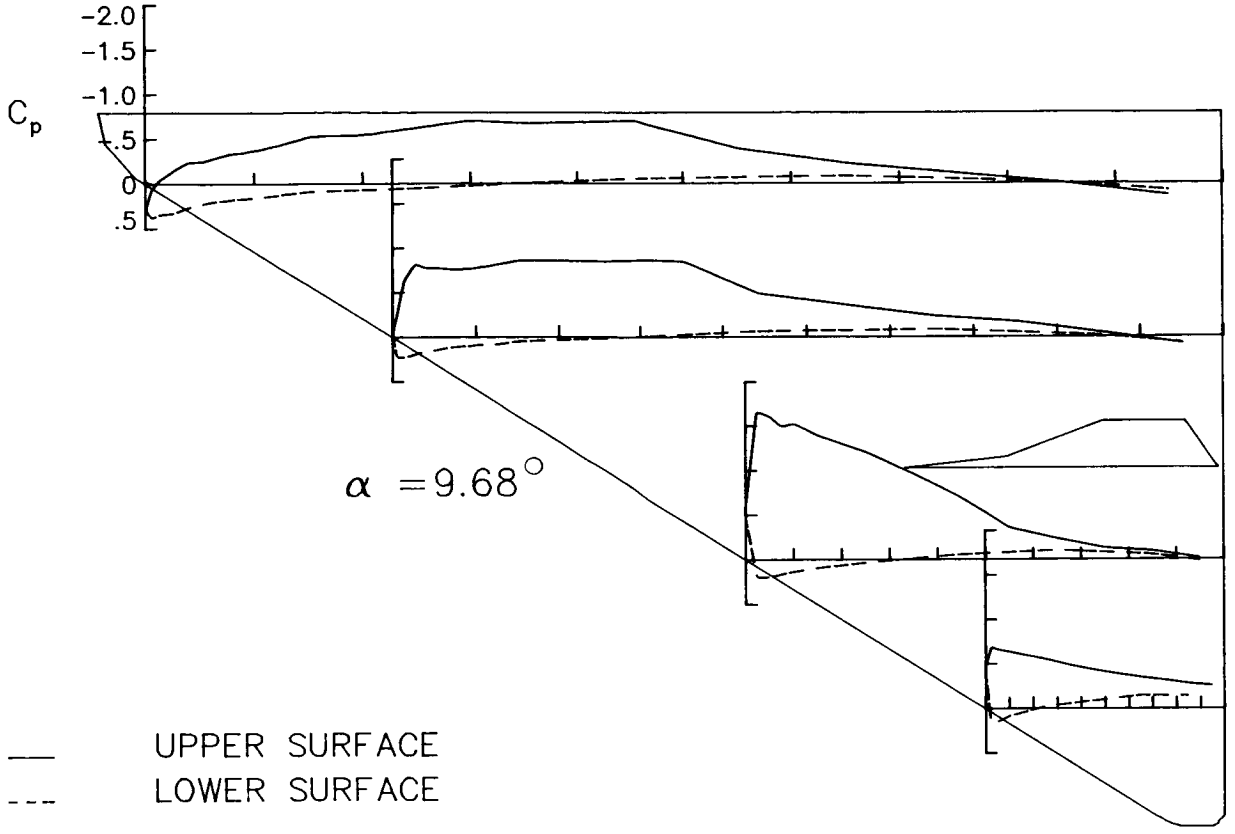
ANGLE OF ATTACK= 10.91 DEGREES MACH NUMBER= 0.81 CONFIGURATION : SMALL TAILS(V2) ON

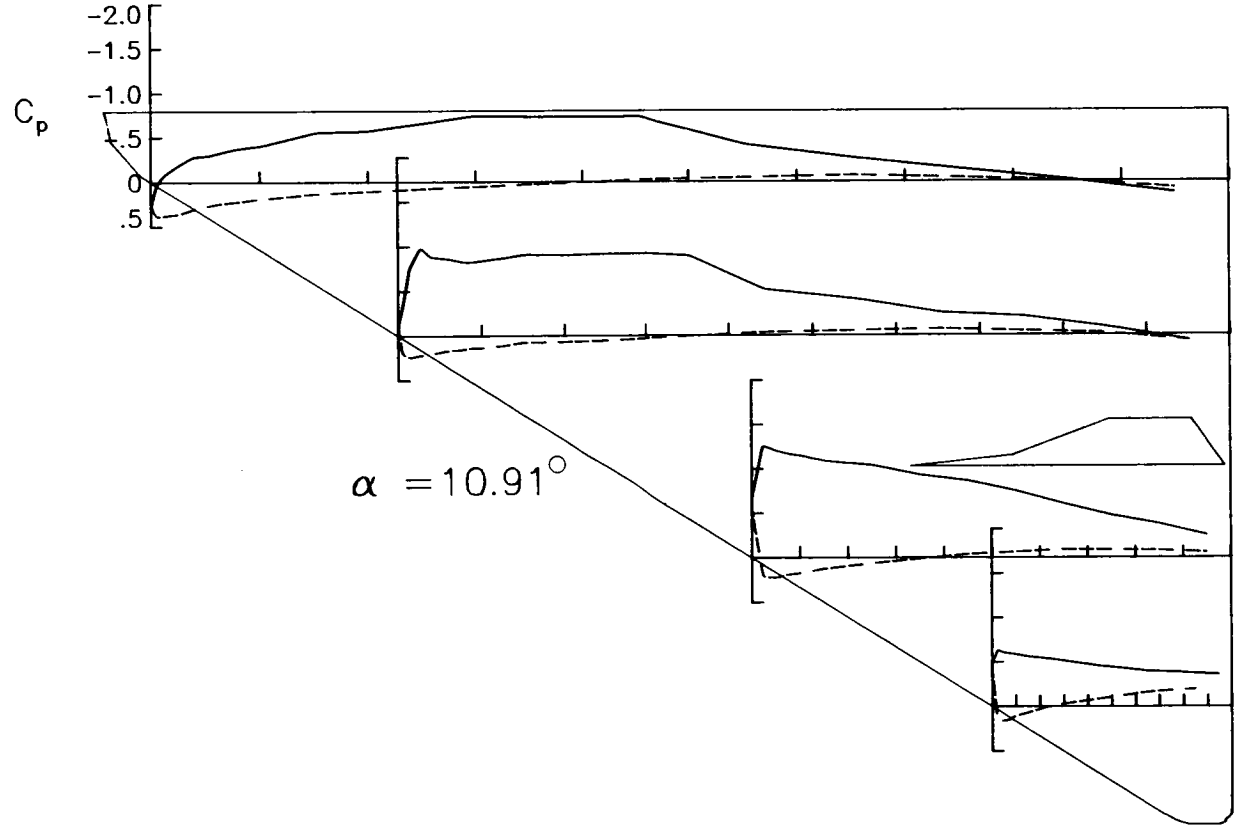
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.27430	.27430	-.11741	-.11741	-.61746	-.61746	-.47456	-.47456
.005	< >	< >	< >	< >	.02851	.38207	-.39174	.20335	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.08166	.37661	-.75462	.23624	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.20190	.35499	-.97399	.22011	-1.25106	.20727	-.62958	.16711
.040	< >	< >	< >	< >	-.28171	.30840	-.88464	.20733	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.29840	.27189	-.87086	.18115	-1.20429	.21931	-.60670	.15916
.065	< >	< >	< >	< >	-.33153	.24298	-.85202	.16026	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.37140	.22563	-.82766	.15434	-1.16963	.18927	-.59836	.14219
.090	< >	< >	< >	< >	-.38739	.20808	-.82760	.13524	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.41288	.18893	-.84604	.13205	-1.14823	.17252	-.58797	.10592
.125	< >	< >	< >	< >	-.47535	.16316	-.87323	.10756	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.55536	.13481	-.90863	.07785	-1.09078	.12271	-.56336	.06925
.200	< >	< >	< >	< >	-.57358	.10606	-.90474	.06900	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.67096	.07814	-.92083	.05657	-1.04229	.06213	-.53228	-.01040
.300	< >	< >	< >	< >	-.73943	< >	-.92125	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.72880	< >	-.89156	< >	-.93288	< >	-.49291	< >
.450	< >	< >	< >	< >	-.72944	-.02199	-.51500	-.03352	-.86522	-.04005	-.45478	*****
.550	< >	< >	< >	< >	-.41716	< >	-.40206	< >	-.75063	< >	-.42854	< >
.650	< >	< >	-.13052	< >	-.26381	-.06906	-.25308	-.06931	-.60577	-.09026	-.39673	-.16314
.750	-.13661	< >	< >	< >	-.13754	< >	-.20832	< >	-.47562	*****	-.38700	*****
.850	-.04050	.00006	-.03473	-.02867	-.01713	-.00719	-.08924	-.02160	-.37855	-.07935	-.37093	-.19548
.950	.04870	.06019	.07625	.02376	.13201	.07775	.06336	.06205	-.25153	-.05814	-.35687	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 9.68^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 10.91^\circ$

P R E S S U R E M E A S U R E M E N T S

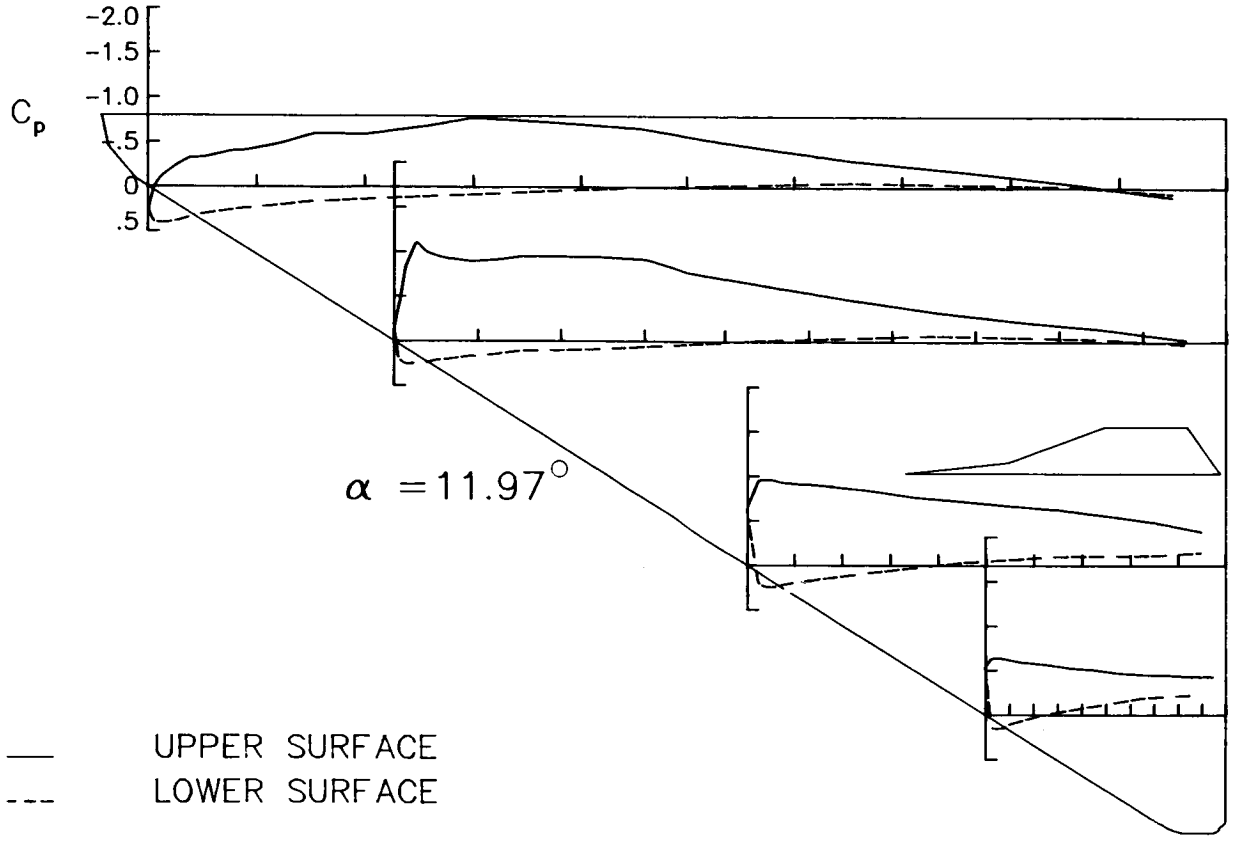
ANGLE OF ATTACK= 11.97 DEGREES MACH NUMBER= 0.81 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.24767	.24767	-.16742	-.16742	-.63348	-.63348	-.54143	-.54143
.005	< >	< >	< >	< >	-.00637	.39206	-.44865	.19842	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.12273	.40258	-.83099	.25137	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.24866	.38390	-1.09975	.24882	-.95001	.20927	-.63564	.14454
.040	< >	< >	< >	< >	-.32187	.34496	-.99895	.24016	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.33476	.30434	-.95081	.21236	-.95723	.24709	-.63803	.15219
.065	< >	< >	< >	< >	-.36839	.27922	-.92404	.20085	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.40637	.25685	-.91167	.18631	-.92688	.21633	-.63168	.14139
.090	< >	< >	< >	< >	-.41131	.23756	-.89538	.16789	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.44291	.22653	-.90180	.16651	-.91407	.19307	-.61632	.10316
.125	< >	< >	< >	< >	-.49859	.19769	-.91860	.13663	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.59879	.16174	-.95152	.10871	-.89790	.15483	-.59212	.06285
.200	< >	< >	< >	< >	-.58938	.13930	-.94756	.09972	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.68663	.11129	-.94136	.08710	-.84013	.08369	-.56640	-.00788
.300	< >	< >	< >	< >	-.77555	< >	-.91314	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.73870	< >	-.77413	< >	-.76244	< >	-.52593	< >
.450	< >	< >	< >	< >	-.65741	.00339	-.63209	-.01190	-.71680	-.03389	-.50632	*****
.550	< >	< >	< >	< >	-.46706	< >	-.46434	< >	-.66639	< >	-.46938	< >
.650	< >	< >	-.17542	< >	-.30033	-.05279	-.33035	-.06916	-.62493	-.10367	-.45214	-.19241
.750	-.17402	< >	< >	< >	-.18369	< >	-.22541	< >	-.55689	*****	-.44717	*****
.850	-.07380	.00183	-.07163	-.03784	-.05058	-.01540	-.14105	-.03104	-.48300	-.11662	-.43159	-.22402
.950	.01857	.04572	.04841	.01393	.10265	.06274	-.02258	.02496	-.37677	-.14792	-.42943	*****

< > NO PRESSURE PORT AT THIS LOCATION

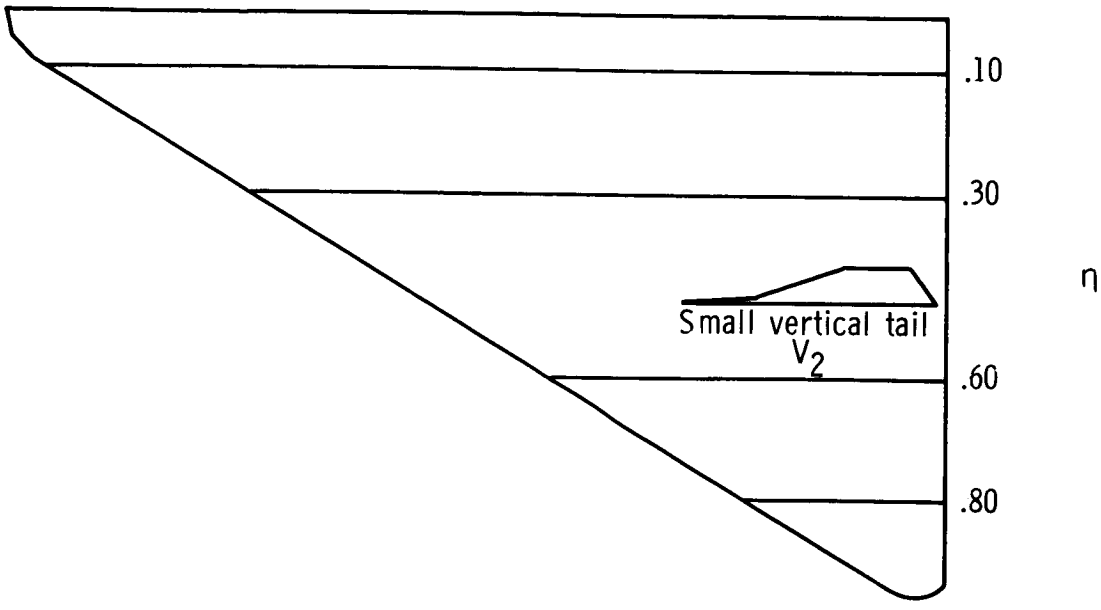
***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 11.97^\circ$
UPPER SURFACE
LOWER SURFACE

Appendix F

Pressure Data for Wing With Small Vertical Tail at $M = 0.83$

The C_p data for the wing with small vertical tail (fig. 2(b)) at $M = 0.83$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.42°$ to $10.87°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.42 DEGREES MACH NUMBER= 0.83 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30190	.30190	.05565	.05565	.13915	.13915	-.09954	-.09954
.005	< >	< >	< >	< >	.31235	.06571	.11510	-.25241	< >	< >	< >	< >
.015	< >	< >	< >	< >	.27877	-.10168	.06163	-.43870	< >	< >	< >	< >
.025	< >	< >	< >	< >	.21653	-.16430	-.01215	-.47951	-.01086	-.85875	.23480	-1.21114
.040	< >	< >	< >	< >	.16411	-.20045	-.06019	-.49525	< >	< >	< >	< >
.050	< >	< >	< >	< >	.12594	-.22274	-.10129	-.46058	-.06548	-.71742	.19278	-1.20507
.065	< >	< >	< >	< >	.08676	-.22502	-.13797	-.44140	< >	< >	< >	< >
.075	< >	< >	< >	< >	.04438	-.22793	-.15740	-.42009	-.07007	-.66140	.17107	-1.18710
.090	< >	< >	< >	< >	.02202	-.21885	-.18180	-.40932	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.00791	-.22581	-.20222	-.39794	-.07819	-.56079	.14425	-1.15851
.125	< >	< >	< >	< >	-.07399	-.24778	-.24787	-.37159	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.15720	-.26513	-.27888	-.30869	-.09799	-.42949	.10641	-1.11903
.200	< >	< >	< >	< >	-.20740	-.26060	-.32139	-.35728	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.29863	-.27433	-.33058	-.33564	-.08573	-.43646	.06992	-1.07895
.300	< >	< >	< >	< >	-.32929	< >	-.34175	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.34151	< >	-.32618	< >	-.08210	< >	.03632	< >
.450	< >	< >	< >	< >	-.35020	-.33468	-.26538	-.37350	-.07642	-.39960	.00158	*****
.550	< >	< >	< >	< >	-.23540	< >	-.18893	< >	-.06903	< >	-.01823	< >
.650	< >	< >	-.03693	< >	-.10451	-.29606	-.10485	-.26973	-.08288	-.24670	-.04868	-.22297
.750	-.03718	< >	< >	< >	-.02975	< >	-.07223	< >	-.07829	*****	-.05224	*****
.850	.03452	-.06867	.03370	-.08962	.05483	-.05610	.03273	-.03565	-.01049	-.01490	-.05553	-.03916
.950	.08953	.05233	.11448	.02393	.15468	.08399	.18033	.12646	.09513	.10986	-.00627	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

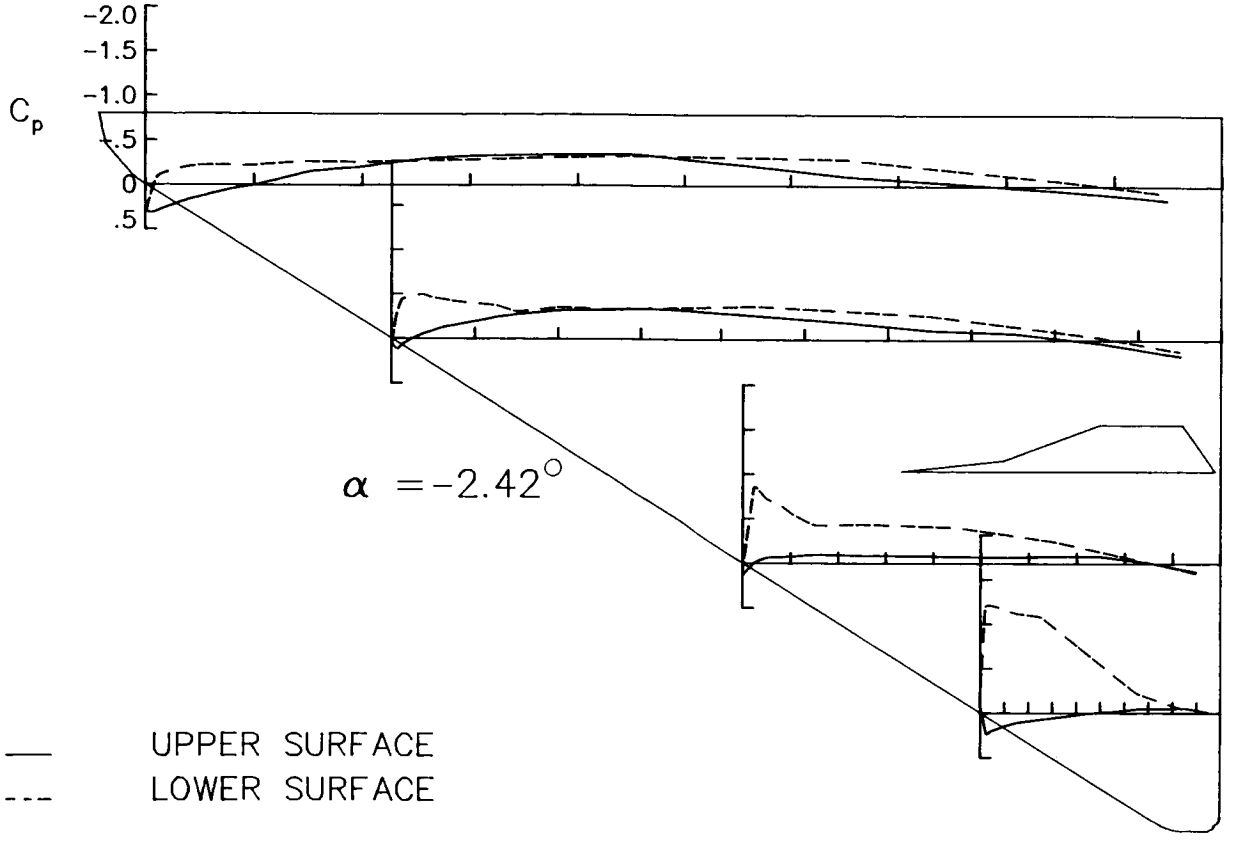
ANGLE OF ATTACK= -1.18 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

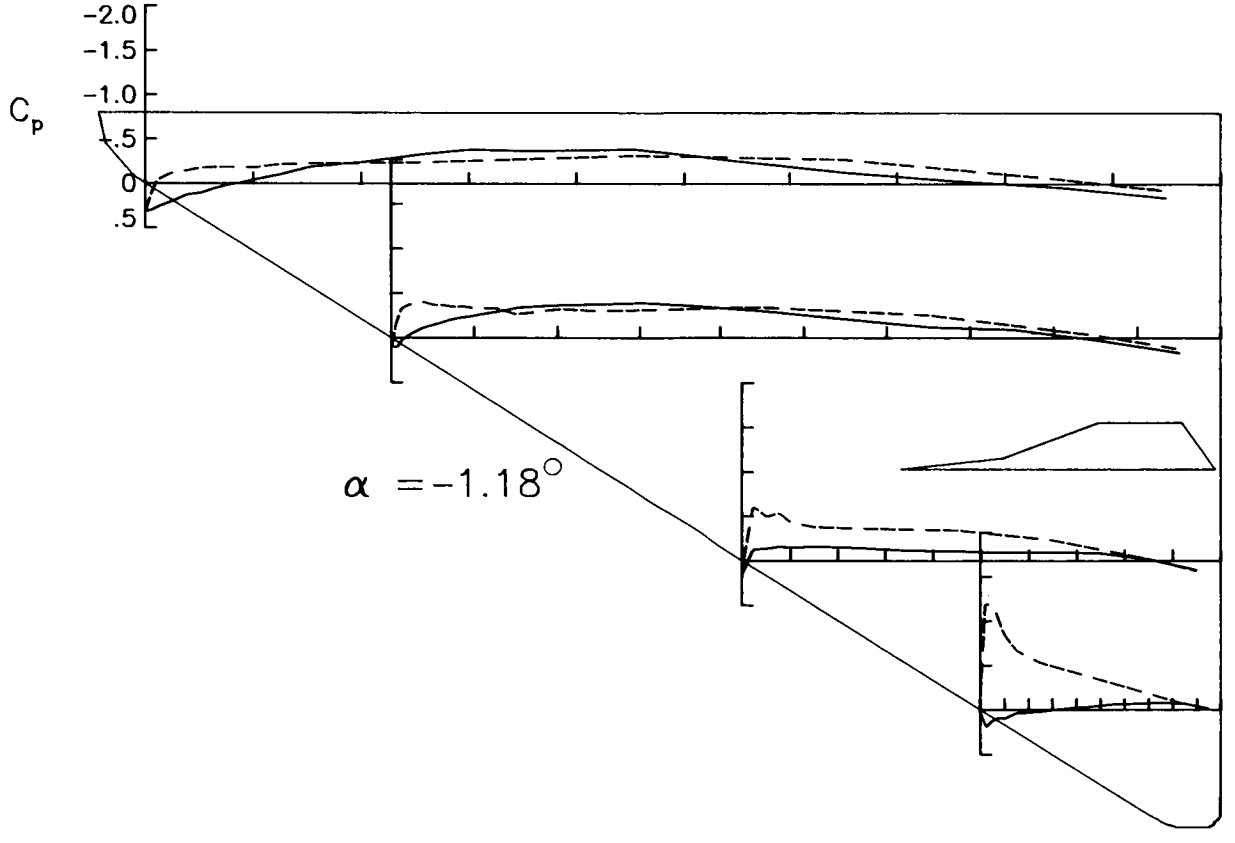
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30971	.30971	.09295	.09295	.18312	.18312	.02876	.02876
.005	< >	< >	< >	< >	.29959	.10940	.09873	-.15182	< >	< >	< >	< >
.015	< >	< >	< >	< >	.25798	-.03597	.02111	-.32795	< >	< >	< >	< >
.025	< >	< >	< >	< >	.19115	-.11677	-.05861	-.38179	-.12544	-.59771	.18504	-1.19031
.040	< >	< >	< >	< >	.12688	-.14155	-.11269	-.40292	< >	< >	< >	< >
.050	< >	< >	< >	< >	.10316	-.17338	-.15079	-.37174	-.14050	-.50418	.12626	-1.17859
.065	< >	< >	< >	< >	.05438	-.18628	-.18611	-.36346	< >	< >	< >	< >
.075	< >	< >	< >	< >	.01161	-.18515	-.21896	-.34896	-.15971	-.53173	.09076	-1.02546
.090	< >	< >	< >	< >	-.00805	-.18307	-.23501	-.34859	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.04844	-.18279	-.25584	-.33416	-.15045	-.43629	.09566	-.84693
.125	< >	< >	< >	< >	-.10294	-.21508	-.29344	-.32829	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.18769	-.22722	-.33999	-.26859	-.16310	-.38308	.03589	-.66898
.200	< >	< >	< >	< >	-.23958	-.22905	-.36613	-.32174	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.33477	-.23801	-.37797	-.30099	-.14528	-.36553	.01829	-.53206
.300	< >	< >	< >	< >	-.38082	< >	-.39180	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.36682	< >	-.36375	< >	-.11687	< >	-.01571	< >
.450	< >	< >	< >	< >	-.38565	-.31436	-.30612	-.34335	-.10973	-.34398	-.03536	*****
.550	< >	< >	< >	< >	-.25355	< >	-.20671	< >	-.09494	< >	-.06320	< >
.650	< >	< >	-.05172	< >	-.12628	-.27185	-.11875	-.25338	-.10089	-.23247	-.07171	-.22193
.750	-.04544	< >	< >	< >	-.03486	< >	-.09056	< >	-.08620	*****	-.08305	*****
.850	.02476	-.05654	.02380	-.08381	.04120	-.05448	.02589	-.02933	-.01559	-.02026	-.06827	-.06400
.950	.08281	.05130	.11603	.02823	.15869	.07964	.16869	.12363	.10233	.11302	-.01361	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = -2.42^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = -1.18^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .06 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31762	.31762	.10802	.10802	.19026	.19026	.13168	.13168
.005	< >	< >	< >	< >	.28758	.15810	.07616	-.06528	< >	< >	< >	< >
.015	< >	< >	< >	< >	.23480	.02051	-.01762	-.21705	< >	< >	< >	< >
.025	< >	< >	< >	< >	.16281	-.05601	-.12090	-.28924	-.25725	-.40963	.09732	-1.02421
.040	< >	< >	< >	< >	.09256	-.09237	-.16919	-.31413	< >	< >	< >	< >
.050	< >	< >	< >	< >	.06559	-.11734	-.19628	-.30112	-.26424	-.35853	.03626	-.93672
.065	< >	< >	< >	< >	.02344	-.13509	-.23445	-.29488	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.02619	-.13980	-.27300	-.29053	-.25191	-.40025	.00293	-.74419
.090	< >	< >	< >	< >	-.04517	-.14592	-.28177	-.28047	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.08392	-.14376	-.30748	-.28117	-.24425	-.34626	.00313	-.55128
.125	< >	< >	< >	< >	-.14545	-.16968	-.34546	-.27430	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.22218	-.18743	-.39086	-.23184	-.24165	-.30261	-.04181	-.54889
.200	< >	< >	< >	< >	-.27576	-.19266	-.42003	-.26757	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.37128	-.21108	-.42329	-.26328	-.19222	-.30539	-.04568	-.43401
.300	< >	< >	< >	< >	-.41713	< >	-.44003	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.41290	< >	-.40534	< >	-.17237	< >	-.06987	< >
.450	< >	< >	< >	< >	-.42029	-.28103	-.33685	-.31191	-.14186	-.30689	-.08246	*****
.550	< >	< >	< >	< >	-.27755	< >	-.23286	< >	-.11694	< >	-.09534	< >
.650	< >	< >	-.05963	< >	-.13670	-.25279	-.13285	-.23821	-.11958	-.21617	-.11105	-.19650
.750	-.05690	< >	< >	< >	-.04725	< >	-.11162	< >	-.09822	*****	-.09331	*****
.850	.01548	-.05814	.01385	-.07826	.04014	-.05308	.02008	-.03111	-.01544	-.01718	-.05902	-.01424
.950	.08666	.05492	.11343	.02840	.15015	.08522	.16976	.12378	.10565	.10900	.02103	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

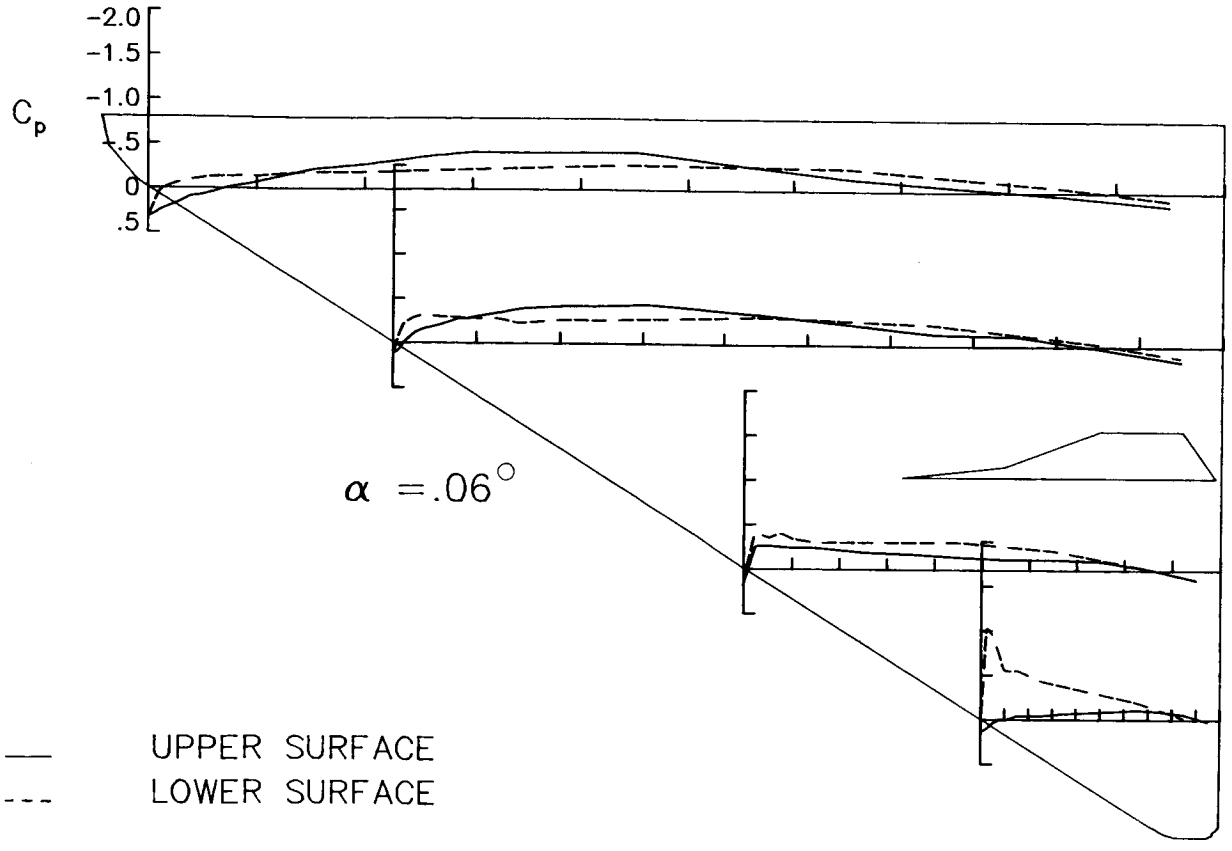
ANGLE OF ATTACK= 1.30 DEGREES MACH NUMBER= 0.83 CONFIGURATION : SMALL TAILS(V2) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.33124	.33124	.12462	.12462	.16455	.16455	.19564	.19564
.005	< >	< >	< >	< >	.26453	.19111	.04102	.01050	< >	< >	< >	< >
.015	< >	< >	< >	< >	.20909	.08339	-.07730	-.12426	< >	< >	< >	< >
.025	< >	< >	< >	< >	.12910	-.00818	-.18989	-.20024	-.43810	-.22717	-.03963	-.64056
.040	< >	< >	< >	< >	.06264	-.03700	-.22202	-.23260	< >	< >	< >	< >
.050	< >	< >	< >	< >	.02821	-.07214	-.25937	-.22909	-.42295	-.24337	-.10103	-.57769
.065	< >	< >	< >	< >	-.01044	-.08893	-.29291	-.23048	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.05997	-.10083	-.31770	-.22303	-.36426	-.26688	-.10578	-.51554
.090	< >	< >	< >	< >	-.07718	-.10138	-.34655	-.22941	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.11775	-.10052	-.36178	-.21705	-.33777	-.25090	-.09951	-.47000
.125	< >	< >	< >	< >	-.17512	-.13870	-.39819	-.23095	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.25852	-.15141	-.43659	-.18869	-.32832	-.23184	-.13420	-.39384
.200	< >	< >	< >	< >	-.30923	-.16140	-.47645	-.23160	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.41226	-.17646	-.48422	-.22658	-.25906	-.25924	-.10840	-.34590
.300	< >	< >	< >	< >	-.45103	< >	-.48873	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.44351	< >	-.44840	< >	-.20978	< >	-.13352	< >
.450	< >	< >	< >	< >	-.44998	-.24747	-.36694	-.28049	-.18428	-.26398	-.14469	*****
.550	< >	< >	< >	< >	-.29207	< >	-.24938	< >	-.14292	< >	-.14233	< >
.650	< >	< >	-.07205	< >	-.15248	-.23070	-.14752	-.22040	-.12927	-.19685	-.13757	-.19196
.750	-.06581	< >	< >	< >	-.06350	< >	-.12619	< >	-.10457	*****	-.11405	*****
.850	.00761	-.04826	.01317	-.07388	.03069	-.05064	.01403	-.02866	-.01990	-.01735	-.05617	.00189
.950	.08055	.05052	.11236	.02333	.15330	.08123	.16960	.11245	.10536	.10583	.03511	*****

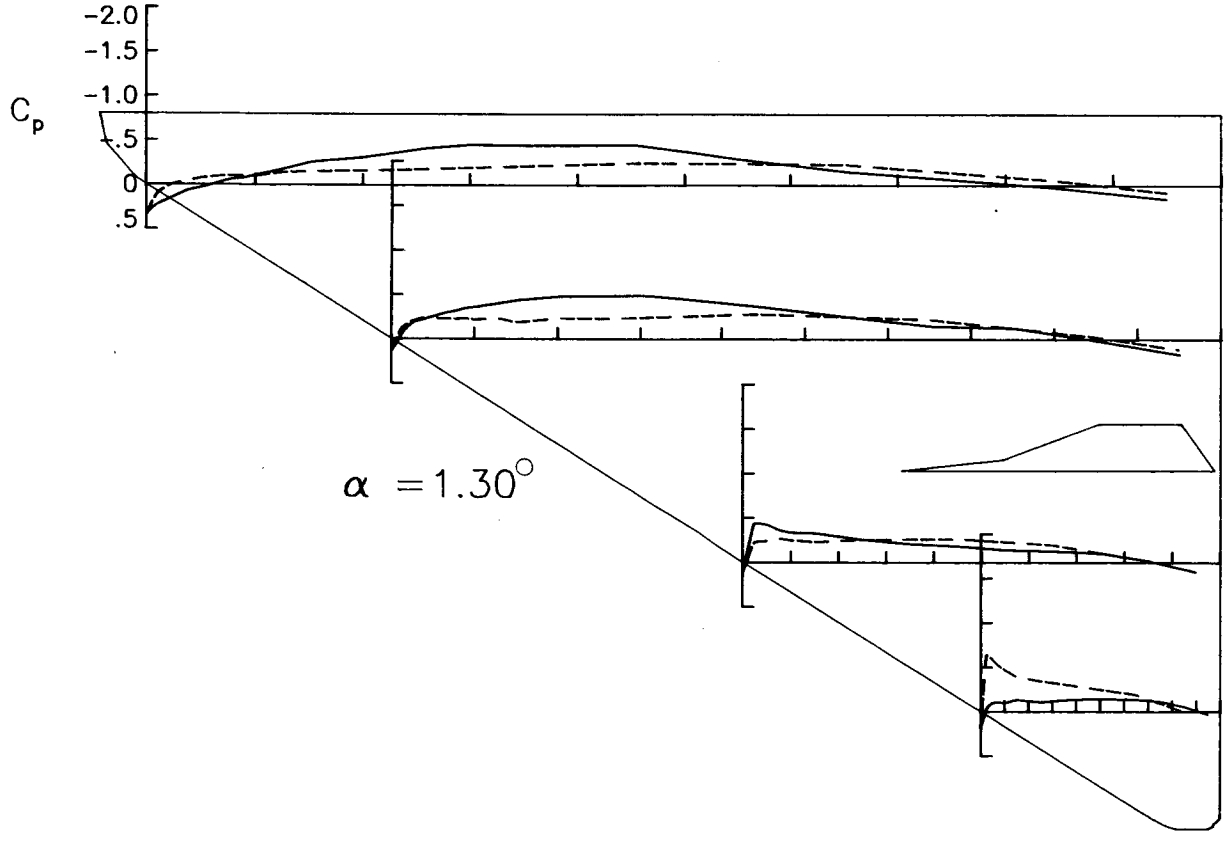
< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT



UPPER SURFACE

LOWER SURFACE



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.46 DEGREES MACH NUMBER= 0.83 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32684	.32684	.12416	.12416	.09928	.09928	.21621	.21621
.005	< >	< >	< >	< >	.25185	.22904	.01241	.06441	< >	< >	< >	< >
.015	< >	< >	< >	< >	.18466	.12626	-.12788	-.05052	< >	< >	< >	< >
.025	< >	< >	< >	< >	.09537	.03921	-.25050	-.11616	-.66561	-.11451	-.22399	-.36156
.040	< >	< >	< >	< >	.02737	.00501	-.28745	-.15226	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.00033	-.02198	-.31030	-.16648	-.60721	-.14167	-.26853	-.36175
.065	< >	< >	< >	< >	-.04931	-.04005	-.34440	-.17240	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.09379	-.05803	-.37882	-.17349	-.49379	-.17476	-.25941	-.31194
.090	< >	< >	< >	< >	-.11364	-.06720	-.39639	-.17428	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.14965	-.06773	-.41736	-.17327	-.43846	-.18210	-.20212	-.31473
.125	< >	< >	< >	< >	-.21057	-.09713	-.45866	-.18867	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.29702	-.12498	-.49645	-.15705	-.40209	-.17073	-.24134	-.29418
.200	< >	< >	< >	< >	-.34037	-.13184	-.50880	-.19121	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.43801	-.14662	-.54367	-.18761	-.31166	-.19918	-.18779	-.27617
.300	< >	< >	< >	< >	-.49640	< >	-.56518	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.46887	< >	-.48288	< >	-.25870	< >	-.19655	< >
.450	< >	< >	< >	< >	-.51136	-.22886	-.39270	-.24932	-.21279	-.24072	-.19259	*****
.550	< >	< >	< >	< >	-.30812	< >	-.26834	< >	-.15877	< >	-.19595	< >
.650	< >	< >	-.07357	< >	-.16256	-.21502	-.16680	-.20433	-.14681	-.17993	-.17312	-.18294
.750	-.07680	< >	< >	< >	-.06828	< >	-.14016	< >	-.11495	*****	-.13443	*****
.850	.00708	-.04894	.00509	-.06697	.01969	-.04145	.01215	-.02752	-.02140	-.01839	-.06434	.00424
.950	.07875	.05380	.11053	.02885	.14958	.08127	.16115	.11384	.11008	.09669	.04171	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

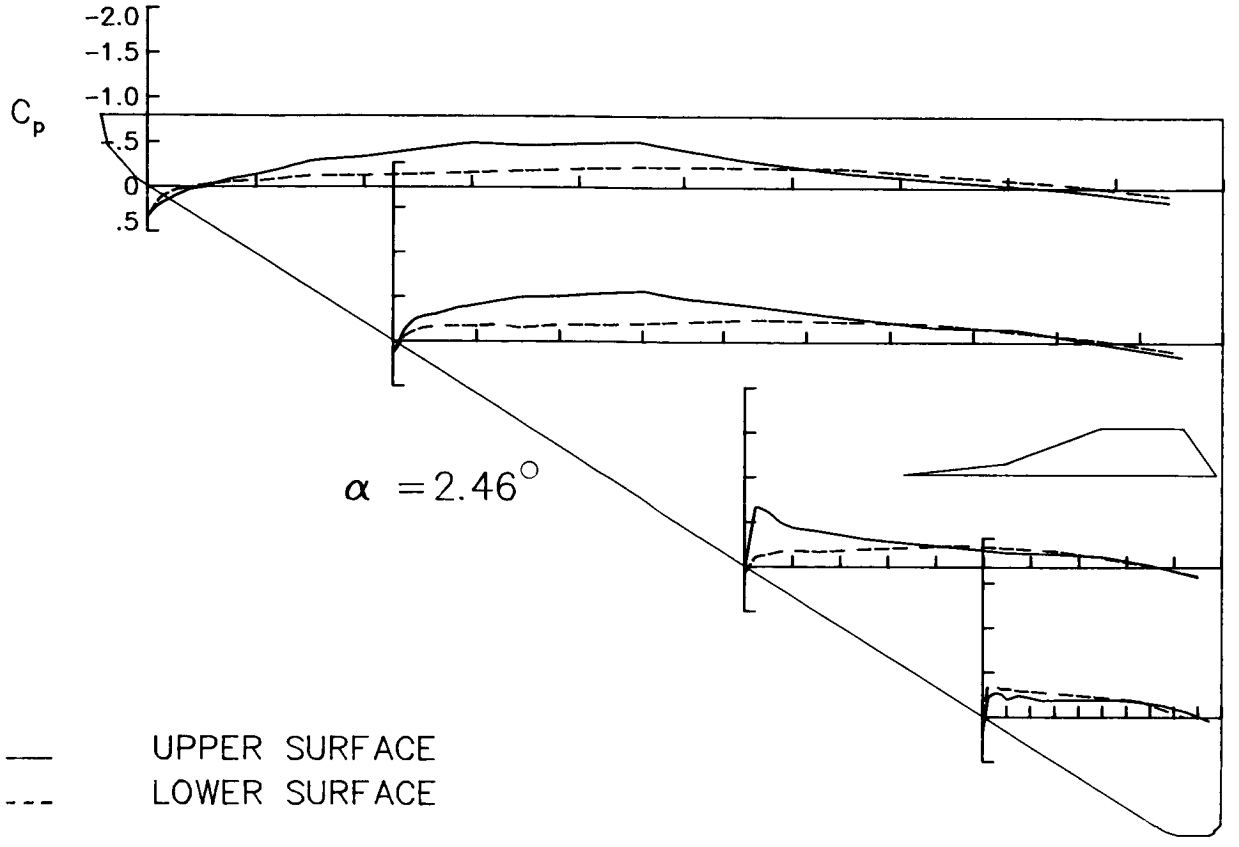
ANGLE OF ATTACK= 3.66 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.34158	.34158	.11951	.11951	.00794	.00794	.15110	.15110
.005	< >	< >	< >	< >	.24124	.26514	-.01894	.12396	< >	< >	< >	< >
.015	< >	< >	< >	< >	.16397	.17012	-.18676	.02195	< >	< >	< >	< >
.025	< >	< >	< >	< >	.06934	.09580	-.32299	-.06237	-.95163	-.02721	-.49833	-.12134
.040	< >	< >	< >	< >	-.00384	.05462	-.35765	-.08960	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.03054	.02127	-.37924	-.10924	-.84504	-.06853	-.50835	-.17594
.065	< >	< >	< >	< >	-.07766	-.00587	-.40427	-.11651	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.12481	-.01261	-.43612	-.12420	-.61562	-.11880	-.42486	-.17932
.090	< >	< >	< >	< >	-.14279	-.02414	-.45854	-.12298	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.18599	-.02869	-.48161	-.12923	-.50048	-.12733	-.35778	-.19043
.125	< >	< >	< >	< >	-.24206	-.06031	-.50787	-.13996	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.32778	-.08384	-.56817	-.11750	-.48912	-.12758	-.34290	-.20452
.200	< >	< >	< >	< >	-.36430	-.10052	-.58054	-.15836	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.47203	-.11532	-.61292	-.16372	-.36839	-.16595	-.26823	-.20989
.300	< >	< >	< >	< >	-.53894	< >	-.61449	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.50141	< >	-.61098	< >	-.29956	< >	-.26335	< >
.450	< >	< >	< >	< >	-.55879	-.20079	-.41927	-.21489	-.23800	-.21681	-.25926	*****
.550	< >	< >	< >	< >	-.31927	< >	-.28043	< >	-.17986	< >	-.23457	< >
.650	< >	< >	-.08178	< >	-.17065	-.18788	-.17235	-.18292	-.16494	-.17061	-.21139	-.15992
.750	-.07712	< >	< >	< >	-.07941	< >	-.14181	< >	-.13846	*****	-.15228	*****
.850	.00278	-.03947	-.00355	-.07079	.01893	-.03640	.00680	-.02582	-.03405	-.02444	-.07236	.00187
.950	.07686	.05683	.10035	.02942	.14511	.08042	.16045	.10958	.10759	.09324	.04245	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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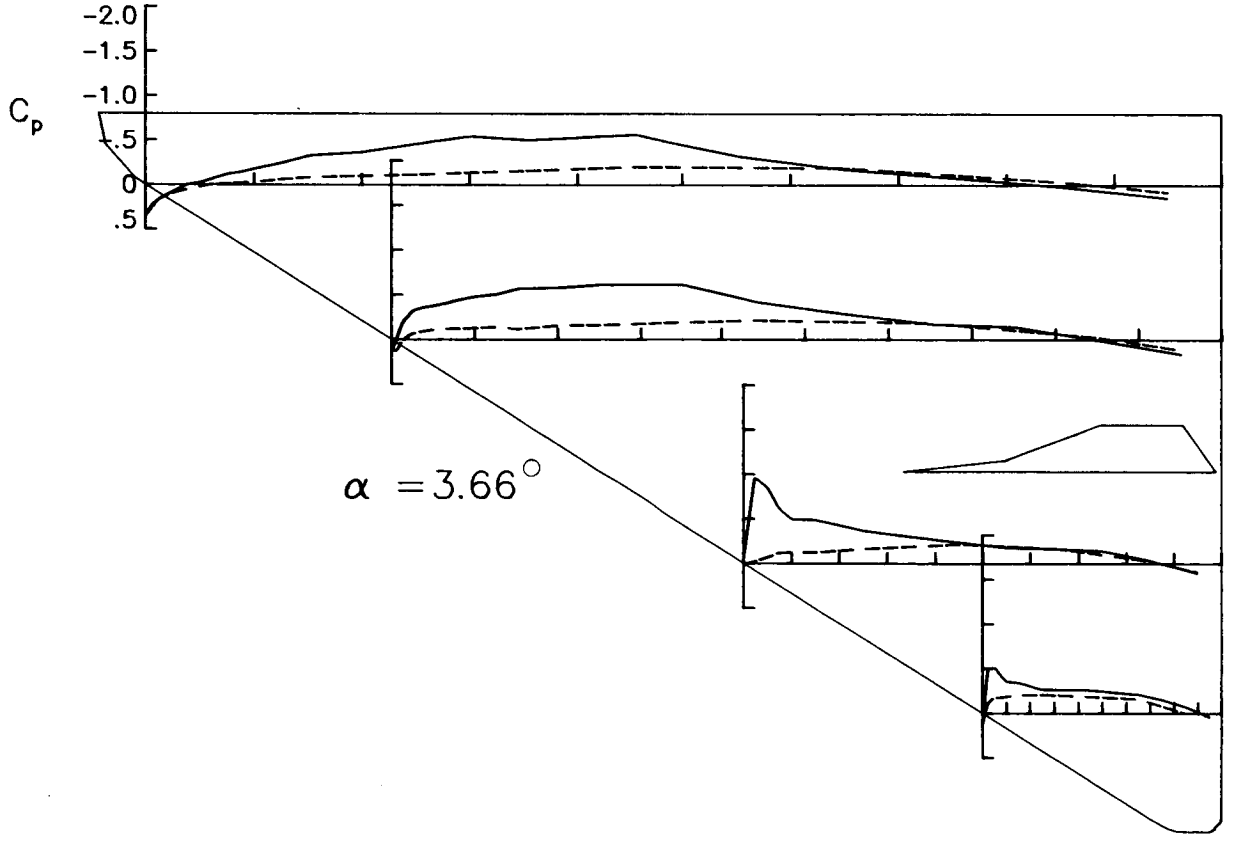
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 2.46^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 3.66^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.87 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32764	.32764	.10697	.10697	-.09445	-.09445	.02445	.02445
.005	< >	< >	< >	< >	.20572	.28887	-.06775	.15512	< >	< >	< >	< >
.015	< >	< >	< >	< >	.13539	.21404	-.26489	.08021	< >	< >	< >	< >
.025	< >	< >	< >	< >	.02416	.14239	-.38539	.00382	-1.27537	.05349	-.84794	.03129
.040	< >	< >	< >	< >	-.04441	.10160	-.41818	-.02966	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.07955	.07038	-.43171	-.05095	-1.17694	.00603	-.77394	-.03974
.065	< >	< >	< >	< >	-.11310	.04197	-.45987	-.06525	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.16242	.02530	-.48518	-.06676	-.95006	-.03027	-.64651	-.06792
.090	< >	< >	< >	< >	-.18166	.01538	-.50135	-.07833	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.21900	.00540	-.51906	-.08156	-.75202	-.05639	-.49057	-.09262
.125	< >	< >	< >	< >	-.28276	-.02516	-.54675	-.09611	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.35605	-.04790	-.60428	-.08280	-.53109	-.06512	-.47380	-.11945
.200	< >	< >	< >	< >	-.40181	-.06275	-.62509	-.11424	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.49715	-.08615	-.63799	-.11974	-.43234	-.11385	-.35874	-.15433
.300	< >	< >	< >	< >	-.55766	< >	-.63927	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.54663	< >	-.64143	< >	-.33614	< >	-.33609	< >
.450	< >	< >	< >	< >	-.58289	-.16994	-.39929	-.18868	-.26670	-.16987	-.30821	*****
.550	< >	< >	< >	< >	-.32701	< >	-.29406	< >	-.19638	< >	-.27850	< >
.650	< >	< >	-.08515	< >	-.17949	-.17395	-.17784	-.16287	-.16830	-.14886	-.23060	-.14239
.750	-.08337	< >	< >	< >	-.08467	< >	-.15708	< >	-.13472	*****	-.16692	*****
.850	-.00154	-.03122	-.00019	-.05372	.01269	-.03275	.00241	-.02593	-.03092	-.01853	-.07707	-.00733
.950	.07555	.05769	.10362	.03134	.14859	.08143	.14999	.09731	.10157	.07755	.04265	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

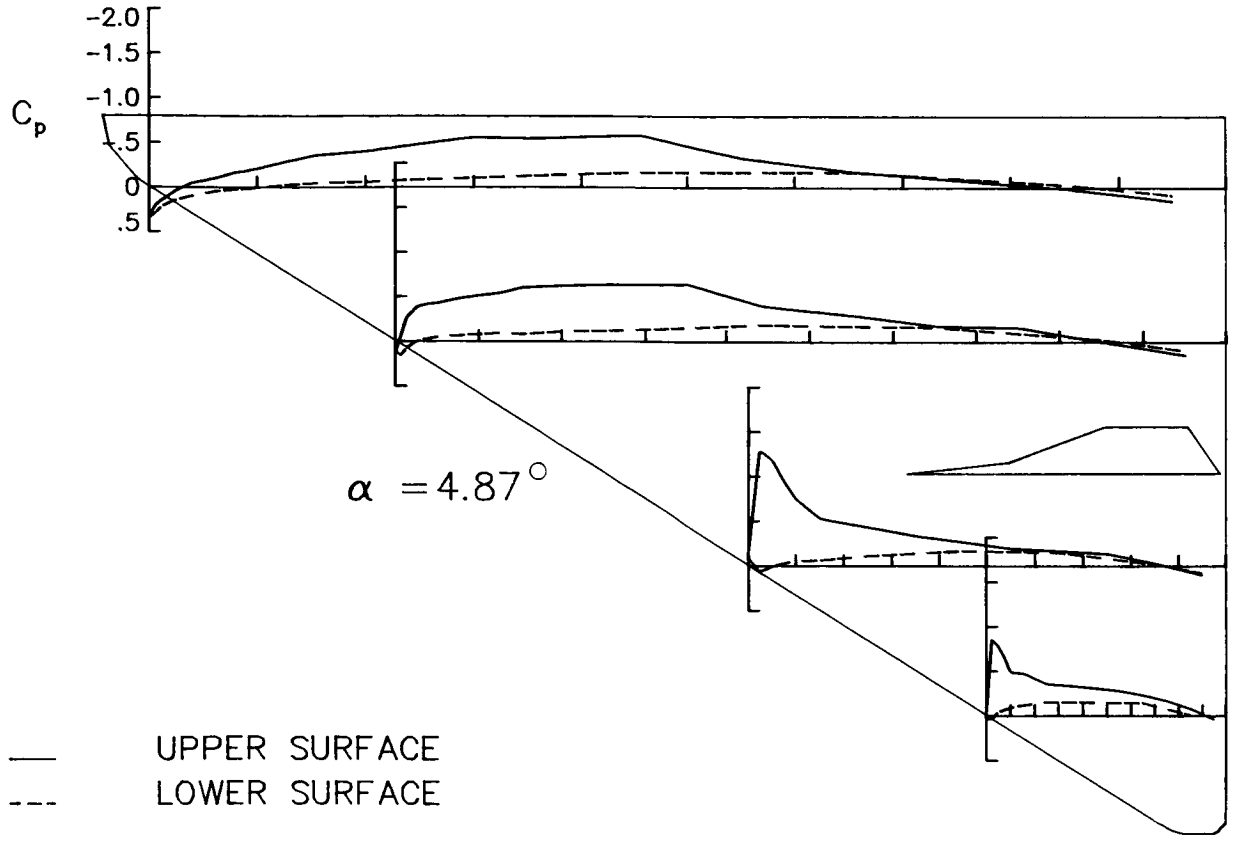
ANGLE OF ATTACK= 6.16 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

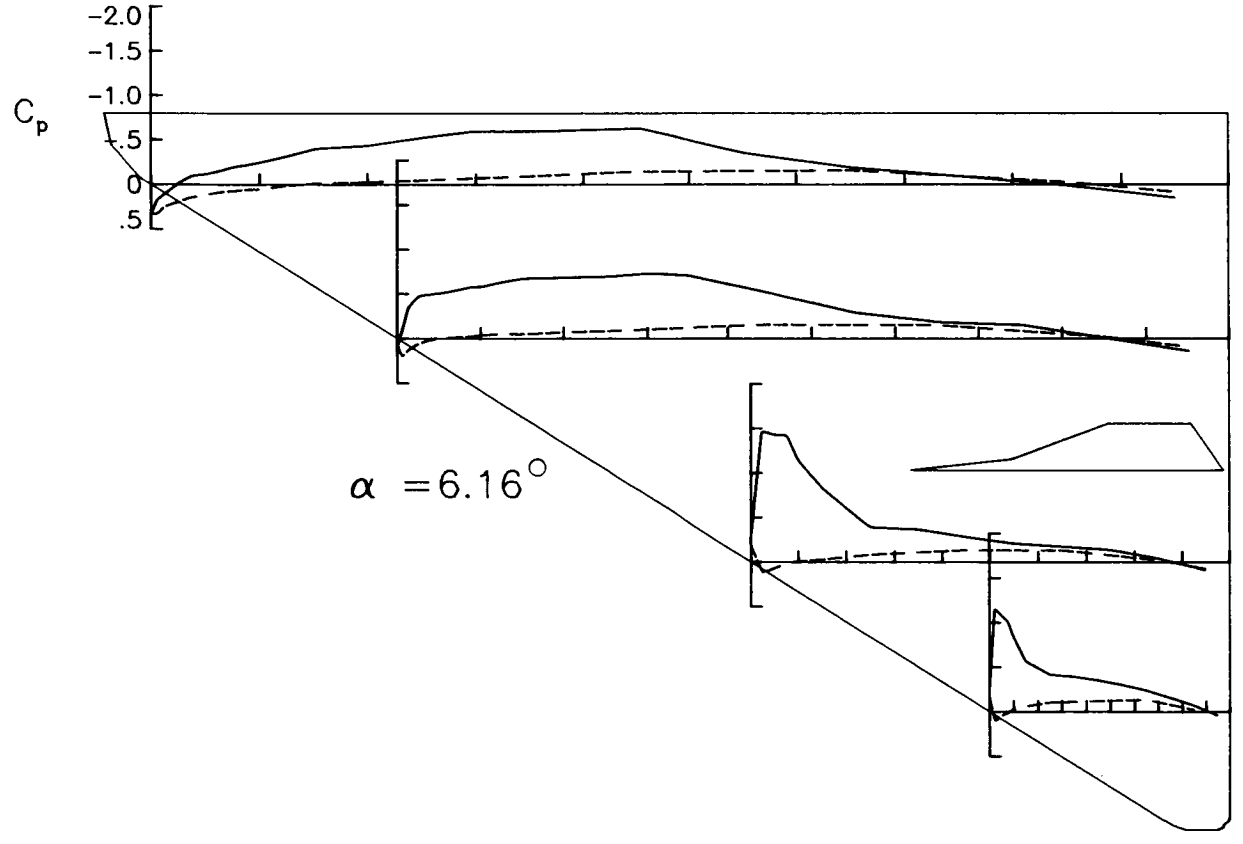
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32787	.32787	.07869	.07869	-.20065	-.20065	-.18462	-.18462
.005	< >	< >	< >	< >	.17499	.32469	-.11761	.19165	< >	< >	< >	< >
.015	< >	< >	< >	< >	.10542	.25643	-.34870	.13325	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.02046	.19758	-.47494	.06342	-1.46202	.11121	-1.14710	.09942
.040	< >	< >	< >	< >	-.09543	.14693	-.49355	.02405	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.11834	.12015	-.50926	.00105	-1.42979	.06925	-1.08014	.04620
.065	< >	< >	< >	< >	-.15621	.08634	-.52846	-.00836	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.20128	.07090	-.55561	-.01948	-1.41905	.02209	-1.01357	.01501
.090	< >	< >	< >	< >	-.21871	.05703	-.57849	-.02430	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.25453	.05087	-.58595	-.03741	-1.14597	-.00859	-.83496	-.02463
.125	< >	< >	< >	< >	-.31593	.01268	-.63512	-.05314	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.40180	-.01311	-.67493	-.05180	-.82628	-.03109	-.56712	-.06247
.200	< >	< >	< >	< >	-.43544	-.02701	-.68495	-.07295	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.53716	-.04876	-.69650	-.08436	-.39729	-.08564	-.41829	-.10486
.300	< >	< >	< >	< >	-.59469	< >	-.72875	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.59506	< >	-.70342	< >	-.36590	< >	-.39388	< >
.450	< >	< >	< >	< >	-.62220	-.14306	-.52370	-.15589	-.28313	-.13647	-.35280	*****
.550	< >	< >	< >	< >	-.34913	< >	-.29049	< >	-.21093	< >	-.30153	< >
.650	< >	< >	-.08659	< >	-.18710	-.15723	-.18519	-.15053	-.17633	-.13190	-.24104	-.13739
.750	-.08648	< >	< >	< >	-.09082	< >	-.15327	< >	-.13614	*****	-.15932	*****
.850	-.00185	-.03132	-.00046	-.05362	.01298	-.02730	-.00759	-.02149	-.04321	-.02161	-.07057	-.02224
.950	.07522	.06489	.10749	.03238	.14962	.08381	.13666	.08832	.09164	.07341	.04402	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 4.87^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 6.16^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.45 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32747	.32747	.05329	.05329	-.29072	-.29072	-.28393	-.28393
.005	< >	< >	< >	< >	.14558	.34592	-.18774	.20591	< >	< >	< >	< >
.015	< >	< >	< >	< >	.05171	.29191	-.44014	.18035	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.05014	.24931	-.57402	.11118	-1.55165	.15883	-.83453	.14387
.040	< >	< >	< >	< >	-.13473	.20287	-.58625	.07665	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.15319	.15838	-.58764	.06262	-1.54493	.10366	-.72593	.08971
.065	< >	< >	< >	< >	-.19984	.13076	-.58472	.03889	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.24383	.10875	-.60646	.02425	-1.54362	.05670	-.67707	.05683
.090	< >	< >	< >	< >	-.25455	.10681	-.62835	.01821	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.28932	.08542	-.65964	.00313	-1.52842	.05243	-.65505	.01355
.125	< >	< >	< >	< >	-.35610	.06104	-.67857	-.01014	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.44056	.02557	-.73502	-.00862	-1.11901	.01940	-.59262	-.01397
.200	< >	< >	< >	< >	-.46665	.00817	-.74359	-.03865	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56550	-.01216	-.76668	-.04820	-.69778	-.03719	-.52911	-.07609
.300	< >	< >	< >	< >	-.64179	< >	-.79119	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.63802	< >	-.76335	< >	-.30430	< >	-.45941	< >
.450	< >	< >	< >	< >	-.64749	-.11500	-.68214	-.13353	-.28931	-.12027	-.38751	*****
.550	< >	< >	< >	< >	-.45072	< >	-.28223	< >	-.21602	< >	-.33885	< >
.650	< >	< >	-.08620	< >	-.19350	-.13545	-.19058	-.12452	-.17111	-.12615	-.28508	-.13812
.750	-.08150	< >	< >	< >	-.08782	< >	-.15112	< >	-.13761	*****	-.21447	*****
.850	-.00262	-.01507	-.00038	-.04405	.01322	-.02512	-.02192	-.02255	-.05358	-.02808	-.15132	-.06396
.950	.07449	.06087	.10496	.03784	.14765	.08471	.11534	.08763	.07912	.05950	-.08945	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

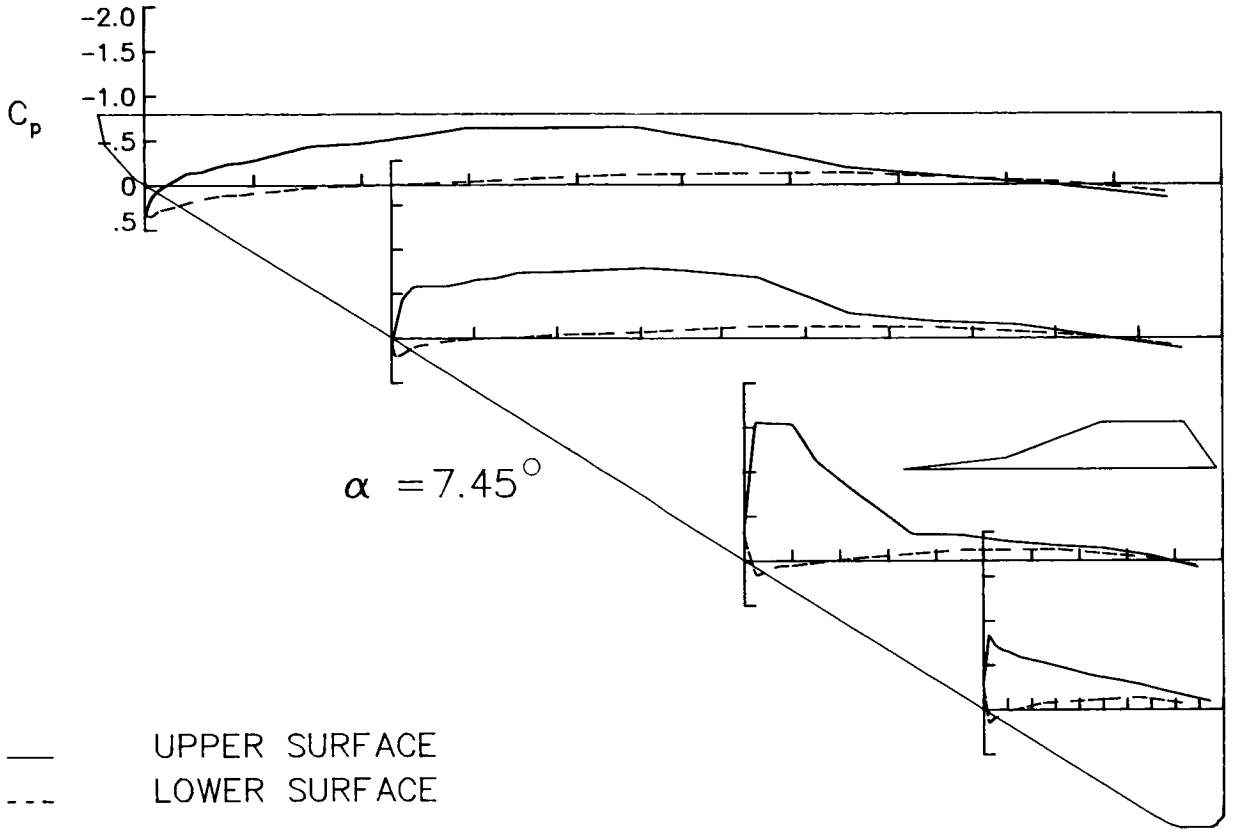
ANGLE OF ATTACK= 8.64 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

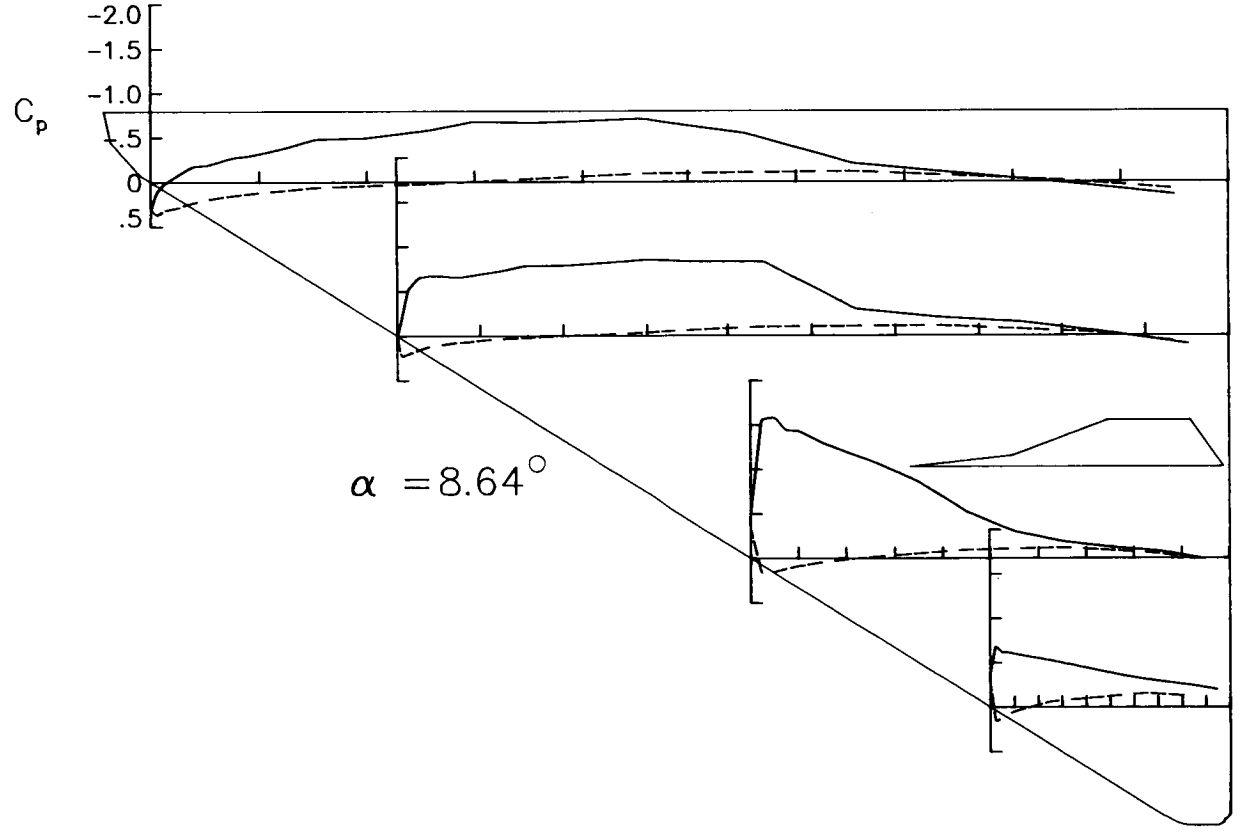
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31168	.31168	.00474	.00474	-.38147	-.38147	-.33994	-.33994
.005	< >	< >	< >	< >	.11567	.36810	-.24101	.22191	< >	< >	< >	< >
.015	< >	< >	< >	< >	.02026	.32541	-.51657	.20455	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.09110	.28657	-.65053	.16154	-1.55699	.17422	-.67939	.15612
.040	< >	< >	< >	< >	-.17476	.23906	-.67023	.12427	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.19182	.20056	-.67148	.10368	-1.57846	.14982	-.61861	.11665
.065	< >	< >	< >	< >	-.23205	.17288	-.65968	.08593	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.27738	.15201	-.66167	.07012	-1.44407	.11614	-.61476	.08425
.090	< >	< >	< >	< >	-.28975	.13538	-.67686	.06379	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.32400	.11817	-.69647	.04937	-1.42901	.08543	-.60117	.04908
.125	< >	< >	< >	< >	-.38376	.09300	-.73071	.03186	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.47836	.06243	-.78316	.02303	-1.29489	.04243	-.57429	.01046
.200	< >	< >	< >	< >	-.49456	.04157	-.79047	-.00306	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.58228	.02301	-.82104	-.01491	-1.09650	-.01638	-.52731	-.06250
.300	< >	< >	< >	< >	-.67533	< >	-.85338	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.66316	< >	-.83119	< >	-.86198	< >	-.47093	< >
.450	< >	< >	< >	< >	-.70636	-.09115	-.82366	-.09850	-.52482	-.09562	-.41225	*****
.550	< >	< >	< >	< >	-.54226	< >	-.30037	< >	-.30405	< >	-.35802	< >
.650	< >	< >	-.08369	< >	-.20668	-.11586	-.20492	-.11247	-.19147	-.12083	-.31299	-.15699
.750	-.08437	< >	< >	< >	-.09218	< >	-.14889	< >	-.12426	*****	-.27690	*****
.850	.00160	-.01329	-.00239	-.04799	.01814	-.01236	-.03555	-.02863	-.08208	-.05568	-.24331	-.11975
.950	.06643	.06204	.10154	.03270	.14827	.07996	.09632	.07972	.00753	.02957	-.19924	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 7.45^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 8.64^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.78 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30272	.30272	-.03547	-.03547	-.47547	-.47547	-.38846	-.38846
.005	< >	< >	< >	< >	.08100	.38199	-.29705	.22438	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.01644	.36120	-.59603	.23468	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.12712	.32829	-.79012	.19359	-1.17855	.19550	-.61114	.15154
.040	< >	< >	< >	< >	-.21669	.27037	-.75338	.16665	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.23183	.23586	-.75258	.15523	-1.16103	.17234	-.58479	.13471
.065	< >	< >	< >	< >	-.27119	.21092	-.74411	.13226	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.31108	.18840	-.72267	.11137	-1.14015	.14981	-.56826	.10875
.090	< >	< >	< >	< >	-.31859	.17672	-.73382	.09583	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.35157	.16258	-.74594	.09167	-1.10167	.12198	-.55895	.07653
.125	< >	< >	< >	< >	-.41683	.12603	-.77561	.06565	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.51093	.09689	-.81792	.04077	-1.06582	.08098	-.53135	.03870
.200	< >	< >	< >	< >	-.52912	.07420	-.83507	.02812	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.60626	.05328	-.87105	.01748	-.98905	.01786	-.50653	-.03677
.300	< >	< >	< >	< >	-.69533	< >	-.89712	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.68983	< >	-.87278	< >	-.91677	< >	-.46427	< >
.450	< >	< >	< >	< >	-.71992	-.05772	-.81364	-.06853	-.82487	-.07738	-.42258	*****
.550	< >	< >	< >	< >	-.61721	< >	-.34330	< >	-.68102	< >	-.39121	< >
.650	< >	< >	-.09555	< >	-.23393	-.10191	-.23580	-.09628	-.50714	-.11441	-.37522	-.18255
.750	-.10109	< >	< >	< >	-.10175	< >	-.15992	< >	-.38420	*****	-.35615	*****
.850	-.01155	-.01752	-.00571	-.04744	.01805	-.02118	-.05758	-.02902	-.27676	-.07375	-.32664	-.17534
.950	.06035	.05581	.09532	.02086	.14285	.07525	.07433	.05831	-.16965	-.02573	-.31493	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

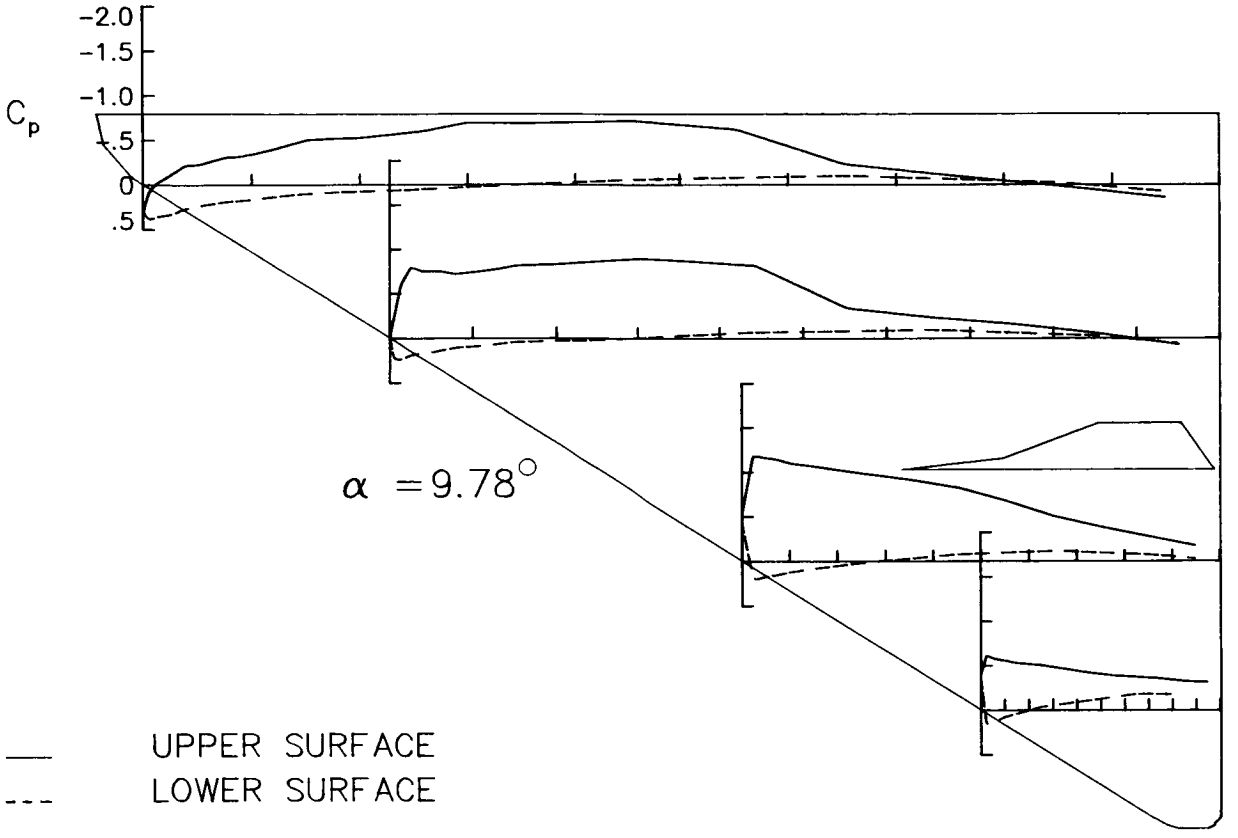
ANGLE OF ATTACK= 10.87 DEGREES MACH NUMBER= 0.84 CONFIGURATION : SMALL TAILS(V2) ON

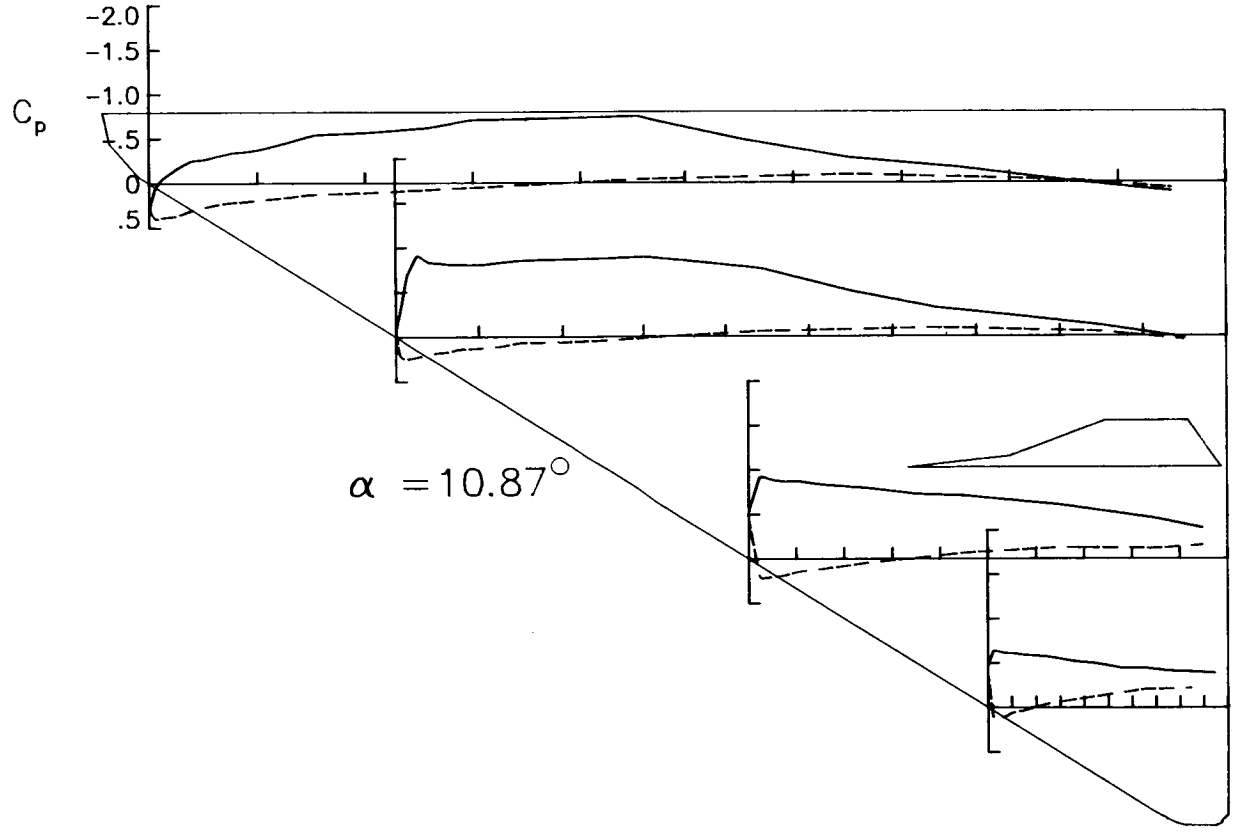
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28910	.28910	-.07915	-.07915	-.50039	-.50039	-.44490	-.44490
.005	< >	< >	< >	< >	.05065	.39682	-.34911	.22333	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.05314	.38453	-.68134	.24839	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.17358	.36442	-.90808	.22770	-.92116	.21323	-.63904	.14302
.040	< >	< >	< >	< >	-.24995	.31153	-.83707	.20595	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.26867	.27241	-.82254	.17977	-.88923	.20387	-.62739	.12650
.065	< >	< >	< >	< >	-.30440	.24192	-.80865	.16883	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.33962	.21873	-.80788	.14134	-.86912	.18718	-.61295	.09999
.090	< >	< >	< >	< >	-.35021	.20937	-.80462	.13416	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.37774	.19204	-.80688	.12689	-.87507	.14778	-.61110	.06226
.125	< >	< >	< >	< >	-.44363	.16498	-.83332	.10442	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.53717	.12892	-.85604	.06881	-.83927	.11498	-.59397	.03367
.200	< >	< >	< >	< >	-.56303	.11130	-.86735	.06097	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.61999	.08202	-.87940	.04291	-.79619	.04534	-.57381	-.04475
.300	< >	< >	< >	< >	-.70446	< >	-.89323	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.71699	< >	-.84983	< >	-.73233	< >	-.52379	< >
.450	< >	< >	< >	< >	-.74361	-.03582	-.75940	-.05655	-.71097	-.06655	-.49653	*****
.550	< >	< >	< >	< >	-.48350	< >	-.50249	< >	-.66126	< >	-.44832	< >
.650	< >	< >	-.14899	< >	-.27671	-.09089	-.32018	-.09461	-.60662	-.12568	-.44559	-.20622
.750	-.16498	< >	< >	< >	-.16717	< >	-.22317	< >	-.53183	*****	-.41341	*****
.850	-.05441	-.01076	-.06112	-.04909	-.01856	-.02466	-.11564	-.04693	-.45432	-.11615	-.40152	-.21816
.950	.03695	.03570	.06765	.01531	.10677	.06622	.02364	.04094	-.34430	-.15472	-.38529	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 9.78^\circ$
UPPER SURFACE
LOWER SURFACE

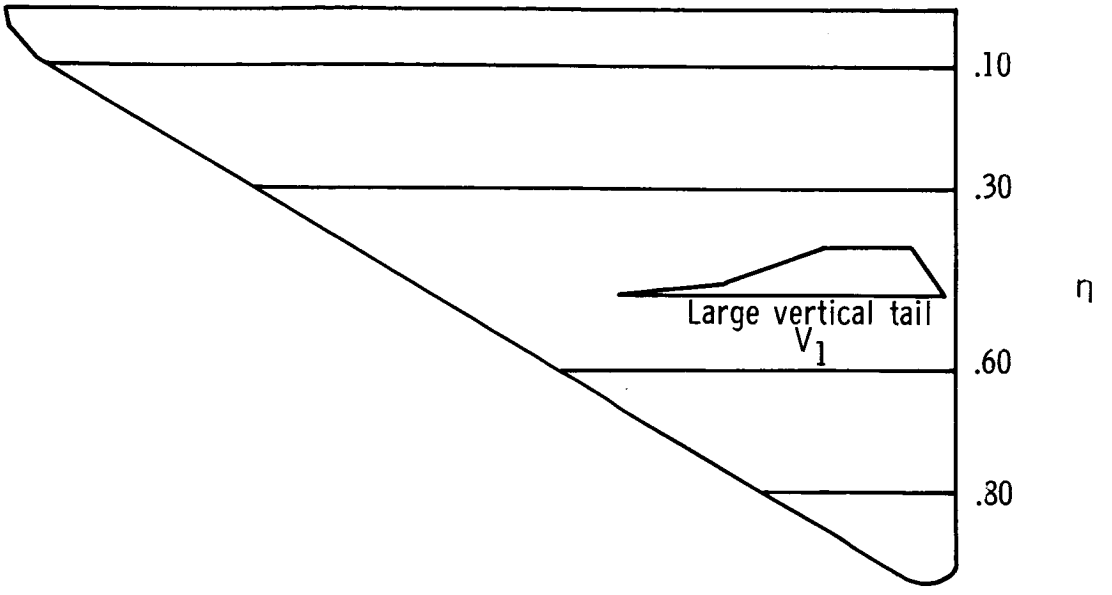

-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 10.87^\circ$

C-2

Appendix G

Pressure Data for Wing With Large Vertical Tail at $M = 0.75$

The C_p data for the wing with large vertical tail (fig. 2(c)) at $M = 0.75$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.33°$ to $12.99°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.33 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.27072	.27072	.05646	.05646	.13317	.13317	-.16637	-.16637
.005	< >	< >	< >	< >	.29105	.04102	.10800	-.24801	< >	< >	< >	< >
.015	< >	< >	< >	< >	.25558	-.13296	.06407	-.45182	< >	< >	< >	< >
.025	< >	< >	< >	< >	.19615	-.19286	-.00777	-.48443	.02402	-.82590	.22327	-1.27936
.040	< >	< >	< >	< >	.14033	-.21763	-.05754	-.48760	< >	< >	< >	< >
.050	< >	< >	< >	< >	.10864	-.23334	-.09769	-.44308	-.01642	-.67663	.19483	-1.21830
.065	< >	< >	< >	< >	.07598	-.23920	-.11966	-.42918	< >	< >	< >	< >
.075	< >	< >	< >	< >	.01946	-.24555	-.15383	-.40214	-.02970	-.60717	.15926	-1.15053
.090	< >	< >	< >	< >	.00670	-.22955	-.16973	-.39175	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.03145	-.23327	-.18769	-.37947	-.04205	-.50751	.13919	-1.11576
.125	< >	< >	< >	< >	-.08600	-.24576	-.22162	-.35395	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.16182	-.26462	-.25961	-.30644	-.05871	-.42931	.10950	-1.02541
.200	< >	< >	< >	< >	-.21258	-.25062	-.28081	-.32446	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.28626	-.25295	-.28156	-.30636	-.05571	-.38637	.07266	-.81409
.300	< >	< >	< >	< >	-.31117	< >	-.30322	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.31156	< >	-.28138	< >	-.06449	< >	.03363	< >
.450	< >	< >	< >	< >	-.30272	-.30152	-.24090	-.32802	-.08260	-.34454	.00696	*****
.550	< >	< >	< >	< >	-.21372	< >	-.18260	< >	-.09502	< >	-.02087	< >
.650	< >	< >	-.05681	< >	-.11326	-.24723	-.15754	-.23321	-.09832	-.23671	-.04153	-.21365
.750	-.04956	< >	< >	< >	-.04617	< >	-.11323	< >	-.07115	*****	-.04761	*****
.850	.01179	-.06645	.01348	-.09066	.03071	-.06268	.03121	-.04573	-.00466	-.03714	-.04637	-.04612
.950	.06709	.03363	.09781	.00926	.14069	.06191	.16398	.11051	.08933	.09299	-.00232	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

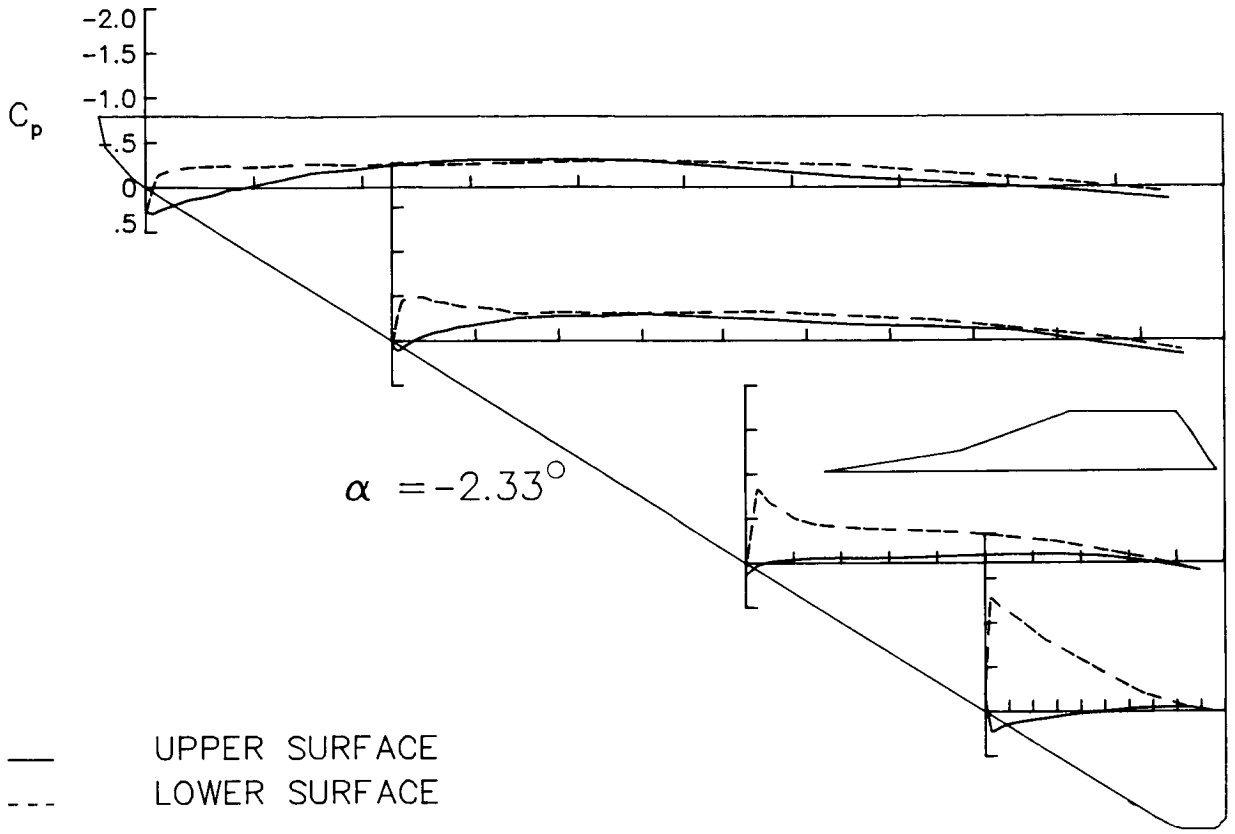
ANGLE OF ATTACK= -1.15 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

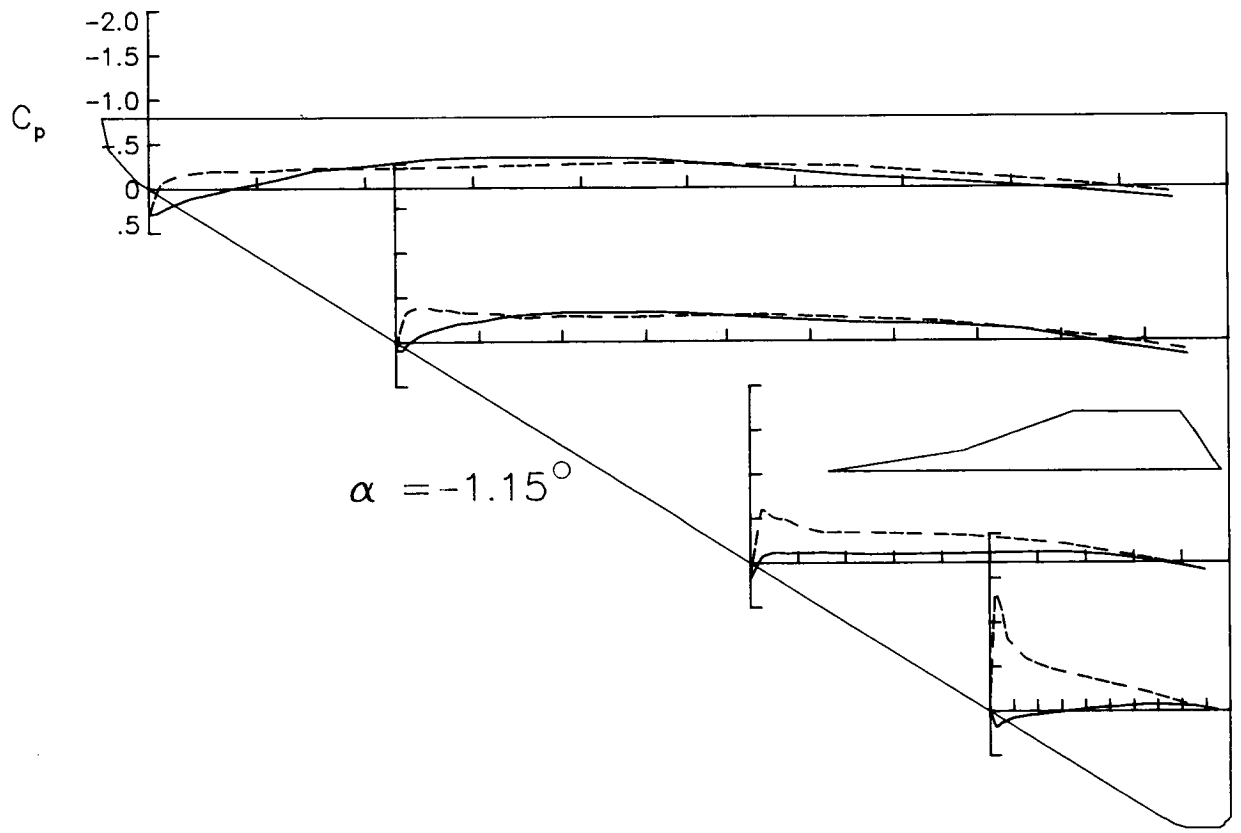
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28484	.28484	.08786	.08786	.19107	.19107	-.01747	-.01747
.005	< >	< >	< >	< >	.28085	.08826	.09469	-.14962	< >	< >	< >	< >
.015	< >	< >	< >	< >	.24056	-.05820	.02607	-.33097	< >	< >	< >	< >
.025	< >	< >	< >	< >	.16555	-.13211	-.06084	-.37942	-.07153	-.60070	.18152	-1.34264
.040	< >	< >	< >	< >	.10868	-.16544	-.11033	-.38787	< >	< >	< >	< >
.050	< >	< >	< >	< >	.07257	-.18749	-.14457	-.35583	-.11693	-.50651	.13260	-1.14086
.065	< >	< >	< >	< >	.03954	-.19803	-.17813	-.35522	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.00354	-.19737	-.20841	-.33202	-.10721	-.48318	.10417	-.80412
.090	< >	< >	< >	< >	-.02489	-.19438	-.21748	-.32460	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.06047	-.19110	-.23288	-.31998	-.11322	-.41707	.07515	-.73500
.125	< >	< >	< >	< >	-.11756	-.21103	-.27390	-.30699	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.19926	-.22536	-.30302	-.26673	-.11596	-.34676	.05122	-.59444
.200	< >	< >	< >	< >	-.24643	-.22129	-.33077	-.28932	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.32143	-.22747	-.32682	-.27475	-.09621	-.34062	.02240	-.47965
.300	< >	< >	< >	< >	-.34165	< >	-.33301	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.34479	< >	-.31446	< >	-.10063	< >	-.01046	< >
.450	< >	< >	< >	< >	-.32987	-.27909	-.26313	-.29850	-.10610	-.30929	-.03709	*****
.550	< >	< >	< >	< >	-.23402	< >	-.20719	< >	-.11520	< >	-.05464	< >
.650	< >	< >	-.06997	< >	-.12815	-.23499	-.18810	-.22200	-.11977	-.21364	-.07339	-.21451
.750	-.06727	< >	< >	< >	-.06188	< >	-.13089	< >	-.08384	*****	-.06798	*****
.850	.00376	-.06220	.00282	-.08404	.02244	-.05655	.02127	-.03819	-.01069	-.02733	-.05229	-.05133
.950	.06764	.03656	.09586	.00789	.13536	.06666	.16420	.10400	.08812	.09241	-.00635	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = -2.33^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = -1.15^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .04 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29299	.29299	.11535	.11535	.20931	.20931	.09934	.09934
.005	< >	< >	< >	< >	.25880	.12934	.06972	-.06122	< >	< >	< >	< >
.015	< >	< >	< >	< >	.21985	.00479	-.02529	-.22387	< >	< >	< >	< >
.025	< >	< >	< >	< >	.13516	-.08112	-.11315	-.28821	-.21045	-.39067	.10735	-1.04971
.040	< >	< >	< >	< >	.06933	-.11306	-.16968	-.30617	< >	< >	< >	< >
.050	< >	< >	< >	< >	.03963	-.12907	-.19463	-.28656	-.21599	-.36356	.05004	-.88983
.065	< >	< >	< >	< >	.00415	-.15141	-.22607	-.29004	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.04865	-.15134	-.26038	-.27620	-.18999	-.37440	.02960	-.63715
.090	< >	< >	< >	< >	-.06303	-.15680	-.27613	-.27139	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.09558	-.15057	-.28013	-.25858	-.19294	-.31995	.00884	-.57676
.125	< >	< >	< >	< >	-.15822	-.17512	-.31944	-.26076	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.23181	-.19274	-.35603	-.22953	-.18024	-.28014	-.03048	-.49418
.200	< >	< >	< >	< >	-.28831	-.19265	-.37081	-.24454	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.35381	-.19453	-.36578	-.23983	-.14360	-.28089	-.03518	-.40699
.300	< >	< >	< >	< >	-.37238	< >	-.38084	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.37229	< >	-.35275	< >	-.12996	< >	-.06108	< >
.450	< >	< >	< >	< >	-.35649	-.25580	-.29306	-.26992	-.13680	-.27157	-.07813	*****
.550	< >	< >	< >	< >	-.25337	< >	-.23306	< >	-.13899	< >	-.09183	< >
.650	< >	< >	-.08380	< >	-.14450	-.22047	-.21082	-.20936	-.13279	-.20271	-.09708	-.20577
.750	-.08270	< >	< >	< >	-.07523	< >	-.15523	< >	-.10025	*****	-.08432	*****
.850	-.00597	-.05035	-.00303	-.07509	.01317	-.05145	.01837	-.03776	-.01212	-.02411	-.05058	-.02170
.950	.06013	.03408	.08625	.01166	.13444	.06271	.16503	.10436	.09311	.08964	.00845	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

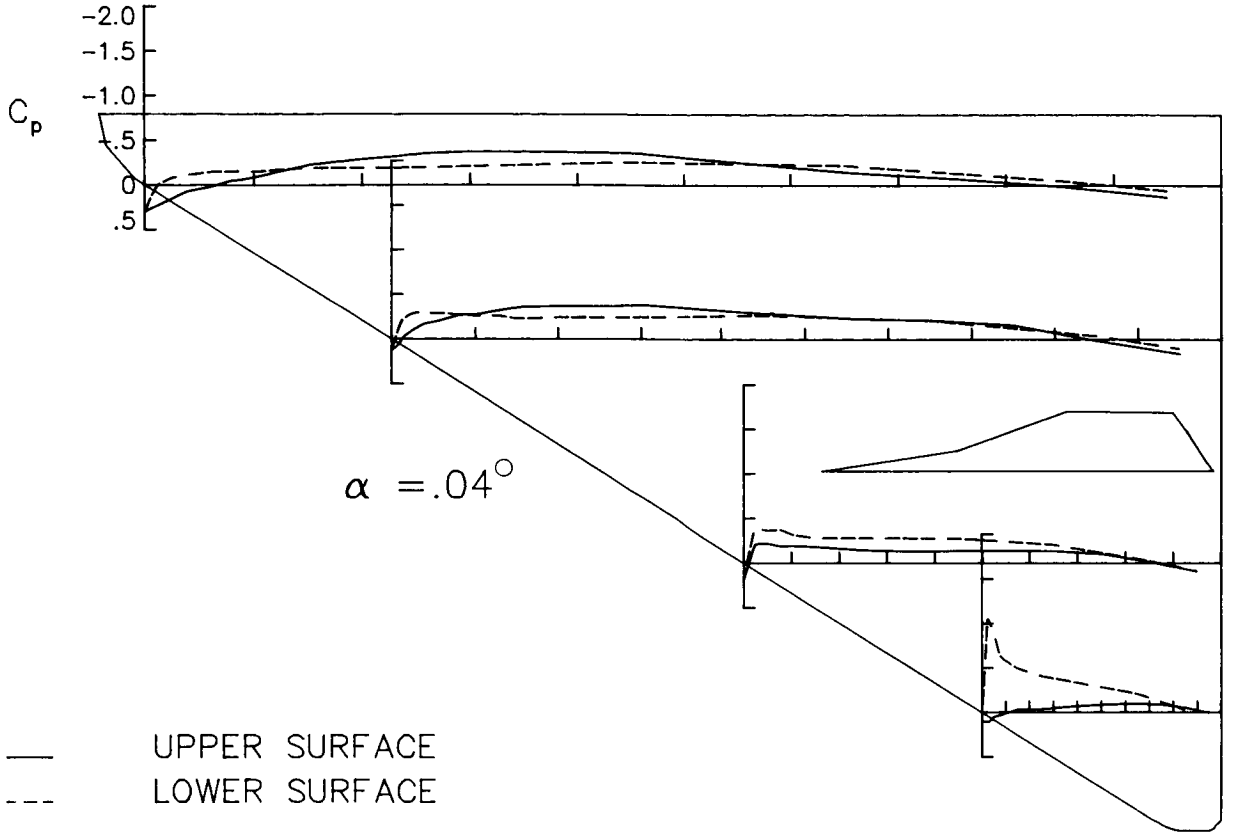
ANGLE OF ATTACK= 1.22 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

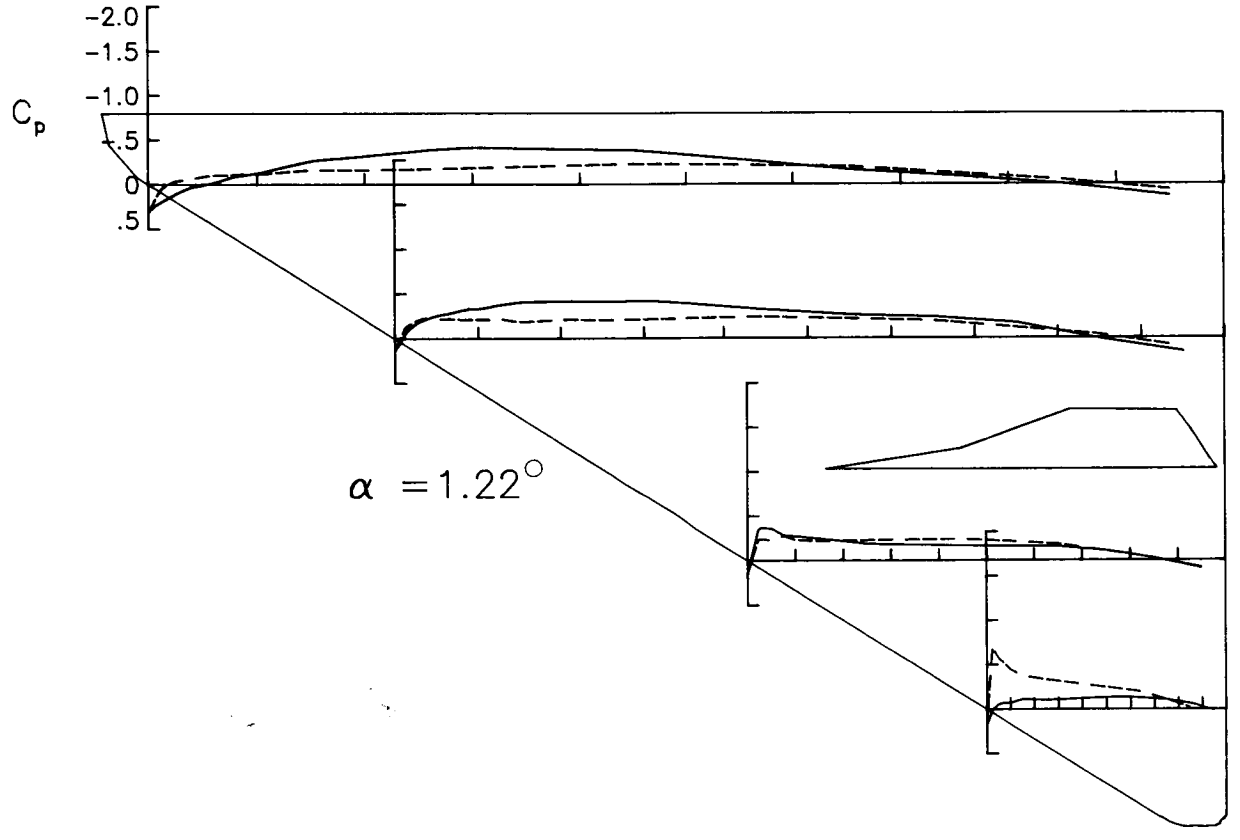
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30148	.30148	.12124	.12124	.18513	.18513	.18222	.18222
.005	< >	< >	< >	< >	.24386	.17384	.03634	.01628	< >	< >	< >	< >
.015	< >	< >	< >	< >	.19111	.05111	-.07602	-.12511	< >	< >	< >	< >
.025	< >	< >	< >	< >	.09836	-.03424	-.17769	-.19662	-.35900	-.23612	.00493	-.67412
.040	< >	< >	< >	< >	.03644	-.05627	-.22201	-.23015	< >	< >	< >	< >
.050	< >	< >	< >	< >	.00517	-.08554	-.25848	-.21202	-.35803	-.23132	-.05629	-.57367
.065	< >	< >	< >	< >	-.03214	-.10330	-.28017	-.22177	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.08447	-.10629	-.30994	-.21327	-.28615	-.27372	-.07349	-.51214
.090	< >	< >	< >	< >	-.10255	-.11356	-.33183	-.21156	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.13049	-.11307	-.33563	-.21173	-.27299	-.23388	-.07125	-.45013
.125	< >	< >	< >	< >	-.19475	-.13741	-.37626	-.21625	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.26682	-.15972	-.40725	-.18566	-.24658	-.21883	-.11147	-.37929
.200	< >	< >	< >	< >	-.31414	-.15997	-.41796	-.21263	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.38306	-.16914	-.41036	-.20380	-.18854	-.23042	-.10309	-.33320
.300	< >	< >	< >	< >	-.41101	< >	-.41897	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.39735	< >	-.38929	< >	-.17605	< >	-.11543	< >
.450	< >	< >	< >	< >	-.37573	-.22693	-.32218	-.23767	-.16721	-.24130	-.12748	*****
.550	< >	< >	< >	< >	-.27257	< >	-.25841	< >	-.15821	< >	-.13713	< >
.650	< >	< >	-.09484	< >	-.16083	-.19654	-.23469	-.19296	-.15329	-.18248	-.12418	-.19135
.750	-.08917	< >	< >	< >	-.09859	< >	-.16639	< >	-.10623	*****	-.10520	*****
.850	-.01343	-.05044	-.01316	-.07290	.00135	-.04551	.01366	-.03513	-.02264	-.02318	-.06240	-.01564
.950	.05959	.03785	.08957	.01113	.13450	.06643	.15728	.10330	.09232	.08633	.01684	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = .04^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 1.22^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.33 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B −0.00		2Y/B −0.05		2Y/B −0.10		2Y/B −0.30		2Y/B −0.60		2Y/B −0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30690	.30690	.13079	.13079	.13459	.13459	.22971	.22971
.005	< >	< >	< >	< >	.23120	.20344	.00131	.07896	< >	< >	< >	< >
.015	< >	< >	< >	< >	.15949	.10324	-.14642	-.04677	< >	< >	< >	< >
.025	< >	< >	< >	< >	.06828	.02226	-.24153	-.12770	-.53428	-.10144	-.15049	-.40682
.040	< >	< >	< >	< >	.00195	-.01583	-.28906	-.15775	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.02824	-.04037	-.31673	-.15684	-.48388	-.13713	-.19174	-.37776
.065	< >	< >	< >	< >	-.06875	-.05803	-.34482	-.16195	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.11711	-.07086	-.36701	-.16540	-.38790	-.18715	-.18789	-.33949
.090	< >	< >	< >	< >	-.13244	-.07457	-.38073	-.16762	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.17093	-.07865	-.39492	-.16545	-.35915	-.17446	-.17837	-.32357
.125	< >	< >	< >	< >	-.22581	-.09855	-.42852	-.16732	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.29937	-.12336	-.45557	-.15255	-.31612	-.16134	-.18972	-.27788
.200	< >	< >	< >	< >	-.35283	-.12989	-.46332	-.17545	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.42022	-.14362	-.45216	-.17006	-.23651	-.18741	-.16005	-.26786
.300	< >	< >	< >	< >	-.43955	< >	-.45581	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.42938	< >	-.41997	< >	-.19882	< >	-.17421	< >
.450	< >	< >	< >	< >	-.40008	-.20549	-.35420	-.21641	-.19150	-.21164	-.17499	*****
.550	< >	< >	< >	< >	-.28603	< >	-.27779	< >	-.18125	< >	-.17103	< >
.650	< >	< >	-.10910	< >	-.17252	-.18440	-.25781	-.17558	-.17040	-.16712	-.15801	-.17336
.750	-.10299	< >	< >	< >	-.10139	< >	-.18601	< >	-.11858	*****	-.12675	*****
.850	-.02442	-.03479	-.02285	-.07006	-.00224	-.04405	.00538	-.03422	-.03088	-.02430	-.06982	-.01110
.950	.05573	.03910	.08592	.01140	.12875	.06622	.15396	.10032	.09189	.08310	.02041	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

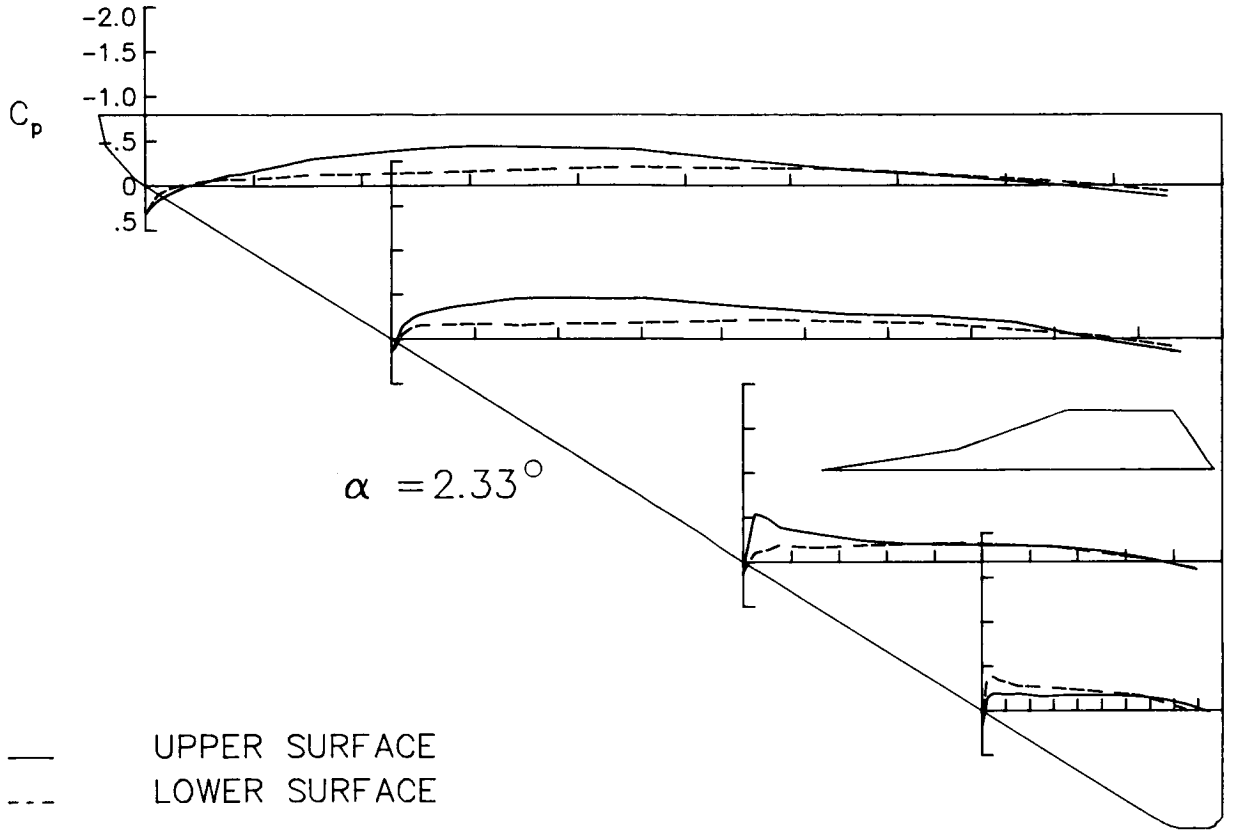
ANGLE OF ATTACK= 3.48 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

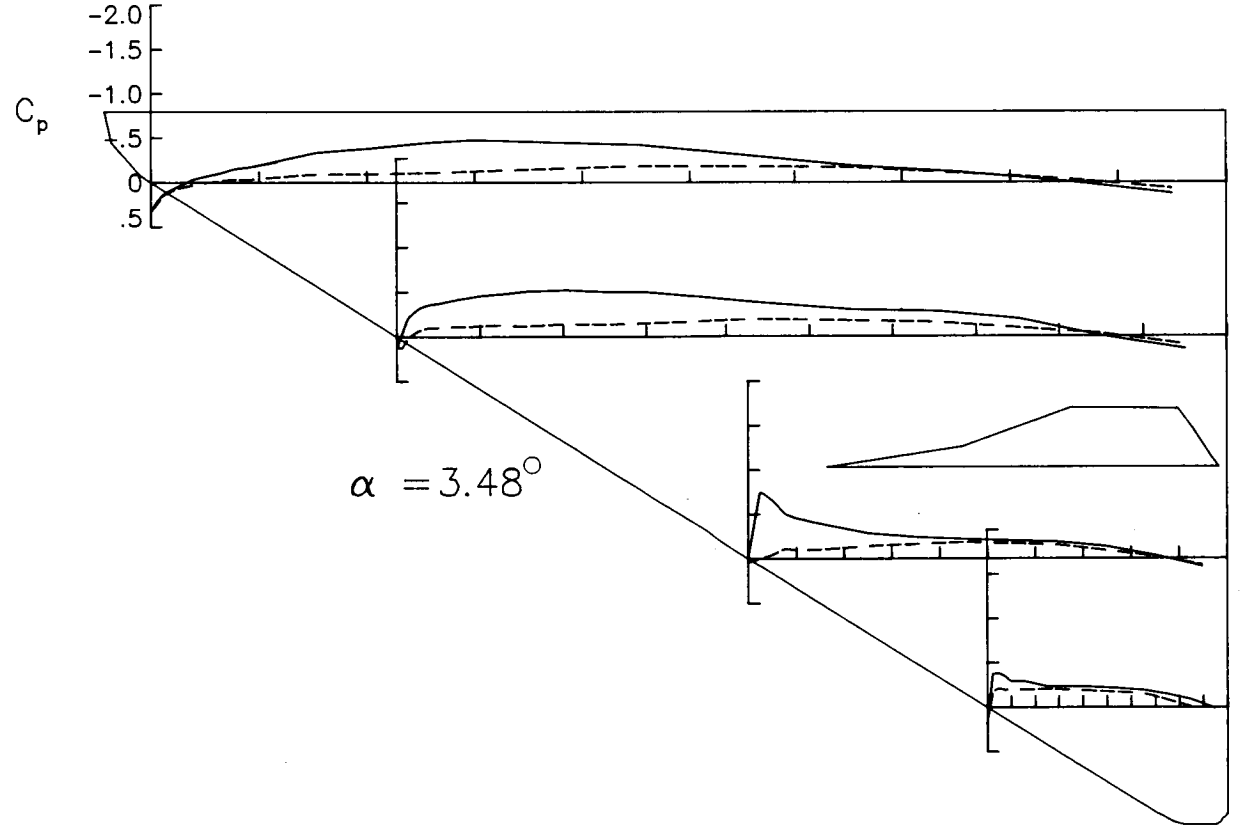
S P A N W I S E L O C A T I O N

	2Y/B −0.00		2Y/B −0.05		2Y/B −0.10		2Y/B −0.30		2Y/B −0.60		2Y/B −0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30893	.30893	.11990	.11990	.04182	.04182	.19232	.19232
.005	< >	< >	< >	< >	.20946	.24058	-.04275	.12607	< >	< >	< >	< >
.015	< >	< >	< >	< >	.12253	.14406	-.20921	.02675	< >	< >	< >	< >
.025	< >	< >	< >	< >	.03228	.06793	-.31635	-.05828	-.74503	-.00261	-.37625	-.17366
.040	< >	< >	< >	< >	-.03575	.03204	-.35790	-.09652	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.07479	.00282	-.37624	-.10284	-.64954	-.04804	-.38098	-.21284
.065	< >	< >	< >	< >	-.10636	-.01532	-.40168	-.11315	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.15464	-.03439	-.42523	-.10937	-.50568	-.10864	-.34896	-.19515
.090	< >	< >	< >	< >	-.17097	-.03242	-.44195	-.11394	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.20297	-.04527	-.46075	-.12230	-.45389	-.09409	-.29399	-.21165
.125	< >	< >	< >	< >	-.26468	-.06979	-.47946	-.13083	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.33692	-.09142	-.50664	-.11707	-.39251	-.10341	-.29517	-.19645
.200	< >	< >	< >	< >	-.38207	-.09740	-.52120	-.14192	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.45241	-.10970	-.50005	-.13701	-.28619	-.14274	-.23618	-.20902
.300	< >	< >	< >	< >	-.47750	< >	-.49686	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.45671	< >	-.45480	< >	-.24223	< >	-.23521	< >
.450	< >	< >	< >	< >	-.42088	-.18530	-.37667	-.19361	-.21927	-.18543	-.22737	*****
.550	< >	< >	< >	< >	-.30706	< >	-.29869	< >	-.19953	< >	-.21339	< >
.650	< >	< >	-.11862	< >	-.18728	-.16881	-.27880	-.15760	-.18501	-.15042	-.19187	-.15377
.750	-.11371	< >	< >	< >	-.11543	< >	-.19359	< >	-.13101	*****	-.14593	*****
.850	-.03175	-.03515	-.02871	-.05722	-.01058	-.03849	-.00072	-.02998	-.03006	-.02113	-.08651	-.00692
.950	.05516	.03990	.08218	.01490	.12743	.06964	.14447	.09297	.09247	.07577	.01435	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 2.33^\circ$
UPPER SURFACE
LOWER SURFACE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-1.0
C_p
.5
0
.5
$\alpha = 3.48^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.64 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30428	.30428	.10110	.10110	-.08363	-.08363	.08025	.08025
.005	< >	< >	< >	< >	.17836	.27025	-.09008	.16251	< >	< >	< >	< >
.015	< >	< >	< >	< >	.10371	.18951	-.28619	.08495	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.00867	.11811	-.40239	.00613	-1.03945	.08759	-.63163	-.00694
.040	< >	< >	< >	< >	-.07508	.08225	-.43098	-.03030	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.10537	.04474	-.44902	-.05081	-.83144	.02193	-.62588	-.07274
.065	< >	< >	< >	< >	-.14226	.02777	-.47187	-.05732	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.19501	.01162	-.49714	-.06745	-.62095	-.03277	-.52239	-.08905
.090	< >	< >	< >	< >	-.20833	-.00003	-.50858	-.07245	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.24904	-.01074	-.51056	-.07698	-.55955	-.03934	-.45819	-.11357
.125	< >	< >	< >	< >	-.29833	-.03013	-.55006	-.08468	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.37532	-.06319	-.56392	-.08241	-.46434	-.05798	-.39555	-.13292
.200	< >	< >	< >	< >	-.41423	-.06906	-.56478	-.10855	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.48756	-.08701	-.54213	-.10495	-.33734	-.10089	-.31757	-.15947
.300	< >	< >	< >	< >	-.50280	< >	-.54092	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.48813	< >	-.48928	< >	-.27786	< >	-.30393	< >
.450	< >	< >	< >	< >	-.44148	-.15832	-.41180	-.16219	-.24311	-.15122	-.28307	*****
.550	< >	< >	< >	< >	-.32296	< >	-.31624	< >	-.21341	< >	-.25860	< >
.650	< >	< >	-.12163	< >	-.20186	-.15385	-.29852	-.14707	-.20643	-.13683	-.22502	-.14530
.750	-.12525	< >	< >	< >	-.12817	< >	-.20607	< >	-.14051	*****	-.17459	*****
.850	-.03379	-.02502	-.04016	-.05389	-.01721	-.02775	-.00674	-.02956	-.03933	-.02624	-.09821	-.01402
.950	.04735	.04538	.08051	.01430	.12400	.06545	.14149	.09249	.08706	.07065	.01489	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

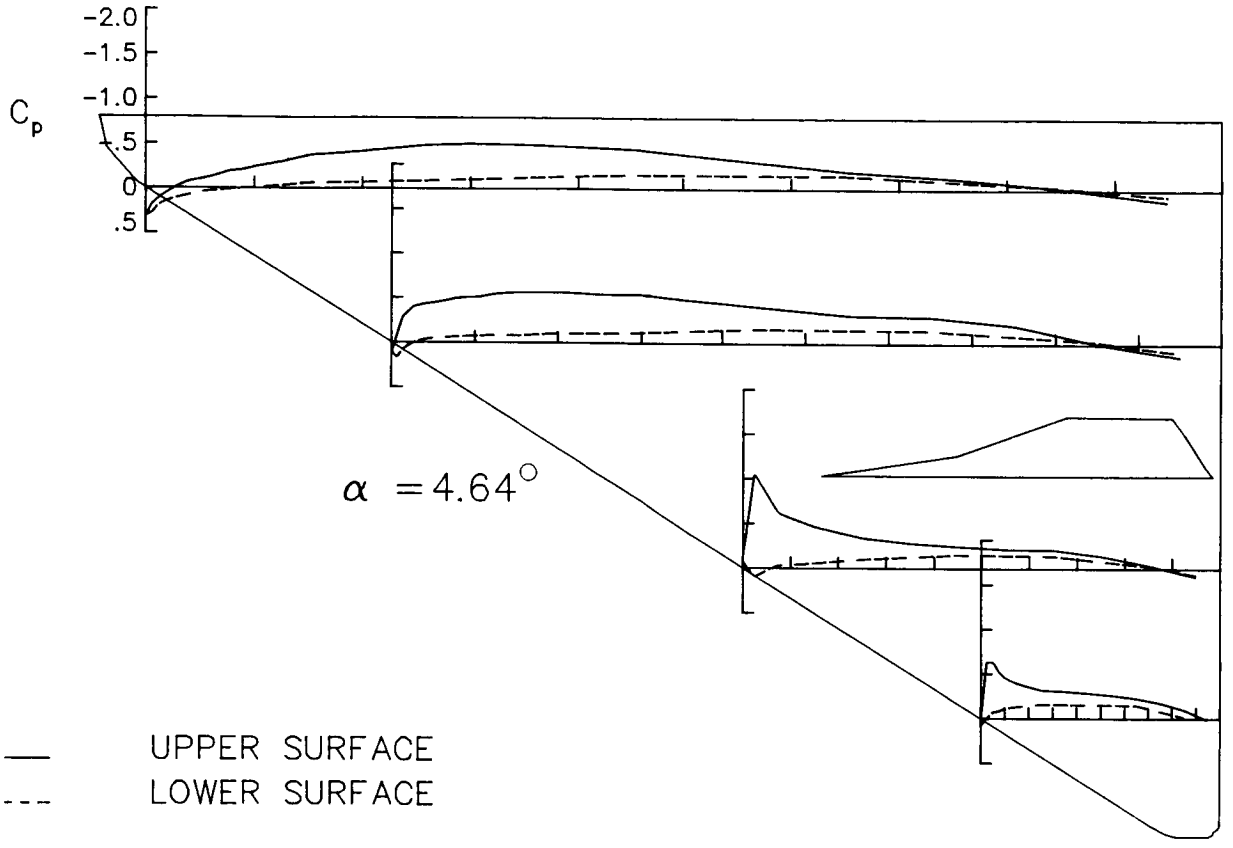
ANGLE OF ATTACK= 5.84 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30150	.30150	.06929	.06929	-.23803	-.23803	-.11266	-.11266
.005	< >	< >	< >	< >	.14149	.30229	-.15151	.18924	< >	< >	< >	< >
.015	< >	< >	< >	< >	.06922	.22924	-.38047	.13644	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.04894	.16514	-.49430	.06650	-1.41540	.14017	-1.00435	.09455
.040	< >	< >	< >	< >	-.11917	.12206	-.51469	.02443	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.14595	.09714	-.51776	.00482	-1.03585	.08497	-.87926	.03840
.065	< >	< >	< >	< >	-.18613	.06391	-.54216	-.00643	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.22933	.04859	-.56027	-.01554	-.72699	.03252	-.77467	-.00703
.090	< >	< >	< >	< >	-.25056	.03946	-.58628	-.02249	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.27813	.03155	-.57536	-.03718	-.65966	.01776	-.57960	-.03371
.125	< >	< >	< >	< >	-.33712	.00052	-.60896	-.04815	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.41680	-.02276	-.62285	-.05017	-.55231	-.00930	-.51703	-.05865
.200	< >	< >	< >	< >	-.44889	-.03254	-.61829	-.06260	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.52035	-.05190	-.59427	-.07739	-.39040	-.05746	-.40677	-.10835
.300	< >	< >	< >	< >	-.54010	< >	-.57563	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.51708	< >	-.52867	< >	-.31785	< >	-.37179	< >
.450	< >	< >	< >	< >	-.46448	-.13003	-.42857	-.13745	-.27046	-.12677	-.33827	*****
.550	< >	< >	< >	< >	-.33835	< >	-.33475	< >	-.24167	< >	-.29488	< >
.650	< >	< >	-.13589	< >	-.21283	-.13343	-.31464	-.12636	-.22067	-.11893	-.25474	-.12867
.750	-.13085	< >	< >	< >	-.13823	< >	-.21437	< >	-.15378	*****	-.18335	*****
.850	-.04149	-.01759	-.04490	-.04891	-.02239	-.02276	-.01233	-.02186	-.05238	-.02040	-.10518	-.01771
.950	.04620	.04648	.07822	.02132	.12068	.06968	.12886	.08459	.07875	.06227	.01285	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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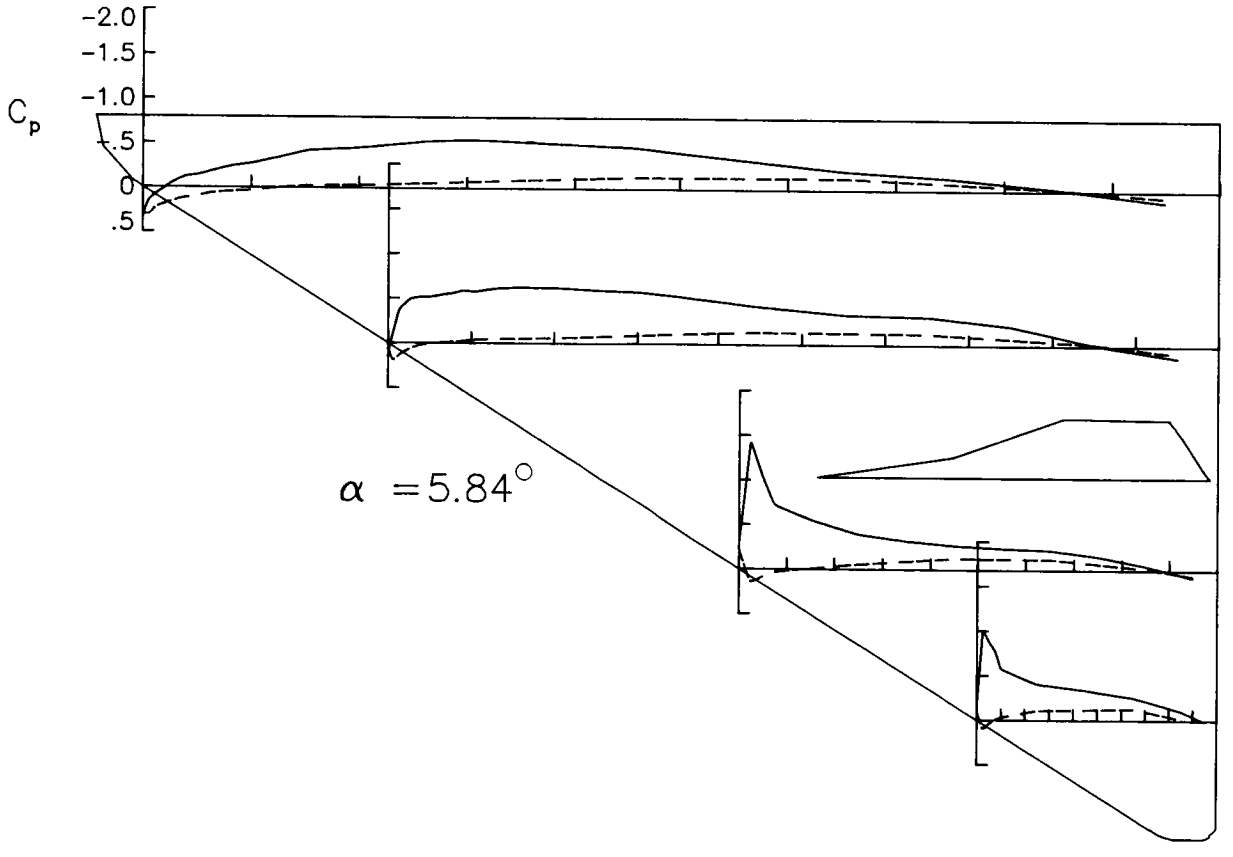
-1.0
C_p
.5
0
.5
$\alpha = 4.64^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 5.84^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.05 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29269	.29269	.02971	.02971	-.34551	-.34551	-.32389	-.32389
.005	< >	< >	< >	< >	.11345	.31780	-.22526	.20804	< >	< >	< >	< >
.015	< >	< >	< >	< >	.01785	.27252	-.47367	.17302	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.09490	.20323	-.58958	.11163	-1.51561	.17930	-1.31311	.14593
.040	< >	< >	< >	< >	-.16122	.17201	-.61206	.07751	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.19301	.13460	-.60005	.05157	-1.39408	.13394	-1.17680	.09377
.065	< >	< >	< >	< >	-.22659	.10036	-.62178	.04028	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.27435	.09214	-.62543	.02392	-1.15279	.08283	-.92905	.04990
.090	< >	< >	< >	< >	-.29272	.07828	-.65078	.00960	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.31680	.06885	-.64951	.00914	-.95795	.06559	-.63223	.02287
.125	< >	< >	< >	< >	-.38263	.03816	-.68156	-.00757	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.45793	.01524	-.68347	-.01156	-.75094	.03370	-.60980	-.01650
.200	< >	< >	< >	< >	-.48815	-.00117	-.68731	-.03241	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.55805	-.02320	-.64074	-.04962	-.43750	-.02862	-.47889	-.06905
.300	< >	< >	< >	< >	-.57993	< >	-.62523	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.54267	< >	-.56872	< >	-.34421	< >	-.42628	< >
.450	< >	< >	< >	< >	-.49206	-.10438	-.45261	-.11022	-.29190	-.09380	-.38106	*****
.550	< >	< >	< >	< >	-.35585	< >	-.35497	< >	-.25407	< >	-.31908	< >
.650	< >	< >	-.13973	< >	-.22145	-.11453	-.32362	-.11175	-.22987	-.10464	-.26634	-.11284
.750	-.13544	< >	< >	< >	-.15075	< >	-.22045	< >	-.16971	*****	-.19159	*****
.850	-.04676	-.00940	-.04541	-.03383	-.02940	-.01613	-.02672	-.02030	-.06212	-.01668	-.09153	-.03315
.950	.04423	.04854	.07258	.01768	.11646	.07318	.11136	.07803	.05630	.06020	.01230	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

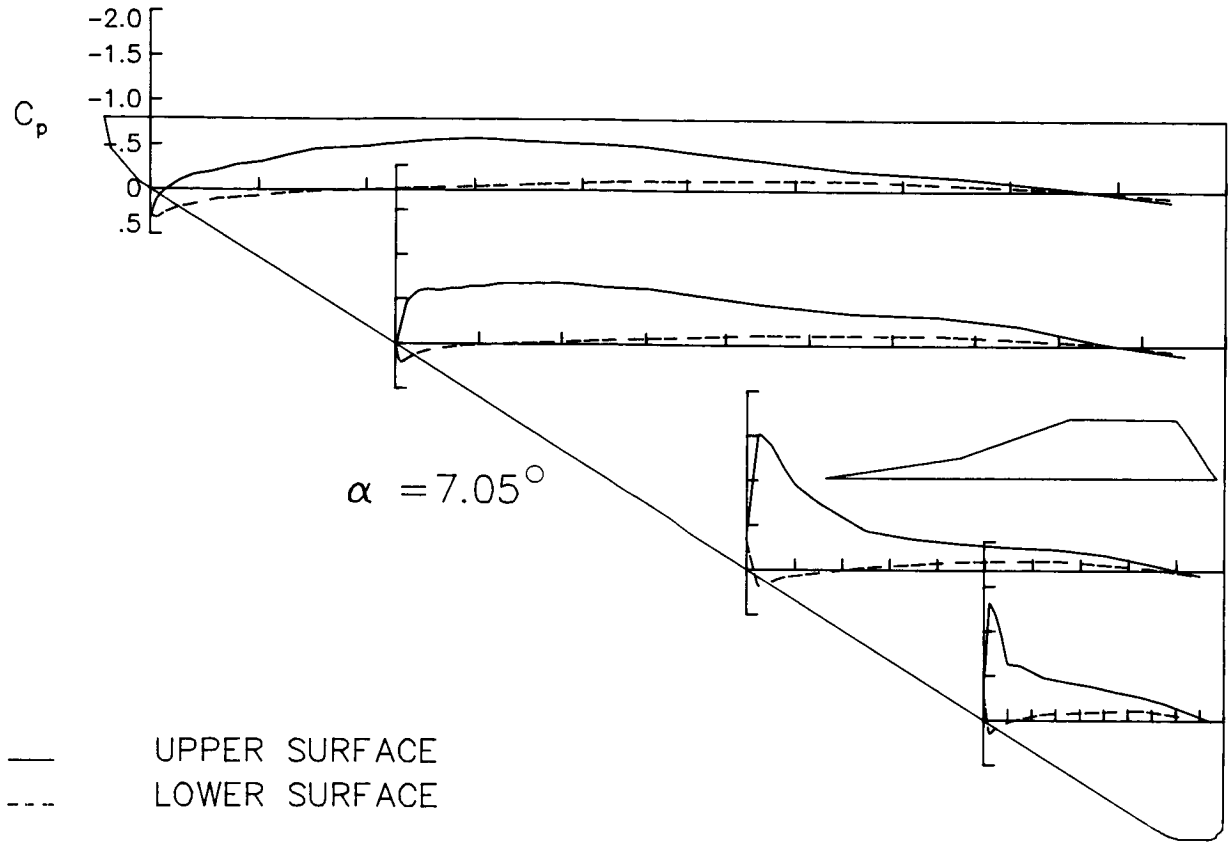
ANGLE OF ATTACK= 8.24 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.27426	.27426	-.02297	-.02297	-.46618	-.46618	-.37873	-.37873
.005	< >	< >	< >	< >	.08235	.33939	-.29546	.21123	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.02263	.30734	-.59310	.20643	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.13464	.24818	-.69429	.15450	-1.39538	.19853	-.84041	.16187
.040	< >	< >	< >	< >	-.21021	.21631	-.71366	.12479	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.23356	.17638	-.68881	.10072	-1.30127	.17694	-.73482	.11902
.065	< >	< >	< >	< >	-.26951	.14893	-.68678	.07771	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.31632	.12519	-.71180	.06899	-1.24278	.12869	-.68787	.08433
.090	< >	< >	< >	< >	-.32343	.11844	-.72390	.05795	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.36002	.10529	-.72709	.05242	-1.21562	.10959	-.65148	.05091
.125	< >	< >	< >	< >	-.41689	.08172	-.74719	.03373	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.49579	.04587	-.76528	.02077	-1.13714	.07695	-.57988	.01878
.200	< >	< >	< >	< >	-.52551	.03373	-.75591	.00155	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.60044	.01292	-.70242	-.00948	-.86258	.01194	-.50961	-.04487
.300	< >	< >	< >	< >	-.62178	< >	-.67931	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.58148	< >	-.59676	< >	-.52442	< >	-.44660	< >
.450	< >	< >	< >	< >	-.50965	-.07830	-.48784	-.08506	-.28176	-.07226	-.39549	*****
.550	< >	< >	< >	< >	-.37533	< >	-.36627	< >	-.20745	< >	-.34287	< >
.650	< >	< >	-.14907	< >	-.23349	-.09353	-.33190	-.09069	-.20278	-.09736	-.28650	-.12455
.750	-.14350	< >	< >	< >	-.15396	< >	-.22071	< >	-.15927	*****	-.22736	*****
.850	-.05796	.00183	-.05117	-.03049	-.03801	-.01460	-.04221	-.01645	-.07265	-.02596	-.16865	-.06828
.950	.03711	.05454	.06284	.02947	.11326	.07194	.08840	.07397	.04194	.06532	-.10901	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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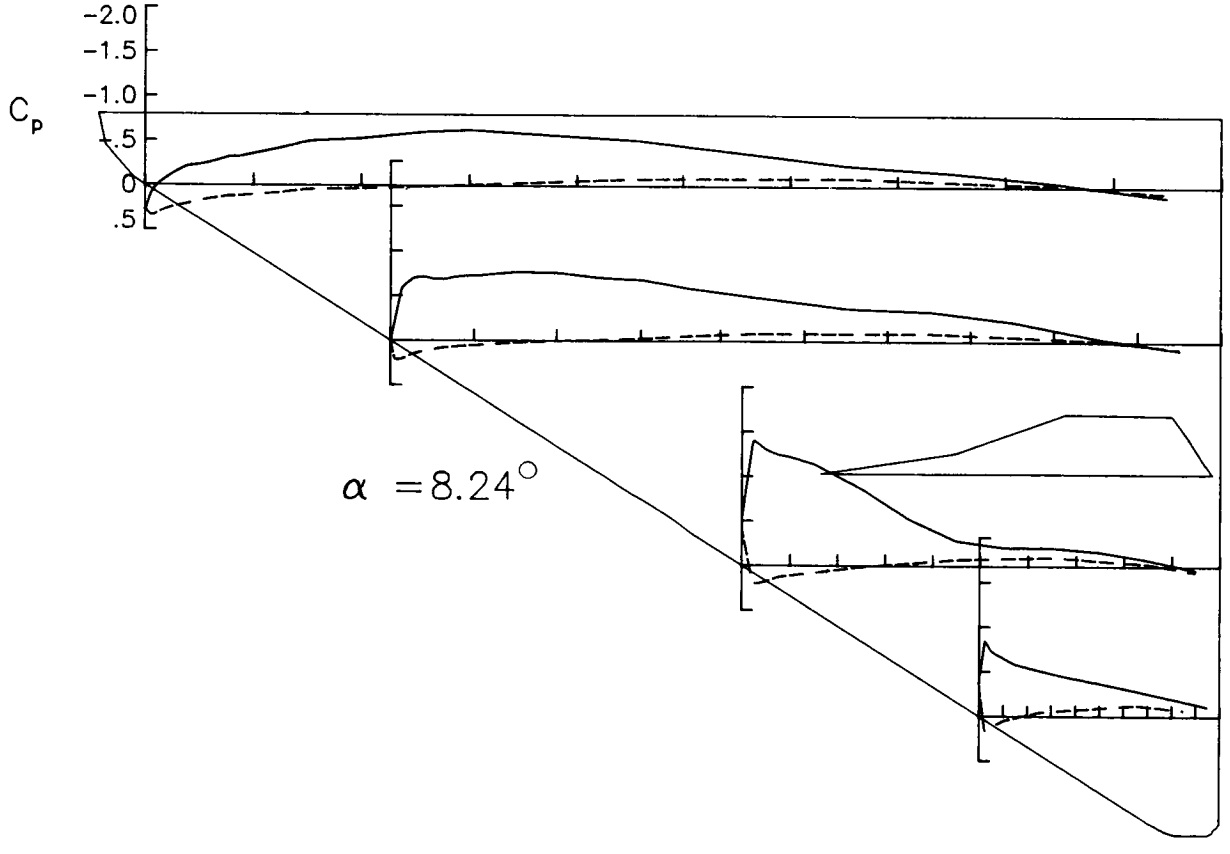
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 7.05°$
UPPER SURFACE
LOWER SURFACE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-1.0
.5
0
.5
C_p
$\alpha = 8.24°$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.37 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.26125	.26125	-.08094	-.08094	-.59393	-.59393	-.44338	-.44338
.005	< >	< >	< >	< >	.04284	.35415	-.36507	.20223	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.06925	.32702	-.70202	.22308	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.17458	.27946	-.81053	.18703	-1.41039	.20715	-.69745	.17439
.040	< >	< >	< >	< >	-.25112	.25154	-.80639	.16324	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.27658	.21646	-.78774	.13581	-1.35791	.20454	-.66735	.15846
.065	< >	< >	< >	< >	-.31176	.18418	-.77760	.11971	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.35601	.16757	-.79156	.10993	-1.32884	.16221	-.65177	.12352
.090	< >	< >	< >	< >	-.36469	.15868	-.79842	.09450	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.39784	.14484	-.80779	.08148	-1.32257	.14499	-.63113	.09180
.125	< >	< >	< >	< >	-.45147	.11844	-.78761	.06539	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.52589	.08153	-.82914	.04161	-1.25407	.11107	-.60193	.05728
.200	< >	< >	< >	< >	-.55845	.06073	-.79186	.03373	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.62933	.04384	-.74547	.01892	-1.20136	.04341	-.56262	-.01868
.300	< >	< >	< >	< >	-.64689	< >	-.73484	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.62052	< >	-.62858	< >	-.93063	< >	-.49319	< >
.450	< >	< >	< >	< >	-.54004	-.05430	-.51118	-.06204	-.33511	-.05356	-.45676	*****
.550	< >	< >	< >	< >	-.38423	< >	-.38042	< >	-.13211	< >	-.41082	< >
.650	< >	< >	-.15593	< >	-.24807	-.07670	-.33763	-.07734	-.15158	-.08971	-.36565	-.13898
.750	-.15236	< >	< >	< >	-.16507	< >	-.23518	< >	-.13937	*****	-.32531	*****
.850	-.05739	.00460	-.06212	-.02667	-.04887	-.00103	-.04979	-.01422	-.09138	-.03333	-.28400	-.12529
.950	.02853	.05599	.06031	.02678	.11527	.07051	.08230	.07586	.01264	.05593	-.25975	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

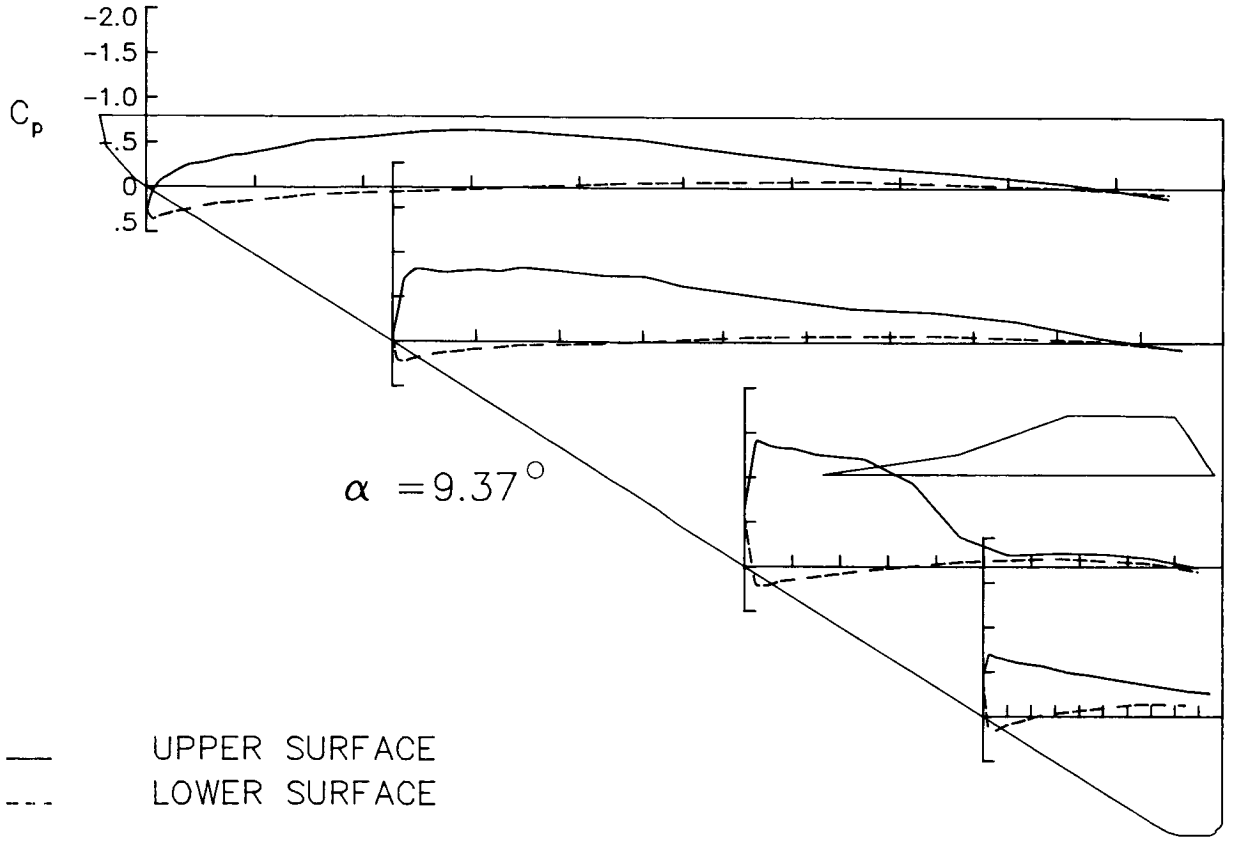
ANGLE OF ATTACK= 10.62 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

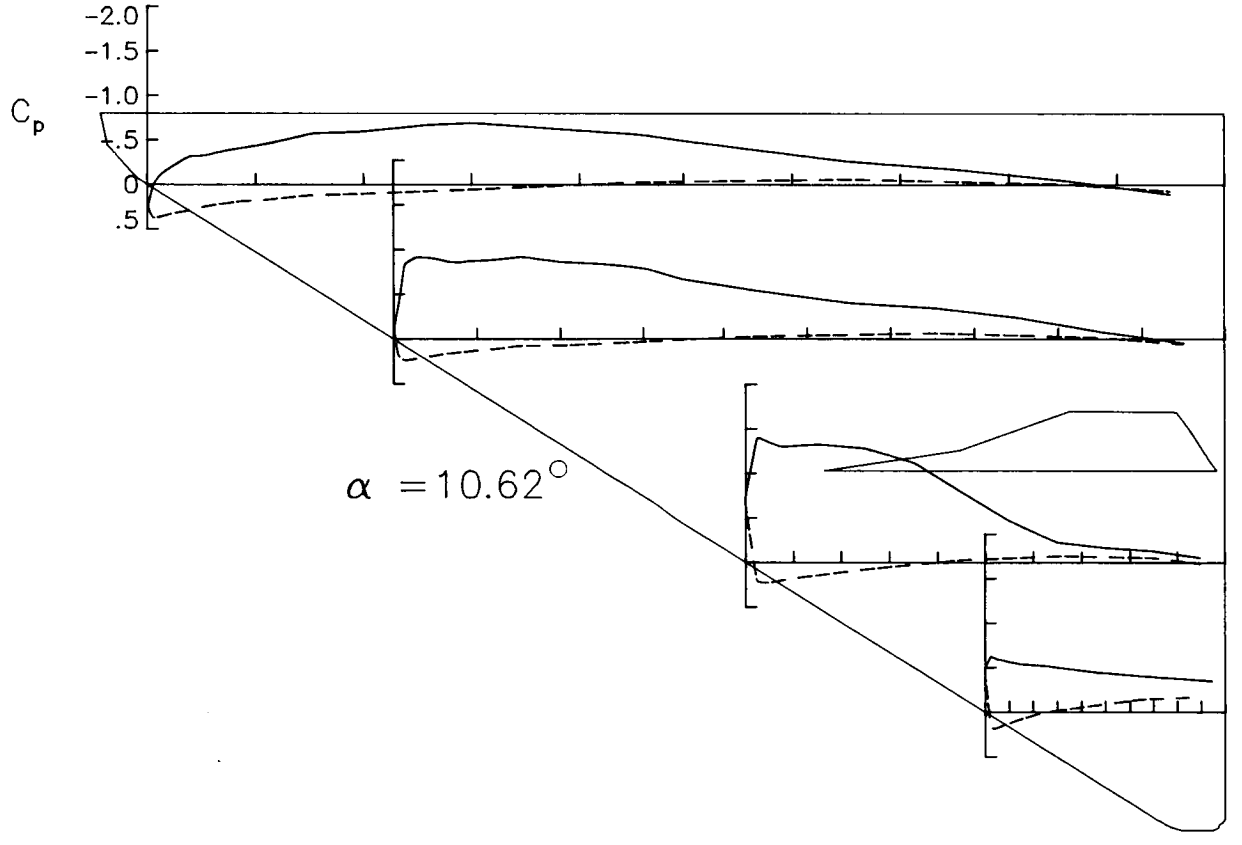
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.24343	.24343	-.14156	-.14156	-.71086	-.71086	-.49511	-.49511
.005	< >	< >	< >	< >	-.00119	.37154	-.44693	.18800	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.11554	.36125	-.83764	.23283	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.23186	.31923	-.91228	.21939	-1.39789	.21250	-.62280	.17893
.040	< >	< >	< >	< >	-.31362	.29441	-.91137	.19818	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.32540	.25471	-.89531	.18078	-1.34577	.22458	-.59384	.17586
.065	< >	< >	< >	< >	-.35636	.22530	-.86686	.16221	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.39116	.20694	-.85615	.14936	-1.30136	.19875	-.58136	.14609
.090	< >	< >	< >	< >	-.40984	.18647	-.87391	.13545	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.43999	.18135	-.87683	.12486	-1.31011	.17456	-.56374	.12387
.125	< >	< >	< >	< >	-.49507	.15285	-.89405	.10293	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.57121	.12172	-.91941	.07527	-1.32624	.14111	-.53838	.07543
.200	< >	< >	< >	< >	-.59539	.10265	-.86245	.06856	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.66900	.07744	-.83908	.05096	-1.28107	.07334	-.51802	.00089
.300	< >	< >	< >	< >	-.69093	< >	-.78519	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.64583	< >	-.66358	< >	-1.12143	< >	-.48124	< >
.450	< >	< >	< >	< >	-.56062	-.02492	-.53259	-.02862	-.79416	-.03195	-.44842	*****
.550	< >	< >	< >	< >	-.40684	< >	-.39989	< >	-.47068	< >	-.42395	< >
.650	< >	< >	-.16670	< >	-.25979	-.05921	-.34369	-.06485	-.22983	-.07385	-.40057	-.14374
.750	-.15781	< >	< >	< >	-.16958	< >	-.23828	< >	-.16805	*****	-.38409	*****
.850	-.07010	.01265	-.06995	-.01992	-.04468	-.00321	-.07711	-.01308	-.12929	-.05268	-.36583	-.16438
.950	.02600	.06072	.05912	.02025	.11173	.07487	.04912	.05791	-.05299	.01351	-.34689	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =9.37°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =10.62°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 11.98 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.21141	.21141	-.23679	-.23679	-.82019	-.82019	-.57129	-.57129
.005	< >	< >	< >	< >	-.05412	.37681	-.54422	.16325	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.17966	.39059	-.76319	.23275	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.29569	.36286	-1.10811	.25550	-1.25163	.20087	-.59520	.15782
.040	< >	< >	< >	< >	-.36568	.33232	-1.03027	.23154	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.37942	.30073	-.99490	.21532	-1.22256	.25334	-.59408	.18049
.065	< >	< >	< >	< >	-.40436	.27718	-.96656	.20680	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.44860	.24825	-.94272	.18912	-1.19885	.22914	-.57155	.16990
.090	< >	< >	< >	< >	-.45712	.23774	-.95666	.17030	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.48972	.22672	-.96529	.16972	-1.18947	.20690	-.56607	.13798
.125	< >	< >	< >	< >	-.53789	.18841	-.97766	.14822	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.61843	.16080	-.98009	.10833	-1.14452	.17263	-.53963	.10028
.200	< >	< >	< >	< >	-.63121	.14135	-.95085	.10666	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.71780	.11325	-.90207	.09701	-1.16023	.10168	-.50663	.02081
.300	< >	< >	< >	< >	-.74163	< >	-.83750	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.69042	< >	-.66990	< >	-1.08408	< >	-.49123	< >
.450	< >	< >	< >	< >	-.59294	.00892	-.58978	-.00136	-.97916	-.00311	-.46677	*****
.550	< >	< >	< >	< >	-.42412	< >	-.42596	< >	-.79974	< >	-.44577	< >
.650	< >	< >	-.17686	< >	-.28963	-.03330	-.37191	-.03960	-.59029	-.07120	-.43447	-.14964
.750	-.17231	< >	< >	< >	-.18856	< >	-.26962	< >	-.44784	*****	-.42127	*****
.850	-.08588	.01923	-.07730	-.00822	-.05605	.00524	-.09999	-.00778	-.30571	-.07017	-.40333	-.19296
.950	.01473	.06047	.04879	.02534	.10270	.07112	.03621	.04399	-.18614	-.03639	-.38970	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

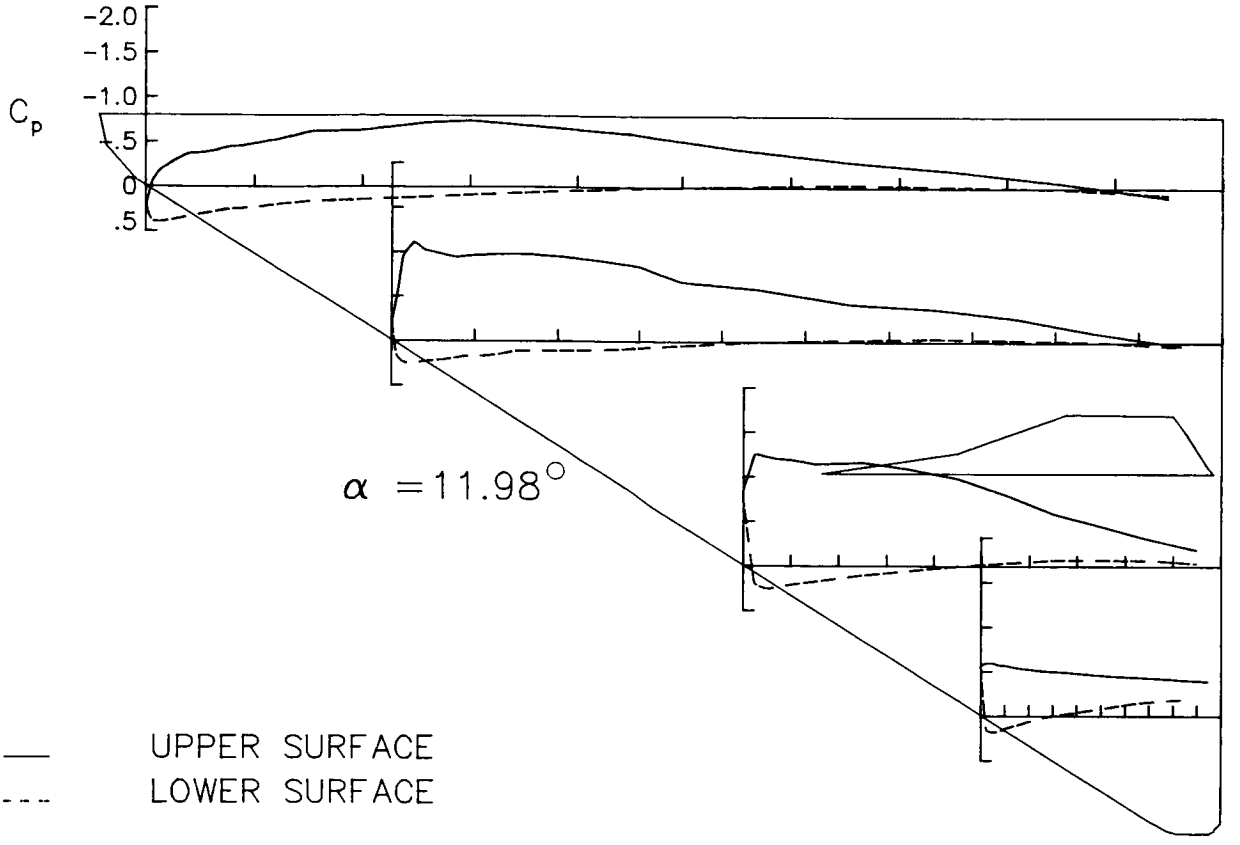
ANGLE OF ATTACK= 12.99 DEGREES MACH NUMBER= 0.75 CONFIGURATION : LARGE TAILS(V1) ON

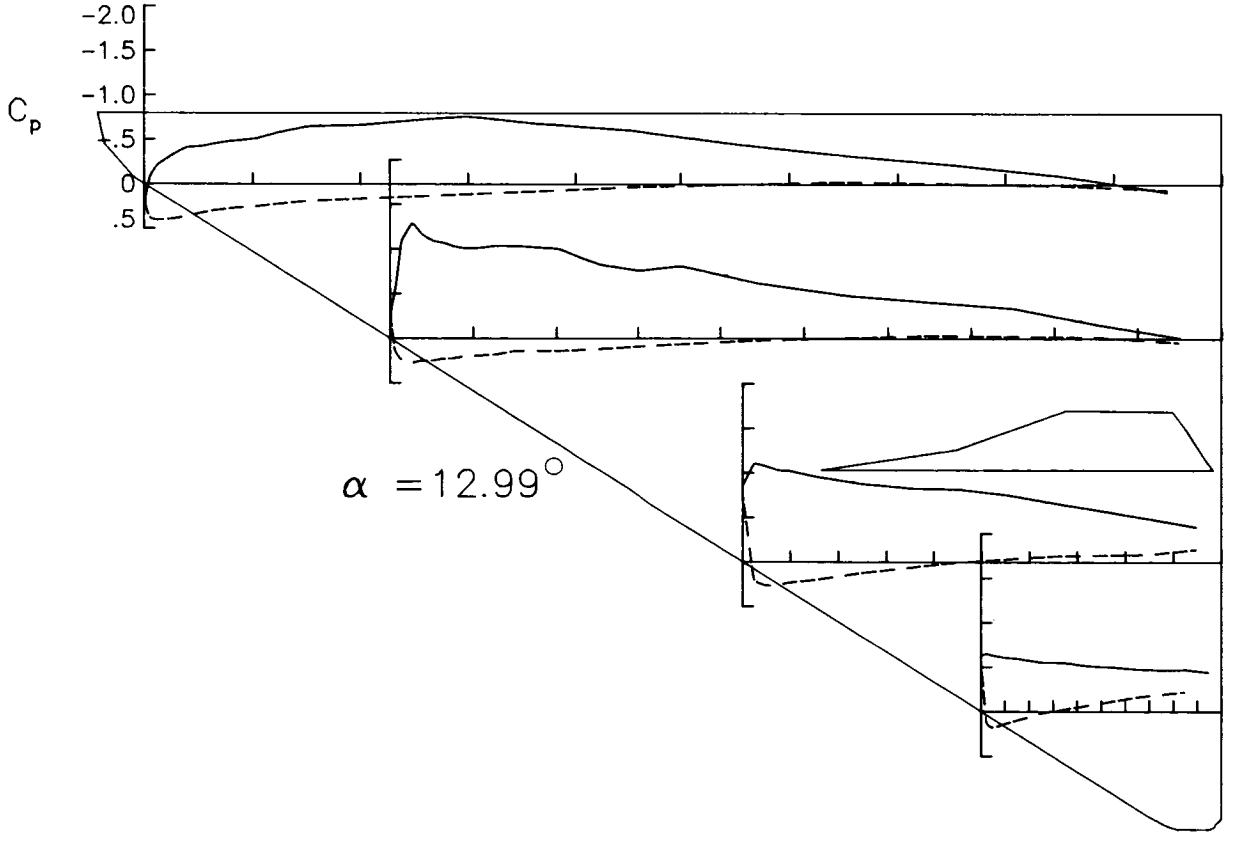
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.19029	.19029	-.28940	-.28940	-.84311	-.84311	-.63149	-.63149
.005	< >	< >	< >	< >	-.09585	.38094	-.59631	.13991	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.21591	.40192	-1.09298	.23190	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.33331	.38980	-1.28577	.27017	-1.10215	.20836	-.65011	.13648
.040	< >	< >	< >	< >	-.40723	.36525	-1.16408	.25032	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.42220	.33069	-1.09214	.24641	-1.07395	.26246	-.63153	.17743
.065	< >	< >	< >	< >	-.44856	.30129	-1.06793	.22675	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.47769	.28116	-1.02846	.22136	-1.03264	.25177	-.61964	.16042
.090	< >	< >	< >	< >	-.49034	.26396	-1.01055	.20151	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.50948	.25429	-1.01077	.19441	-1.02183	.22809	-.60818	.13555
.125	< >	< >	< >	< >	-.57975	.22311	-1.03635	.17649	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.64729	.19211	-1.03405	.13917	-.96375	.19838	-.59647	.09802
.200	< >	< >	< >	< >	-.66230	.16519	-1.00221	.13618	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.72590	.13964	-.82693	.11574	-.88066	.11911	-.55605	.01913
.300	< >	< >	< >	< >	-.75806	< >	-.75864	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.68979	< >	-.80737	< >	-.83187	< >	-.54938	< >
.450	< >	< >	< >	< >	-.60018	.03270	-.62144	.02232	-.81813	-.00000	-.51253	*****
.550	< >	< >	< >	< >	-.44564	< >	-.47937	< >	-.75942	< >	-.49927	< >
.650	< >	< >	-.21106	< >	-.32077	-.02807	-.40587	-.03374	-.66680	-.06973	-.47679	-.16490
.750	-.20984	< >	< >	< >	-.22031	< >	-.33739	< >	-.57915	*****	-.46653	*****
.850	-.11175	.02940	-.11291	-.00999	-.09510	.01132	-.15835	-.01554	-.48870	-.09138	-.47095	-.22185
.950	-.01050	.05942	.02711	.01323	.08592	.06218	-.00744	.04449	-.39555	-.14703	-.43947	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

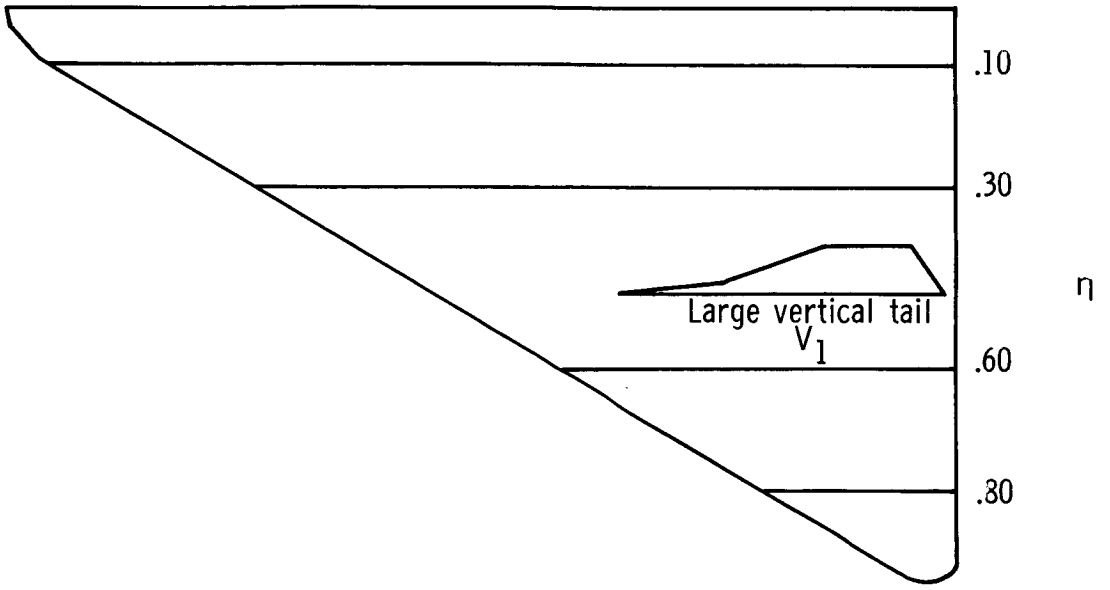

-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 11.98^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 12.99^\circ$

Appendix H

Pressure Data for Wing With Large Vertical Tail at $M = 0.80$

The C_p data for the wing with large vertical tail (fig. 2(c)) at $M = 0.80$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.35°$ to $12.04°$. The following sketch indicates the spanwise locations of the pressure ports:



PRESSURE MEASUREMENTS

ANGLE OF ATTACK= -2.35 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28517	.28517	.05771	.05771	.14398	.14398	-.12264	-.12264
.005	< >	< >	< >	< >	.31160	.06070	.11136	-.23483	< >	< >	< >	< >
.015	< >	< >	< >	< >	.26692	-.10428	.06086	-.45930	< >	< >	< >	< >
.025	< >	< >	< >	< >	.20342	-.17403	-.01123	-.47777	.00983	-.81189	.23315	-1.27780
.040	< >	< >	< >	< >	.15289	-.19474	-.06311	-.48169	< >	< >	< >	< >
.050	< >	< >	< >	< >	.12036	-.21842	-.09729	-.44413	-.02799	-.69213	.18242	-1.26104
.065	< >	< >	< >	< >	.08133	-.23264	-.13328	-.43970	< >	< >	< >	< >
.075	< >	< >	< >	< >	.03415	-.23512	-.16435	-.40326	-.05045	-.66377	.15435	-1.23235
.090	< >	< >	< >	< >	.01274	-.22719	-.17331	-.38976	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.02252	-.21916	-.20402	-.37785	-.05734	-.51631	.14998	-1.20528
.125	< >	< >	< >	< >	-.08182	-.24563	-.24414	-.36451	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.15498	-.25818	-.27555	-.30453	-.07376	-.44083	.10298	-1.09065
.200	< >	< >	< >	< >	-.20853	-.25000	-.30469	-.33888	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.30200	-.25934	-.31212	-.32168	-.06351	-.40936	.06445	-.95555
.300	< >	< >	< >	< >	-.32919	< >	-.32219	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.32649	< >	-.30500	< >	-.07048	< >	.03200	< >
.450	< >	< >	< >	< >	-.32061	-.32031	-.25181	-.34933	-.08264	-.36848	-.00121	*****
.550	< >	< >	< >	< >	-.22673	< >	-.19103	< >	-.09883	< >	-.03201	< >
.650	< >	< >	-.06139	< >	-.11809	-.27052	-.16842	-.25803	-.11406	-.23484	-.04963	-.25070
.750	-.05700	< >	< >	< >	-.05446	< >	-.12796	< >	-.07972	*****	-.06389	*****
.850	.00787	-.06692	.00736	-.08694	.02622	-.06029	.03007	-.03395	-.00503	-.02768	-.06405	-.10285
.950	.07674	.04344	.10718	.02109	.15132	.07488	.17529	.12055	.09600	.09893	-.03579	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

PRESSURE MEASUREMENTS

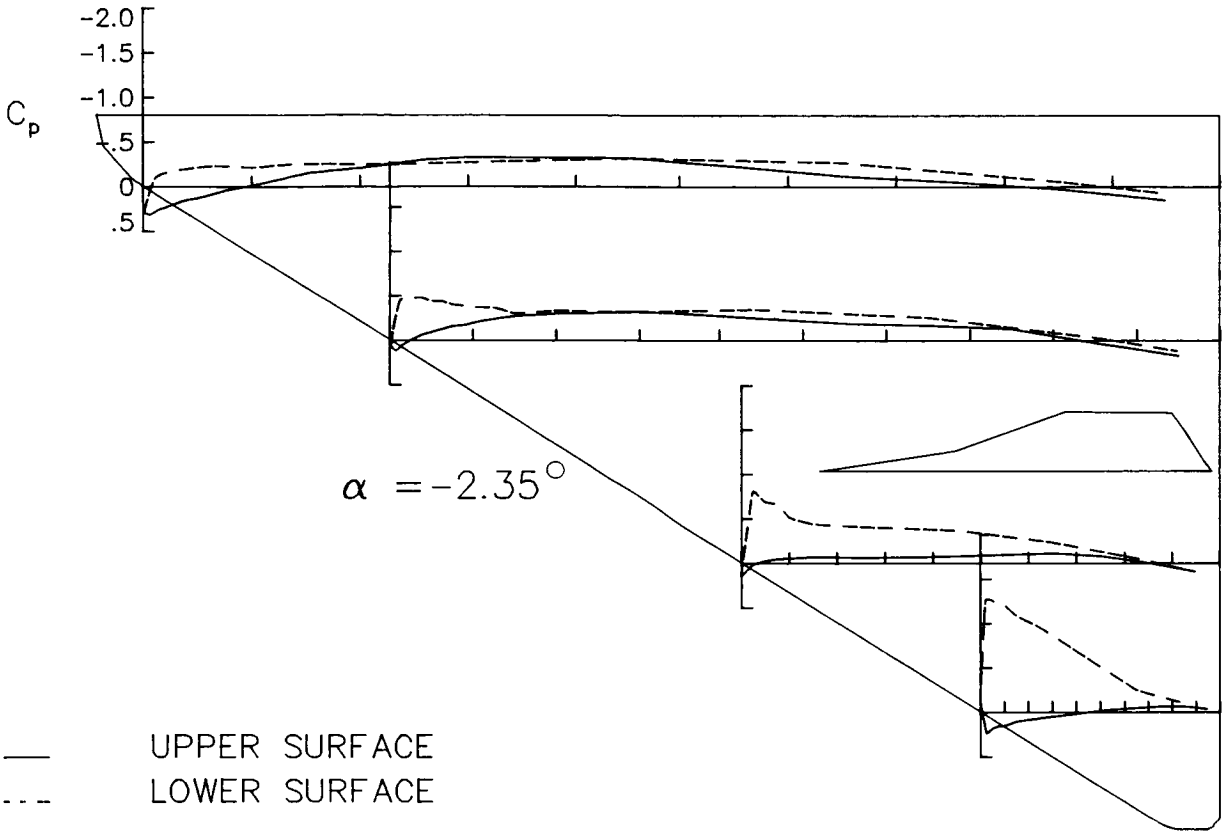
ANGLE OF ATTACK= -1.16 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

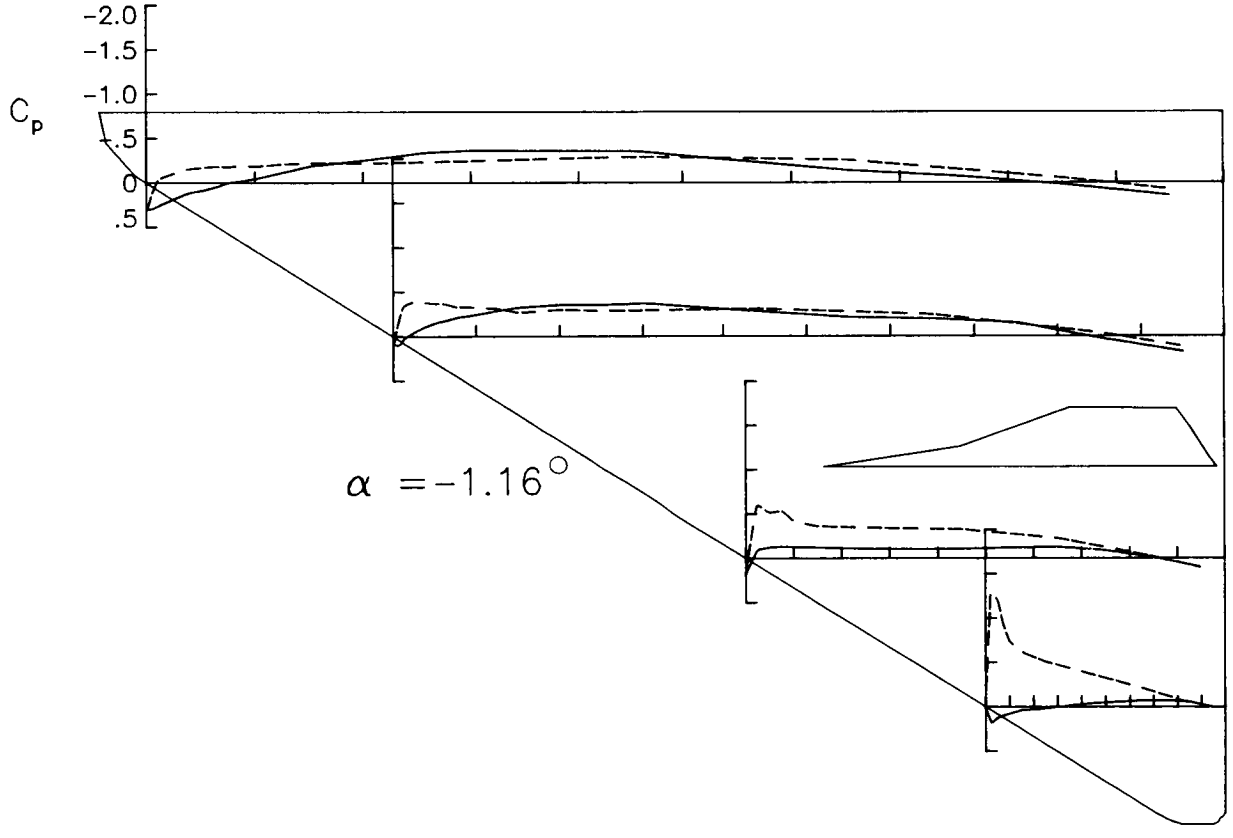
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29904	.29904	.08894	.08894	.18902	.18902	.00380	.00380
.005	< >	< >	< >	< >	.29251	.10651	.09633	-.13752	< >	< >	< >	< >
.015	< >	< >	< >	< >	.25244	-.03739	.02427	-.33651	< >	< >	< >	< >
.025	< >	< >	< >	< >	.17765	-.10175	-.05181	-.38892	-.09106	-.59569	.18024	-1.29599
.040	< >	< >	< >	< >	.11858	-.15078	-.10737	-.38279	< >	< >	< >	< >
.050	< >	< >	< >	< >	.08531	-.16949	-.15434	-.36981	-.12375	-.51968	.12537	-1.20353
.065	< >	< >	< >	< >	.04708	-.18450	-.18274	-.36219	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.00418	-.17902	-.21572	-.33255	-.13200	-.53188	.09750	-.92219
.090	< >	< >	< >	< >	-.01804	-.19180	-.23005	-.33124	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.05168	-.18633	-.24961	-.32389	-.12852	-.42225	.07663	-.73959
.125	< >	< >	< >	< >	-.11321	-.20918	-.28991	-.30904	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.18988	-.22194	-.32638	-.26881	-.12282	-.36507	.03752	-.61974
.200	< >	< >	< >	< >	-.24878	-.21958	-.35435	-.29894	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.33715	-.23086	-.35383	-.28459	-.10750	-.34679	.01812	-.50998
.300	< >	< >	< >	< >	-.36014	< >	-.36949	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.35647	< >	-.33724	< >	-.10532	< >	-.01671	< >
.450	< >	< >	< >	< >	-.35128	-.29118	-.27833	-.30840	-.10880	-.32665	-.04318	*****
.550	< >	< >	< >	< >	-.24625	< >	-.21221	< >	-.12057	< >	-.06009	< >
.650	< >	< >	-.07665	< >	-.13698	-.25474	-.19385	-.24343	-.12787	-.22565	-.07436	-.21539
.750	-.07279	< >	< >	< >	-.07273	< >	-.14923	< >	-.08779	*****	-.07344	*****
.850	.00350	-.06082	.00242	-.08515	.02206	-.05219	.02508	-.03740	-.00982	-.01951	-.05733	-.04565
.950	.07385	.04730	.10664	.01932	.14699	.07588	.17712	.11650	.09959	.10349	.00145	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = -2.35^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = -1.16^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .07 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31275	.31275	.11108	.11108	.20603	.20603	.11643	.11643
.005	< >	< >	< >	< >	.27888	.14877	.06609	-.05445	< >	< >	< >	< >
.015	< >	< >	< >	< >	.23172	.01703	-.03351	-.21740	< >	< >	< >	< >
.025	< >	< >	< >	< >	.14488	-.06171	-.11338	-.27944	-.23595	-.38270	.11240	-.99816
.040	< >	< >	< >	< >	.08181	-.08800	-.17120	-.29584	< >	< >	< >	< >
.050	< >	< >	< >	< >	.05316	-.12222	-.20745	-.28542	-.23749	-.36293	.03417	-.90573
.065	< >	< >	< >	< >	.01359	-.14020	-.23989	-.29215	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.03523	-.14012	-.26205	-.27602	-.21430	-.38817	.01460	-.63530
.090	< >	< >	< >	< >	-.05478	-.14462	-.28107	-.27565	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.08946	-.14562	-.29779	-.26952	-.20760	-.33222	.01200	-.56811
.125	< >	< >	< >	< >	-.14932	-.17018	-.34240	-.26810	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.22745	-.18657	-.37493	-.22409	-.19815	-.28607	-.05411	-.52175
.200	< >	< >	< >	< >	-.27908	-.18647	-.39934	-.25997	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.37202	-.20068	-.39933	-.25047	-.15325	-.28664	-.04729	-.42557
.300	< >	< >	< >	< >	-.39975	< >	-.41079	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.39530	< >	-.37696	< >	-.13940	< >	-.06997	< >
.450	< >	< >	< >	< >	-.38843	-.26516	-.31045	-.28746	-.14324	-.29092	-.08942	*****
.550	< >	< >	< >	< >	-.26575	< >	-.23587	< >	-.14804	< >	-.10189	< >
.650	< >	< >	-.09429	< >	-.15007	-.23558	-.22341	-.21952	-.14536	-.20938	-.10444	-.20081
.750	-.08733	< >	< >	< >	-.08583	< >	-.16745	< >	-.10509	*****	-.09006	*****
.850	-.00890	-.05430	-.00660	-.07946	.01091	-.04992	.02259	-.03281	-.01410	-.01964	-.05516	-.01677
.950	.07035	.04300	.10042	.01678	.14516	.07490	.17202	.11674	.10059	.10306	.01439	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

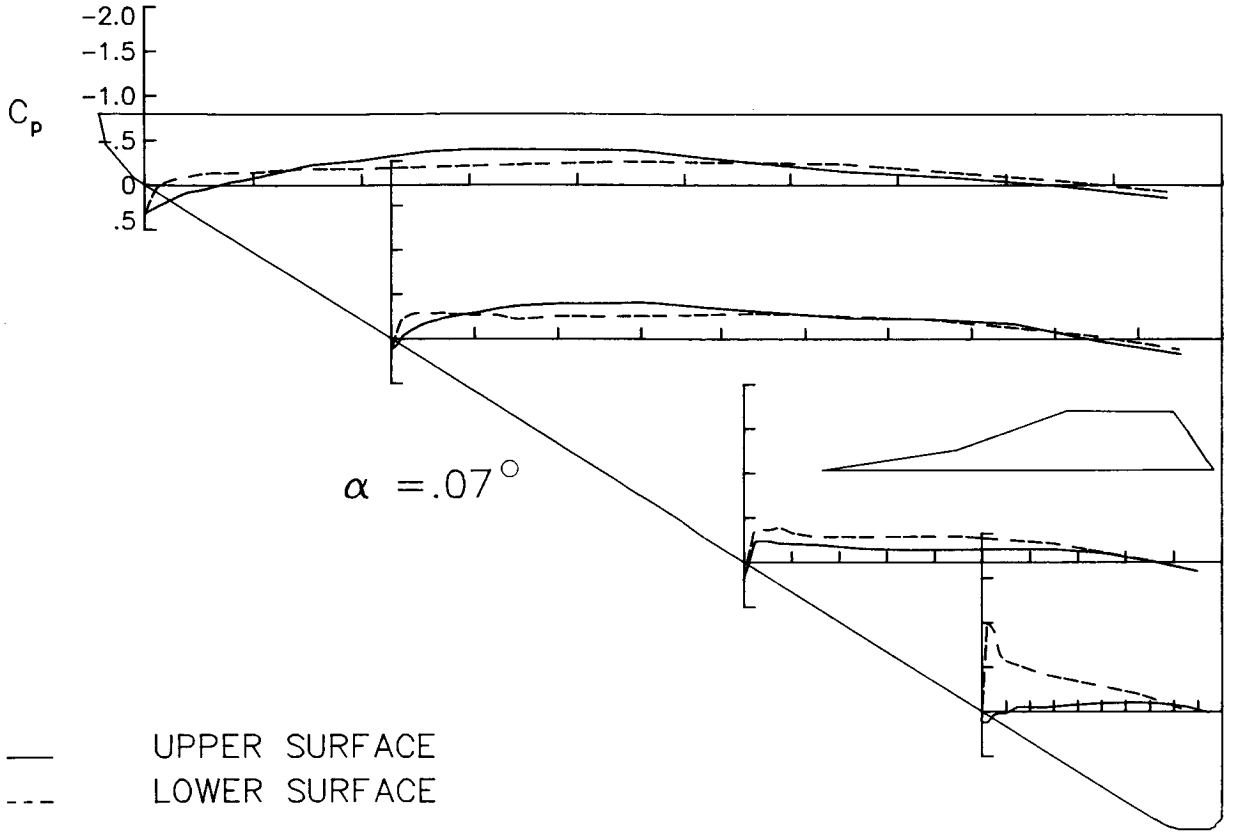
ANGLE OF ATTACK= 1.27 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

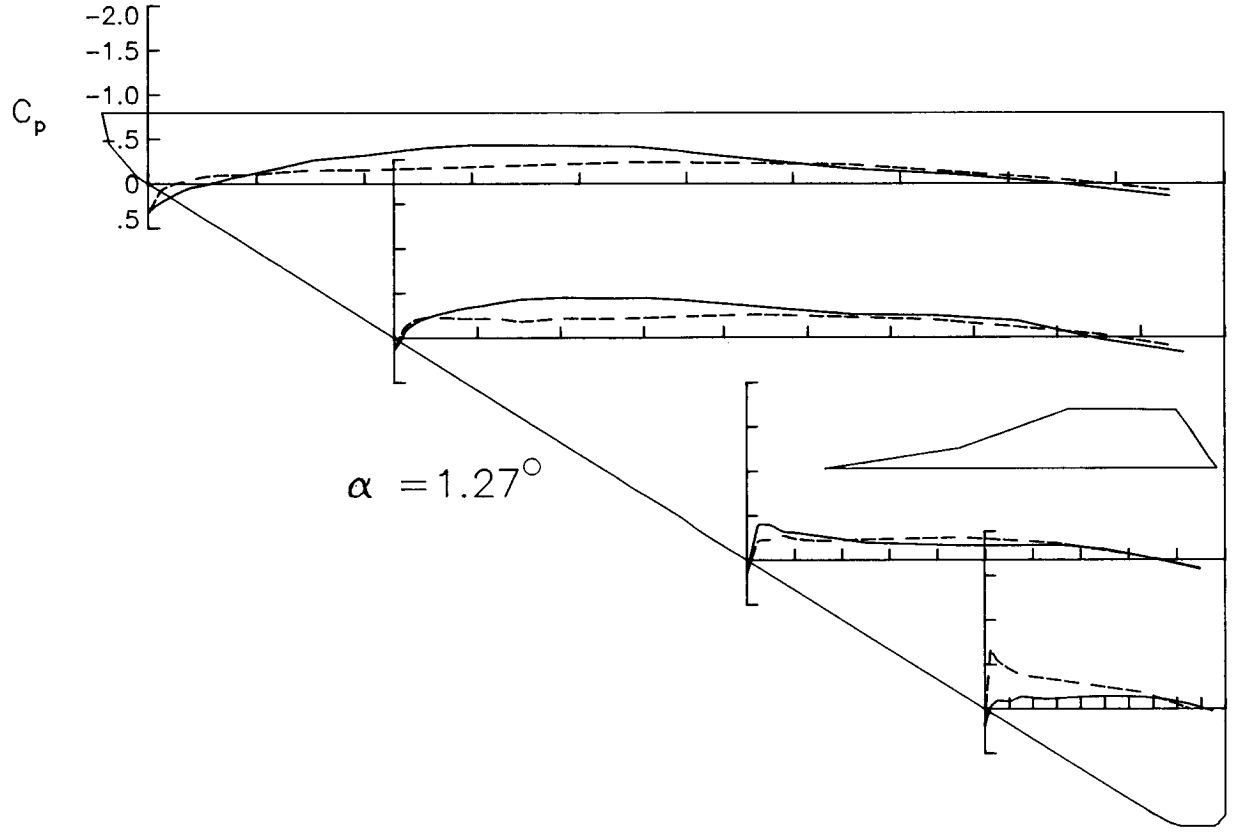
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31492	.31492	.12157	.12157	.18140	.18140	.18843	.18843
.005	< >	< >	< >	< >	.25775	.19841	.04733	.01760	< >	< >	< >	< >
.015	< >	< >	< >	< >	.19869	.07010	-.08249	-.12169	< >	< >	< >	< >
.025	< >	< >	< >	< >	.10645	-.00216	-.18011	-.20251	-.39789	-.21497	-.02852	-.65789
.040	< >	< >	< >	< >	.04479	-.03618	-.22564	-.22649	< >	< >	< >	< >
.050	< >	< >	< >	< >	.01458	-.07526	-.26190	-.22395	-.39474	-.23127	-.09447	-.54869
.065	< >	< >	< >	< >	-.02030	-.09209	-.29192	-.22640	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.06905	-.09874	-.32129	-.21818	-.32214	-.27503	-.09162	-.49320
.090	< >	< >	< >	< >	-.09126	-.09876	-.34022	-.21459	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.12994	-.10474	-.35584	-.21480	-.30918	-.24021	-.08553	-.45133
.125	< >	< >	< >	< >	-.18862	-.13276	-.39709	-.21421	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.26645	-.15137	-.43142	-.18276	-.27247	-.21702	-.13828	-.38339
.200	< >	< >	< >	< >	-.31880	-.15768	-.45161	-.21950	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.40571	-.17415	-.44129	-.21317	-.19823	-.23552	-.11350	-.34383
.300	< >	< >	< >	< >	-.43495	< >	-.44840	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.43026	< >	-.41620	< >	-.17959	< >	-.12823	< >
.450	< >	< >	< >	< >	-.41412	-.24275	-.34461	-.25780	-.16398	-.25520	-.14193	*****
.550	< >	< >	< >	< >	-.28969	< >	-.26093	< >	-.16329	< >	-.14491	< >
.650	< >	< >	-.10215	< >	-.16925	-.21657	-.24580	-.20060	-.16828	-.18898	-.13709	-.18874
.750	-.10173	< >	< >	< >	-.10333	< >	-.18676	< >	-.11778	*****	-.10945	*****
.850	-.01798	-.04843	-.01921	-.06959	.00208	-.04571	.02076	-.03421	-.01431	-.02106	-.05709	-.00513
.950	.06934	.04866	.09734	.02033	.14109	.07580	.16838	.11402	.10545	.09752	.02842	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =.07°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
α =1.27°

PRESSURE MEASUREMENTS

ANGLE OF ATTACK= 2.40 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30914	.30914	.12605	.12605	.11488	.11488	.22141	.22141
.005	< >	< >	< >	< >	.24022	.22562	.01332	.07540	< >	< >	< >	< >
.015	< >	< >	< >	< >	.17332	.11664	-.14217	-.04616	< >	< >	< >	< >
.025	< >	< >	< >	< >	.07771	.04160	-.24021	-.12302	-.60905	-.09730	-.18269	-.37894
.040	< >	< >	< >	< >	.01275	-.00312	-.29326	-.14907	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.01491	-.03003	-.32031	-.16247	-.58843	-.13899	-.23070	-.35844
.065	< >	< >	< >	< >	-.05799	-.04864	-.34386	-.16688	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.11205	-.05665	-.37693	-.17268	-.43217	-.18606	-.21165	-.32368
.090	< >	< >	< >	< >	-.12342	-.06040	-.39480	-.16405	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.15803	-.06800	-.40811	-.16926	-.39342	-.16655	-.19451	-.30533
.125	< >	< >	< >	< >	-.21868	-.09879	-.44782	-.17418	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.30031	-.11837	-.48162	-.15894	-.34440	-.16640	-.22310	-.28602
.200	< >	< >	< >	< >	-.34315	-.12525	-.50144	-.18372	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.43698	-.14190	-.49198	-.17857	-.25740	-.19103	-.18309	-.27245
.300	< >	< >	< >	< >	-.46797	< >	-.50641	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.45702	< >	-.45329	< >	-.21216	< >	-.19547	< >
.450	< >	< >	< >	< >	-.43758	-.21824	-.36808	-.22731	-.19130	-.22040	-.18929	*****
.550	< >	< >	< >	< >	-.30293	< >	-.27887	< >	-.19038	< >	-.18893	< >
.650	< >	< >	-.11903	< >	-.18180	-.19814	-.26462	-.18527	-.18397	-.18092	-.17124	-.17446
.750	-.10986	< >	< >	< >	-.11278	< >	-.20056	< >	-.12850	*****	-.12754	*****
.850	-.02732	-.04042	-.02573	-.07021	-.00686	-.04320	.01478	-.03010	-.02492	-.01906	-.07073	-.00231
.950	.06300	.05001	.09475	.02371	.13742	.07315	.16110	.10587	.10858	.09282	.03069	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

PRESSURE MEASUREMENTS

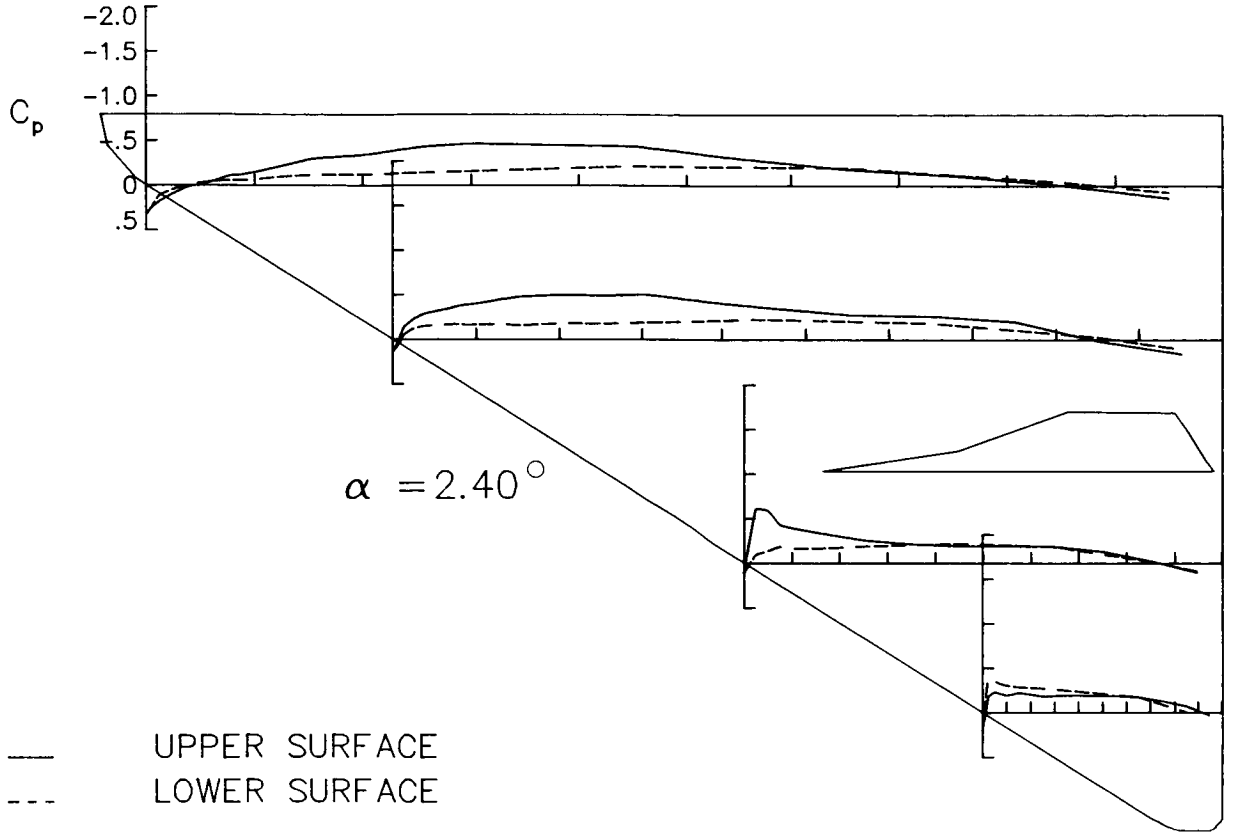
ANGLE OF ATTACK= 3.56 DEGREES MACH NUMBER= 0.81 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31725	.31725	.11587	.11587	.01284	.01284	.17590	.17590
.005	< >	< >	< >	< >	.21959	.25174	-.03368	.12414	< >	< >	< >	< >
.015	< >	< >	< >	< >	.14528	.16216	-.19759	.02427	< >	< >	< >	< >
.025	< >	< >	< >	< >	.04452	.08215	-.30957	-.06183	-.86506	-.00252	-.41070	-.14114
.040	< >	< >	< >	< >	-.02379	.05331	-.35912	-.08796	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.05606	.01253	-.38510	-.10221	-.74008	-.05454	-.42493	-.19476
.065	< >	< >	< >	< >	-.09557	-.00924	-.40763	-.11456	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.14050	-.01469	-.43359	-.11407	-.55705	-.10783	-.37155	-.19144
.090	< >	< >	< >	< >	-.16072	-.02828	-.45093	-.12614	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.19331	-.03177	-.46466	-.12447	-.48317	-.10443	-.31688	-.19581
.125	< >	< >	< >	< >	-.25746	-.06139	-.50949	-.13379	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.33186	-.09000	-.53666	-.11569	-.42907	-.10601	-.31983	-.20973
.200	< >	< >	< >	< >	-.37789	-.09621	-.56280	-.15055	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.47382	-.11189	-.54391	-.15001	-.30157	-.15147	-.26159	-.21306
.300	< >	< >	< >	< >	-.50243	< >	-.54110	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.48935	< >	-.49345	< >	-.25203	< >	-.25591	< >
.450	< >	< >	< >	< >	-.46445	-.19358	-.39471	-.19738	-.21923	-.19543	-.24825	*****
.550	< >	< >	< >	< >	-.32350	< >	-.30070	< >	-.20610	< >	-.23489	< >
.650	< >	< >	-.12400	< >	-.19297	-.18059	-.27725	-.17194	-.19617	-.15801	-.20322	-.16118
.750	-.11988	< >	< >	< >	-.12559	< >	-.21864	< >	-.14170	*****	-.15556	*****
.850	-.03506	-.03855	-.03068	-.06193	-.01403	-.03821	.00880	-.02811	-.02919	-.02050	-.06289	-.00198
.950	.06250	.04946	.09130	.02223	.13785	.07548	.15410	.10064	.10459	.08130	.03034	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT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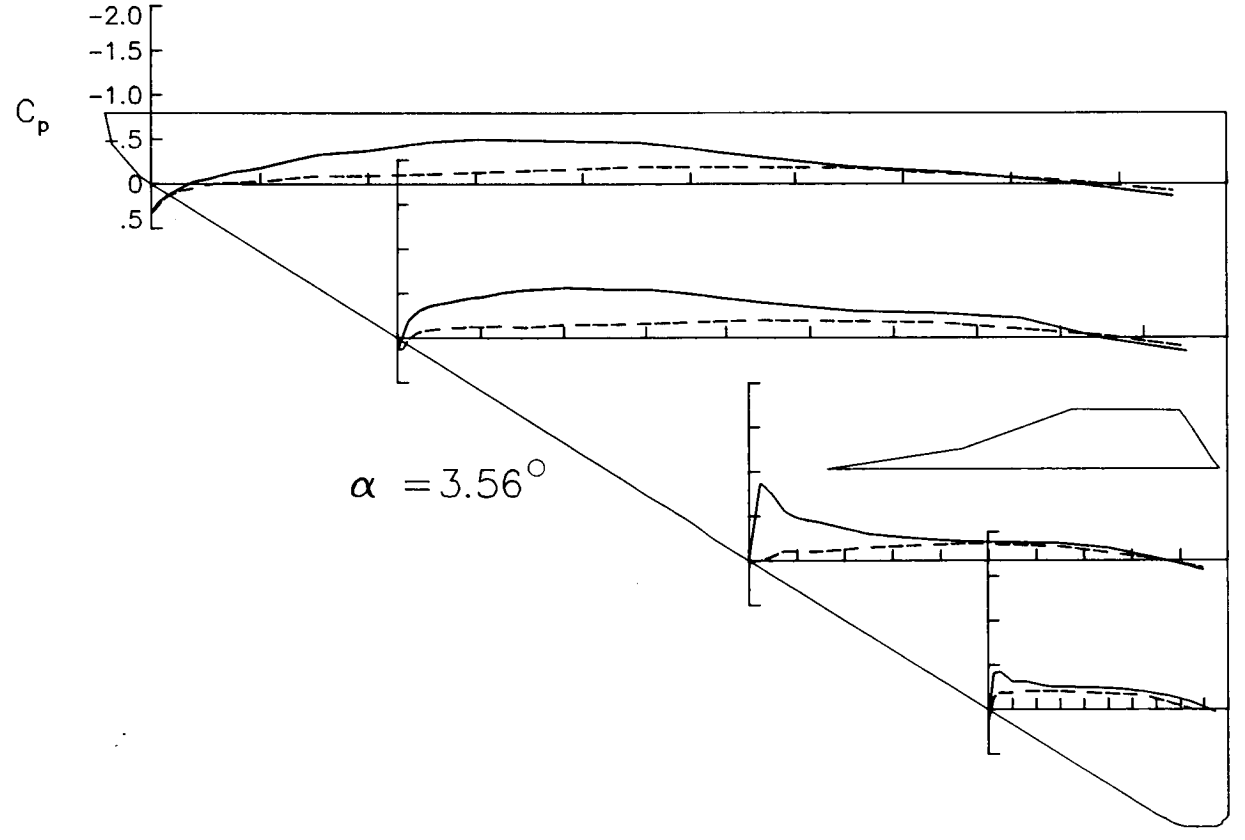
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 2.40^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 3.56^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.77 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31838	.31838	.09633	.09633	-.10544	-.10544	.05189	.05189
.005	< >	< >	< >	< >	.19285	.28721	-.07884	.16345	< >	< >	< >	< >
.015	< >	< >	< >	< >	.11397	.20416	-.29025	.08916	< >	< >	< >	< >
.025	< >	< >	< >	< >	.01185	.13969	-.38729	.00894	-1.24873	.08152	-.73307	.01322
.040	< >	< >	< >	< >	-.06141	.09949	-.43838	-.03104	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.08858	.06209	-.45121	-.04443	-1.05142	.01511	-.68633	-.06046
.065	< >	< >	< >	< >	-.12770	.03570	-.48065	-.06291	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.18241	.02078	-.50162	-.06955	-.63406	-.04113	-.58795	-.07623
.090	< >	< >	< >	< >	-.19619	.01347	-.51969	-.07446	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.23116	.00431	-.53106	-.07940	-.59231	-.03969	-.48463	-.10349
.125	< >	< >	< >	< >	-.29117	-.02754	-.56295	-.08946	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.37243	-.05017	-.59614	-.07872	-.50585	-.05545	-.44951	-.12767
.200	< >	< >	< >	< >	-.40929	-.06375	-.61042	-.10997	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.51092	-.08043	-.60996	-.11495	-.35003	-.10406	-.34166	-.15387
.300	< >	< >	< >	< >	-.55022	< >	-.58656	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.51763	< >	-.53408	< >	-.29207	< >	-.32360	< >
.450	< >	< >	< >	< >	-.49087	-.16496	-.42157	-.17449	-.24284	-.16329	-.30178	*****
.550	< >	< >	< >	< >	-.33632	< >	-.31513	< >	-.23162	< >	-.28369	< >
.650	< >	< >	-.13627	< >	-.20296	-.16533	-.29167	-.15128	-.21689	-.14252	-.24343	-.14401
.750	-.12904	< >	< >	< >	-.13259	< >	-.21704	< >	-.15553	*****	-.17501	*****
.850	-.03686	-.03101	-.03713	-.05403	-.02201	-.02997	-.00166	-.02645	-.03675	-.02254	-.09259	-.00744
.950	.06035	.05329	.08829	.01962	.13007	.07679	.14034	.09241	.09068	.07374	.02660	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

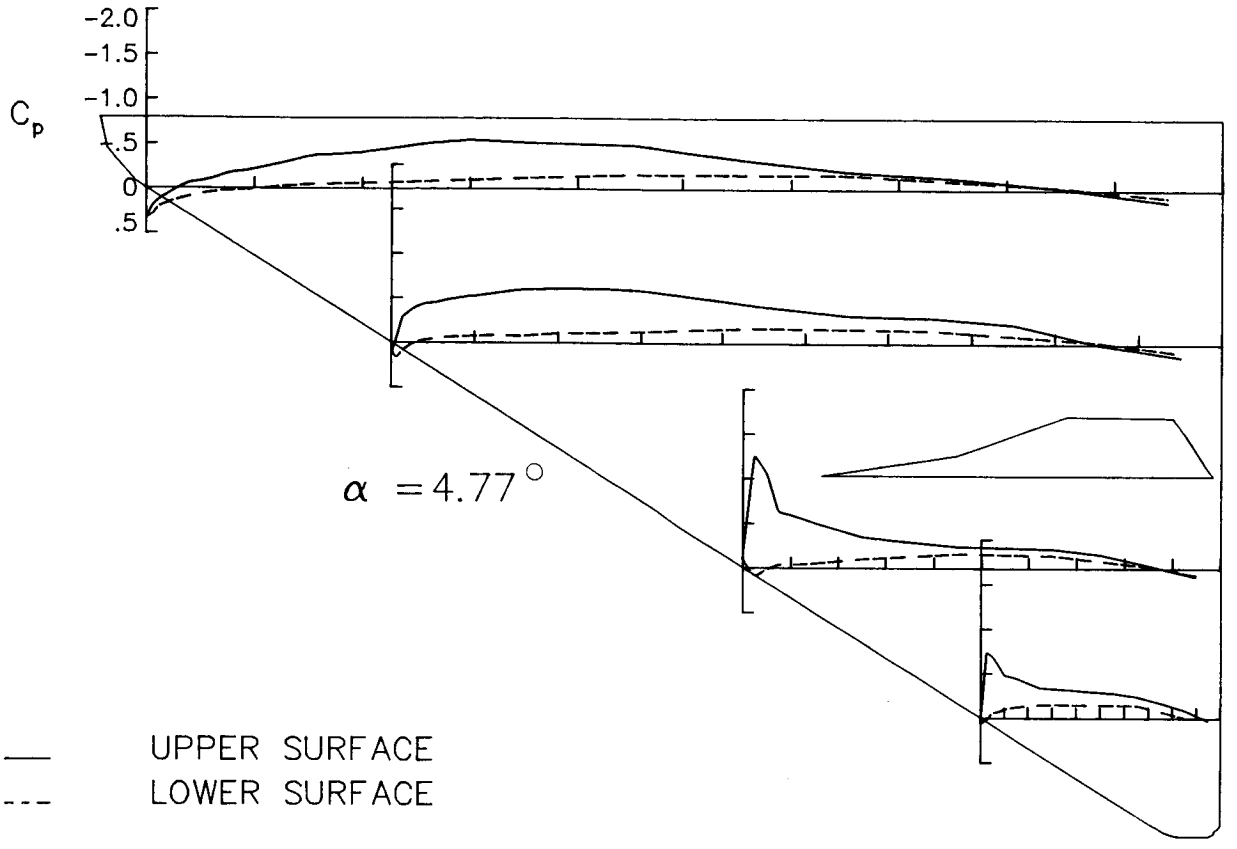
ANGLE OF ATTACK= 6.04 DEGREES MACH NUMBER= 0.81 CONFIGURATION : LARGE TAILS(V1) ON

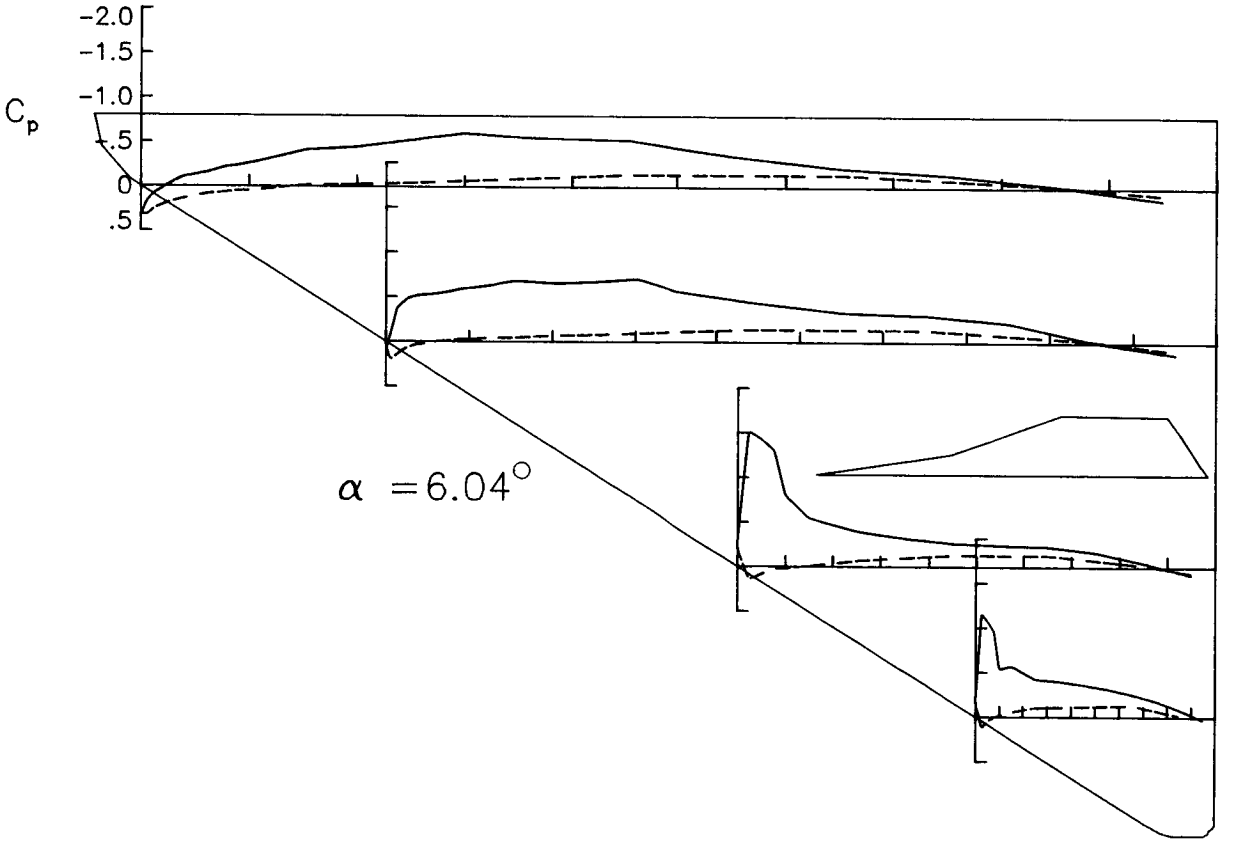
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31414	.31414	.06786	.06786	-.21762	-.21762	-.16470	-.16470
.005	< >	< >	< >	< >	.16228	.31371	-.14067	.19186	< >	< >	< >	< >
.015	< >	< >	< >	< >	.07515	.25505	-.37647	.14213	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.03227	.18421	-.48461	.06766	-1.50607	.13083	-1.14685	.10868
.040	< >	< >	< >	< >	-.10585	.14350	-.51793	.03077	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.13626	.10883	-.52718	.01373	-1.42617	.08174	-1.06488	.03956
.065	< >	< >	< >	< >	-.17022	.07944	-.54110	-.00802	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.21912	.06684	-.56495	-.01241	-1.30355	.02126	-.95456	.00365
.090	< >	< >	< >	< >	-.23481	.05083	-.58815	-.02783	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.26844	.04349	-.60146	-.02972	-.80049	.01554	-.54311	-.02172
.125	< >	< >	< >	< >	-.33029	.01549	-.63315	-.04790	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.41146	-.01517	-.67895	-.04563	-.54724	-.01053	-.56880	-.05949
.200	< >	< >	< >	< >	-.44608	-.02832	-.65399	-.07189	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.53914	-.04572	-.67160	-.08016	-.39669	-.07054	-.42512	-.10504
.300	< >	< >	< >	< >	-.59990	< >	-.69979	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.55419	< >	-.56373	< >	-.31863	< >	-.39921	< >
.450	< >	< >	< >	< >	-.52154	-.14086	-.44345	-.14320	-.26475	-.13187	-.35994	*****
.550	< >	< >	< >	< >	-.34705	< >	-.33028	< >	-.24329	< >	-.31581	< >
.650	< >	< >	-.13833	< >	-.21532	-.14213	-.29973	-.13678	-.22758	-.13022	-.25684	-.13254
.750	-.13138	< >	< >	< >	-.14261	< >	-.21806	< >	-.16572	*****	-.18304	*****
.850	-.04307	-.02239	-.04262	-.04791	-.02511	-.02489	-.01354	-.02320	-.04946	-.02303	-.08552	-.01774
.950	.05374	.05397	.08468	.02688	.13354	.07527	.12658	.08909	.08444	.06637	.03123	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 4.77^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
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0
.5
C_p
$\alpha = 6.04^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.28 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30300	.30300	.03083	.03083	-.32441	-.32441	-.34490	-.34490
.005	< >	< >	< >	< >	.12856	.33618	-.20670	.21077	< >	< >	< >	< >
.015	< >	< >	< >	< >	.03329	.28876	-.47299	.17855	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.07415	.23025	-.56586	.11387	-1.62323	.16909	-1.13746	.14698
.040	< >	< >	< >	< >	-.15306	.19160	-.60687	.08375	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.17561	.15298	-.60126	.06313	-1.60598	.12817	-1.07192	.09301
.065	< >	< >	< >	< >	-.21094	.11991	-.62614	.03725	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.26511	.10151	-.63750	.03362	-1.53293	.06993	-.91100	.05391
.090	< >	< >	< >	< >	-.27461	.09533	-.66416	.01972	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.30832	.08995	-.67075	.01180	-1.31595	.05717	-.78827	.02598
.125	< >	< >	< >	< >	-.36861	.05276	-.69079	-.00417	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.45253	.02401	-.73611	-.00429	-.94469	.02584	-.67125	-.01529
.200	< >	< >	< >	< >	-.48606	.00831	-.73354	-.03353	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56858	-.01420	-.71006	-.04640	-.38731	-.03164	-.54062	-.06149
.300	< >	< >	< >	< >	-.64239	< >	-.74630	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.58363	< >	-.70218	< >	-.31701	< >	-.46548	< >
.450	< >	< >	< >	< >	-.57579	-.10684	-.45336	-.11955	-.28385	-.10327	-.40235	*****
.550	< >	< >	< >	< >	-.36078	< >	-.33875	< >	-.24398	< >	-.34112	< >
.650	< >	< >	-.12724	< >	-.21844	-.12543	-.28960	-.11770	-.22731	-.12151	-.27041	-.12564
.750	-.12837	< >	< >	< >	-.13670	< >	-.18562	< >	-.17086	*****	-.18604	*****
.850	-.03823	-.01550	-.03702	-.04588	-.02841	-.01908	-.03128	-.01773	-.06247	-.02892	-.09888	-.03846
.950	.05154	.04973	.08008	.02223	.12744	.07445	.09219	.06916	.06837	.05361	.00658	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

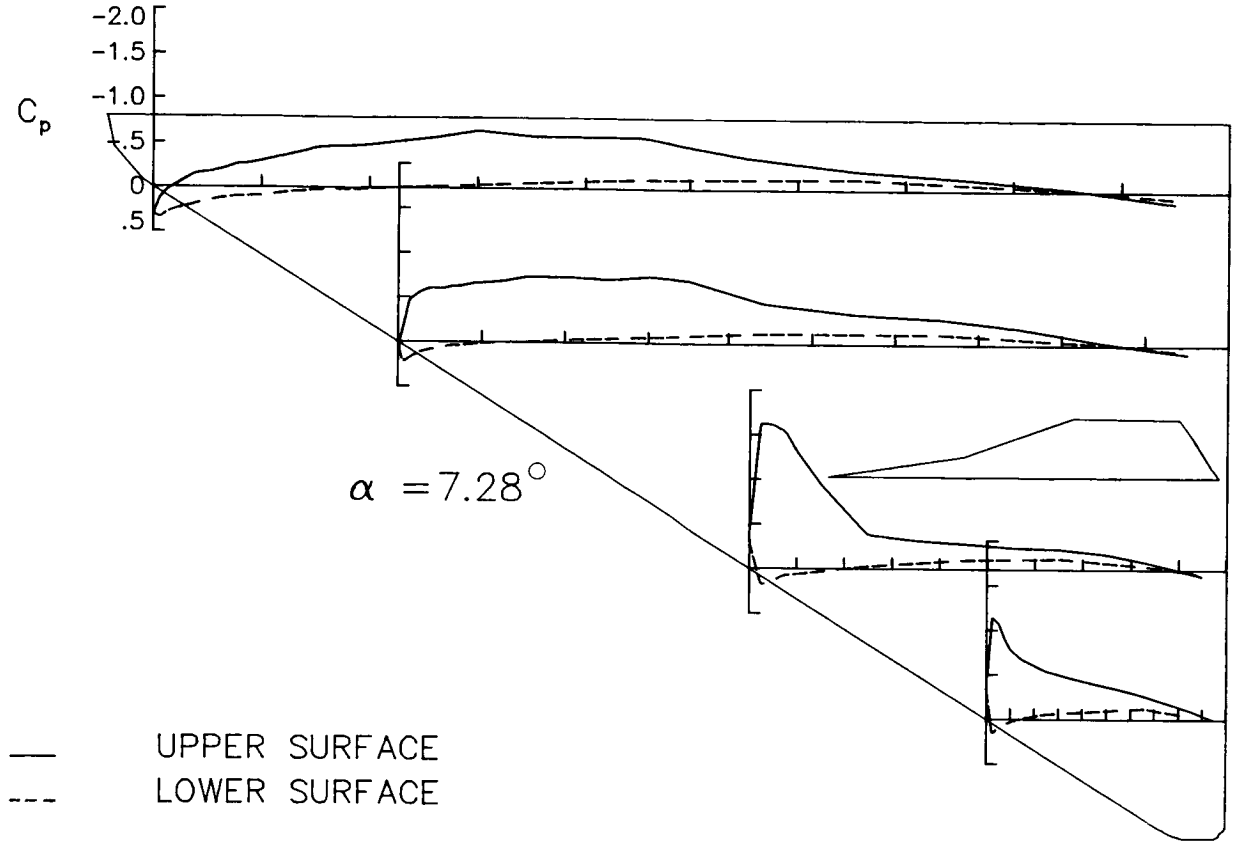
ANGLE OF ATTACK= 8.45 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

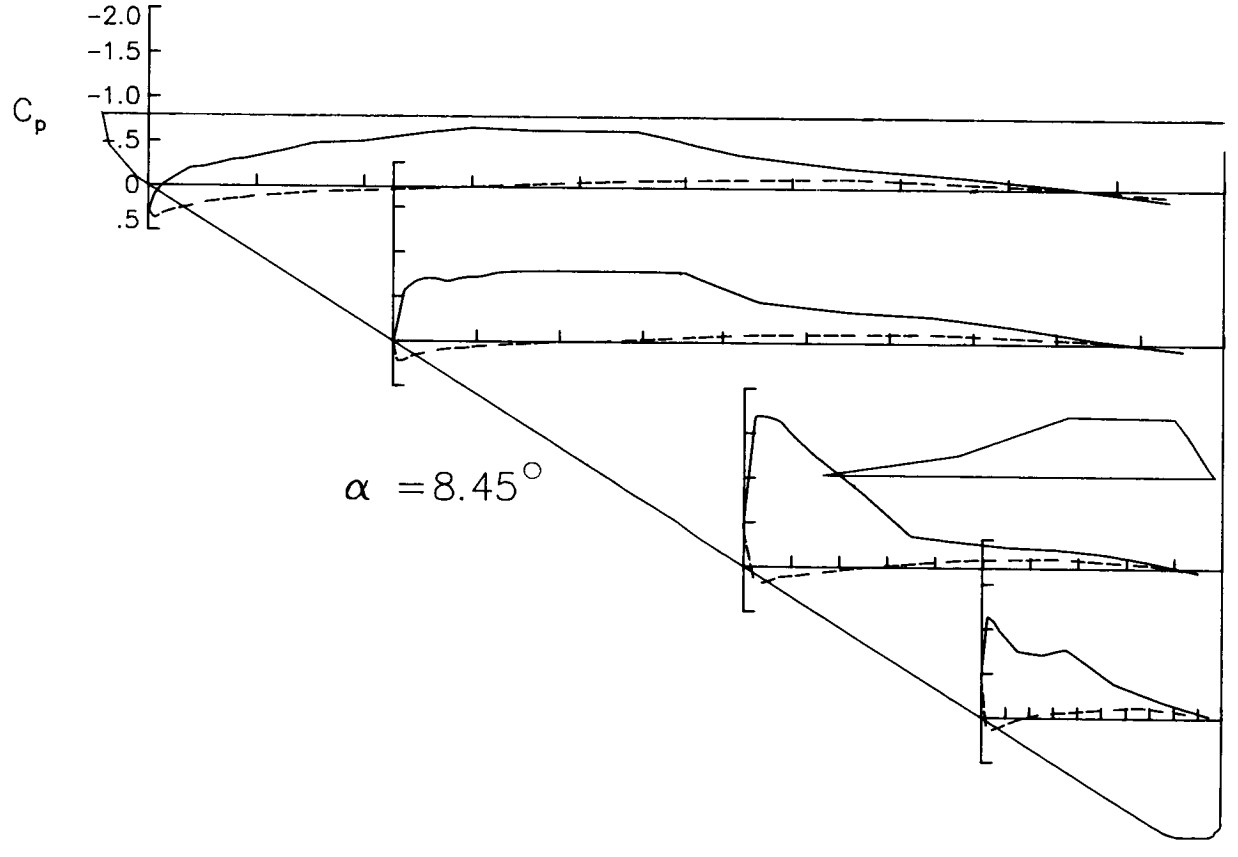
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28684	.28684	-.00929	-.00929	-.42477	-.42477	-.47463	-.47463
.005	< >	< >	< >	< >	.09653	.36151	-.26393	.22057	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.00364	.32182	-.56620	.20891	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.11492	.26647	-.66964	.15651	-1.68965	.18663	-1.13292	.15846
.040	< >	< >	< >	< >	-.19855	.23511	-.70427	.13062	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.21699	.19110	-.69936	.10231	-1.68096	.16185	-1.07968	.12617
.065	< >	< >	< >	< >	-.25239	.16881	-.67184	.08273	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.29618	.14568	-.70223	.07240	-1.63239	.11264	-.97403	.10311
.090	< >	< >	< >	< >	-.30704	.13349	-.71988	.06782	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.34522	.10861	-.72534	.05171	-1.48951	.10080	-.90261	.07047
.125	< >	< >	< >	< >	-.40239	.09087	-.77075	.03483	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.48517	.06154	-.78596	.02434	-1.24173	.06643	-.75311	.02104
.200	< >	< >	< >	< >	-.51282	.04157	-.79072	-.00240	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.61249	.01790	-.79019	-.00766	-.82698	.00222	-.71042	-.04662
.300	< >	< >	< >	< >	-.66431	< >	-.78858	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.63712	< >	-.77443	< >	-.35763	< >	-.77143	< >
.450	< >	< >	< >	< >	-.62947	-.07951	-.45493	-.09069	-.28970	-.08611	-.58715	*****
.550	< >	< >	< >	< >	-.37032	< >	-.34504	< >	-.23725	< >	-.39008	< >
.650	< >	< >	-.12987	< >	-.22867	-.11129	-.29473	-.10358	-.21419	-.10800	-.28493	-.12689
.750	-.13260	< >	< >	< >	-.14081	< >	-.18165	< >	-.16346	*****	-.18812	*****
.850	-.04061	-.01215	-.04094	-.03738	-.02623	-.01569	-.03982	-.03072	-.07124	-.04033	-.10304	-.06138
.950	.04966	.05664	.07547	.02345	.12461	.07667	.06795	.06320	.04198	.03928	-.02360	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 7.28^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 8.45^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.65 DEGREES MACH NUMBER= 0.80 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.27690	.27690	-.06376	-.06376	-.52471	-.52471	-.62960	-.62960
.005	< >	< >	< >	< >	.06406	.37619	-.34010	.21747	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.04441	.35774	-.65586	.22279	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.15758	.30441	-.80848	.20012	-1.43407	.20038	-1.08356	.15320
.040	< >	< >	< >	< >	-.24389	.27885	-.78425	.17123	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.25723	.22784	-.77233	.14268	-1.41426	.19306	-1.04898	.14351
.065	< >	< >	< >	< >	-.28891	.20125	-.77534	.12327	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.33209	.18600	-.76223	.11735	-1.35191	.14778	-.98787	.12094
.090	< >	< >	< >	< >	-.34794	.17276	-.77238	.10661	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.37795	.15621	-.78371	.09677	-1.29170	.13225	-.98949	.09593
.125	< >	< >	< >	< >	-.44510	.12652	-.82210	.07035	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.53109	.09992	-.86203	.05356	-1.24125	.09492	-.98284	.05359
.200	< >	< >	< >	< >	-.54014	.07805	-.85998	.03100	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.64284	.05255	-.85368	.02087	-1.13029	.03288	-1.02666	-.01887
.300	< >	< >	< >	< >	-.69922	< >	-.85697	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.67491	< >	-.83955	< >	-.94621	< >	-.95683	< >
.450	< >	< >	< >	< >	-.68973	-.04756	-.45707	-.06214	-.69709	-.06020	-.70381	*****
.550	< >	< >	< >	< >	-.38470	< >	-.36527	< >	-.41633	< >	-.39507	< >
.650	< >	< >	-.13630	< >	-.23625	-.08949	-.29857	-.08210	-.29618	-.09579	-.26770	-.13100
.750	-.13673	< >	< >	< >	-.14902	< >	-.18637	< >	-.19061	*****	-.17923	*****
.850	-.04718	-.00212	-.04588	-.03669	-.03175	-.01266	-.06265	-.02470	-.12289	-.04792	-.11797	-.09760
.950	.03995	.05425	.07275	.02226	.12098	.07383	.04145	.05749	-.04619	.00833	-.09383	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

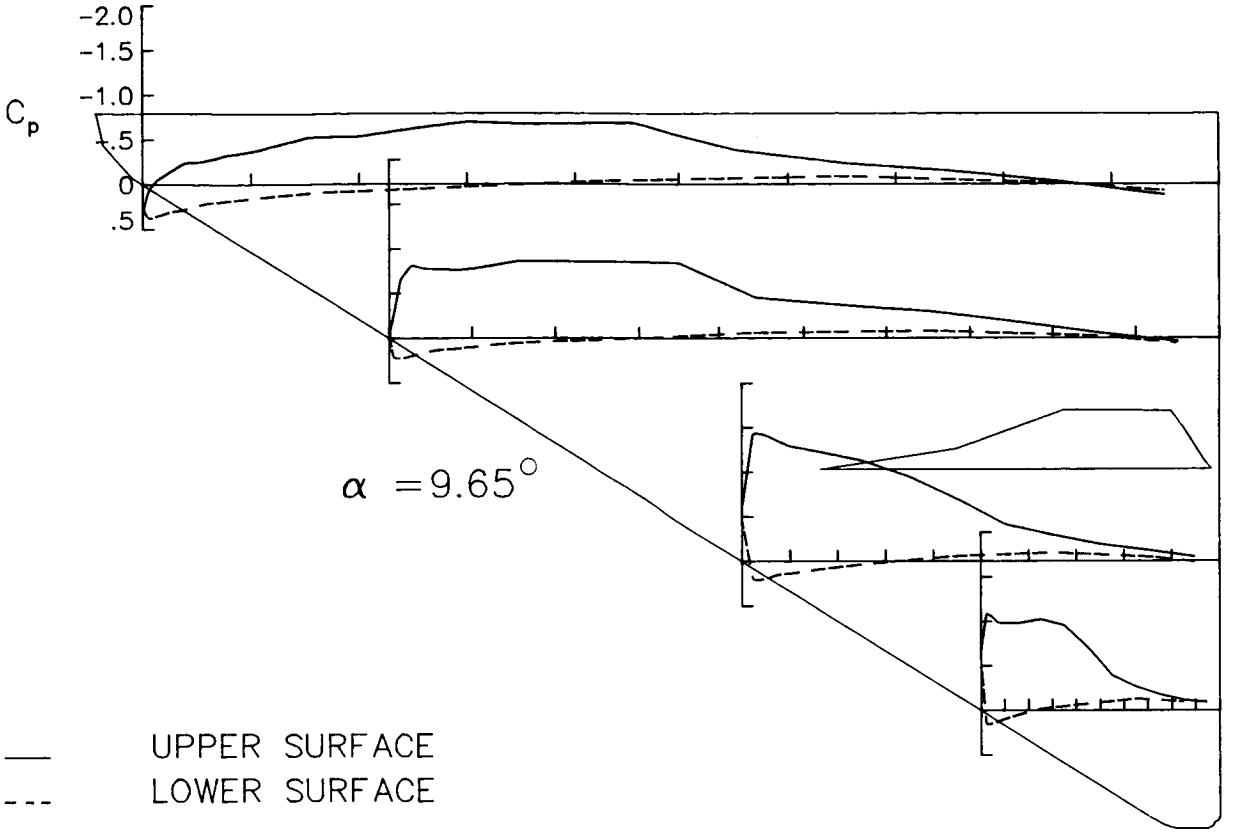
ANGLE OF ATTACK= 10.86 DEGREES MACH NUMBER= 0.81 CONFIGURATION : LARGE TAILS(V1) ON

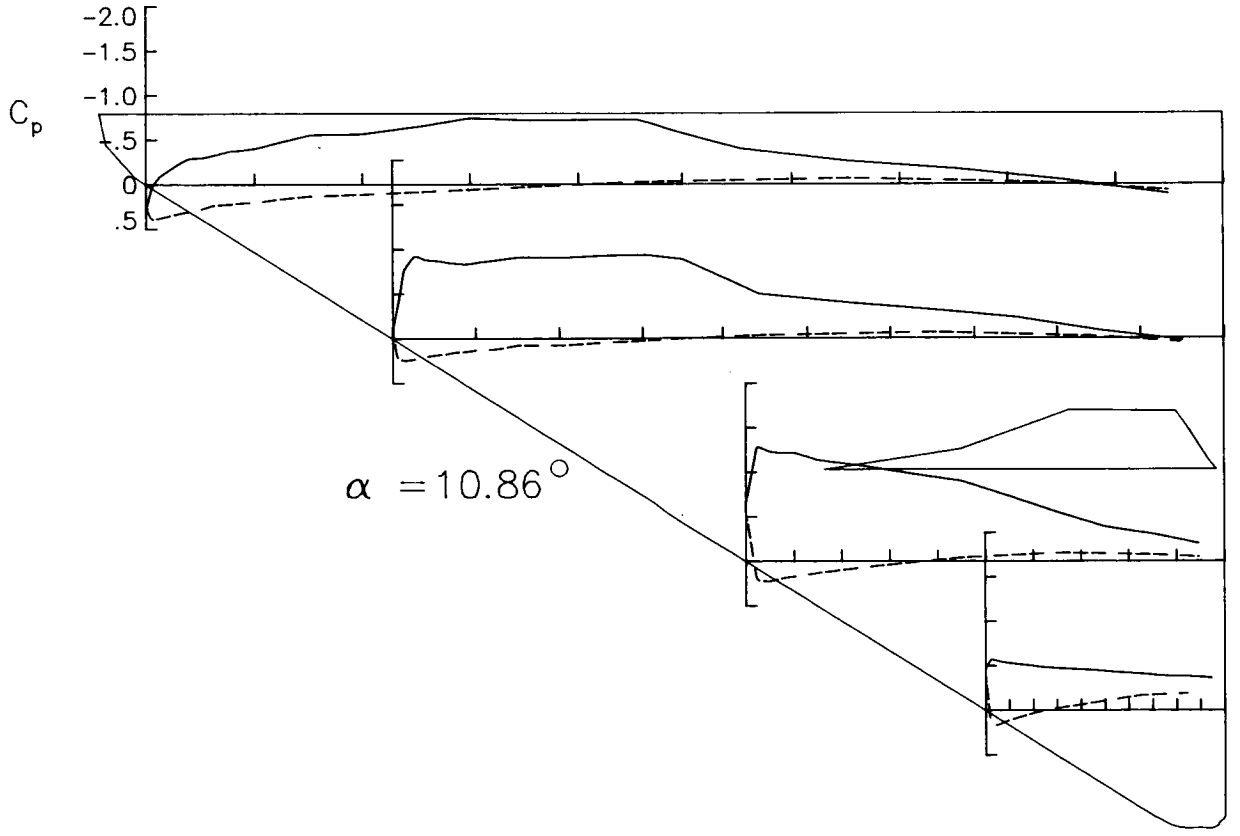
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.26097	.26097	-.12993	-.12993	-.60735	-.60735	-.46760	-.46760
.005	< >	< >	< >	< >	.02308	.38837	-.40723	.20875	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.08921	.37942	-.76820	.24184	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.20515	.34254	-.92173	.23213	-1.28197	.20501	-.57034	.17023
.040	< >	< >	< >	< >	-.28790	.30916	-.88212	.20554	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.30076	.27813	-.86958	.18520	-1.23439	.22275	-.55610	.16438
.065	< >	< >	< >	< >	-.33213	.23556	-.85028	.17205	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.37396	.22270	-.83579	.15379	-1.21608	.19041	-.54203	.13546
.090	< >	< >	< >	< >	-.38197	.20888	-.83073	.14442	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.40963	.20045	-.85048	.12967	-1.21712	.16901	-.53169	.11103
.125	< >	< >	< >	< >	-.47702	.16355	-.87960	.11377	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.55474	.13215	-.90965	.07547	-1.13903	.13036	-.51730	.06812
.200	< >	< >	< >	< >	-.56613	.11154	-.90363	.07452	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.66276	.08487	-.92531	.04757	-1.06600	.06465	-.48379	-.00313
.300	< >	< >	< >	< >	-.74014	< >	-.93328	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.71636	< >	-.88174	< >	-.97901	< >	-.46771	< >
.450	< >	< >	< >	< >	-.72454	-.02335	-.49683	-.03314	-.89965	-.04165	-.45112	*****
.550	< >	< >	< >	< >	-.39959	< >	-.39074	< >	-.73100	< >	-.42756	< >
.650	< >	< >	-.15448	< >	-.25761	-.06633	-.31477	-.06647	-.55369	-.09480	-.41066	-.16862
.750	-.14623	< >	< >	< >	-.17012	< >	-.22934	< >	-.39092	*****	-.38703	*****
.850	-.07119	.00213	-.06568	-.03132	-.04789	-.01160	-.08394	-.01892	-.30769	-.07375	-.38182	-.19143
.950	.02828	.05509	.05955	.01910	.11233	.06962	.02495	.04458	-.19464	-.04709	-.36374	*****

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 9.65^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
$\alpha = 10.86^\circ$

P R E S S U R E M E A S U R E M E N T S

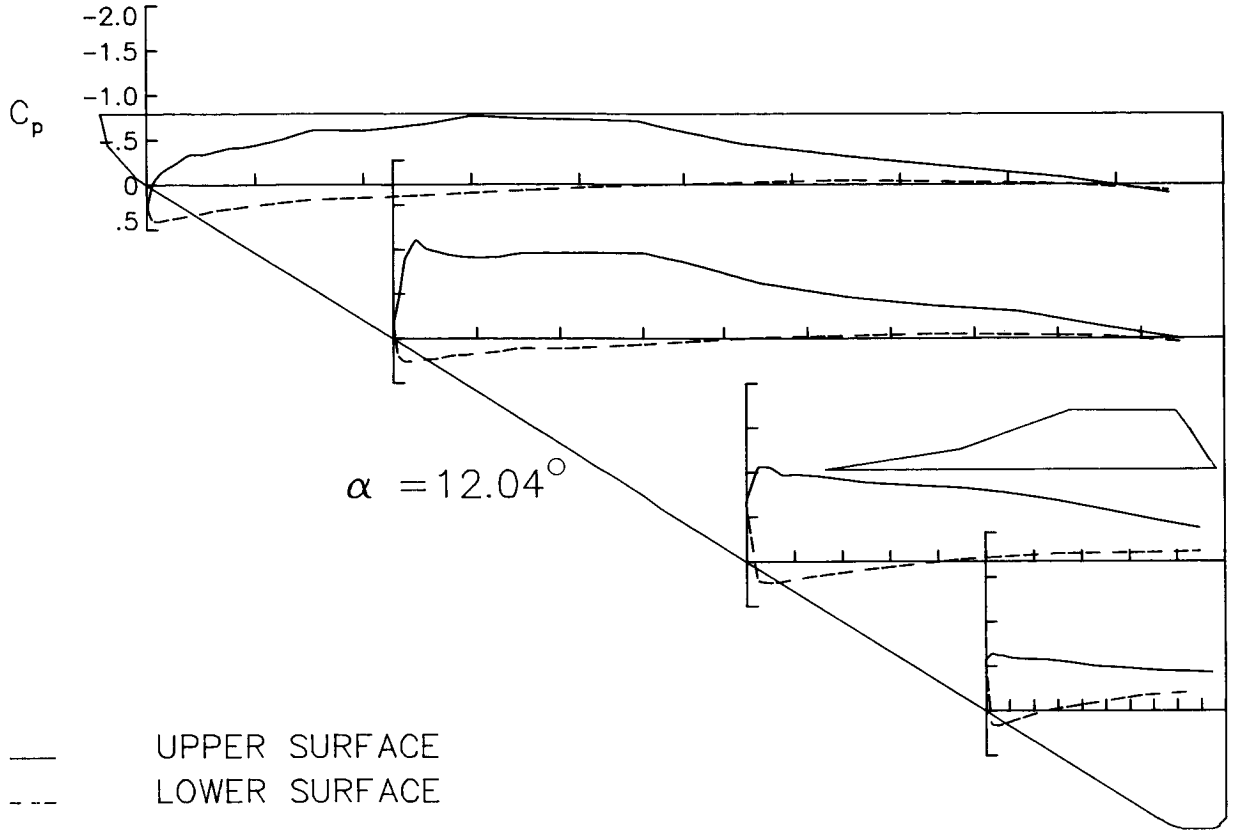
ANGLE OF ATTACK= 12.04 DEGREES MACH NUMBER= 0.81 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.23804	.23804	-.18456	-.18456	-.66738	-.66738	-.57012	-.57012
.005	< >	< >	< >	< >	-.02049	.40256	-.46862	.19432	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.13094	.40557	-.89391	.25549	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.24337	.37466	-1.10267	.25336	-1.05853	.21488	-.64062	.14861
.040	< >	< >	< >	< >	-.33555	.34852	-1.00917	.23974	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.33907	.32059	-.97530	.22879	-1.05037	.23799	-.62224	.16480
.065	< >	< >	< >	< >	-.37433	.28654	-.94224	.20339	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.41285	.26606	-.92262	.18590	-.96678	.22252	-.61819	.14684
.090	< >	< >	< >	< >	-.41782	.24812	-.91157	.18074	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.44783	.22998	-.90548	.16879	-.97471	.19698	-.59887	.12325
.125	< >	< >	< >	< >	-.50740	.19920	-.91527	.14507	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.60687	.16855	-.95554	.10860	-.95474	.15822	-.58300	.07994
.200	< >	< >	< >	< >	-.60199	.14521	-.95833	.11138	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.68124	.12009	-.96033	.09285	-.88414	.08848	-.57500	-.00483
.300	< >	< >	< >	< >	-.76709	< >	-.95548	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.73913	< >	-.85709	< >	-.85252	< >	-.54469	< >
.450	< >	< >	< >	< >	-.71019	.00904	-.61899	-.00742	-.82471	-.02744	-.50279	*****
.550	< >	< >	< >	< >	-.45669	< >	-.45647	< >	-.76422	< >	-.48688	< >
.650	< >	< >	-.19083	< >	-.31271	-.04803	-.36515	-.05247	-.68128	-.08979	-.46634	-.17348
.750	-.18699	< >	< >	< >	-.19507	< >	-.30450	< >	-.57741	*****	-.44810	*****
.850	-.10100	.00809	-.09992	-.02221	-.07925	-.00776	-.13837	-.03061	-.46868	-.10229	-.44232	-.21084
.950	.00585	.04707	.04029	.01003	.09797	.06577	.00968	.04315	-.36975	-.11537	-.42858	*****

< > NO PRESSURE PORT AT THIS LOCATION

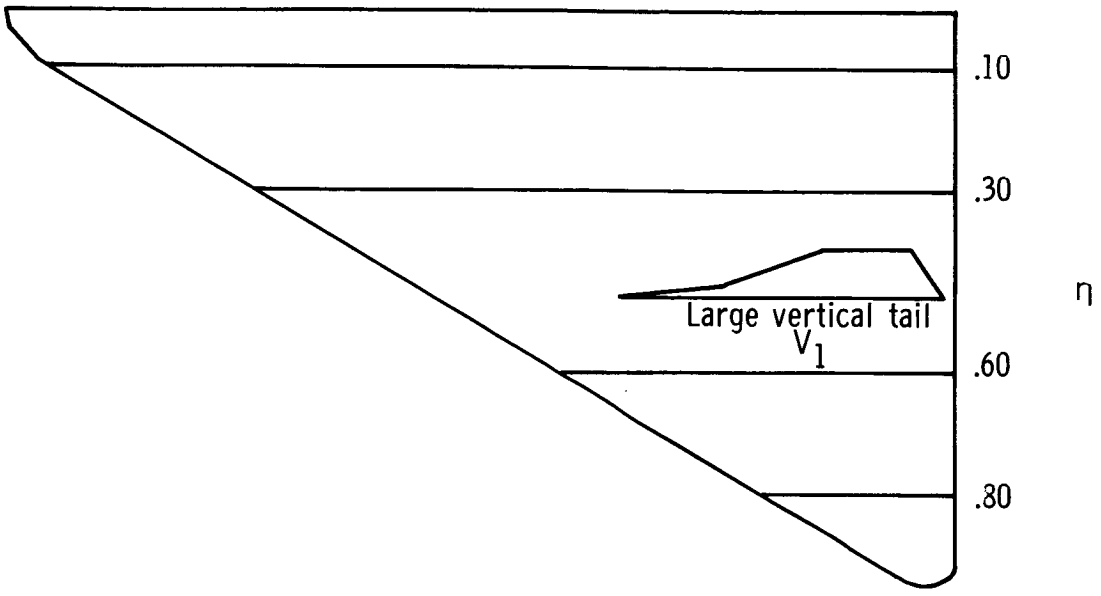
***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
-.5
0
.5
C_p
$\alpha = 12.04^\circ$
UPPER SURFACE
LOWER SURFACE

Appendix I

Pressure Data for Wing With Large Vertical Tail at $M = 0.83$

The C_p data for the wing with large vertical tail (fig. 2(c)) at $M = 0.83$ are presented in this appendix in tables and graphs on facing pages. Angles of attack range from $-2.39°$ to $10.98°$. The following sketch indicates the spanwise locations of the pressure ports:



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= -2.39 DEGREES MACH NUMBER= 0.83 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29804	.29804	.05246	.05246	.14294	.14294	-.10706	-.10706
.005	< >	< >	< >	< >	.31465	.06391	.11263	-.24140	< >	< >	< >	< >
.015	< >	< >	< >	< >	.27643	-.08903	.05653	-.46094	< >	< >	< >	< >
.025	< >	< >	< >	< >	.22075	-.13167	-.00250	-.50316	-.01393	-.83902	.20841	-1.27019
.040	< >	< >	< >	< >	.15870	-.18314	-.07215	-.46167	< >	< >	< >	< >
.050	< >	< >	< >	< >	.12757	-.21646	-.10588	-.45587	-.04920	-.67554	.18352	-1.25503
.065	< >	< >	< >	< >	.08862	-.22678	-.14072	-.44364	< >	< >	< >	< >
.075	< >	< >	< >	< >	.04515	-.22156	-.16842	-.41117	-.05743	-.67969	.15507	-1.24059
.090	< >	< >	< >	< >	.02632	-.21706	-.18739	-.39860	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.01599	-.21884	-.20297	-.41523	-.06274	-.56152	.15669	-1.22299
.125	< >	< >	< >	< >	-.07116	-.24036	-.24571	-.36843	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.15036	-.26265	-.28956	-.30682	-.07779	-.43986	.07972	-1.15439
.200	< >	< >	< >	< >	-.21370	-.25347	-.32293	-.35213	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.29885	-.27003	-.33437	-.32687	-.06002	-.43110	.05743	-1.09451
.300	< >	< >	< >	< >	-.34243	< >	-.34070	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.33958	< >	-.31817	< >	-.07282	< >	.02877	< >
.450	< >	< >	< >	< >	-.34524	-.33344	-.26221	-.37298	-.08438	-.39625	-.00963	-.21538
.550	< >	< >	< >	< >	-.23914	< >	-.18948	< >	-.10560	< >	-.03542	< >
.650	< >	< >	-.06745	< >	-.11780	-.29453	-.16897	-.26626	-.12595	-.23815	-.05868	-.29311
.750	-.06293	< >	< >	< >	-.06519	< >	-.15207	< >	-.09486	-.14050	-.06959	-.19883
.850	.00557	-.06943	.00362	-.08999	.02803	-.05918	.03197	-.03336	-.00800	-.02791	-.07557	-.11565
.950	.08498	.05103	.10935	.02647	.15243	.08568	.18110	.12264	.09900	.10770	-.05801	-.00126

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

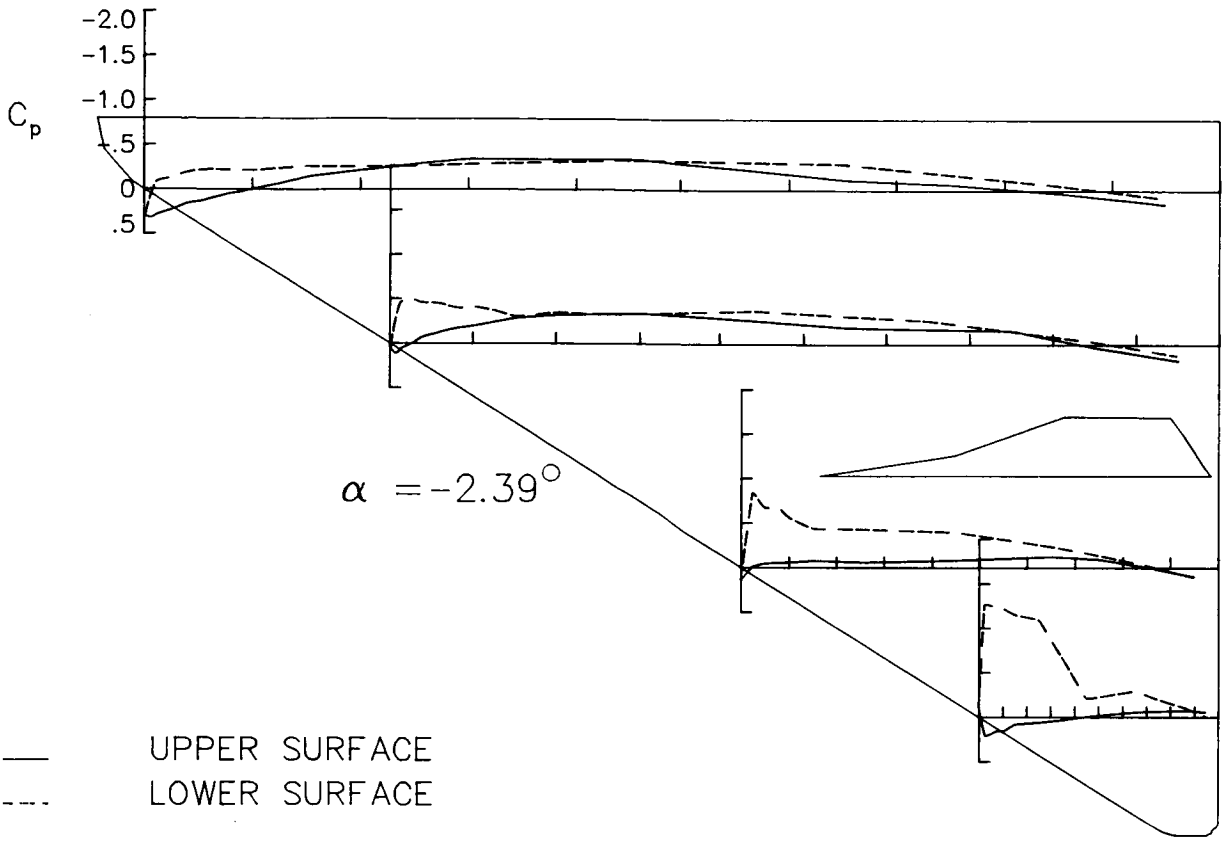
ANGLE OF ATTACK= -1.15 DEGREES MACH NUMBER= 0.83 CONFIGURATION : LARGE TAILS(V1) ON

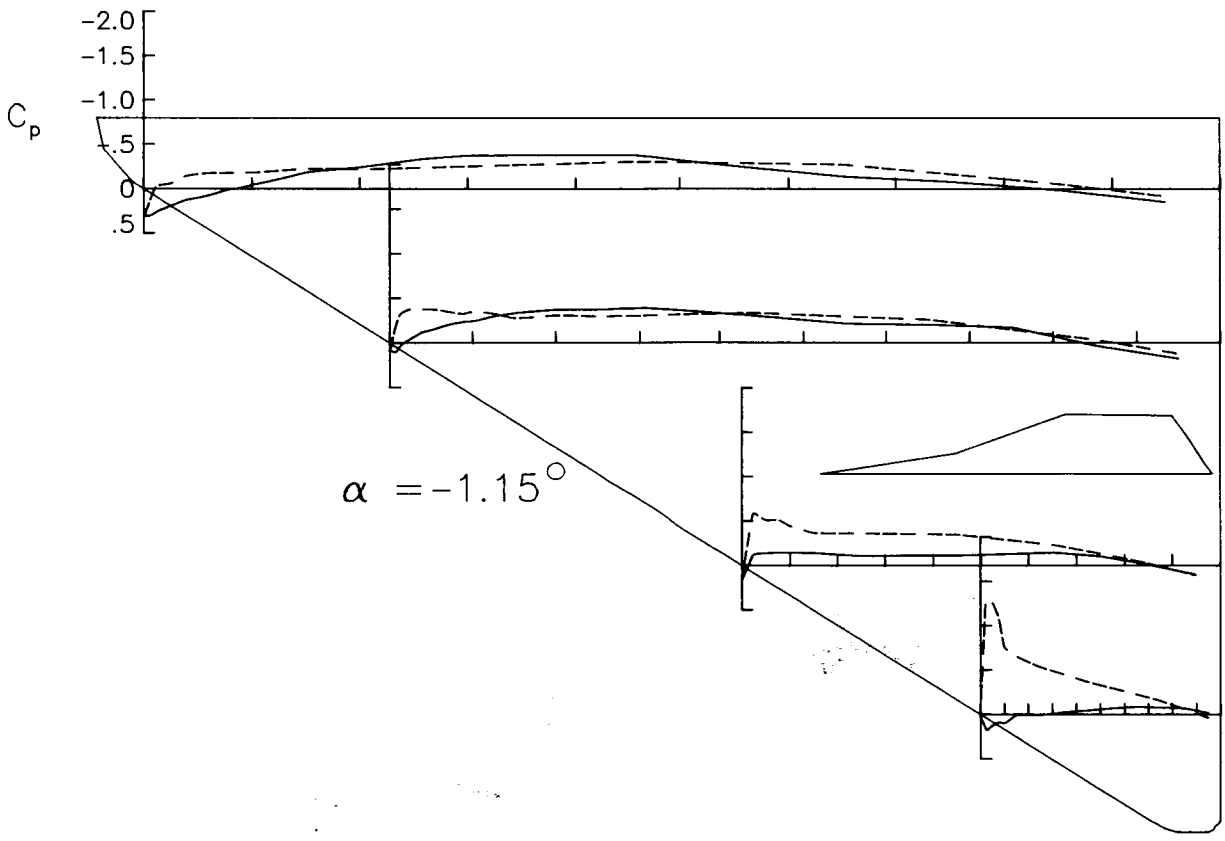
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30778	.30778	.08457	.08457	.18699	.18699	.01716	.01716
.005	< >	< >	< >	< >	.30091	.12434	.10234	-.14712	< >	< >	< >	< >
.015	< >	< >	< >	< >	.25518	-.02684	.02181	-.32652	< >	< >	< >	< >
.025	< >	< >	< >	< >	.18410	-.06102	-.05399	-.37675	-.12162	-.58830	.17533	-1.29381
.040	< >	< >	< >	< >	.12694	-.13604	-.11719	-.37617	< >	< >	< >	< >
.050	< >	< >	< >	< >	.09671	-.16700	-.15226	-.37689	-.13904	-.51098	.12310	-1.25598
.065	< >	< >	< >	< >	.05704	-.17983	-.18871	-.36058	< >	< >	< >	< >
.075	< >	< >	< >	< >	.00785	-.17818	-.22010	-.34112	-.14450	-.51266	.09104	-1.09938
.090	< >	< >	< >	< >	-.00962	-.18219	-.23816	-.32597	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.05121	-.18287	-.24891	-.35219	-.14266	-.44475	.09906	-.75380
.125	< >	< >	< >	< >	-.10994	-.20308	-.30227	-.32417	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.18889	-.22487	-.33827	-.27754	-.13934	-.36785	.00701	-.65331
.200	< >	< >	< >	< >	-.24105	-.21975	-.37330	-.30898	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.33727	-.23582	-.37527	-.29676	-.10682	-.36377	.00851	-.53326
.300	< >	< >	< >	< >	-.37387	< >	-.39184	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.37866	< >	-.36297	< >	-.11201	< >	-.02630	< >
.450	< >	< >	< >	< >	-.37903	-.30545	-.30032	-.33379	-.11265	-.34708	-.04618	-.36291
.550	< >	< >	< >	< >	-.25295	< >	-.21446	< >	-.12792	< >	-.07004	< >
.650	< >	< >	-.08368	< >	-.13816	-.27234	-.20116	-.25783	-.14494	-.23258	-.08503	-.22402
.750	-.07813	< >	< >	< >	-.07738	< >	-.16901	< >	-.10116	-.13325	-.07596	-.15251
.850	-.00291	-.06595	-.00795	-.08308	.01621	-.05349	.03583	-.03228	-.00848	-.02212	-.06770	-.05961
.950	.08198	.05284	.10910	.02726	.15036	.08581	.17938	.12283	.10513	.11227	-.01430	.04082

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = -2.39^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = -1.15^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= .08 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31566	.31566	.10553	.10553	.18581	.18581	.12055	.12055
.005	< >	< >	< >	< >	.28323	.16281	.07294	-.05800	< >	< >	< >	< >
.015	< >	< >	< >	< >	.22379	.02507	-.01944	-.22781	< >	< >	< >	< >
.025	< >	< >	< >	< >	.15508	-.03312	-.11267	-.29309	-.26821	-.38794	.08832	-1.00792
.040	< >	< >	< >	< >	.09045	-.07773	-.17025	-.29251	< >	< >	< >	< >
.050	< >	< >	< >	< >	.06160	-.12061	-.20615	-.29570	-.25287	-.36887	.03216	-.92918
.065	< >	< >	< >	< >	.02604	-.13536	-.23814	-.29701	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.02962	-.13929	-.26894	-.27289	-.24142	-.39130	.00961	-.69628
.090	< >	< >	< >	< >	-.04943	-.13729	-.29256	-.27717	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.08379	-.14153	-.31171	-.28413	-.22542	-.33028	.01762	-.51611
.125	< >	< >	< >	< >	-.14179	-.17369	-.34789	-.27176	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.22600	-.19167	-.38691	-.22833	-.21228	-.29362	-.07130	-.54125
.200	< >	< >	< >	< >	-.27708	-.19108	-.42660	-.27507	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.37623	-.21024	-.41884	-.26172	-.15693	-.30601	-.05832	-.43610
.300	< >	< >	< >	< >	-.40754	< >	-.44086	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.41165	< >	-.40356	< >	-.14254	< >	-.08201	< >
.450	< >	< >	< >	< >	-.41661	-.28421	-.32875	-.30578	-.13902	-.30554	-.09333	-.34943
.550	< >	< >	< >	< >	-.28177	< >	-.23300	< >	-.14946	< >	-.11827	< >
.650	< >	< >	-.09535	< >	-.15341	-.24773	-.21753	-.23106	-.16002	-.21781	-.11238	-.20252
.750	-.08889	< >	< >	< >	-.09149	< >	-.19394	< >	-.10953	-.12633	-.09163	-.11086
.850	-.01540	-.05656	-.01290	-.07873	.00393	-.05163	.03052	-.03198	-.01152	-.02005	-.05745	-.01665
.950	.07843	.05466	.10860	.02892	.15296	.08495	.17924	.12238	.11173	.11199	.01767	.07926

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

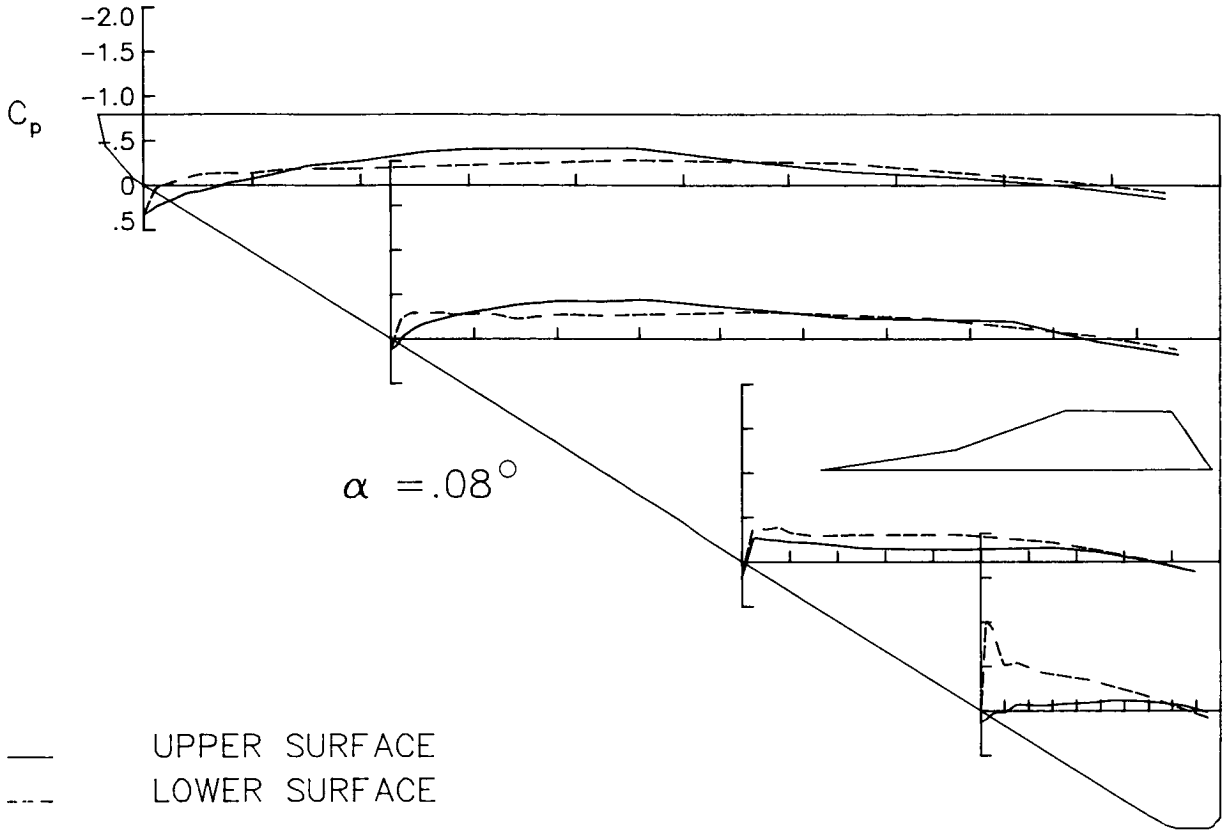
ANGLE OF ATTACK= 1.38 DEGREES MACH NUMBER= 0.83 CONFIGURATION : LARGE TAILS(V1) ON

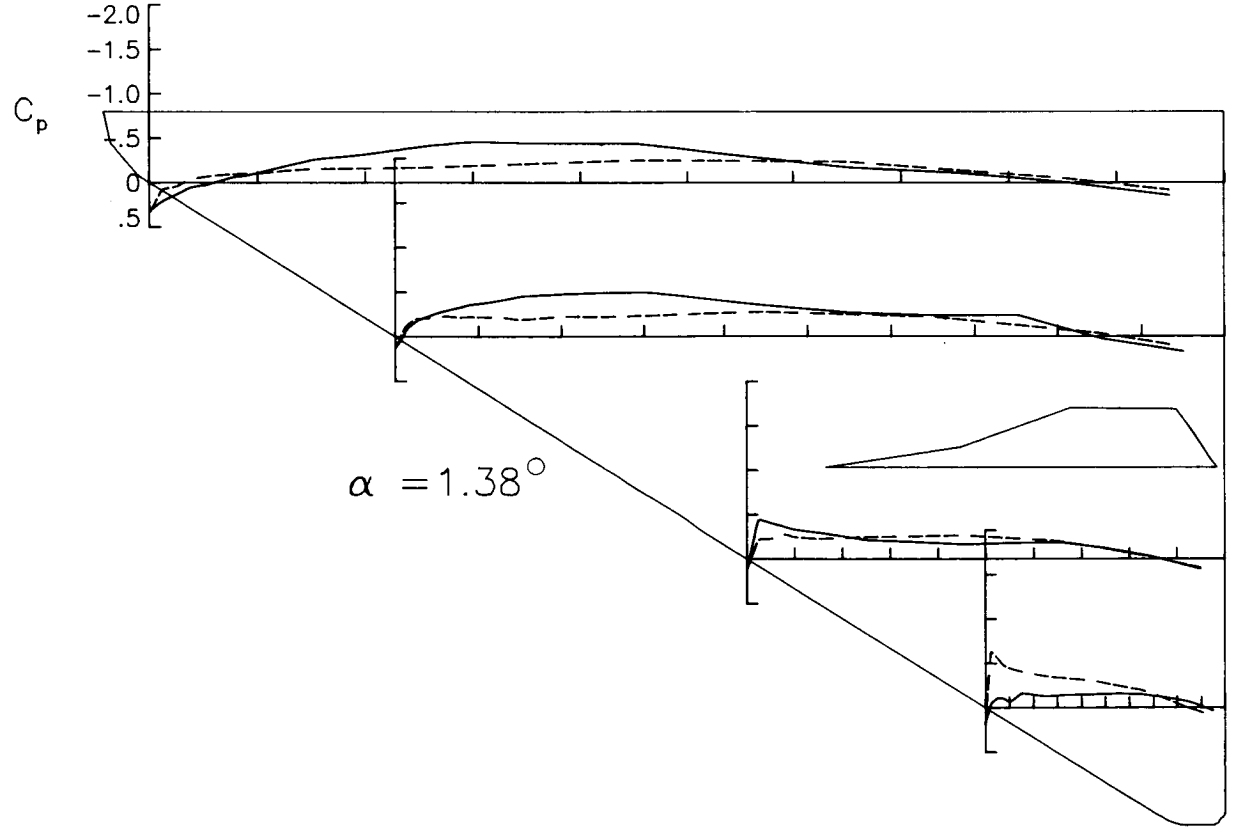
SPANWISE LOCATION

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31996	.31996	.11419	.11419	.15342	.15342	.19017	.19017
.005	< >	< >	< >	< >	.26336	.20317	.03992	.01675	< >	< >	< >	< >
.015	< >	< >	< >	< >	.20117	.07869	-.08374	-.11552	< >	< >	< >	< >
.025	< >	< >	< >	< >	.12161	.03948	-.18348	-.19788	-.43785	-.21860	-.04842	-.63019
.040	< >	< >	< >	< >	.05168	-.03118	-.22628	-.20646	< >	< >	< >	< >
.050	< >	< >	< >	< >	.02600	-.06415	-.27013	-.22384	-.40447	-.22907	-.10703	-.56072
.065	< >	< >	< >	< >	-.01639	-.08273	-.29995	-.22788	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.06502	-.09491	-.32854	-.21489	-.36733	-.27934	-.10545	-.47842
.090	< >	< >	< >	< >	-.07804	-.09984	-.35573	-.21965	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.11781	-.10339	-.37027	-.21733	-.32900	-.24650	-.06554	-.44542
.125	< >	< >	< >	< >	-.18389	-.13293	-.40648	-.21387	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.25953	-.15387	-.45137	-.18977	-.29513	-.22616	-.16222	-.40759
.200	< >	< >	< >	< >	-.31508	-.16076	-.47681	-.22552	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.41409	-.16865	-.49145	-.22040	-.21266	-.24801	-.12974	-.35432
.300	< >	< >	< >	< >	-.45740	< >	-.49562	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.43904	< >	-.44577	< >	-.19085	< >	-.14609	< >
.450	< >	< >	< >	< >	-.43489	-.25170	-.35275	-.27509	-.16474	-.26624	-.15166	-.30148
.550	< >	< >	< >	< >	-.29808	< >	-.26328	< >	-.17882	< >	-.16022	< >
.650	< >	< >	-.11360	< >	-.16761	-.23133	-.23433	-.21773	-.18636	-.20136	-.14957	-.19666
.750	-.10582	< >	< >	< >	-.10885	< >	-.23433	< >	-.12097	-.11532	-.11566	-.09998
.850	-.02583	-.05489	-.02809	-.08047	-.00416	-.04858	.02491	-.03413	-.02137	-.01489	-.06623	.00673
.950	.07589	.05759	.10620	.02965	.14631	.08473	.17280	.11727	.11716	.10107	.03608	.09839

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
.5
0
.5
C_p
α =.08°
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
.5
0
.5
C_p
α =1.38°

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 2.47 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B −0.00		2Y/B −0.05		2Y/B −0.10		2Y/B −0.30		2Y/B −0.60		2Y/B −0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31623	.31623	.11748	.11748	.08736	.08736	.21462	.21462
.005	< >	< >	< >	< >	.24839	.23223	.00961	.07908	< >	< >	< >	< >
.015	< >	< >	< >	< >	.18975	.13101	-.13735	-.04649	< >	< >	< >	< >
.025	< >	< >	< >	< >	.09301	.07334	-.22908	-.12805	-.62559	-.10626	-.22349	-.34997
.040	< >	< >	< >	< >	.02704	.01642	-.28835	-.14332	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.00944	-.02607	-.31952	-.16409	-.57491	-.14121	-.26944	-.35360
.065	< >	< >	< >	< >	-.04676	-.04256	-.35157	-.18330	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.09847	-.05145	-.38132	-.16742	-.47087	-.18224	-.25139	-.30460
.090	< >	< >	< >	< >	-.11372	-.06061	-.40493	-.17153	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.15113	-.06052	-.41544	-.16557	-.42816	-.17139	-.19988	-.30126
.125	< >	< >	< >	< >	-.21332	-.09596	-.46265	-.18236	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.29442	-.12345	-.50225	-.15271	-.37105	-.16715	-.26679	-.28966
.200	< >	< >	< >	< >	-.34286	-.12454	-.52019	-.19458	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.44335	-.14675	-.53745	-.18808	-.26129	-.20508	-.20106	-.27437
.300	< >	< >	< >	< >	-.50678	< >	-.58102	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.46497	< >	-.50777	< >	-.22447	< >	-.20692	< >
.450	< >	< >	< >	< >	-.50430	-.23092	-.38114	-.24242	-.18943	-.23496	-.20996	-.25395
.550	< >	< >	< >	< >	-.31304	< >	-.27967	< >	-.19525	< >	-.20299	< >
.650	< >	< >	-.12217	< >	-.17843	-.21137	-.25001	-.19651	-.19631	-.18676	-.18100	-.18294
.750	-.11304	< >	< >	< >	-.12247	< >	-.24468	< >	-.13762	-.11574	-.13422	-.09389
.850	-.03221	-.05099	-.02945	-.07205	-.01161	-.04433	.01828	-.02740	-.02348	-.01998	-.06956	.00383
.950	.07201	.05583	.10015	.02902	.14433	.08207	.16380	.10910	.11548	.09223	.03684	.09475

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

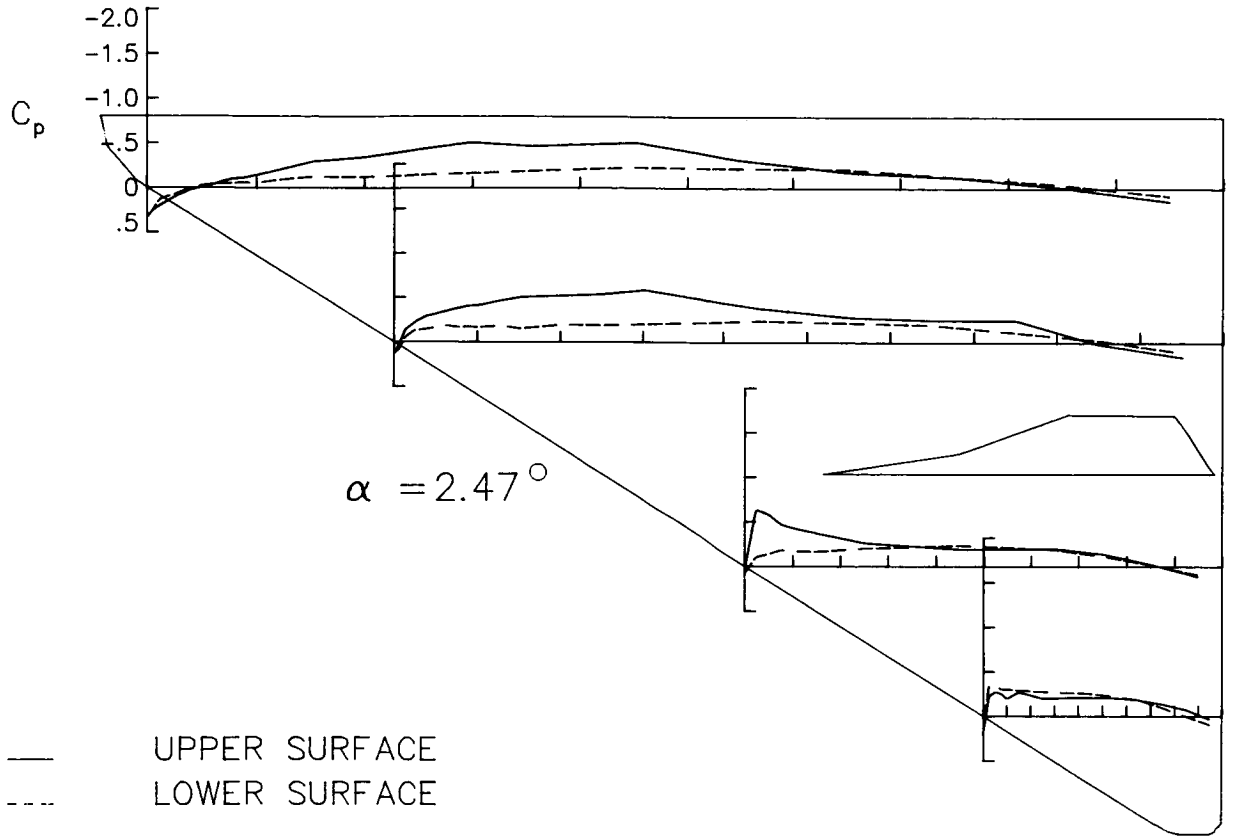
ANGLE OF ATTACK= 3.66 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

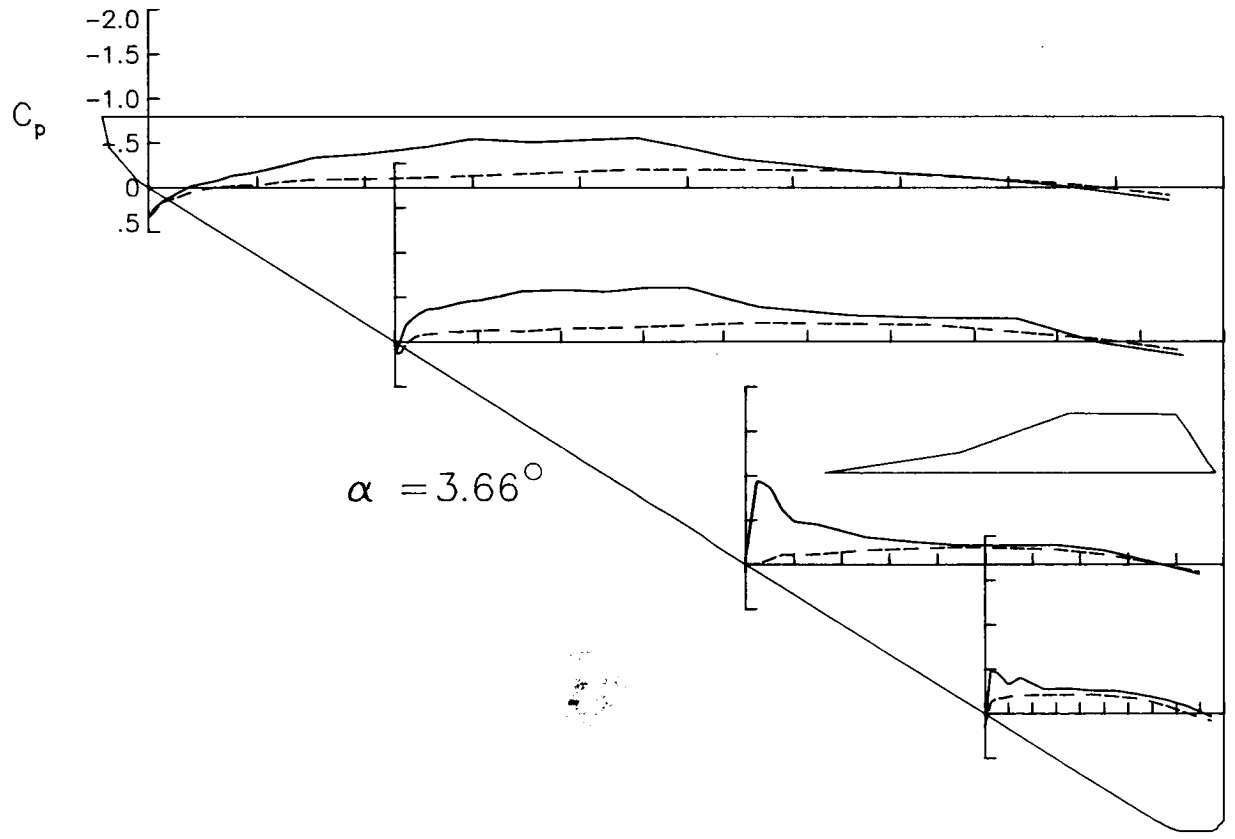
S P A N W I S E L O C A T I O N

	2Y/B −0.00		2Y/B −0.05		2Y/B −0.10		2Y/B −0.30		2Y/B −0.60		2Y/B −0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32505	.32505	.11904	.11904	-.01083	-.01083	.15125	.15125
.005	< >	< >	< >	< >	.22969	.26436	-.03246	.12364	< >	< >	< >	< >
.015	< >	< >	< >	< >	.15979	.17011	-.19813	.02617	< >	< >	< >	< >
.025	< >	< >	< >	< >	.05962	.11623	-.30141	-.05869	-.93752	-.01446	-.48112	-.12835
.040	< >	< >	< >	< >	-.01242	.06188	-.36313	-.08515	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.04748	.02341	-.37837	-.09804	-.86460	-.05842	-.46161	-.17312
.065	< >	< >	< >	< >	-.07895	-.00177	-.40866	-.12000	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.13358	-.01280	-.43784	-.11278	-.62342	-.11057	-.40011	-.17697
.090	< >	< >	< >	< >	-.14926	-.02339	-.45861	-.12355	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.18299	-.02569	-.47008	-.12731	-.48828	-.10718	-.33324	-.19255
.125	< >	< >	< >	< >	-.24540	-.06280	-.51654	-.13644	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.33444	-.08848	-.56882	-.11801	-.44910	-.11679	-.40123	-.20859
.200	< >	< >	< >	< >	-.37512	-.09753	-.58224	-.15425	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.46122	-.11140	-.56384	-.15861	-.30841	-.16229	-.27701	-.21320
.300	< >	< >	< >	< >	-.54353	< >	-.60660	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.51039	< >	-.60382	< >	-.25397	< >	-.28229	< >
.450	< >	< >	< >	< >	-.55559	-.20439	-.38696	-.21035	-.21487	-.19619	-.26046	-.21653
.550	< >	< >	< >	< >	-.31781	< >	-.29332	< >	-.21355	< >	-.25567	< >
.650	< >	< >	-.12708	< >	-.19386	-.18911	-.26531	-.18593	-.22004	-.16875	-.21366	-.16640
.750	-.11571	< >	< >	< >	-.12651	< >	-.25630	< >	-.15771	-.11177	-.15890	-.09370
.850	-.04640	-.03826	-.03857	-.06399	-.01769	-.04852	.01255	-.02836	-.02702	-.02045	-.07814	.00076
.950	.07070	.05644	.09374	.02788	.14412	.08394	.15436	.09992	.10780	.08502	.03821	.08486

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 2.47°$
UPPER SURFACE
LOWER SURFACE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-1.5
-1.0
C_p
.5
0
.5
$\alpha = 3.66°$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 4.88 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.33234	.33234	.09668	.09668	-.10510	-.10510	.02712	.02712
.005	< >	< >	< >	< >	.20676	.29286	-.07927	.16206	< >	< >	< >	< >
.015	< >	< >	< >	< >	.12337	.22004	-.27726	.07941	< >	< >	< >	< >
.025	< >	< >	< >	< >	.02574	.16421	-.37696	.00923	-1.28275	.06537	-.81013	.02640
.040	< >	< >	< >	< >	-.05378	.10823	-.42796	-.02215	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.07646	.06526	-.43792	-.04687	-1.20534	.01569	-.74552	-.05858
.065	< >	< >	< >	< >	-.11472	.04099	-.47224	-.06676	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.16720	.02628	-.48855	-.06932	-.87724	-.04727	-.63145	-.06779
.090	< >	< >	< >	< >	-.18508	.01337	-.51776	-.07880	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.21995	.01707	-.53648	-.07920	-.77207	-.05637	-.45599	-.10137
.125	< >	< >	< >	< >	-.27790	-.02410	-.56374	-.09393	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.36426	-.04356	-.62314	-.08373	-.45251	-.07340	-.54991	-.13117
.200	< >	< >	< >	< >	-.40684	-.06321	-.62931	-.12266	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.50746	-.08808	-.63788	-.12430	-.35260	-.11241	-.34415	-.15051
.300	< >	< >	< >	< >	-.56643	< >	-.65235	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.56779	< >	-.64282	< >	-.29662	< >	-.34710	< >
.450	< >	< >	< >	< >	-.59903	-.16900	-.38199	-.18678	-.24062	-.16130	-.32131	-.17678
.550	< >	< >	< >	< >	-.31982	< >	-.30101	< >	-.23857	< >	-.29935	< >
.650	< >	< >	-.13151	< >	-.19519	-.17208	-.27064	-.17067	-.23099	-.15409	-.24857	-.14242
.750	-.12120	< >	< >	< >	-.13053	< >	-.23822	< >	-.16872	-.10108	-.17704	-.09250
.850	-.04073	-.04100	-.03784	-.05797	-.01966	-.03661	-.00159	-.02348	-.04142	-.02435	-.07973	-.01139
.950	.06369	.05545	.09615	.02772	.13895	.07939	.13960	.09538	.09490	.07770	.04017	.07706

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

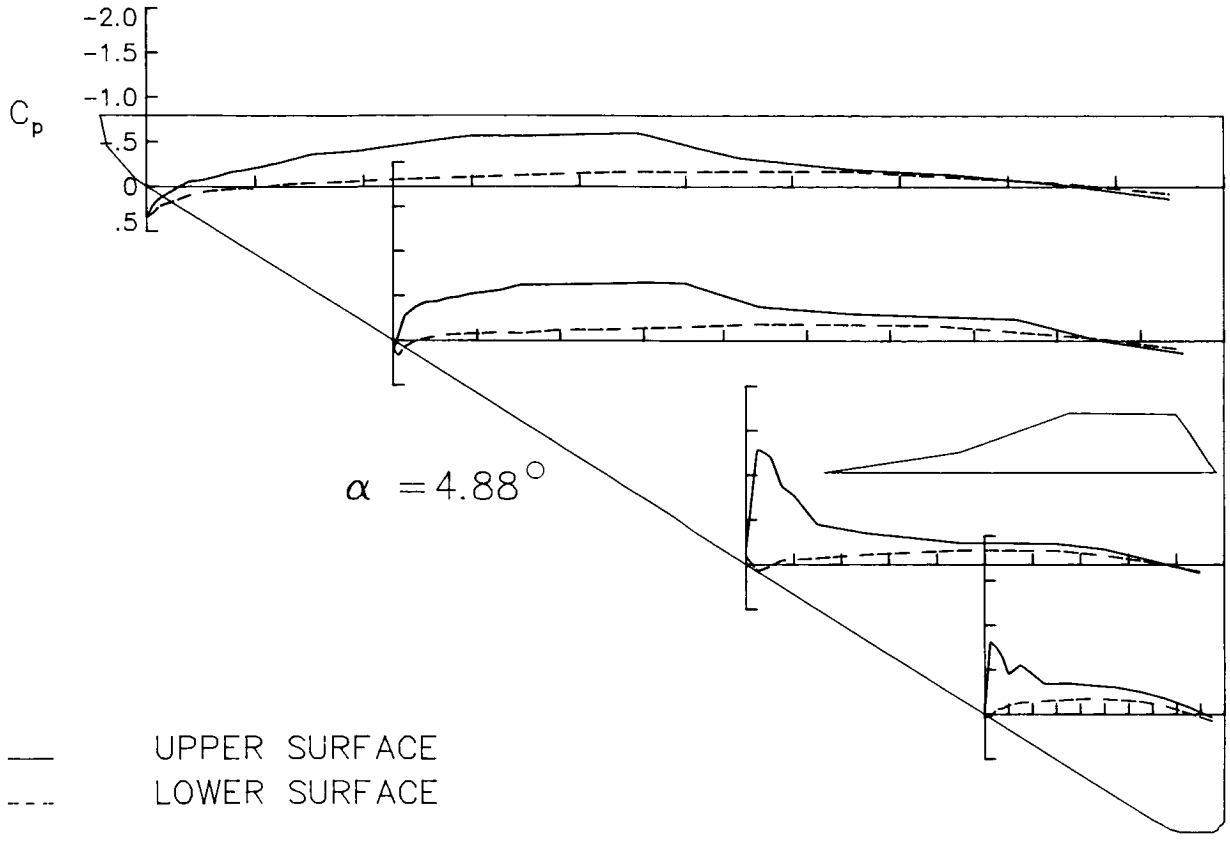
ANGLE OF ATTACK= 6.16 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.32357	.32357	.07936	.07936	-.20695	-.20695	-.16038	-.16038
.005	< >	< >	< >	< >	.17269	.32702	-.14885	.19393	< >	< >	< >	< >
.015	< >	< >	< >	< >	.08707	.25999	-.35127	.14067	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.02165	.21785	-.46630	.06349	-1.44390	.11854	-1.14092	.10765
.040	< >	< >	< >	< >	-.09131	.15461	-.50778	.03370	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.12416	.11667	-.51010	.01029	-1.40558	.06384	-1.06191	.04251
.065	< >	< >	< >	< >	-.16275	.08538	-.54078	-.01380	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.20148	.07101	-.55207	-.01631	-1.39474	.01127	-1.01176	.00749
.090	< >	< >	< >	< >	-.22251	.05162	-.58286	-.02619	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.25353	.04829	-.59906	-.03736	-1.13857	-.00732	-.79851	-.02004
.125	< >	< >	< >	< >	-.31789	.01503	-.64102	-.04626	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.40028	-.00818	-.66188	-.04475	-.76956	-.02120	-.56646	-.06702
.200	< >	< >	< >	< >	-.43558	-.02711	-.69546	-.07381	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.53962	-.05012	-.70913	-.08734	-.35130	-.07542	-.42759	-.10803
.300	< >	< >	< >	< >	-.59357	< >	-.73096	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.59452	< >	-.70488	< >	-.30433	< >	-.40218	< >
.450	< >	< >	< >	< >	-.62132	-.14204	-.48328	-.15245	-.26027	-.14529	-.35848	-.14604
.550	< >	< >	< >	< >	-.35240	< >	-.30201	< >	-.23680	< >	-.32348	< >
.650	< >	< >	-.12277	< >	-.20017	-.15546	-.27149	-.15495	-.24407	-.13374	-.25546	-.13540
.750	-.12172	< >	< >	< >	-.13314	< >	-.22154	< >	-.18030	-.09373	-.17210	-.09528
.850	-.03831	-.02626	-.04263	-.05391	-.02229	-.02751	-.01871	-.02656	-.05521	-.02623	-.07855	-.02182
.950	.05989	.05339	.08893	.02605	.14206	.07873	.12061	.08535	.07700	.06603	.03837	.05280

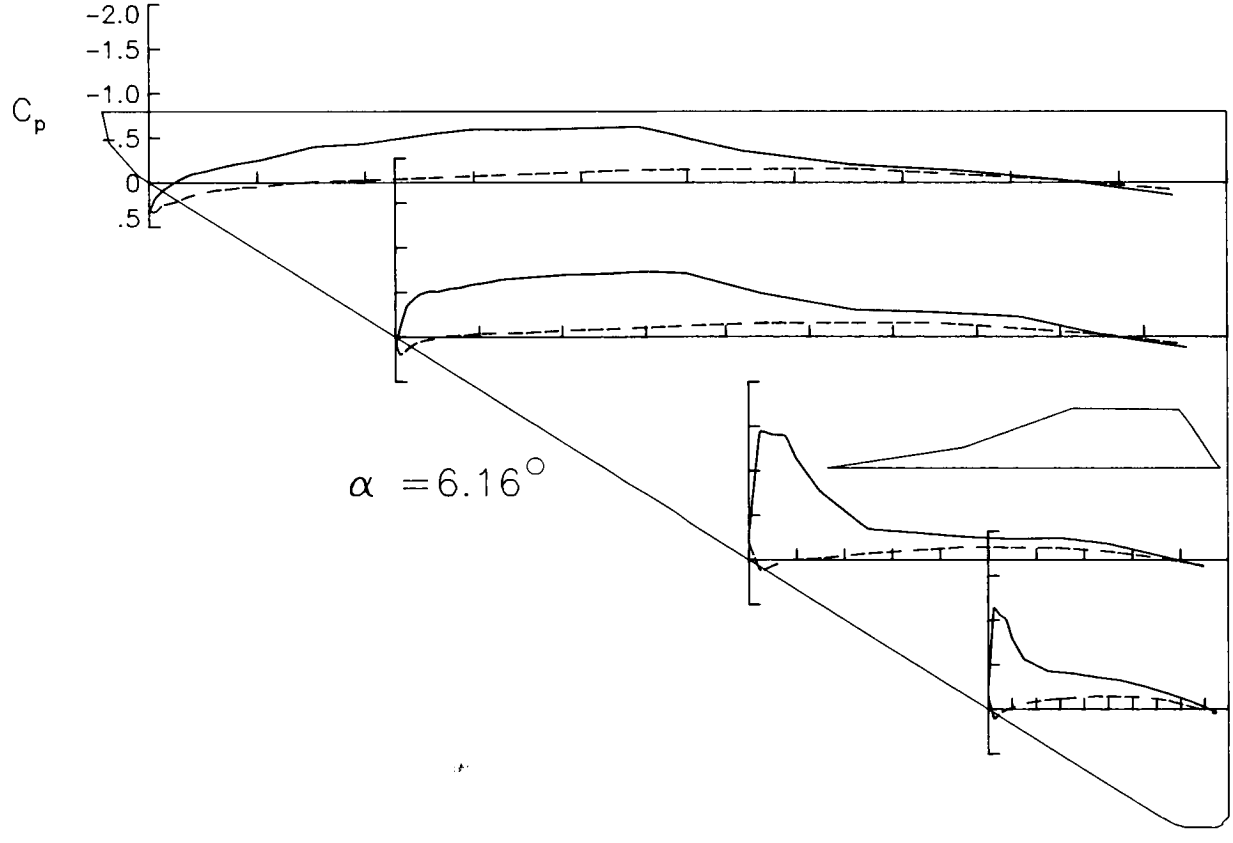
< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT



UPPER SURFACE

LOWER SURFACE



P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 7.42 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.31878	.31878	.04371	.04371	-.29832	-.29832	-.29243	-.29243
.005	< >	< >	< >	< >	.14321	.34808	-.19678	.21427	< >	< >	< >	< >
.015	< >	< >	< >	< >	.04973	.29893	-.44028	.18070	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.05525	.26177	-.55866	.11088	-1.51651	.15268	-.79751	.13781
.040	< >	< >	< >	< >	-.13487	.19644	-.59184	.09636	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.15942	.16210	-.59245	.06584	-1.51249	.10160	-.73331	.08810
.065	< >	< >	< >	< >	-.19756	.12940	-.59349	.04896	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.24234	.11483	-.61525	.03004	-1.52742	.06078	-.68917	.05621
.090	< >	< >	< >	< >	-.26095	.09552	-.62882	.01570	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.28672	.08800	-.65407	.00865	-1.49683	.04275	-.65357	.02226
.125	< >	< >	< >	< >	-.35022	.05227	-.68695	-.00828	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.44164	.03330	-.73450	-.01352	-1.10497	.00983	-.59769	-.02096
.200	< >	< >	< >	< >	-.46340	.00539	-.74971	-.03672	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.56174	-.01038	-.76793	-.05021	-.65962	-.04641	-.52174	-.07519
.300	< >	< >	< >	< >	-.64228	< >	-.78664	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.63812	< >	-.77205	< >	-.22804	< >	-.46115	< >
.450	< >	< >	< >	< >	-.65625	-.11606	-.70333	-.12680	-.24154	-.11821	-.39907	-.12917
.550	< >	< >	< >	< >	-.42925	< >	-.28831	< >	-.23105	< >	-.33176	< >
.650	< >	< >	-.11042	< >	-.19553	-.14131	-.26280	-.12966	-.22342	-.12656	-.27796	-.13422
.750	-.10512	< >	< >	< >	-.11846	< >	-.17528	< >	-.17170	-.09942	-.20688	-.11756
.850	-.03100	-.02658	-.03123	-.05280	-.00620	-.02769	-.03710	-.02752	-.06453	-.03751	-.14832	-.05319
.950	.05533	.06116	.08781	.02487	.13279	.07472	.07533	.06567	.06620	.05335	-.06346	-.02843

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

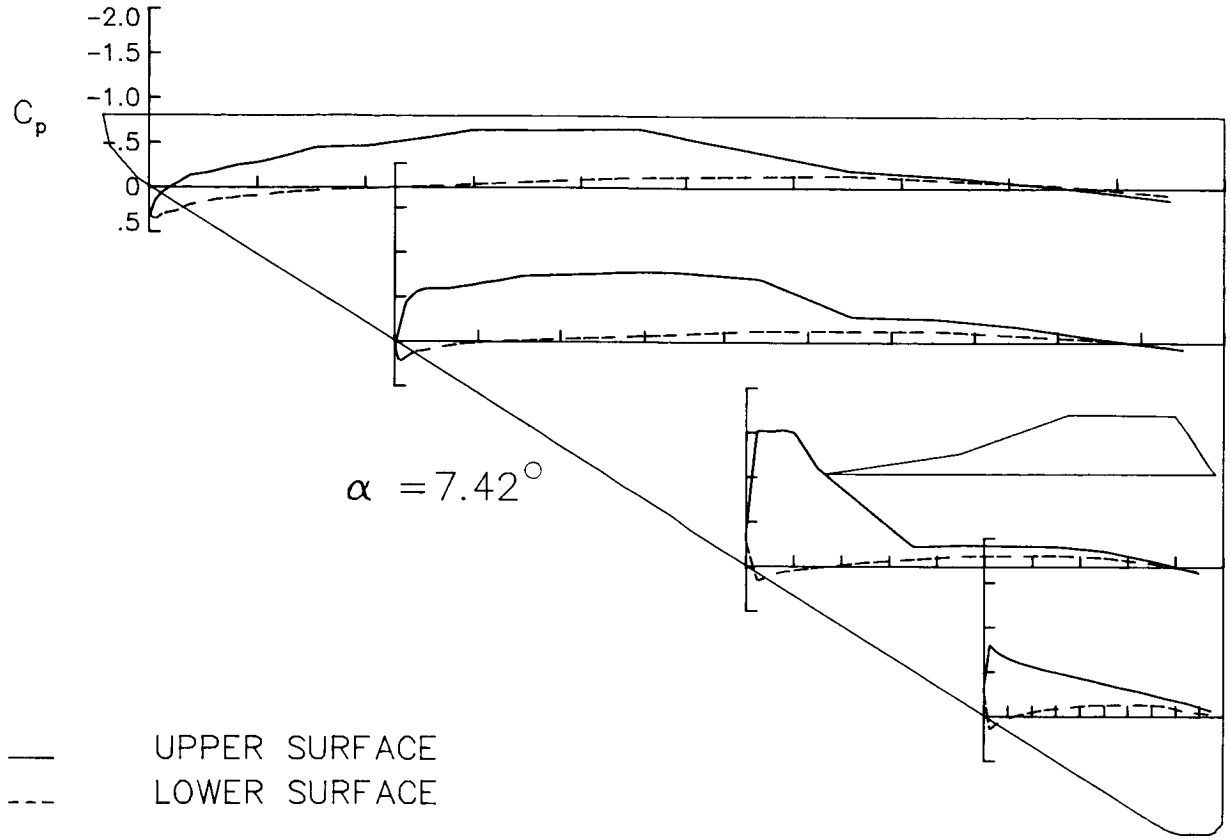
ANGLE OF ATTACK= 8.62 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

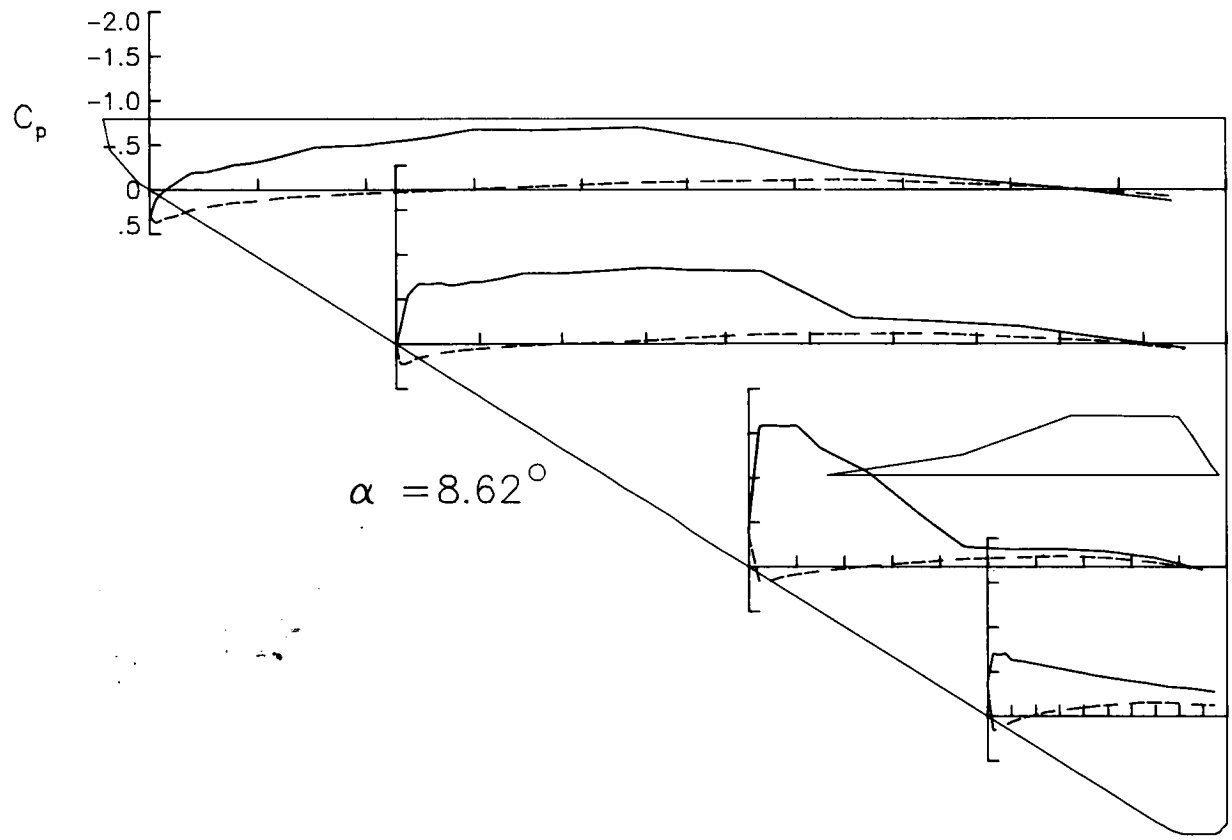
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.30758	.30758	.00107	.00107	-.38408	-.38408	-.36170	-.36170
.005	< >	< >	< >	< >	.10990	.36811	-.26171	.22545	< >	< >	< >	< >
.015	< >	< >	< >	< >	.01971	.33366	-.54049	.21100	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.09661	.29346	-.66997	.15979	-1.57759	.18110	-.70242	.15535
.040	< >	< >	< >	< >	-.18723	.23411	-.66776	.13372	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.19838	.20060	-.68135	.10448	-1.58664	.14794	-.68820	.12692
.065	< >	< >	< >	< >	-.23299	.17353	-.65519	.08696	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.27881	.14806	-.66958	.07202	-1.57852	.10690	-.70535	.09843
.090	< >	< >	< >	< >	-.29091	.13792	-.69351	.06108	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.31888	.12529	-.69569	.05144	-1.58377	.08333	-.63536	.06418
.125	< >	< >	< >	< >	-.38463	.08810	-.73415	.03618	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.47424	.06892	-.78918	.01817	-1.33797	.04787	-.61410	.01795
.200	< >	< >	< >	< >	-.49996	.04039	-.79224	-.00291	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.58640	.01640	-.82055	-.01337	-1.06186	-.00990	-.56141	-.04877
.300	< >	< >	< >	< >	-.67233	< >	-.85113	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.66510	< >	-.82454	< >	-.62342	< >	-.50985	< >
.450	< >	< >	< >	< >	-.69671	-.08089	-.80612	-.10387	-.22979	-.09005	-.45404	-.11421
.550	< >	< >	< >	< >	-.49951	< >	-.29281	< >	-.19809	< >	-.41329	< >
.650	< >	< >	-.10296	< >	-.21781	-.11283	-.24947	-.11451	-.20219	-.12102	-.37719	-.15573
.750	-.09993	< >	< >	< >	-.11999	< >	-.19521	< >	-.17047	-.09959	-.33234	-.15323
.850	-.03280	-.02109	-.03868	-.05244	-.01370	-.02234	-.06461	-.02952	-.09866	-.04859	-.31150	-.13213
.950	.04966	.05736	.08298	.02802	.12767	.07548	.05042	.06479	.03335	.03843	-.27420	-.12474

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 7.42^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 8.62^\circ$

P R E S S U R E M E A S U R E M E N T S

ANGLE OF ATTACK= 9.78 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.29081	.29081	-.04389	-.04389	-.45825	-.45825	-.35509	-.35509
.005	< >	< >	< >	< >	.07802	.38800	-.32185	.22999	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.02225	.35845	-.61493	.23376	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.13696	.32616	-.77028	.20230	-1.27464	.19366	-.53503	.16863
.040	< >	< >	< >	< >	-.21429	.27552	-.74711	.17734	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.23563	.23446	-.75156	.15005	-1.23547	.17765	-.50466	.14058
.065	< >	< >	< >	< >	-.27252	.21128	-.74578	.12652	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.31496	.19383	-.74258	.10638	-1.18885	.14600	-.49298	.11870
.090	< >	< >	< >	< >	-.32235	.17017	-.74425	.10295	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.35244	.16529	-.75554	.08840	-1.17390	.12303	-.47718	.09144
.125	< >	< >	< >	< >	-.41716	.12796	-.78505	.07372	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.51769	.09716	-.81251	.04311	-1.11021	.08717	-.46270	.02811
.200	< >	< >	< >	< >	-.53734	.07627	-.84184	.02802	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.60368	.05264	-.87018	.02095	-1.03475	.01994	-.44368	-.03138
.300	< >	< >	< >	< >	-.69782	< >	-.90087	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.68594	< >	-.88511	< >	-.96509	< >	-.43094	< >
.450	< >	< >	< >	< >	-.73288	-.05881	-.84882	-.06628	-.83264	-.07164	-.41493	-.11271
.550	< >	< >	< >	< >	-.59784	< >	-.33643	< >	-.63582	< >	-.39806	< >
.650	< >	< >	-.12311	< >	-.23473	-.09962	-.27952	-.10737	-.41499	-.11716	-.38882	-.17576
.750	-.12216	< >	< >	< >	-.12969	< >	-.23051	< >	-.28417	-.10780	-.36541	-.18466
.850	-.05314	-.01792	-.05499	-.04298	-.02648	-.02234	-.09165	-.02670	-.21039	-.07333	-.35864	-.18039
.950	.04020	.05897	.07005	.01854	.11840	.07480	.02446	.05909	-.13139	-.02155	-.32999	-.23630

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT

P R E S S U R E M E A S U R E M E N T S

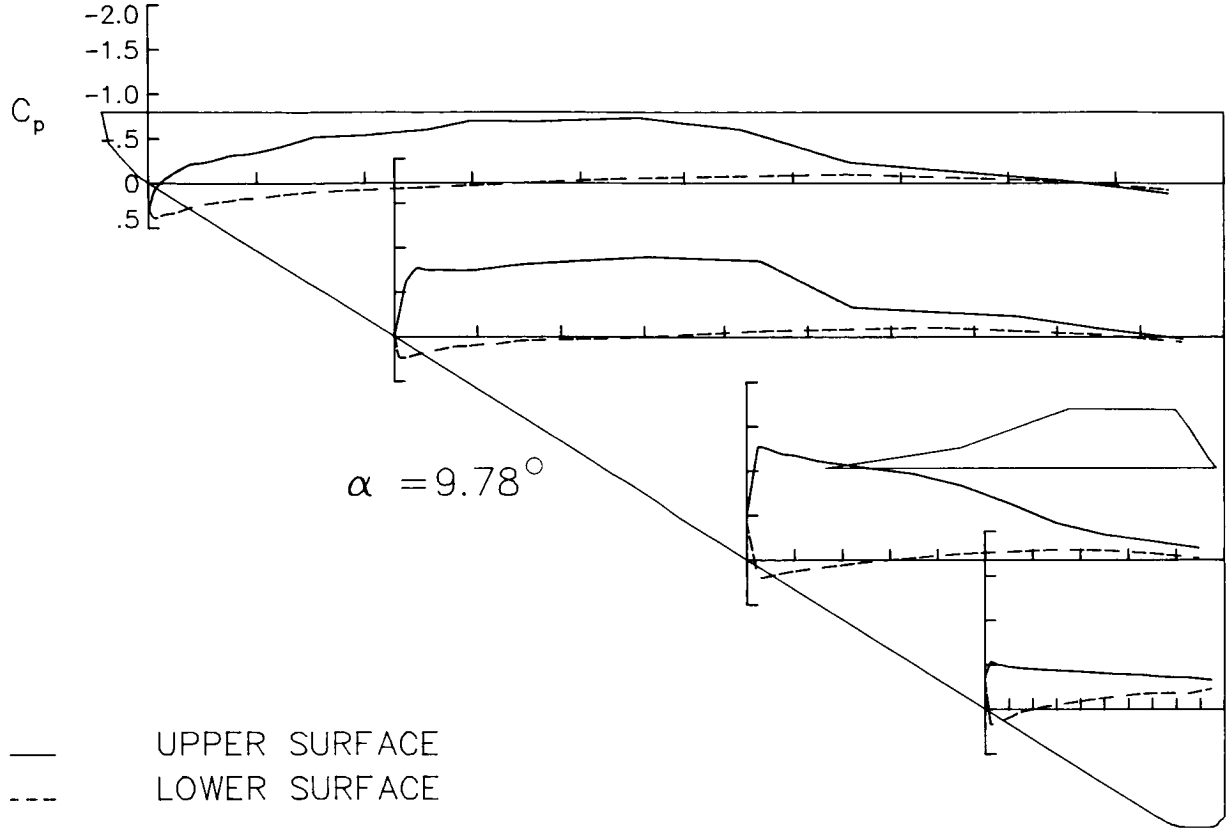
ANGLE OF ATTACK= 10.98 DEGREES MACH NUMBER= 0.84 CONFIGURATION : LARGE TAILS(V1) ON

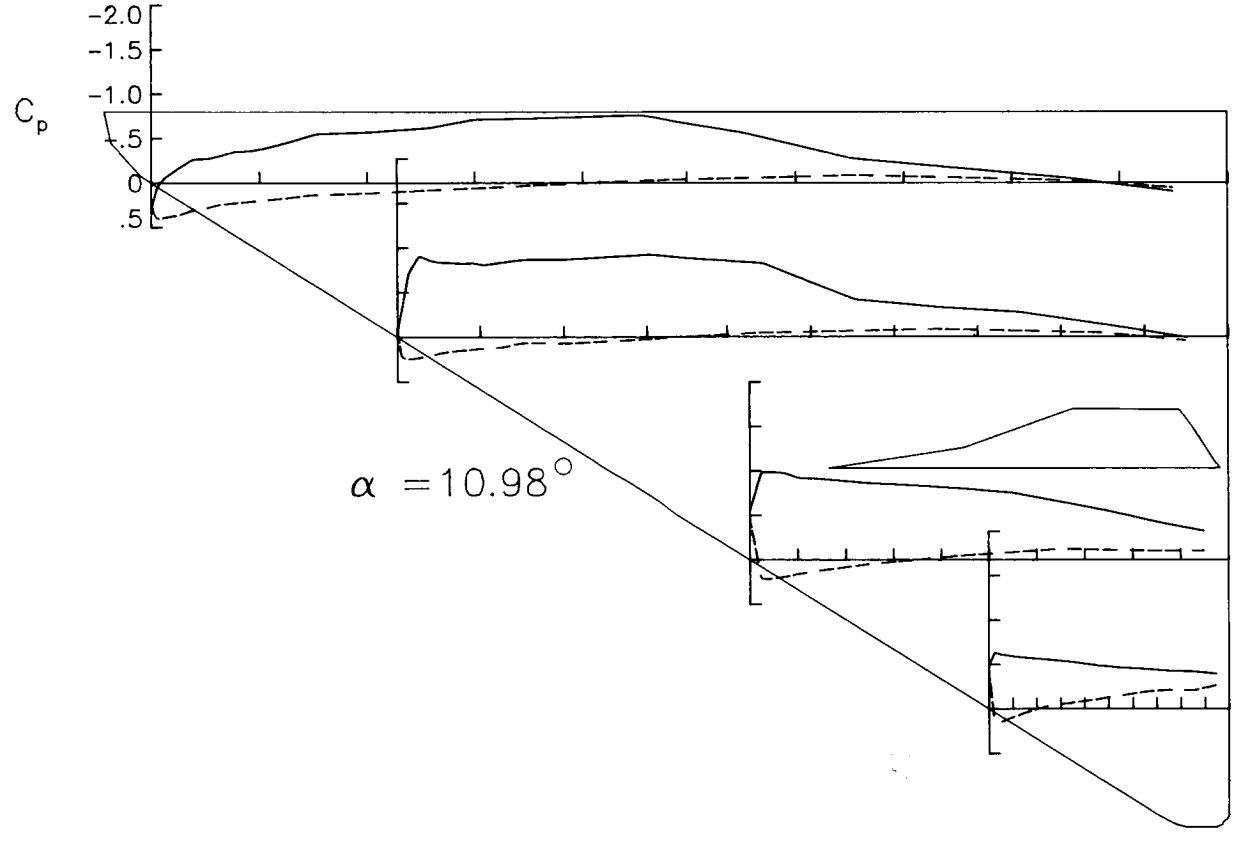
S P A N W I S E L O C A T I O N

	2Y/B -0.00		2Y/B -0.05		2Y/B -0.10		2Y/B -0.30		2Y/B -0.60		2Y/B -0.80	
X/C	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL	CPU	CPL
0.000	< >	< >	< >	< >	.28022	.28022	-.09111	-.09111	-.51603	-.51603	-.47333	-.47333
.005	< >	< >	< >	< >	.04591	.39686	-.38027	.22090	< >	< >	< >	< >
.015	< >	< >	< >	< >	-.05584	.38929	-.71230	.24449	< >	< >	< >	< >
.025	< >	< >	< >	< >	-.17603	.36141	-.90191	.23179	-.98041	.20857	-.62875	.14058
.040	< >	< >	< >	< >	-.26292	.31282	-.85905	.21167	< >	< >	< >	< >
.050	< >	< >	< >	< >	-.27416	.27979	-.83482	.18389	-.98484	.20720	-.61264	.14651
.065	< >	< >	< >	< >	-.30829	.24608	-.82938	.16434	< >	< >	< >	< >
.075	< >	< >	< >	< >	-.35015	.22686	-.82115	.15057	-.96856	.18680	-.60237	.11963
.090	< >	< >	< >	< >	-.35474	.21398	-.82758	.13946	< >	< >	< >	< >
.100	< >	< >	< >	< >	-.38385	.19806	-.80743	.13087	-.92243	.15899	-.59234	.09175
.125	< >	< >	< >	< >	-.44964	.17007	-.83657	.11204	< >	< >	< >	< >
.150	< >	< >	< >	< >	-.54918	.13257	-.86658	.06811	-.90752	.11566	-.57683	.04444
.200	< >	< >	< >	< >	-.56910	.11454	-.86949	.07067	< >	< >	< >	< >
.250	< >	< >	< >	< >	-.62040	.08625	-.89618	.04968	-.86204	.04713	-.55369	-.03414
.300	< >	< >	< >	< >	-.70874	< >	-.92266	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	-.72344	< >	-.88244	< >	-.83480	< >	-.52604	< >
.450	< >	< >	< >	< >	-.75751	-.02486	-.82201	-.04641	-.79910	-.05221	-.48901	-.10627
.550	< >	< >	< >	< >	-.56053	< >	-.41954	< >	-.75275	< >	-.46291	< >
.650	< >	< >	-.15176	< >	-.27328	-.08469	-.33088	-.08570	-.65388	-.12365	-.44807	-.19199
.750	-.15633	< >	< >	< >	-.16292	< >	-.27263	< >	-.55013	-.11192	-.42656	-.21198
.850	-.08318	-.01327	-.07995	-.04506	-.05376	-.02701	-.13855	-.04400	-.42844	-.10318	-.41934	-.20897
.950	.01221	.04581	.04426	.01306	.09889	.05598	.01064	.04417	-.32486	-.10395	-.39367	-.26886

< > NO PRESSURE PORT AT THIS LOCATION

***** BAD PRESSURE MEASUREMENT


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 9.78^\circ$
UPPER SURFACE
LOWER SURFACE


-2.0
-1.5
-1.0
C_p
.5
0
.5
$\alpha = 10.98^\circ$

Appendix J

Computed Velocity Fields and Pressure Coefficients for Wing Alone With and Without Sting Modeling

The PAN AIR velocity fields and pressure coefficients with and without sting modeling are presented in this appendix for $M = 0.80$ and $\alpha = 6.08°$, $9.70°$, and $13.00°$. The pressure coefficients are presented for $\eta = 0.02$, 0.07, 0.13, and 0.20.

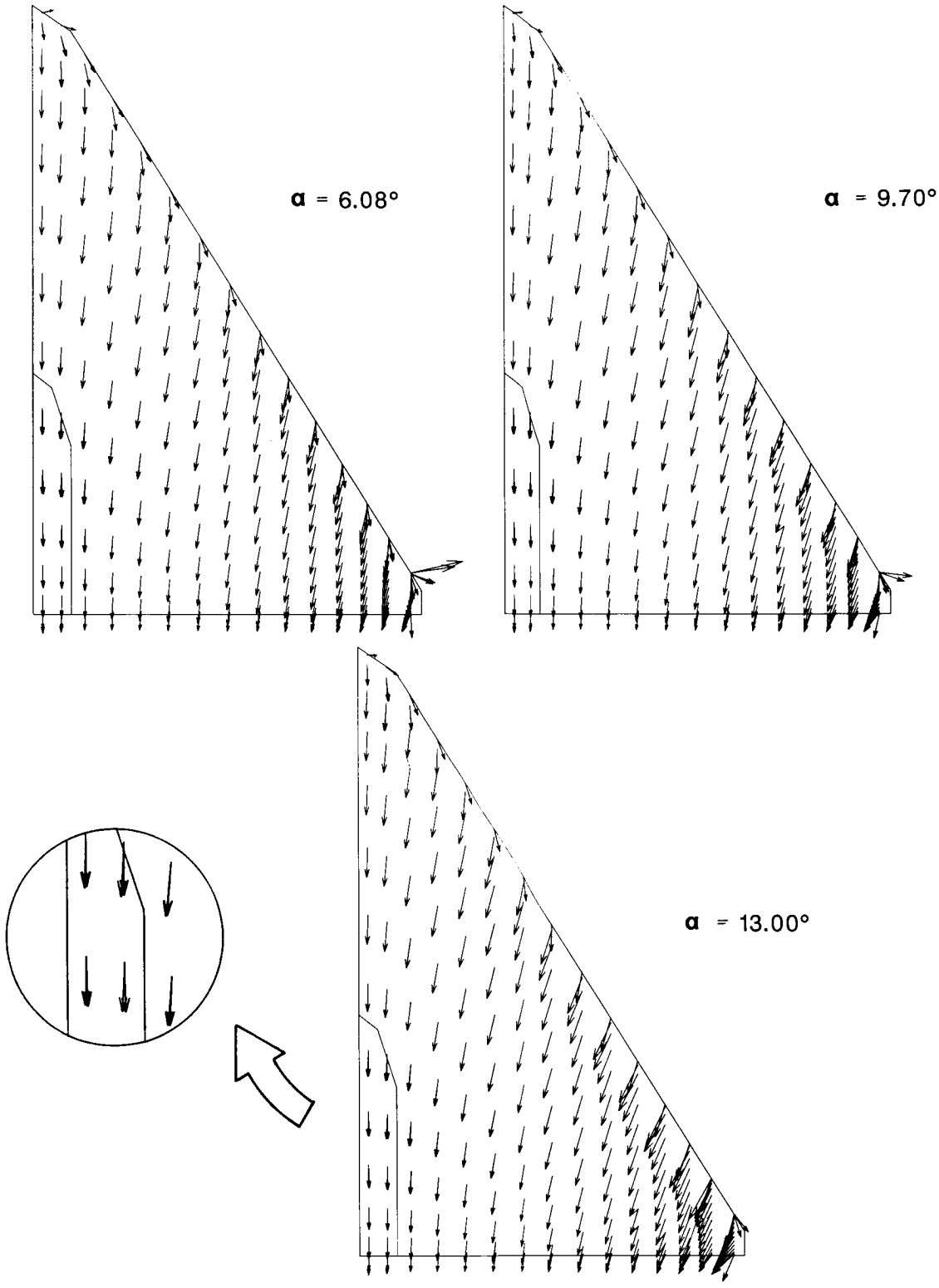
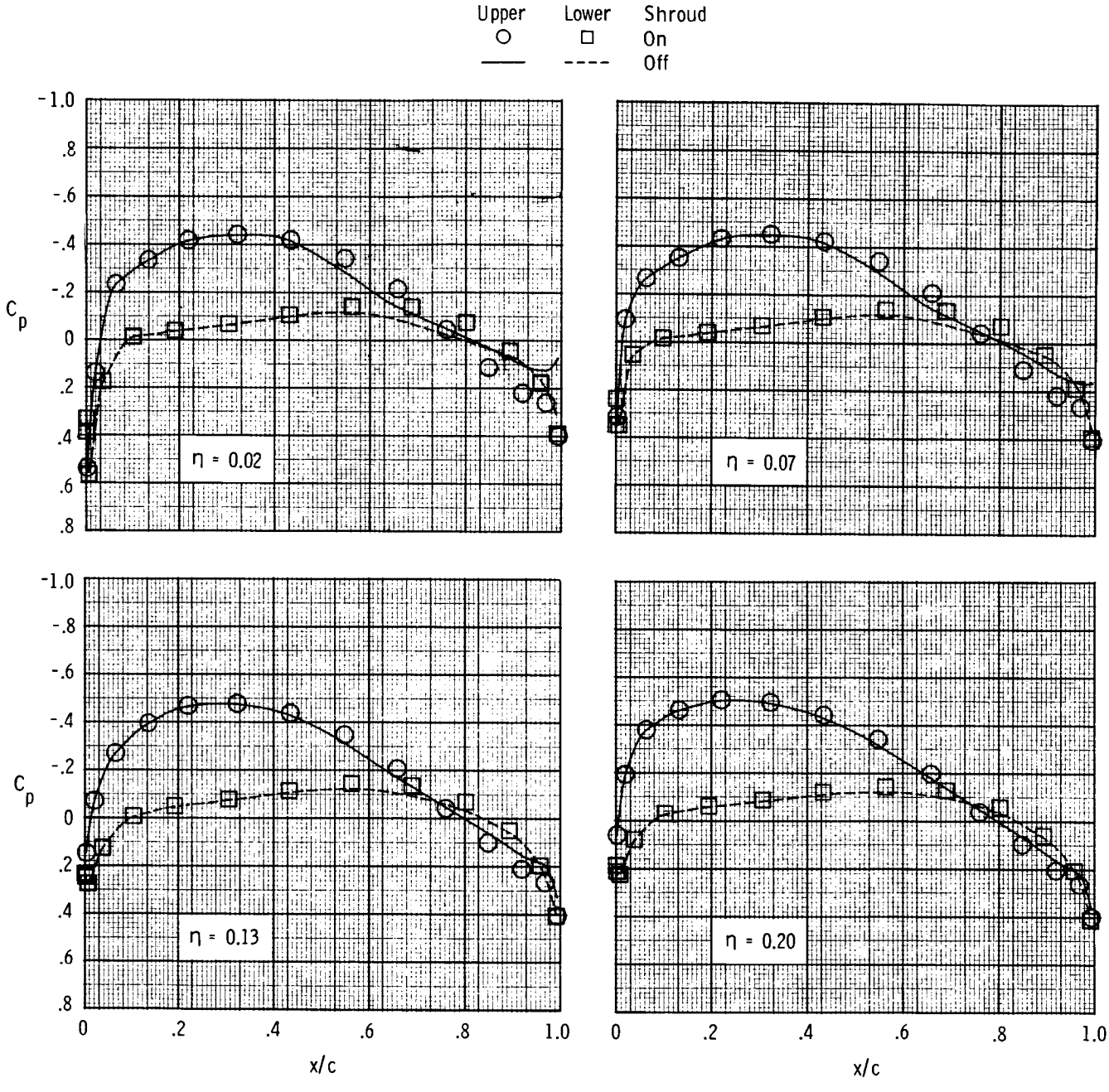
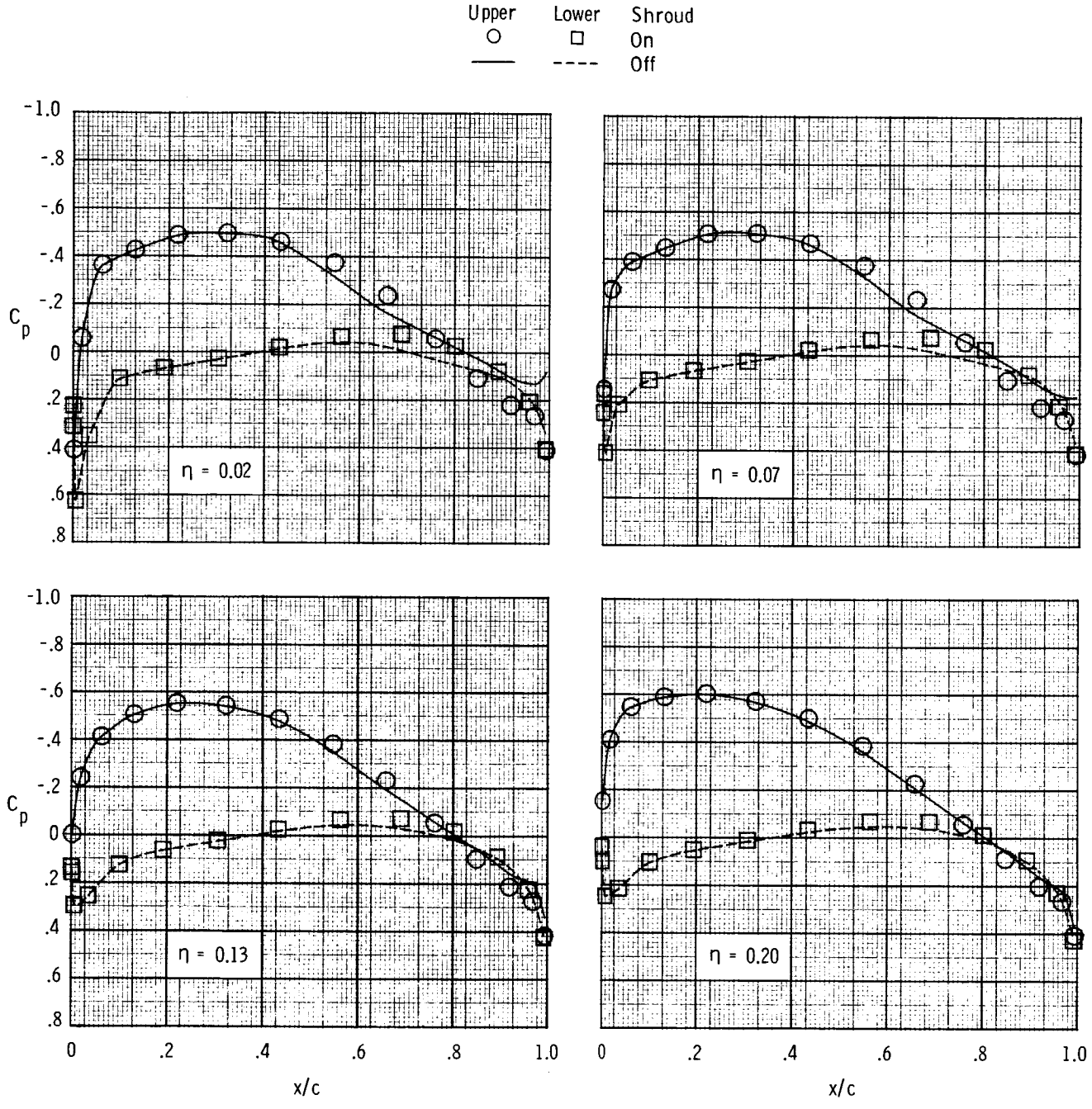


Figure J1. Wing upper surface velocity field with and without sting shroud at three angles of attack as computed by PAN AIR. $M = 0.80$.



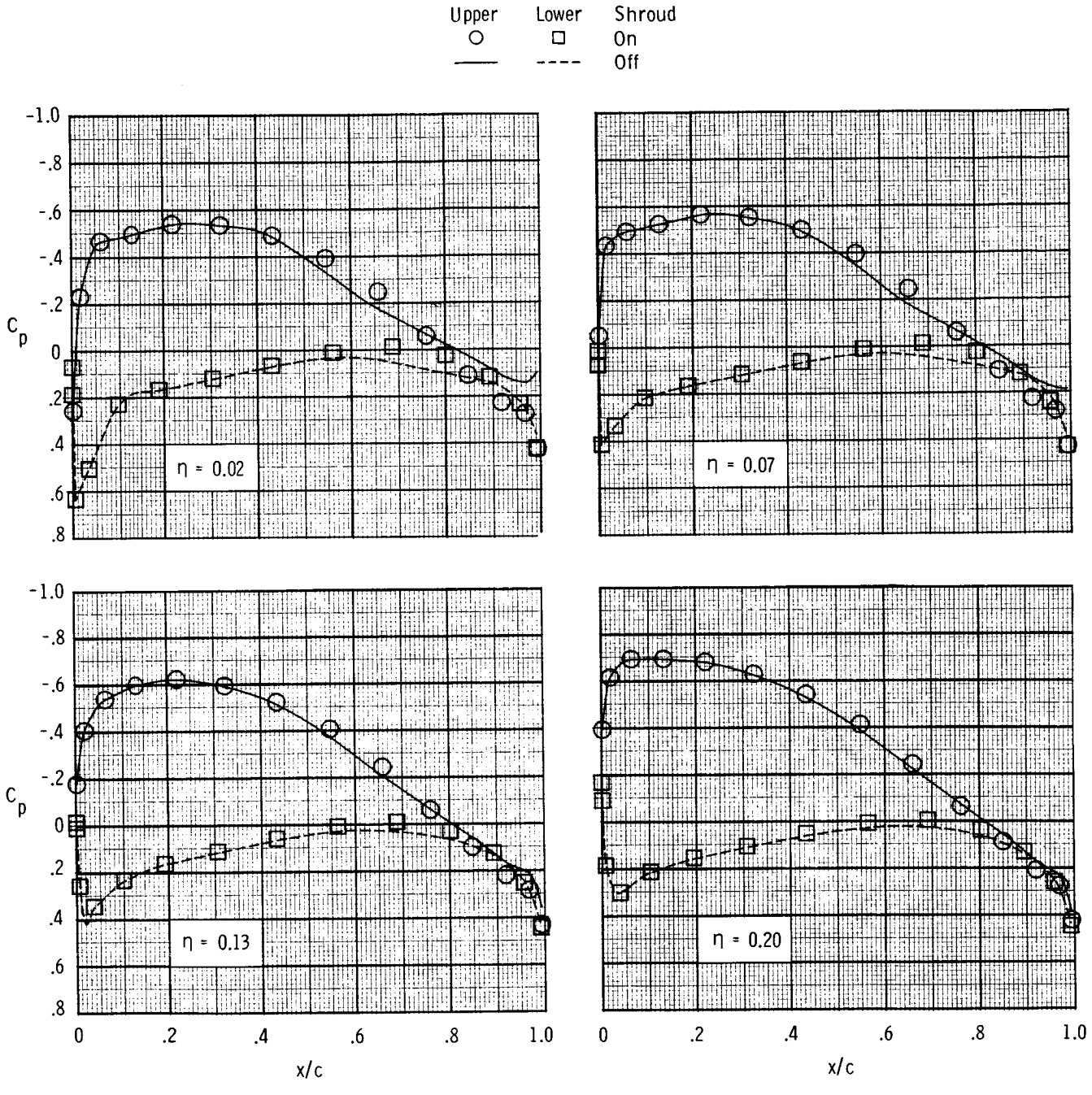
(a) $\alpha = 6.08°$.

Figure J2. Effect of sting shroud on wing pressure coefficients as computed by PAN AIR. $M = 0.80$.



(b) $\alpha = 9.70°$.

Figure J2. Continued.



(c) $\alpha = 13.00°$.

Figure J2. Concluded.

Table I. Nondimensional Pressure Port Locations

NOMINAL CHORD FRACTION	NOMINAL SPAN FRACTION											
	2Y/B 0.00		2Y/B -.04		2Y/B -.10		2Y/B -.30		2Y/B -.60		2Y/B -.80	
	ACTUAL X/C		ACTUAL X/C		ACTUAL X/C		ACTUAL X/C		ACTUAL X/C		ACTUAL X/C	
X/C	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
0.000	< >	< >	< >	< >	.001	.001	.001	.001	0.000	0.000	0.000	0.000
.006	< >	< >	< >	< >	.006	.006	.007	.006	< >	< >	< >	< >
.013	< >	< >	< >	< >	.013	.012	.013	.013	< >	< >	< >	< >
.026	< >	< >	< >	< >	.027	.025	.027	.025	.023	.027	.021	.029
.038	< >	< >	< >	< >	.038	.037	.039	.038	< >	< >	< >	< >
.050	< >	< >	< >	< >	.052	.050	.052	.050	.048	.052	.045	.054
.063	< >	< >	< >	< >	.063	.062	.064	.063	< >	< >	< >	< >
.076	< >	< >	< >	< >	.078	.075	.078	.075	.073	.077	.069	.079
.088	< >	< >	< >	< >	.088	.087	.089	.088	< >	< >	< >	< >
.101	< >	< >	< >	< >	.103	.100	.103	.100	.098	.102	.095	.104
.126	< >	< >	< >	< >	.125	.125	.127	.127	< >	< >	< >	< >
.151	< >	< >	< >	< >	.153	.150	.153	.150	.148	.153	.144	.155
.201	< >	< >	< >	< >	.199	.199	.202	.202	< >	< >	< >	< >
.252	< >	< >	< >	< >	.259	.250	.253	.251	.248	.253	.245	.256
.300	< >	< >	< >	< >	.299	< >	.302	< >	< >	< >	< >	< >
.350	< >	< >	< >	< >	.353	< >	.353	< >	.348	< >	.344	< >
.449	< >	< >	< >	< >	.453	.450	.443	.441	.448	.453	.445	.457
.550	< >	< >	< >	< >	.552	< >	.553	< >	.548	< >	.545	< >
.650	< >	< >	< >	< >	.652	.650	.653	.650	.648	.653	.645	.656
.748	.737	< >	.742	< >	.751	< >	.752	< >	.748	.753	.746	.756
.848	.842	.840	.846	.844	.851	.850	.852	.850	.848	.852	.847	.855
.950	.948	.946	.949	.947	.950	.950	.951	.951	.949	.952	.948	.954

< > NO PRESSURE PORT AT THIS LOCATION

Table II. Dimensional Pressure Port Coordinates

NOMINAL CHORD FRACTION	NOMINAL SPAN FRACTION 2Y/B 0.00				2Y/B -.04				2Y/B -.10	
	X,Y UPPER		X,Y LOWER		X,Y UPPER		X,Y LOWER		X,Y UPPER	X,Y LOWER
X/C										
0.000	<	>	<	>	<	>	<	>	1.0635, -1.5839	1.0635, -1.5839
.006	<	>	<	>	<	>	<	>	1.1982, -1.5930	1.1922, -1.5930
.013	<	>	<	>	<	>	<	>	1.3562, -1.5930	1.3442, -1.5930
.026	<	>	<	>	<	>	<	>	1.7033, -1.5906	1.6526, -1.5950
.038	<	>	<	>	<	>	<	>	1.9732, -1.5930	1.9492, -1.5930
.050	<	>	<	>	<	>	<	>	2.3097, -1.5920	2.2619, -1.5950
.063	<	>	<	>	<	>	<	>	2.5782, -1.5930	2.5542, -1.5930
.076	<	>	<	>	<	>	<	>	2.9285, -1.5985	2.8604, -1.5918
.088	<	>	<	>	<	>	<	>	3.1832, -1.5930	3.1592, -1.5930
.101	<	>	<	>	<	>	<	>	3.5380, -1.5953	3.4667, -1.5951
.126	<	>	<	>	<	>	<	>	4.0662, -1.5930	4.0662, -1.5930
.151	<	>	<	>	<	>	<	>	4.7584, -1.5908	4.6745, -1.5998
.201	<	>	<	>	<	>	<	>	5.8812, -1.5930	5.8812, -1.5930
.252	<	>	<	>	<	>	<	>	7.3441, -1.5165	7.1076, -1.5904
.300	<	>	<	>	<	>	<	>	8.3012, -1.5930	< >
.350	<	>	<	>	<	>	<	>	9.6214, -1.5924	< >
.449	<	>	<	>	<	>	<	>	12.0450, -1.5954	11.9737, -1.5997
.550	<	>	<	>	<	>	<	>	14.4625, -1.5985	< >
.650	<	>	<	>	<	>	<	>	16.8796, -1.6128	16.8290, -1.5950
.748	18.6730, -.0347		<	>	18.8319, -.6992		<	>	19.2970, -1.6016	< >
.848	21.3549, -.0286		21.2647, -.0097		21.4475, -.7026		21.4110, -.7036		21.7189, -1.5986	21.6872, -1.5902
.950	24.0367, -.0267		23.9858, -.0050		24.0522, -.7024		24.0046, -.7006		24.1320, -1.6173	24.1203, -1.5935

< > NO PRESSURE PORT AT THIS LOCATION

Table II. Concluded

NOMINAL CHORD FRACTION	NOMINAL SPAN FRACTION 2Y/B −.30		2Y/B −.60		2Y/B −.80	
X/C	X,Y UPPER	X,Y LOWER	X,Y UPPER	X,Y LOWER	X,Y UPPER	X,Y LOWER
0.000	6.5832, -5.0557	6.5832, -5.0557	14.5680,-10.0602	14.5680,-10.0602	19.9296,-13.3850	19.9296,-13.3850
.006	6.6920, -5.0480	6.6820, -5.0480	< >	< >	< >	< >
.013	6.8180, -5.0480	6.8000, -5.0480	< >	< >	< >	< >
.026	7.0771, -5.0428	7.0341, -5.0328	14.8156,-10.0600	14.8603,-10.0107	20.0431,-13.3985	20.0860,-13.3398
.038	7.3060, -5.0480	7.2690, -5.0480	< >	< >	< >	< >
.050	7.5449, -5.0489	7.5019, -5.0298	15.0849,-10.0632	15.1280,-10.0076	20.1723,-13.3969	20.2232,-13.3369
.063	7.7750, -5.0480	7.7470, -5.0480	< >	< >	< >	< >
.076	8.0219, -5.0380	7.9775, -5.0282	15.3479,-10.0600	15.3941,-10.0028	20.3044,-13.3985	20.3571,-13.3366
.088	8.2440, -5.0480	8.2250, -5.0480	< >	< >	< >	< >
.101	8.4928, -5.0440	8.4420, -5.0280	15.6218, 10.0552	15.6682,-10.0046	20.4414,-13.3969	20.4909,-13.3351
.126	8.9460, -5.0480	8.9460, -5.0480	< >	< >	< >	< >
.151	9.4424, -5.0364	9.3807, -4.9872	16.1590,-10.0569	16.2083,-10.0028	20.7091,-13.3969	20.7666,-13.3356
.201	10.3530, -5.0480	10.3530, -5.0480	< >	< >	< >	< >
.252	11.3227, -5.0427	11.2751, -5.0376	17.2346,-10.0615	17.2840,-10.0046	21.2495,-13.3955	21.3099,-13.3353
.300	12.2280, -5.0480	< >	< >	< >	< >	< >
.350	13.1983, -5.0346	< >	18.3076,-10.0647	< >	21.7880,-13.3922	< >
.449	14.8881, -5.0362	14.8374, -5.0374	19.3841,-10.0615	19.4383,-10.0031	22.3313,-13.3939	22.3932,-13.3352
.550	16.9434, -5.0409	< >	20.4598,-10.0600	< >	22.3283,-13.3954	< >
.650	18.8126, -5.0457	18.7728, -5.0343	21.5369,-10.0599	21.5895,-10.0028	23.4098,-13.3937	23.4688,-13.3355
.748	20.6801, -5.0443	< >	22.6156,-10.0614	22.6634,-10.0028	23.9549,-13.3938	24.0074,-13.3336
.848	22.5481, -5.0474	22.5145, -5.0454	23.6942,-10.0599	23.7293,-10.0043	24.4995,-13.3953	24.5430,-13.3352
.950	24.4234, -5.0615	24.4090, -5.0438	24.7763,-10.0616	24.8100,-10.0046	25.0462,-13.3922	25.0784,-13.3366

< > NO PRESSURE PORT AT THIS LOCATION

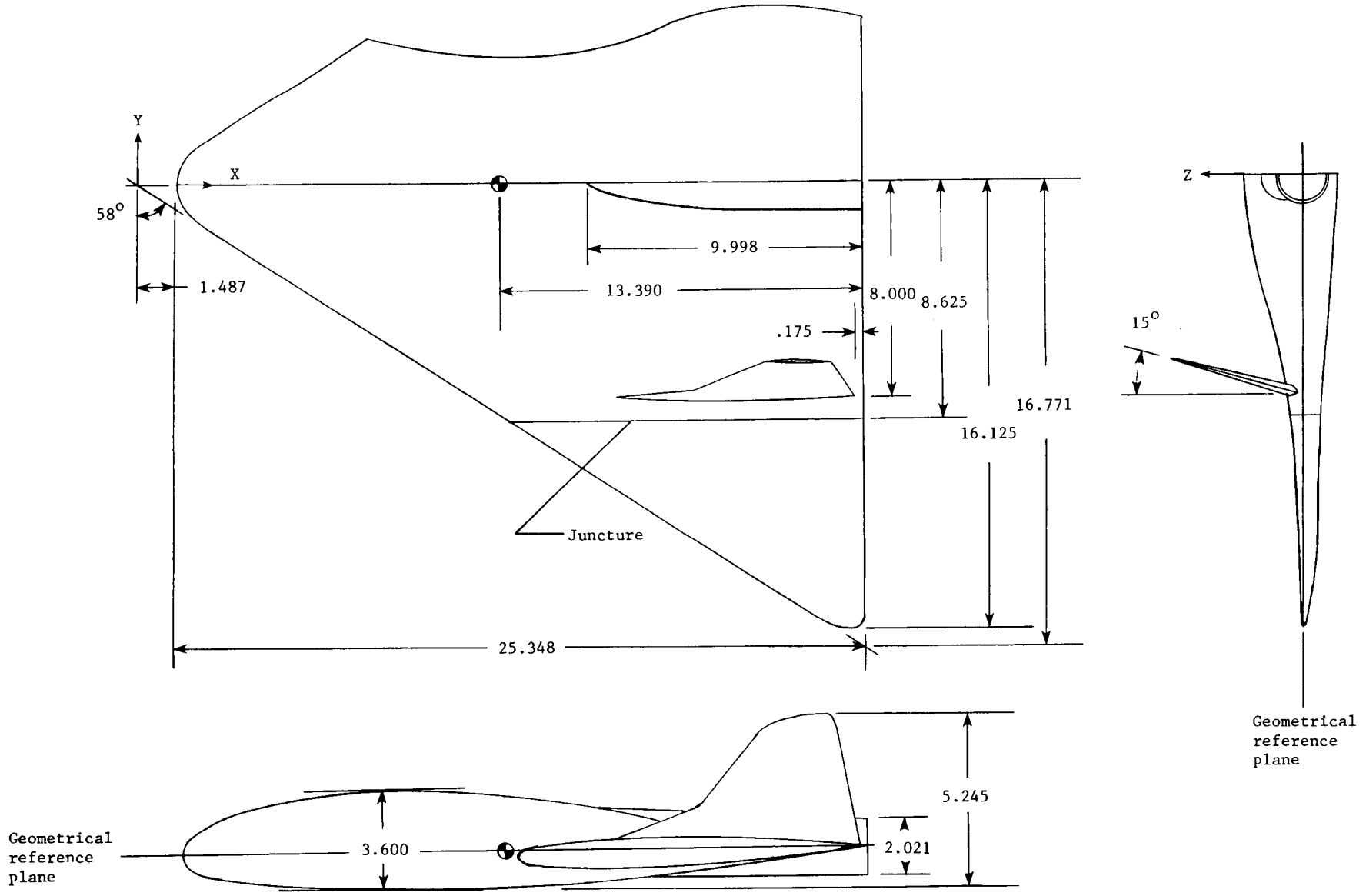
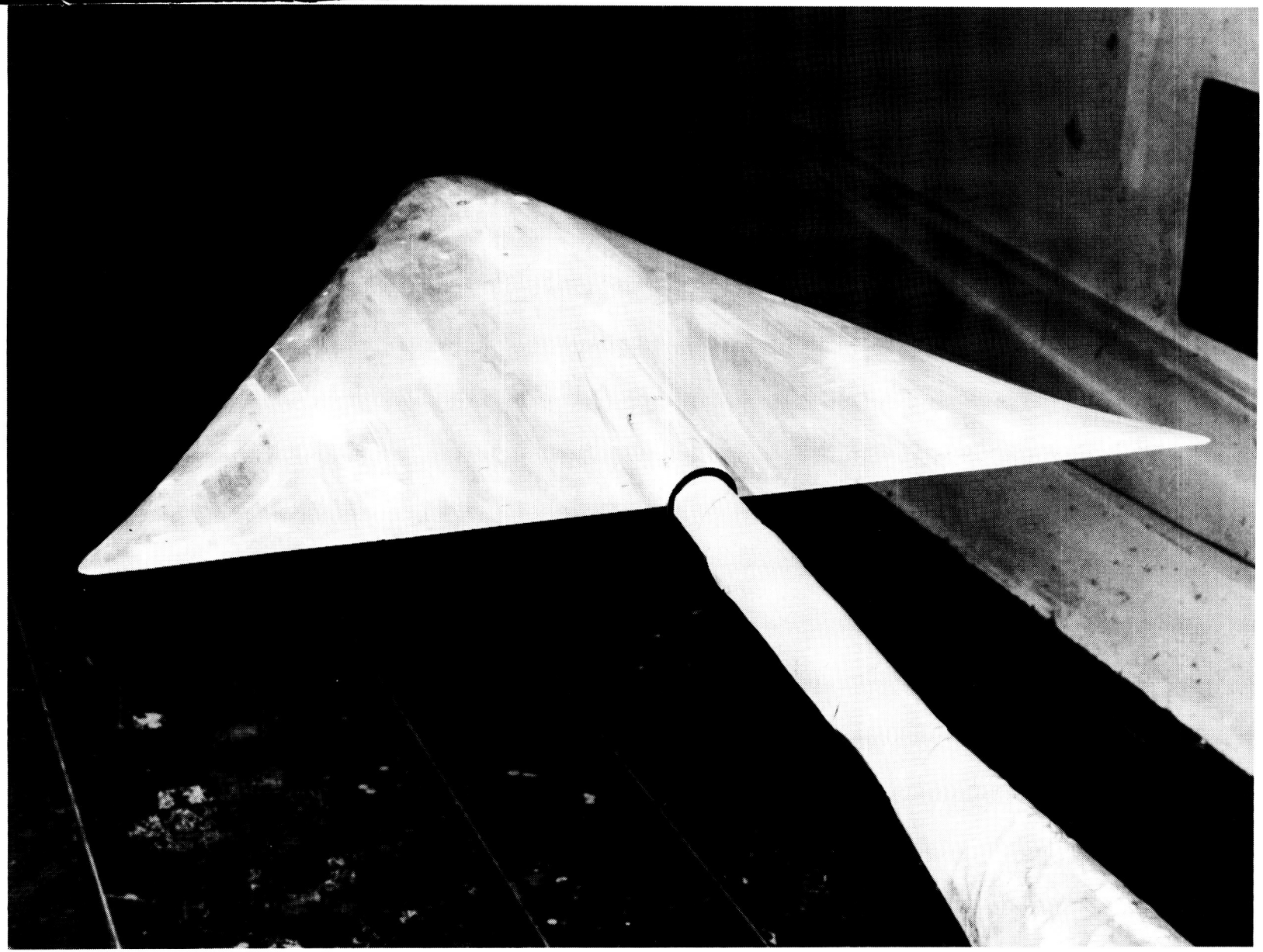


Figure 1. Three-view drawing of test model W_6. Linear dimensions are in inches.



L-82-5,047

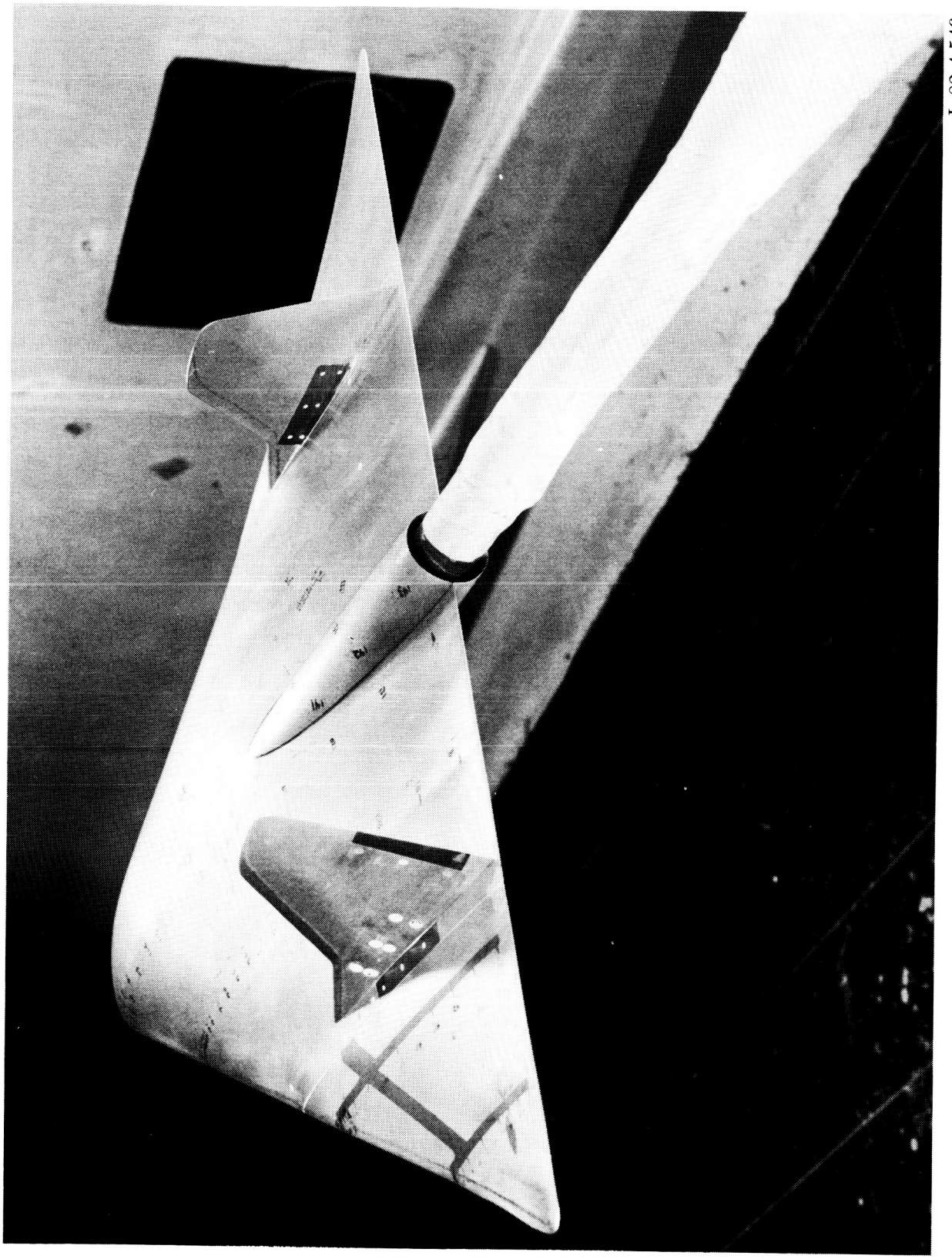
(a) Wing alone (W_6).

Figure 2. Photographs of model in Langley 7- by 10-Foot High-Speed Tunnel.

L-82-4,685

(b) Wing + small vertical tail ($W_6 + V_2$).

Figure 2. Continued.



L-82-4,546

(c) Wing + large vertical tail ($W_6 + V_1$).

Figure 2. Concluded.

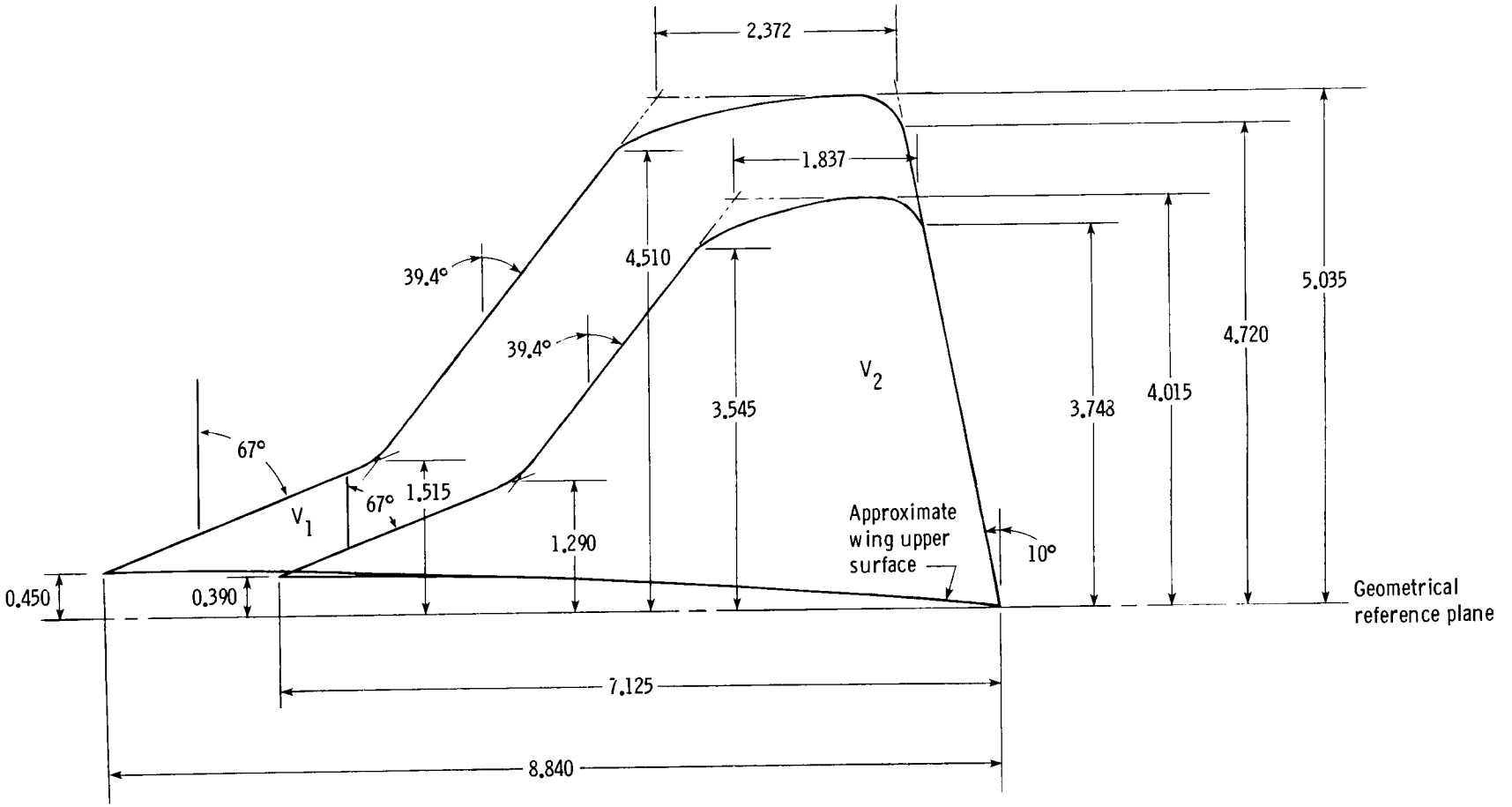
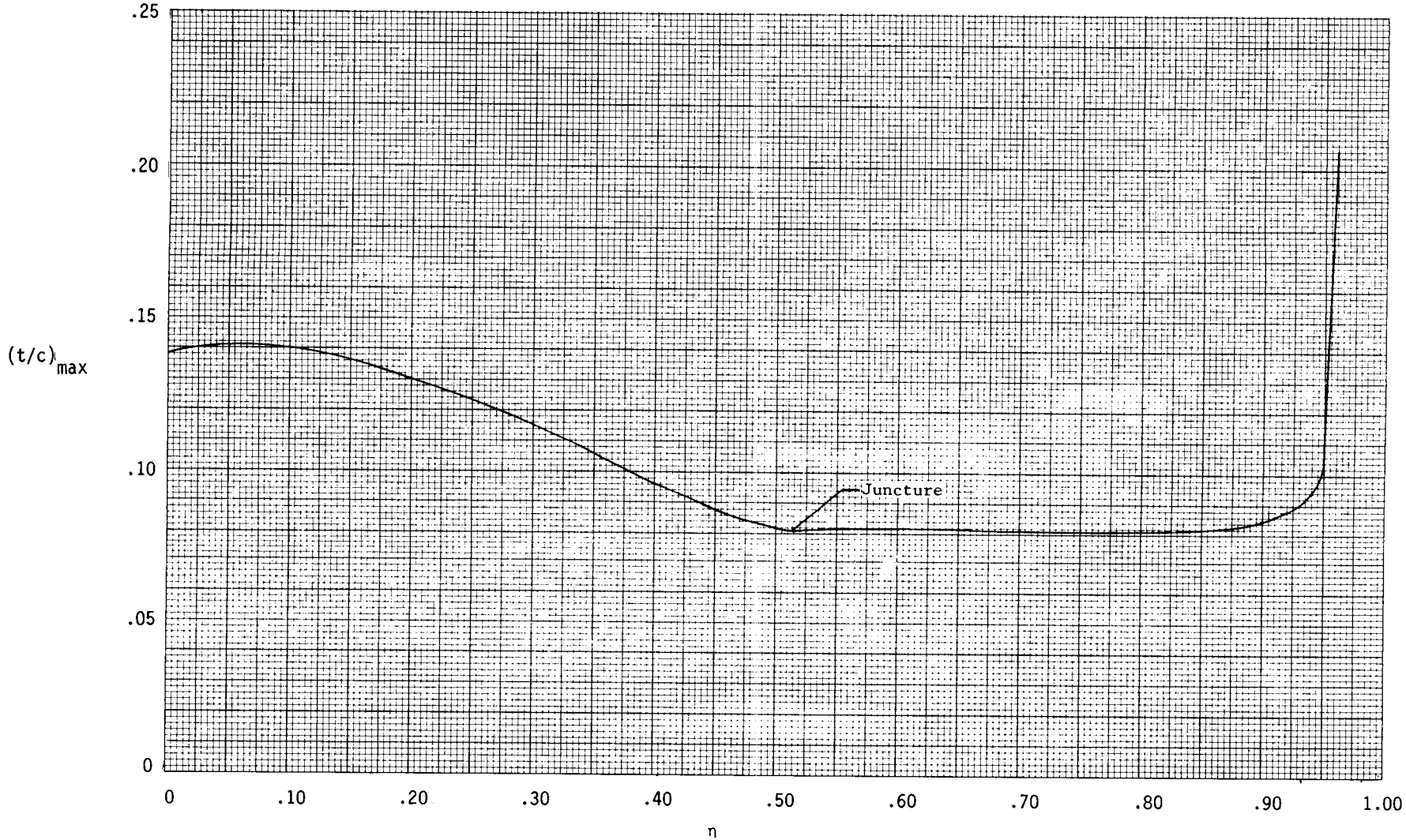
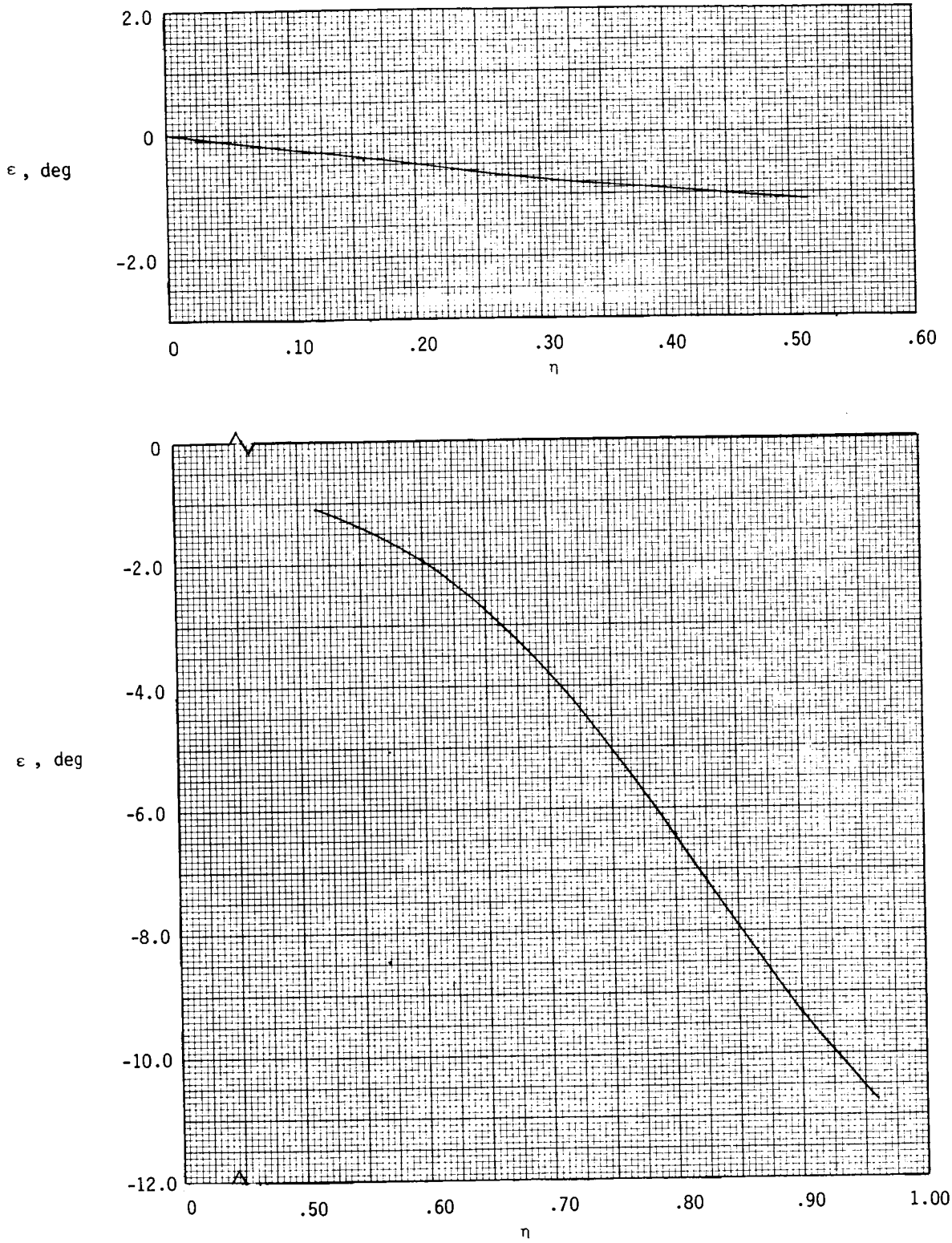


Figure 3. True profile view of vertical tails V_1 and V_2. Linear dimensions are in inches.



(a) Thickness distribution.

Figure 4. Thickness and twist distribution of wing alone.



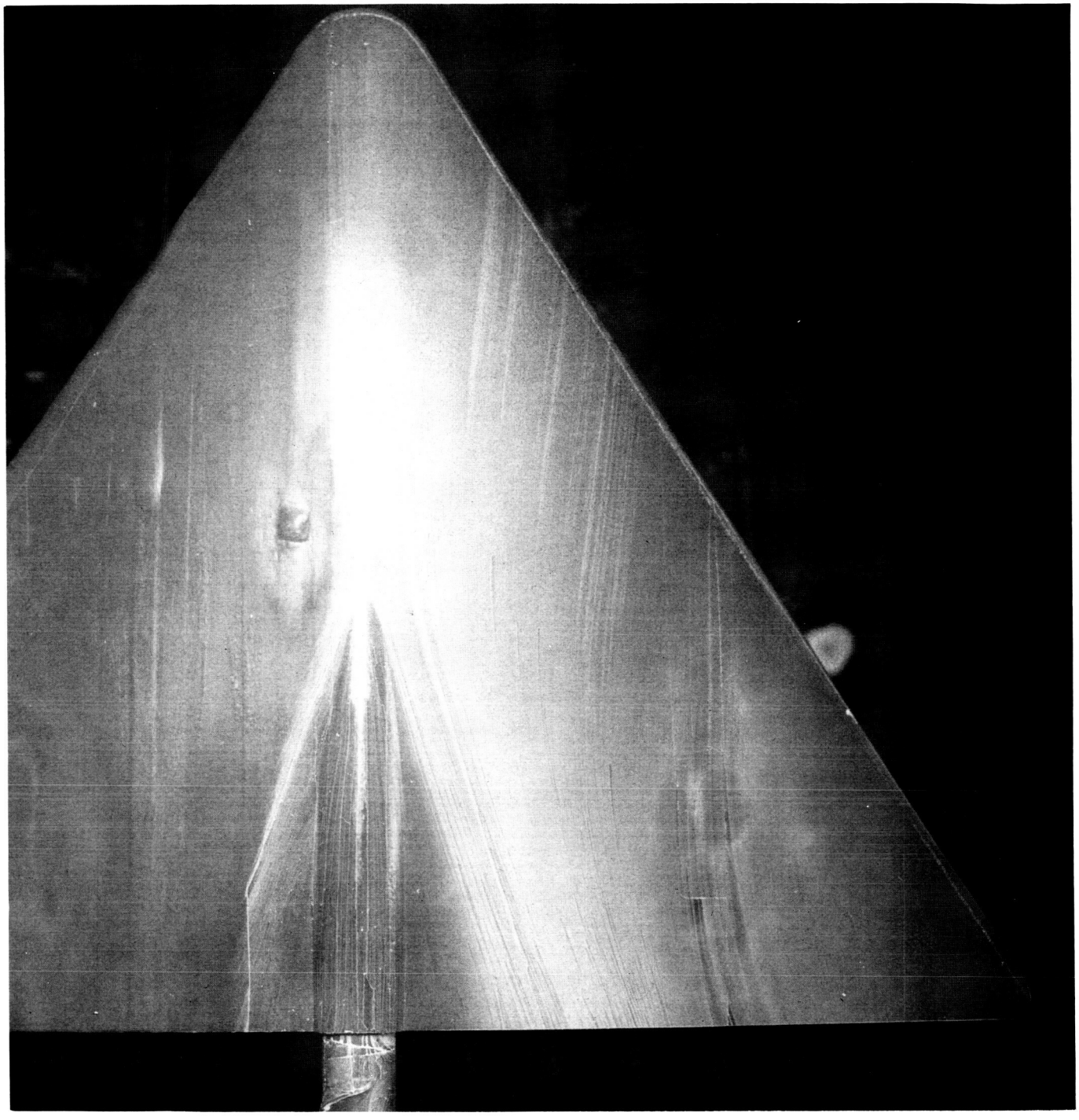
(b) Twist distribution.

Figure 4. Concluded.

L-87-579

(a) $\alpha = 4.08°$.

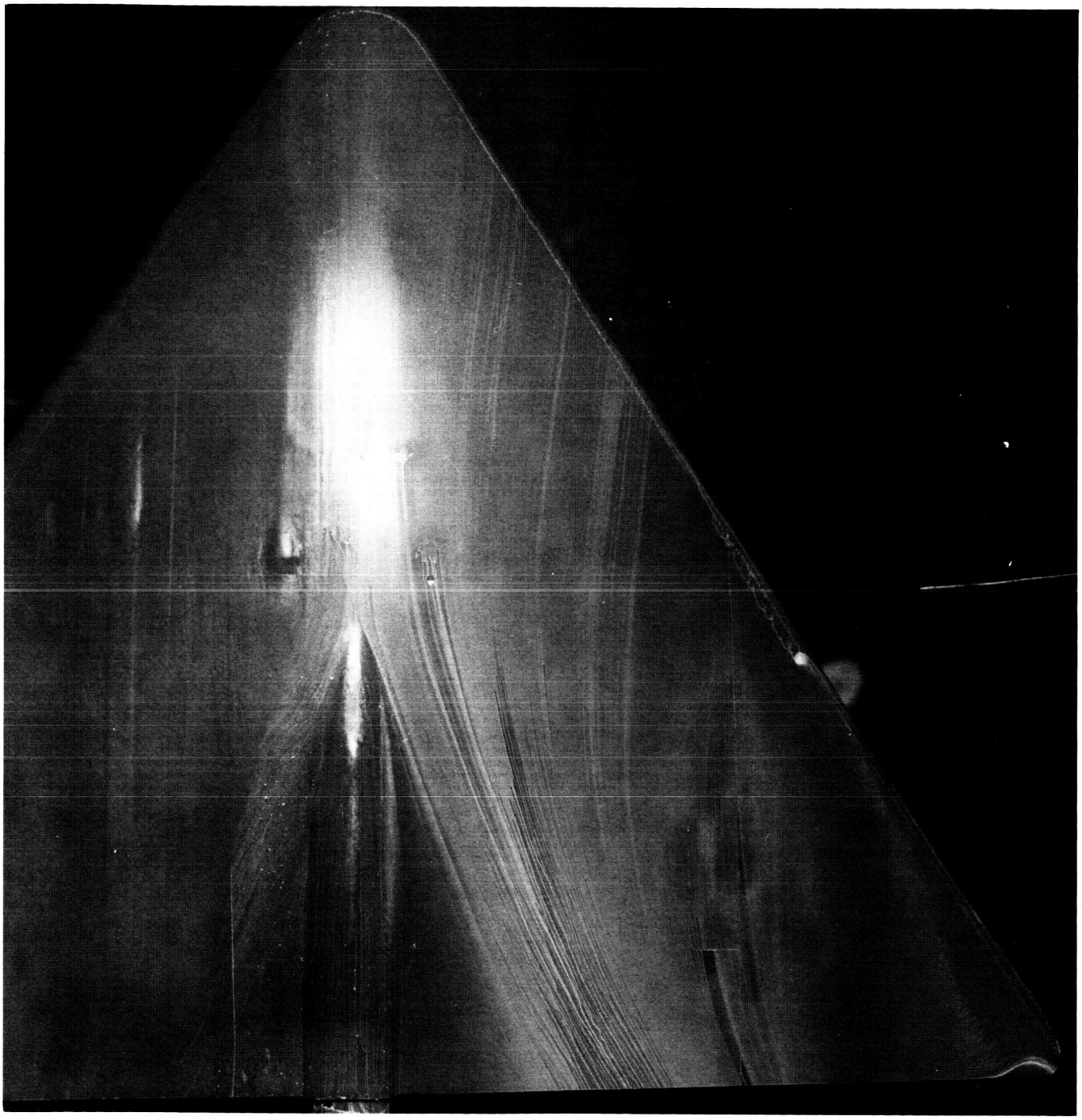
Figure 5. Upper surface oil flow visualization for wing alone at $M = 0.80$.



L-87-580

(b) $\alpha = 6.05°$.

Figure 5. Continued.



L-87-581

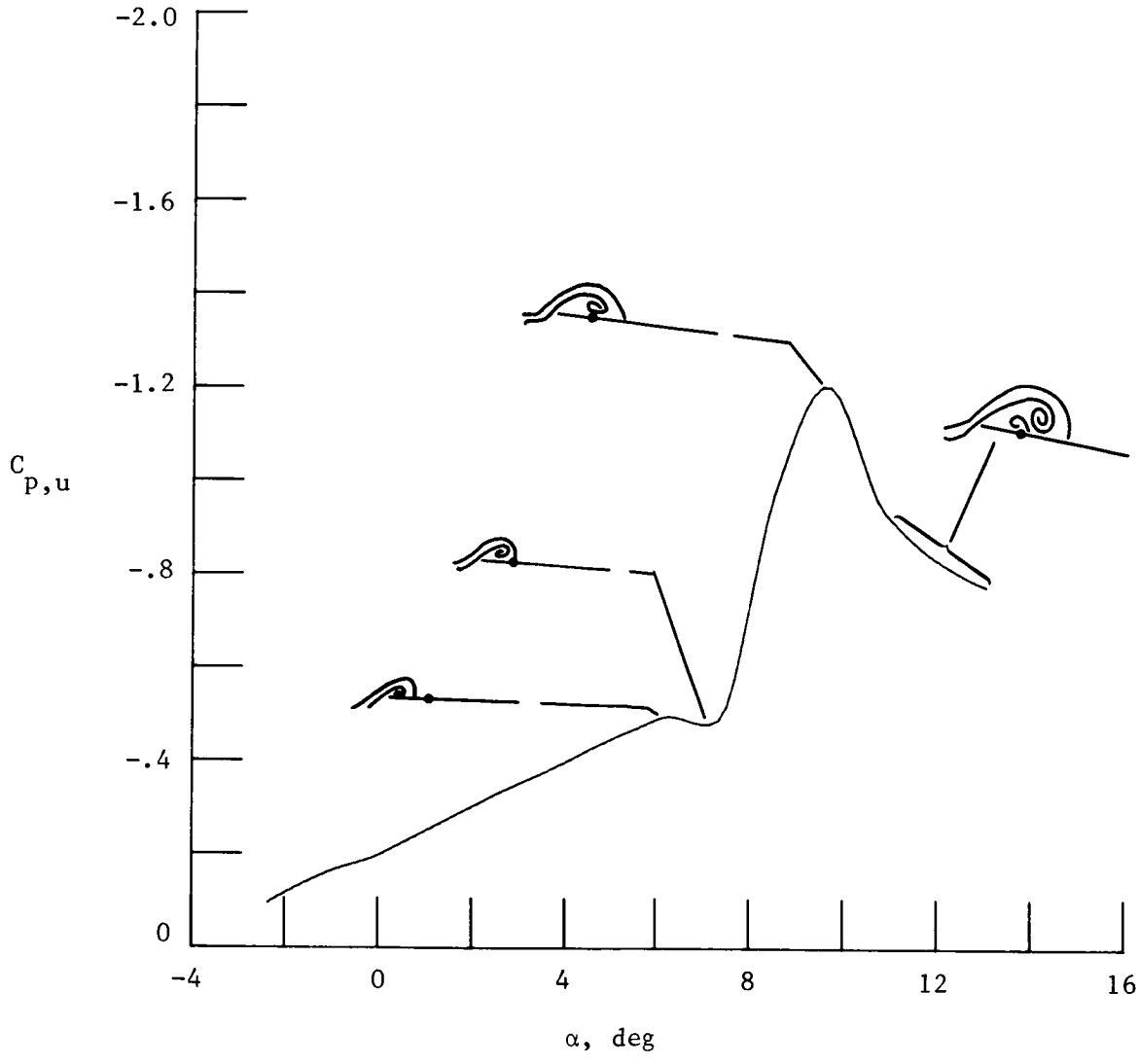
(c) $\alpha = 8.09°$.

Figure 5. Continued.

L-87-582

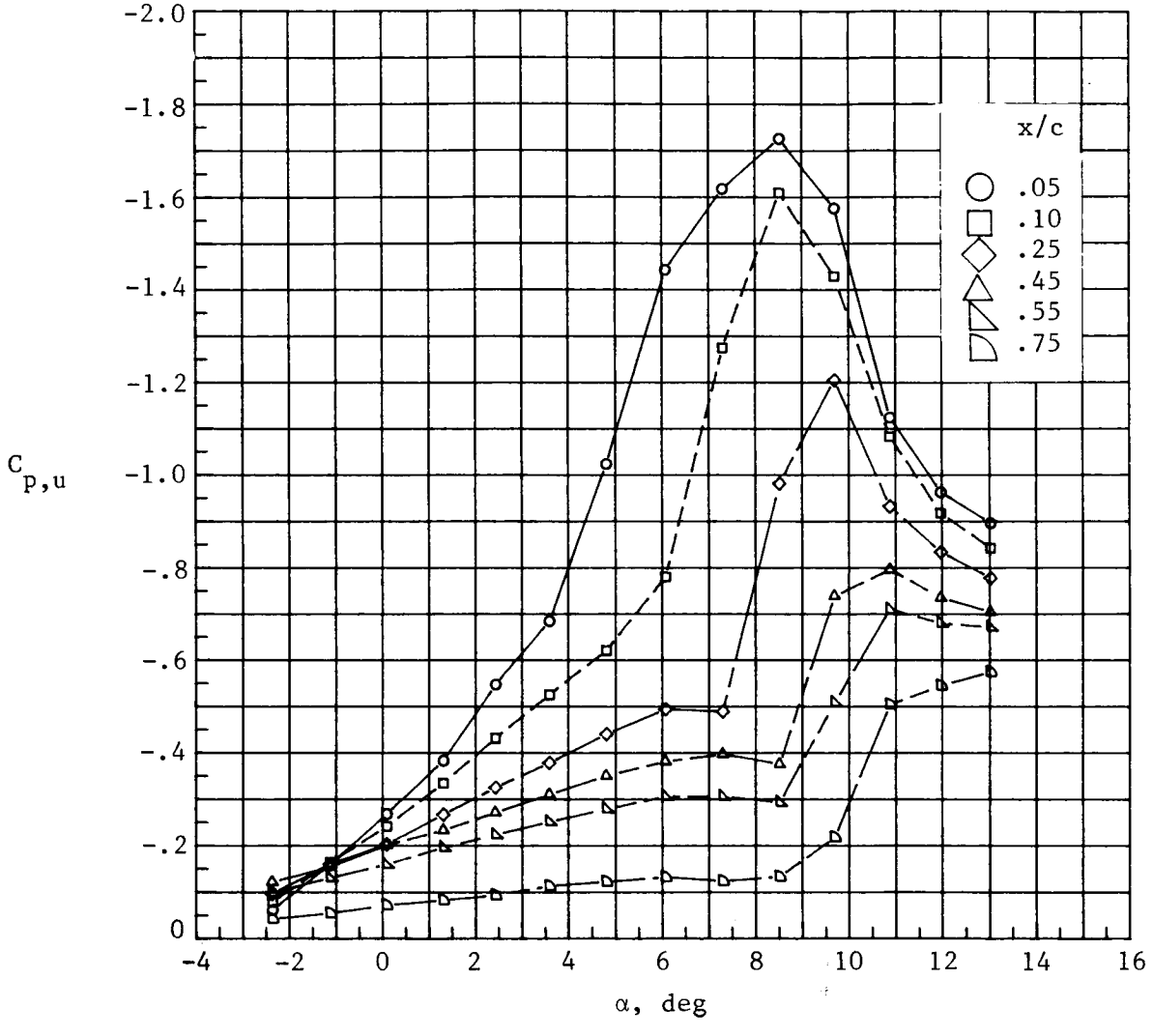
(d) $\alpha = 10.03°$.

Figure 5. Concluded.



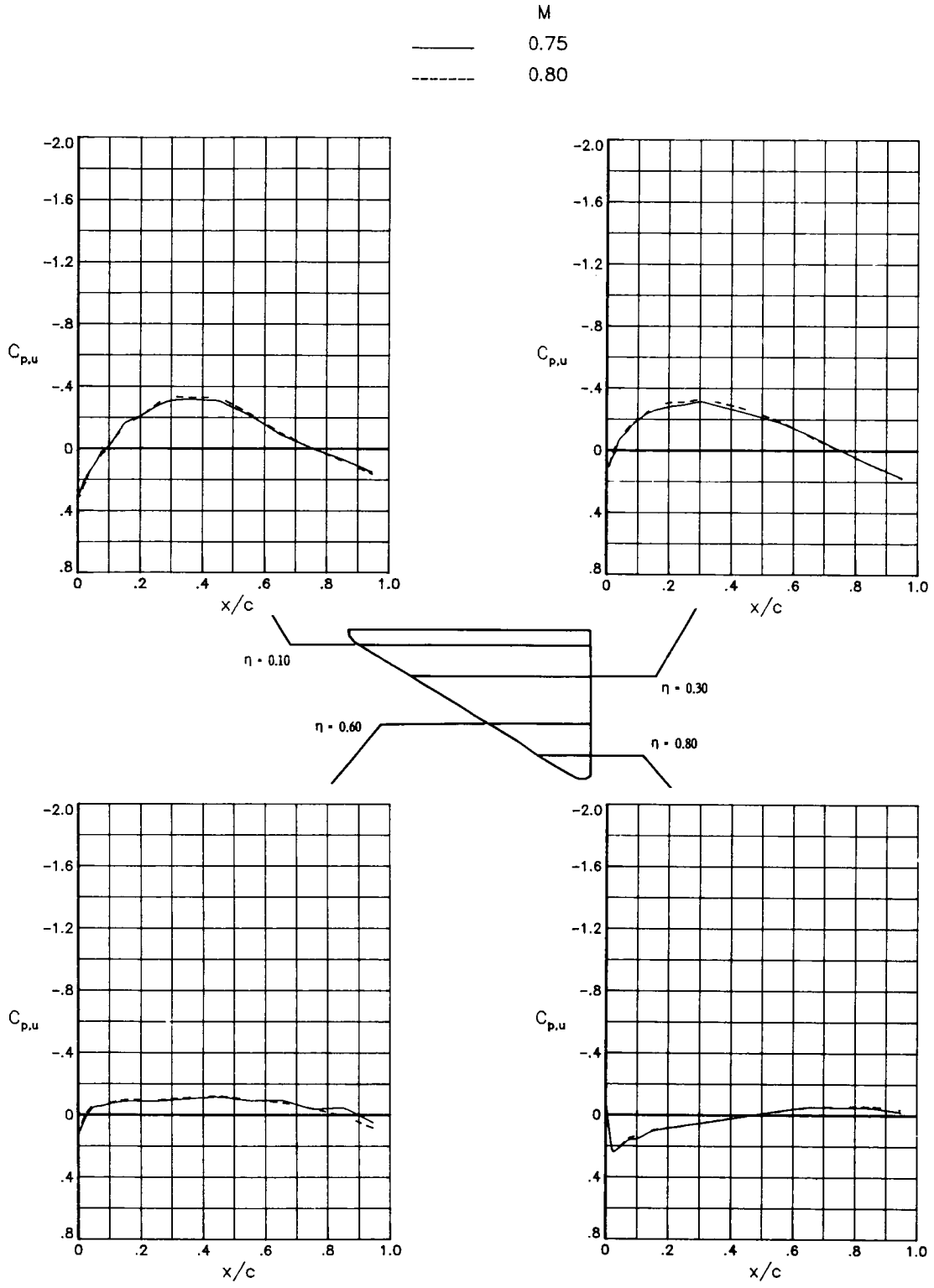
(a) Typical variation.

Figure 6. Variation with angle of attack of wing upper surface pressure coefficient at single pressure port.



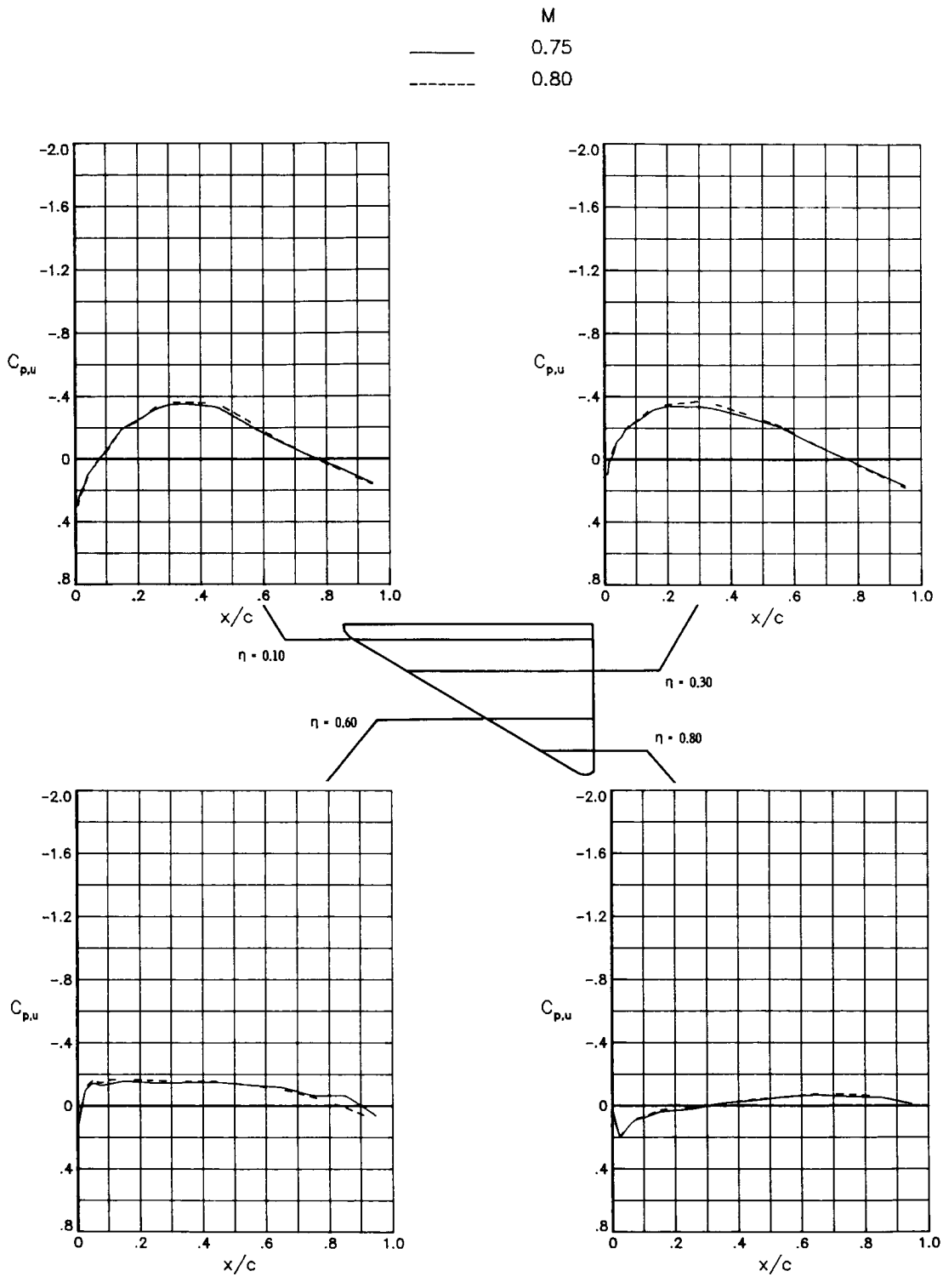
(b) Wing alone; $M = 0.80$; $\eta = 0.60$.

Figure 6. Concluded.



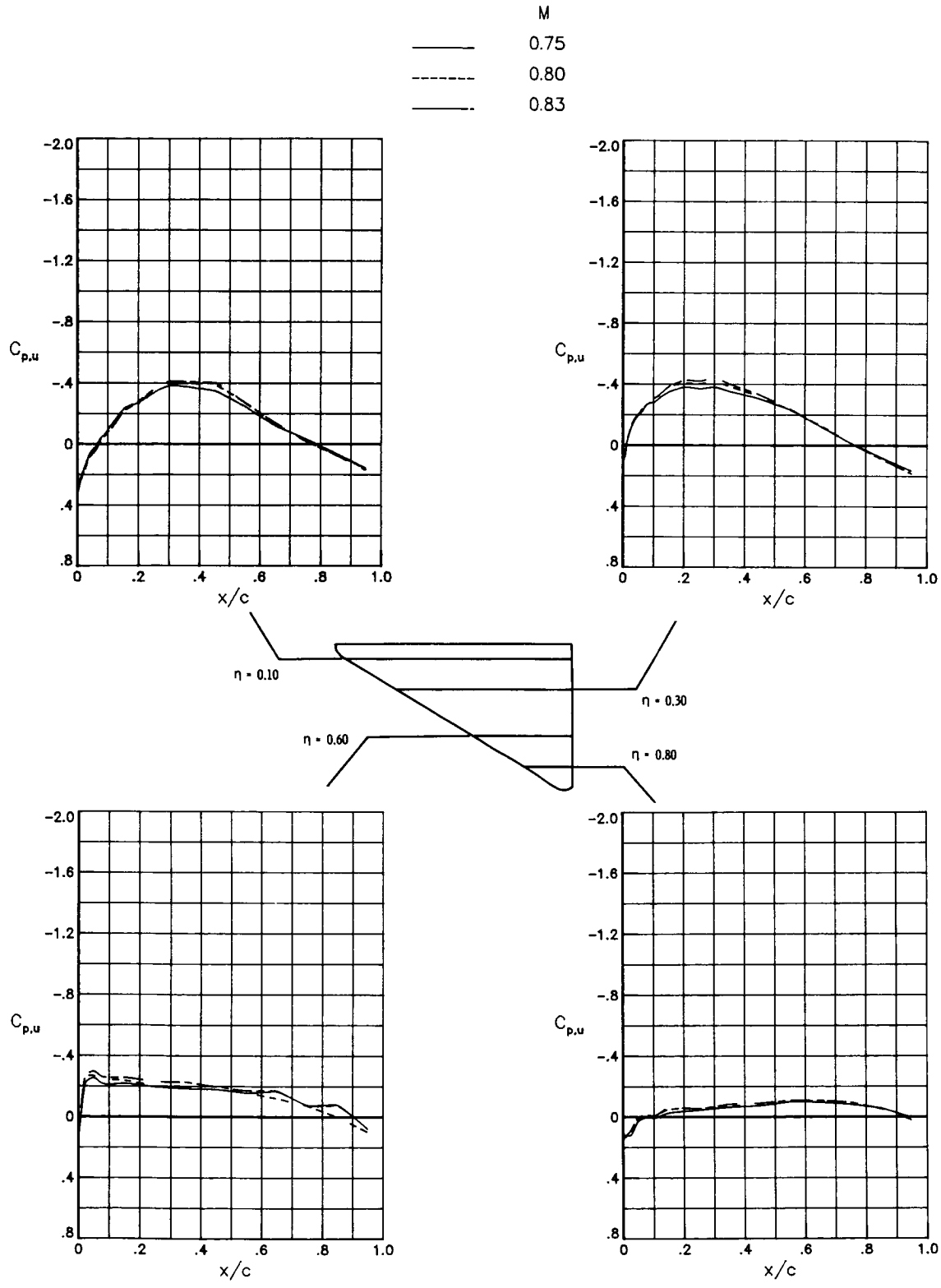
(a) $\alpha_{\text{nom}} = -2.3°$.

Figure 7. Effect of Mach number on upper surface pressure distribution for wing alone.



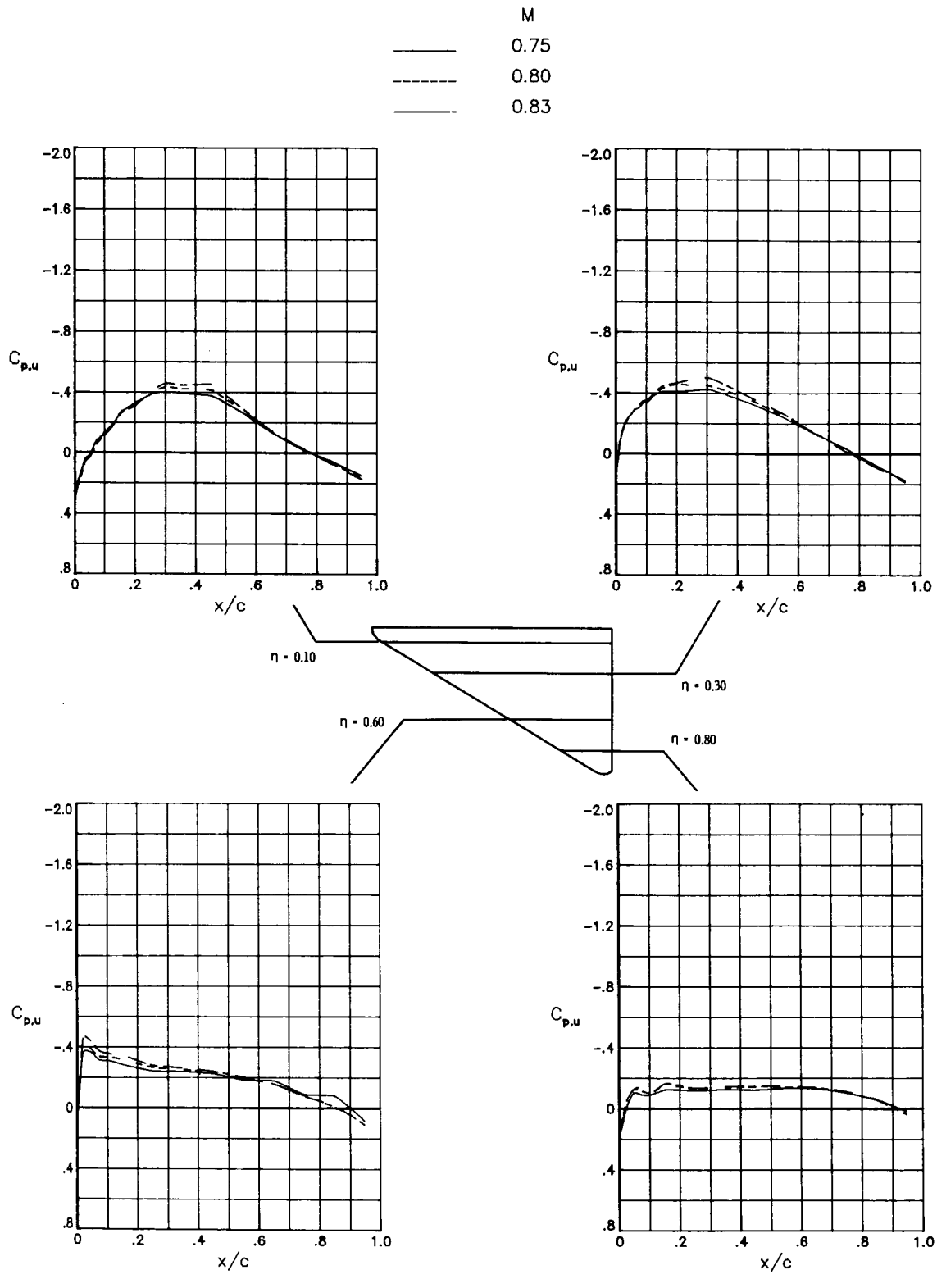
(b) $\alpha_{\text{nom}} = -1.1°$.

Figure 7. Continued.



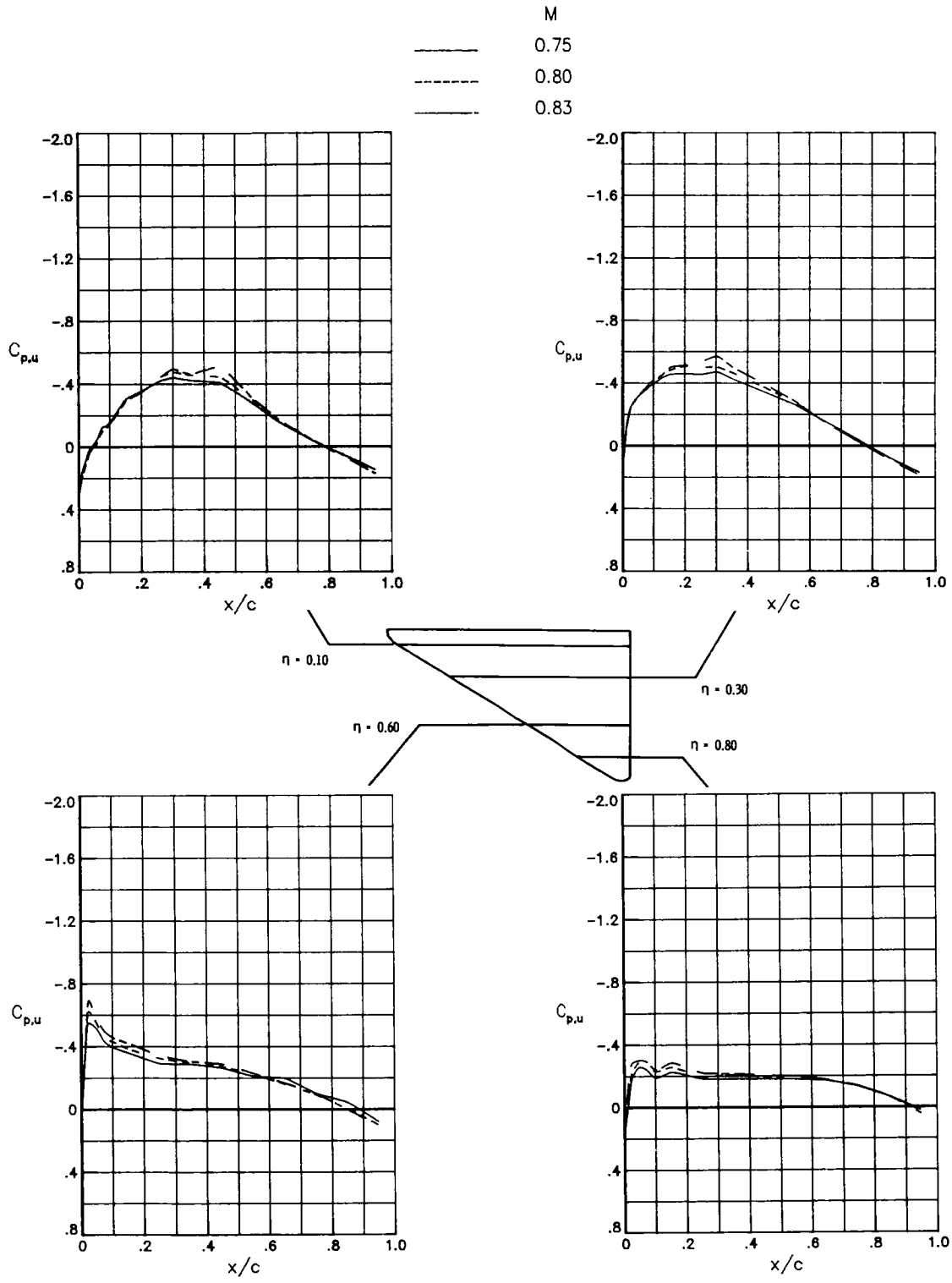
(c) $\alpha_{\text{nom}} = 0.0°$.

Figure 7. Continued.



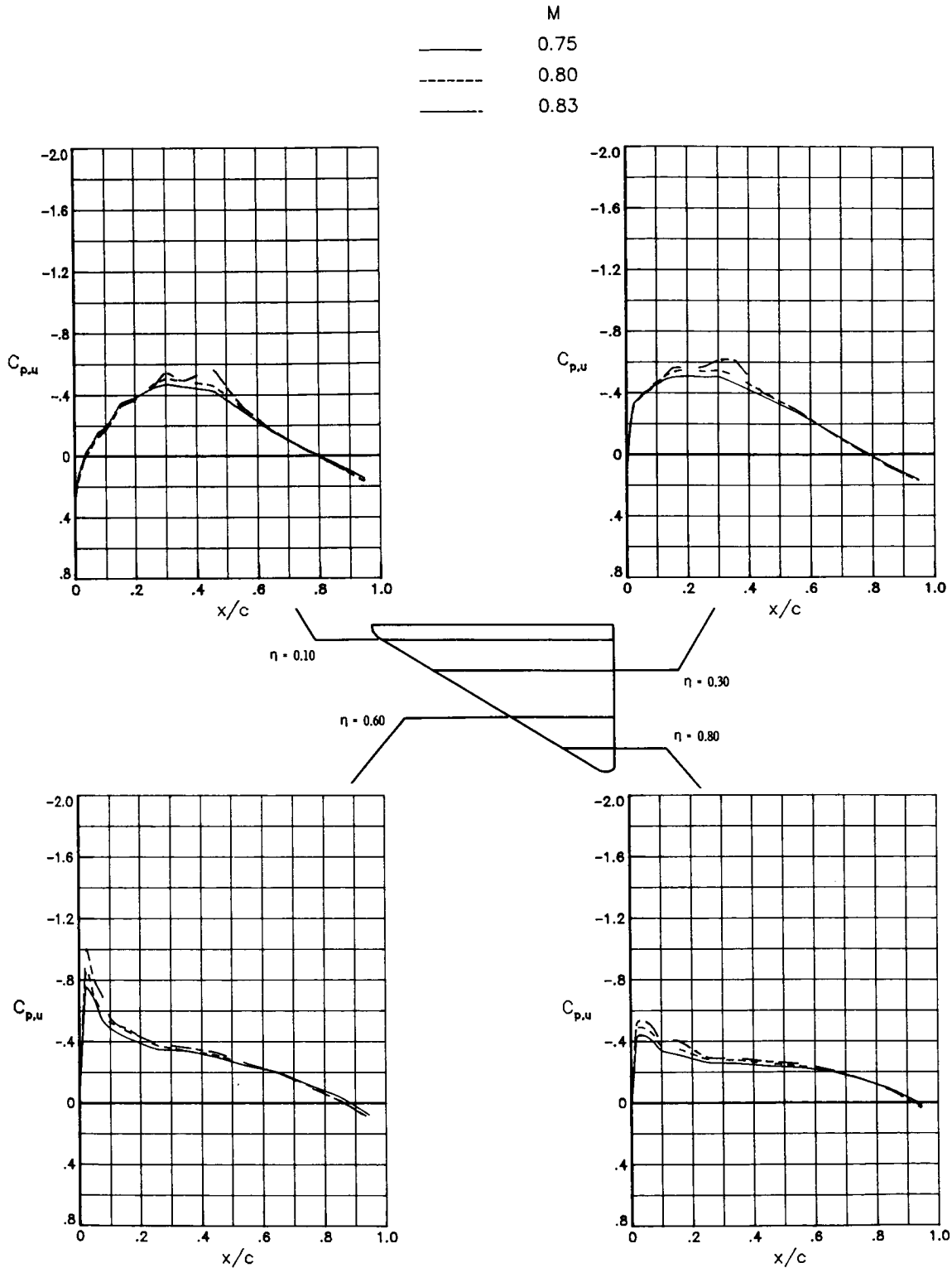
(d) $\alpha_{\text{nom}} = 1.3°$.

Figure 7. Continued.



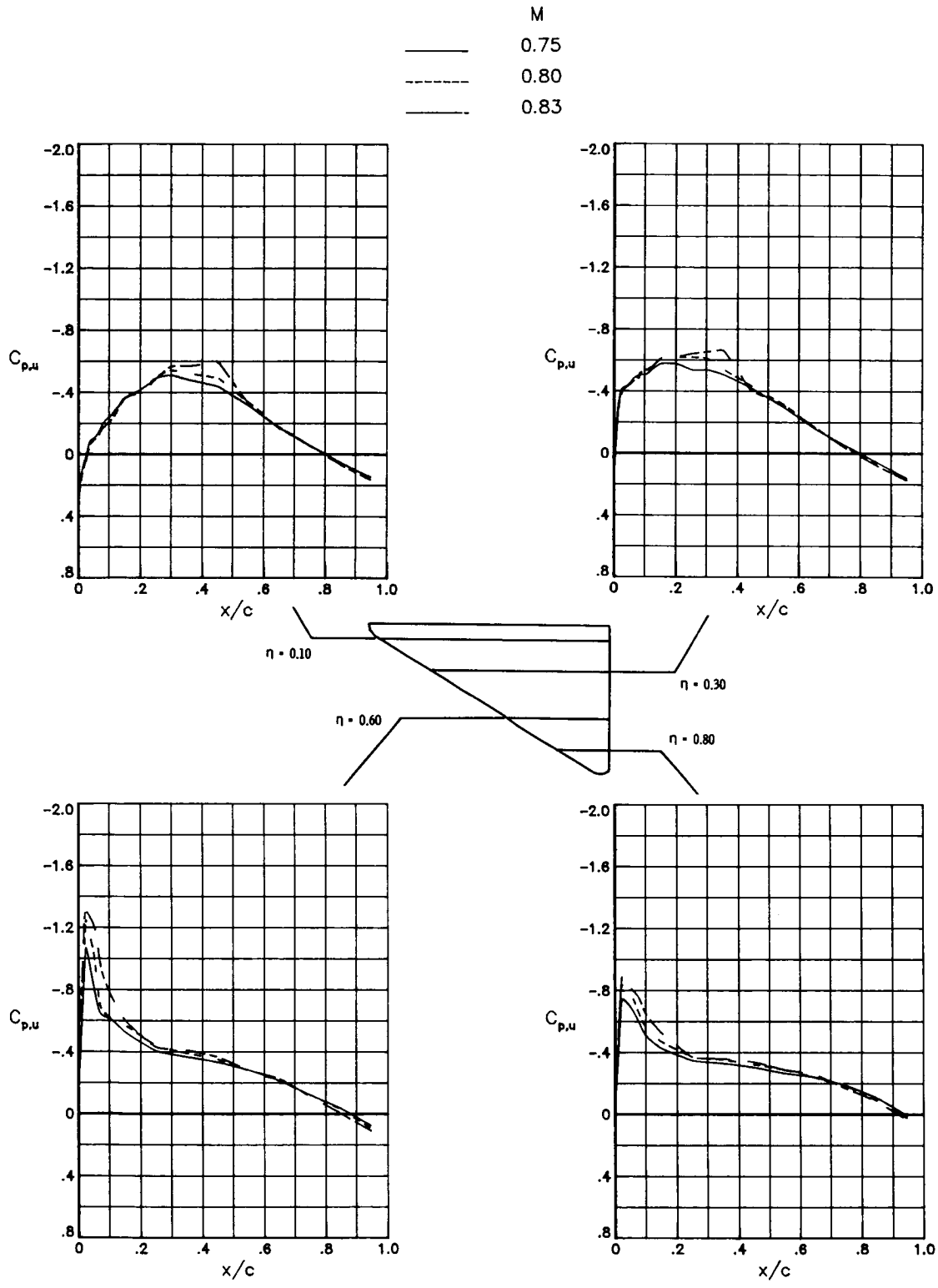
(e) $\alpha_{\text{nom}} = 2.4°$.

Figure 7. Continued.



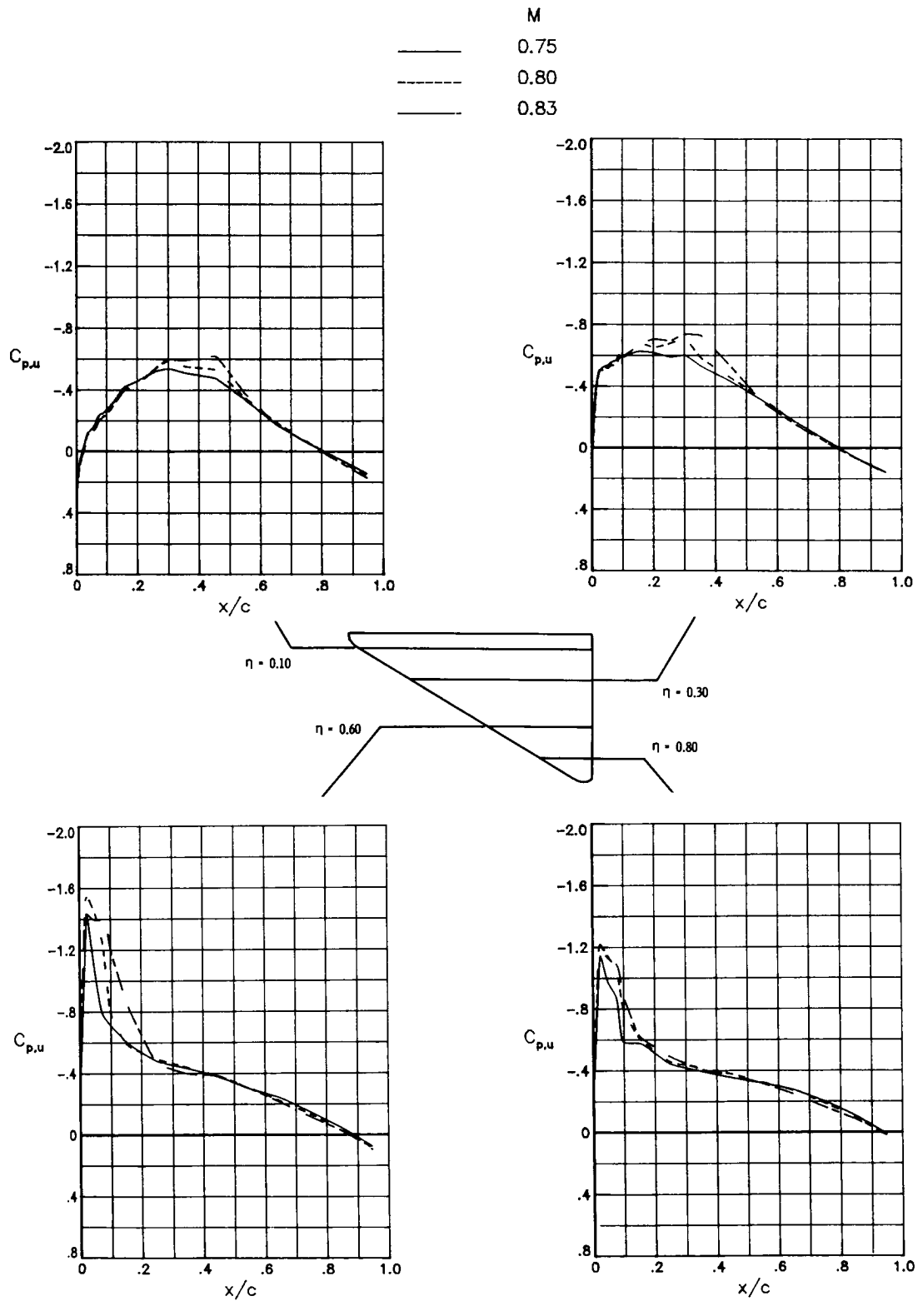
(f) $\alpha_{\text{nom}} = 3.5°$.

Figure 7. Continued.



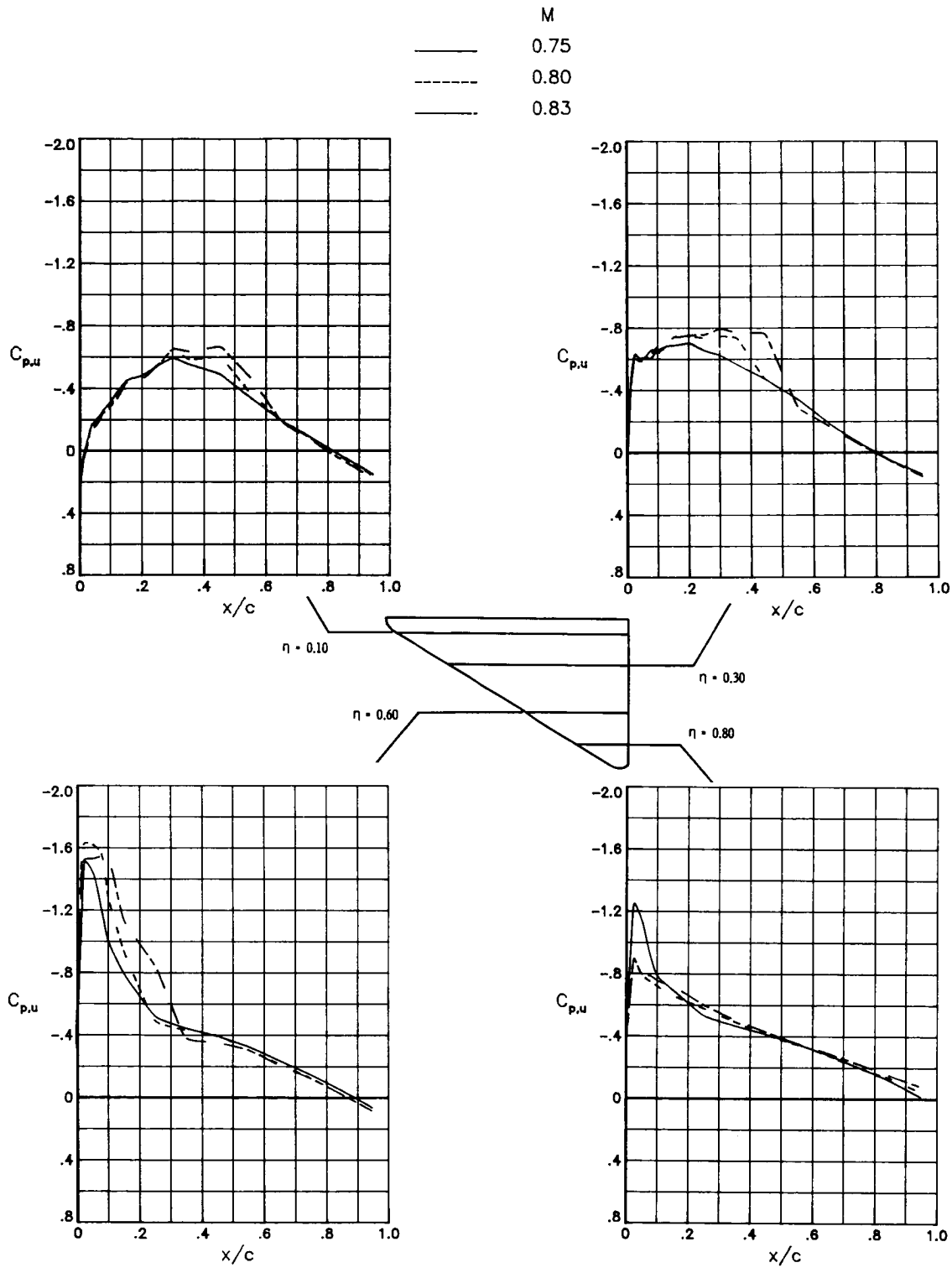
(g) $\alpha_{\text{nom}} = 4.7°$.

Figure 7. Continued.



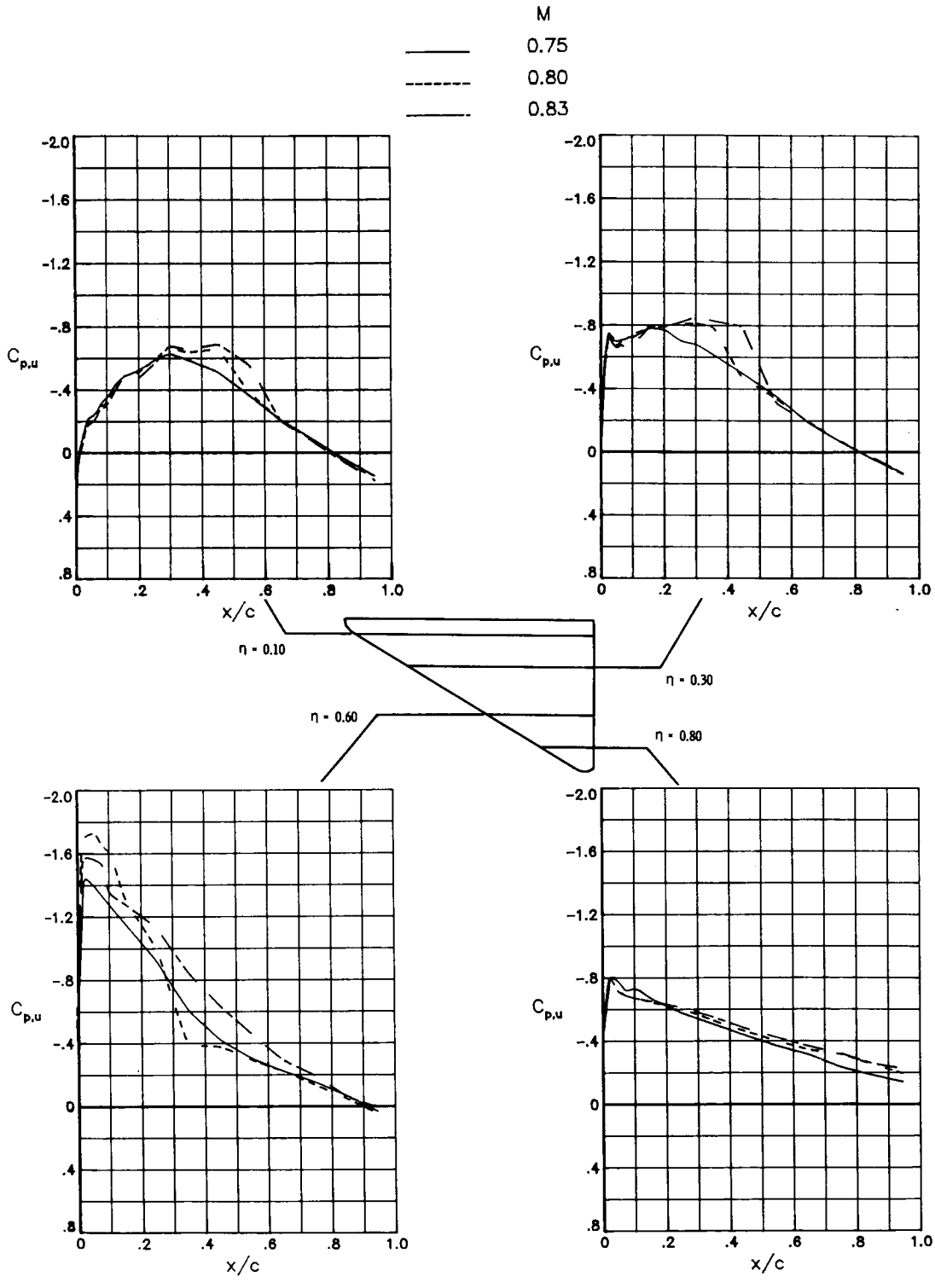
(h) $\alpha_{\text{nom}} = 6.0°$.

Figure 7. Continued.



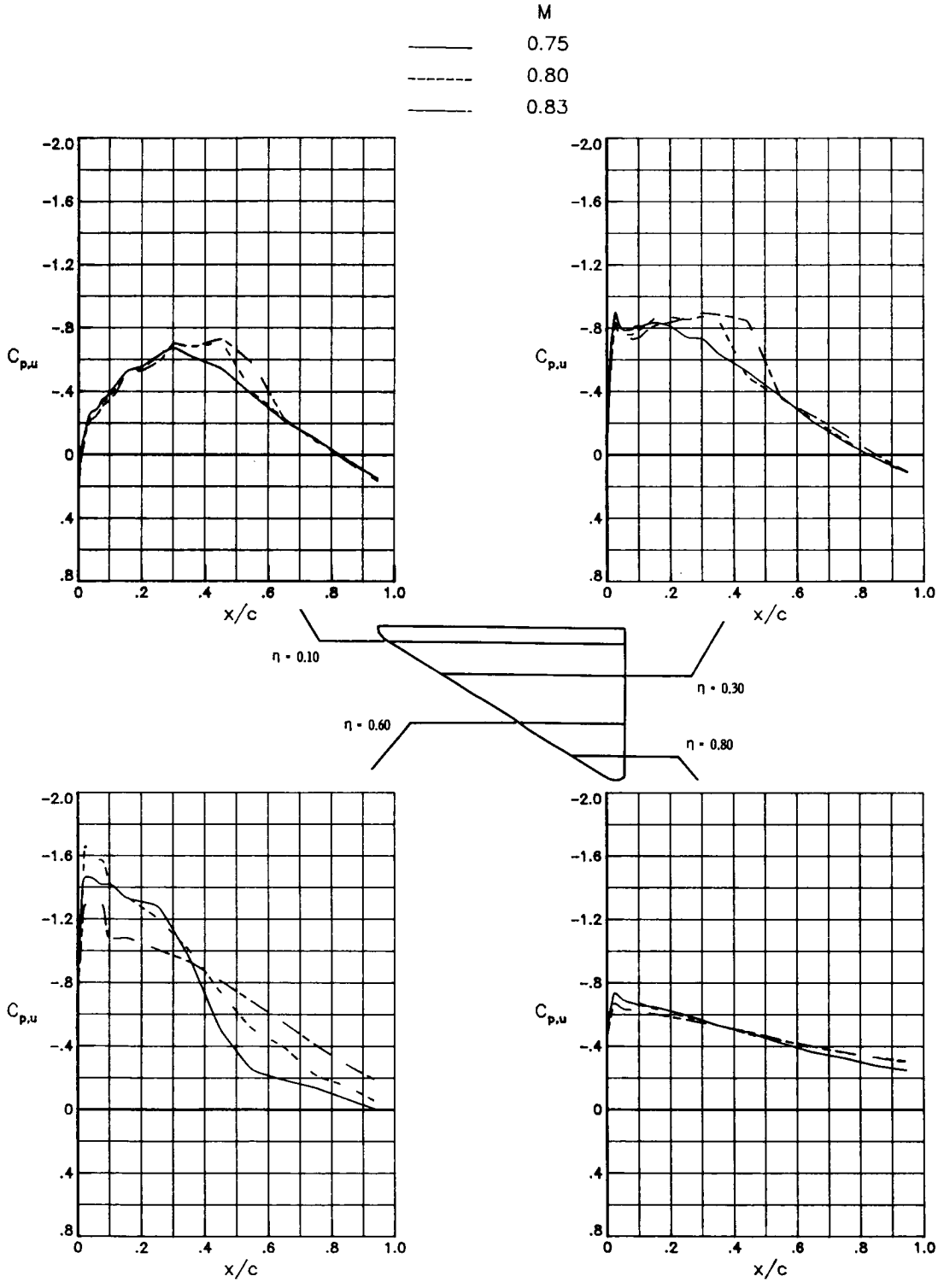
(i) $\alpha_{\text{nom}} = 7.2°$.

Figure 7. Continued.



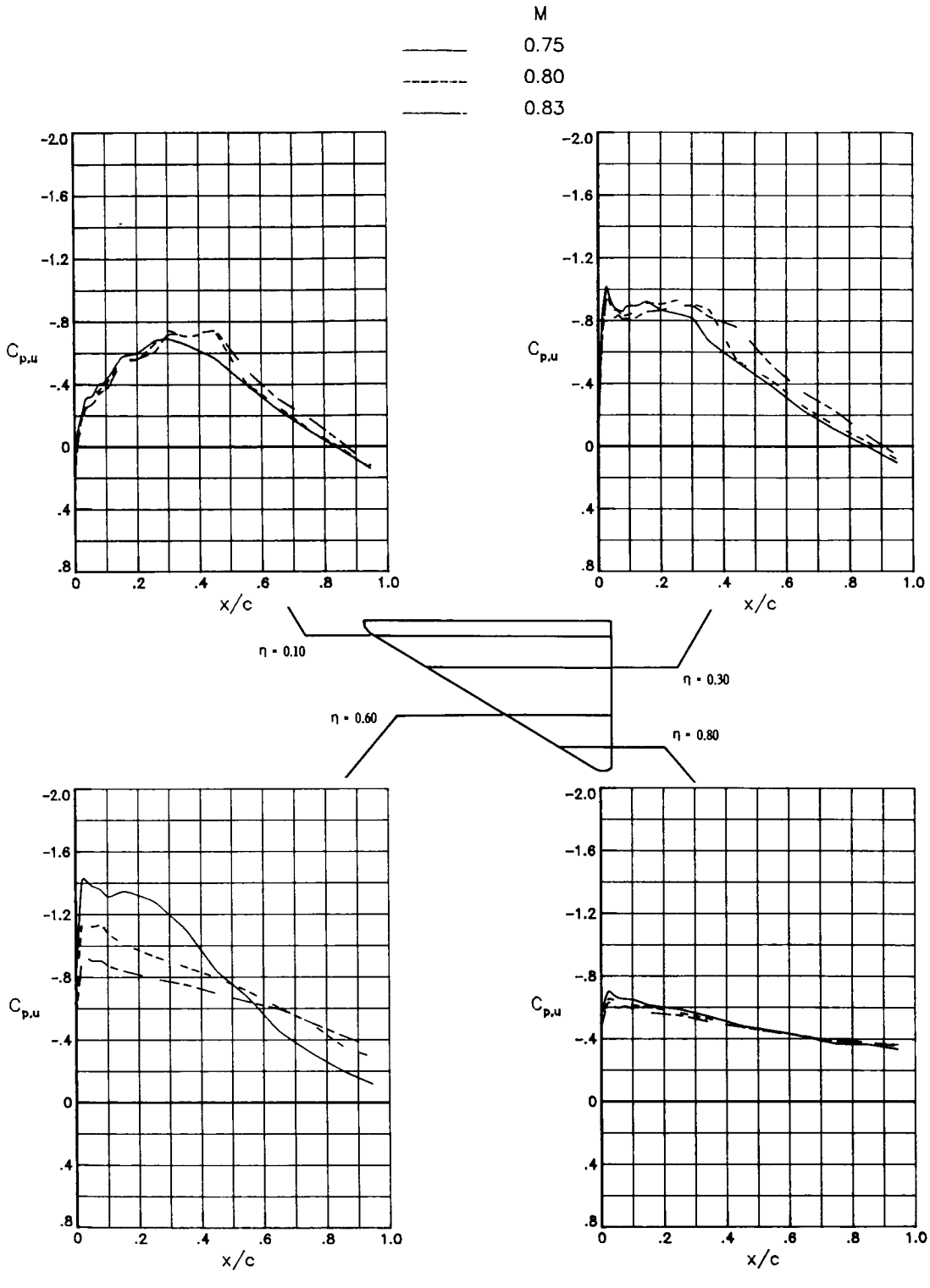
(j) $\alpha_{\text{nom}} = 8.4°$.

Figure 7. Continued.



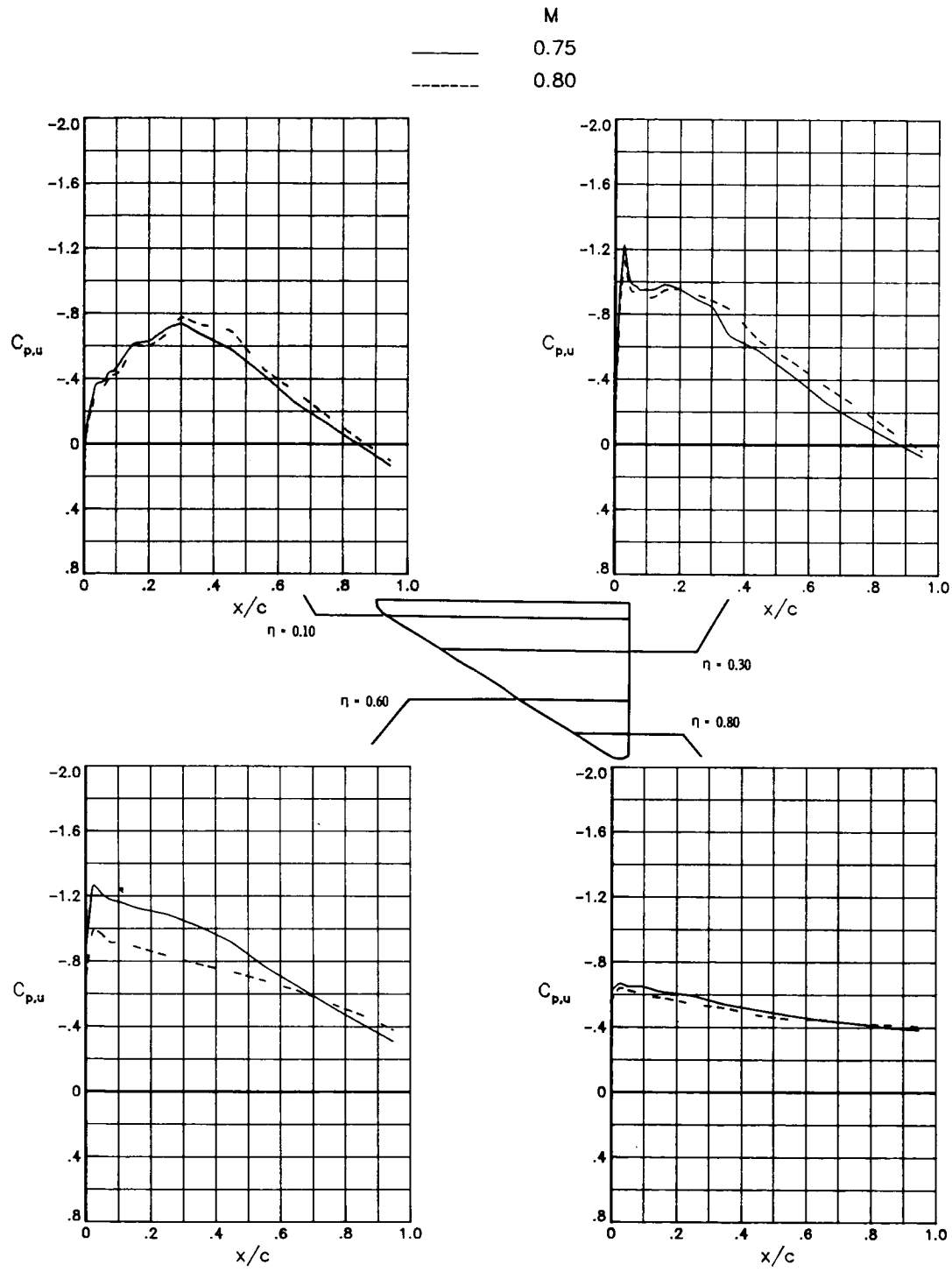
(k) $\alpha_{\text{nom}} = 9.6°$.

Figure 7. Continued.



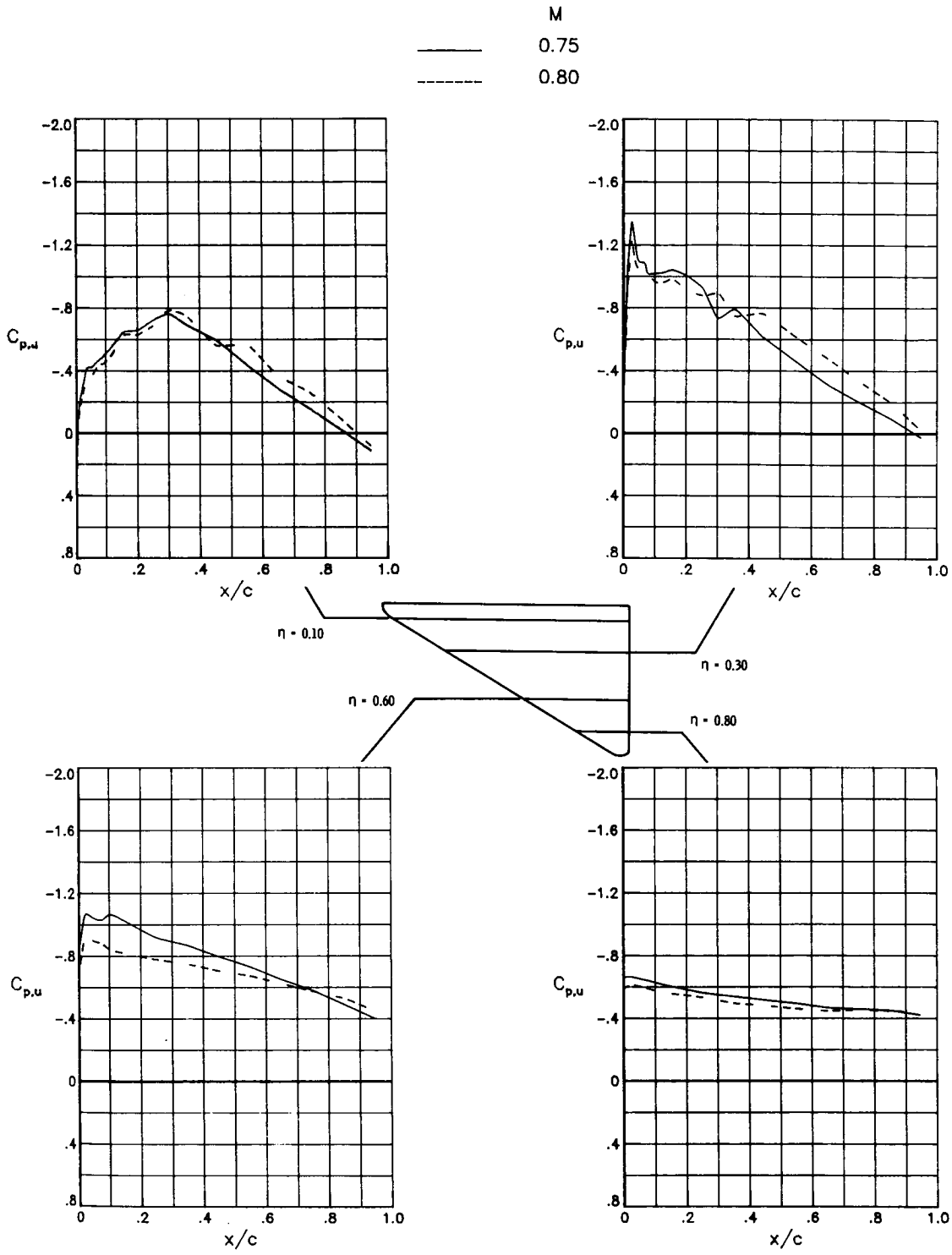
(l) $\alpha_{\text{nom}} = 10.7°$.

Figure 7. Continued.



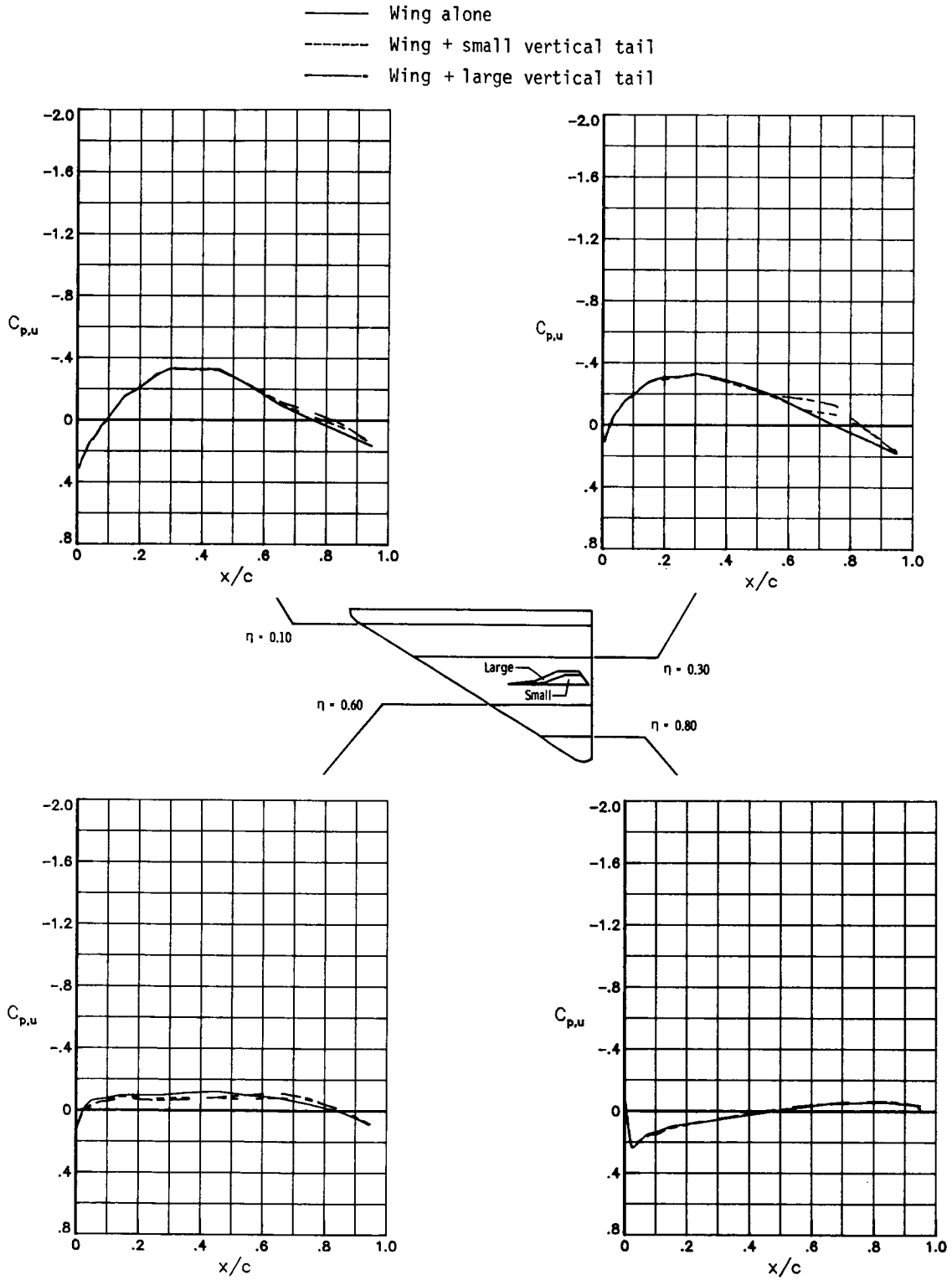
(m) $\alpha_{\text{nom}} = 11.9°$.

Figure 7. Continued.



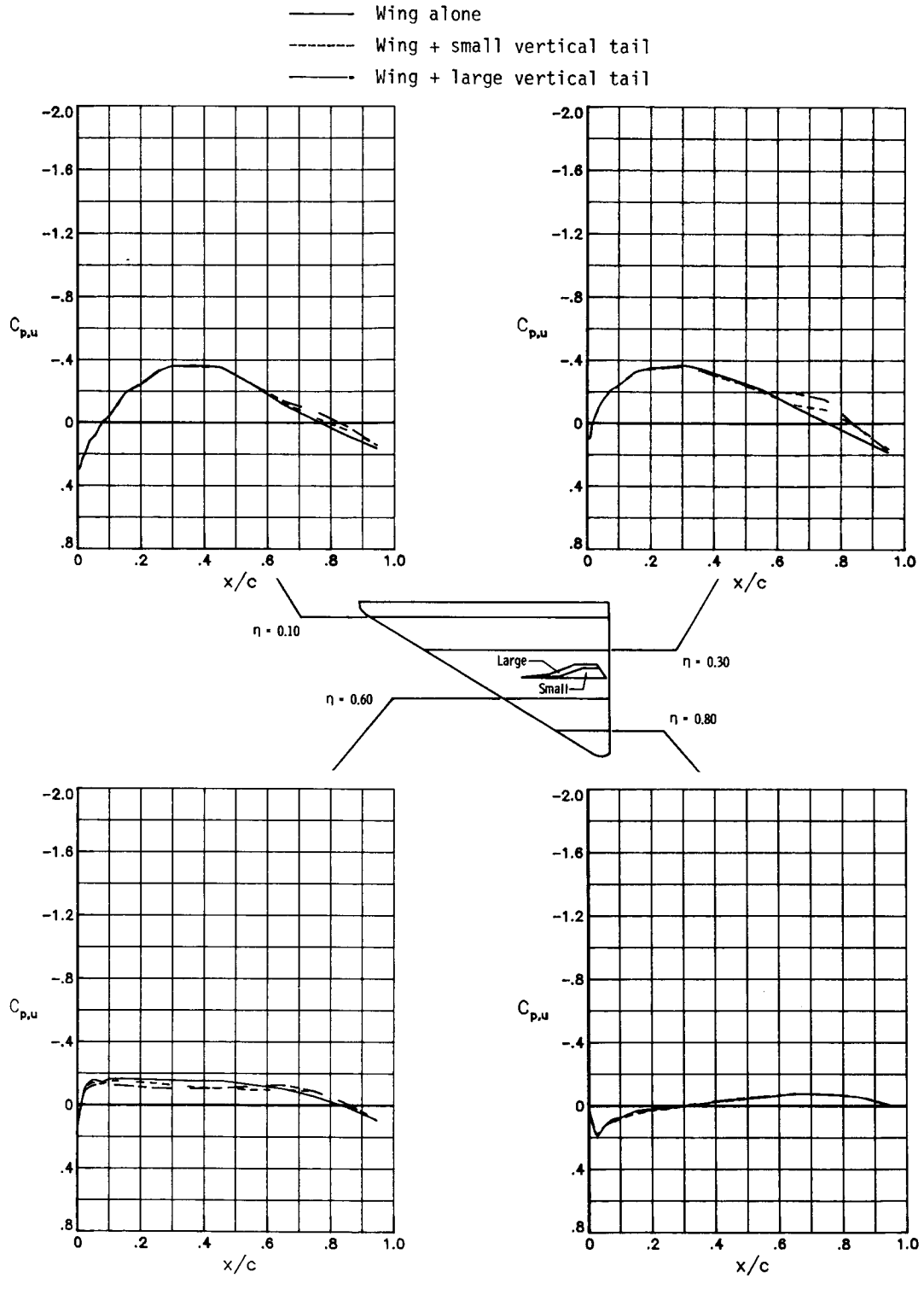
(n) $\alpha_{\text{nom}} = 13.0°$.

Figure 7. Concluded.



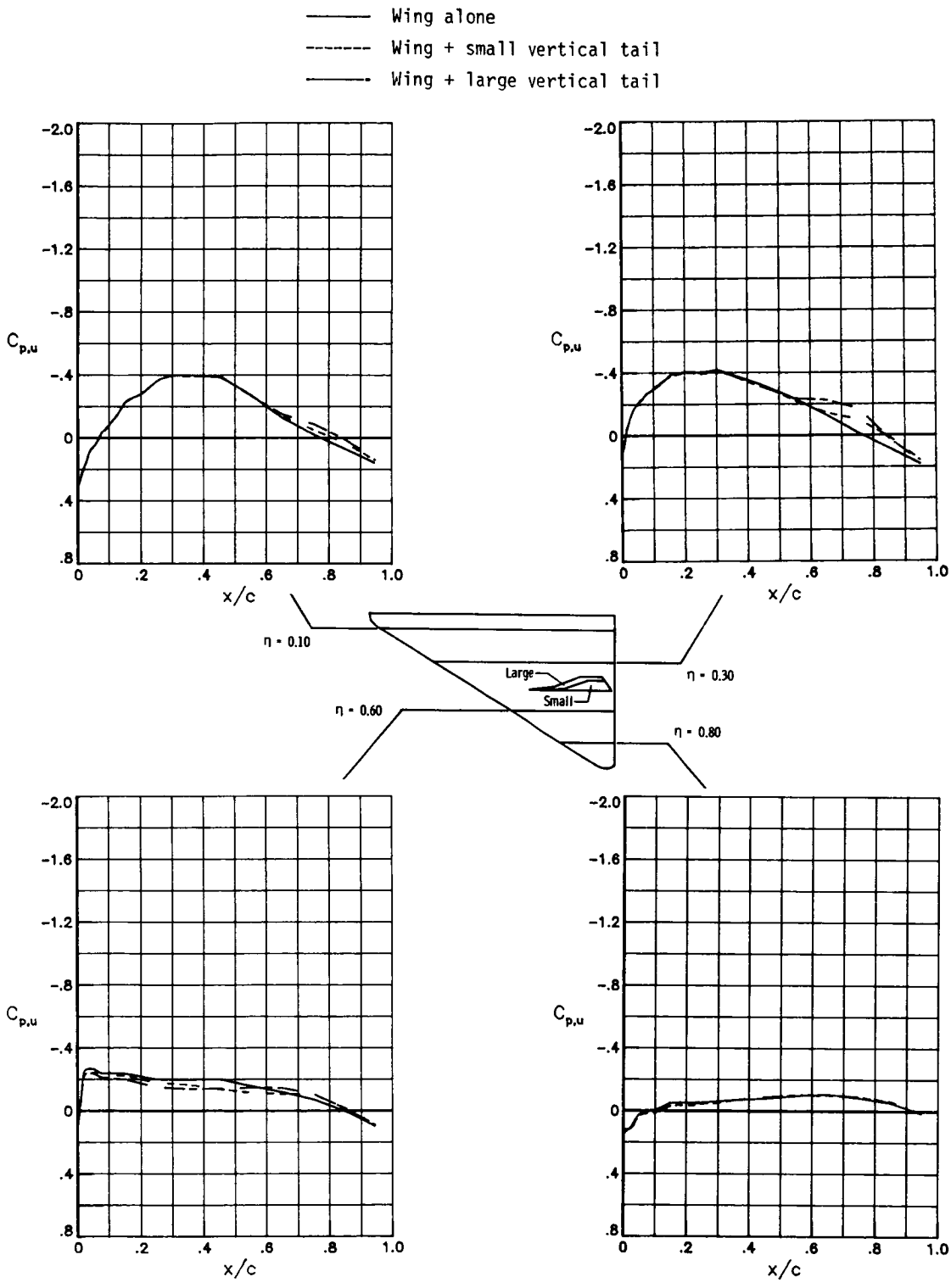
(a) $\alpha_{\text{nom}} = -2.3°$.

Figure 8. Effect of vertical tail size on wing upper surface pressure distribution at $M = 0.80$.



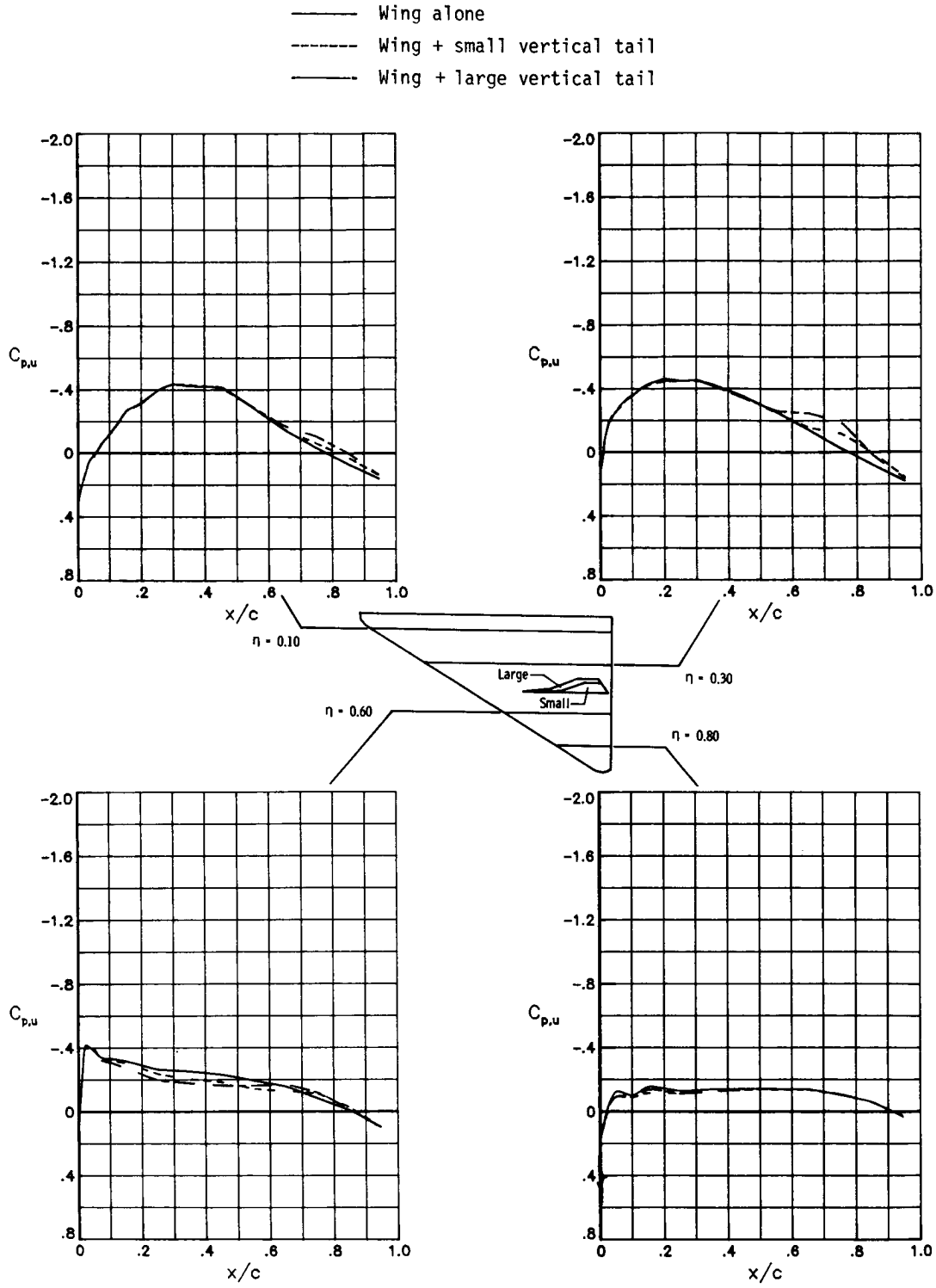
(b) $\alpha_{\text{nom}} = -1.1°$.

Figure 8. Continued.



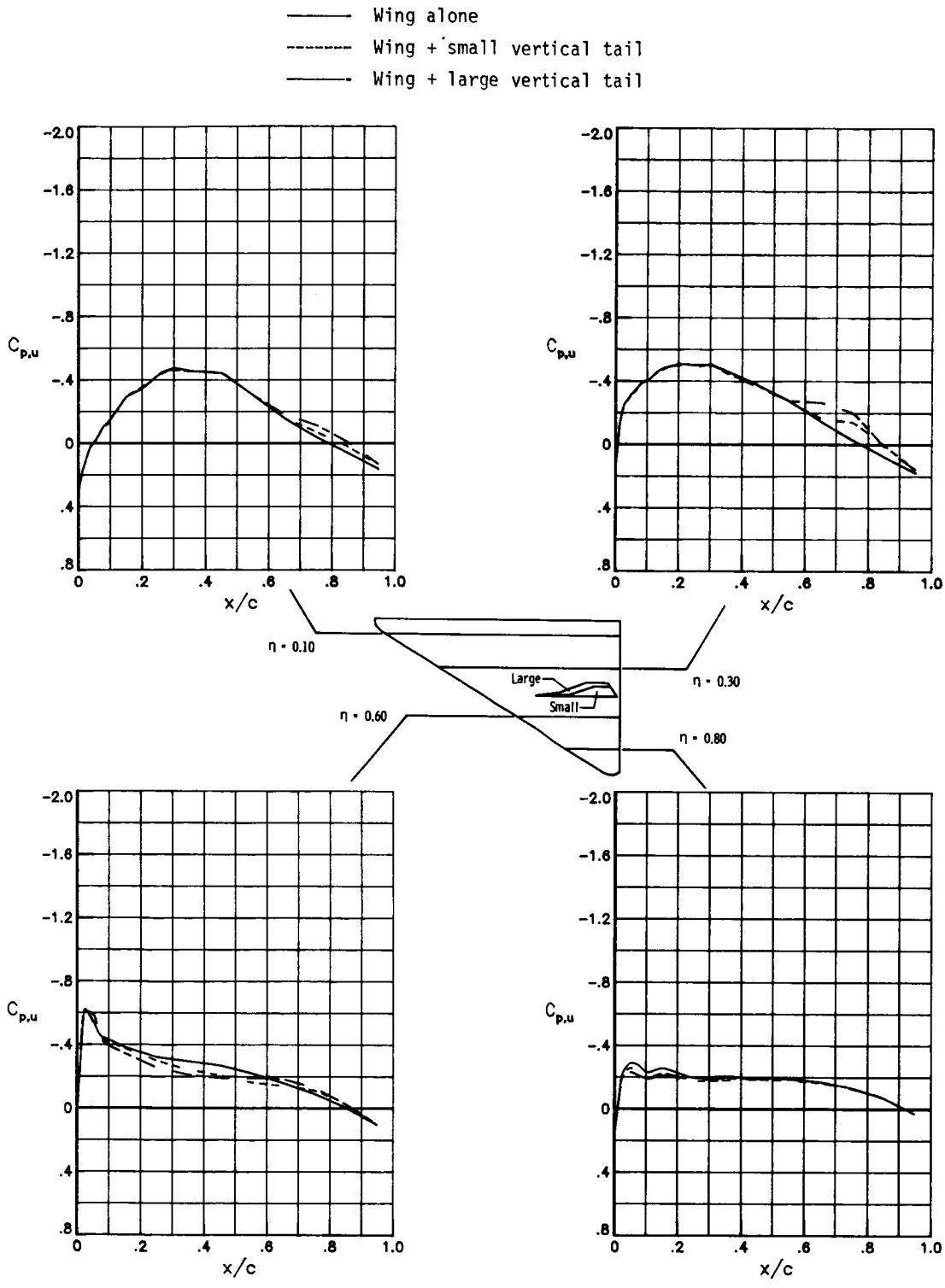
(c) $\alpha_{\text{nom}} = 0.0°$.

Figure 8. Continued.



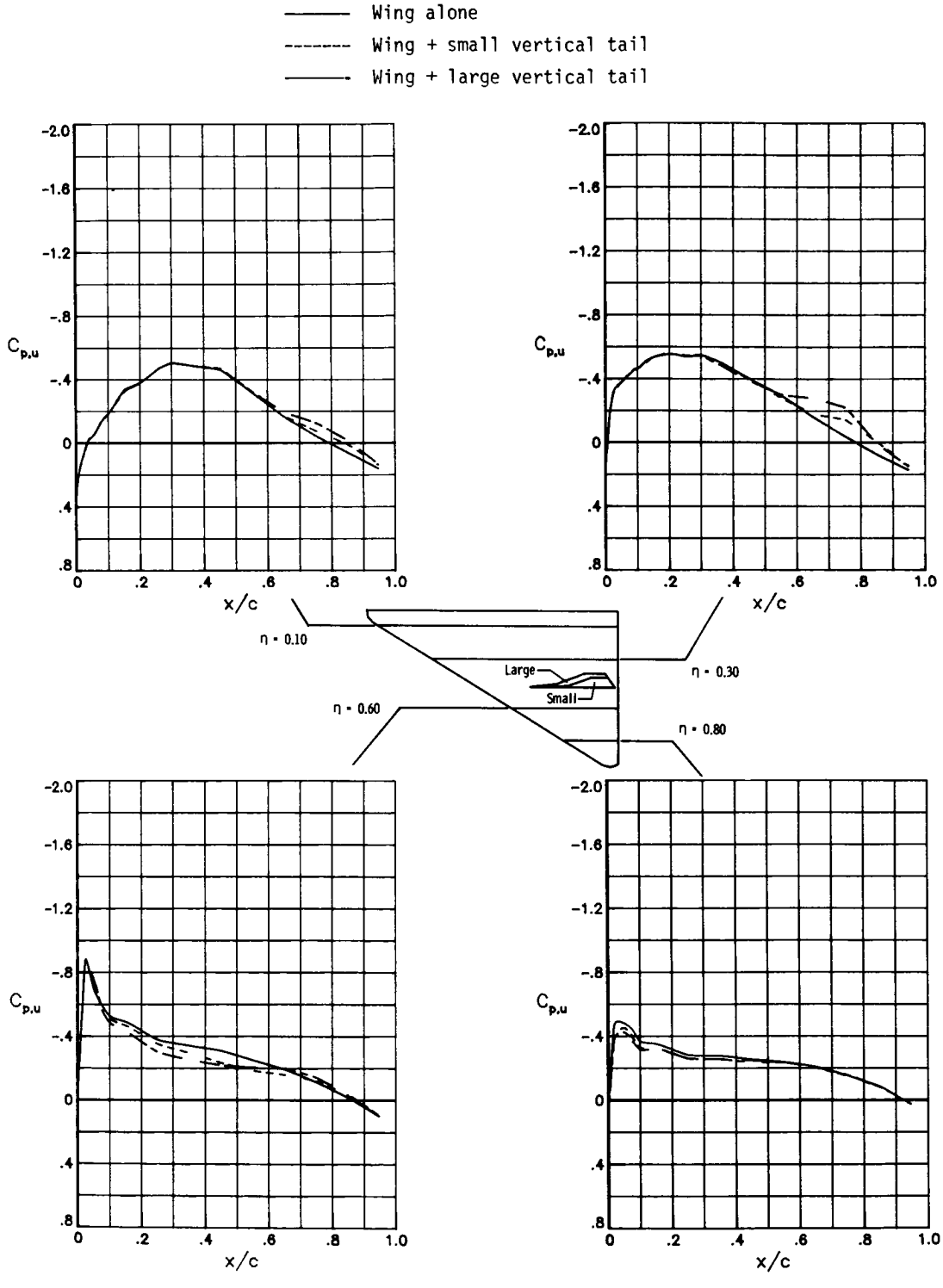
(d) $\alpha_{\text{nom}} = 1.3°$.

Figure 8. Continued.



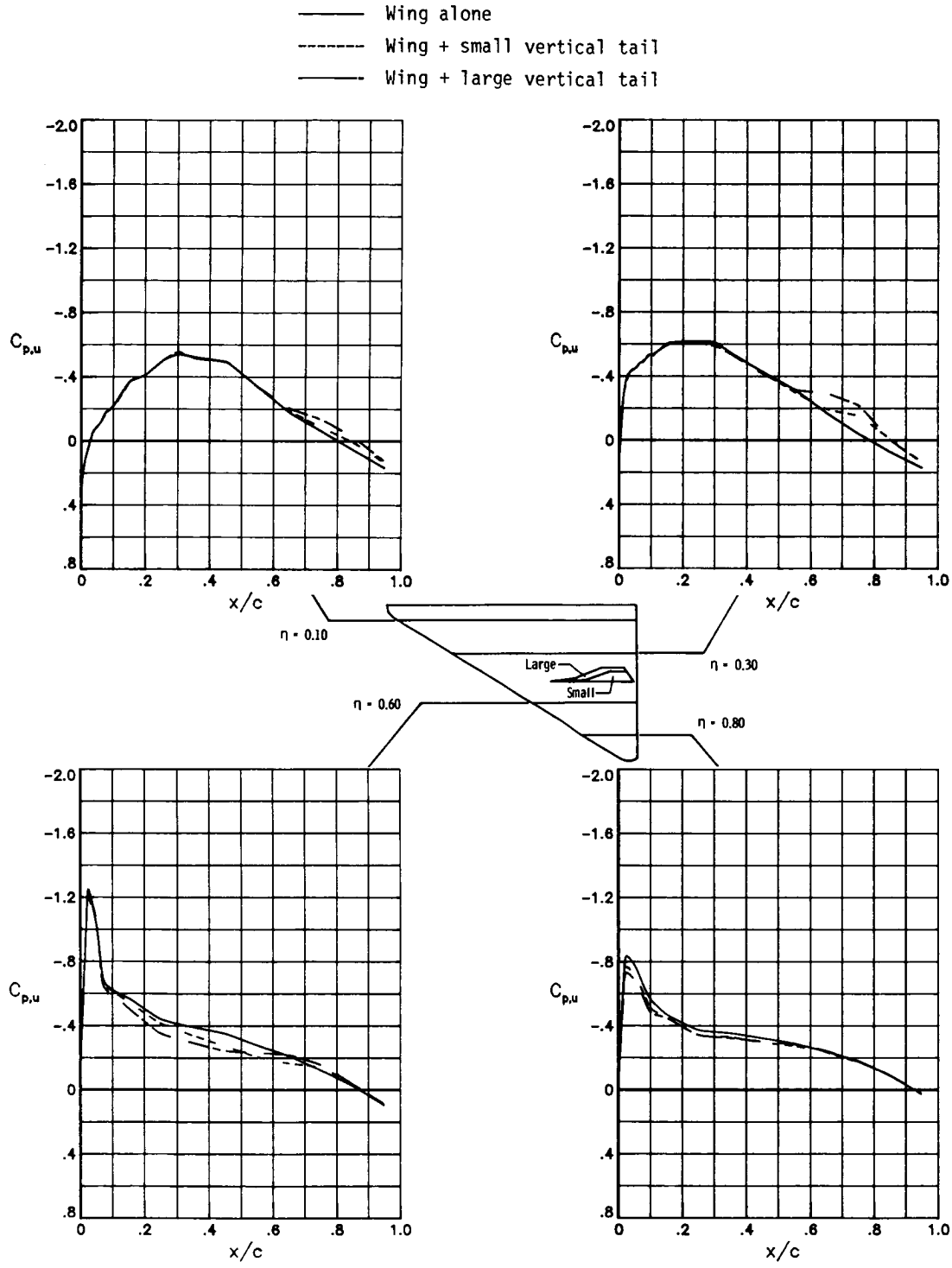
(e) $\alpha_{\text{nom}} = 2.4°$.

Figure 8. Continued.



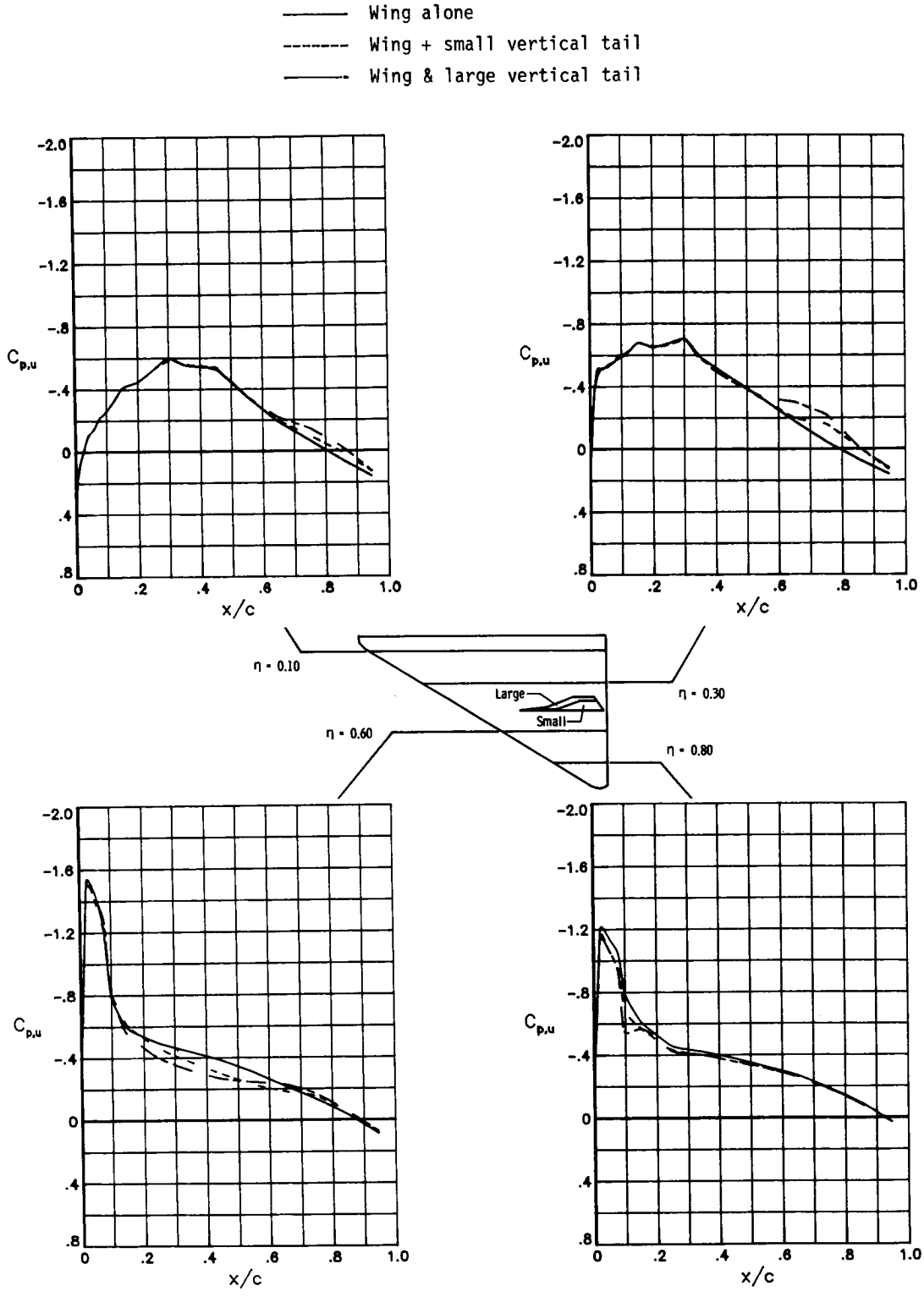
(f) $\alpha_{\text{nom}} = 3.5°$.

Figure 8. Continued.



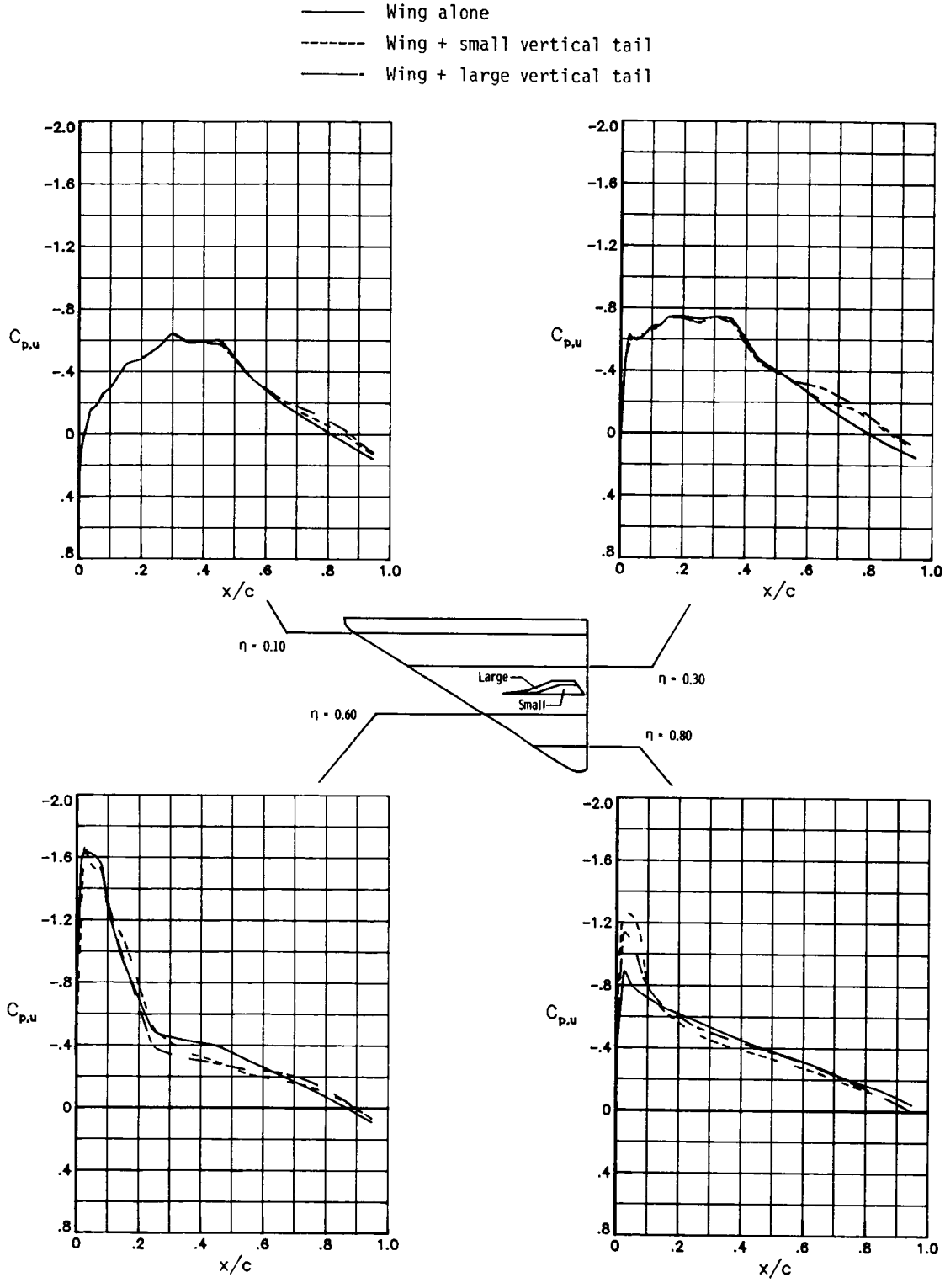
(g) $\alpha_{\text{nom}} = 4.7°$.

Figure 8. Continued.



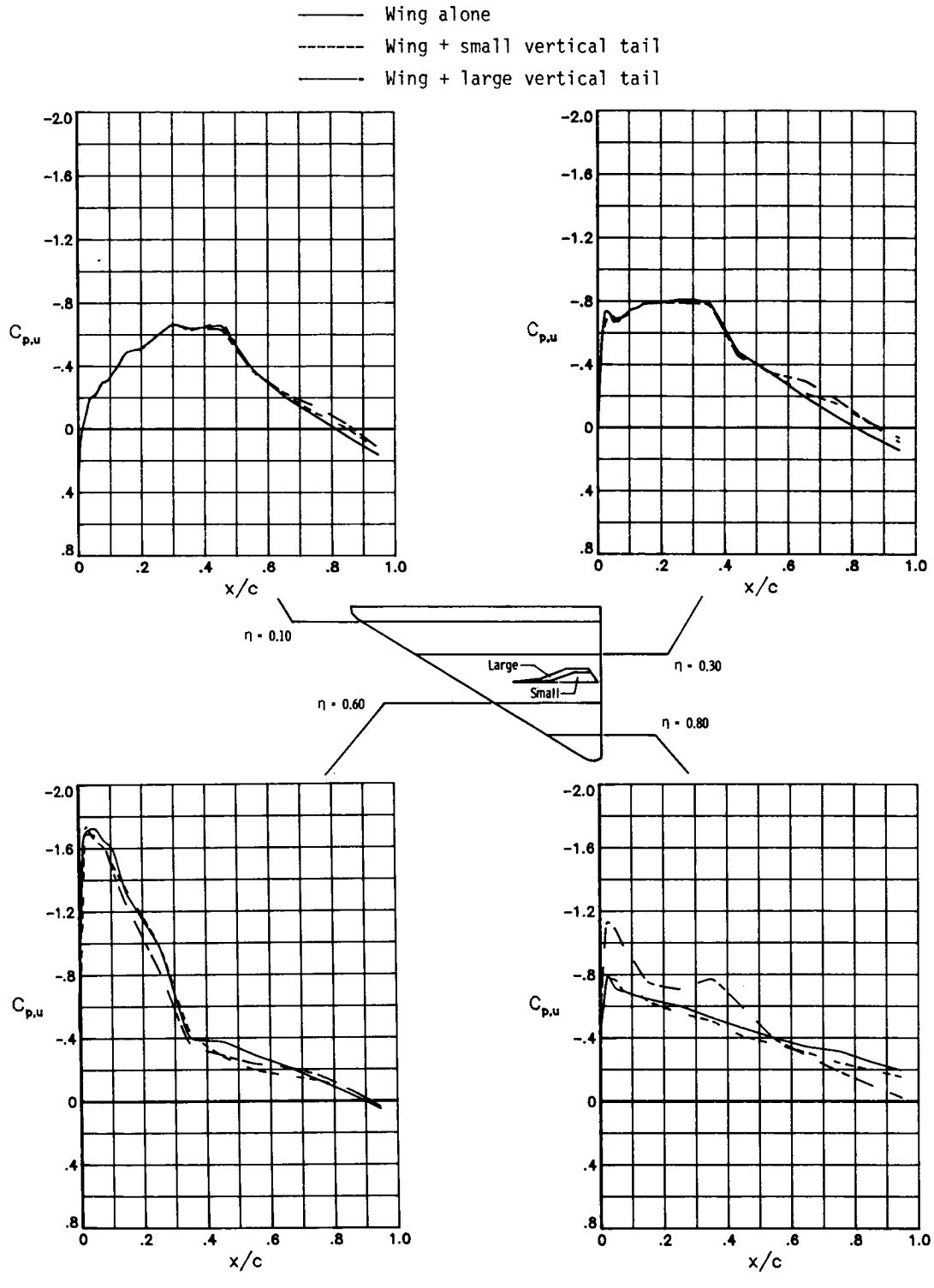
(h) $\alpha_{\text{nom}} = 6.0°$.

Figure 8. Continued.



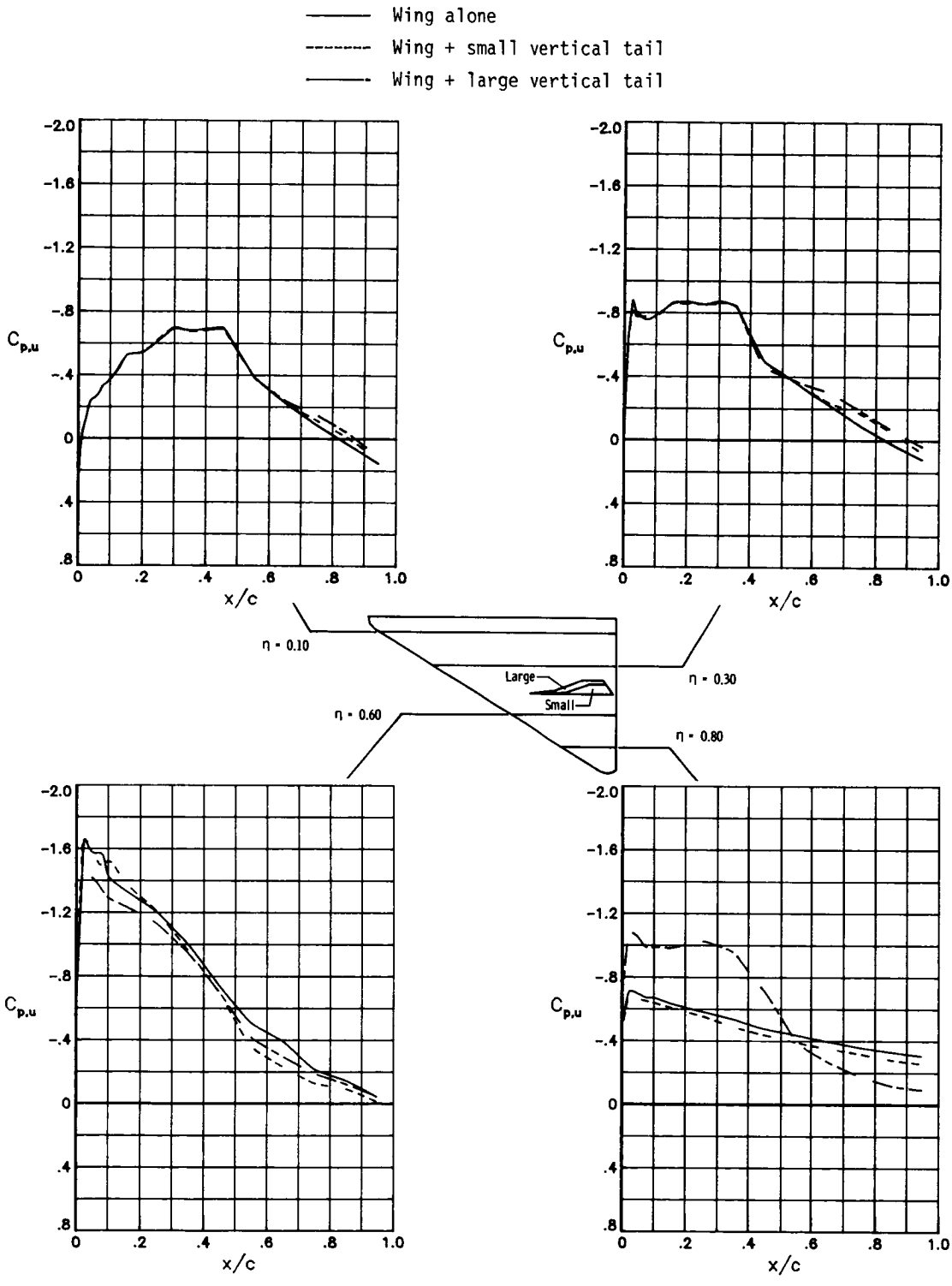
(i) $\alpha_{\text{nom}} = 7.2°$.

Figure 8. Continued.



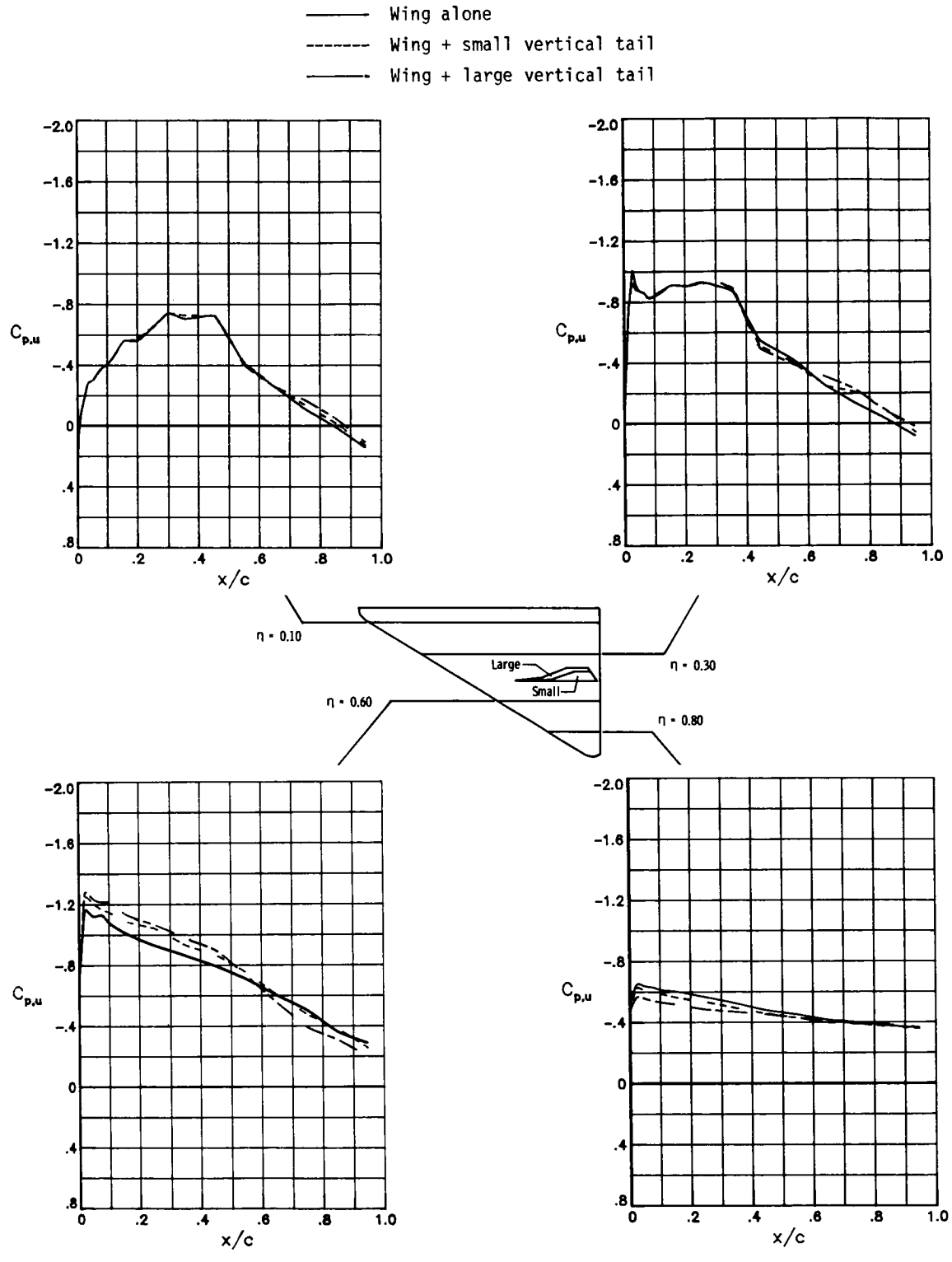
(j) $\alpha_{\text{nom}} = 8.4°$.

Figure 8. Continued.



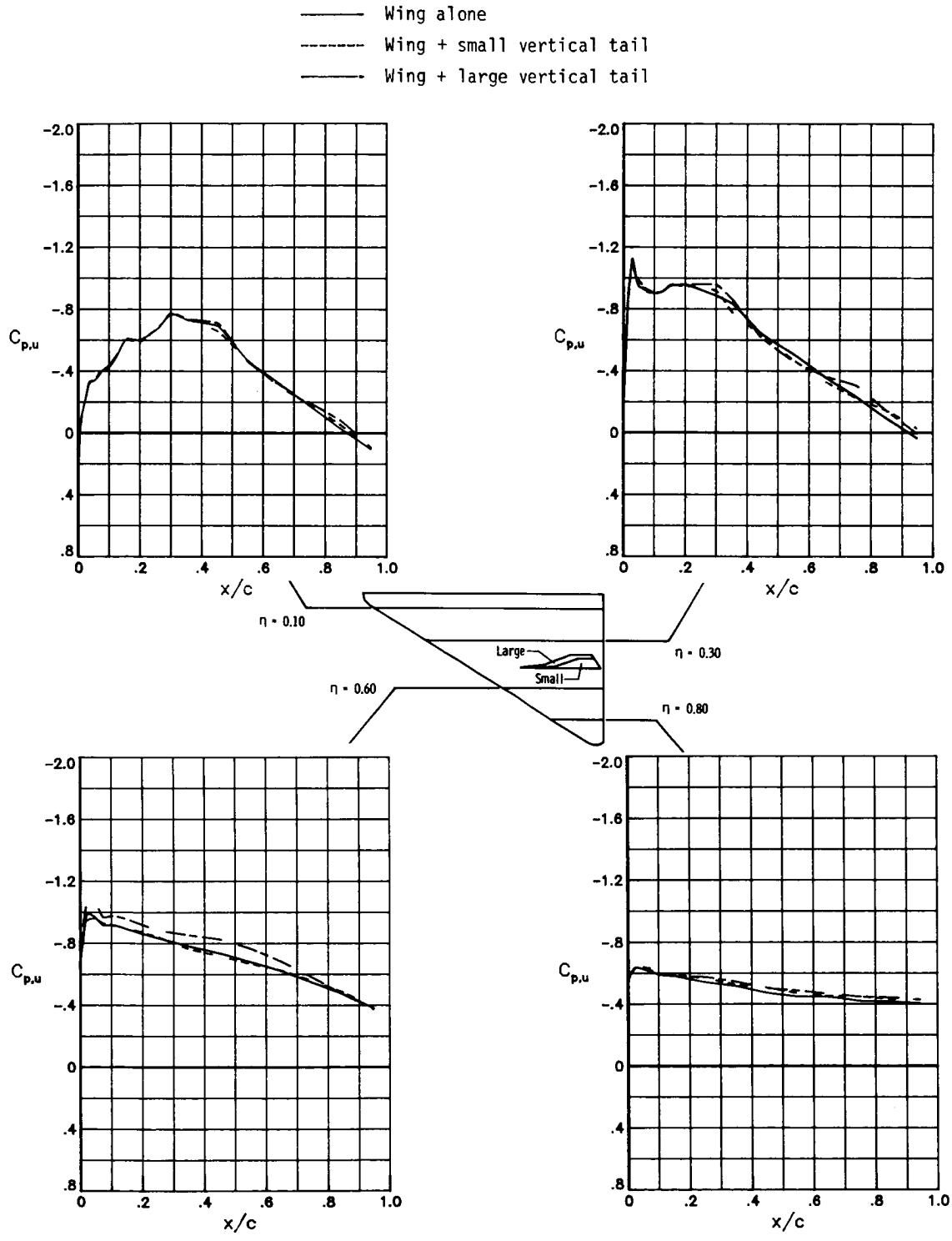
(k) $\alpha_{\text{nom}} = 9.6°$.

Figure 8. Continued.



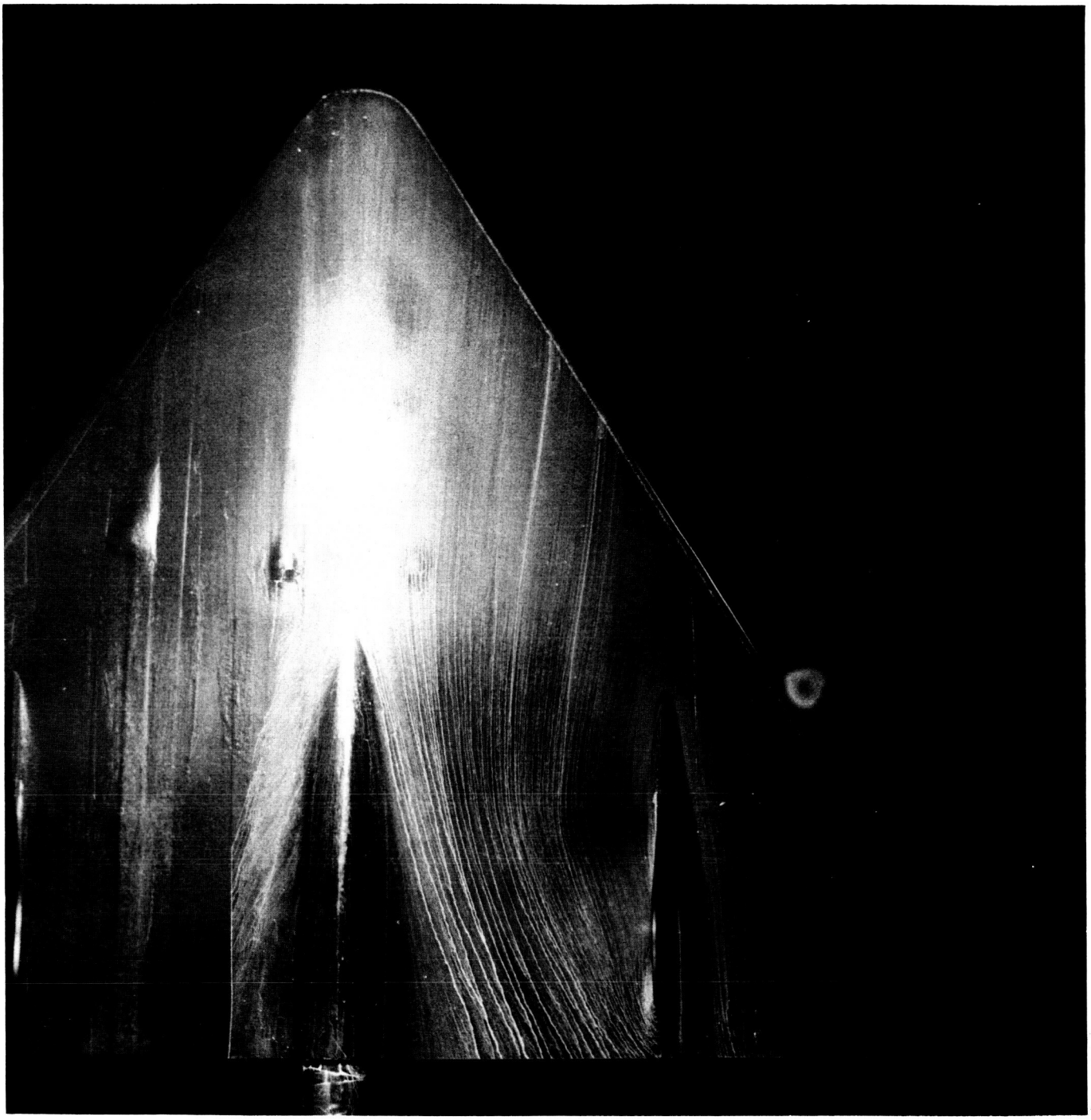
(l) $\alpha_{\text{nom}} = 10.7°$.

Figure 8. Continued.



(m) $\alpha_{\text{nom}} = 11.9°$.

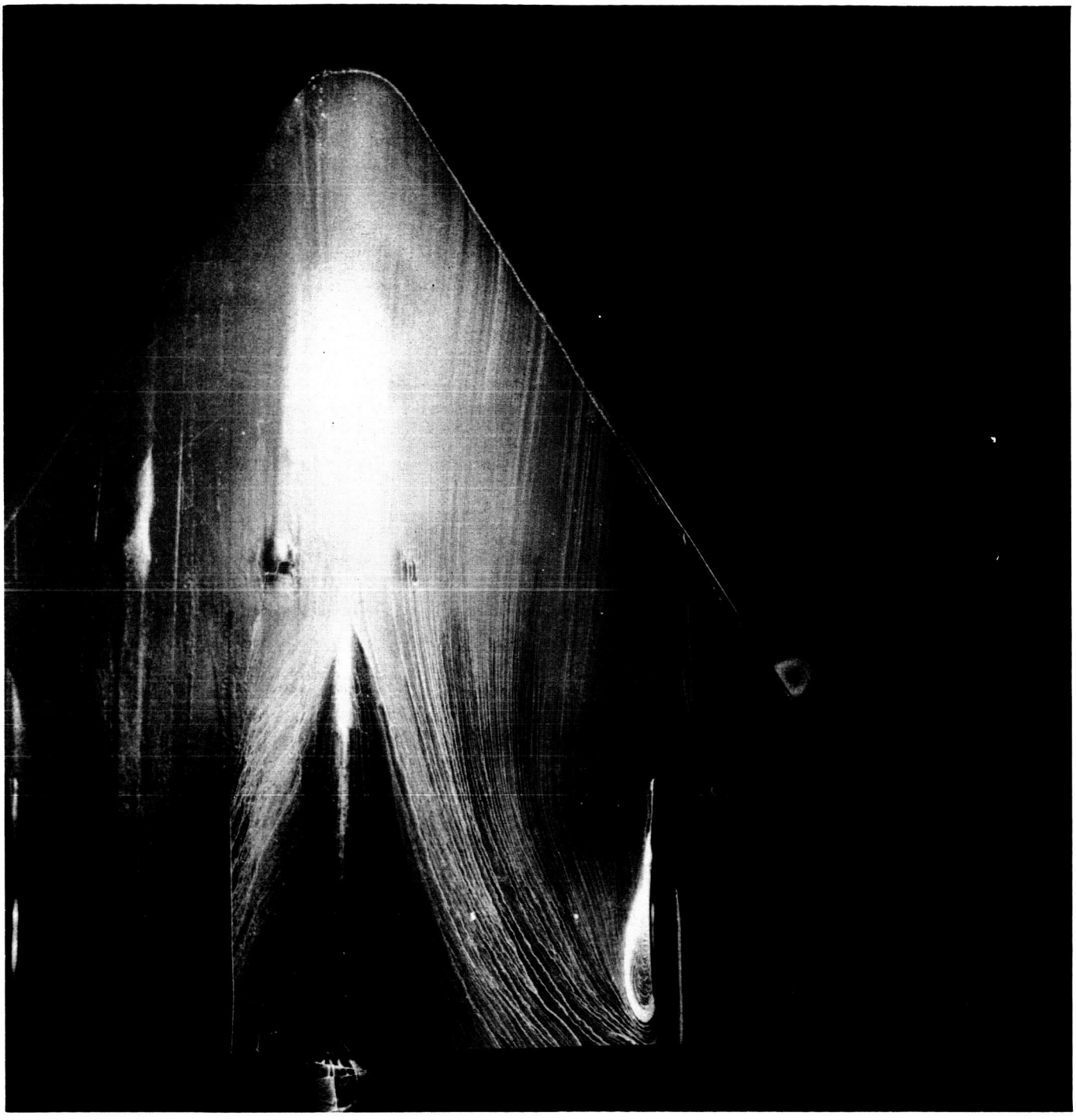
Figure 8. Concluded.



L-87-583

(a) $\alpha = 4.27°$.

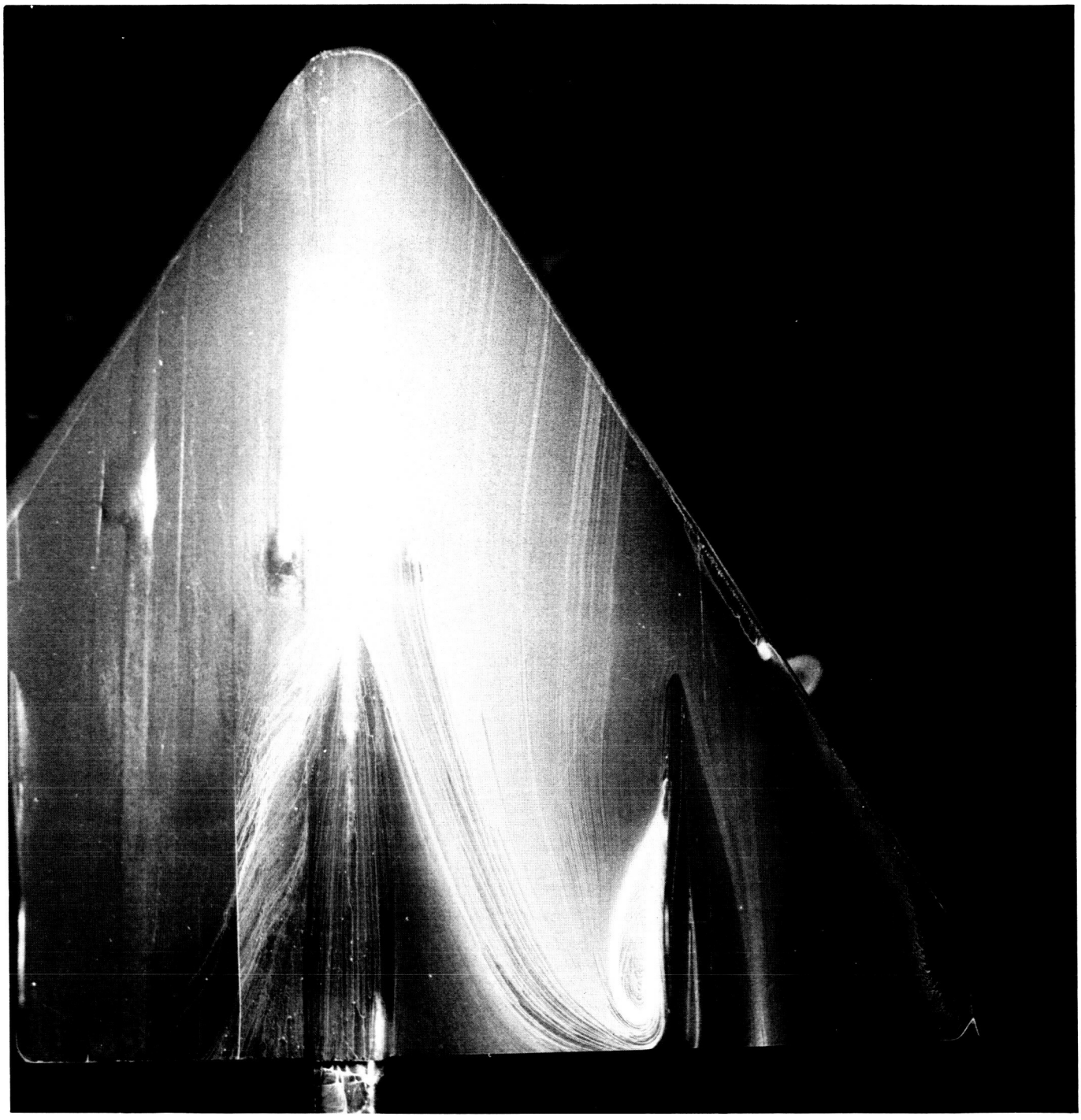
Figure 9. Upper surface oil flow visualization for wing with large vertical tail at $M_d = 0.80$.



L-87-584

(b) $\alpha = 6.10°$.

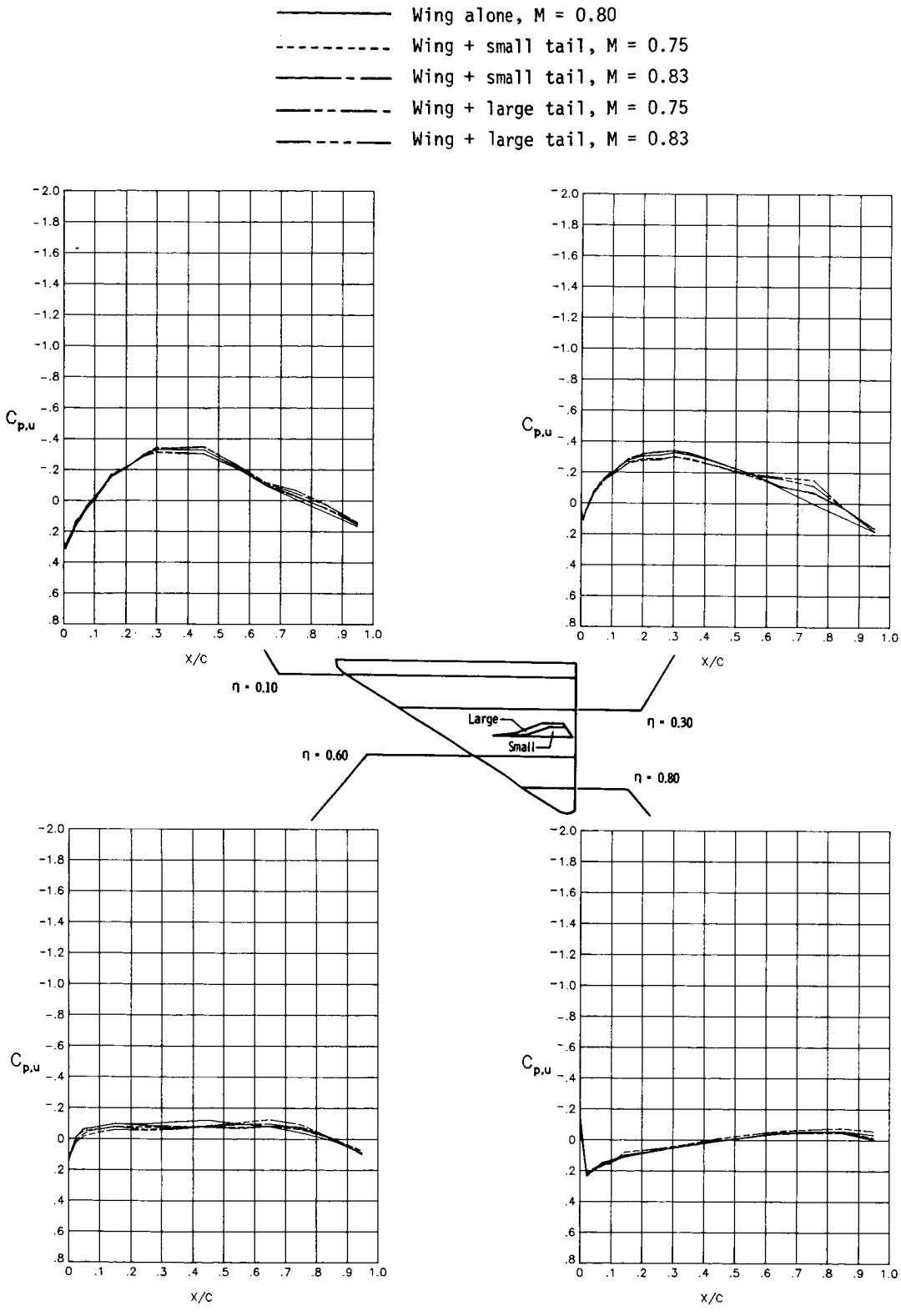
Figure 9. Continued.



L-87-585

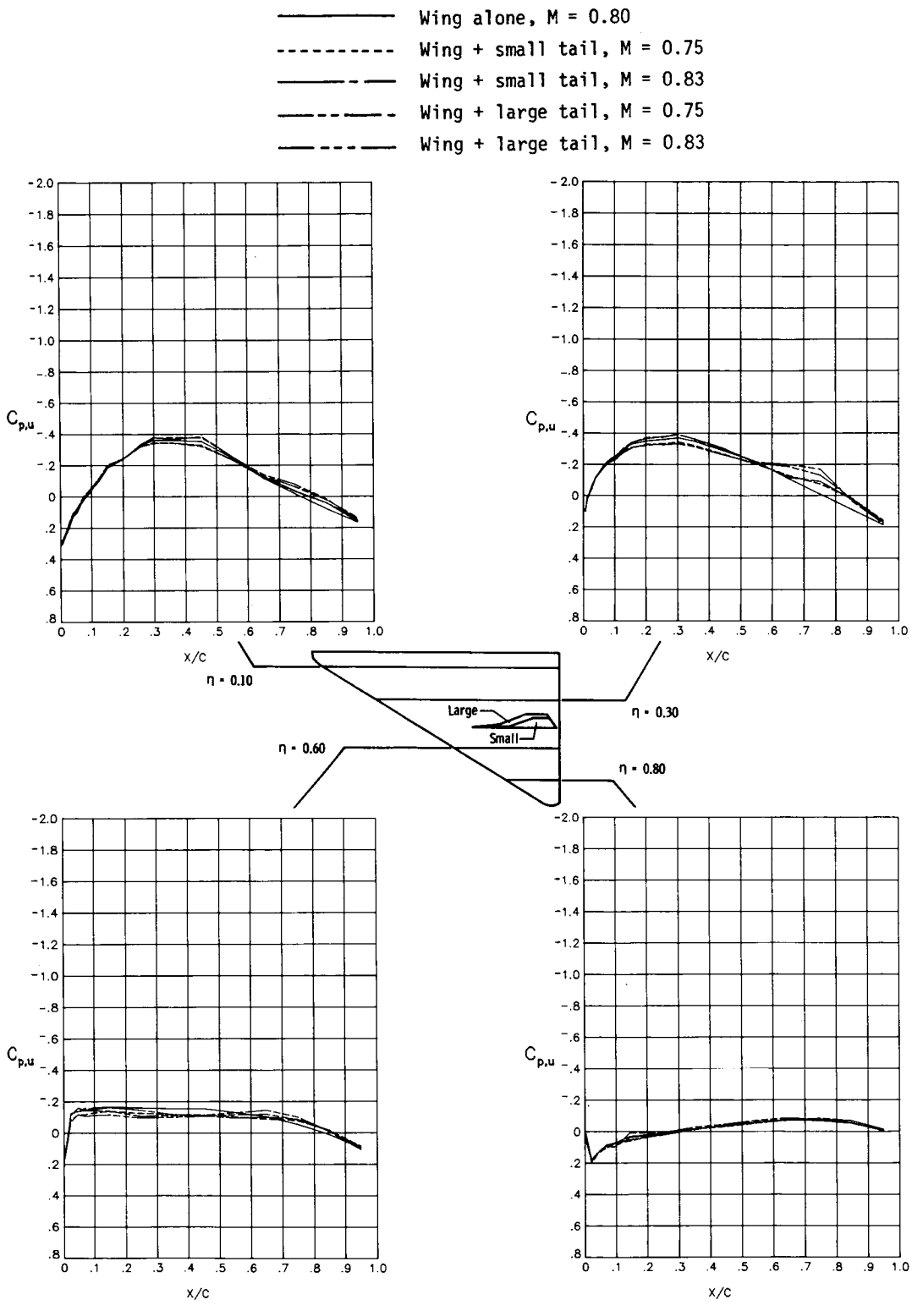
(c) $\alpha = 8.14°$.

Figure 9. Concluded.



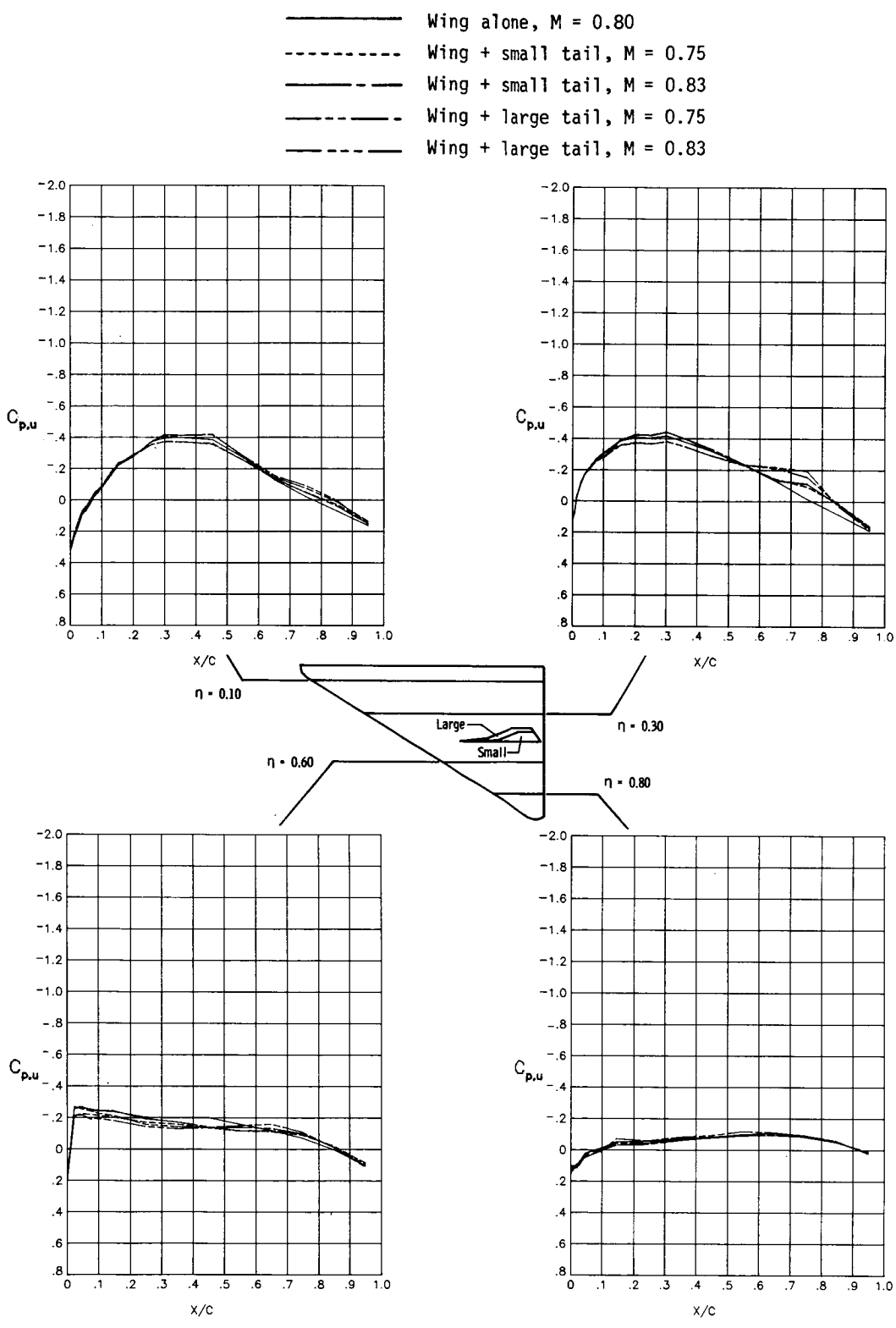
(a) $\alpha_{\text{nom}} = -2.3°$.

Figure 10. Combinational Mach number and vertical tail effects on wing upper surface pressure distribution.



(b) $\alpha_{\text{nom}} = -1.1°$.

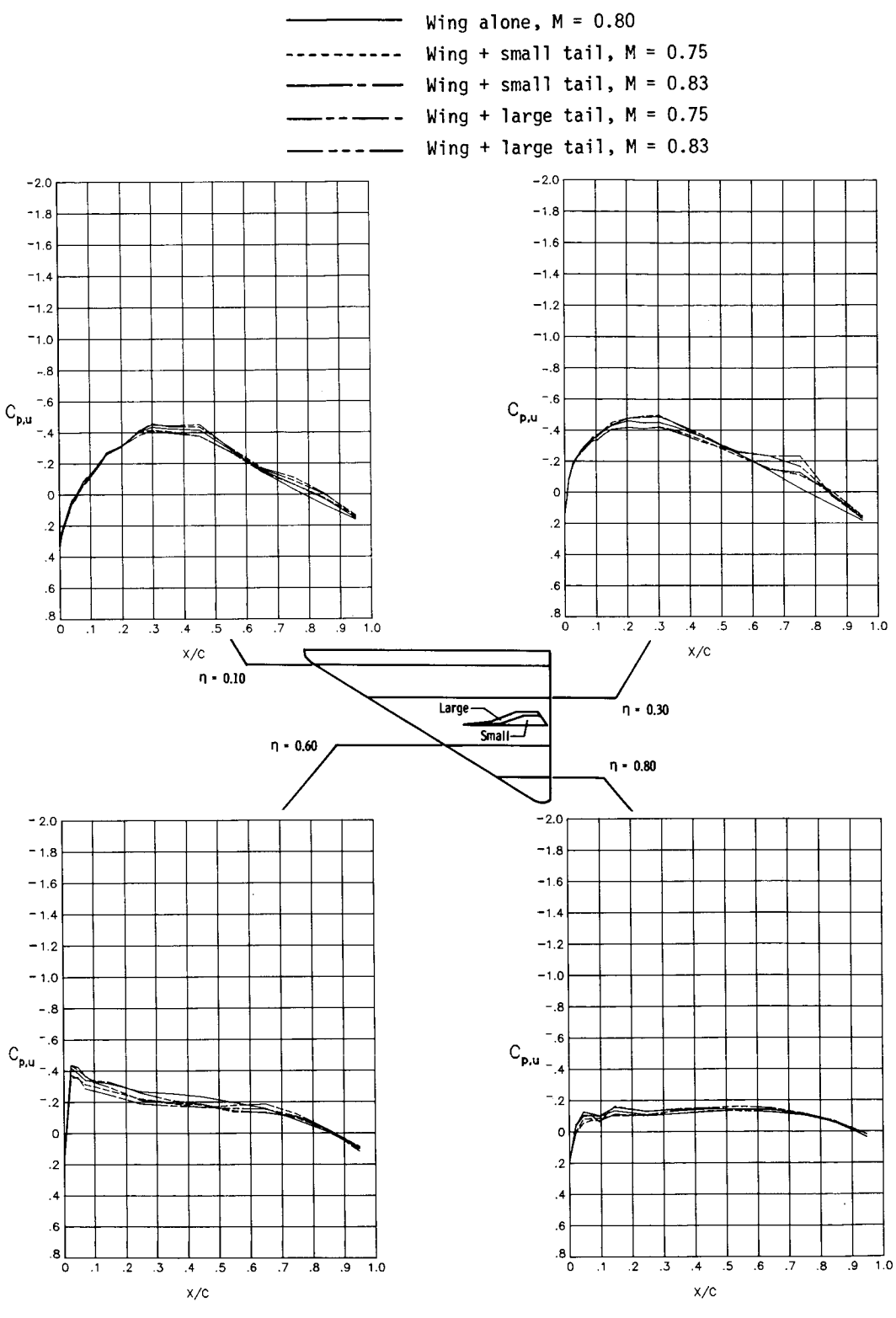
Figure 10. Continued.



(c) $\alpha_{\text{nom}} = 0.0°$.

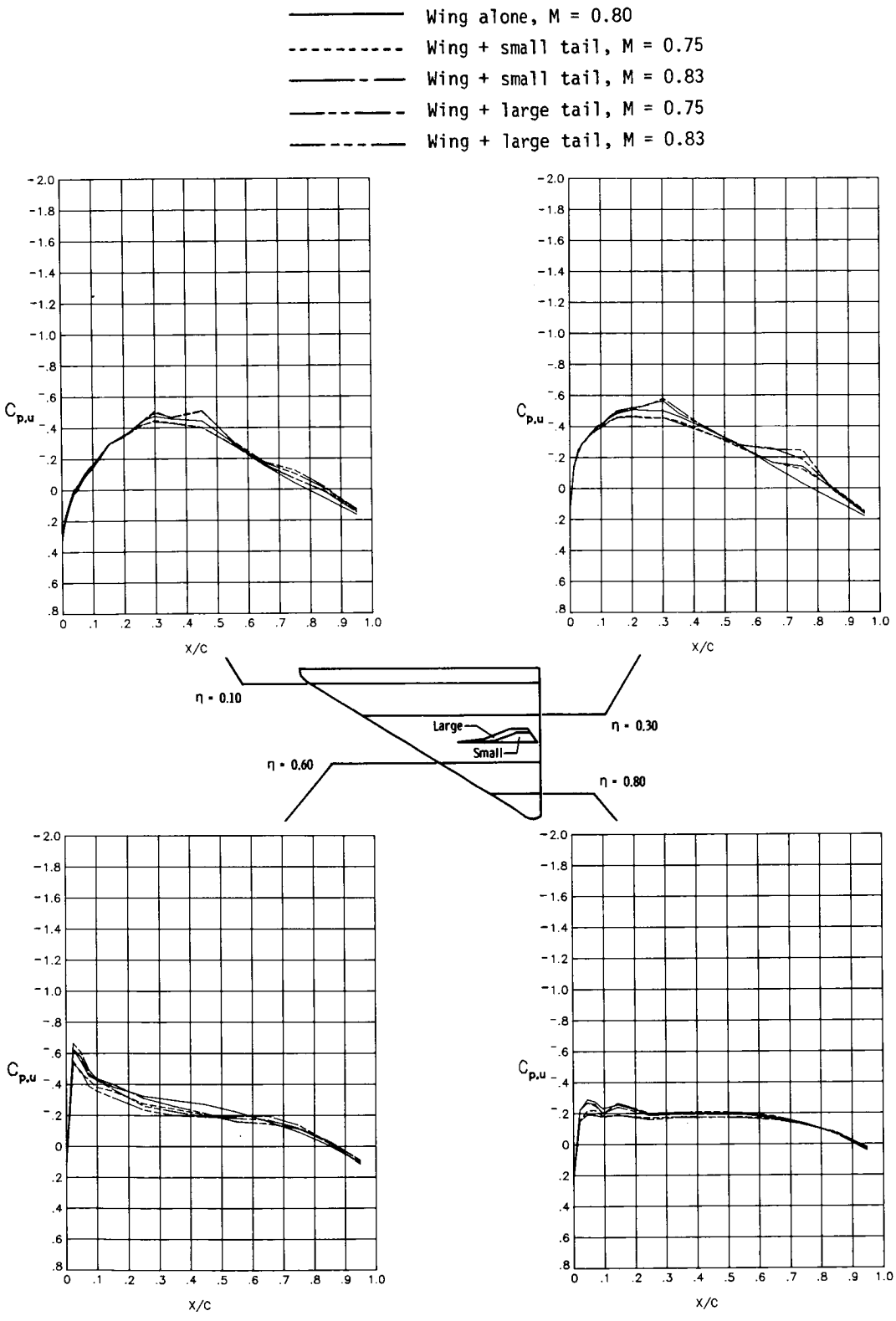
Figure 10. Continued.

C-3



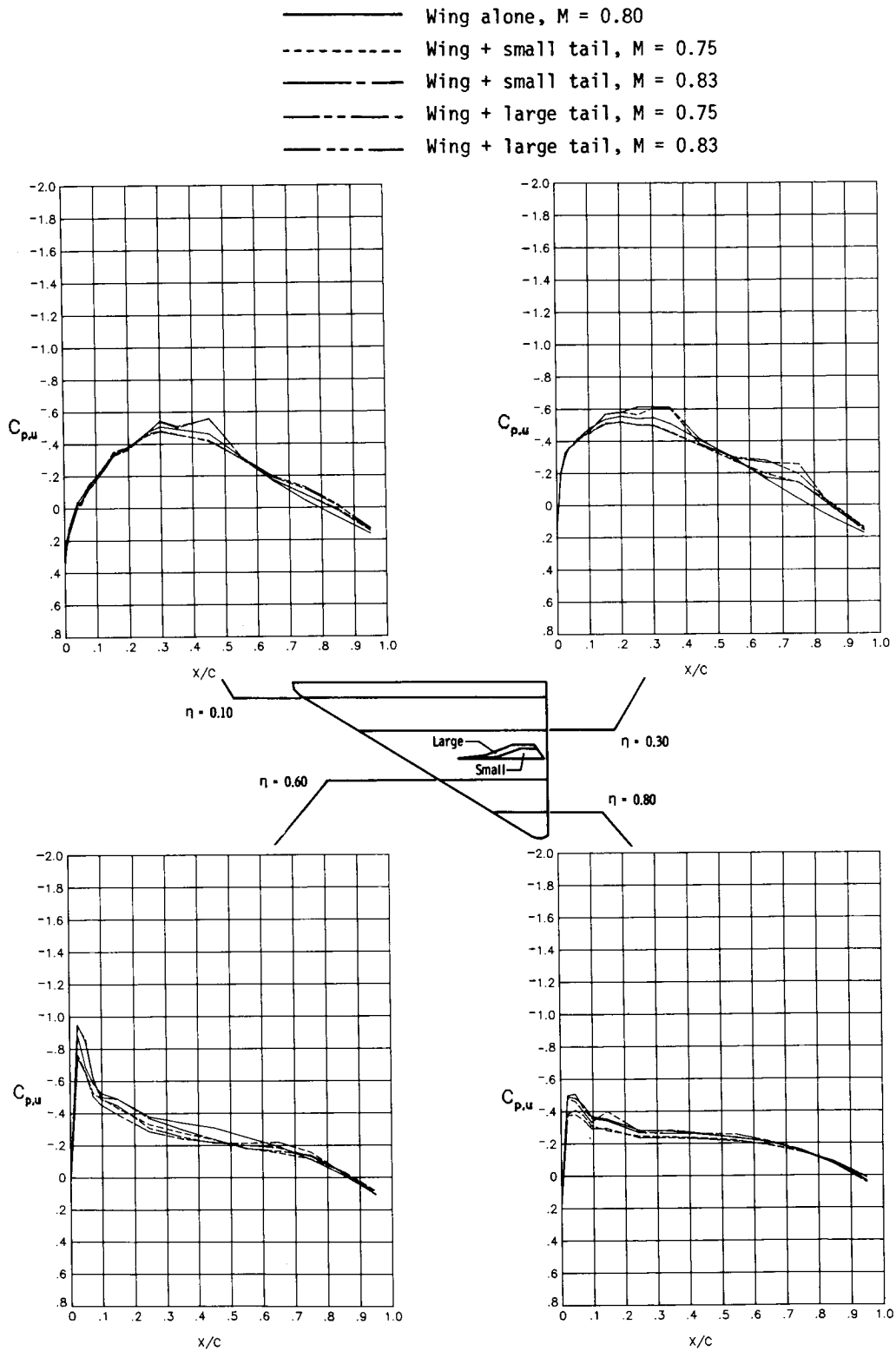
(d) $\alpha_{\text{nom}} = 1.3°$.

Figure 10. Continued.



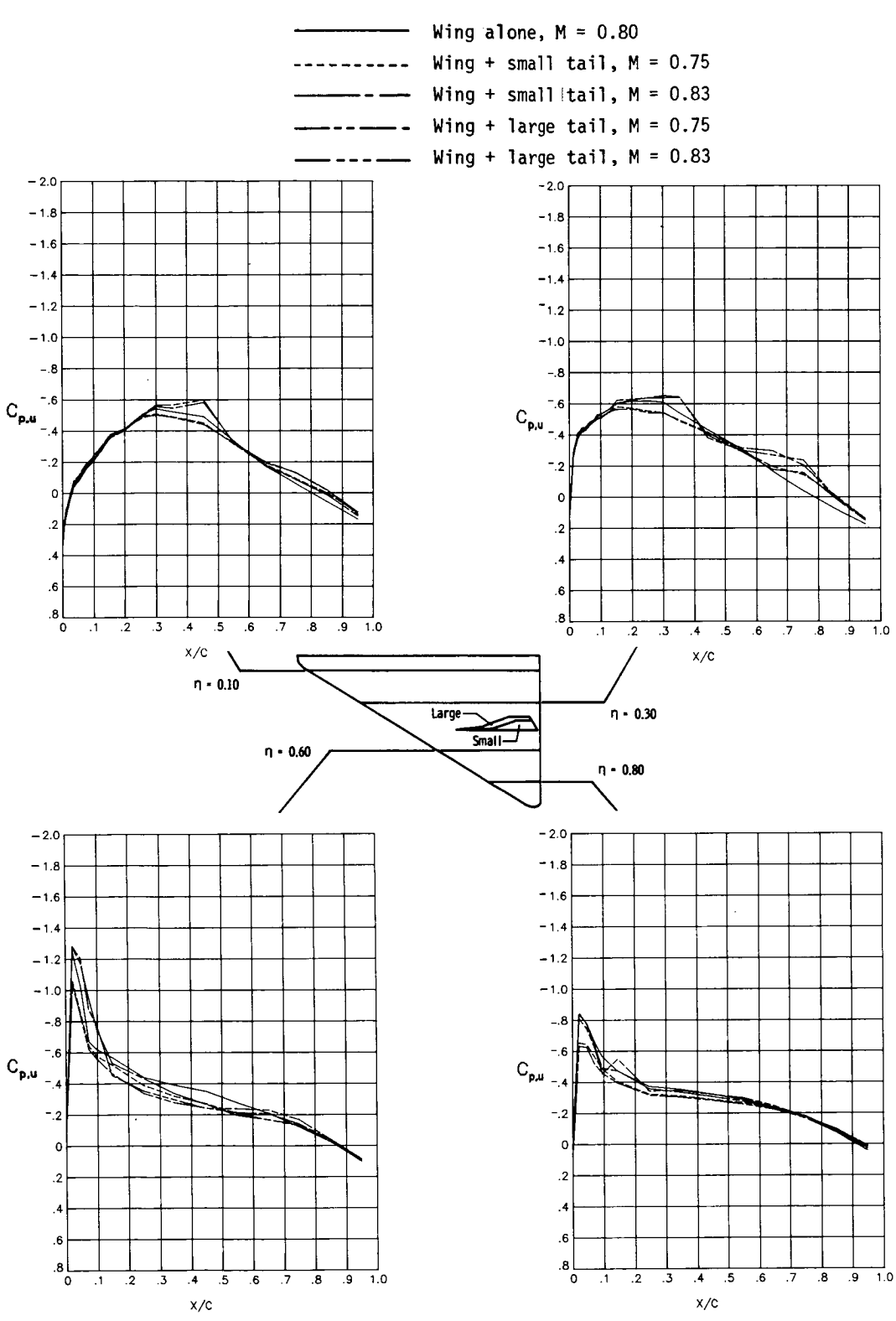
(e) $\alpha_{\text{nom}} = 2.4°$.

Figure 10. Continued.



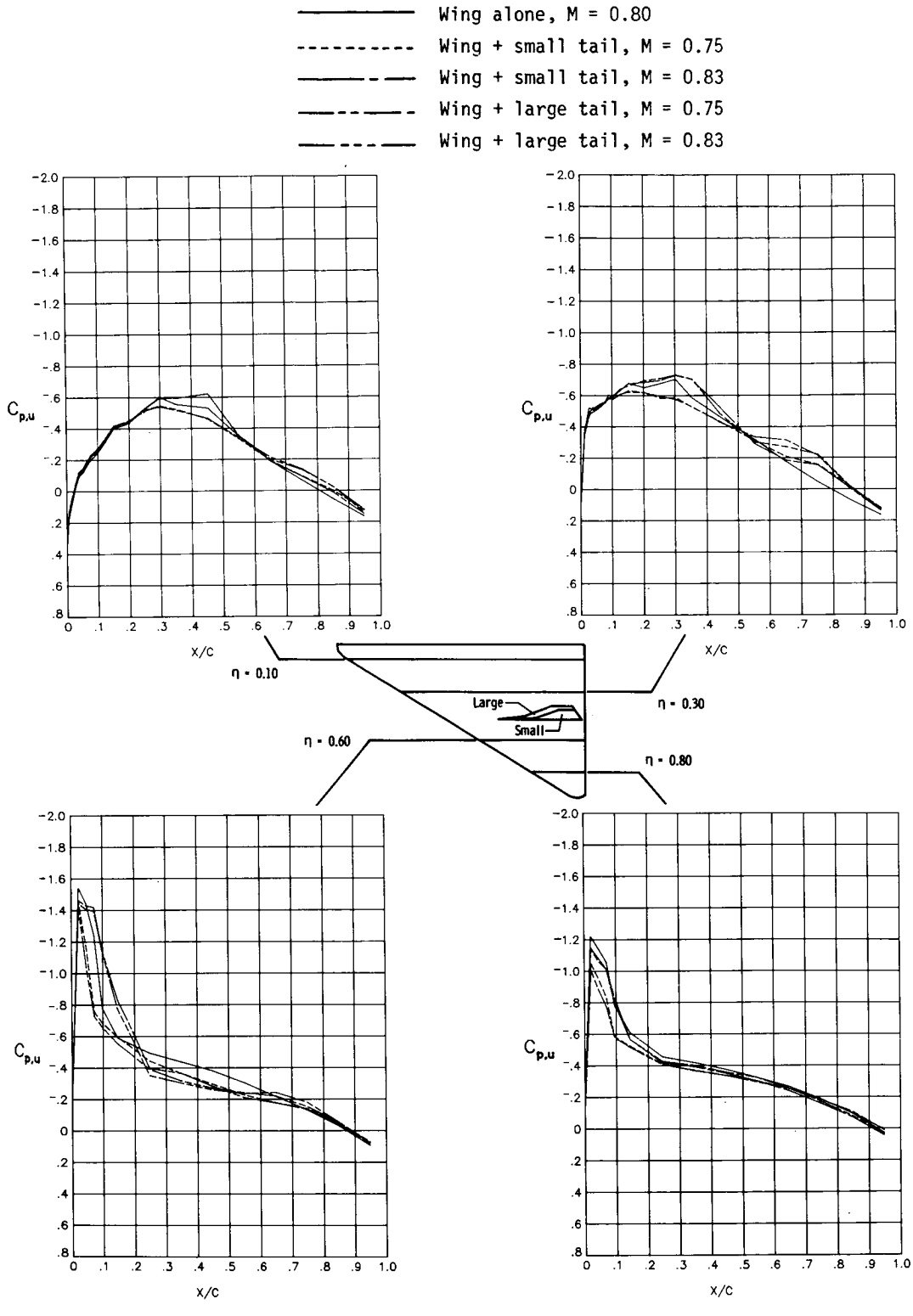
(f) $\alpha_{\text{nom}} = 3.5°$.

Figure 10. Continued.



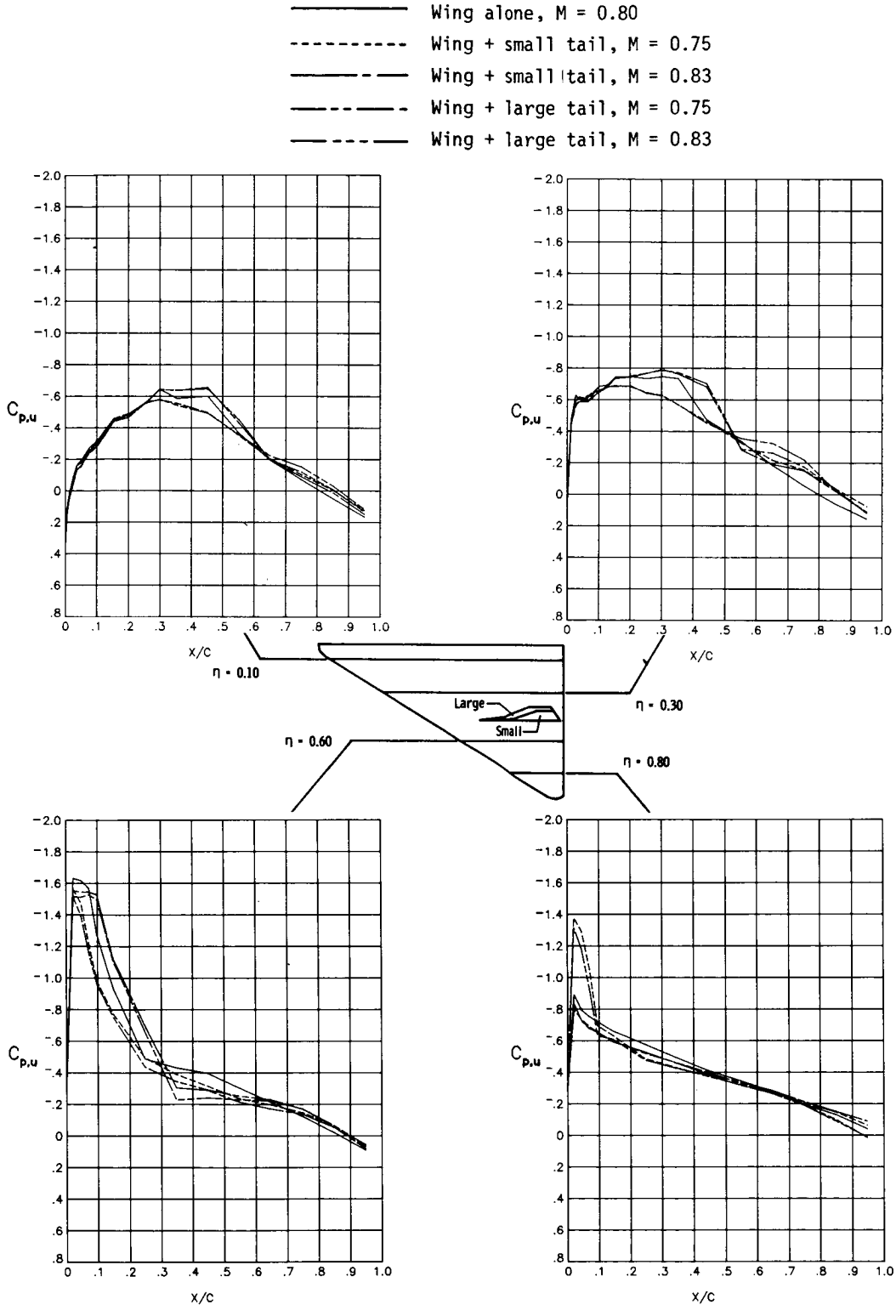
(g) $\alpha_{\text{nom}} = 4.7°$.

Figure 10. Continued.



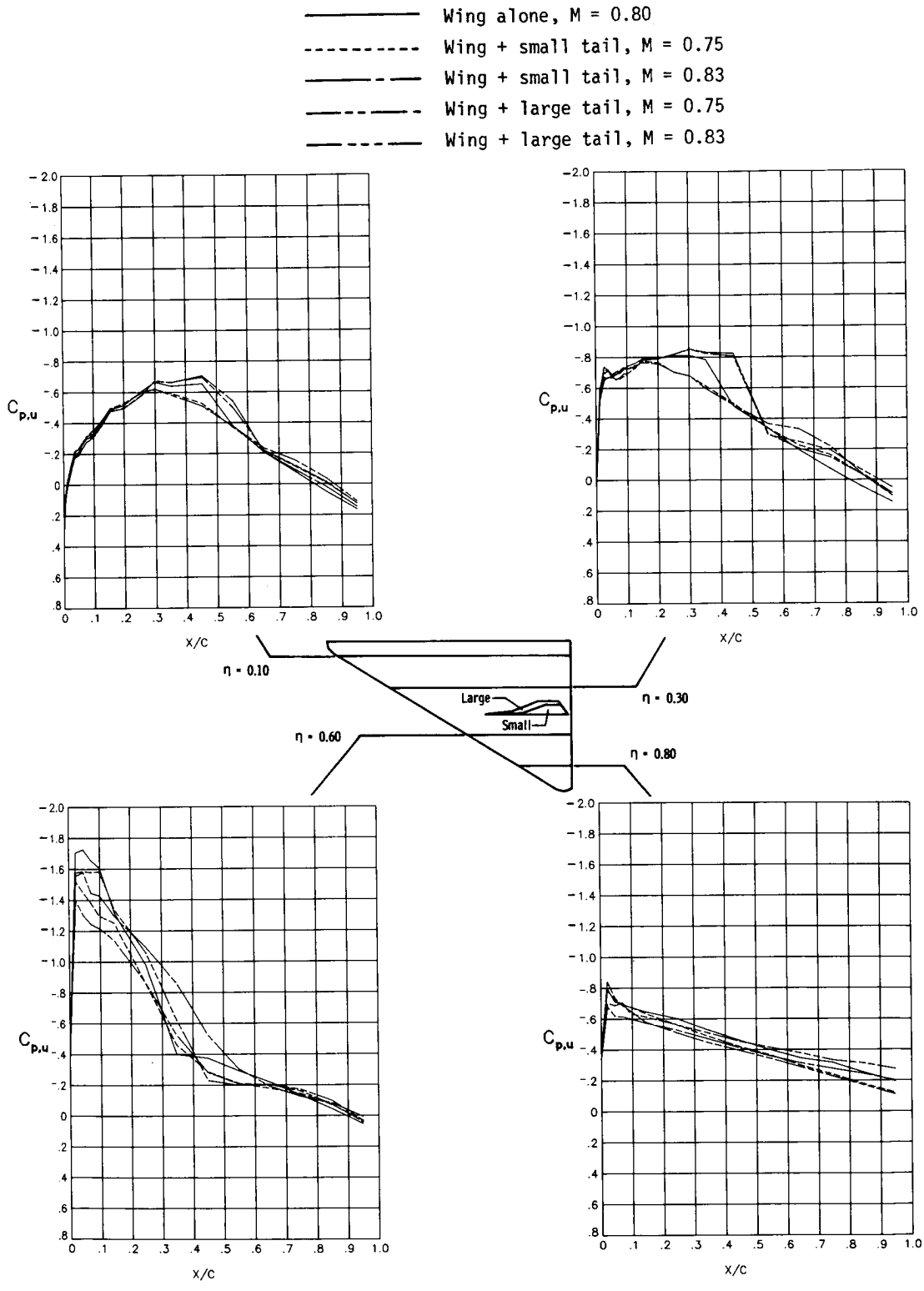
(h) $\alpha_{\text{nom}} = 6.0°$.

Figure 10. Continued.



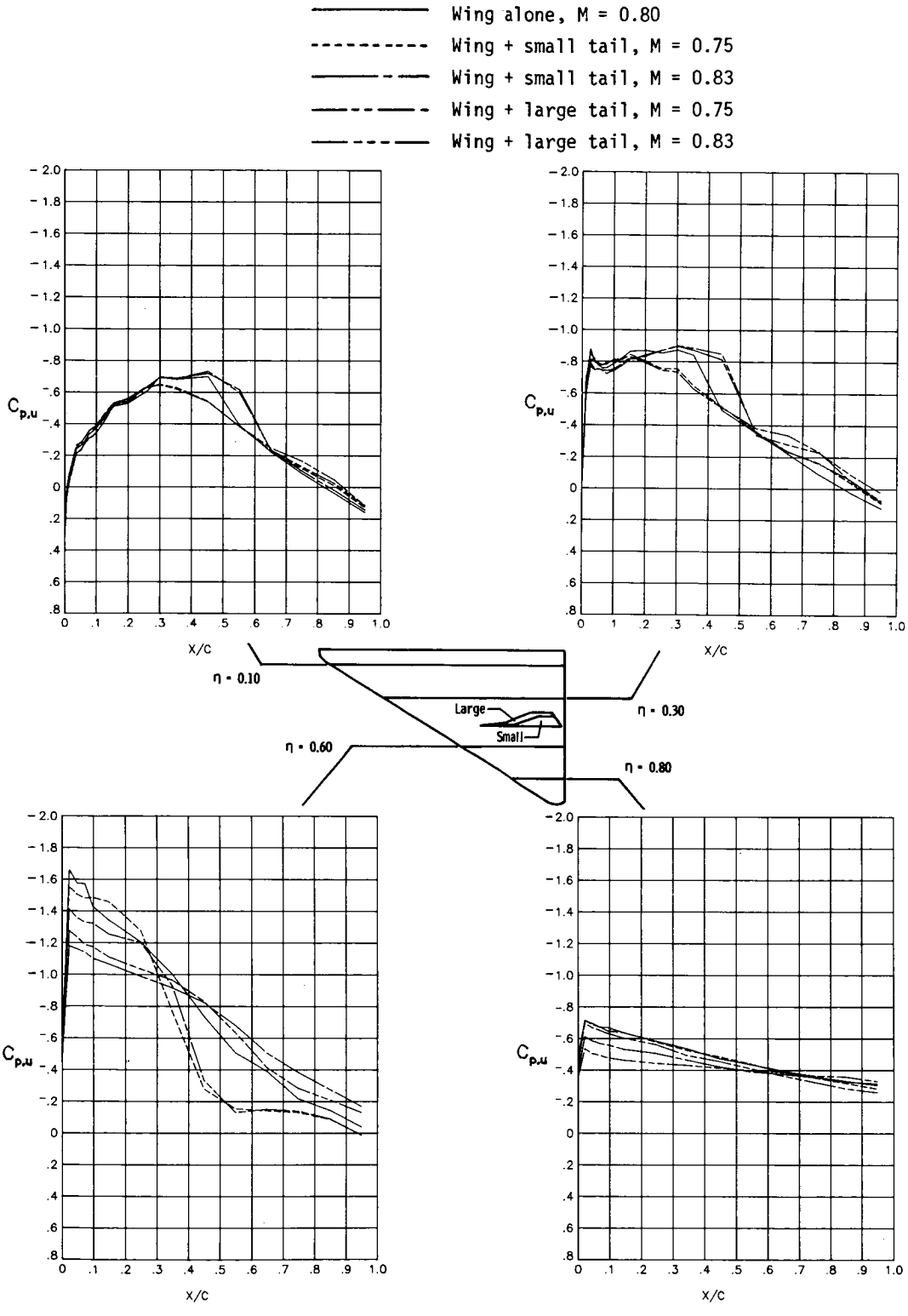
(i) $\alpha_{\text{nom}} = 7.2°$.

Figure 10. Continued.



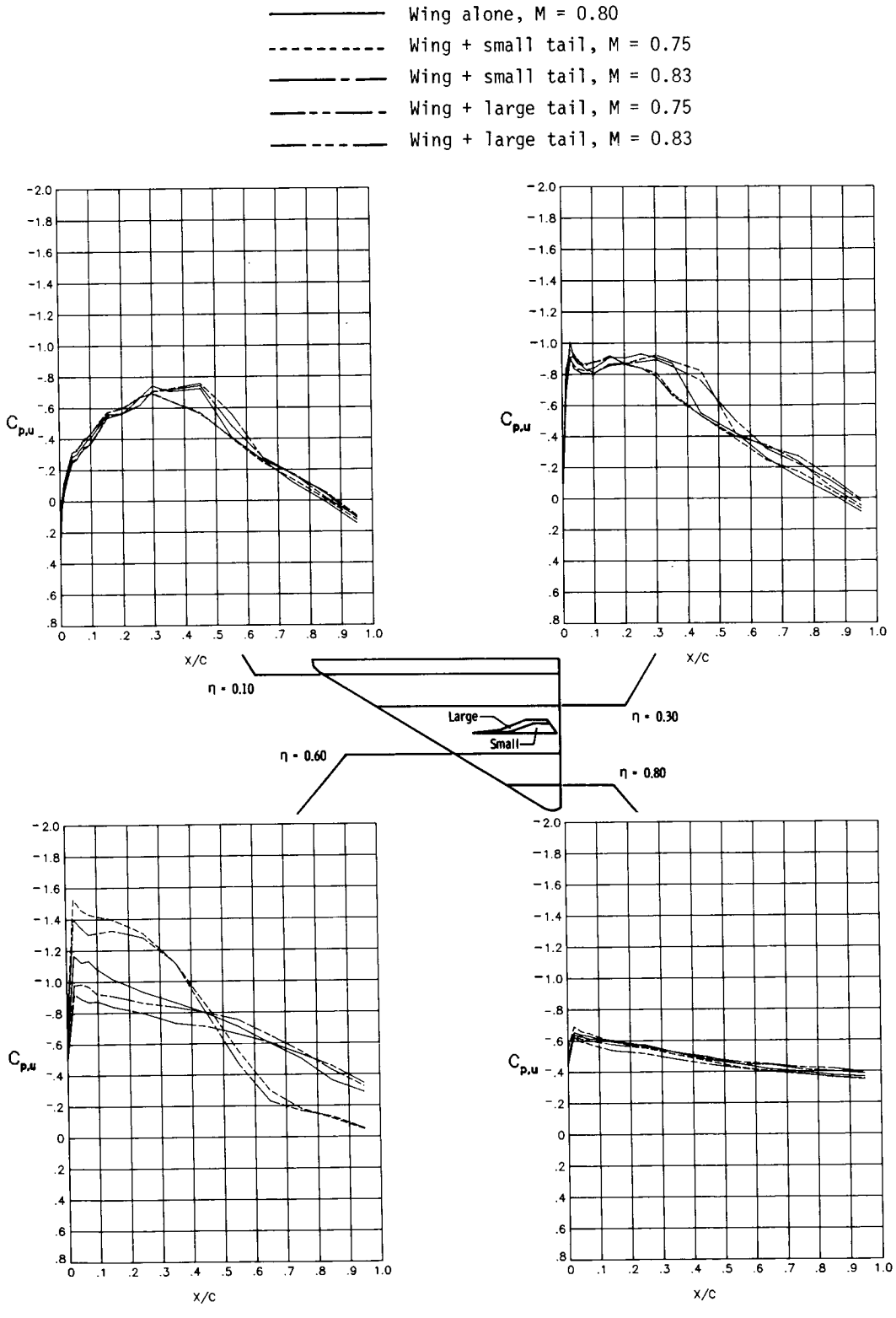
(j) $\alpha_{\text{nom}} = 8.4°$.

Figure 10. Continued.



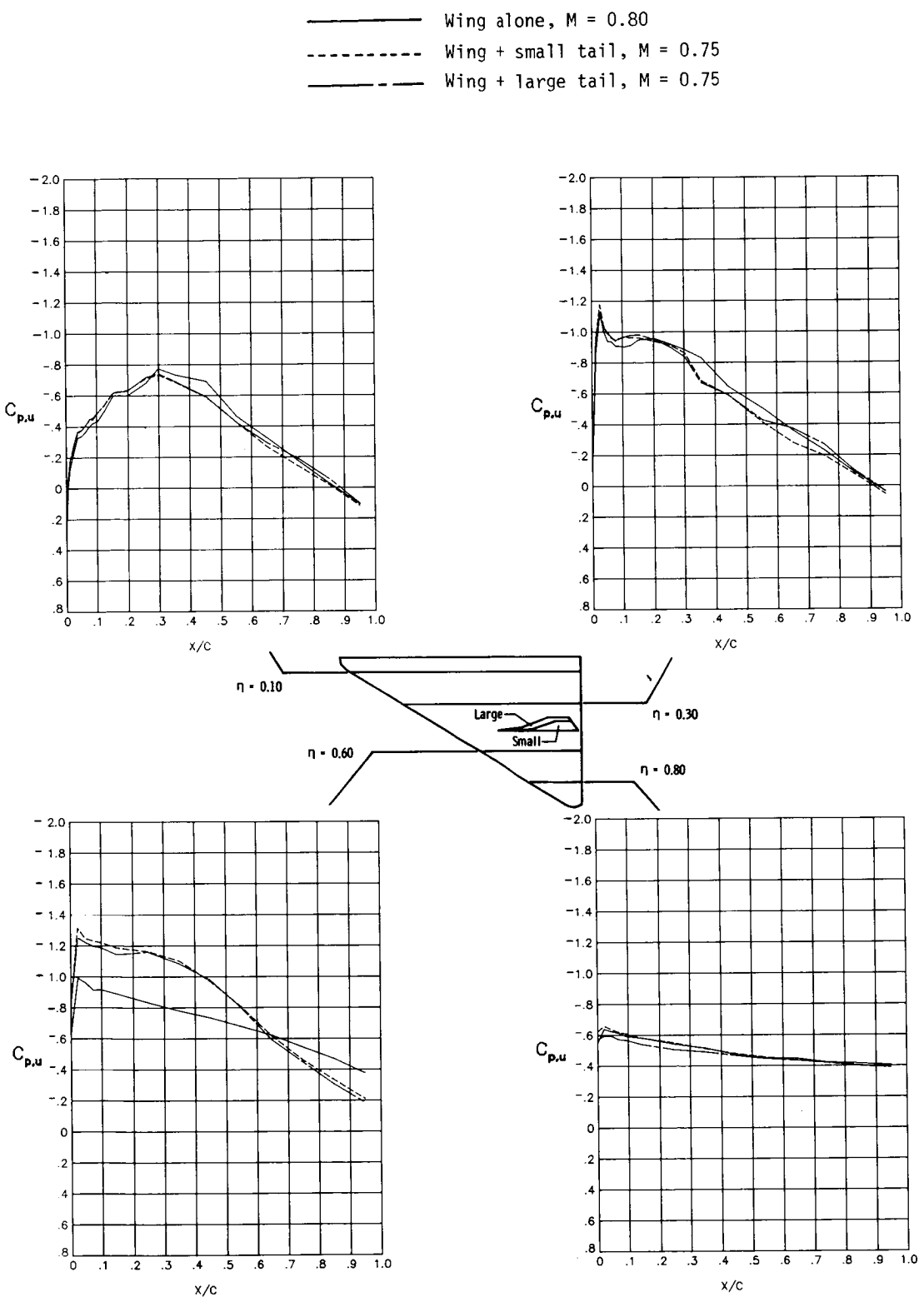
(k) $\alpha_{\text{nom}} = 9.6°$.

Figure 10. Continued.



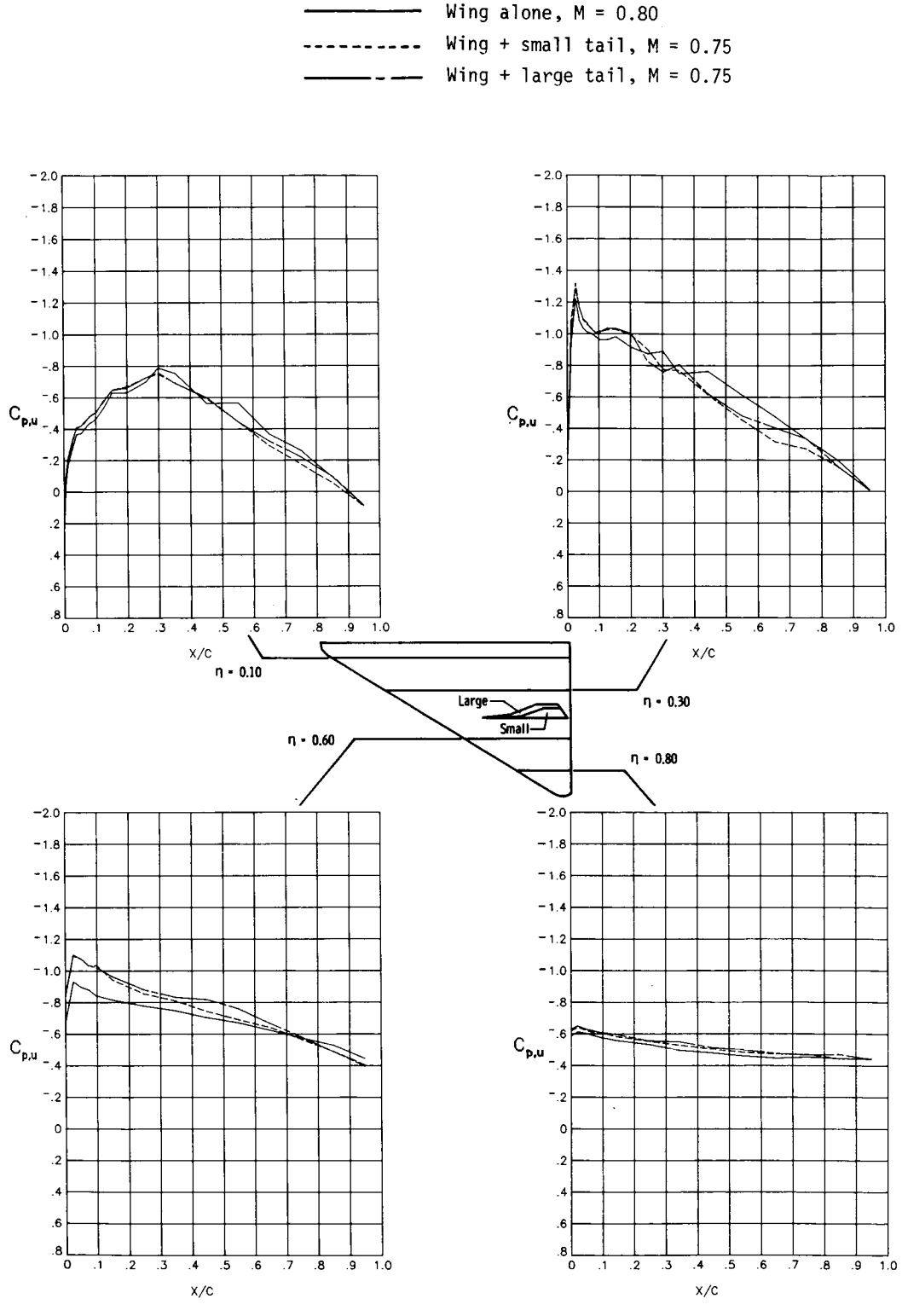
(l) $\alpha_{\text{nom}} = 10.7°$.

Figure 10. Continued.



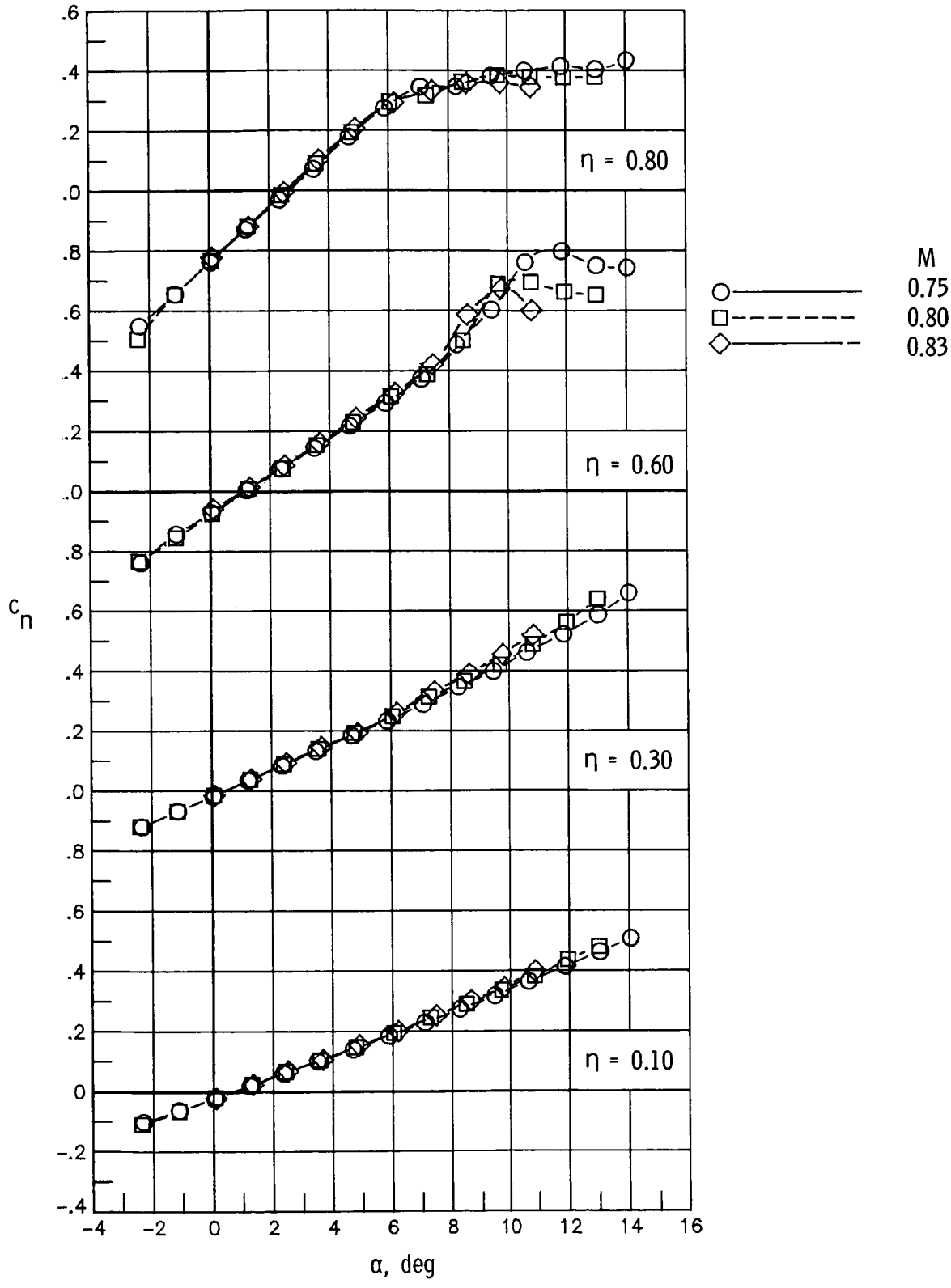
(m) $\alpha_{nom} = 11.9°$.

Figure 10. Continued.



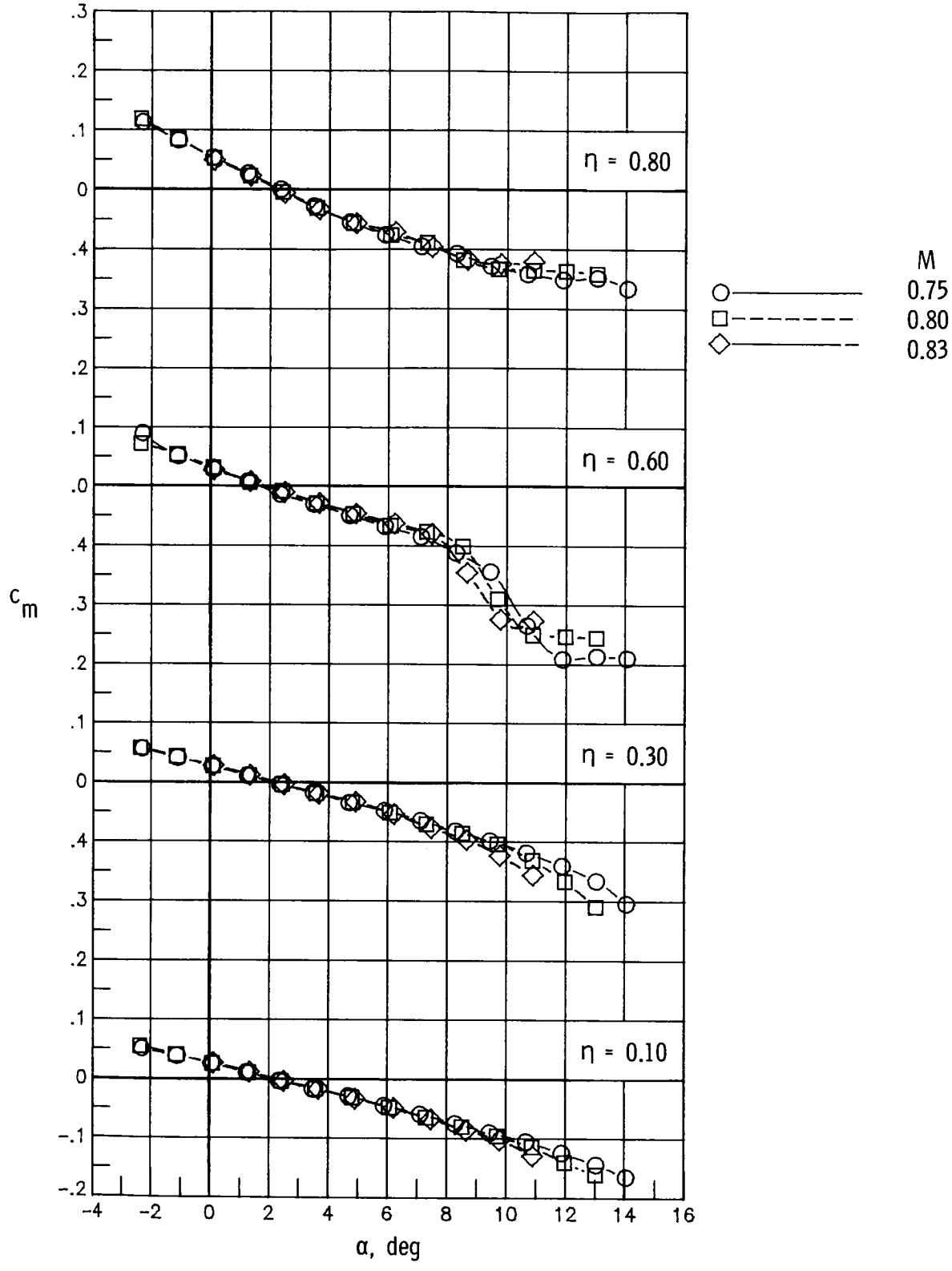
(n) $\alpha_{\text{nom}} = 13.0°$.

Figure 10. Concluded.



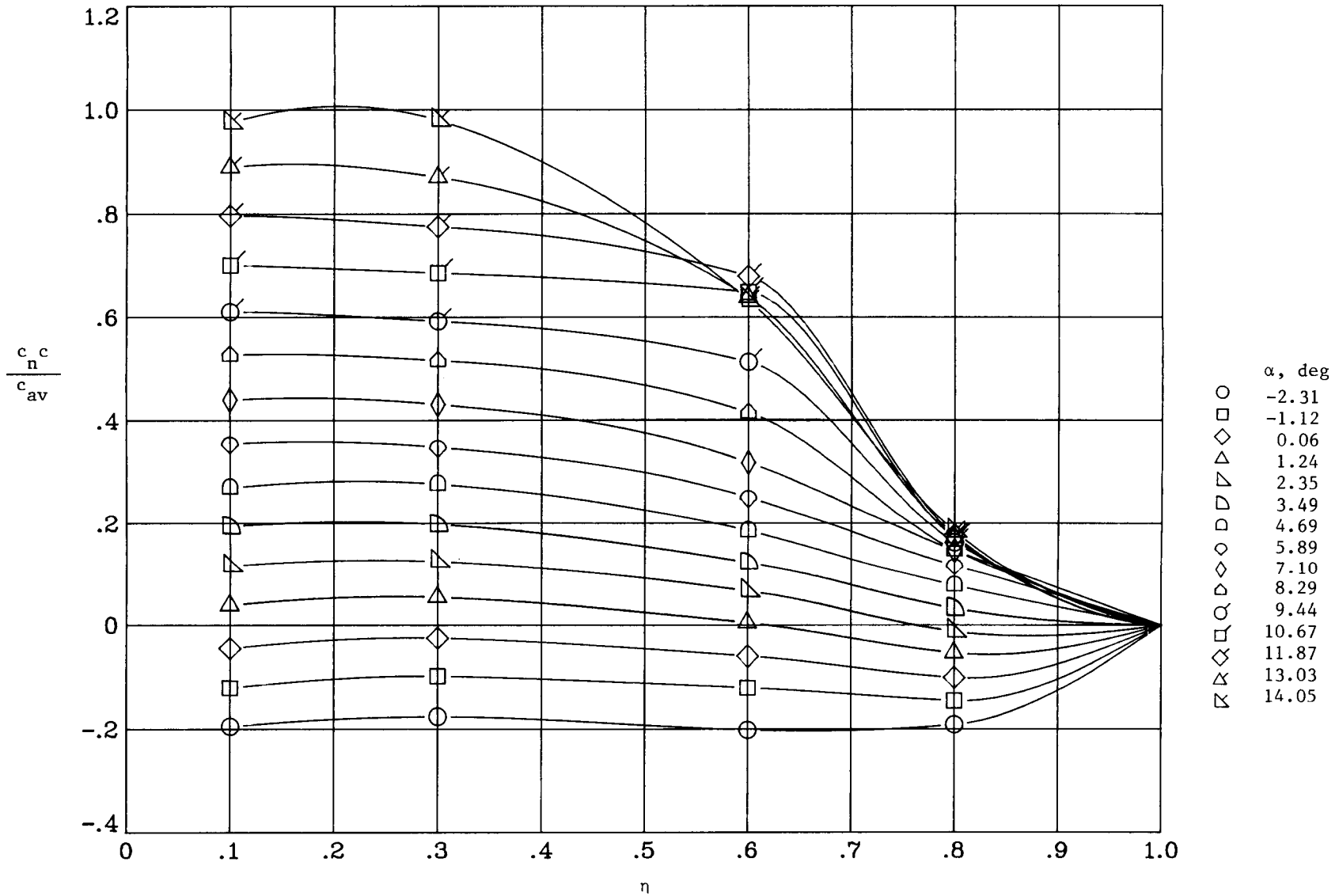
(a) c_n versus α.

Figure 11. Effect of Mach number on integrated sectional aerodynamic characteristics of wing-alone configuration.



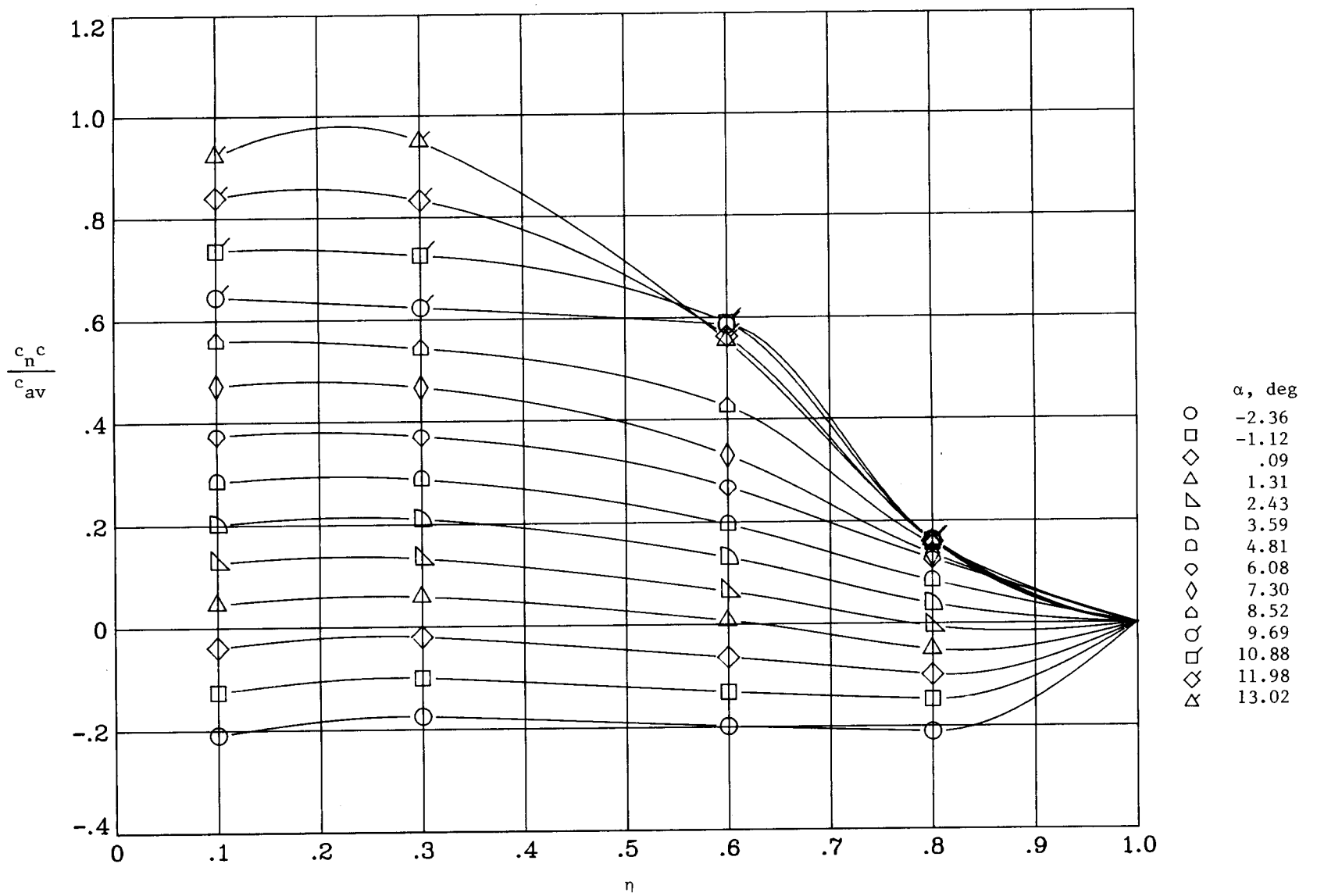
(b) c_m versus α.

Figure 11. Concluded.



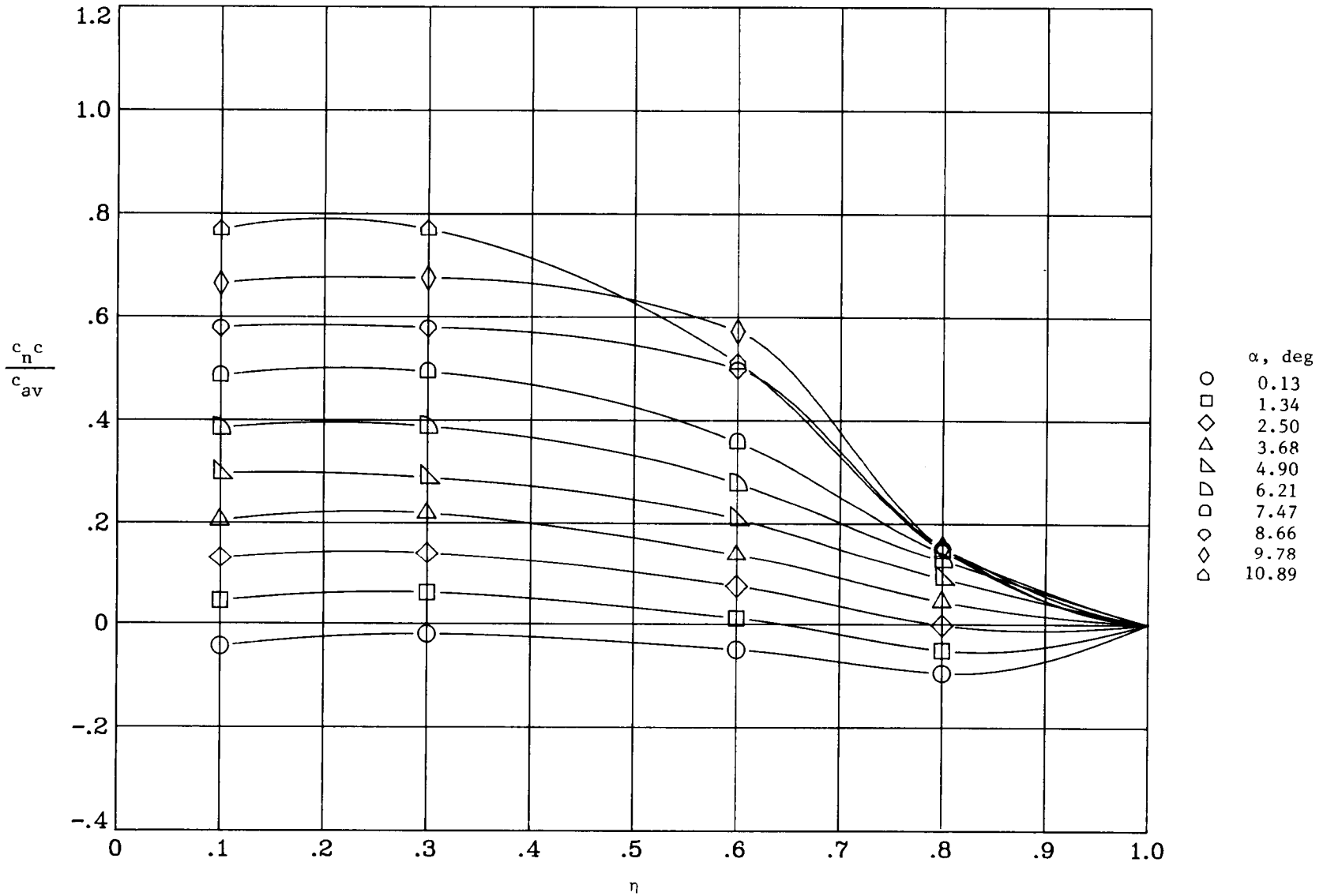
(a) $M = 0.75$.

Figure 12. Variation of span-load distribution with angle of attack of wing for test Mach number range.



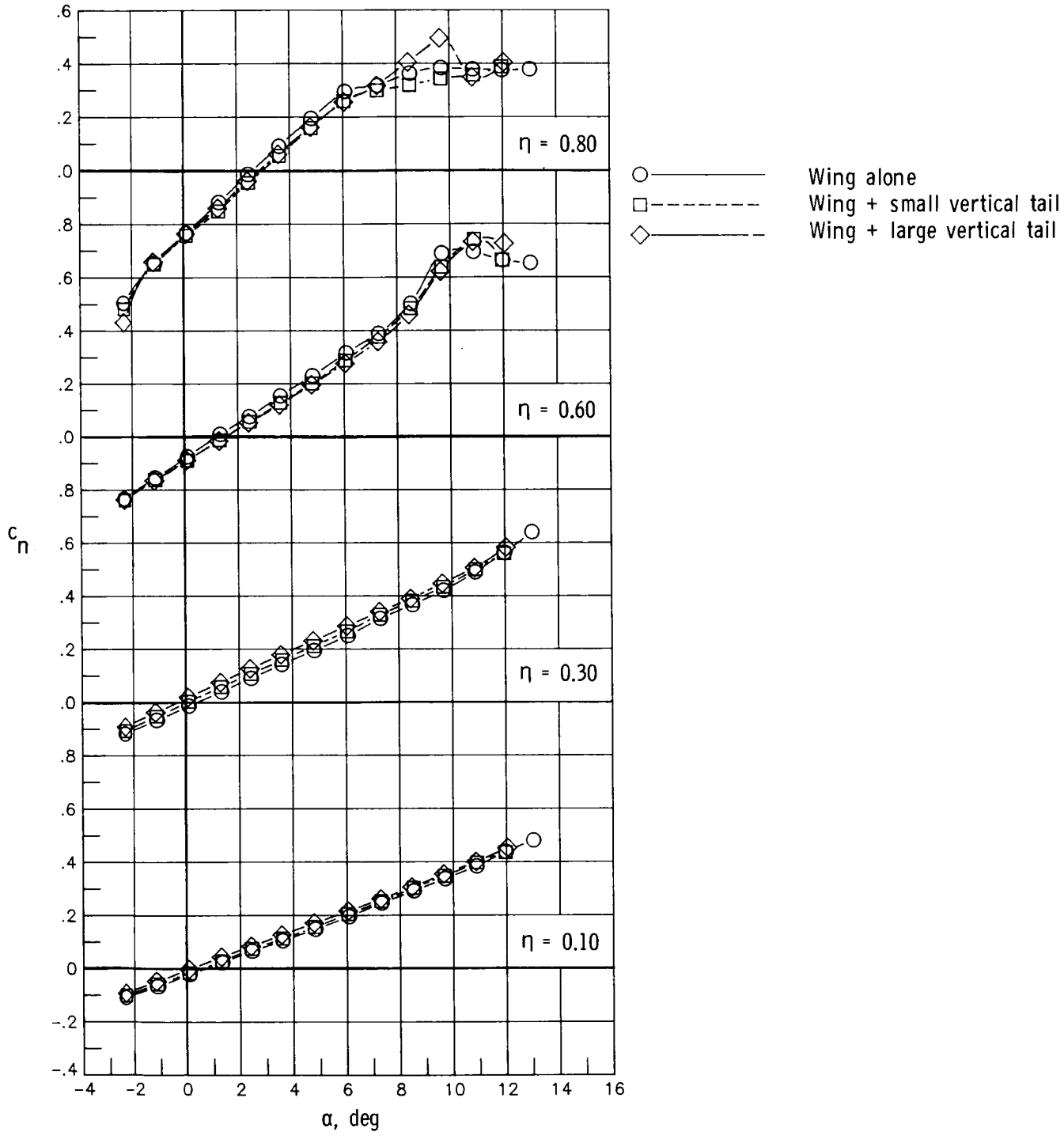
(b) $M = 0.80$.

Figure 12. Continued.



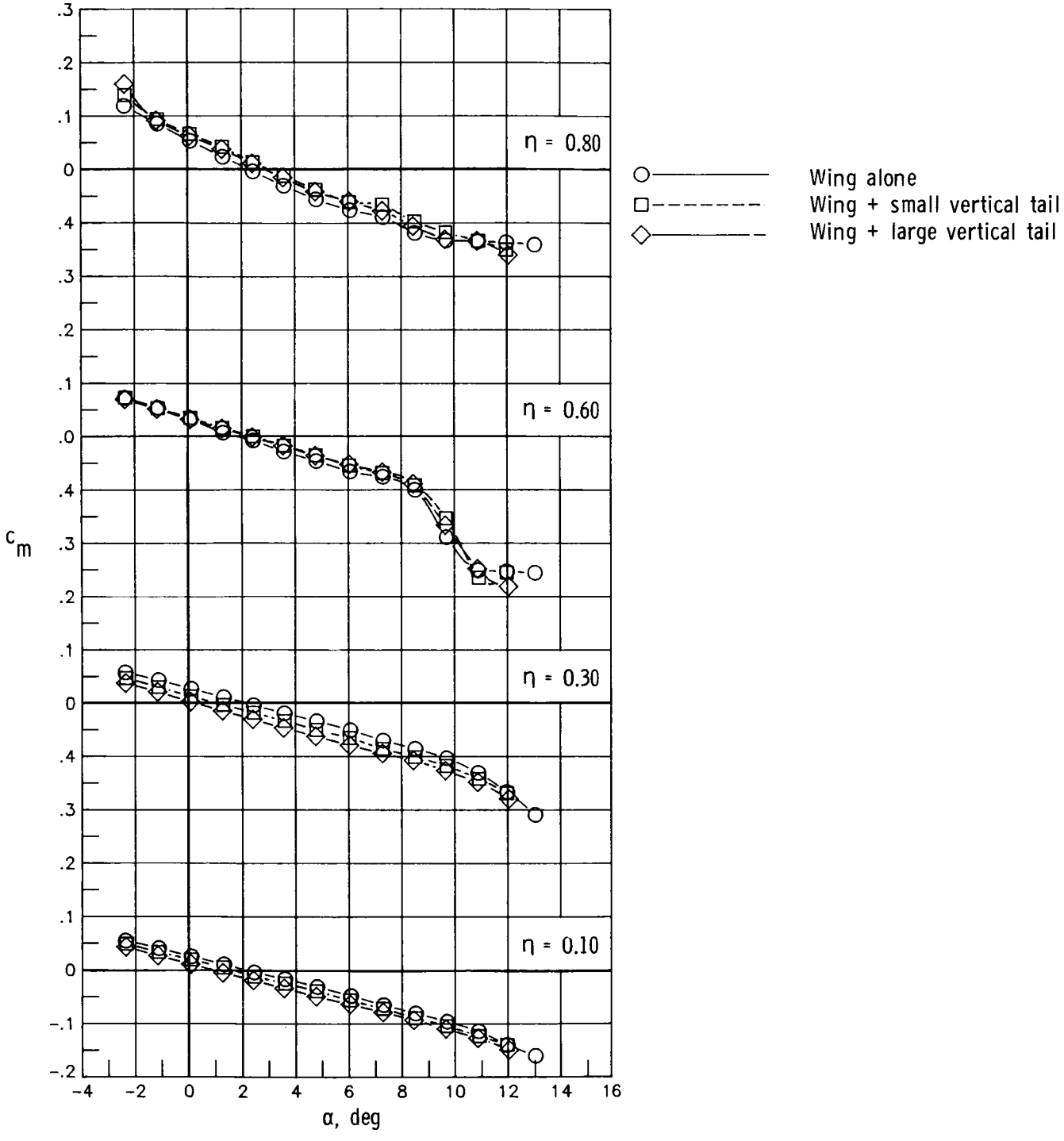
(c) $M = 0.83$.

Figure 12. Concluded.



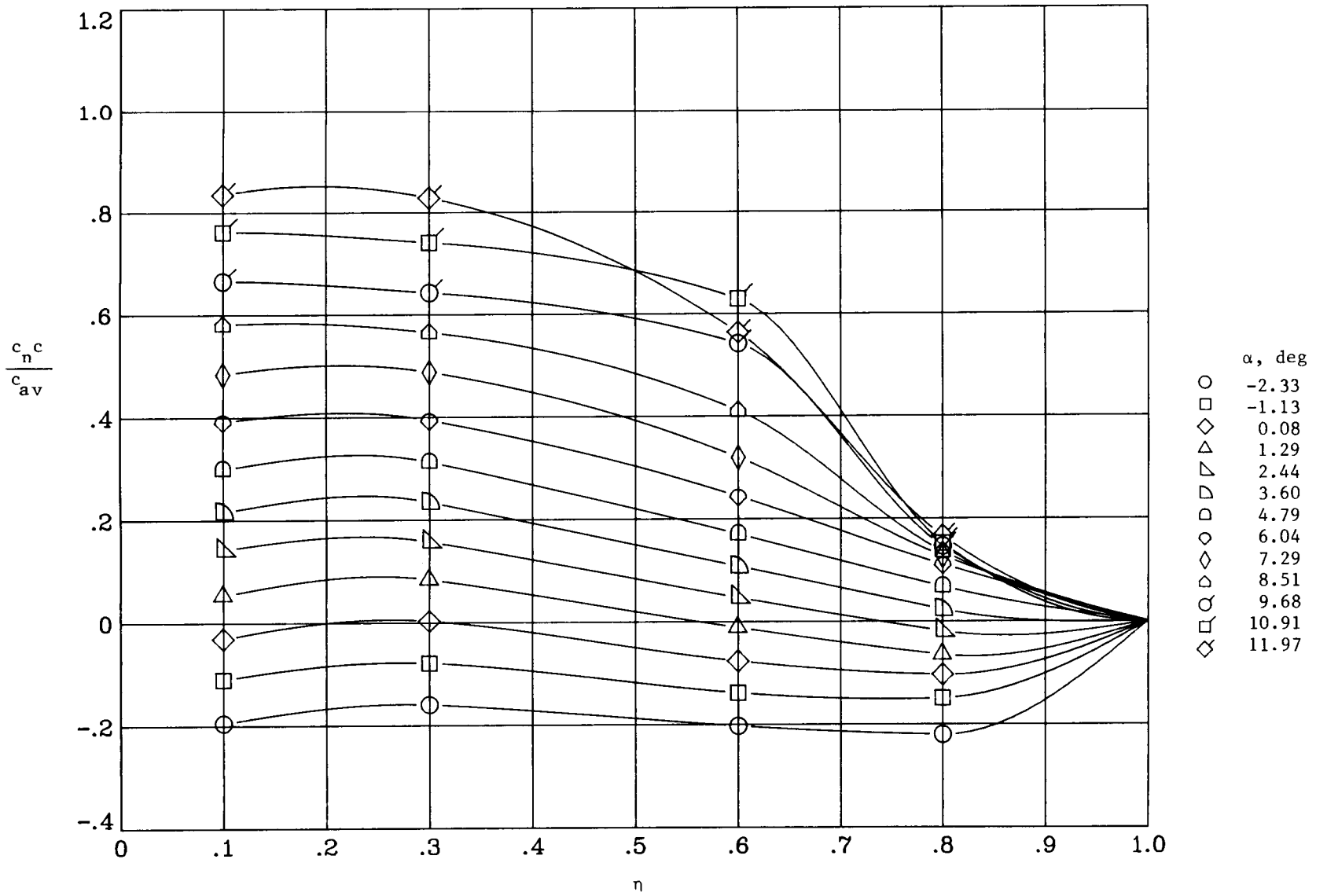
(a) c_n versus α.

Figure 13. Effect of vertical tail on integrated sectional aerodynamic characteristics of wing at $M_d = 0.80$.



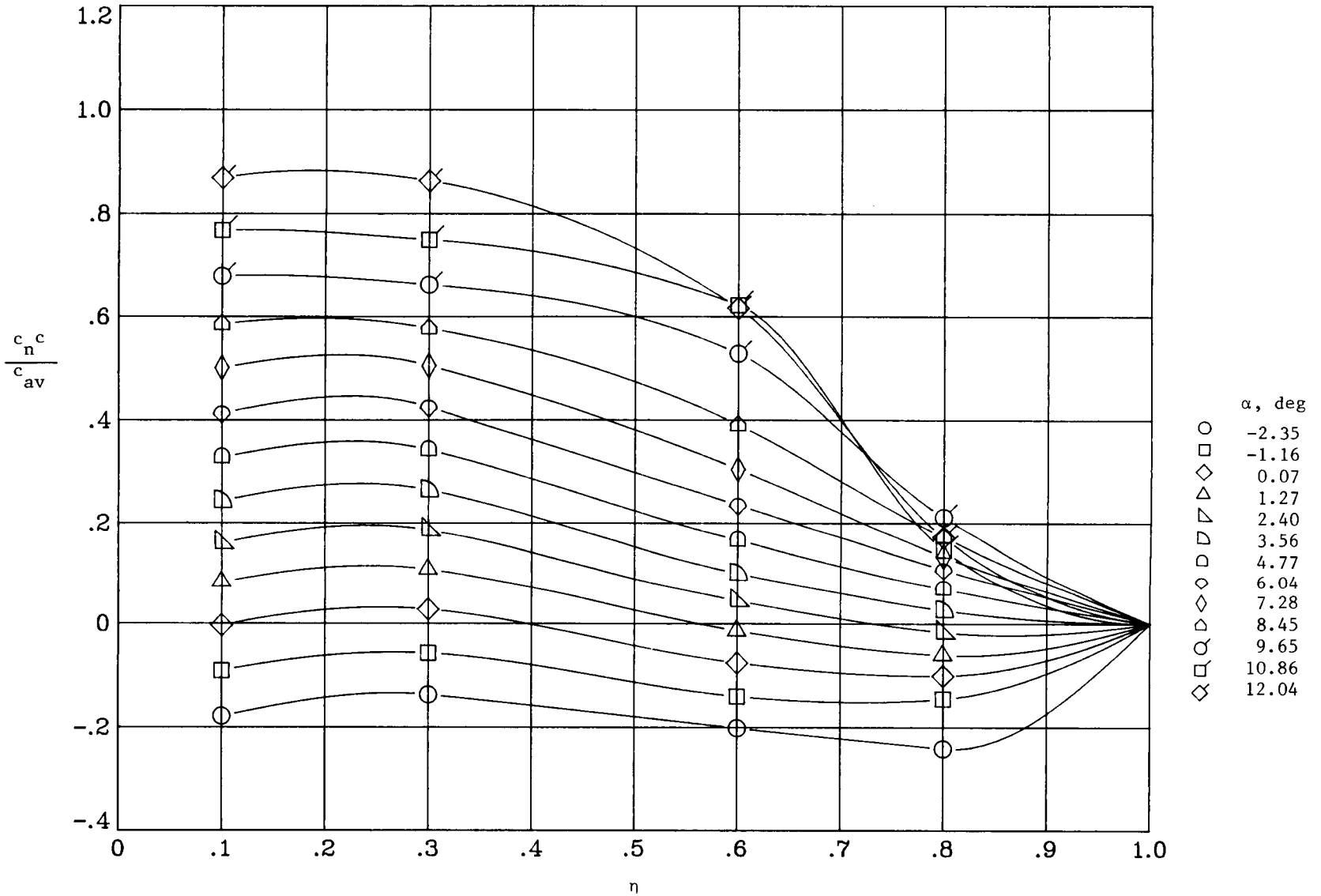
(b) c_m versus α.

Figure 13. Concluded.



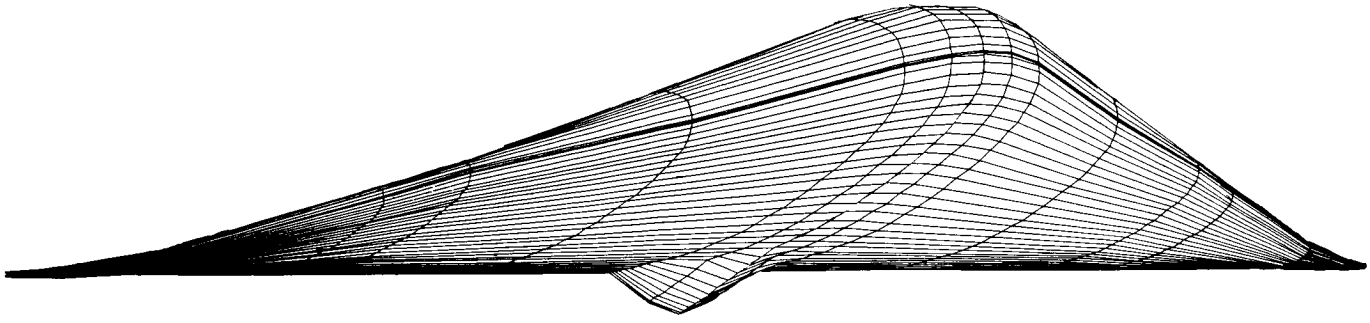
(a) Wing + small vertical tail.

Figure 14. Variation of span-load distribution with angle of attack for tail-on configurations at $M_d = 0.80$.



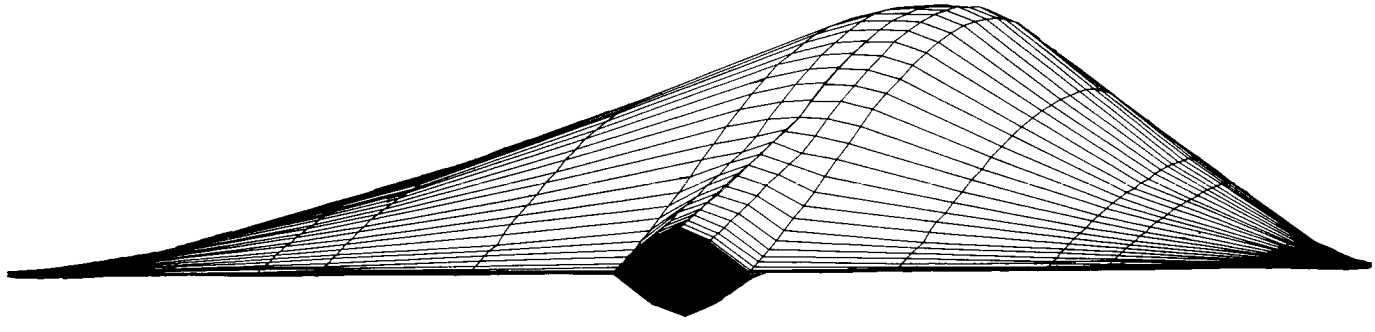
(b) Wing + large vertical tail.

Figure 14. Concluded.



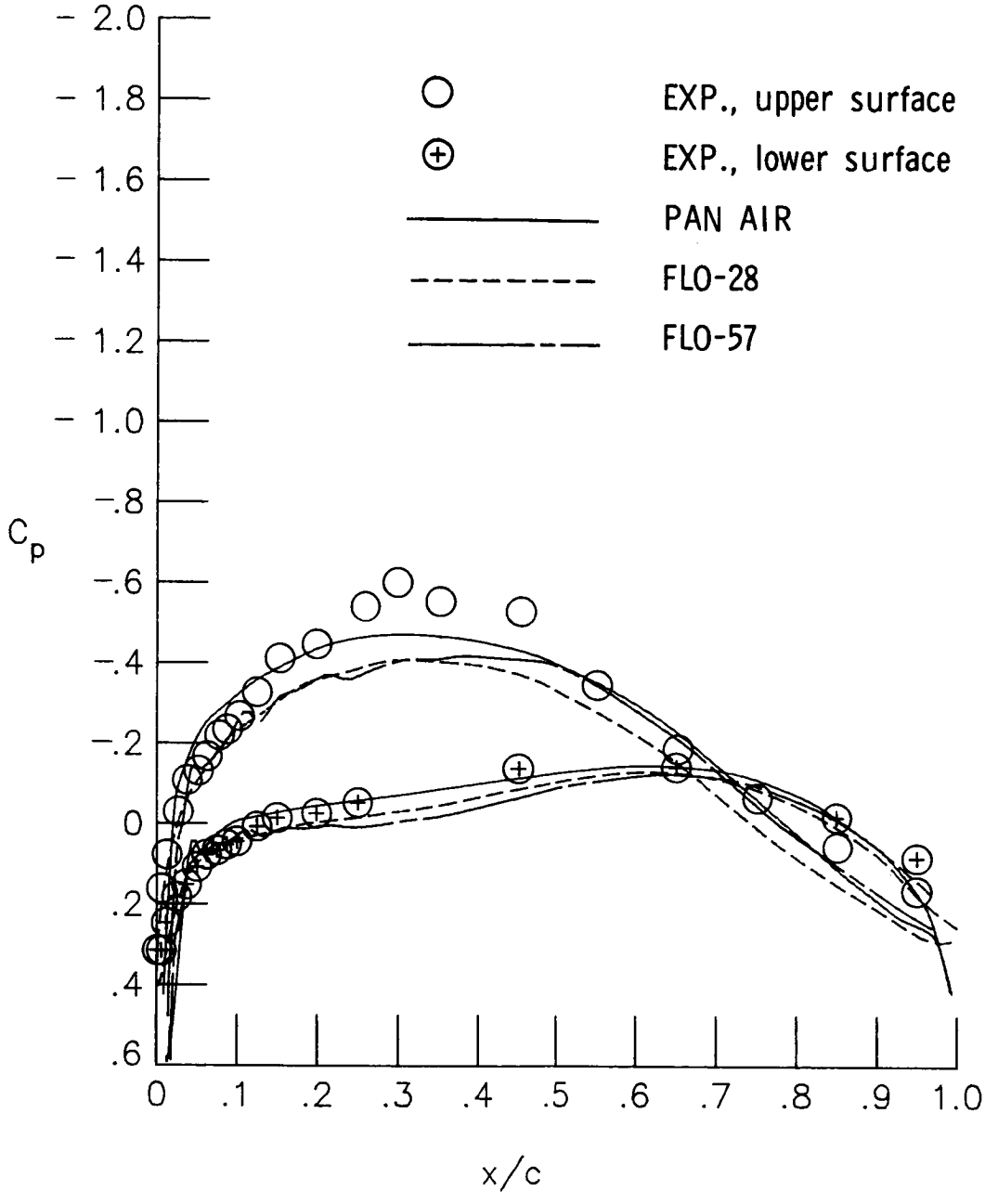
(a) Three-quarter front view.

Figure 15. PAN AIR type panel representation of wing-alone configuration.



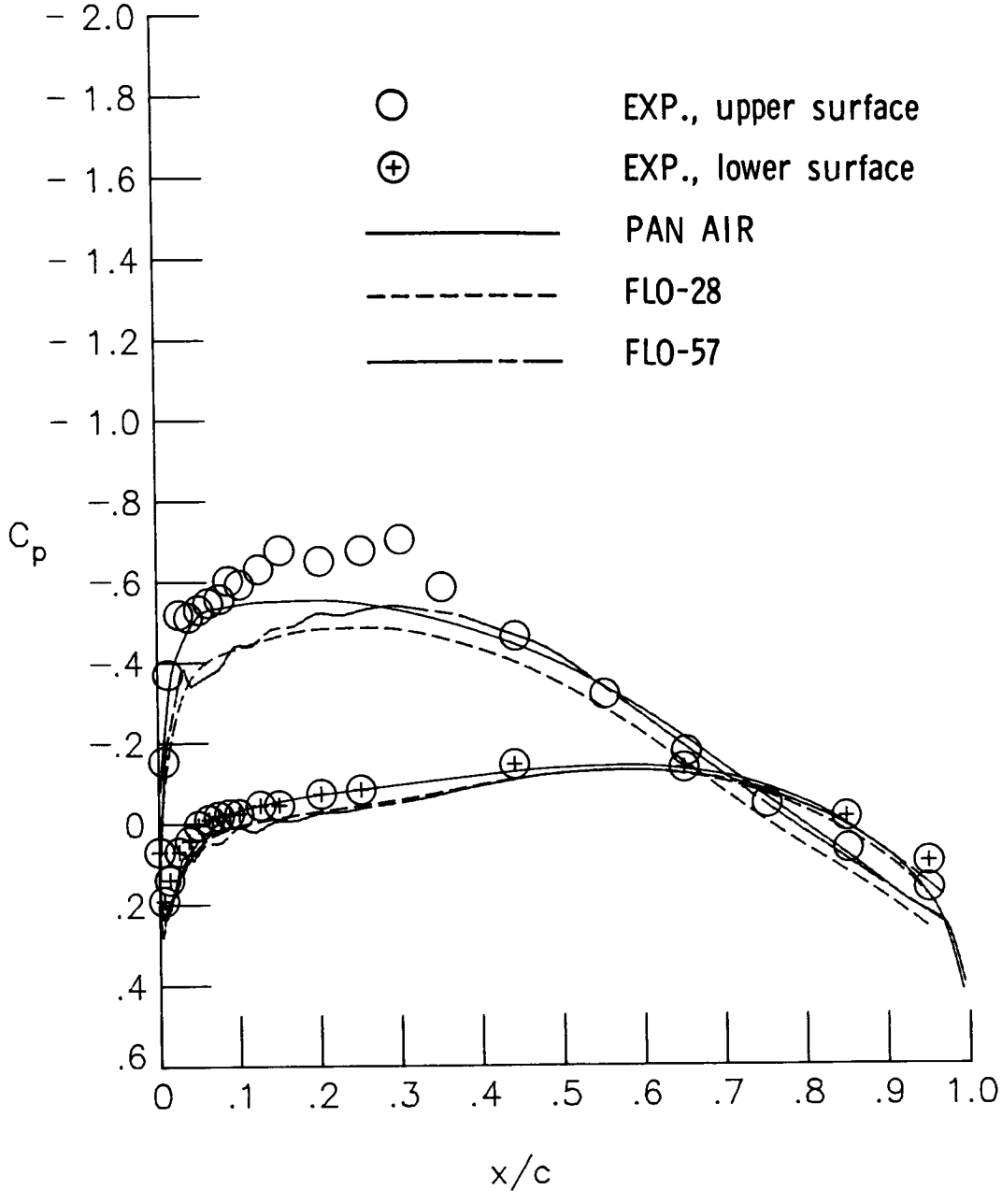
(b) Three-quarter rear view.

Figure 15. Concluded.



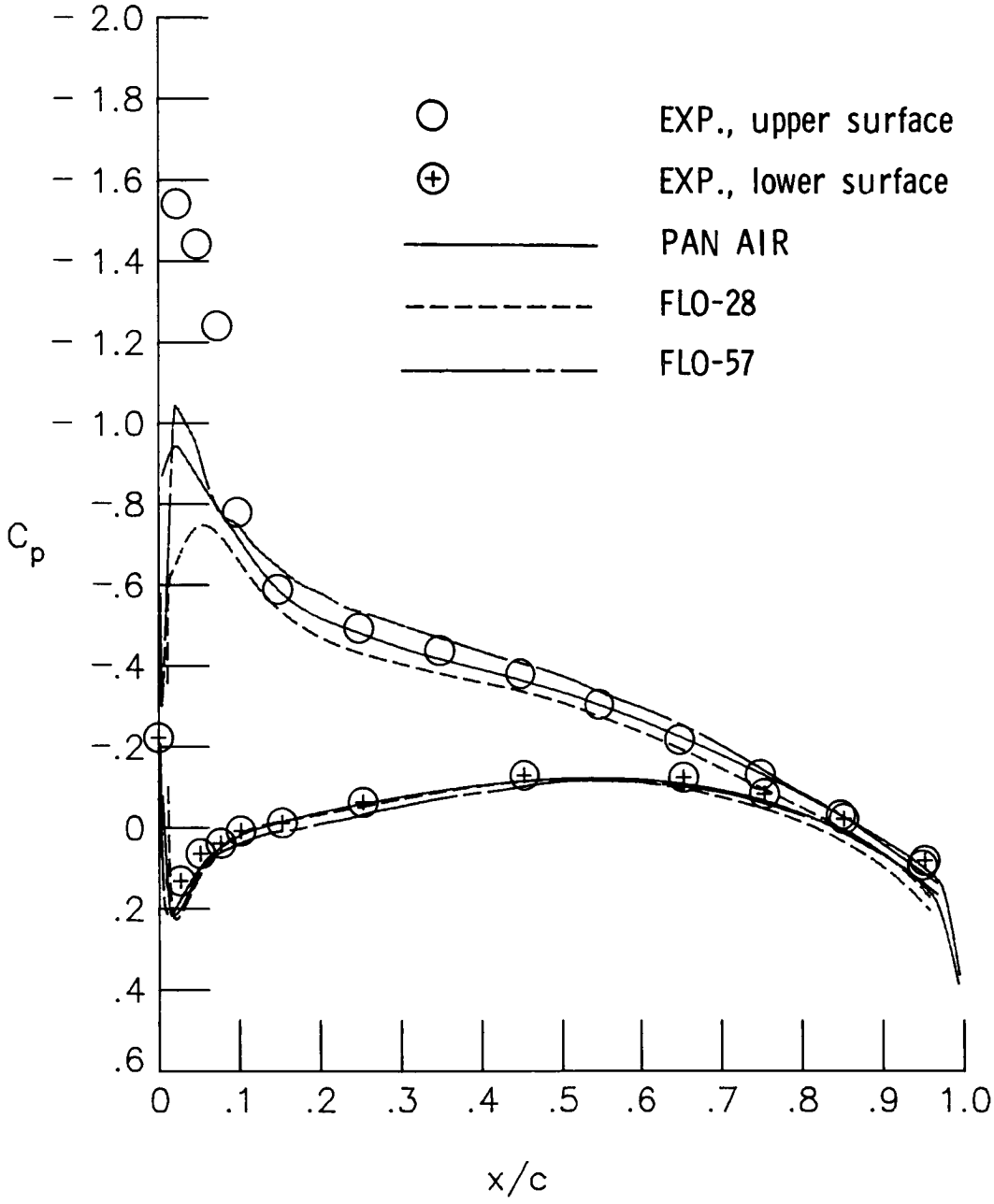
(a) $\eta = 0.10$.

Figure 16. Theoretical and experimental section pressure distribution for wing alone at design conditions, $M_d = 0.80$, and $\alpha = 6.08°$.



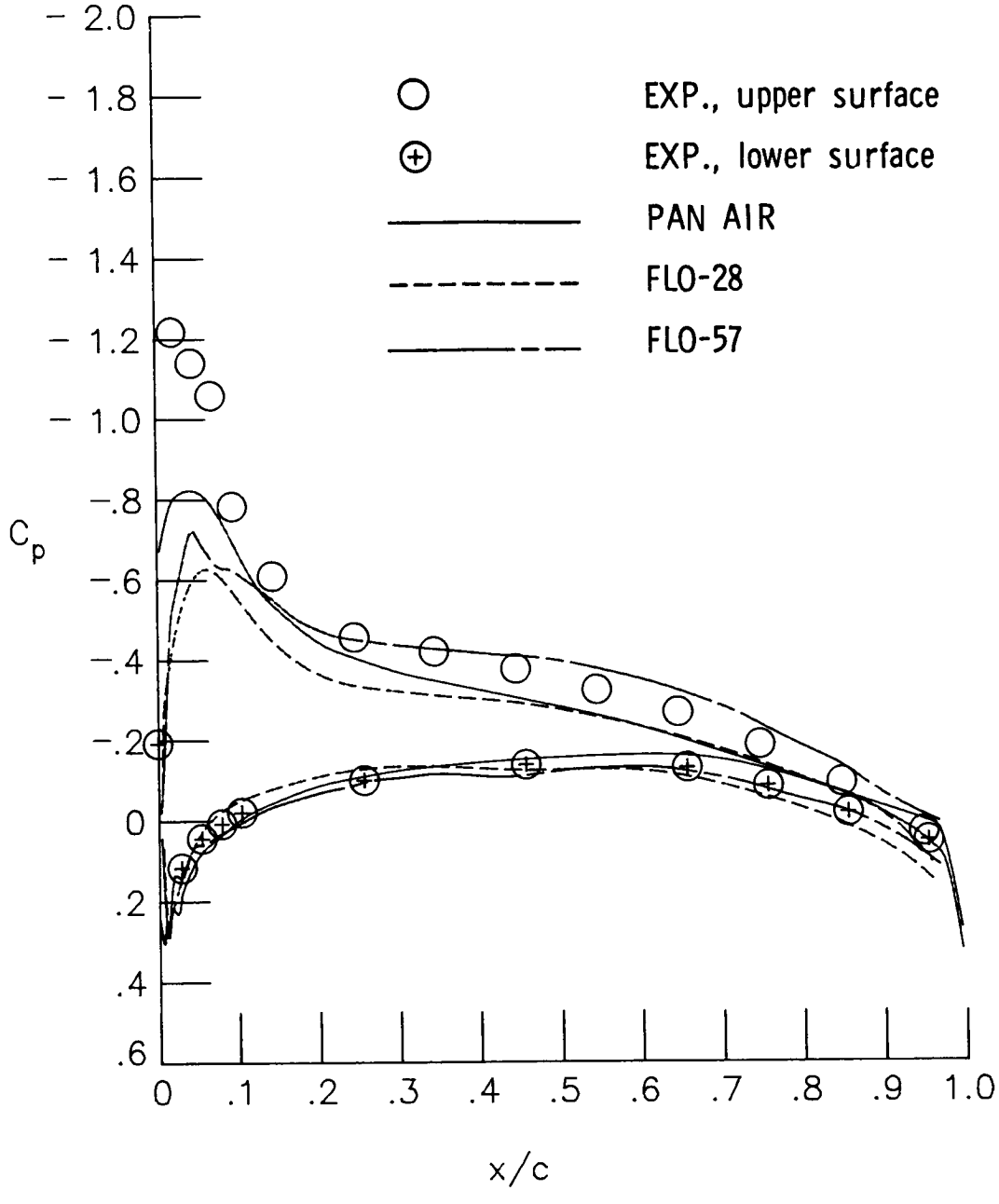
(b) $\eta = 0.30$.

Figure 16. Continued.



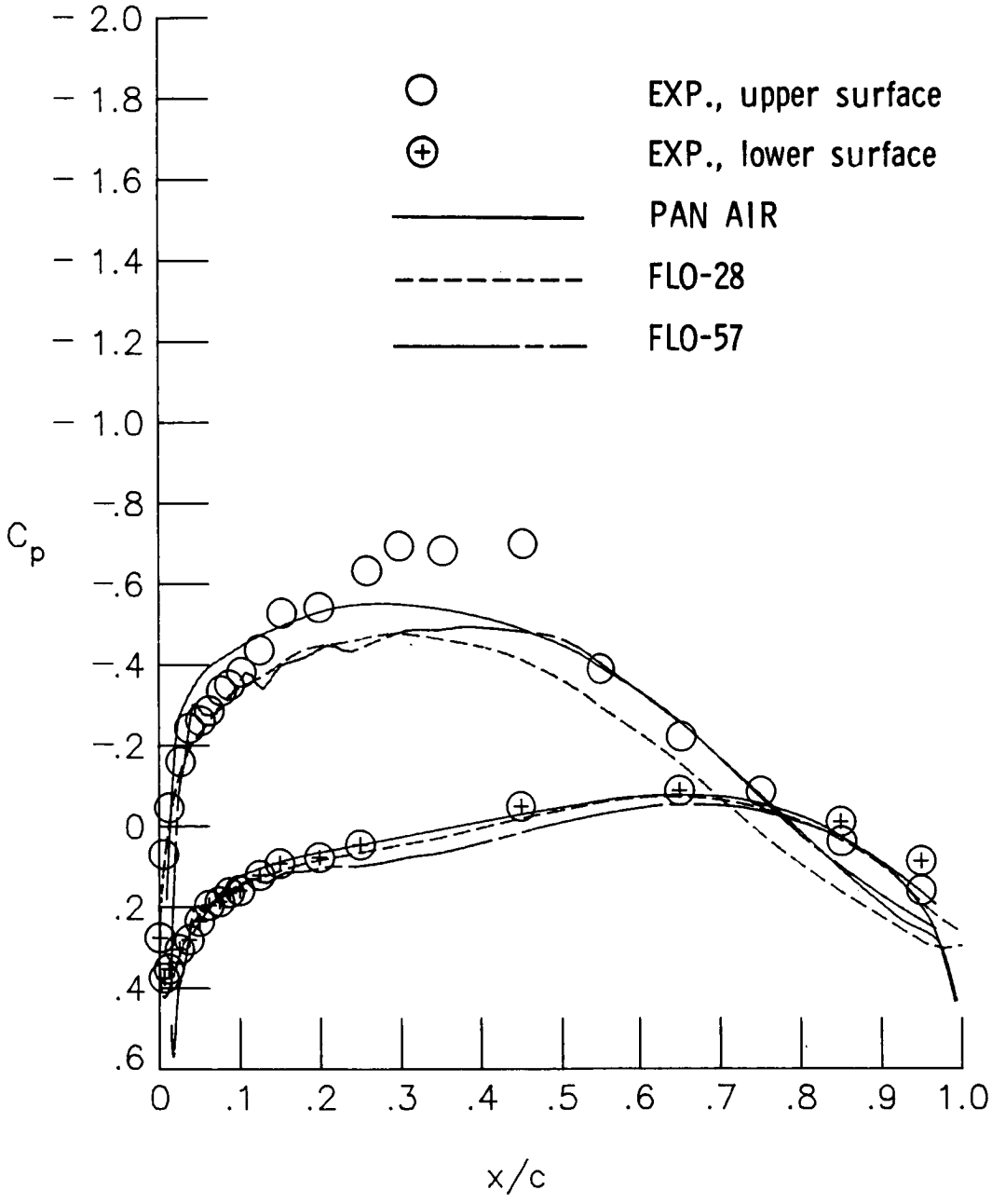
(c) $\eta = 0.60$.

Figure 16. Continued.



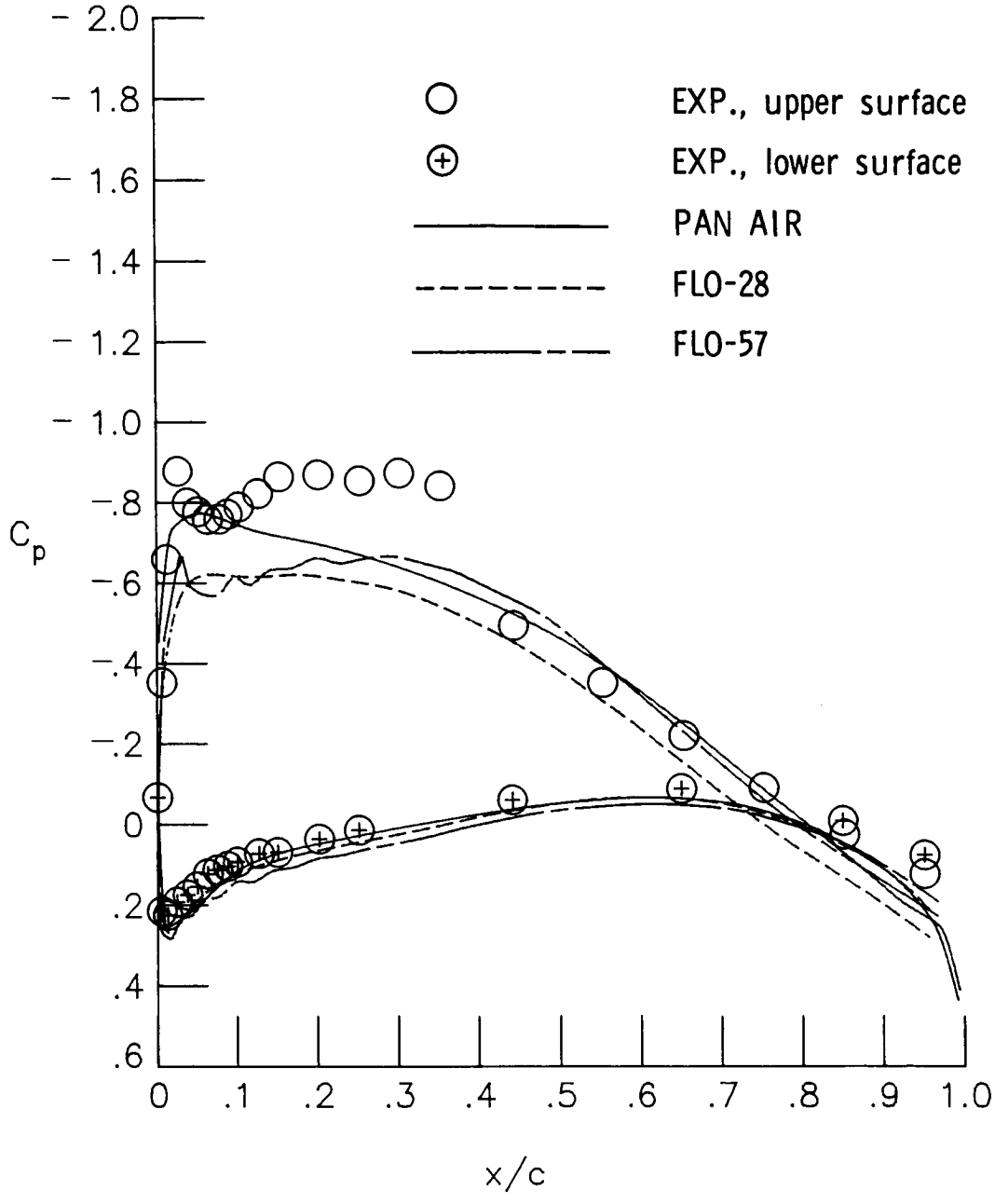
(d) $\eta = 0.80$.

Figure 16. Concluded.



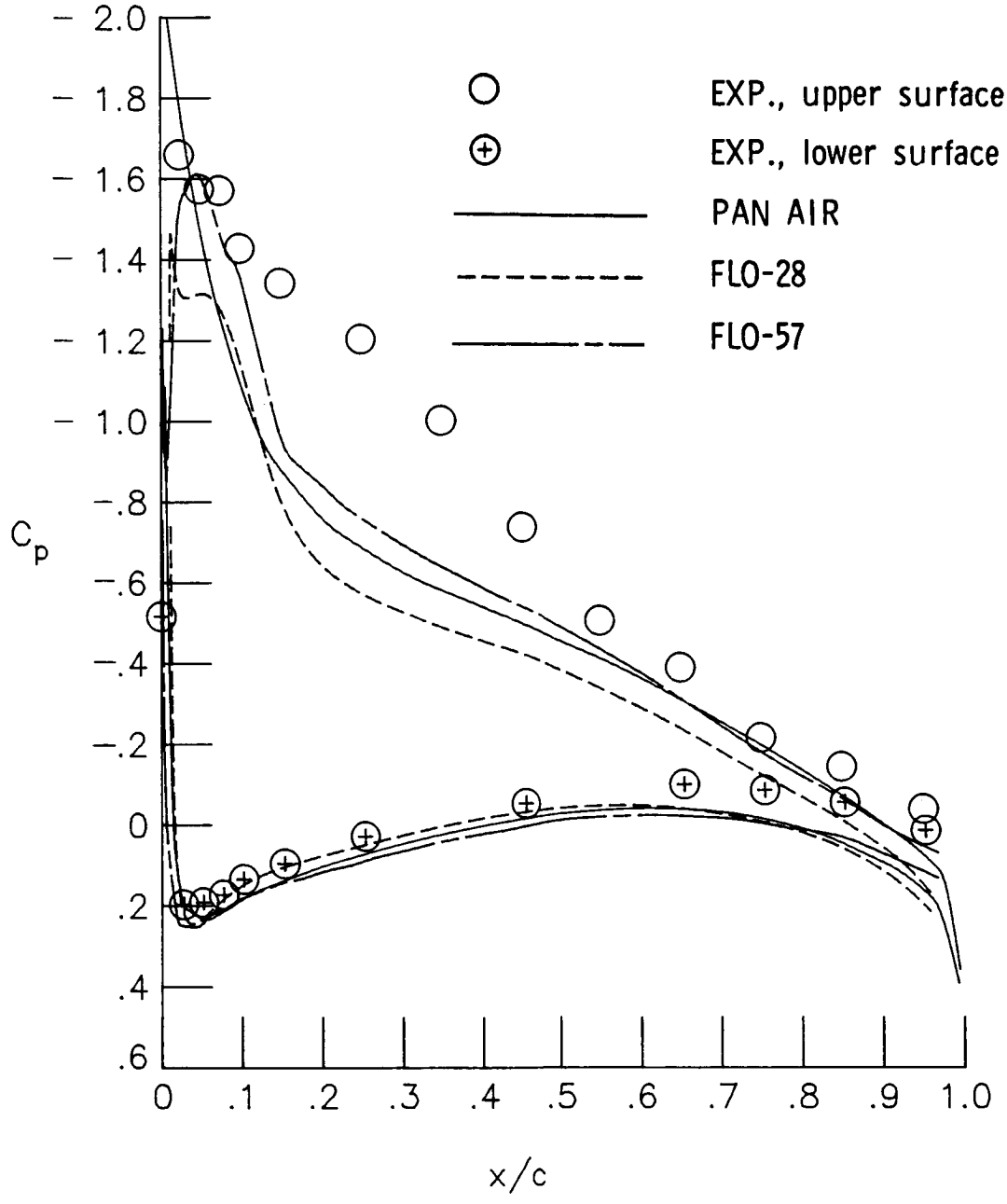
(a) $\eta = 0.10$.

Figure 17. Theoretical and experimental section pressure distribution for wing alone at $\alpha = 9.70°$ and $M_d = 0.80$.



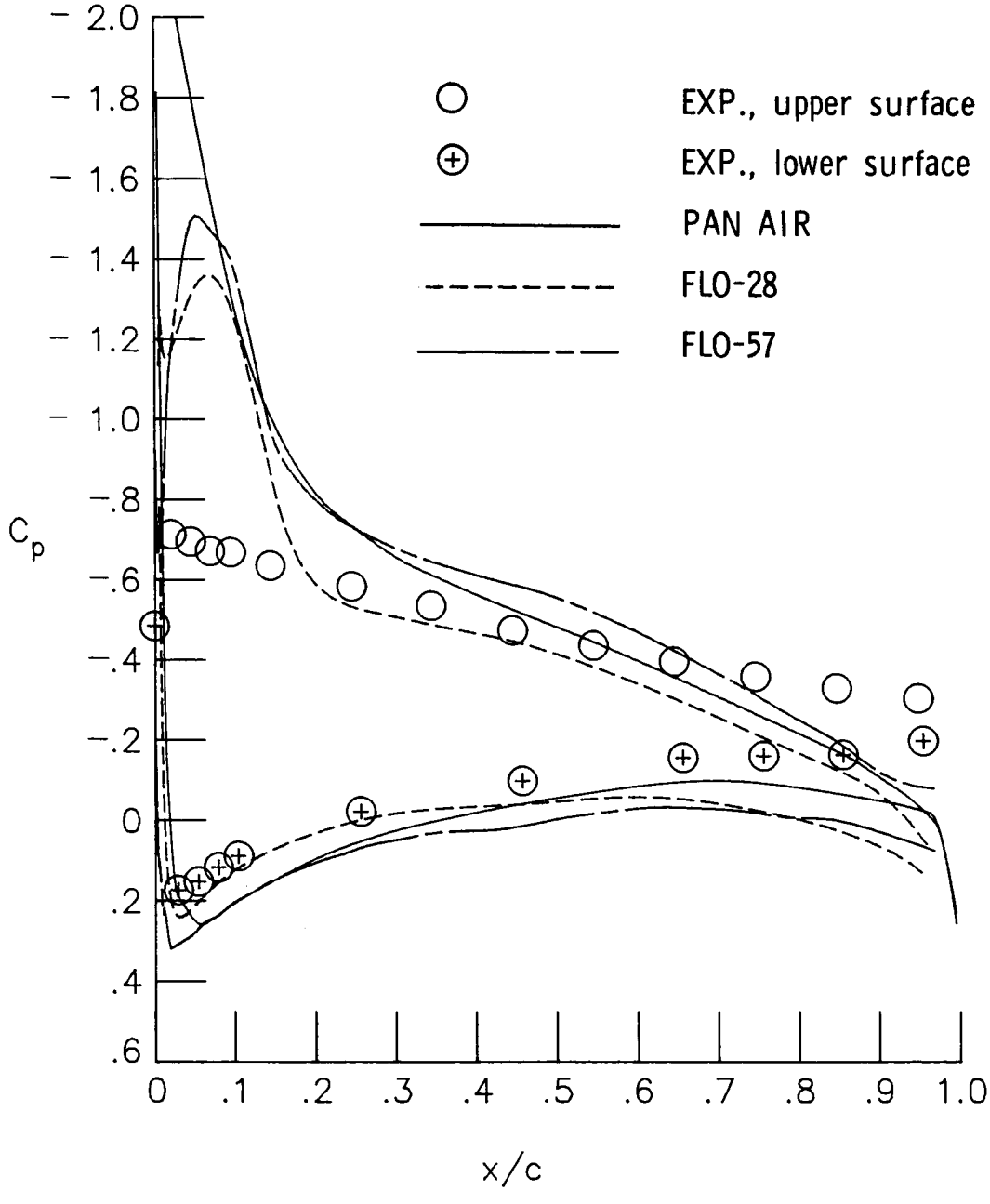
(b) $\eta = 0.30$.

Figure 17. Continued.



(c) $\eta = 0.60$.

Figure 17. Continued.



(d) $\eta = 0.80$.

Figure 17. Concluded.

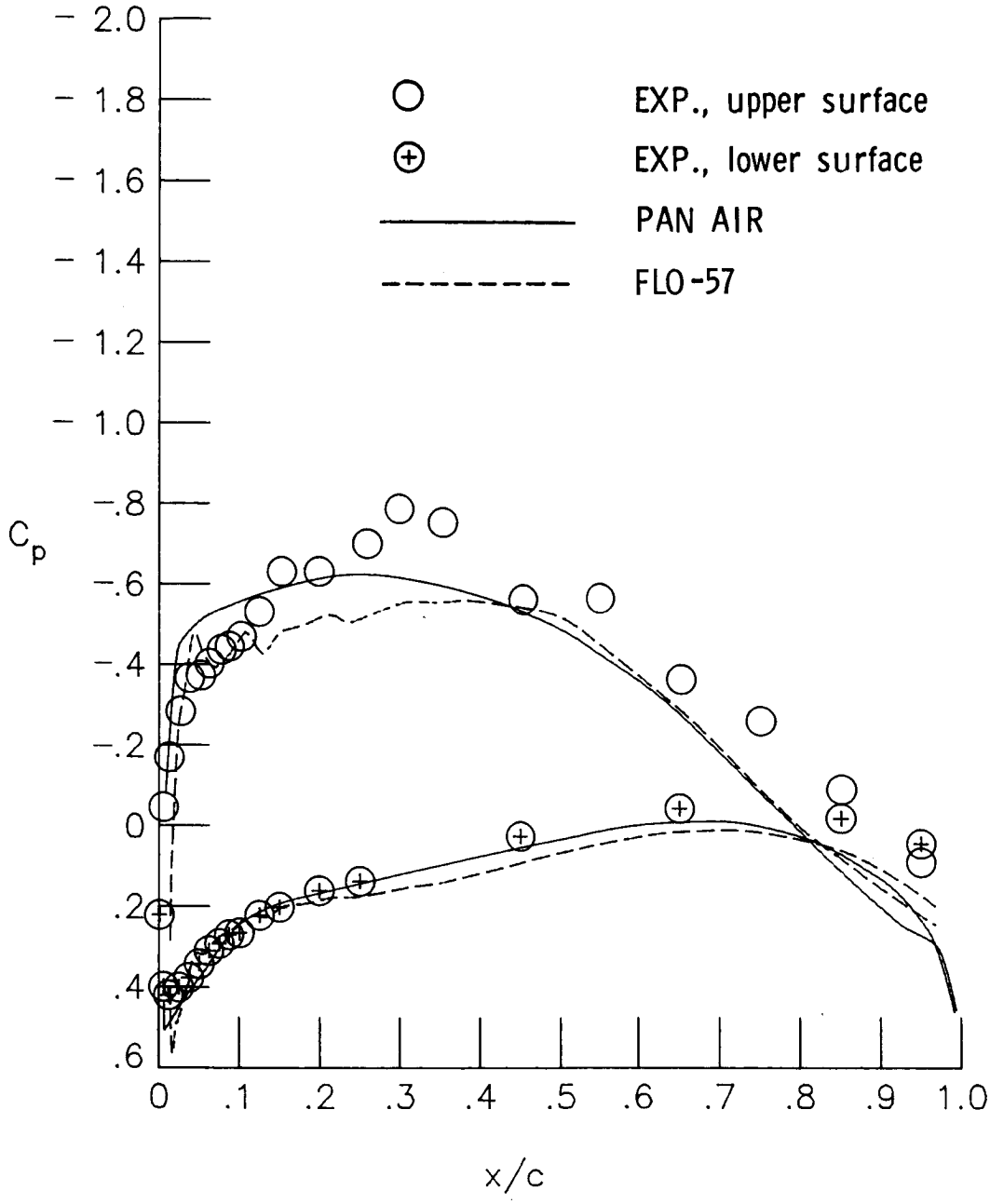
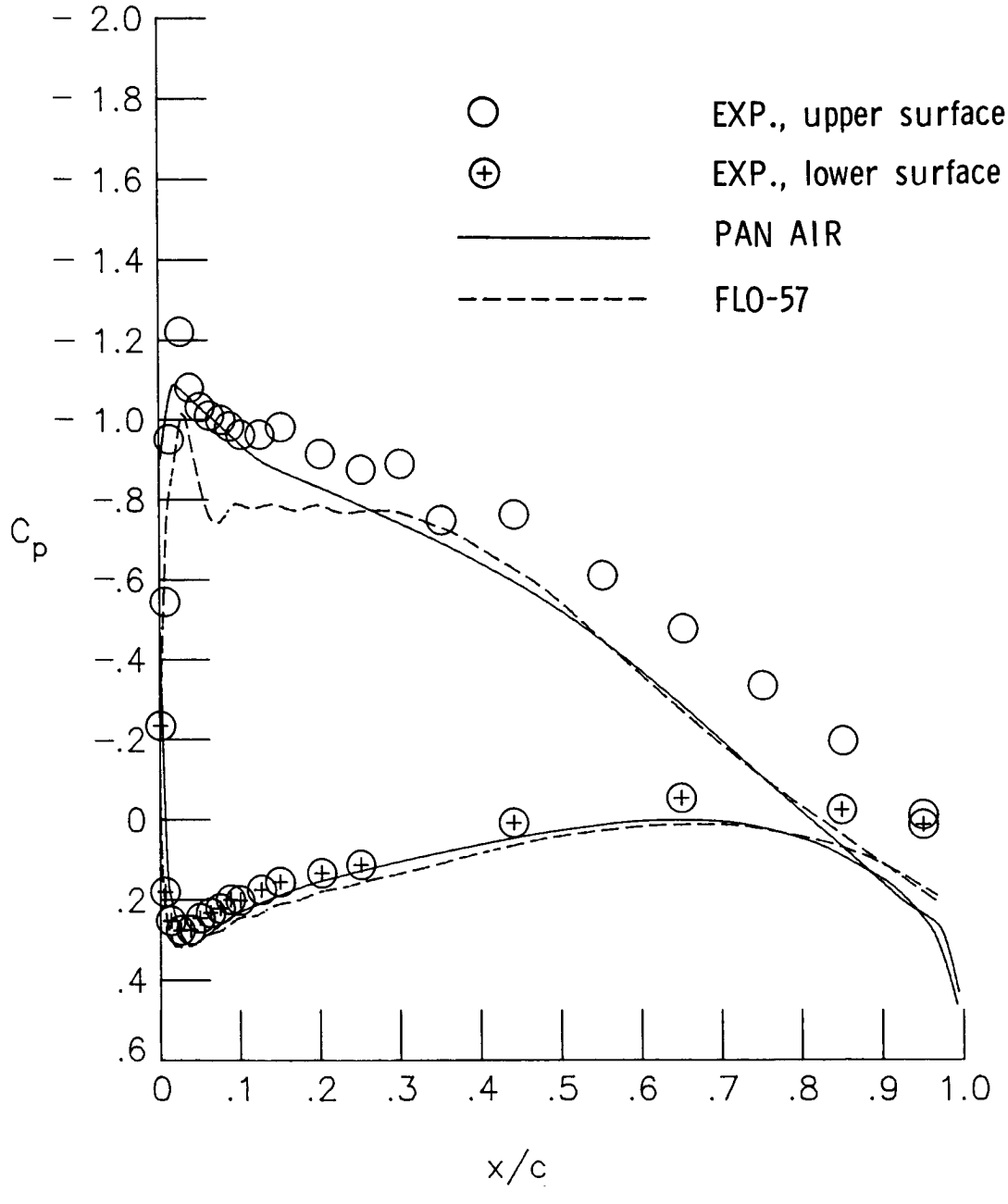
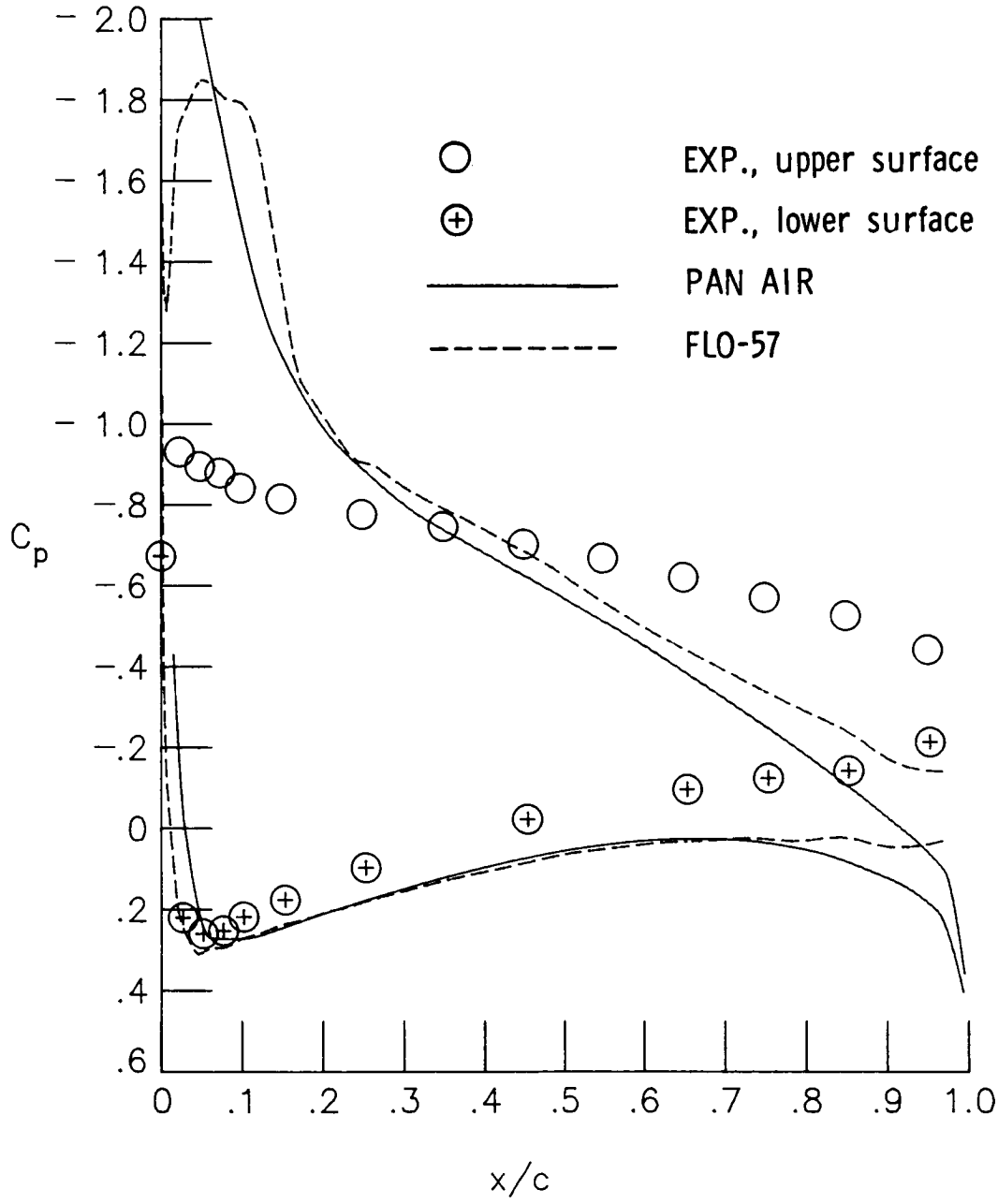


Figure 18. Theoretical and experimental section pressure distributions for wing alone at $\alpha = 13.0°$ and $M_d = 0.80$.



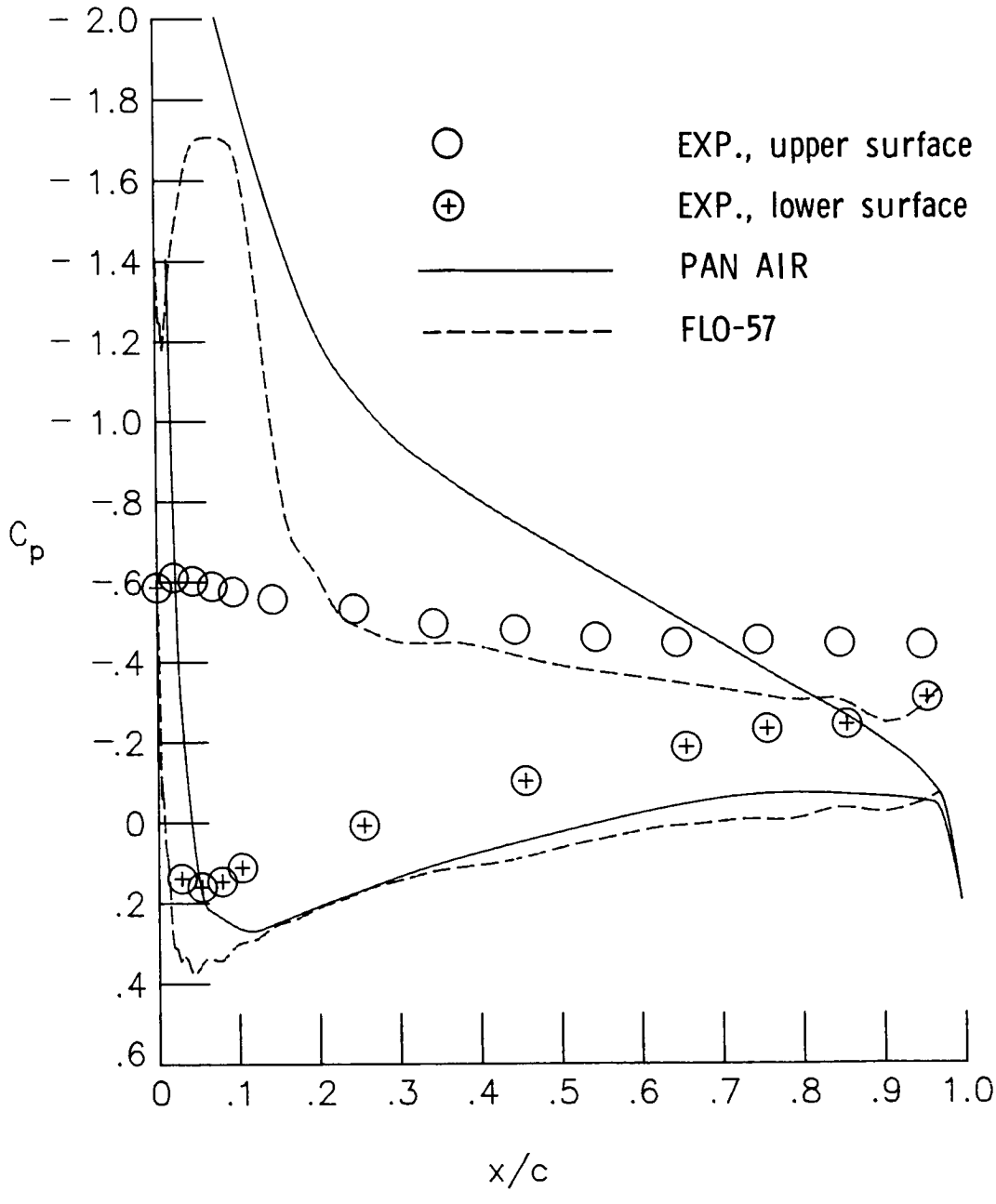
(b) $\eta = 0.30$.

Figure 18. Continued.



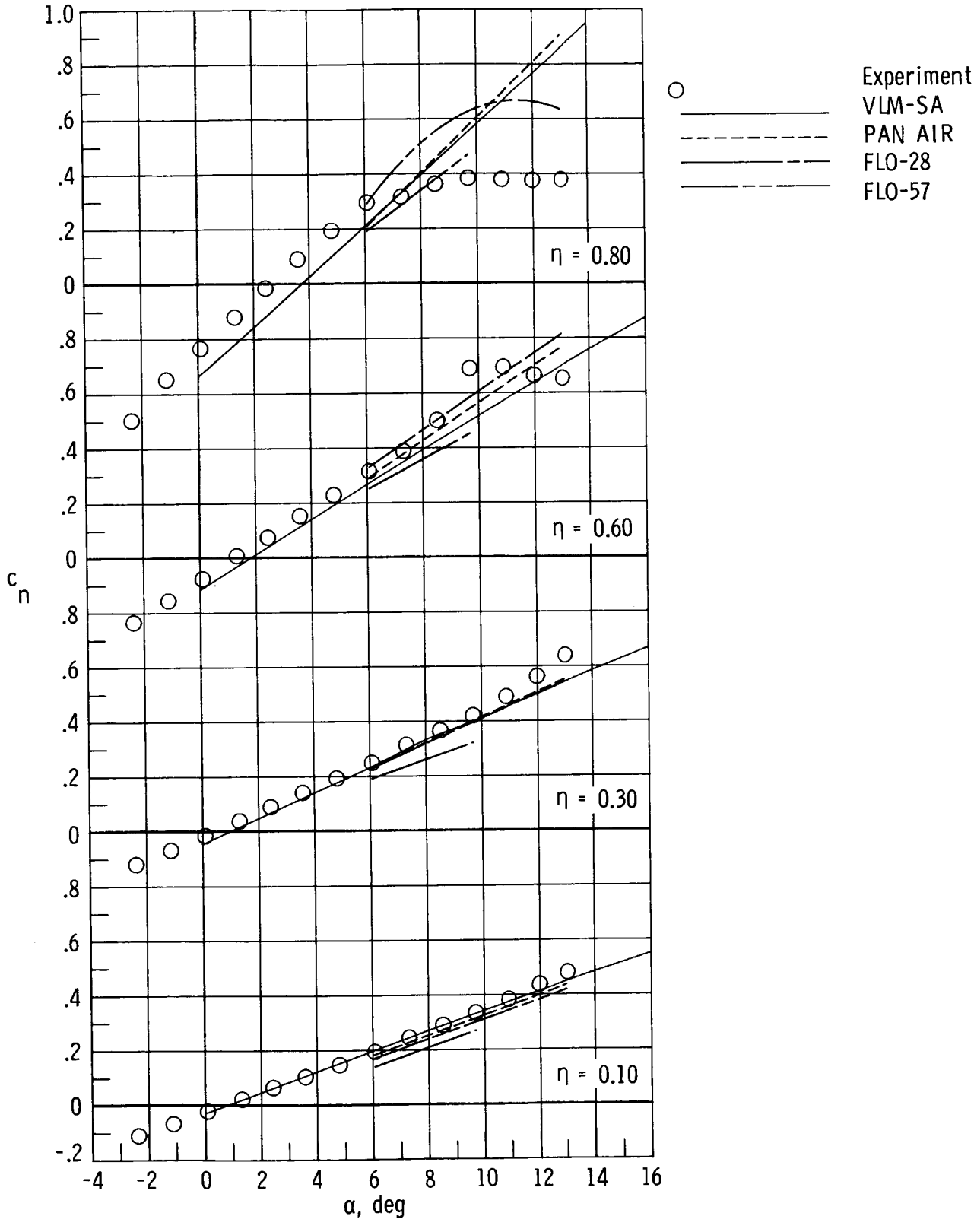
(c) $\eta = 0.60$.

Figure 18. Continued.



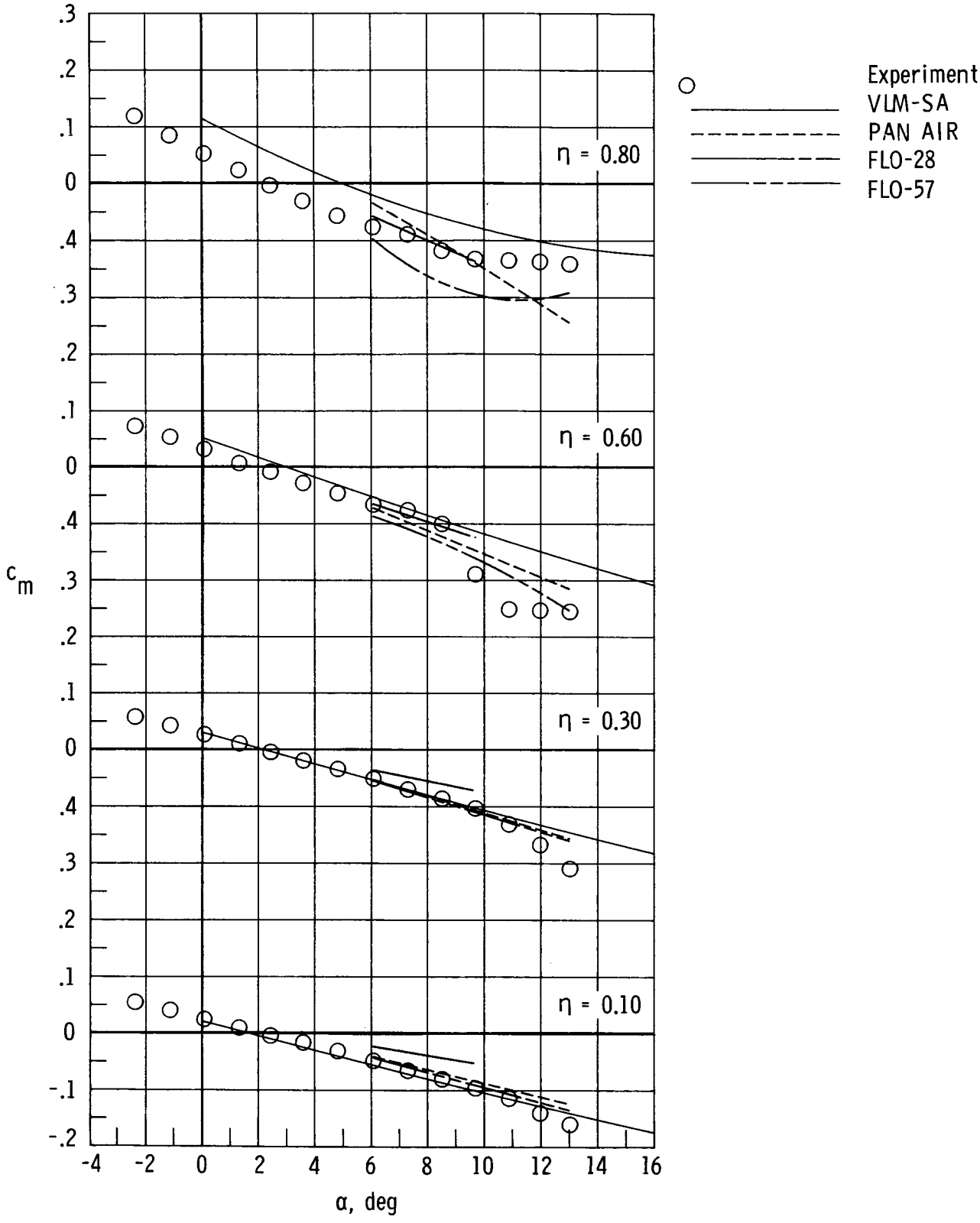
(d) $\eta = 0.80$.

Figure 18. Concluded.



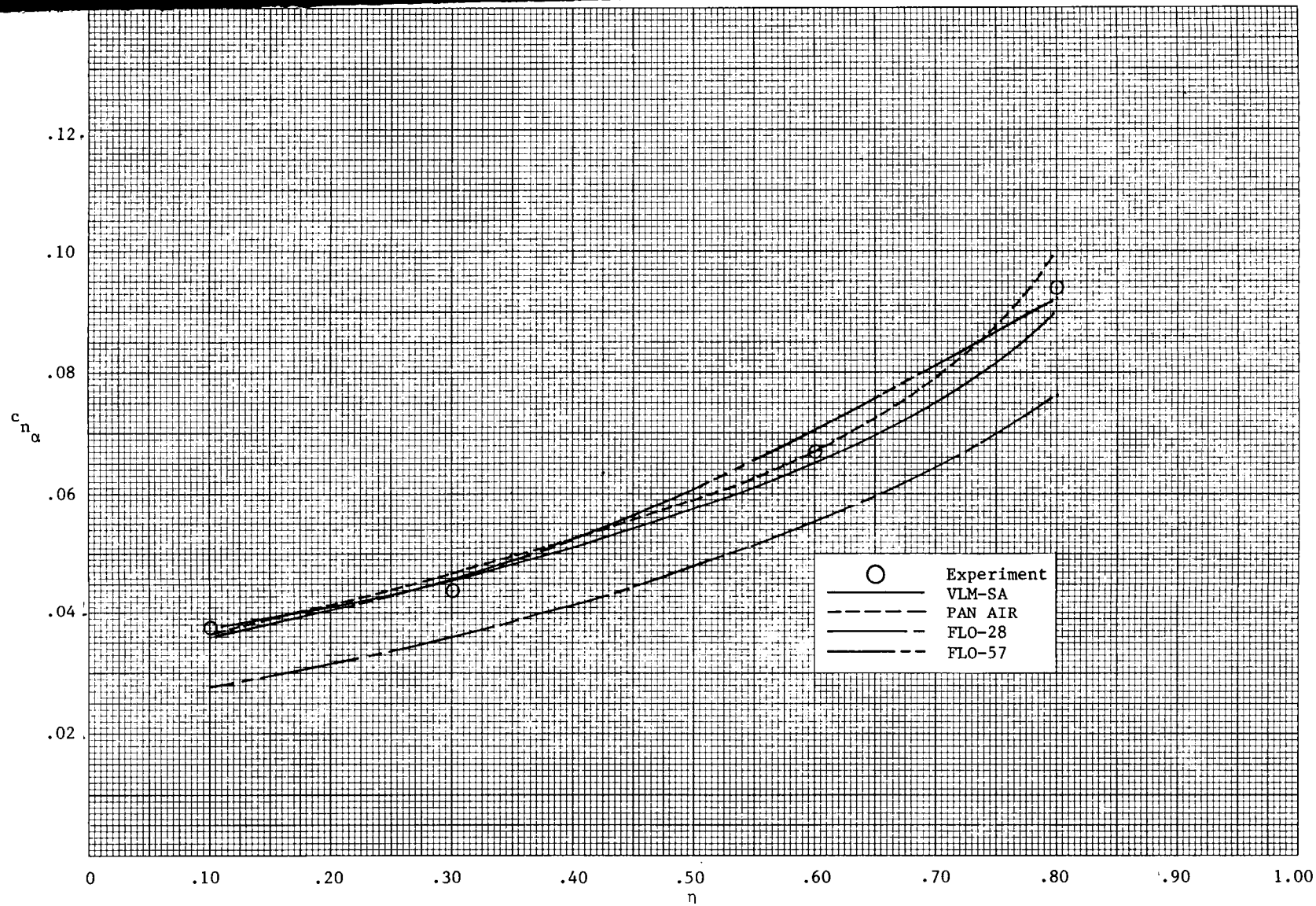
(a) c_n versus α.

Figure 19. Comparison of theoretical and experimental section characteristics for wing alone at $M_d = 0.80$.



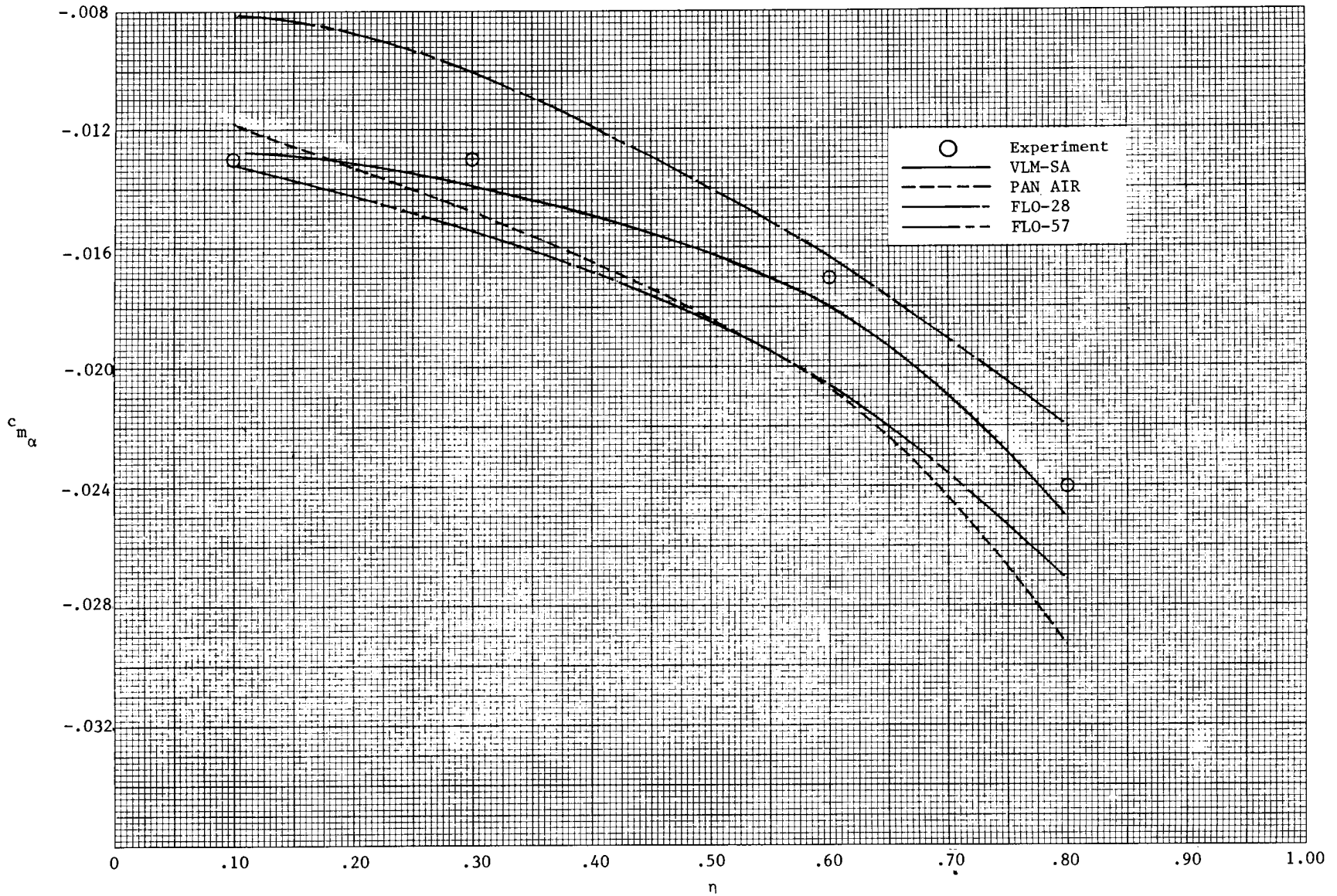
(b) c_m versus α.

Figure 19. Concluded.



(a) c_{n_α} versus η.

Figure 20. Theoretical and experimental variation of low-α longitudinal aerodynamic coefficient slopes for wing alone at $M_d = 0.80$.



(b) c_{m_α} versus η.

Figure 20. Concluded.

NASA
National Aeronautics and Space Administration

Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA TP-2713		

4. Title and Subtitle	5. Report Date
Pressure Measurements on a Thick Cambered and Twisted 58° Delta Wing at High Subsonic Speeds	September 1987
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
Julio Chu and John E. Lamar	L-16224
	10. Work Unit No.
9. Performing Organization Name and Address	505-60-21-02
NASA Langley Research Center Hampton, VA 23665-5225	11. Contract or Grant No.
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address	Technical Paper
National Aeronautics and Space Administration Washington, DC 20546-001	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

A pressure experiment at high subsonic speeds was conducted for a cambered and twisted thick delta wing at the design condition (Mach number 0.80), as well as at nearby Mach numbers (0.75 and 0.83) and over an angle-of-attack range. Effects of twin vertical tails on the wing pressure measurements were also assessed. Comparisons of detailed theoretical and experimental surface pressures and sectional characteristics for the wing alone are presented. The theoretical codes employed are FLO-57, FLO-28, PAN AIR, and the Vortex Lattice Method-Suction Analogy.

17. Key Words (Suggested by Authors(s))

Thick delta wing
Twist
Camber
High subsonic speed
Pressure measurements
Oil flow visualization
Theory and experiment comparisons

18. Distribution Statement

Unclassified—Unlimited

Subject Category 02

19. Security Classif.(of this report)	20. Security Classif.(of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	239	A11

NASA FORM 1626 OCT 86

NASA-Langley, 1987

For sale by the National Technical Information Service, Springfield, Virginia 22161-2171