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A Wind Tunnel Investigation of Three NACA 1-Series Inlets at Mach Numbers Up to 0.92

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SUMMARY

Pressure distributions on three NACA 1-series inlets have been obtained in the Langley 16-Foot Transonic Tunnel. The cowl diameter ratio (ratio of cowl highlight diameter to cowl maximum diameter) was 0.85 for all three inlets. The cowl length ratio (ratio of cowl length to cowl maximum diameter) was 1.0 for two of the inlets (NACA 1-85-100) and 0.439 for the other (NACA 1-85-43.9) inlet. One of the inlets with a cowl length ratio of 1.0 had an internal contraction ratio (ratio of highlight area to throat area) of 1.009 and the other had a contraction ratio of 1.250. The inlet with a cowl length ratio of 0.439 also had an internal contraction ratio of 1.250. All three inlets had longitudinal rows of static pressure orifices on the top and bottom external cowl surfaces. The inlet with a contraction ratio of 1.009 also had a row of static pressure orifices on the side of the cowl (external surface). The two inlets with a contraction ratio of 1.250 had a longitudinal row of static pressure orifices on the diffuser surface.

The NACA 1-85-100 inlets were tested in the Mach number range from 0.79 to 0.92 and the NACA 1-85-43.9 inlet was tested in the Mach number range from 0.60 to 0.92. Inlet mass-flow ratios ranged from 0.27 to 0.96 depending on inlet configuration and freestream Mach number. Angle of attack was varied within the range -3° to 3.1° at selected Mach numbers and mass-flow ratios. The Reynolds number of the test varied with Mach number from 3.2×10^6 to 4.2×10^6 per foot.

INTRODUCTION

Engine installation on jet-powered subsonic transport aircraft generally results in each engine being wrapped separately in a nacelle that is essentially symmetric (in external contour) about the axis of the engine rotating components. The nacelle is pylon mounted (displaced from the airframe) so that during cruise flight at least the forward portion of the nacelle will pass through air that has not been significantly disturbed by the passage of any main airframe components. Such installations permit some decoupling of nacelle design from airframe design in that substantial development of at least the inlet portion of the nacelle can be done independently. This independence of inlet geometry from airframe geometry makes the pitot-type subsonic inlet data base available in the literature directly useable for many aircraft applications.

Inlets for turbojet and turbofan powered subsonic aircraft must provide high quality flow to the engine fan and compressor, produce low external drag, be low in weight and have noise characteristics acceptable to the community. High quality flow for the engine is provided by designing the internal flow lines (cowl lip, throat contour, and diffuser) for separation-free flow. Based on internal flow considerations, cowl length and weight are minimized by making the inlet throat radius as large as possible and by designing the diffuser contour so that the diffusion angle is close to the maximum for separation-free flow while allowing some margin at the most adverse operating conditions. For commercial applications it is also important to consider noise suppression during diffuser design since this may have some effect on how short the cowl portion of the nacelle can be. The external drag is minimized, based on external flow considerations, by making the maximum cowl diameter and length as small as possible while still obtaining the desired drag divergence Mach number and spillage critical mass-flow ratio.

Many of the pitot-type subsonic transport nacelle forebodies (cowls) used in the past have been based (at least in part) on the NACA 1-series contour which was developed in the 1940's. The NACA 1-series contour has a relatively small leading edge radius (external to the highlight) and because of this has good high speed spillage drag characteristics. However, high speed external performance of the NACA 1-series contour must often be compromised by increasing the leading edge radius to achieve acceptable internal performance at low speed and static crosswind conditions. The NACA 1-series contour was developed concentrating on the inlet external performance with the assumption that throat and diffuser shape would be essentially a separate design endeavor. Most of the published experimental data obtained on NACA 1-series inlets is contained in references 1 to 10.

Evolutionary changes in transport aircraft speeds, engine cycle and mass flow needs, and advances in analytical and computational techniques applicable to inlet forebody design and analysis have produced the need for some expansion of the experimental data base. To this end, three inlet models having the same cowl highlight diameter have been investigated to obtain pressure data on the inlet forebody exterior and lip over a range of mass-flow ratios. Two of the inlets had an NACA 1-85-100 external contour but had different internal lip contours and internal contraction ratios. One of these inlets had a contraction ratio of 1.009 and has been tested previously over a limited range of mass-flow ratios (refs. 9 and 10). The other NACA 1-85-100 inlet had a contraction ratio of 1.250 and therefore had a different internal lip shape and throat diameter. The third inlet had an NACA 1-85-43.9 contour and a contraction ratio of 1.250. The two inlets with 1.250 contraction ratio had identical internal surface contours so that the effect of the 53.1 percent change in external cowl length on the surface pressure distributions could be determined. The difference in inlet lip contour and contraction ratio between the two NACA 1-85-100 inlets will show the effect, if any, of the internal contour change on the external surface pressure distributions.

The investigation was conducted in the Langley Research Center 16-Foot Transonic Tunnel at Mach numbers ranging from 0.60 to 0.92, mass-flow ratios from 0.27 to 0.96, and at angles of attack within the range from -3° to 3.1° at selected mass-flow ratios and Mach numbers. Cowl external static pressures were measured in rows on the top and bottom surfaces of the inlets (in the plane of vertical symmetry). The NACA 1-85-100 inlet with a contraction ratio of 1.009 also had a longitudinal row of cowl external static pressure orifices on the side of the inlet. Diffuser wall static pressures were measured in the two inlets with a contraction ratio of 1.250.

SYMBOLS

Symbols in parenthesis are used in computer generated tables.

A area normal to model centerline, in^2

C_p	(CP)	local pressure coefficient, $(p-p_0)/q_0$
D_{max}		maximum diameter of model, 18.0 in.
d		inlet internal diameter at end of lip radius (see Table I), in.
L	(L)	length of cowl from lip (highlight) to start of cylindrical portion of model,in., see fig. 1
mfr		mass-flow ratio based on highlight area, $1/(\rho A_h V_0)\int \rho_r V_r dA$
M		freestream Mach number
p		local static pressure, psi
p_0		freestream static pressure, psi
q_0		freestream dynamic pressure, psi
R_p		pressure probe radial distance from model centerline, in.
R_w		radial distance from model centerline to duct outer wall, 8.40 in.
(RMAX)		maximum external cowl radius, in.
(R/RMAX)		nondimensionalized radius, in percent, from centerline of model to cowl or diffuser surface, RMAX = 9.0 in.
R_0		freestream Reynolds number, per foot
r		lip radius internal to highlight for NACA 1-series inlet (see Table I), in.
V		velocity, ft/sec
x/L	(X/L)	nondimensionalized distance, in percent, from cowl lip measured longitudinally (aft) with negative values indicating locations on the internal surface
x	(X)	longitudinal distance measured aft of the cowl lip (highlight), in.
Y		radial distance at RMAX minus inlet highlight radius (see Table I), in.
y		radial distance minus inlet highlight radius (see Table I), in.
α		angle of attack with respect to forebody centerline, deg
ρ		density slug/ft^3
ϕ		meridian angle, measured from top of model in clockwise direction when looking upstream, deg

Subscripts:

h	highlight, most forward point on cowl lip
max	maximum
r	axial mass-flow rake measuring station in duct
0	freestream condition

MODELS

A complete model test installation consisted of an inlet cowl and cylindrical section which were supported by a force balance, and an afterbody (also cylindrical) which was supported by the sting upon which a remote controlled mass-flow throttle plug was mounted. A simplified cross-sectional sketch of the model assembly is shown in figure 1 and a photograph of a typical model installation in the wind tunnel test section is shown in figure 2.

The basic nondimensionalized NACA 1-series outer profile ordinates, as presented for a given lip radius of 0.025Y in reference 1, are reproduced in table I. The NACA 1-85-100 inlet with an internal contraction ratio of 1.009 (table II) was used in the investigations of references 9 and 10. The second NACA 1-85-100 cowl had the same external profile, but had a different lip radius and an internal contraction ratio of 1.250 (table III). The third inlet (table IV) also had an internal contraction ratio of 1.250 but had a shorter cowl profile (NACA 1-85-43.9). This third inlet was designed to have the same overall assembled model length by including a section of constant (external) diameter at the end of the cowl profile. The internal contours (including the diffuser) of the two inlets with a 1.250 contraction ratio were identical.

Total model length was 52.0 inches (fig. 1) with the forward 27.50 inches, which included the cowl, supported by four struts that connected to a force-balance mounted centerbody. The aft 24.50 inches (cylindrical in external shape) of the model was supported by four struts attached to the support sting. A 0.10 inch gap between the forward and aft portions of the model was spanned by a free floating flexible strip to inhibit flow leakage. Three of the four struts supporting the forward portion of the model were instrumented with pressure (fig. 3) probes to measure the internal mass flow. These struts were also used to route the tubes from the inlet surface static-pressure orifices to differential pressure-scanning units mounted in the nose of the centerbody. All pressure tubes associated with the aft portion of the model were routed through the four rear support struts; into the sting; and out through the tunnel support system to another differential pressure-scanning unit.

The mass-flow throttle plug was driven by an internally housed remote controlled electric motor and had a travel capability of about 10 inches (fig. 1). The open area at the exit of the model (normal to the centerline of the model) could be varied from 27.5 in^2 to 244.9 in^2 (plug in its two extreme positions).

WIND TUNNEL

The investigation was conducted in the Langley Research Center 16-Foot Transonic Tunnel which is a single-return atmospheric wind tunnel with continuous air exchange. The test section is octagonal in shape with 15.5 feet between opposite walls (equivalent in area to a circle 16 feet in diameter) and has axial slots at the wall vertices. The total width of the eight slots in the vicinity of the model is approximately 3.7 percent of the test section perimeter. The extreme limits of solid blockage of the model in the test section is between 0.88 percent for the hypothetical case of no flow through the model and 0.79 percent for the case of the throttle plug only (the throttle plug in its most rearward position). The tunnel sting support system pivots in such a manner that the model remains on or near the test section centerline through the angle of attack range. Details of the operation of the tunnel and its flow qualities are presented in references 11 to 13.

TESTS AND METHODS

Each inlet was tested at Mach numbers up to 0.92 at an angle of attack of 0° and over a nominal angle of attack range (less than 3.1°) at selected Mach numbers and mass-flow ratios. Freestream Reynolds number per foot varied with Mach number from 3.2×10^6 to 4.2×10^6 (fig. 4). All the data presented herein are for artificially fixed boundary layer transition on the internal and external surfaces of the model. Boundary-layer transition on the external surface of the model was fixed by applying a 0.10 inch wide circumferential strip of number 120 silicon carbide particles 0.6 inch aft (streamwise) of the cowl lip. Boundary-layer transition was fixed on the internal flow surface of the model by applying a 0.10 inch wide circumferential strip of number 120 silicon carbide particles at the geometric throat of each inlet.

Angle of attack was computed by correcting the measured angle of attack of the support system for deflection of the sting and force balance due to aerodynamic forces and moments and for tunnel stream angularity. Although the test was conducted with the model mounted on a force balance, the data from it will not be presented since the balance was damaged during the test. Duct mass flow was calculated from the freestream total temperature, rake area-weighted stagnation pressures, and static pressures from the rake, centerbody surface, and duct wall.

No corrections have been made to the pressure data for test section wall interference effects. The presence and geometry of the mass-flow plug will have an effect on the afterbody external flow field. Therefore, the afterbody pressure data presented in the pressure tabulations should be considered qualitative, especially for pressures near the model aft end. The effect of the mass-flow plug should be the greatest for cases with large mass-flow ratios where the internal flow exits the afterbody before passing over the front face of the mass-flow plug and therefore has not been turned back streamwise by the internal afterbody surface.

PRESENTATION OF RESULTS

The results of this investigation are presented primarily in tabular form as local internal and external pressure coefficients in tables V to VII. The surface pressure coefficients are tabulated against nondimensionalized orifice location (X/L) where L is the length of the NACA cowl portion of the model. The ratio X/L is presented in percentage form in the tables. A negative value of X/L indicates the orifice is located on the internal surface (downstream of the highlight) of the inlet. The pressure coefficients are presented for either two or three meridian angles (PHI) depending on the number of rows of orifices on the configuration. Inlet mass-flow ratio and angle of attack are given at the top of each table. In addition, some data are presented graphically (figs. 5 to 11) to illustrate the variation of pressure coefficient with X/L over the lip and cowl portion of the model over a range of Mach numbers, mass-flow ratios, and angles of attack. Some graphical data are presented in figures 12 to 15 for the two inlets with a contraction ratio of 1.250 to show the effect of mass-flow ratio and angle of attack on the lip and diffuser pressure coefficient distributions.

Summaries of the tabular and graphical data presented are contained in the following three listings. The listing for each cowl includes nominal test condition information and table and figure numbers for the pressure coefficient data.

NACA 1-85-100 with contraction ratio 1.009

Pressure coefficients				
M	mfr	α,deg	Table	Figure
0.79	0.57	0	V(a)	5(a)
	.64			5(a)
	.71			
	.77			5(a)
	.85			5(a)
0.84	0.57	-3.0	V(b)	
		-2.0		6(a)
		-1.0		
		0		5(b),6(a),7(a)
		1.0		
		2.0		6(a),7(a)
		3.0		
	.64	0		5(b)
	.71	0		
	.78	-3.1		
		-2.1		6(b)
		-1.1		
		0		5(b),6(b),7(b)
		1.0		
		2.0		6(b),7(b)
		3.0		
	.95	-3.1		
		-2.1		6(c)
		-1.1		
		-0.1		5(b),6(c),7(c)
		1.0		
		2.0		6(c),7(c)
		3.0		
0.87	0.57	-2.0	V(c)	6(d)
		0		5(c),6(d),7(d)
		2.1		6(d),7(d)
	.63	0		5(c)
	.70			
	.78			5(c)
0.89	0.57	-2.1	V(d)	6(e)
		0		5(d),6(e),7(e)
		2.1		6(e),7(e)
	.62	0		5(d)
	.71	0		
	.77	-0.1		5(d)
	.96	0		5(d)
0.92	0.57	0	V(e)	5(e)
	.63			5(e)
	.71			
	.77			5(e)
	.96			5(e)

NACA 1-85-43.9 with contraction ratio 1.250

Pressure coefficients				
M	mfr	α,deg	Table	Figure
0.60	0.28	0	VI(a)	14(a)
	.31			
	.40			8(a)
	.50	↓		8(a),9(a),14(a),15(a)
		1.0		
		2.0		9(a),15(a)
	↓	3.0		15(a)
	.56	0		
	.63			14(a)
	.69	↓		8(a),9(b),15(b)
	.69	2.0		9(b),15(b)
	.75	0		14(a)
	.82	0		8(a),9(c),14(a),15(c)
	.82	2.0		9(c),15(c)
↓	.93	0	↓	
0.64	0.27	0	VI(b)	14(b)
	.30			
	.40			
	.50			14(b)
	.55			
	.62			14(b)
	.68			
	.75			14(b)
↓	.81	↓	↓	14(b)
0.69	0.28	0	VI(c)	14(c)
	.30			
	.40			8(b)
	.49	↓		8(b),9(d),14(c),15(d)
	.49	2.0		9(d),15(d)
	.55	0		
	.61			14(c)
	.68			8(b)
	.74			14(c)
↓	.81	↓	↓	8(b),14(c)
0.72	0.30	0	VI(d)	14(d)
	.40			
	.49			
↓	.54	↓	↓	↓
0.74	0.27	0	VI(e)	14(e)
	.31			
	.40			
	.49			14(e)
	.54			
	.61			14(e)
	.68			
	.74			14(e)
↓	.80	↓	↓	14(e)
0.77	0.27	0	VI(f)	14(f)
	.30			
	.40			
	.48			14(f)
	.54			
	.61			14(f)
	.68			
	.74			14(f)
↓	.80	↓	↓	14(f)
0.79	0.27	0	VI(g)	14(g)
	.30			
	.39			8(c)
	.49	↓		8(c),9(e),14(g),15(e)
	.49	2.0		9(e),15(e)
	.54	0		
	.61			14(g)
	.68			8(c),14(g)
	.74			14(g)
↓	.80	↓	↓	8(c),14(g)

Pressure coefficients				
M	mfr	α,deg	Table	Figure
0.82	0.27	0	VI(h)	14(h)
	.30			
	.40			14(h)
	.49			
	.54			
	.61			14(h)
	.68			
	.74			14(h)
↓	.80	↓	↓	14(h)
0.84	0.27	0	VI(i)	14(i)
	.30			
	.39			8(d)
	.49	↓		8(d),9(f),14(i),15(f)
		1.0		
		2.0		9(f),15(f)
	↓	3.1		15(f)
	.54	0		
	.61			14(i)
	.67	↓		8(d),9(g),14(i),15(g)
		1.0		
		2.0		9(g),15(g)
	↓	3.1		15(g)
	.73	0		14(i)
	.82	0		8(d),9(h),14(i),15(h)
	.83	1.0		
	.84	2.0		9(h),15(h)
↓	.81	3.0	↓	15(h)
0.87	0.27	0	VI(j)	14(j)
	.31			
	.39			8(e)
	.50	↓		8(e),9(i),14(j),15(i)
	.49	2.0		9(i),15(i)
	.54	0		
	.61			14(j)
	.68	↓		8(e),9(j),14(j),15(j)
	.68	2.0		9(j),15(j)
	.74	0		14(j)
↓	.83	0	↓	8(e),14(j)
0.89	0.27	0	VI(k)	14(k)
	.32			
	.39			8(f)
	.49	↓		8(f),9(k),14(k),15(k)
	.49	2.1		9(k),15(k)
	.54	0		
	.61			14(k)
	.68			8(f),14(k)
	.74			14(k)
↓	.81	↓	↓	8(f)914(k)
0.92	0.27	0	VI(l)	14(l)
	.32			
	.40			8(g)
	.49	↓		8(g),9(l),14(l),15(l)
		1.0		
		2.0		9(l),15(l)
	↓	3.1		15(l)
	.54	0		
	.61			14(l)
	.68	↓		8(g),9(m),14(l),15(m)
	.68	2.1		9(m),15(m)
	.74	0		14(l)
	.82	0		8(g),9(n),14(l),15(n)
↓	.82	2.0	↓	9(n),15(n)

NACA 1-85-100 with contraction ratio 1.250

Pressure coefficients				
M	mfr	α,deg	Table	Figure
0.79	0.61	0	VII(a)	10(a),12(a)
	.67	-2.0		11(a)
		0		10(a),11(a),12(a)
		2.1		11(a)
	.74	0		10(a),12(a)
0.84	0.49	-2.1	VII(b	11(b)
		-1.0		
		0		10(b),11(b),12(b),13(a)
		1.0		
		2.0		11(b),13(a)
		3.1		13(a)
	.55	0		
	.61	0		10(b),12(b)
	.67	-2.1		11(c)
		-1.0		
		0		10(b),11(c),12(b),13(b)
		1.0		
		2.0		11(c),13(b)
		3.1		13(b)
	.74	0		12(b)
	.83	-2.1		11(d)
	.83	-1.1		
	.84	0		10(b),11(d),12(b),13(c)
	.83	1.1		
		2.0		11(d),13(c)
		3.1		13(c)
0.87	0.49	-2.0	VII(c)	11(e)
		0		10(c),11(e),12(c),13(d)
		2.1		11(e),13(d)
	.55	0		
	.61			10(c),12(c)
	.67			10(c),12(c)
	.73			10(c),12(c)
0.89	0.49	-2.1	VII(d)	11(f)
		0		10(d),11(f),12(d),13(e)
		2.0		11(f),13(e)
	.55	0		
	.61			10(d),12(d)
	.67			10(d),12(d)
	.73			12(d)
	.81			10(d),12(d)
0.92	0.49	0	VII(e)	10(e),12(e)
	.55			
	.61			10(e),12(e)
	.67			10(e),12(e)
	.73			12(e)
	.81			10(e),12(e)

RESULTS

This investigation was conducted primarily to obtain cowl pressure distributions under conditions that isolate the cowl from the influence of a boattailed afterbody flow field. Therefore a considerable portion of the model aft of the cowl was cylindrical in shape equal in diameter to the cowl maximum diameter (figure 1). This test apparatus was used in the investigation of reference 10 for high mass flows through the model. However, the geometry of the throttle plug used in that investigation was not capable of reducing the afterbody exit area enough over the range of plug travel to obtain low mass flows for the NACA 1-85-43.9 cowl, which should have significantly better performance at low mass-flow ratios at the lower Mach numbers. That is, it should have a lower critical mass-flow ratio which is a measure of cowl performance when operating below the compressibility drag-rise condition. At a given Mach number, drag changes only gradually as inlet mass flow is decreased until a critical mass flow is reached where drag abruptly increases. The drag increase results from flow separation caused by shocks or strong pressure gradients resulting from flow separation around the initial cowl lip curvature. Conversely the term lower critical Mach number would indicate the Mach number at which an abrupt drag increase results for a given mass-flow ratio as Mach number is decreased.

To expand the mass flow range capability of this apparatus to encompass lower mass flow rates, the throttle plug geometry was altered so that it was blunter and had a larger maximum diameter. Comparisons made in reference 10 of the results of references 9 (last 14 inches of afterbody boattailed) and 10 (cylindrical afterbody) at high mass-flow ratios indicate no significant effects fed forward from the exit plume/mass-flow plug combination to the cowl pressure distributions over the range of test Mach numbers.

Cowl Pressure Distributions

At 0° angle of attack.- NACA 1-series cowls that are designed for moderate or high subsonic Mach numbers often have high negative pressure peaks near the lip at low Mach numbers and low mass-flow ratios because of the relatively sharp cowl lip. This often results in flow separation on the forward portion of the cowl when the pressure can not recover from the peak. The pressure distributions of reference 9 for the NACA 1-85-100 inlet with a contraction ratio of 1.009 show that flow separation occurred on the cowl at a mass-flow ratio of 0.56 for Mach numbers of 0.4, 0.6, and 0.7. However at a Mach number of 0.79, which was the lowest test Mach number for that inlet in the present investigation, flow separation did not occur (fig. 5(a)) at that mass-flow ratio. Larger contraction ratios of 1.046 and 1.093 (reference 9) did not significantly affect flow separation on the forward portion of the cowl under the aforementioned conditions. At higher Mach numbers where flow separation did not occur on the forward portion of the cowl, larger contraction ratio had only small effects on the cowl pressure distributions. However, these small effects did result in some decrease in cowl critical Mach number at a given mass-flow ratio (see ref. 9) for a contraction ratio of 1.093.

The NACA 1-85-43.9 inlet, which because of its blunter lip profile is capable of better performance at lower Mach numbers than the NACA 1-85-100 inlets was tested at lower Mach numbers and lower mass-flow ratios. This inlet did not encounter flow separation at 0° angle of attack on the forward portion of the cowl at the lowest Mach numbers and mass-flow ratios tested (fig. 8) which indicates that it had lower critical Mach numbers relative to the NACA 1-85-100 inlets. Three non-NACA 1-series inlets (X/L = 0.337, 0.439, and 0.547), whose external contour changes with length were made in the same manner as the NACA 1-series inlets, were tested on the same apparatus described herein and the pressure coefficients are reported in reference 14. Those data showed the same improvements in performance at the lower Mach numbers and lower mass-flow ratios for the blunter lip profiles.

At small angles of attack.- The NACA 1-85-100 inlets were tested at angles of attack within the range from -3.0° to 3.1° at selected Mach numbers and mass-flow ratios (figs. 6 and 11). As would be expected, at low mass-flow ratios an increase in angle of attack caused an increase in the severity of the negative pressure peaks on the cowl upper surface and shifted the onset of strong recompression aft (see fig. 6(e) for example). At the high mass-flow ratios an increase in angle of attack decreased the extent of positive pressure on the forward portion of the cowl upper surface (see fig. 6(c) for example). The NACA 1-85-43.9 inlet was tested only at positive angles of attack so the row of pressure orifices on the bottom of the cowl can be considered to represent the equivalent negative angle of attack and are included in figure 9 for that purpose. The effects of angle of attack on the forward pressure peaks on this inlet were similar to those encountered on the NACA 1-85-100 inlets. This inlet was tested at angle of attack at lower Mach numbers than the others since it has more potential for good performance in the lower Mach number range. At a Mach number of 0.69 (fig. 9(d)) there appears to be flow separation near the cowl upper surface leading edge at 2.0° angle of attack. This can be seen by comparing the extent of constant pressure coefficient at the peak relative to that at 0° angle of attack for the top and bottom rows of pressure orifices.

At small angles of sideslip.- The NACA 1-85-100 inlet with a contraction ratio of 1.009 had a row of external pressure orifices on the side of the cowl at a meridian angle of 90°. Because of the inlet axial symmetry this row of orifices can be considered to represent the top of an inlet at 0° angle of attack that moves in sideslip when the model is moved in what has been defined as the angle of attack direction in this investigation. To determine the effect of sideslip on the pressure distributions, data from this row of orifices are presented in figure 7 for the maximum positive angle of attack at each Mach number. The data indicate a negligible effect of sideslip over the small angle range of this test.

Diffuser Pressure Distributions

The variation of pressure coefficient (internal to the highlight) with X/D_{max} for various mass-flow ratios for the two inlets with a contraction ratio of 1.250 is shown in figures 12 (α = 0°) and 13 (small α's) for the NACA 1-85-100 cowl and in figures 14 (α = 0°) and 15 (small α's) for the NACA 1-85-43.9 cowl.

At 0° angle of attack.- An illustration of the effect of changing mass-flow ratio at a Mach number of 0.60 on the location of the stagnation point on the inlet lip of the NACA 1-85-43.9 inlet can be seen in the pressure coefficients of table VI(a). As expected the stagnation point was farthest inside the inlet on the contraction surface (at an X/L of -5.13 percent) at the lowest mass-flow ratio of 0.28. The stagnation point moved forward on the contraction surface with increasing mass flow until it reached the highlight (X/L =0) at the maximum mass-flow ratio of 0.93.

The pressure distributions of figure 14 (or figure 12) indicate that the lowest internal pressure occurred approximately at the geometric throat (X/D_{max} = 0.113) for all mass-flow ratios up through a Mach number of 0.77. At a Mach number of 0.79 a shock occurred at the throat at a mass-flow ratio of 0.80. Above a Mach number of 0.79 the shock moved downstream to an X/D_{max} of about 0.18 where the lowest pressure also occurred.

The effect of changes in external cowl shape on the pressure distributions internal to the highlight at 0° angle of attack was negligible as can be seen by comparing the data of figure 12 (NACA 1-85-100) with data at the appropriate Mach number and mass-flow conditions in figure 14 (NACA 1-85-43.9). The inlets both had a contraction ratio of 1.250 and identical diffuser geometry.

At small angles of attack.- The effect of angle of attack on the pressure distributions internal to the highlight is shown in tables VI and VII and figures 13 and 15 for the two different external cowl shapes. In general the effect of angle of attack is as would be expected. For example, examination of the pressure coefficients of tables VI and VII show that as angle of attack was increased for a given mass-flow ratio, the stagnation point of the incoming stream tube on the upper lip moved slightly farther into the contraction section while on the lower lip (the windward side) of the inlet the streamtube stagnation point moved slightly closer to the highlight.

CONCLUDING REMARKS

An investigation has been conducted over a range of subsonic speeds to determine pressure distributions on three isolated inlets having NACA 1-series cowl profiles. Two had NACA 1-85-100 cowls that differed only in internal contraction ratio (1.009 and 1.250). The third inlet had an NACA 1-85-43.9 cowl and had a contraction ratio of 1.250. Angle of attack was varied over a small range at selected Mach numbers and mass-flow ratios for each inlet.

At low Mach numbers and low mass-flow ratios, the NACA 1-85-100 inlets encountered flow separation over the forward portion of the cowl surface that was not significantly affected by the variation in contraction ratio. However the critical Mach number at a given mass-flow ratio was decreased somewhat by the increase in contraction ratio. The NACA 1-85-43.9 inlet did not encounter flow separation at the lowest mass-flow ratios since its blunter lip profile was more conducive to better performance at lower Mach numbers. At an angle of attack of 2.0°, the NACA 1-85-43.9 inlet did encounter separation at the lowest mass-flow ratio at the two lowest Mach numbers (0.60 and 0.69). Pressure coefficients from a row of pressure orifices on the side of the NACA 1-85-100 inlet with a contraction ratio of 1.009 showed no significant effect of angle change when the model was moved through a small range of angles of attack thus indicating insensitivity to small angles of sideslip.

REFERENCES

1. Baals, Donald D.; Smith, Norman F.; and Wright, John B.: *The Developement and Application of High-Critical-Speed Nose Inlets.* NACA Rep. 920, 1948. (Supercedes NACA ACR L5F30a.)

2. Nichols, Mark R.; and Keith, Arvid L., Jr.: *Investigation of a Systematic Group of NACA 1-Series Cowlings With and Without Spinners.* NACA Rep. 950, 1949. (Supercedes NACA RM L8A15.)

3. Pendley,Robert E.; and Robinson, Harold L.: *An Investigation of Several NACA 1-Series Nose Inlets With and Without Protruding Central Bodies at High-Subsonic Mach Numbers and at a Mach Number of 1.2.* NACA TN 3436, 1955.

4. Pendley, Robert E.; Robinson, Harold L.; and Williams, Claude V.: *An Investigation of Three Transonic Fuselage Air Inlets At Mach Numbers From 0.4 to 0.94 and at a Mach Number of 1.19.* NACA RM L50H24, 1950.

5. Nichols, Mark R.; and Pendley, Robert E.: *Performance of Air Inlets at Transonic and Low Supersonic Speeds.* NACA RM L52A07, 1952.

6. Pendley, Robert E.; Milillo, Joseph R.; and Fleming, Frank F.: *An Investigation of Three NACA 1-Series Nose Inlets at Subsonic and Transonic Speeds.* NACA RM L52J23, 1953.

7. Pendley, Robert E.; and Smith Norman F.: *An Investigation of the Characteristics of Three NACA 1-Series Nose Inlets At Subcritical and Supercritical Mach Numbers.* NACA RM L8L06, 1949.

8. Pendley, Robert E.; Milillo, Joseph R.; Fleming, Frank F.; and Bryan Carroll R.: *An Experimental Study of Five Annular-Air-Inlet Configurations at Subsonic and Transonic Speeds.* NACA RM L53F18a, 1953.

9. Re, Richard J.: *An Investigation of Several NACA 1-Series Axisymmetric Inlets at Mach Numbers From 0.4 to 1.29.* NASA TM X-2917, 1974.

10. Re, Richard J.: *An Investigation of Several NACA 1-Series Inlets at Mach Numbers From 0.4 to 1.29 for Mass-Flow Ratios Near 1.0.* NASA TM X-3324, 1975.

11. Capone, Francis J.; Bangert, Linda S.; Asbury, Scott C.; Mills, Charles T. L.; and Bare, E. Ann: *Historical Overview, Facility Description, Calibration, Flow Characteristics, and Test Capabilities.* NASA TP-3521, 1995.

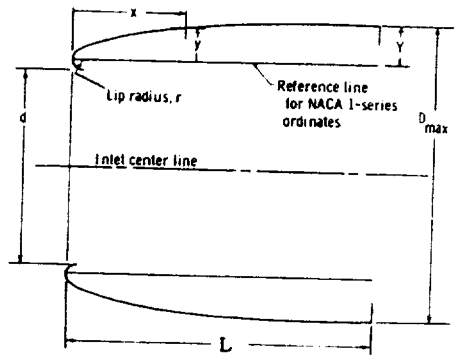
12. Couch, Lana M.; and Brooks, Cuyler W., Jr.: *Effect of Blockage Ratio on Drag and Pressure Distributions for Bodies of Revolution at Transonic Speeds.* NASA TN D-7331, 1973.

13. Dougherty, N. S., Jr.; and Steinle, Frank W., Jr.: *Transition Reynolds Number Comparisons in Several Major Wind Tunnels.* AIAA Paper No. 74-627, July 1974.

14. Re, Richard J.; and Abeyounis, William K.: *Wind Tunnel Investigation of Three Axisymmetric Cowls of Different Lengths at Mach Numbers From 0.60 to 0.92.* NASA Technical Memorandum 4488, 1993.

TABLE I.- NACA 1-SERIES ORDINATES

[Coordinates in percent]



$x = \left(\frac{x}{D_{max}}\right) D_{max}$ $\qquad$ $Y = \frac{D_{max} - d}{2} - r$

Sample NACA 1-series designation: NACA 1 - 81 - 100 (1: Series; 81: $\frac{d}{D_{max}}$ (in percent); 100: $\frac{L}{D_{max}}$ (in percent))

x/L	y/Y	x/L	y/Y	x/L	y/Y
0	0	20.0	52.70	48.0	81.25
.2	4.80	21.0	54.05	49.0	81.99
.4	6.63	22.0	55.37	50.0	82.69
.6	8.12	23.0	56.66	52.0	84.10
.8	9.33	24.0	57.92	54.0	85.45
1.0	10.38	25.0	59.15	56.0	86.73
1.5	12.72	26.0	60.35	58.0	87.95
2.0	14.72	27.0	61.52	60.0	89.11
2.5	16.57	28.0	62.67	62.0	90.20
3.0	18.31	29.0	63.79	64.0	91.23
3.5	19.94	30.0	64.89	66.0	92.20
4.0	21.48	31.0	65.97	68.0	93.11
4.5	22.96	32.0	67.03	70.0	93.95
5.0	24.36	33.0	68.07	72.0	94.75
6.0	27.01	34.0	69.08	74.0	95.48
7.0	29.47	35.0	70.08	76.0	96.16
8.0	31.81	36.0	71.05	78.0	96.79
9.0	34.03	37.0	72.00	80.0	97.35
10.0	36.13	38.0	72.94	82.0	97.87
11.0	38.15	39.0	73.85	84.0	98.33
12.0	40.09	40.0	74.75	86.0	98.74
13.0	41.94	41.0	75.63	88.0	99.09
14.0	43.66	42.0	76.48	90.0	99.40
15.0	45.30	43.0	77.32	92.0	99.65
16.0	46.88	44.0	78.15	94.0	99.85
17.0	48.40	45.0	78.95	96.0	99.93
18.0	49.88	46.0	79.74	98.0	99.98
19.0	51.31	47.0	80.50	100.0	100.00
Lip radius: 0.025Y					

TABLE II. - DESIGN ORDINATES FOR NACA 1-85-100 INLET WITH INTERNAL CONTRACTION RATIO OF 1.009

[Coordinates in percent]
L = 18.00in. and RMAX = 9.00in.

External ordinates

X/L	R/RMAX	X/L	R/RMAX
0.0	85.36	20.00	93.09
.20	86.06	25.00	94.02
.40	86.33	30.00	94.87
.60	86.56	35.00	95.62
1.50	87.22	40.00	96.29
2.00	87.51	45.00	96.91
2.50	87.80	50.00	97.47
3.00	88.04	60.00	98.40
4.00	88.51	70.00	99.11
5.00	88.93	80.00	99.62
7.00	89.69	90.00	99.91
10.00	90.64	100.00	100.00
15.00	92.00		

Internal ordinates

X/L	R/RMAX	X/L	R/RMAX
0.0	85.36	45.00	86.71
.18	85.00	60.00	87.98
12.50	85.42	80.00	90.89
25.00	85.87	90.00	92.38
35.00	86.22	100.00	93.33

TABLE III.- DESIGN ORDINATES FOR NACA 1-85-100 INLET WITH INTERNAL CONTRACTION RATIO OF 1.250

[Coordinates in percent]
L = 18.00in. and RMAX = 9.00in.

External ordinates

X/L	R/RMAX	X/L	R/RMAX
0.0	85.36	21.54	93.38
.02	85.58	23.16	93.68
.08	85.81	24.87	94.00
.18	86.02	26.68	94.31
.32	86.24	28.59	94.63
.50	86.45	30.60	94.95
.72	86.65	32.74	95.28
.98	86.86	35.01	95.62
1.29	87.08	37.42	95.96
1.63	87.30	40.00	96.30
2.02	87.53	43.00	96.68
2.45	87.77	46.00	97.03
2.92	88.01	49.00	97.36
3.44	88.25	52.00	97.67
4.00	88.51	55.00	97.96
4.61	88.76	58.00	98.24
5.26	89.02	61.00	98.49
5.96	89.29	64.00	98.72
6.71	89.57	67.00	98.93
7.50	89.85	70.00	99.11
8.35	90.13	73.00	99.29
9.25	90.42	76.00	99.44
10.20	90.71	79.00	99.57
11.21	91.01	82.00	99.69
12.27	91.31	85.00	99.79
13.40	91.61	88.00	99.87
14.58	91.90	91.00	99.93
15.83	92.19	94.00	99.98
17.15	92.48	97.00	99.99
18.54	92.78	100.00	100.00
20.00	93.07		

Internal ordinates

X/L	R/RMAX	X/L	R/RMAX
0.0	85.36	12.01	76.36
.01	85.00	12.43	76.38
.04	84.64	12.91	76.40
.08	84.28	13.42	76.44
.14	83.92	13.99	76.49
.23	83.56	14.62	76.55
.33	83.20	15.31	76.64
.45	82.83	16.07	76.74
.59	82.47	16.90	76.88
.76	82.11	17.82	77.04
.94	81.75	18.83	77.23
1.15	81.39	19.94	77.46
1.38	81.03	21.16	77.74
1.64	80.67	22.50	78.07
1.93	80.31	23.98	78.46
2.25	79.95	25.61	78.92
2.61	79.59	27.39	79.46
3.00	79.23	29.36	80.07
3.45	78.87	31.52	80.78
3.94	78.51	33.90	81.59
4.51	78.15	36.52	82.49
5.18	77.77	39.40	83.51
5.86	77.45	42.57	84.62
6.53	77.18	46.05	85.83
7.21	76.95	49.89	87.12
7.88	76.76	54.10	88.46
8.56	76.61	58.74	89.81
9.24	76.49	63.84	91.09
9.91	76.41	69.45	92.21
10.59	76.36	75.62	93.02
11.26	76.35	82.25	93.33
11.62	76.35	89.72	93.33

TABLE IV.- DESIGN ORDINATES FOR NACA 1-85-43.9 INLET WITH INTERNAL CONTRACTION RATIO OF 1.250

[Coordinates in percent]
L = 7.897in. and RMAX = 9.00in.

External ordinates				Internal ordinates			
X/L	R/RMAX	X/L	R/RMAX	X/L	R/RMAX	X/L	R/RMAX
0.0	85.36	21.54	93.38	0.0	85.36	27.37	76.36
.02	85.58	23.16	93.68	.02	85.00	28.34	76.38
.08	85.81	24.87	94.00	.08	84.64	29.42	76.40
.18	86.02	26.68	94.31	.19	84.28	30.60	76.44
.32	86.24	28.59	94.63	.33	83.92	31.89	76.49
.50	86.45	30.60	94.95	.52	83.56	33.32	76.55
.72	86.65	32.74	95.28	.75	83.20	34.89	76.64
.98	86.86	35.01	95.62	1.03	82.83	36.62	76.74
1.29	87.08	37.42	95.96	1.35	82.47	38.52	76.88
1.63	87.30	40.00	96.30	1.72	82.11	40.61	77.04
2.02	87.53	43.00	96.68	2.14	81.75	42.91	77.23
2.45	87.77	46.00	97.03	2.62	81.39	45.44	77.46
2.92	88.01	49.00	97.36	3.15	81.03	48.23	77.74
3.44	88.25	52.00	97.67	3.74	80.67	51.29	78.07
4.00	88.51	55.00	97.96	4.40	80.31	54.66	78.46
4.61	88.76	58.00	98.24	5.13	79.95	58.36	78.92
5.26	89.02	61.00	98.49	5.95	79.59	62.44	79.46
5.96	89.29	64.00	98.72	6.85	79.23	66.92	80.07
6.71	89.57	67.00	98.93	7.86	78.87	71.85	80.78
7.50	89.85	70.00	99.11	8.99	78.51	77.28	81.59
8.35	90.13	73.00	99.29	10.27	78.15	83.24	82.49
9.25	90.42	76.00	99.44	11.81	77.77	89.81	83.51
10.20	90.71	79.00	99.57	13.35	77.45	97.03	84.62
11.21	91.01	82.00	99.69	14.89	77.18	104.97	85.83
12.27	91.31	85.00	99.79	16.43	76.95	113.70	87.12
13.40	91.61	88.00	99.87	17.97	76.76	123.31	88.46
14.58	91.90	91.00	99.93	19.51	76.61	133.88	89.81
15.83	92.19	94.00	99.98	21.05	76.49	145.51	91.09
17.15	92.48	97.00	99.99	22.59	76.41	158.30	92.21
18.54	92.78	100.00	100.00	24.13	76.36	172.37	93.02
20.00	93.07			25.67	76.35	187.47	93.33
				26.48	76.35	191.20	93.33

TABLE V. PRESSURE COEFFICIENTS ON MODEL WITH NACA 1-85-100 INLET AND CONTRACTION RATIO OF 1.009

(a) M = 0.79

mfr = 0.57 and α = 0°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	1.0179	166.70	-0.0121	-3.75	1.0078	-3.75	1.0176	166.70	-0.0107
-3.12	1.0273	183.30	-0.0036	-3.12	1.0243	-3.12	1.0291	183.30	-0.0036
-1.88	1.0784	200.00	0.0071	-1.88	1.0653	-1.88	1.0767	200.00	0.0111
-1.25	1.0969	216.70	0.0264	-1.25	1.0979	-1.25	1.1010	216.70	0.0275
-0.62	1.1515	238.90	0.0621	0.00	0.2493	-0.62	1.1560	238.90	0.0607
0.00	0.0746	255.60	0.1121	0.62	-1.7592	0.00	-0.1455	255.60	0.1071
0.31	-1.7314	266.70	0.1660	1.25	-1.6915	0.62	-1.7532	266.70	0.1656
0.62	-1.7748	272.20	0.2052	1.88	-1.6136	1.25	-1.6955	272.20	0.2088
1.25	-1.6882	277.80	0.2498	2.50	-1.5427	1.88	-1.5944	277.80	0.2595
2.50	-1.5619	283.30	0.3105	3.12	-1.4899	2.50	-1.5801	283.30	0.3198
3.12	-1.4824			4.38	-1.3621	3.12	-1.4995		
4.38	-1.3628			5.00	-1.3260	3.75	-1.4145		
5.00	-1.3269			7.50	-1.2054	4.38	-1.3924		
7.50	-1.1352			10.00	-0.5817	5.00	-1.3497		
10.00	-0.6290			15.00	-0.2006	7.50	-1.2055		
12.50	-0.4123			17.50	-0.1640	15.00	-0.1553		
15.00	-0.1995			20.00	-0.1652	17.50	-0.1723		
30.00	-0.1735			40.00	-0.1565	20.00	-0.1719		
40.00	-0.1444			50.00	-0.1408	40.00	-0.1608		
50.00	-0.1420			60.00	-0.1364	50.00	-0.1510		
60.00	-0.1360			70.00	-0.1226	60.00	-0.1404		
70.00	-0.1262			80.00	-0.1246	70.00	-0.1191		
90.00	-0.0876			90.00	-0.1040	80.00	-0.1267		
122.00	-0.0474			122.00	-0.0474	90.00	-0.0958		
139.00	-0.0342			139.00	-0.0445	122.00	-0.0449		
						139.00	-0.0395		

mfr = 0.64 and α = 0°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.9386	166.70	-0.0079	-3.75	0.9365	-3.75	0.9345	166.70	-0.0011
-3.12	0.9581	183.30	0.0046	-3.12	0.9420	-3.12	0.9573	183.30	0.0053
-1.88	1.0008	200.00	0.0157	-1.88	0.9851	-1.88	1.0002	200.00	0.0200
-1.25	1.0225	216.70	0.0389	-1.25	1.0240	-1.25	1.0171	216.70	0.0331
-0.62	1.1064	238.90	0.0788	0.00	0.6916	-0.62	1.1081	238.90	0.0742
0.00	0.5286	255.60	0.1277	0.62	-1.5728	0.00	0.3296	255.60	0.1273
0.31	-1.5243	266.70	0.1872	1.25	-1.4910	0.62	-1.5806	266.70	0.1876
0.62	-1.6403	272.20	0.2275	1.88	-1.4174	1.25	-1.4866	272.20	0.2357
1.25	-1.5352	277.80	0.2808	2.50	-1.3559	1.88	-1.4404	277.80	0.2889
2.50	-1.3446	283.30	0.3471	3.12	-1.2915	2.50	-1.3907	283.30	0.3539
3.12	-1.2543			4.38	-1.2004	3.12	-1.3409		
4.38	-1.2075			5.00	-1.1267	3.75	-1.2610		
5.00	-1.1505			7.50	-0.5328	4.38	-1.2116		
7.50	-0.4927			10.00	-0.1813	5.00	-1.1299		
10.00	-0.1938			15.00	-0.1975	7.50	-0.4129		
12.50	-0.1914			17.50	-0.2086	15.00	-0.2122		
15.00	-0.1903			20.00	-0.1657	17.50	-0.2149		
30.00	-0.1742			40.00	-0.1518	20.00	-0.1723		
40.00	-0.1406			50.00	-0.1298	40.00	-0.1549		
50.00	-0.1343			60.00	-0.1278	50.00	-0.1420		
60.00	-0.1322			70.00	-0.1141	60.00	-0.1323		
70.00	-0.1227			80.00	-0.1117	70.00	-0.1120		
90.00	-0.0865			90.00	-0.0931	80.00	-0.1220		
122.00	-0.0390			122.00	-0.0419	90.00	-0.0904		
139.00	-0.0258			139.00	-0.0311	122.00	-0.0398		
						139.00	-0.0361		

mfr = 0.71 and α = 0°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.8394	166.70	-0.0008	-3.75	0.8339	-3.75	0.8318	166.70	0.0038
-3.12	0.8533	183.30	0.0113	-3.12	0.8371	-3.12	0.8446	183.30	0.0113
-1.88	0.9023	200.00	0.0251	-1.88	0.8866	-1.88	0.8858	200.00	0.0287
-1.25	0.9330	216.70	0.0444	-1.25	0.9027	-1.25	0.9175	216.70	0.0408
-0.62	0.9975	238.90	0.0889	0.00	0.9798	-0.62	1.0078	238.90	0.0828
0.00	0.8942	255.60	0.1405	0.62	-1.2940	0.00	0.7951	255.60	0.1415
0.31	-1.2575	266.70	0.2042	1.25	-1.1871	0.62	-1.2975	266.70	0.2063
0.62	-1.3645	272.20	0.2477	1.88	-1.1525	1.25	-1.2353	272.20	0.2538
1.25	-1.3049	277.80	0.3018	2.50	-1.0740	1.88	-1.1537	277.80	0.3089
2.50	-1.0066	283.30	0.3673	3.12	-0.9477	2.50	-1.0492	283.30	0.3751
3.12	-0.9599			4.38	-0.4965	3.12	-0.9912		
4.38	-0.3047			5.00	-0.2661	3.75	-0.4439		
5.00	-0.3447			7.50	-0.3016	4.38	-0.2767		
7.50	-0.3005			10.00	-0.2743	5.00	-0.2727		
10.00	-0.2675			15.00	-0.2197	7.50	-0.2905		
12.50	-0.2542			17.50	-0.2030	15.00	-0.2317		
15.00	-0.2103			20.00	-0.1531	17.50	-0.2113		
30.00	-0.1640			40.00	-0.1486	20.00	-0.1600		
40.00	-0.1288			50.00	-0.1217	40.00	-0.1451		
50.00	-0.1253			60.00	-0.1231	50.00	-0.1400		
60.00	-0.1225			70.00	-0.1069	60.00	-0.1217		
70.00	-0.1106			80.00	-0.1086	70.00	-0.1039		
90.00	-0.0874			90.00	-0.0875	80.00	-0.1106		
122.00	-0.0303			122.00	-0.0336	90.00	-0.0803		
139.00	-0.0187			139.00	-0.0278	122.00	-0.0327		
						139.00	-0.0286		

mfr = 0.77 and α = 0°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.7061	166.70	0.0042	-3.75	0.7053	-3.75	0.7153	166.70	0.0103
-3.12	0.7100	183.30	0.0185	-3.12	0.7135	-3.12	0.7249	183.30	0.0174
-1.88	0.7537	200.00	0.0327	-1.88	0.7182	-1.88	0.7513	200.00	0.0363
-1.25	0.7694	216.70	0.0538	-1.25	0.7681	-1.25	0.7661	216.70	0.0531
-0.62	0.8287	238.90	0.0976	0.00	1.1550	-0.62	0.8263	238.90	0.0972
0.00	1.0934	255.60	0.1513	0.62	-0.9331	0.00	1.0975	255.60	0.1524
0.31	-0.9756	266.70	0.2137	1.25	-0.5572	0.62	-0.7866	266.70	0.2166
0.62	-0.7288	272.20	0.2575	1.88	-0.4574	1.25	-0.6576	272.20	0.2653
1.25	-0.6010	277.80	0.3106	2.50	-0.4214	1.88	-0.4809	277.80	0.3192
2.50	-0.4739	283.30	0.3779	3.12	-0.2964	2.50	-0.4482	283.30	0.3882
3.12	-0.2495			4.38	-0.2808	3.12	-0.3125		
4.38	-0.2594			5.00	-0.2505	3.75	-0.2540		
5.00	-0.3040			7.50	-0.2705	4.38	-0.2789		
7.50	-0.2823			10.00	-0.2347	5.00	-0.3014		
10.00	-0.2334			15.00	-0.1792	7.50	-0.2592		
12.50	-0.2327			17.50	-0.1787	15.00	-0.1973		
15.00	-0.1815			20.00	-0.1416	17.50	-0.1784		
30.00	-0.1479			40.00	-0.1334	20.00	-0.1366		
40.00	-0.1164			50.00	-0.1132	40.00	-0.1370		
50.00	-0.1185			60.00	-0.1071	50.00	-0.1213		
60.00	-0.1136			70.00	-0.0983	60.00	-0.1161		
70.00	-0.1021			80.00	-0.1005	70.00	-0.0977		
90.00	-0.0722			90.00	-0.0814	80.00	-0.1107		
122.00	-0.0266			122.00	-0.0291	90.00	-0.0785		
139.00	-0.0117			139.00	-0.0200	122.00	-0.0295		
						139.00	-0.0229		

TABLE V. Continued

(a) Concluded

mfr = 0.85 and α = 0°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		**Afterbody**		**Forebody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-3.75	0.5215	166.70	0.0075	-3.75	0.5108	-3.75	0.5078	166.70	0.0182
-3.12	0.5348	183.30	0.0200	-3.12	0.5021	-3.12	0.5194	183.30	0.0232
-1.88	0.5260	200.00	0.0350	-1.88	0.5037	-1.88	0.5215	200.00	0.0389
-1.25	0.5039	216.70	0.0568	-1.25	0.5124	-1.25	0.4909	216.70	0.0553
-0.62	0.4948	238.90	0.1042	0.00	1.1541	-0.62	0.4538	238.90	0.1010
0.00	1.1662	255.60	0.1542	0.62	-0.1544	0.00	1.1646	255.60	0.1567
0.31	-0.2507	266.70	0.2149	1.25	-0.1532	0.62	-0.0833	266.70	0.2181
0.62	-0.1173	272.20	0.2578	1.88	-0.1530	1.25	-0.1696	272.20	0.2653
1.25	-0.2531	277.80	0.3089	2.50	-0.1962	1.88	-0.1878	277.80	0.3188
2.50	-0.1404	283.30	0.3735	3.12	-0.1412	2.50	-0.1901	283.30	0.3845
3.12	-0.1197			4.38	-0.1528	3.12	-0.1526		
4.38	-0.1162			5.00	-0.1306	3.75	-0.1124		
5.00	-0.1800			7.50	-0.1801	4.38	-0.1262		
7.50	-0.1824			10.00	-0.1648	5.00	-0.1361		
10.00	-0.1551			15.00	-0.1379	7.50	-0.1444		
12.50	-0.1590			17.50	-0.1412	15.00	-0.1459		
15.00	-0.1232			20.00	-0.1118	17.50	-0.1475		
30.00	-0.1274			40.00	-0.1093	20.00	-0.1191		
40.00	-0.1036			50.00	-0.1015	40.00	-0.1164		
50.00	-0.1064			60.00	-0.0998	50.00	-0.1112		
60.00	-0.1001			70.00	-0.0928	60.00	-0.1048		
70.00	-0.1033			80.00	-0.0947	70.00	-0.0876		
90.00	-0.0695			90.00	-0.0775	80.00	-0.0986		
122.00	-0.0197			122.00	-0.0251	90.00	-0.0679		
139.00	-0.0094			139.00	-0.0185	122.00	-0.0243		
						139.00	-0.0181		

TABLE V. Continued

(b) M = 0.84

mfr = 0.57 and α = -3.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	0.9914	166.70	-0.0281	-3.75	1.0404	-3.75	1.0872	166.70	0.0178
-3.12	1.0005	183.30	-0.0015	-3.12	1.0507	-3.12	1.1023	183.30	0.0158
-1.88	1.0472	200.00	0.0142	-1.88	1.0929	-1.88	1.1389	200.00	0.0261
-1.25	1.0703	216.70	0.0371	-1.25	1.1271	-1.25	1.1643	216.70	0.0415
-0.62	1.1255	238.90	0.0811	0.00	0.3226	-0.62	1.1909	238.90	0.0841
0.00	0.5678	255.60	0.1343	0.62	-1.5528	0.00	-0.6407	255.60	0.1327
0.31	-1.3327	266.70	0.1983	1.25	-1.4933	0.62	-1.6862	266.70	0.1886
0.62	-1.4009	272.20	0.2422	1.88	-1.4252	1.25	-1.6526	272.20	0.2243
1.25	-1.3045	277.80	0.3052	2.50	-1.3664	1.88	-1.6103	277.80	0.2639
2.50	-1.1299	283.30	0.3857	3.12	-1.3076	2.50	-1.5612	283.30	0.3128
3.12	-1.0148			4.38	-1.2219	3.12	-1.5281		
4.38	-0.8960			5.00	-1.1874	3.75	-1.4923		
5.00	-0.8799			7.50	-1.0960	4.38	-1.4588		
7.50	-0.7848			10.00	-0.9976	5.00	-1.4367		
10.00	-0.4203			15.00	-0.7958	7.50	-1.3239		
12.50	-0.1627			17.50	-0.2146	15.00	-1.1008		
15.00	-0.1371			20.00	-0.1274	17.50	-0.5821		
30.00	-0.1565			40.00	-0.1471	20.00	-0.2897		
40.00	-0.1276			50.00	-0.1355	40.00	-0.0815		
50.00	-0.1306			60.00	-0.1390	50.00	-0.0778		
60.00	-0.1315			70.00	-0.1194	60.00	-0.1051		
70.00	-0.1210			80.00	-0.1272	70.00	-0.1010		
90.00	-0.0900			90.00	-0.1005	80.00	-0.1178		
122.00	-0.0316			122.00	-0.0432	90.00	-0.0892		
139.00	-0.0158			139.00	-0.0378	122.00	-0.0447		
						139.00	-0.0316		

mfr = 0.57 and α = -2.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	1.0119	166.70	-0.0231	-3.75	1.0416	-3.75	1.0756	166.70	0.0200
-3.12	1.0236	183.30	0.0008	-3.12	1.0522	-3.12	1.0925	183.30	0.0190
-1.88	1.0617	200.00	0.0167	-1.88	1.0918	-1.88	1.1271	200.00	0.0277
-1.25	1.0874	216.70	0.0403	-1.25	1.1237	-1.25	1.1487	216.70	0.0416
-0.62	1.1538	238.90	0.0851	0.00	0.3383	-0.62	1.1894	238.90	0.0838
0.00	0.4565	255.60	0.1379	0.62	-1.5467	0.00	-0.3974	255.60	0.1326
0.31	-1.3752	266.70	0.2017	1.25	-1.4799	0.62	-1.6325	266.70	0.1910
0.62	-1.4561	272.20	0.2475	1.88	-1.4207	1.25	-1.5888	272.20	0.2319
1.25	-1.3540	277.80	0.3070	2.50	-1.3522	1.88	-1.5435	277.80	0.2758
2.50	-1.2179	283.30	0.3810	3.12	-1.3097	2.50	-1.4976	283.30	0.3302
3.12	-1.1311			4.38	-1.2196	3.12	-1.4549		
4.38	-1.0306			5.00	-1.1714	3.75	-1.4358		
5.00	-1.0061			7.50	-1.0979	4.38	-1.3865		
7.50	-0.9217			10.00	-1.0074	5.00	-1.3491		
10.00	-0.8242			15.00	-0.8505	7.50	-1.2309		
12.50	-0.7440			17.50	-0.2716	15.00	-1.0537		
15.00	-0.1748			20.00	-0.0995	17.50	-0.5073		
30.00	-0.1415			40.00	-0.1278	20.00	-0.1738		
40.00	-0.1320			50.00	-0.1271	40.00	-0.0628		
50.00	-0.1336			60.00	-0.1311	50.00	-0.1058		
60.00	-0.1339			70.00	-0.1256	60.00	-0.1198		
70.00	-0.1238			80.00	-0.1253	70.00	-0.1109		
90.00	-0.0925			90.00	-0.1045	80.00	-0.1202		
122.00	-0.0404			122.00	-0.0450	90.00	-0.0907		
139.00	-0.0185			139.00	-0.0358	122.00	-0.0350		
						139.00	-0.0243		

mfr = 0.57 and α = -1.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	1.0258	166.70	-0.0202	-3.75	1.0409	-3.75	1.0608	166.70	0.0115
-3.12	1.0337	183.30	-0.0009	-3.12	1.0483	-3.12	1.0712	183.30	0.0091
-1.88	1.0829	200.00	0.0128	-1.88	1.0942	-1.88	1.1128	200.00	0.0238
-1.25	1.1044	216.70	0.0351	-1.25	1.1195	-1.25	1.1424	216.70	0.0387
-0.62	1.1592	238.90	0.0770	0.00	0.3553	-0.62	1.1840	238.90	0.0820
0.00	0.3078	255.60	0.1316	0.62	-1.5441	0.00	-0.2232	255.60	0.1352
0.31	-1.4566	266.70	0.1975	1.25	-1.4857	0.62	-1.5899	266.70	0.1945
0.62	-1.5064	272.20	0.2417	1.88	-1.4202	1.25	-1.5564	272.20	0.2377
1.25	-1.4188	277.80	0.2973	2.50	-1.3685	1.88	-1.4927	277.80	0.2873
2.50	-1.3060	283.30	0.3708	3.12	-1.3078	2.50	-1.4433	283.30	0.3459
3.12	-1.2060			4.38	-1.2290	3.12	-1.3836		
4.38	-1.1411			5.00	-1.1809	3.75	-1.3397		
5.00	-1.0886			7.50	-1.0951	4.38	-1.3077		
7.50	-1.0135			10.00	-1.0114	5.00	-1.2937		
10.00	-0.9240			15.00	-0.8995	7.50	-1.1699		
12.50	-0.8702			17.50	-0.2736	15.00	-0.9739		
15.00	-0.6950			20.00	-0.0927	17.50	-0.4151		
30.00	-0.1244			40.00	-0.1237	20.00	-0.0530		
40.00	-0.1240			50.00	-0.1223	40.00	-0.0960		
50.00	-0.1300			60.00	-0.1303	50.00	-0.1237		
60.00	-0.1283			70.00	-0.1200	60.00	-0.1265		
70.00	-0.1224			80.00	-0.1230	70.00	-0.1134		
90.00	-0.0913			90.00	-0.1023	80.00	-0.1204		
122.00	-0.0392			122.00	-0.0400	90.00	-0.0876		
139.00	-0.0203			139.00	-0.0288	122.00	-0.0396		
						139.00	-0.0300		

mfr = 0.57 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	1.0429	166.70	-0.0089	-3.75	1.0351	-3.75	1.0419	166.70	-0.0036
-3.12	1.0556	183.30	0.0044	-3.12	1.0520	-3.12	1.0634	183.30	0.0044
-1.88	1.0947	200.00	0.0171	-1.88	1.0876	-1.88	1.0977	200.00	0.0191
-1.25	1.1215	216.70	0.0393	-1.25	1.1269	-1.25	1.1227	216.70	0.0357
-0.62	1.1714	238.90	0.0816	0.00	0.3712	-0.62	1.1770	238.90	0.0803
0.00	0.1870	255.60	0.1332	0.62	-1.5373	0.00	-0.0120	255.60	0.1338
0.31	-1.5278	266.70	0.1930	1.25	-1.4764	0.62	-1.5339	266.70	0.1981
0.62	-1.5715	272.20	0.2374	1.88	-1.4177	1.25	-1.4944	272.20	0.2430
1.25	-1.5059	277.80	0.2889	2.50	-1.3754	1.88	-1.4245	277.80	0.2976
2.50	-1.3656	283.30	0.3541	3.12	-1.3227	2.50	-1.3913	283.30	0.3631
3.12	-1.2987			4.38	-1.2036	3.12	-1.3327		
4.38	-1.1944			5.00	-1.1709	3.75	-1.2829		
5.00	-1.1708			7.50	-1.1074	4.38	-1.2398		
7.50	-1.0963			10.00	-0.9856	5.00	-1.2041		
10.00	-1.0255			15.00	-0.8477	7.50	-1.1039		
12.50	-0.9206			17.50	-0.2159	15.00	-0.8869		
15.00	-0.8419			20.00	-0.0775	17.50	-0.2358		
30.00	-0.1008			40.00	-0.1212	20.00	-0.0711		
40.00	-0.1090			50.00	-0.1240	40.00	-0.1205		
50.00	-0.1290			60.00	-0.1257	50.00	-0.1356		
60.00	-0.1274			70.00	-0.1194	60.00	-0.1321		
70.00	-0.1267			80.00	-0.1179	70.00	-0.1150		
90.00	-0.0907			90.00	-0.0994	80.00	-0.1240		
122.00	-0.0390			122.00	-0.0410	90.00	-0.0907		
139.00	-0.0225			139.00	-0.0325	122.00	-0.0398		
						139.00	-0.0286		

TABLE V. Continued

(b) Continued

mfr = 0.57 and α = 1.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-3.75	1.0547	166.70	0.0014	-3.75	1.0362	-3.75	1.0283	166.70	-0.0125
-3.12	1.0726	183.30	0.0074	-3.12	1.0468	-3.12	1.0433	183.30	0.0014
-1.88	1.1172	200.00	0.0213	-1.88	1.0951	-1.88	1.0733	200.00	0.0183
-1.25	1.1442	216.70	0.0389	-1.25	1.1204	-1.25	1.1137	216.70	0.0336
-0.62	1.1793	238.90	0.0847	0.00	0.3695	-0.62	1.1694	238.90	0.0771
0.00	0.0963	255.60	0.1352	0.62	-1.5379	0.00	0.1283	255.60	0.1329
0.31	-1.5897	266.70	0.1939	1.25	-1.4680	0.62	-1.4626	266.70	0.1993
0.62	-1.6047	272.20	0.2345	1.88	-1.4071	1.25	-1.4313	272.20	0.2491
1.25	-1.5576	277.80	0.2826	2.50	-1.3626	1.88	-1.3519	277.80	0.3056
2.50	-1.4493	283.30	0.3368	3.12	-1.3016	2.50	-1.2902	283.30	0.3769
3.12	-1.4215			4.38	-1.2073	3.12	-1.2250		
4.38	-1.2785			5.00	-1.1636	3.75	-1.1607		
5.00	-1.2445			7.50	-1.0791	4.38	-1.1614		
7.50	-1.1371			10.00	-0.9861	5.00	-1.1121		
10.00	-1.0795			15.00	-0.8843	7.50	-1.0298		
12.50	-1.0245			17.50	-0.2555	15.00	-0.6684		
15.00	-0.9483			20.00	-0.0752	17.50	-0.1570		
30.00	-0.0878			40.00	-0.1206	20.00	-0.1143		
40.00	-0.0717			50.00	-0.1181	40.00	-0.1261		
50.00	-0.1133			60.00	-0.1291	50.00	-0.1353		
60.00	-0.1231			70.00	-0.1169	60.00	-0.1334		
70.00	-0.1234			80.00	-0.1228	70.00	-0.1155		
90.00	-0.0912			90.00	-0.0951	80.00	-0.1254		
122.00	-0.0352			122.00	-0.0379	90.00	-0.0916		
139.00	-0.0206			139.00	-0.0372	122.00	-0.0349		
						139.00	-0.0333		

mfr = 0.57 and α = 2.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-3.75	1.0743	166.70	0.0141	-3.75	1.0359	-3.75	1.0135	166.70	-0.0225
-3.12	1.0821	183.30	0.0138	-3.12	1.0488	-3.12	1.0262	183.30	-0.0025
-1.88	1.1255	200.00	0.0234	-1.88	1.0925	-1.88	1.0628	200.00	0.0161
-1.25	1.1503	216.70	0.0421	-1.25	1.1193	-1.25	1.0921	216.70	0.0291
-0.62	1.1865	238.90	0.0850	0.00	0.3808	-0.62	1.1514	238.90	0.0767
0.00	-0.1785	255.60	0.1329	0.62	-1.5421	0.00	0.3307	255.60	0.1333
0.31	-1.6360	266.70	0.1895	1.25	-1.4880	0.62	-1.4157	266.70	0.1986
0.62	-1.6668	272.20	0.2269	1.88	-1.4303	1.25	-1.3652	272.20	0.2488
1.25	-1.6242	277.80	0.2701	2.50	-1.3688	1.88	-1.2785	277.80	0.3091
2.50	-1.5077	283.30	0.3257	3.12	-1.3027	2.50	-1.2494	283.30	0.3843
3.12	-1.4920			4.38	-1.2170	3.12	-1.1698		
4.38	-1.3470			5.00	-1.1779	3.75	-1.0975		
5.00	-1.3286			7.50	-1.1008	4.38	-1.0787		
7.50	-1.2325			10.00	-0.9999	5.00	-1.0522		
10.00	-1.1696			15.00	-0.8436	7.50	-0.9372		
12.50	-1.0908			17.50	-0.2174	15.00	-0.1691		
15.00	-1.0117			20.00	-0.0951	17.50	-0.1444		
30.00	-0.1110			40.00	-0.1252	20.00	-0.1381		
40.00	-0.0464			50.00	-0.1285	40.00	-0.1429		
50.00	-0.0965			60.00	-0.1289	50.00	-0.1418		
60.00	-0.1188			70.00	-0.1239	60.00	-0.1293		
70.00	-0.1139			80.00	-0.1193	70.00	-0.1105		
90.00	-0.0913			90.00	-0.0985	80.00	-0.1247		
122.00	-0.0389			122.00	-0.0420	90.00	-0.0910		
139.00	-0.0250			139.00	-0.0343	122.00	-0.0412		
						139.00	-0.0266		

mfr = 0.57 and α = 3.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-3.75	1.0888	166.70	0.0175	-3.75	1.0358	-3.75	0.9945	166.70	-0.0264
-3.12	1.0979	183.30	0.0168	-3.12	1.0549	-3.12	1.0068	183.30	-0.0035
-1.88	1.1412	200.00	0.0274	-1.88	1.0882	-1.88	1.0391	200.00	0.0165
-1.25	1.1617	216.70	0.0444	-1.25	1.1234	-1.25	1.0722	216.70	0.0344
-0.62	1.1891	238.90	0.0859	0.00	0.3934	-0.62	1.1376	238.90	0.0763
0.00	-0.2901	255.60	0.1340	0.62	-1.5462	0.00	0.4431	255.60	0.1311
0.31	-1.6632	266.70	0.1862	1.25	-1.4794	0.62	-1.3495	266.70	0.1972
0.62	-1.7057	272.20	0.2181	1.88	-1.4035	1.25	-1.2855	272.20	0.2506
1.25	-1.6455	277.80	0.2573	2.50	-1.3846	1.88	-1.2016	277.80	0.3114
2.50	-1.5666	283.30	0.3094	3.12	-1.3194	2.50	-1.1438	283.30	0.3915
3.12	-1.5299			4.38	-1.2050	3.12	-1.0501		
4.38	-1.4310			5.00	-1.1626	3.75	-0.9743		
5.00	-1.4153			7.50	-1.1113	4.38	-0.9651		
7.50	-1.3079			10.00	-1.0037	5.00	-0.9371		
10.00	-1.2300			15.00	-0.8730	7.50	-0.7715		
12.50	-1.1482			17.50	-0.2419	15.00	-0.1580		
15.00	-1.0572			20.00	-0.1394	17.50	-0.1757		
30.00	-0.3097			40.00	-0.1429	20.00	-0.1576		
40.00	-0.0639			50.00	-0.1340	40.00	-0.1437		
50.00	-0.0655			60.00	-0.1389	50.00	-0.1400		
60.00	-0.1032			70.00	-0.1310	60.00	-0.1306		
70.00	-0.1048			80.00	-0.1278	70.00	-0.1117		
90.00	-0.0830			90.00	-0.1007	80.00	-0.1222		
122.00	-0.0385			122.00	-0.0477	90.00	-0.0885		
139.00	-0.0273			139.00	-0.0373	122.00	-0.0354		
						139.00	-0.0227		

mfr = 0.64 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-3.75	0.9642	166.70	-0.0009	-3.75	0.9660	-3.75	0.9664	166.70	0.0051
-3.12	0.9796	183.30	0.0127	-3.12	0.9678	-3.12	0.9706	183.30	0.0137
-1.88	1.0354	200.00	0.0280	-1.88	1.0256	-1.88	1.0200	200.00	0.0310
-1.25	1.0553	216.70	0.0508	-1.25	1.0461	-1.25	1.0577	216.70	0.0494
-0.62	1.1157	238.90	0.0974	0.00	0.7223	-0.62	1.1257	238.90	0.0957
0.00	0.5571	255.60	0.1533	0.62	-1.3924	0.00	0.4721	255.60	0.1533
0.31	-1.3412	266.70	0.2189	1.25	-1.3256	0.62	-1.3555	266.70	0.2206
0.62	-1.4370	272.20	0.2642	1.88	-1.2690	1.25	-1.3444	272.20	0.2695
1.25	-1.3448	277.80	0.3194	2.50	-1.2302	1.88	-1.2589	277.80	0.3258
2.50	-1.2139	283.30	0.3811	3.12	-1.1255	2.50	-1.2324	283.30	0.3961
3.12	-1.1397			4.38	-1.0767	3.12	-1.1793		
4.38	-1.0672			5.00	-0.9978	3.75	-1.0638		
5.00	-1.0298			7.50	-0.9198	4.38	-1.0756		
7.50	-0.9529			10.00	-0.8555	5.00	-1.0313		
10.00	-0.8079			15.00	-0.1365	7.50	-0.9477		
12.50	-0.7117			17.50	-0.1293	15.00	-0.3155		
15.00	-0.1743			20.00	-0.1412	17.50	-0.1153		
30.00	-0.1452			40.00	-0.1444	20.00	-0.1392		
40.00	-0.1350			50.00	-0.1342	40.00	-0.1496		
50.00	-0.1350			60.00	-0.1282	50.00	-0.1411		
60.00	-0.1320			70.00	-0.1169	60.00	-0.1365		
70.00	-0.1192			80.00	-0.1190	70.00	-0.1171		
90.00	-0.0836			90.00	-0.0962	80.00	-0.1219		
122.00	-0.0338			122.00	-0.0338	90.00	-0.0876		
139.00	-0.0145			139.00	-0.0238	122.00	-0.0350		
						139.00	-0.0284		

TABLE V. Continued

(b) Continued

mfr = 0.71 and α = 0°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.8666	166.70	0.0046	-3.75	0.8619	-3.75	0.8690	166.70	0.0139
-3.12	0.8761	183.30	0.0222	-3.12	0.8725	-3.12	0.8844	183.30	0.0222
-1.88	0.9201	200.00	0.0358	-1.88	0.9062	-1.88	0.8979	200.00	0.0428
-1.25	0.9647	216.70	0.0604	-1.25	0.9531	-1.25	0.9421	216.70	0.0601
-0.62	1.0245	238.90	0.1092	0.00	1.0086	-0.62	1.0347	238.90	0.1096
0.00	0.9162	255.60	0.1700	0.62	-1.1272	0.00	0.8461	255.60	0.1726
0.31	-1.0925	266.70	0.2360	1.25	-1.0601	0.62	-1.1189	266.70	0.2417
0.62	-1.2018	272.20	0.2845	1.88	-0.9917	1.25	-1.0833	272.20	0.2941
1.25	-1.1092	277.80	0.3384	2.50	-0.9895	1.88	-1.0436	277.80	0.3480
2.50	-0.9933	283.30	0.4031	3.12	-0.9289	2.50	-0.9399	283.30	0.4177
3.12	-0.8395			4.38	-0.8438	3.12	-0.9112		
4.38	-0.7941			5.00	-0.7865	3.75	-0.8480		
5.00	-0.7843			7.50	-0.4525	4.38	-0.7876		
7.50	-0.5597			10.00	-0.1746	5.00	-0.8019		
10.00	-0.1814			15.00	-0.1744	7.50	-0.7505		
12.50	-0.2001			17.50	-0.1926	15.00	-0.1948		
15.00	-0.1745			20.00	-0.1568	17.50	-0.2070		
30.00	-0.1673			40.00	-0.1452	20.00	-0.1636		
40.00	-0.1356			50.00	-0.1303	40.00	-0.1474		
50.00	-0.1349			60.00	-0.1210	50.00	-0.1379		
60.00	-0.1290			70.00	-0.1123	60.00	-0.1284		
70.00	-0.1172			80.00	-0.1107	70.00	-0.1085		
90.00	-0.0791			90.00	-0.0839	80.00	-0.1189		
122.00	-0.0252			122.00	-0.0287	90.00	-0.0846		
139.00	-0.0098			139.00	-0.0194	122.00	-0.0287		
						139.00	-0.0241		

mfr = 0.78 and α = -2.1°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.6504	166.70	-0.0088	-3.75	0.7452	-3.75	0.8033	166.70	0.0391
-3.12	0.6694	183.30	0.0201	-3.12	0.7507	-3.12	0.8287	183.30	0.0381
-1.88	0.6752	200.00	0.0391	-1.88	0.7676	-1.88	0.8587	200.00	0.0511
-1.25	0.6618	216.70	0.0660	-1.25	0.8021	-1.25	0.8876	216.70	0.0710
-0.62	0.6932	238.90	0.1190	0.00	1.1851	-0.62	0.9886	238.90	0.1220
0.00	1.1894	255.60	0.1772	0.62	-0.7641	0.00	0.9325	255.60	0.1885
0.31	-0.1936	266.70	0.2445	1.25	-0.6843	0.62	-1.0881	266.70	0.2555
0.62	-0.2189	272.20	0.2921	1.88	-0.4803	1.25	-1.0553	272.20	0.3004
1.25	-0.1897	277.80	0.3493	2.50	-0.5216	1.88	-1.0240	277.80	0.3526
2.50	-0.1192	283.30	0.4205	3.12	-0.5612	2.50	-0.9886	283.30	0.4102
3.12	-0.0808			4.38	-0.3717	3.12	-0.9433		
4.38	-0.0713			5.00	-0.2639	3.75	-0.8615		
5.00	-0.1680			7.50	-0.2763	4.38	-0.8357		
7.50	-0.1713			10.00	-0.2510	5.00	-0.7910		
10.00	-0.1513			15.00	-0.2002	7.50	-0.6333		
12.50	-0.1375			17.50	-0.1895	15.00	-0.1910		
15.00	-0.1139			20.00	-0.1322	17.50	-0.2120		
30.00	-0.1146			40.00	-0.1350	20.00	-0.1696		
40.00	-0.0992			50.00	-0.1207	40.00	-0.1538		
50.00	-0.1021			60.00	-0.1188	50.00	-0.1427		
60.00	-0.1087			70.00	-0.0999	60.00	-0.1314		
70.00	-0.0982			80.00	-0.1059	70.00	-0.1099		
90.00	-0.0708			90.00	-0.0841	80.00	-0.1153		
122.00	-0.0152			122.00	-0.0260	90.00	-0.0801		
139.00	-0.0010			139.00	-0.0156	122.00	-0.0233		
						139.00	-0.0183		

mfr = 0.78 and α = -3.1°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.6240	166.70	-0.0090	-3.75	0.7306	-3.75	0.8333	166.70	0.0446
-3.12	0.6204	183.30	0.0200	-3.12	0.7413	-3.12	0.8602	183.30	0.0416
-1.88	0.6080	200.00	0.0389	-1.88	0.7618	-1.88	0.9014	200.00	0.0565
-1.25	0.5819	216.70	0.0655	-1.25	0.7846	-1.25	0.9422	216.70	0.0762
-0.62	0.5683	238.90	0.1174	0.00	1.1824	-0.62	1.0181	238.90	0.1280
0.00	1.1869	255.60	0.1759	0.62	-0.8342	0.00	0.8506	255.60	0.1895
0.31	0.0194	266.70	0.2464	1.25	-0.6878	0.62	-1.1654	266.70	0.2590
0.62	0.0145	272.20	0.2906	1.88	-0.6093	1.25	-1.1760	272.20	0.3026
1.25	-0.0145	277.80	0.3485	2.50	-0.4673	1.88	-1.1348	277.80	0.3491
2.50	0.0168	283.30	0.4266	3.12	-0.4420	2.50	-1.1050	283.30	0.4020
3.12	0.0083			4.38	-0.3099	3.12	-1.0718		
4.38	0.0002			5.00	-0.2776	3.75	-0.9824		
5.00	-0.0687			7.50	-0.3049	4.38	-0.9640		
7.50	-0.0988			10.00	-0.2614	5.00	-0.9172		
10.00	-0.0952			15.00	-0.2050	7.50	-0.8642		
12.50	-0.0909			17.50	-0.1914	15.00	-0.1167		
15.00	-0.0795			20.00	-0.1466	17.50	-0.1557		
30.00	-0.0988			40.00	-0.1384	20.00	-0.1646		
40.00	-0.0854			50.00	-0.1213	40.00	-0.1521		
50.00	-0.0955			60.00	-0.1215	50.00	-0.1428		
60.00	-0.0972			70.00	-0.1055	60.00	-0.1324		
70.00	-0.0893			80.00	-0.1101	70.00	-0.1086		
90.00	-0.0644			90.00	-0.0909	80.00	-0.1121		
122.00	-0.0187			122.00	-0.0317	90.00	-0.0747		
139.00	0.0006			139.00	-0.0213	122.00	-0.0202		
						139.00	-0.0163		

mfr = 0.78 and α = -1.1°

ϕ = 0°				ϕ = 90°		ϕ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.7155	166.70	0.0041	-3.75	0.7297	-3.75	0.7749	166.70	0.0276
-3.12	0.7161	183.30	0.0263	-3.12	0.7326	-3.12	0.7780	183.30	0.0326
-1.88	0.7513	200.00	0.0416	-1.88	0.7565	-1.88	0.8338	200.00	0.0479
-1.25	0.7256	216.70	0.0676	-1.25	0.7968	-1.25	0.8515	216.70	0.0686
-0.62	0.7806	238.90	0.1194	0.00	1.1805	-0.62	0.9246	238.90	0.1218
0.00	1.1823	255.60	0.1776	0.62	-0.7762	0.00	1.0484	255.60	0.1856
0.31	-0.3258	266.70	0.2457	1.25	-0.6550	0.62	-0.9858	266.70	0.2553
0.62	-0.5158	272.20	0.2935	1.88	-0.6678	1.25	-0.9354	272.20	0.3035
1.25	-0.4417	277.80	0.3494	2.50	-0.5272	1.88	-0.8887	277.80	0.3557
2.50	-0.2767	283.30	0.4195	3.12	-0.3940	2.50	-0.8743	283.30	0.4182
3.12	-0.2132			4.38	-0.2589	3.12	-0.8128		
4.38	-0.1548			5.00	-0.2402	3.75	-0.6174		
5.00	-0.2184			7.50	-0.2865	4.38	-0.6998		
7.50	-0.2525			10.00	-0.2417	5.00	-0.5883		
10.00	-0.1900			15.00	-0.1925	7.50	-0.2218		
12.50	-0.2142			17.50	-0.1941	15.00	-0.2292		
15.00	-0.1568			20.00	-0.1380	17.50	-0.2133		
30.00	-0.1371			40.00	-0.1364	20.00	-0.1647		
40.00	-0.1129			50.00	-0.1157	40.00	-0.1455		
50.00	-0.1142			60.00	-0.1124	50.00	-0.1393		
60.00	-0.1116			70.00	-0.1034	60.00	-0.1295		
70.00	-0.1070			80.00	-0.1051	70.00	-0.1088		
90.00	-0.0756			90.00	-0.0827	80.00	-0.1146		
122.00	-0.0170			122.00	-0.0235	90.00	-0.0797		
139.00	-0.0039			139.00	-0.0124	122.00	-0.0224		
						139.00	-0.0181		

TABLE V. Continued

(b) Continued

mfr = 0.78 and α = 0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.7611	166.70	0.0144	-3.75	0.7258	-3.75	0.7030	166.70	0.0160
-3.12	0.7881	183.30	0.0273	-3.12	0.7551	-3.12	0.7576	183.30	0.0270
-1.88	0.7865	200.00	0.0413	-1.88	0.7595	-1.88	0.7985	200.00	0.0456
-1.25	0.7826	216.70	0.0673	-1.25	0.7910	-1.25	0.7908	216.70	0.0629
-0.62	0.8731	238.90	0.1174	0.00	1.1840	-0.62	0.8285	238.90	0.1151
0.00	1.1227	255.60	0.1766	0.62	-0.7549	0.00	1.1489	255.60	0.1799
0.31	-0.8132	266.70	0.2483	1.25	-0.7294	0.62	-0.7373	266.70	0.2490
0.62	-0.8263	272.20	0.2932	1.88	-0.6527	1.25	-0.6961	272.20	0.2969
1.25	-0.6756	277.80	0.3488	2.50	-0.5356	1.88	-0.5772	277.80	0.3541
2.50	-0.5780	283.30	0.4122	3.12	-0.5709	2.50	-0.6310	283.30	0.4209
3.12	-0.3337			4.38	-0.2584	3.12	-0.4914		
4.38	-0.2282			5.00	-0.2515	3.75	-0.2707		
5.00	-0.2646			7.50	-0.3018	4.38	-0.2446		
7.50	-0.2927			10.00	-0.2537	5.00	-0.2066		
10.00	-0.2354			15.00	-0.1928	7.50	-0.2795		
12.50	-0.2603			17.50	-0.1966	15.00	-0.2192		
15.00	-0.1948			20.00	-0.1544	17.50	-0.1911		
30.00	-0.1545			40.00	-0.1389	20.00	-0.1440		
40.00	-0.1080			50.00	-0.1183	40.00	-0.1275		
50.00	-0.1253			60.00	-0.1216	50.00	-0.1186		
60.00	-0.1034			70.00	-0.1064	60.00	-0.1114		
70.00	-0.1106			80.00	-0.1120	70.00	-0.0910		
90.00	-0.0815			90.00	-0.0915	80.00	-0.0987		
122.00	-0.0181			122.00	-0.0246	90.00	-0.0645		
139.00	-0.0065			139.00	-0.0169	122.00	-0.0134		
						139.00	-0.0065		

mfr = 0.78 and α = 1.0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.7796	166.70	0.0251	-3.75	0.7358	-3.75	0.6935	166.70	0.0095
-3.12	0.7994	183.30	0.0337	-3.12	0.7534	-3.12	0.7158	183.30	0.0251
-1.88	0.8274	200.00	0.0473	-1.88	0.7713	-1.88	0.7380	200.00	0.0446
-1.25	0.8420	216.70	0.0725	-1.25	0.7895	-1.25	0.7258	216.70	0.0662
-0.62	0.9317	238.90	0.1242	0.00	1.1865	-0.62	0.7799	238.90	0.1153
0.00	1.0791	255.60	0.1871	0.62	-0.7525	0.00	1.1800	255.60	0.1795
0.31	-0.9399	266.70	0.2530	1.25	-0.6671	0.62	-0.4754	266.70	0.2504
0.62	-1.0053	272.20	0.2964	1.88	-0.5024	1.25	-0.3778	272.20	0.3011
1.25	-0.9742	277.80	0.3495	2.50	-0.5213	1.88	-0.2872	277.80	0.3601
2.50	-0.7522	283.30	0.4108	3.12	-0.5722	2.50	-0.3481	283.30	0.4287
3.12	-0.7375			4.38	-0.2752	3.12	-0.2740		
4.38	-0.7457			5.00	-0.2572	3.75	-0.1998		
5.00	-0.4168			7.50	-0.2840	4.38	-0.2069		
7.50	-0.2705			10.00	-0.2447	5.00	-0.1977		
10.00	-0.2150			15.00	-0.1968	7.50	-0.2366		
12.50	-0.2539			17.50	-0.1811	15.00	-0.1731		
15.00	-0.2072			20.00	-0.1405	17.50	-0.1701		
30.00	-0.1631			40.00	-0.1309	20.00	-0.1327		
40.00	-0.1259			50.00	-0.1191	40.00	-0.1239		
50.00	-0.1242			60.00	-0.1155	50.00	-0.1166		
60.00	-0.1232			70.00	-0.1000	60.00	-0.1141		
70.00	-0.1141			80.00	-0.1067	70.00	-0.0957		
90.00	-0.0740			90.00	-0.0839	80.00	-0.1072		
122.00	-0.0184			122.00	-0.0203	90.00	-0.0751		
139.00	-0.0057			139.00	-0.0115	122.00	-0.0188		
						139.00	-0.0100		

mfr = 0.78 and α = 2.0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.8105	166.70	0.0347	-3.75	0.7323	-3.75	0.6568	166.70	-0.0058
-3.12	0.8271	183.30	0.0354	-3.12	0.7411	-3.12	0.6576	183.30	0.0201
-1.88	0.8736	200.00	0.0463	-1.88	0.7634	-1.88	0.6718	200.00	0.0420
-1.25	0.8856	216.70	0.0723	-1.25	0.8073	-1.25	0.6491	216.70	0.0624
-0.62	0.9615	238.90	0.1261	0.00	1.1834	-0.62	0.6752	238.90	0.1135
0.00	0.9804	255.60	0.1858	0.62	-0.8059	0.00	1.1894	255.60	0.1769
0.31	-1.0715	266.70	0.2525	1.25	-0.6454	0.62	-0.1468	266.70	0.2472
0.62	-1.1085	272.20	0.2957	1.88	-0.5405	1.25	-0.1681	272.20	0.2990
1.25	-1.0424	277.80	0.3455	2.50	-0.4464	1.88	-0.2126	277.80	0.3565
2.50	-0.9433	283.30	0.4026	3.12	-0.4544	2.50	-0.1853	283.30	0.4318
3.12	-0.8808			4.38	-0.2834	3.12	-0.1247		
4.38	-0.8301			5.00	-0.2600	3.75	-0.0891		
5.00	-0.8438			7.50	-0.2566	4.38	-0.0508		
7.50	-0.7300			10.00	-0.2457	5.00	-0.1324		
10.00	-0.2991			15.00	-0.2014	7.50	-0.1284		
12.50	-0.1796			17.50	-0.1890	15.00	-0.1383		
15.00	-0.1482			20.00	-0.1401	17.50	-0.1453		
30.00	-0.1744			40.00	-0.1365	20.00	-0.1096		
40.00	-0.1329			50.00	-0.1190	40.00	-0.1111		
50.00	-0.1368			60.00	-0.1159	50.00	-0.1067		
60.00	-0.1250			70.00	-0.1014	60.00	-0.1086		
70.00	-0.1152			80.00	-0.1089	70.00	-0.0898		
90.00	-0.0751			90.00	-0.0868	80.00	-0.1048		
122.00	-0.0200			122.00	-0.0277	90.00	-0.0711		
139.00	-0.0046			139.00	-0.0204	122.00	-0.0162		
						139.00	-0.0050		

mfr = 0.78 and α = 3.0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.8373	166.70	0.0431	-3.75	0.7345	-3.75	0.6069	166.70	-0.0087
-3.12	0.8493	183.30	0.0415	-3.12	0.7525	-3.12	0.6008	183.30	0.0205
-1.88	0.9061	200.00	0.0544	-1.88	0.7635	-1.88	0.5850	200.00	0.0405
-1.25	0.9321	216.70	0.0760	-1.25	0.7752	-1.25	0.5427	216.70	0.0637
-0.62	1.0286	238.90	0.1295	0.00	1.1776	-0.62	0.5099	238.90	0.1146
0.00	0.8979	255.60	0.1897	0.62	-0.8070	0.00	1.1868	255.60	0.1750
0.31	-1.1533	266.70	0.2525	1.25	-0.6275	0.62	0.0351	266.70	0.2462
0.62	-1.2427	272.20	0.2964	1.88	-0.5571	1.25	0.0216	272.20	0.2977
1.25	-1.1907	277.80	0.3413	2.50	-0.4352	1.88	-0.0371	277.80	0.3569
2.50	-1.0606	283.30	0.3941	3.12	-0.5530	2.50	-0.0400	283.30	0.4337
3.12	-0.9735			4.38	-0.2988	3.12	-0.0235		
4.38	-0.9371			5.00	-0.2925	3.75	0.0139		
5.00	-0.9298			7.50	-0.3103	4.38	0.0051		
7.50	-0.8964			10.00	-0.2609	5.00	-0.0529		
10.00	-0.7867			15.00	-0.1975	7.50	-0.0856		
12.50	-0.3431			17.50	-0.1939	15.00	-0.1014		
15.00	-0.1544			20.00	-0.1456	17.50	-0.1191		
30.00	-0.1629			40.00	-0.1369	20.00	-0.0978		
40.00	-0.1341			50.00	-0.1249	40.00	-0.1055		
50.00	-0.1338			60.00	-0.1195	50.00	-0.1022		
60.00	-0.1282			70.00	-0.1096	60.00	-0.0942		
70.00	-0.1161			80.00	-0.1103	70.00	-0.0801		
90.00	-0.0735			90.00	-0.0873	80.00	-0.1004		
122.00	-0.0185			122.00	-0.0274	90.00	-0.0683		
139.00	-0.0074			139.00	-0.0243	122.00	-0.0208		
						139.00	-0.0097		

TABLE V. Continued

(b) Continued

mfr = 0.95 and α = -3.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	-0.5462	166.70	0.0022	-3.75	0.0548	-3.75	0.3478	166.70	0.0528
-3.12	-0.5609	183.30	0.0300	-3.12	-0.0084	-3.12	0.3597	183.30	0.0496
-1.88	-0.6691	200.00	0.0466	-1.88	-0.3316	-1.88	0.3248	200.00	0.0654
-1.25	-0.6277	216.70	0.0724	-1.25	-0.5263	-1.25	0.3025	216.70	0.0843
-0.62	-0.5954	238.90	0.1210	0.00	0.9074	-0.62	0.1332	238.90	0.1343
0.00	0.9506	255.60	0.1757	0.62	0.3966	0.00	1.1791	255.60	0.1935
0.31	0.8389	266.70	0.2343	1.25	0.2412	0.62	-0.0643	266.70	0.2552
0.62	0.6643	272.20	0.2743	1.88	0.1850	1.25	-0.1608	272.20	0.2952
1.25	0.4602	277.80	0.3244	2.50	0.1040	1.88	-0.1161	277.80	0.3389
2.50	0.3453	283.30	0.3876	3.12	0.1028	2.50	-0.1846	283.30	0.3882
3.12	0.3265			4.38	0.0473	3.12	-0.1461		
4.38	0.2606			5.00	0.0390	3.75	-0.1644		
5.00	0.2064			7.50	-0.0409	4.38	-0.1380		
7.50	0.1006			10.00	-0.0508	5.00	-0.1890		
10.00	0.0572			15.00	-0.0738	7.50	-0.2209		
12.50	0.0393			17.50	-0.0992	15.00	-0.1743		
15.00	0.0384			20.00	-0.0914	17.50	-0.1736		
30.00	-0.0434			40.00	-0.1029	20.00	-0.1311		
40.00	-0.0460			50.00	-0.0998	40.00	-0.1249		
50.00	-0.0649			60.00	-0.1010	50.00	-0.1194		
60.00	-0.0747			70.00	-0.0914	60.00	-0.1151		
70.00	-0.0773			80.00	-0.0915	70.00	-0.0948		
90.00	-0.0494			90.00	-0.0692	80.00	-0.0998		
122.00	-0.0099			122.00	-0.0267	90.00	-0.0654		
139.00	0.0143			139.00	-0.0137	122.00	-0.0126		
						139.00	-0.0037		

mfr = 0.95 and α = -2.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	-0.4556	166.70	0.0047	-3.75	-0.0514	-3.75	0.2604	166.70	0.0501
-3.12	-0.5186	183.30	0.0316	-3.12	-0.0609	-3.12	0.2615	183.30	0.0475
-1.88	-0.5923	200.00	0.0518	-1.88	-0.3998	-1.88	0.2231	200.00	0.0610
-1.25	-0.5793	216.70	0.0780	-1.25	-0.5256	-1.25	0.1584	216.70	0.0819
-0.62	-0.5555	238.90	0.1250	0.00	0.8989	-0.62	-0.1072	238.90	0.1309
0.00	0.9969	255.60	0.1803	0.62	0.4442	0.00	1.1641	255.60	0.1870
0.31	0.7631	266.70	0.2380	1.25	0.2930	0.62	0.1470	266.70	0.2486
0.62	0.5332	272.20	0.2773	1.88	0.1637	1.25	0.0426	272.20	0.2919
1.25	0.4020	277.80	0.3267	2.50	0.1300	1.88	-0.0455	277.80	0.3373
2.50	0.2819	283.30	0.3870	3.12	0.1185	2.50	-0.0466	283.30	0.3907
3.12	0.2777			4.38	0.0843	3.12	-0.0444		
4.38	0.2089			5.00	0.0550	3.75	-0.0360		
5.00	0.1462			7.50	-0.0219	4.38	-0.0689		
7.50	0.0466			10.00	-0.0580	5.00	-0.0921		
10.00	0.0251			15.00	-0.0656	7.50	-0.1518		
12.50	-0.0057			17.50	-0.0950	15.00	-0.1533		
15.00	0.0041			20.00	-0.0820	17.50	-0.1529		
30.00	-0.0625			40.00	-0.0950	20.00	-0.1251		
40.00	-0.0596			50.00	-0.0939	40.00	-0.1181		
50.00	-0.0769			60.00	-0.0902	50.00	-0.1196		
60.00	-0.0838			70.00	-0.0901	60.00	-0.1114		
70.00	-0.0799			80.00	-0.0950	70.00	-0.0924		
90.00	-0.0554			90.00	-0.0702	80.00	-0.0996		
122.00	-0.0119			122.00	-0.0173	90.00	-0.0656		
139.00	0.0084			139.00	-0.0108	122.00	-0.0108		
						139.00	-0.0077		

mfr = 0.95 and α = -1.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	-0.2672	166.70	0.0078	-3.75	0.0686	-3.75	0.2141	166.70	0.0402
-3.12	-0.3583	183.30	0.0319	-3.12	0.0287	-3.12	0.2068	183.30	0.0429
-1.88	-0.5163	200.00	0.0515	-1.88	-0.3573	-1.88	0.0519	200.00	0.0581
-1.25	-0.5457	216.70	0.0760	-1.25	-0.4553	-1.25	0.1313	216.70	0.0770
-0.62	-0.5800	238.90	0.1244	0.00	0.8884	-0.62	-0.5801	238.90	0.1274
0.00	1.0442	255.60	0.1807	0.62	0.3421	0.00	1.1279	255.60	0.1837
0.31	0.6811	266.70	0.2387	1.25	0.2537	0.62	0.2860	266.70	0.2463
0.62	0.4895	272.20	0.2798	1.88	0.2158	1.25	0.0649	272.20	0.2890
1.25	0.2730	277.80	0.3258	2.50	0.1136	1.88	0.0887	277.80	0.3361
2.50	0.2080	283.30	0.3861	3.12	0.1029	2.50	0.0488	283.30	0.3931
3.12	0.1788			4.38	0.0553	3.12	0.0514		
4.38	0.1781			5.00	0.0225	3.75	0.0268		
5.00	0.0707			7.50	-0.0249	4.38	0.0156		
7.50	0.0051			10.00	-0.0463	5.00	-0.0353		
10.00	-0.0163			15.00	-0.0628	7.50	-0.0755		
12.50	-0.0329			17.50	-0.0943	15.00	-0.1170		
15.00	-0.0374			20.00	-0.0804	17.50	-0.1228		
30.00	-0.0795			40.00	-0.0921	20.00	-0.1038		
40.00	-0.0697			50.00	-0.0915	40.00	-0.1064		
50.00	-0.0811			60.00	-0.0913	50.00	-0.1090		
60.00	-0.0909			70.00	-0.0869	60.00	-0.1038		
70.00	-0.0808			80.00	-0.0899	70.00	-0.0862		
90.00	-0.0601			90.00	-0.0697	80.00	-0.1003		
122.00	-0.0099			122.00	-0.0118	90.00	-0.0660		
139.00	0.0024			139.00	-0.0022	122.00	-0.0137		
						139.00	-0.0045		

mfr = 0.95 and α = -0.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.0618	166.70	0.0227	-3.75	-0.0107	-3.75	0.1262	166.70	0.0241
-3.12	-0.0397	183.30	0.0377	-3.12	-0.1358	-3.12	0.0359	183.30	0.0360
-1.88	-0.2393	200.00	0.0523	-1.88	-0.2441	-1.88	-0.2497	200.00	0.0566
-1.25	-0.3426	216.70	0.0771	-1.25	-0.4961	-1.25	-0.3094	216.70	0.0755
-0.62	-0.5917	238.90	0.1269	0.00	0.9312	-0.62	-0.7635	238.90	0.1229
0.00	1.0795	255.60	0.1796	0.62	0.4311	0.00	1.0873	255.60	0.1813
0.31	0.5595	266.70	0.2387	1.25	0.2579	0.62	0.4149	266.70	0.2443
0.62	0.4100	272.20	0.2792	1.88	0.1593	1.25	0.2209	272.20	0.2871
1.25	0.2441	277.80	0.3236	2.50	0.1308	1.88	0.1583	277.80	0.3346
2.50	0.1745	283.30	0.3836	3.12	0.1443	2.50	0.1382	283.30	0.3949
3.12	0.1398			4.38	0.0729	3.12	0.0938		
4.38	0.0761			5.00	0.0500	3.75	0.0979		
5.00	0.0260			7.50	-0.0320	4.38	0.0464		
7.50	-0.0318			10.00	-0.0561	5.00	0.0229		
10.00	-0.0595			15.00	-0.0501	7.50	-0.0224		
12.50	-0.0791			17.50	-0.0899	15.00	-0.0836		
15.00	-0.0578			20.00	-0.0812	17.50	-0.0914		
30.00	-0.0892			40.00	-0.0987	20.00	-0.1002		
40.00	-0.0843			50.00	-0.0850	40.00	-0.0903		
50.00	-0.0860			60.00	-0.0917	50.00	-0.1006		
60.00	-0.0951			70.00	-0.0808	60.00	-0.0938		
70.00	-0.0892			80.00	-0.0877	70.00	-0.0789		
90.00	-0.0613			90.00	-0.0673	80.00	-0.0927		
122.00	-0.0128			122.00	-0.0132	90.00	-0.0620		
139.00	0.0025			139.00	-0.0029	122.00	-0.0083		
						139.00	-0.0044		

TABLE V. Continued

(b) Concluded

mfr = 0.95 and α = 1.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.1833	166.70	0.0337	-3.75	-0.0544	-3.75	-0.1976	166.70	0.0168
-3.12	0.1941	183.30	0.0420	-3.12	-0.0104	-3.12	-0.1798	183.30	0.0337
-1.88	0.0507	200.00	0.0560	-1.88	-0.3674	-1.88	-0.4261	200.00	0.0543
-1.25	-0.2129	216.70	0.0805	-1.25	-0.5302	-1.25	-0.6078	216.70	0.0723
-0.62	-0.5209	238.90	0.1273	0.00	0.9182	-0.62	-0.8519	238.90	0.1203
0.00	1.1362	255.60	0.1807	0.62	0.4217	0.00	1.0200	255.60	0.1780
0.31	0.4822	266.70	0.2414	1.25	0.2460	0.62	0.4940	266.70	0.2417
0.62	0.2019	272.20	0.2809	1.88	0.2116	1.25	0.3329	272.20	0.2856
1.25	0.1489	277.80	0.3264	2.50	0.1192	1.88	0.2443	277.80	0.3337
2.50	0.0706	283.30	0.3817	3.12	0.1142	2.50	0.1780	283.30	0.3970
3.12	0.0895			4.38	0.0877	3.12	0.1660		
4.38	0.0390			5.00	0.0298	3.75	0.1447		
5.00	-0.0485			7.50	-0.0240	4.38	0.1487		
7.50	-0.0844			10.00	-0.0372	5.00	0.1084		
10.00	-0.0880			15.00	-0.0529	7.50	0.0309		
12.50	-0.1129			17.50	-0.0974	15.00	-0.0577		
15.00	-0.0877			20.00	-0.0890	17.50	-0.0745		
30.00	-0.1145			40.00	-0.0962	20.00	-0.0782		
40.00	-0.0965			50.00	-0.0824	40.00	-0.0856		
50.00	-0.1011			60.00	-0.0893	50.00	-0.0830		
60.00	-0.1018			70.00	-0.0840	60.00	-0.0924		
70.00	-0.0932			80.00	-0.0893	70.00	-0.0771		
90.00	-0.0684			90.00	-0.0698	80.00	-0.0901		
122.00	-0.0117			122.00	-0.0148	90.00	-0.0588		
139.00	0.0020			139.00	-0.0057	122.00	-0.0117		
						139.00	-0.0041		

mfr = 0.95 and α = 2.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.2791	166.70	0.0514	-3.75	-0.0570	-3.75	-0.4825	166.70	0.0115
-3.12	0.3035	183.30	0.0494	-3.12	0.0259	-3.12	-0.4510	183.30	0.0348
-1.88	0.2524	200.00	0.0673	-1.88	-0.3240	-1.88	-0.6629	200.00	0.0540
-1.25	0.1784	216.70	0.0906	-1.25	-0.5425	-1.25	-0.8022	216.70	0.0747
-0.62	-0.1156	238.90	0.1368	0.00	0.8964	-0.62	-0.9403	238.90	0.1248
0.00	1.1632	255.60	0.1909	0.62	0.4247	0.00	0.9771	255.60	0.1780
0.31	0.2442	266.70	0.2491	1.25	0.2457	0.62	0.6039	266.70	0.2388
0.62	0.0902	272.20	0.2859	1.88	0.1954	1.25	0.4078	272.20	0.2843
1.25	-0.0296	277.80	0.3298	2.50	0.1199	1.88	0.3103	277.80	0.3318
2.50	-0.0494	283.30	0.3820	3.12	0.1015	2.50	0.2501	283.30	0.3965
3.12	-0.0022			4.38	0.0884	3.12	0.2363		
4.38	-0.0469			5.00	0.0314	3.75	0.2010		
5.00	-0.1024			7.50	-0.0182	4.38	0.2010		
7.50	-0.1610			10.00	-0.0493	5.00	0.1820		
10.00	-0.1833			15.00	-0.0647	7.50	0.0531		
12.50	-0.1489			17.50	-0.0867	15.00	-0.0173		
15.00	-0.1397			20.00	-0.0985	17.50	-0.0463		
30.00	-0.1194			40.00	-0.0944	20.00	-0.0727		
40.00	-0.1156			50.00	-0.1039	40.00	-0.0716		
50.00	-0.1038			60.00	-0.0922	50.00	-0.0952		
60.00	-0.1194			70.00	-0.1012	60.00	-0.0943		
70.00	-0.0916			80.00	-0.0897	70.00	-0.0827		
90.00	-0.0610			90.00	-0.0647	80.00	-0.0993		
122.00	-0.0209			122.00	-0.0097	90.00	-0.0694		
139.00	-0.0117			139.00	-0.0043	122.00	-0.0163		
						139.00	-0.0032		

mfr = 0.95 and α = 3.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.3175	166.70	0.0590	-3.75	0.0596	-3.75	-0.5046	166.70	0.0056
-3.12	0.3477	183.30	0.0553	-3.12	-0.1913	-3.12	-0.5723	183.30	0.0341
-1.88	0.3308	200.00	0.0653	-1.88	-0.3157	-1.88	-0.7790	200.00	0.0560
-1.25	0.3188	216.70	0.0864	-1.25	-0.4987	-1.25	-0.8918	216.70	0.0771
-0.62	0.2367	238.90	0.1355	0.00	0.8808	-0.62	-0.9642	238.90	0.1242
0.00	1.1869	255.60	0.1935	0.62	0.3835	0.00	0.9312	255.60	0.1769
0.31	0.0738	266.70	0.2514	1.25	0.2932	0.62	0.6619	266.70	0.2418
0.62	-0.0614	272.20	0.2879	1.88	0.1442	1.25	0.4817	272.20	0.2872
1.25	-0.0836	277.80	0.3312	2.50	0.0930	1.88	0.3874	277.80	0.3349
2.50	-0.1342	283.30	0.3796	3.12	0.1410	2.50	0.3456	283.30	0.4008
3.12	-0.1254			4.38	0.0340	3.12	0.2894		
4.38	-0.1364			5.00	0.0321	3.75	0.2584		
5.00	-0.1946			7.50	-0.0393	4.38	0.2496		
7.50	-0.2416			10.00	-0.0395	5.00	0.1991		
10.00	-0.2053			15.00	-0.0746	7.50	0.1062		
12.50	-0.1901			17.50	-0.0875	15.00	0.0044		
15.00	-0.1652			20.00	-0.0956	17.50	-0.0274		
30.00	-0.1469			40.00	-0.0941	20.00	-0.0520		
40.00	-0.1202			50.00	-0.0982	40.00	-0.0663		
50.00	-0.1231			60.00	-0.0926	50.00	-0.0765		
60.00	-0.1120			70.00	-0.0967	60.00	-0.0784		
70.00	-0.1091			80.00	-0.0908	70.00	-0.0681		
90.00	-0.0604			90.00	-0.0680	80.00	-0.0872		
122.00	-0.0170			122.00	-0.0216	90.00	-0.0582		
139.00	-0.0021			139.00	-0.0151	122.00	-0.0162		
						139.00	-0.0037		

TABLE V. Continued

(c) M = 0.87

mfr = 0.57 and α = -2.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	1.0291	166.70	-0.0202	-3.75	1.0548	-3.75	1.0875	166.70	0.0248
-3.12	1.0401	183.30	0.0045	-3.12	1.0651	-3.12	1.1009	183.30	0.0209
-1.88	1.0805	200.00	0.0216	-1.88	1.1084	-1.88	1.1381	200.00	0.0344
-1.25	1.1078	216.70	0.0460	-1.25	1.1349	-1.25	1.1667	216.70	0.0498
-0.62	1.1633	238.90	0.0926	0.00	0.4349	-0.62	1.1991	238.90	0.0945
0.00	0.5231	255.60	0.1472	0.62	-1.4367	0.00	-0.2514	255.60	0.1523
0.31	-1.3116	266.70	0.2160	1.25	-1.3952	0.62	-1.5262	266.70	0.2134
0.62	-1.3683	272.20	0.2636	1.88	-1.3170	1.25	-1.4956	272.20	0.2565
1.25	-1.2803	277.80	0.3237	2.50	-1.2964	1.88	-1.4436	277.80	0.3031
2.50	-1.1229	283.30	0.3986	3.12	-1.2281	2.50	-1.3903	283.30	0.3590
3.12	-1.0906			4.38	-1.1353	3.12	-1.3721		
4.38	-0.9952			5.00	-1.1023	3.75	-1.3337		
5.00	-0.9537			7.50	-1.0198	4.38	-1.3077		
7.50	-0.8780			10.00	-0.9507	5.00	-1.2760		
10.00	-0.7979			15.00	-0.8424	7.50	-1.1674		
12.50	-0.7194			17.50	-0.7283	15.00	-0.9959		
15.00	-0.6534			20.00	-0.1059	17.50	-0.9063		
30.00	-0.0932			40.00	-0.0678	20.00	-0.2966		
40.00	-0.1141			50.00	-0.0996	40.00	-0.0514		
50.00	-0.1191			60.00	-0.1091	50.00	-0.0358		
60.00	-0.1261			70.00	-0.1141	60.00	-0.0740		
70.00	-0.1198			80.00	-0.1233	70.00	-0.0845		
90.00	-0.0891			90.00	-0.0966	80.00	-0.1081		
122.00	-0.0313			122.00	-0.0428	90.00	-0.0806		
139.00	-0.0142			139.00	-0.0298	122.00	-0.0342		
						139.00	-0.0287		

mfr = 0.57 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	1.0619	166.70	-0.0016	-3.75	1.0540	-3.75	1.0551	166.70	0.0029
-3.12	1.0741	183.30	0.0116	-3.12	1.0647	-3.12	1.0741	183.30	0.0122
-1.88	1.1151	200.00	0.0251	-1.88	1.1100	-1.88	1.1086	200.00	0.0296
-1.25	1.1419	216.70	0.0502	-1.25	1.1373	-1.25	1.1391	216.70	0.0489
-0.62	1.1888	238.90	0.0955	0.00	0.4503	-0.62	1.1912	238.90	0.0916
0.00	0.1937	255.60	0.1523	0.62	-1.4371	0.00	0.0104	255.60	0.1514
0.31	-1.4326	266.70	0.2153	1.25	-1.3873	0.62	-1.4286	266.70	0.2178
0.62	-1.4542	272.20	0.2600	1.88	-1.3377	1.25	-1.3891	272.20	0.2683
1.25	-1.4092	277.80	0.3136	2.50	-1.2726	1.88	-1.3471	277.80	0.3232
2.50	-1.2981	283.30	0.3814	3.12	-1.2136	2.50	-1.2820	283.30	0.3897
3.12	-1.2513			4.38	-1.1386	3.12	-1.2329		
4.38	-1.1363			5.00	-1.1094	3.75	-1.1745		
5.00	-1.1199			7.50	-1.0232	4.38	-1.1144		
7.50	-1.0236			10.00	-0.9397	5.00	-1.1070		
10.00	-0.9255			15.00	-0.8355	7.50	-1.0180		
12.50	-0.9001			17.50	-0.7473	15.00	-0.8715		
15.00	-0.8494			20.00	-0.0840	17.50	-0.7344		
30.00	-0.1212			40.00	-0.0564	20.00	-0.0913		
40.00	-0.0430			50.00	-0.0844	40.00	-0.0549		
50.00	-0.0754			60.00	-0.1009	50.00	-0.0920		
60.00	-0.1076			70.00	-0.1040	60.00	-0.1096		
70.00	-0.1140			80.00	-0.1126	70.00	-0.1013		
90.00	-0.0828			90.00	-0.0899	80.00	-0.1196		
122.00	-0.0354			122.00	-0.0361	90.00	-0.0867		
139.00	-0.0161			139.00	-0.0283	122.00	-0.0380		
						139.00	-0.0283		

mfr = 0.57 and α = 2.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	1.0841	166.70	0.0179	-3.75	1.0548	-3.75	1.0253	166.70	-0.0213
-3.12	1.0990	183.30	0.0183	-3.12	1.0672	-3.12	1.0425	183.30	0.0025
-1.88	1.1387	200.00	0.0292	-1.88	1.1063	-1.88	1.0742	200.00	0.0228
-1.25	1.1608	216.70	0.0479	-1.25	1.1340	-1.25	1.1070	216.70	0.0395
-0.62	1.1968	238.90	0.0962	0.00	0.4261	-0.62	1.1644	238.90	0.0865
0.00	-0.0310	255.60	0.1519	0.62	-1.4490	0.00	0.3618	255.60	0.1468
0.31	-1.5240	266.70	0.2095	1.25	-1.3872	0.62	-1.3404	266.70	0.2182
0.62	-1.5681	272.20	0.2508	1.88	-1.3195	1.25	-1.2783	272.20	0.2694
1.25	-1.5154	277.80	0.2946	2.50	-1.2726	1.88	-1.2102	277.80	0.3303
2.50	-1.4236	283.30	0.3487	3.12	-1.2410	2.50	-1.1699	283.30	0.4079
3.12	-1.3963			4.38	-1.1551	3.12	-1.0965		
4.38	-1.3002			5.00	-1.1360	3.75	-1.0519		
5.00	-1.2691			7.50	-1.0200	4.38	-1.0020		
7.50	-1.1729			10.00	-0.9517	5.00	-0.9695		
10.00	-1.0783			15.00	-0.8358	7.50	-0.8626		
12.50	-1.0504			17.50	-0.7131	15.00	-0.6963		
15.00	-0.9749			20.00	-0.1108	17.50	-0.2260		
30.00	-0.2712			40.00	-0.0901	20.00	-0.1001		
40.00	-0.0383			50.00	-0.1034	40.00	-0.1236		
50.00	-0.0370			60.00	-0.1168	50.00	-0.1308		
60.00	-0.0770			70.00	-0.1138	60.00	-0.1276		
70.00	-0.0935			80.00	-0.1233	70.00	-0.1115		
90.00	-0.0805			90.00	-0.0960	80.00	-0.1231		
122.00	-0.0335			122.00	-0.0387	90.00	-0.0883		
139.00	-0.0193			139.00	-0.0294	122.00	-0.0346		
						139.00	-0.0171		

mfr = 0.63 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 90° Forebody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-3.75	0.9956	166.70	0.0100	-3.75	0.9847	-3.75	0.9910	166.70	0.0152
-3.12	1.0066	183.30	0.0232	-3.12	0.9946	-3.12	1.0114	183.30	0.0232
-1.88	1.0460	200.00	0.0374	-1.88	1.0408	-1.88	1.0460	200.00	0.0406
-1.25	1.0813	216.70	0.0621	-1.25	1.0728	-1.25	1.0806	216.70	0.0560
-0.62	1.1417	238.90	0.1113	0.00	0.7758	-0.62	1.1435	238.90	0.1078
0.00	0.5620	255.60	0.1711	0.62	-1.2839	0.00	0.4945	255.60	0.1698
0.31	-1.2507	266.70	0.2390	1.25	-1.2549	0.62	-1.2989	266.70	0.2399
0.62	-1.3425	272.20	0.2837	1.88	-1.1835	1.25	-1.2622	272.20	0.2888
1.25	-1.2602	277.80	0.3399	2.50	-1.1494	1.88	-1.1892	277.80	0.3470
2.50	-1.1281	283.30	0.4051	3.12	-1.0834	2.50	-1.1614	283.30	0.4145
3.12	-1.0841			4.38	-1.0027	3.12	-1.1390		
4.38	-1.0282			5.00	-0.9682	3.75	-1.0568		
5.00	-0.9861			7.50	-0.8709	4.38	-1.0087		
7.50	-0.9246			10.00	-0.8169	5.00	-0.9728		
10.00	-0.8360			15.00	-0.7332	7.50	-0.9023		
12.50	-0.7723			17.50	-0.4499	15.00	-0.7286		
15.00	-0.7397			20.00	-0.0800	17.50	-0.3776		
30.00	-0.0711			40.00	-0.1177	20.00	-0.0754		
40.00	-0.0996			50.00	-0.1179	40.00	-0.1145		
50.00	-0.1205			60.00	-0.1280	50.00	-0.1277		
60.00	-0.1272			70.00	-0.1130	60.00	-0.1305		
70.00	-0.1262			80.00	-0.1195	70.00	-0.1138		
90.00	-0.0864			90.00	-0.0952	80.00	-0.1260		
122.00	-0.0299			122.00	-0.0380	90.00	-0.0892		
139.00	-0.0132			139.00	-0.0210	122.00	-0.0328		
						139.00	-0.0247		

TABLE V. Continued

(c) Concluded

mfr = 0.70 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.8860	166.70	0.0158	-3.75	0.8818	-3.75	0.8857	166.70	0.0236
-3.12	0.8927	183.30	0.0306	-3.12	0.8733	-3.12	0.8924	183.30	0.0313
-1.88	0.9448	200.00	0.0477	-1.88	0.9319	-1.88	0.9360	200.00	0.0509
-1.25	0.9643	216.70	0.0728	-1.25	0.9433	-1.25	0.9531	216.70	0.0683
-0.62	1.0384	238.90	0.1243	0.00	1.0700	-0.62	1.0268	238.90	0.1263
0.00	0.9851	255.60	0.1887	0.62	-1.0389	0.00	0.9177	255.60	0.1903
0.31	-0.9999	266.70	0.2598	1.25	-1.0183	0.62	-1.0467	266.70	0.2611
0.62	-1.0874	272.20	0.3054	1.88	-0.9618	1.25	-0.9921	272.20	0.3128
1.25	-1.0636	277.80	0.3608	2.50	-0.9280	1.88	-1.0039	277.80	0.3679
2.50	-0.8974	283.30	0.4255	3.12	-0.8154	2.50	-0.9430	283.30	0.4349
3.12	-0.7912			4.38	-0.8028	3.12	-0.8607		
4.38	-0.7516			5.00	-0.7185	3.75	-0.7535		
5.00	-0.7312			7.50	-0.6793	4.38	-0.7859		
7.50	-0.6894			10.00	-0.5881	5.00	-0.7642		
10.00	-0.6522			15.00	-0.1315	7.50	-0.7320		
12.50	-0.4211			17.50	-0.1833	15.00	-0.1405		
15.00	-0.1300			20.00	-0.1501	17.50	-0.1216		
30.00	-0.1620			40.00	-0.1451	20.00	-0.1543		
40.00	-0.1360			50.00	-0.1296	40.00	-0.1533		
50.00	-0.1430			60.00	-0.1315	50.00	-0.1433		
60.00	-0.1306			70.00	-0.1166	60.00	-0.1345		
70.00	-0.1217			80.00	-0.1173	70.00	-0.1141		
90.00	-0.0856			90.00	-0.0873	80.00	-0.1200		
122.00	-0.0245			122.00	-0.0237	90.00	-0.0827		
139.00	-0.0051			139.00	-0.0167	122.00	-0.0245		
						139.00	-0.0207		

mfr = 0.78 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.7610	166.70	0.0212	-3.75	0.7485	-3.75	0.7538	166.70	0.0241
-3.12	0.7803	183.30	0.0367	-3.12	0.7421	-3.12	0.7490	183.30	0.0354
-1.88	0.8125	200.00	0.0560	-1.88	0.7890	-1.88	0.7976	200.00	0.0550
-1.25	0.8106	216.70	0.0814	-1.25	0.7943	-1.25	0.7870	216.70	0.0740
-0.62	0.9021	238.90	0.1359	0.00	1.1947	-0.62	0.8475	238.90	0.1307
0.00	1.1829	255.60	0.1990	0.62	-0.7411	0.00	1.1623	255.60	0.1971
0.31	-0.7015	266.70	0.2692	1.25	-0.6539	0.62	-0.7358	266.70	0.2682
0.62	-0.7681	272.20	0.3137	1.88	-0.5665	1.25	-0.6266	272.20	0.3204
1.25	-0.7011	277.80	0.3681	2.50	-0.5899	1.88	-0.6755	277.80	0.3771
2.50	-0.5741	283.30	0.4309	3.12	-0.3611	2.50	-0.6145	283.30	0.4428
3.12	-0.4071			4.38	-0.3972	3.12	-0.5525		
4.38	-0.5211			5.00	-0.2810	3.75	-0.2900		
5.00	-0.2684			7.50	-0.2937	4.38	-0.3834		
7.50	-0.3119			10.00	-0.2618	5.00	-0.3067		
10.00	-0.2484			15.00	-0.1888	7.50	-0.2425		
12.50	-0.2376			17.50	-0.1987	15.00	-0.2297		
15.00	-0.2011			20.00	-0.1456	17.50	-0.2022		
30.00	-0.1545			40.00	-0.1359	20.00	-0.1516		
40.00	-0.1230			50.00	-0.1226	40.00	-0.1441		
50.00	-0.1218			60.00	-0.1173	50.00	-0.1348		
60.00	-0.1126			70.00	-0.1047	60.00	-0.1218		
70.00	-0.1088			80.00	-0.1095	70.00	-0.1016		
90.00	-0.0792			90.00	-0.0854	80.00	-0.1036		
122.00	-0.0180			122.00	-0.0132	90.00	-0.0670		
139.00	-0.0020			139.00	-0.0061	122.00	-0.0232		
						139.00	-0.0147		

TABLE V. Continued

(d) M = 0.89

mfr = 0.57 and α = -2.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-3.75	1.0402	166.70	-0.0153	-3.75	1.0706	-3.75	1.1008	166.70	0.0353
-3.12	1.0555	183.30	0.0134	-3.12	1.0792	-3.12	1.1157	183.30	0.0306
-1.88	1.0955	200.00	0.0296	-1.88	1.1212	-1.88	1.1492	200.00	0.0437
-1.25	1.1176	216.70	0.0558	-1.25	1.1525	-1.25	1.1792	216.70	0.0608
-0.62	1.1668	238.90	0.1045	0.00	0.5094	-0.62	1.2121	238.90	0.1108
0.00	0.5288	255.60	0.1685	0.62	-1.3577	0.00	-0.2284	255.60	0.1728
0.31	-1.2241	266.70	0.2377	1.25	-1.2973	0.62	-1.4432	266.70	0.2362
0.62	-1.2835	272.20	0.2861	1.88	-1.2503	1.25	-1.4200	272.20	0.2805
1.25	-1.2075	277.80	0.3469	2.50	-1.2007	1.88	-1.3710	277.80	0.3282
2.50	-1.0762	283.30	0.4224	3.12	-1.1441	2.50	-1.3240	283.30	0.3834
3.12	-1.0080			4.38	-1.0720	3.12	-1.2773		
4.38	-0.9117			5.00	-1.0324	3.75	-1.2518		
5.00	-0.8957			7.50	-0.9646	4.38	-1.2304		
7.50	-0.7998			10.00	-0.9011	5.00	-1.1969		
10.00	-0.7073			15.00	-0.7836	7.50	-1.1088		
12.50	-0.6913			17.50	-0.7166	15.00	-0.9605		
15.00	-0.6390			20.00	-0.5678	17.50	-0.8534		
30.00	-0.3877			40.00	-0.1023	20.00	-0.7208		
40.00	-0.0768			50.00	-0.0520	40.00	-0.2653		
50.00	-0.0928			60.00	-0.0763	50.00	-0.0349		
60.00	-0.1054			70.00	-0.0830	60.00	-0.0041		
70.00	-0.1113			80.00	-0.1036	70.00	-0.0290		
90.00	-0.0836			90.00	-0.0816	80.00	-0.0686		
122.00	-0.0308			122.00	-0.0322	90.00	-0.0535		
139.00	-0.0095			139.00	-0.0261	122.00	-0.0232		
						139.00	-0.0203		

mfr = 0.57 and α = 0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-3.75	1.0734	166.70	0.0074	-3.75	1.0659	-3.75	1.0735	166.70	0.0121
-3.12	1.0862	183.30	0.0202	-3.12	1.0794	-3.12	1.0869	183.30	0.0214
-1.88	1.1269	200.00	0.0355	-1.88	1.1190	-1.88	1.1259	200.00	0.0395
-1.25	1.1474	216.70	0.0595	-1.25	1.1506	-1.25	1.1501	216.70	0.0607
-0.62	1.1985	238.90	0.1110	0.00	0.4794	-0.62	1.2004	238.90	0.1094
0.00	0.2883	255.60	0.1706	0.62	-1.3498	0.00	0.0840	255.60	0.1706
0.31	-1.3465	266.70	0.2374	1.25	-1.2942	0.62	-1.3494	266.70	0.2399
0.62	-1.3684	272.20	0.2830	1.88	-1.2496	1.25	-1.3028	272.20	0.2892
1.25	-1.3203	277.80	0.3391	2.50	-1.2048	1.88	-1.2630	277.80	0.3457
2.50	-1.2068	283.30	0.4044	3.12	-1.1544	2.50	-1.2212	283.30	0.4115
3.12	-1.1717			4.38	-1.0599	3.12	-1.1676		
4.38	-1.0776			5.00	-1.0543	3.75	-1.1179		
5.00	-1.0567			7.50	-0.9657	4.38	-1.1013		
7.50	-0.9706			10.00	-0.9088	5.00	-1.0595		
10.00	-0.9103			15.00	-0.7869	7.50	-0.9517		
12.50	-0.8482			17.50	-0.7080	15.00	-0.7989		
15.00	-0.8039			20.00	-0.5778	17.50	-0.7284		
30.00	-0.5845			40.00	-0.0962	20.00	-0.5825		
40.00	-0.0853			50.00	-0.0342	40.00	-0.1101		
50.00	-0.0312			60.00	-0.0682	50.00	-0.0302		
60.00	-0.0586			70.00	-0.0807	60.00	-0.0616		
70.00	-0.0767			80.00	-0.0969	70.00	-0.0741		
90.00	-0.0717			90.00	-0.0814	80.00	-0.0994		
122.00	-0.0270			122.00	-0.0295	90.00	-0.0731		
139.00	-0.0140			139.00	-0.0194	122.00	-0.0237		
						139.00	-0.0219		

mfr = 0.57 and α = 2.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-3.75	1.0993	166.70	0.0384	-3.75	1.0668	-3.75	1.0404	166.70	-0.0143
-3.12	1.1121	183.30	0.0353	-3.12	1.0784	-3.12	1.0552	183.30	0.0135
-1.88	1.1561	200.00	0.0453	-1.88	1.1259	-1.88	1.0874	200.00	0.0375
-1.25	1.1763	216.70	0.0649	-1.25	1.1510	-1.25	1.1144	216.70	0.0549
-0.62	1.2136	238.90	0.1135	0.00	0.5006	-0.62	1.1761	238.90	0.1036
0.00	-0.0522	255.60	0.1718	0.62	-1.3554	0.00	0.4118	255.60	0.1659
0.31	-1.4424	266.70	0.2351	1.25	-1.3034	0.62	-1.2227	266.70	0.2398
0.62	-1.4562	272.20	0.2760	1.88	-1.2435	1.25	-1.1720	272.20	0.2926
1.25	-1.4267	277.80	0.3232	2.50	-1.1982	1.88	-1.1157	277.80	0.3546
2.50	-1.3274	283.30	0.3783	3.12	-1.1514	2.50	-1.0766	283.30	0.4323
3.12	-1.2924			4.38	-1.0599	3.12	-1.0255		
4.38	-1.2229			5.00	-1.0331	3.75	-0.9723		
5.00	-1.1857			7.50	-0.9672	4.38	-0.9554		
7.50	-1.0892			10.00	-0.8929	5.00	-0.9026		
10.00	-1.0198			15.00	-0.7889	7.50	-0.8163		
12.50	-0.9983			17.50	-0.6823	15.00	-0.6466		
15.00	-0.9275			20.00	-0.5465	17.50	-0.5420		
30.00	-0.7244			40.00	-0.1024	20.00	-0.3898		
40.00	-0.4096			50.00	-0.0584	40.00	-0.0906		
50.00	-0.0190			60.00	-0.0710	50.00	-0.1034		
60.00	-0.0104			70.00	-0.0847	60.00	-0.1150		
70.00	-0.0261			80.00	-0.1020	70.00	-0.1058		
90.00	-0.0513			90.00	-0.0861	80.00	-0.1207		
122.00	-0.0227			122.00	-0.0292	90.00	-0.0868		
139.00	-0.0123			139.00	-0.0231	122.00	-0.0274		
						139.00	-0.0141		

mfr = 0.62 and α = 0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-3.75	1.0156	166.70	0.0134	-3.75	1.0083	-3.75	1.0124	166.70	0.0169
-3.12	1.0210	183.30	0.0278	-3.12	1.0138	-3.12	1.0182	183.30	0.0284
-1.88	1.0773	200.00	0.0468	-1.88	1.0583	-1.88	1.0652	200.00	0.0484
-1.25	1.0969	216.70	0.0718	-1.25	1.0941	-1.25	1.1024	216.70	0.0715
-0.62	1.1529	238.90	0.1245	0.00	0.7768	-0.62	1.1602	238.90	0.1220
0.00	0.6145	255.60	0.1876	0.62	-1.2065	0.00	0.5149	255.60	0.1882
0.31	-1.1936	266.70	0.2581	1.25	-1.1667	0.62	-1.1974	266.70	0.2609
0.62	-1.2585	272.20	0.3055	1.88	-1.1127	1.25	-1.1909	272.20	0.3117
1.25	-1.1945	277.80	0.3617	2.50	-1.0910	1.88	-1.1204	277.80	0.3701
2.50	-1.0995	283.30	0.4250	3.12	-1.0081	2.50	-1.0920	283.30	0.4353
3.12	-1.0247			4.38	-0.9539	3.12	-1.0354		
4.38	-0.9469			5.00	-0.9161	3.75	-0.9542		
5.00	-0.9380			7.50	-0.8577	4.38	-0.9642		
7.50	-0.8319			10.00	-0.7707	5.00	-0.9258		
10.00	-0.7953			15.00	-0.6742	7.50	-0.8235		
12.50	-0.7387			17.50	-0.6296	15.00	-0.7005		
15.00	-0.7003			20.00	-0.3560	17.50	-0.6241		
30.00	-0.4191			40.00	-0.0488	20.00	-0.3124		
40.00	-0.0553			50.00	-0.0730	40.00	-0.0519		
50.00	-0.0793			60.00	-0.0999	50.00	-0.0826		
60.00	-0.1012			70.00	-0.0993	60.00	-0.1026		
70.00	-0.1104			80.00	-0.1092	70.00	-0.0989		
90.00	-0.0809			90.00	-0.0881	80.00	-0.1173		
122.00	-0.0261			122.00	-0.0225	90.00	-0.0812		
139.00	-0.0103			139.00	-0.0161	122.00	-0.0254		
						139.00	-0.0168		

TABLE V. Continued

(d) Concluded

mfr = 0.71 and α = 0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.8916	166.70	0.0241	-3.75	0.8791	-3.75	0.9036	166.70	0.0269
-3.12	0.9023	183.30	0.0416	-3.12	0.9077	-3.12	0.9133	183.30	0.0391
-1.88	0.9500	200.00	0.0606	-1.88	0.9307	-1.88	0.9494	200.00	0.0581
-1.25	0.9849	216.70	0.0880	-1.25	0.9827	-1.25	0.9776	216.70	0.0809
-0.62	1.0396	238.90	0.1448	0.00	1.1079	-0.62	1.0603	238.90	0.1398
0.00	0.9626	255.60	0.2100	0.62	-0.9626	0.00	0.8967	255.60	0.2079
0.31	-0.9091	266.70	0.2818	1.25	-0.9325	0.62	-0.9768	266.70	0.2821
0.62	-1.0265	272.20	0.3276	1.88	-0.8692	1.25	-0.9238	272.20	0.3323
1.25	-0.9426	277.80	0.3819	2.50	-0.8565	1.88	-0.8814	277.80	0.3912
2.50	-0.8291	283.30	0.4443	3.12	-0.8212	2.50	-0.8676	283.30	0.4559
3.12	-0.7317			4.38	-0.6846	3.12	-0.7999		
4.38	-0.7366			5.00	-0.6807	3.75	-0.7363		
5.00	-0.7056			7.50	-0.6402	4.38	-0.7008		
7.50	-0.6543			10.00	-0.5767	5.00	-0.7163		
10.00	-0.6106			15.00	-0.4929	7.50	-0.6489		
12.50	-0.5727			17.50	-0.1653	15.00	-0.5076		
15.00	-0.5632			20.00	-0.1052	17.50	-0.1625		
30.00	-0.1245			40.00	-0.1415	20.00	-0.1446		
40.00	-0.1218			50.00	-0.1311	40.00	-0.1394		
50.00	-0.1310			60.00	-0.1342	50.00	-0.1428		
60.00	-0.1334			70.00	-0.1167	60.00	-0.1354		
70.00	-0.1224			80.00	-0.1211	70.00	-0.1152		
90.00	-0.0837			90.00	-0.0965	80.00	-0.1257		
122.00	-0.0187			122.00	-0.0227	90.00	-0.0851		
139.00	-0.0061			139.00	-0.0079	122.00	-0.0180		
						139.00	-0.0104		

mfr = 0.77 and α = -0.1°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.8016	166.70	0.0222	-3.75	0.7825	-3.75	0.7979	166.70	0.0353
-3.12	0.7893	183.30	0.0410	-3.12	0.7887	-3.12	0.8084	183.30	0.0444
-1.88	0.8292	200.00	0.0601	-1.88	0.8187	-1.88	0.8324	200.00	0.0654
-1.25	0.8405	216.70	0.0904	-1.25	0.8432	-1.25	0.8332	216.70	0.0892
-0.62	0.9111	238.90	0.1496	0.00	1.2018	-0.62	0.9017	238.90	0.1477
0.00	1.1444	255.60	0.2157	0.62	-0.7188	0.00	1.1439	255.60	0.2160
0.31	-0.7117	266.70	0.2877	1.25	-0.6606	0.62	-0.6913	266.70	0.2912
0.62	-0.7835	272.20	0.3341	1.88	-0.6456	1.25	-0.6469	272.20	0.3425
1.25	-0.6814	277.80	0.3882	2.50	-0.6183	1.88	-0.6434	277.80	0.3973
2.50	-0.5885	283.30	0.4540	3.12	-0.5572	2.50	-0.6167	283.30	0.4615
3.12	-0.5101			4.38	-0.4776	3.12	-0.6136		
4.38	-0.5197			5.00	-0.4312	3.75	-0.4974		
5.00	-0.4527			7.50	-0.2725	4.38	-0.4770		
7.50	-0.3984			10.00	-0.1951	5.00	-0.5124		
10.00	-0.2494			15.00	-0.2414	7.50	-0.4784		
12.50	-0.2395			17.50	-0.2072	15.00	-0.1677		
15.00	-0.1691			20.00	-0.1532	17.50	-0.2200		
30.00	-0.1629			40.00	-0.1444	20.00	-0.1611		
40.00	-0.1361			50.00	-0.1293	40.00	-0.1538		
50.00	-0.1314			60.00	-0.1240	50.00	-0.1382		
60.00	-0.1274			70.00	-0.1145	60.00	-0.1344		
70.00	-0.1142			80.00	-0.1129	70.00	-0.1136		
90.00	-0.0744			90.00	-0.0798	80.00	-0.1163		
122.00	-0.0143			122.00	-0.0165	90.00	-0.0765		
139.00	0.0009			139.00	-0.0035	122.00	-0.0179		
						139.00	-0.0125		

mfr = 0.98 and α = 0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.0741	166.70	0.0360	-3.75	0.0235	-3.75	0.1362	166.70	0.0422
-3.12	0.0112	183.30	0.0535	-3.12	0.0486	-3.12	0.0786	183.30	0.0545
-1.88	-0.1910	200.00	0.0701	-1.88	-0.3400	-1.88	-0.2229	200.00	0.0775
-1.25	-0.3589	216.70	0.1004	-1.25	-0.5191	-1.25	-0.3893	216.70	0.1035
-0.62	-0.7443	238.90	0.1541	0.00	0.9328	-0.62	-0.8213	238.90	0.1551
0.00	1.1136	255.60	0.2148	0.62	0.4608	0.00	1.1139	255.60	0.2164
0.31	0.6272	266.70	0.2783	1.25	0.3056	0.62	0.4267	266.70	0.2792
0.62	0.4290	272.20	0.3189	1.88	0.1997	1.25	0.2842	272.20	0.3264
1.25	0.2123	277.80	0.3652	2.50	0.1590	1.88	0.2262	277.80	0.3758
2.50	0.1541	283.30	0.4224	3.12	0.1196	2.50	0.1681	283.30	0.4330
3.12	0.1695			4.38	0.0891	3.12	0.1491		
4.38	0.1327			5.00	0.0573	3.75	0.1142		
5.00	0.0527			7.50	-0.0511	4.38	0.0942		
7.50	-0.0372			10.00	-0.0447	5.00	0.0497		
10.00	-0.0705			15.00	-0.0540	7.50	-0.0285		
12.50	-0.0840			17.50	-0.0922	15.00	-0.0825		
15.00	-0.0764			20.00	-0.0892	17.50	-0.1240		
30.00	-0.1096			40.00	-0.0908	20.00	-0.0953		
40.00	-0.0849			50.00	-0.1001	40.00	-0.0992		
50.00	-0.1044			60.00	-0.0950	50.00	-0.1040		
60.00	-0.1025			70.00	-0.0910	60.00	-0.1109		
70.00	-0.1003			80.00	-0.0884	70.00	-0.0919		
90.00	-0.0548			90.00	-0.0659	80.00	-0.1026		
122.00	-0.0060			122.00	-0.0034	90.00	-0.0635		
139.00	0.0114			139.00	0.0042	122.00	-0.0052		
						139.00	0.0013		

TABLE V. Continued

(e) M = 0.92

mfr = 0.57 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	1.0836	166.70	0.0189	-3.75	1.0847	-3.75	1.0897	166.70	0.0244
-3.12	1.0956	183.30	0.0335	-3.12	1.0954	-3.12	1.1006	183.30	0.0329
-1.88	1.1406	200.00	0.0487	-1.88	1.1350	-1.88	1.1344	200.00	0.0524
-1.25	1.1641	216.70	0.0746	-1.25	1.1622	-1.25	1.1605	216.70	0.0712
-0.62	1.2100	238.90	0.1281	0.00	0.5484	-0.62	1.2143	238.90	0.1259
0.00	0.3029	255.60	0.1910	0.62	-1.2859	0.00	0.0958	255.60	0.1919
0.31	-1.2646	266.70	0.2615	1.25	-1.2211	0.62	-1.2722	266.70	0.2627
0.62	-1.2931	272.20	0.3071	1.88	-1.1762	1.25	-1.2298	272.20	0.3150
1.25	-1.2463	277.80	0.3633	2.50	-1.1347	1.88	-1.1948	277.80	0.3706
2.50	-1.1256	283.30	0.4272	3.12	-1.0813	2.50	-1.1278	283.30	0.4369
3.12	-1.1154			4.38	-1.0079	3.12	-1.0992		
4.38	-0.9668			5.00	-0.9787	3.75	-1.0403		
5.00	-0.9761			7.50	-0.9177	4.38	-1.0201		
7.50	-0.9087			10.00	-0.8316	5.00	-0.9898		
10.00	-0.8554			15.00	-0.7406	7.50	-0.9128		
12.50	-0.8188			17.50	-0.6761	15.00	-0.7441		
15.00	-0.7257			20.00	-0.5573	17.50	-0.6775		
30.00	-0.5420			40.00	-0.4616	20.00	-0.5730		
40.00	-0.5048			50.00	-0.3052	40.00	-0.5020		
50.00	-0.3886			60.00	-0.0351	50.00	-0.4064		
60.00	-0.0351			70.00	-0.0204	60.00	-0.0348		
70.00	-0.0144			80.00	-0.0402	70.00	-0.0247		
90.00	-0.0365			90.00	-0.0369	80.00	-0.0454		
122.00	-0.0039			122.00	-0.0088	90.00	-0.0331		
139.00	0.0038			139.00	-0.0032	122.00	-0.0110		
						139.00	-0.0081		

mfr = 0.63 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	1.0252	166.70	0.0183	-3.75	1.0171	-3.75	1.0263	166.70	0.0353
-3.12	1.0418	183.30	0.0377	-3.12	1.0385	-3.12	1.0424	183.30	0.0419
-1.88	1.0788	200.00	0.0547	-1.88	1.0771	-1.88	1.0818	200.00	0.0641
-1.25	1.1083	216.70	0.0830	-1.25	1.1016	-1.25	1.1078	216.70	0.0851
-0.62	1.1678	238.90	0.1446	0.00	0.7578	-0.62	1.1722	238.90	0.1437
0.00	0.6061	255.60	0.2112	0.62	-1.1311	0.00	0.5343	255.60	0.2100
0.31	-1.1149	266.70	0.2829	1.25	-1.0985	0.62	-1.1261	266.70	0.2856
0.62	-1.1987	272.20	0.3309	1.88	-1.0436	1.25	-1.1069	272.20	0.3369
1.25	-1.1230	277.80	0.3846	2.50	-0.9953	1.88	-1.0450	277.80	0.3947
2.50	-1.0155	283.30	0.4493	3.12	-0.9708	2.50	-1.0322	283.30	0.4609
3.12	-0.9365			4.38	-0.8742	3.12	-0.9690		
4.38	-0.8811			5.00	-0.8650	3.75	-0.9128		
5.00	-0.8604			7.50	-0.7756	4.38	-0.8721		
7.50	-0.8110			10.00	-0.7271	5.00	-0.8593		
10.00	-0.7322			15.00	-0.6475	7.50	-0.8004		
12.50	-0.6924			17.50	-0.5723	15.00	-0.6706		
15.00	-0.6287			20.00	-0.4706	17.50	-0.5844		
30.00	-0.4909			40.00	-0.4222	20.00	-0.5161		
40.00	-0.4157			50.00	-0.0814	40.00	-0.4189		
50.00	-0.0399			60.00	-0.0471	50.00	-0.0808		
60.00	-0.0334			70.00	-0.0561	60.00	-0.0410		
70.00	-0.0642			80.00	-0.0875	70.00	-0.0515		
90.00	-0.0562			90.00	-0.0705	80.00	-0.0926		
122.00	-0.0140			122.00	-0.0109	90.00	-0.0639		
139.00	-0.0010			139.00	-0.0003	122.00	-0.0151		
						139.00	-0.0119		

mfr = 0.71 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.9174	166.70	0.0301	-3.75	0.9147	-3.75	0.9115	166.70	0.0347
-3.12	0.9282	183.30	0.0472	-3.12	0.9228	-3.12	0.9306	183.30	0.0481
-1.88	0.9655	200.00	0.0654	-1.88	0.9537	-1.88	0.9640	200.00	0.0694
-1.25	0.9864	216.70	0.0946	-1.25	0.9732	-1.25	0.9809	216.70	0.0946
-0.62	1.0693	238.90	0.1576	0.00	1.0915	-0.62	1.0654	238.90	0.1546
0.00	1.0081	255.60	0.2279	0.62	-0.9094	0.00	0.9429	255.60	0.2267
0.31	-0.8623	266.70	0.3006	1.25	-0.8691	0.62	-0.8630	266.70	0.3040
0.62	-0.9840	272.20	0.3490	1.88	-0.7880	1.25	-0.8445	272.20	0.3554
1.25	-0.8800	277.80	0.4035	2.50	-0.8041	1.88	-0.7731	277.80	0.4123
2.50	-0.7898	283.30	0.4665	3.12	-0.7476	2.50	-0.8084	283.30	0.4756
3.12	-0.6977			4.38	-0.6808	3.12	-0.7276		
4.38	-0.6923			5.00	-0.6022	3.75	-0.6889		
5.00	-0.6104			7.50	-0.6016	4.38	-0.6653		
7.50	-0.6248			10.00	-0.5436	5.00	-0.6548		
10.00	-0.5553			15.00	-0.4730	7.50	-0.6356		
12.50	-0.5300			17.50	-0.4260	15.00	-0.5102		
15.00	-0.4922			20.00	-0.1240	17.50	-0.4287		
30.00	-0.1813			40.00	-0.0632	20.00	-0.2242		
40.00	-0.0530			50.00	-0.1110	40.00	-0.0797		
50.00	-0.1084			60.00	-0.1228	50.00	-0.1144		
60.00	-0.1225			70.00	-0.1145	60.00	-0.1289		
70.00	-0.1195			80.00	-0.1170	70.00	-0.1127		
90.00	-0.0817			90.00	-0.0889	80.00	-0.1219		
122.00	-0.0109			122.00	-0.0130	90.00	-0.0780		
139.00	0.0035			139.00	0.0025	122.00	-0.0140		
						139.00	-0.0045		

mfr = 0.77 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 90° Forebody X/L	φ = 90° Forebody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-3.75	0.8157	166.70	0.0341	-3.75	0.7894	-3.75	0.8123	166.70	0.0420
-3.12	0.8134	183.30	0.0529	-3.12	0.8173	-3.12	0.8180	183.30	0.0560
-1.88	0.8554	200.00	0.0770	-1.88	0.8270	-1.88	0.8466	200.00	0.0809
-1.25	0.8620	216.70	0.1080	-1.25	0.8562	-1.25	0.8730	216.70	0.1059
-0.62	0.9040	238.90	0.1682	0.00	1.2199	-0.62	0.9198	238.90	0.1655
0.00	1.1700	255.60	0.2394	0.62	-0.6594	0.00	1.1614	255.60	0.2394
0.31	-0.6252	266.70	0.3131	1.25	-0.6069	0.62	-0.6301	266.70	0.3152
0.62	-0.6450	272.20	0.3590	1.88	-0.5136	1.25	-0.6584	272.20	0.3669
1.25	-0.6105	277.80	0.4141	2.50	-0.5655	1.88	-0.5543	277.80	0.4211
2.50	-0.5425	283.30	0.4767	3.12	-0.5683	2.50	-0.5863	283.30	0.4853
3.12	-0.4306			4.38	-0.4301	3.12	-0.5576		
4.38	-0.3577			5.00	-0.4280	3.75	-0.4104		
5.00	-0.3865			7.50	-0.4027	4.38	-0.4734		
7.50	-0.4018			10.00	-0.3262	5.00	-0.4475		
10.00	-0.3664			15.00	-0.2794	7.50	-0.4835		
12.50	-0.3832			17.50	-0.1850	15.00	-0.3720		
15.00	-0.2678			20.00	-0.1479	17.50	-0.1806		
30.00	-0.1536			40.00	-0.1453	20.00	-0.1247		
40.00	-0.1352			50.00	-0.1381	40.00	-0.1496		
50.00	-0.1382			60.00	-0.1277	50.00	-0.1480		
60.00	-0.1316			70.00	-0.1146	60.00	-0.1434		
70.00	-0.1232			80.00	-0.1146	70.00	-0.1200		
90.00	-0.0752			90.00	-0.0833	80.00	-0.1205		
122.00	-0.0113			122.00	-0.0063	90.00	-0.0759		
139.00	0.0067			139.00	0.0063	122.00	-0.0067		
						139.00	0.0017		

TABLE V. Concluded

(e) Concluded

mfr = 0.96 and α = 0°

φ = 0°				φ = 90°		φ = 180°			
Forebody		Afterbody		Forebody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP	X/L	CP
-3.75	0.1537	166.70	0.0465	-3.75	0.1226	-3.75	0.1251	166.70	0.0525
-3.12	0.1621	183.30	0.0632	-3.12	0.0472	-3.12	0.1304	183.30	0.0663
-1.88	-0.2652	200.00	0.0824	-1.88	-0.5843	-1.88	-0.1657	200.00	0.0894
-1.25	-0.4062	216.70	0.1135	-1.25	-0.6922	-1.25	-0.5397	216.70	0.1129
-0.62	-0.7739	238.90	0.1725	0.00	0.9918	-0.62	-0.8487	238.90	0.1689
0.00	1.1245	255.60	0.2355	0.62	0.4270	0.00	1.1260	255.60	0.2346
0.31	0.5952	266.70	0.2994	1.25	0.3112	0.62	0.4886	266.70	0.3025
0.62	0.4180	272.20	0.3411	1.88	0.1971	1.25	0.2947	272.20	0.3463
1.25	0.3193	277.80	0.3886	2.50	0.1198	1.88	0.2420	277.80	0.3959
2.50	0.1434	283.30	0.4455	3.12	0.1649	2.50	0.1713	283.30	0.4531
3.12	0.1711			4.38	0.1099	3.12	0.1864		
4.38	0.1003			5.00	0.0846	3.75	0.1239		
5.00	0.0615			7.50	-0.0107	4.38	0.1031		
7.50	-0.0258			10.00	-0.0462	5.00	0.1068		
10.00	-0.0393			15.00	-0.0591	7.50	-0.0212		
12.50	-0.0882			17.50	-0.1092	15.00	-0.1001		
15.00	-0.0579			20.00	-0.1017	17.50	-0.1297		
30.00	-0.1140			40.00	-0.1129	20.00	-0.1135		
40.00	-0.0984			50.00	-0.1107	40.00	-0.1122		
50.00	-0.1161			60.00	-0.1102	50.00	-0.1213		
60.00	-0.1134			70.00	-0.0989	60.00	-0.1122		
70.00	-0.0996			80.00	-0.1011	70.00	-0.0923		
90.00	-0.0660			90.00	-0.0771	80.00	-0.1070		
122.00	0.0020			122.00	-0.0030	90.00	-0.0643		
139.00	0.0196			139.00	0.0122	122.00	-0.0001		
						139.00	0.0062		

TABLEVI. PRESSURE COEFFICIENTS ON MODEL WITH NACA 1-85-43.9 INLET AND CONTRACTIONRATIO OF 1.250

(a) M = 0.60

mfr = 0.28 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0366	343.16	-0.0610	-187.47	1.0403	343.16	-0.0541
-171.29	1.0361	384.14	-0.0594	-106.57	1.0243	384.14	-0.0573
-155.11	1.0377	419.13	-0.0573	-25.67	0.9907	419.13	-0.0503
-130.84	1.0298	457.12	-0.0557	-10.27	1.0686	457.12	-0.0557
-106.57	1.0220	507.77	-0.0530	-2.05	0.9239	507.77	-0.0557
-90.39	1.0120	545.76	-0.0536	0.00	-0.8154	545.76	-0.0589
-74.21	1.0015	571.08	-0.0461	0.31	-1.3111	571.08	-0.0536
-58.03	0.9884	583.74	-0.0455	0.63	-1.4270	583.74	-0.0461
-41.85	0.9842	596.41	-0.0375	1.25	-1.1541	596.41	-0.0305
-33.76	0.9883	609.07	-0.0241	1.88	-1.0895	609.07	-0.0182
-25.67	0.9954			2.50	-1.0777		
-23.11	1.0007			3.13	-1.1173		
-17.97	1.0214			3.75	-1.1671		
-10.27	1.0722			4.37	-1.1970		
-5.13	1.0833			5.00	-1.1808		
-3.34	1.0343			6.25	-1.1840		
-2.05	0.9166			7.50	-1.1707		
-0.90	0.6353			8.75	-1.1643		
-0.44	0.3284			10.00	-1.1731		
0.00	-1.0201			12.50	-1.1547		
0.31	-1.2174			15.00	-1.2993		
0.63	-2.0895			17.50	-1.2928		
1.25	-1.9850			20.00	-1.2436		
1.88	-2.0336			30.00	-1.1322		
2.50	-1.9369			50.00	-0.6873		
3.13	-1.8858			60.00	-0.5225		
3.75	-1.8098			70.00	-0.3973		
4.37	-1.7760			80.00	-0.3448		
5.00	-1.7291			90.00	-0.2993		
6.25	-1.6384			100.00	-0.2680		
7.50	-1.5951			110.00	-0.2208		
8.75	-1.4707			241.85	-0.0724		
10.00	-1.4913						
12.50	-1.1747						
15.00	-1.2063						
17.50	-1.2069						
20.00	-1.2007						
30.00	-1.0655						
40.00	-0.8681						
50.00	-0.6113						
60.00	-0.4926						
70.00	-0.4180						
80.00	-0.3202						
90.00	-0.3165						
100.00	-0.2651						
110.00	-0.2305						
241.85	-0.0817						
279.84	-0.0650						

mfr = 0.31 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0343	343.16	-0.0550	-187.47	1.0318	343.16	-0.0486
-171.29	1.0327	384.14	-0.0523	-106.57	1.0136	384.14	-0.0529
-155.11	1.0312	419.13	-0.0497	-25.67	0.9613	419.13	-0.0470
-130.84	1.0239	457.12	-0.0465	-10.27	1.0558	457.12	-0.0518
-106.57	1.0145	507.77	-0.0396	-2.05	0.9607	507.77	-0.0460
-90.39	1.0009	545.76	-0.0417	0.00	-0.7328	545.76	-0.0465
-74.21	0.9910	571.08	-0.0311	0.31	-1.4437	571.08	-0.0369
-58.03	0.9743	583.74	-0.0295	0.63	-1.9119	583.74	-0.0226
-41.85	0.9655	596.41	-0.0183	1.25	-1.3699	596.41	-0.0135
-33.76	0.9607	609.07	0.0189	1.88	-1.2512	609.07	0.0290
-25.67	0.9678			2.50	-1.2220		
-23.11	0.9754			3.13	-1.5092		
-17.97	0.9977			3.75	-1.3127		
-10.27	1.0588			4.37	-1.1989		
-5.13	1.0892			5.00	-1.2309		
-3.34	1.0560			6.25	-1.5135		
-2.05	0.9531			7.50	-1.2886		
-0.90	0.6852			8.75	-1.2137		
-0.44	0.3882			10.00	-1.2426		
0.00	-0.9112			12.50	-1.2674		
0.31	-1.8324			15.00	-1.2921		
0.63	-1.9657			17.50	-1.2886		
1.25	-1.6925			20.00	-1.2097		
1.88	-1.6841			30.00	-1.0023		
2.50	-1.8628			50.00	-0.4530		
3.13	-1.5362			60.00	-0.3861		
3.75	-1.6427			70.00	-0.3485		
4.37	-1.6594			80.00	-0.3180		
5.00	-1.6290			90.00	-0.2980		
6.25	-1.6710			100.00	-0.2470		
7.50	-1.6484			110.00	-0.2153		
8.75	-1.6306			241.85	-0.0768		
10.00	-1.5661						
12.50	-1.4791						
15.00	-1.3857						
17.50	-1.3076						
20.00	-1.0766						
30.00	-0.6607						
40.00	-0.5992						
50.00	-0.4756						
60.00	-0.4224						
70.00	-0.3826						
80.00	-0.3473						
90.00	-0.3076						
100.00	-0.2640						
110.00	-0.2237						
241.85	-0.0805						
279.84	-0.0700						

mfr = 0.40 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9909	343.16	-0.0453	-187.47	0.9915	343.16	-0.0368
-171.29	0.9935	384.14	-0.0432	-106.57	0.9567	384.14	-0.0400
-155.11	0.9898	419.13	-0.0400	-25.67	0.8441	419.13	-0.0363
-130.84	0.9783	457.12	-0.0336	-10.27	0.9826	457.12	-0.0352
-106.57	0.9568	507.77	-0.0240	-2.05	1.0481	507.77	-0.0213
-90.39	0.9375	545.76	-0.0176	0.00	-0.4691	545.76	-0.0143
-74.21	0.9129	571.08	0.0033	0.31	-2.0920	571.08	0.0177
-58.03	0.8872	583.74	0.0236	0.63	-2.1147	583.74	0.0348
-41.85	0.8615	596.41	0.0417	1.25	-2.0802	596.41	0.0674
-33.76	0.8488	609.07	0.0888	1.88	-2.1030	609.07	0.1224
-25.67	0.8535			2.50	-2.0015		
-23.11	0.8582			3.13	-1.9240		
-17.97	0.8901			3.75	-1.8589		
-10.27	0.9862			4.37	-1.7938		
-5.13	1.0774			5.00	-1.7288		
-3.34	1.0873			6.25	-1.5821		
-2.05	1.0434			7.50	-1.4560		
-0.90	0.8461			8.75	-1.3359		
-0.44	0.5925			10.00	-1.1419		
0.00	-0.6269			12.50	-0.9768		
0.31	-2.1421			15.00	-0.8421		
0.63	-2.2311			17.50	-0.6947		
1.25	-2.0463			20.00	-0.6293		
1.88	-2.2358			30.00	-0.5302		
2.50	-2.0484			50.00	-0.4312		
3.13	-2.0099			60.00	-0.4011		
3.75	-1.9689			70.00	-0.3840		
4.37	-1.8239			80.00	-0.3404		
5.00	-1.7760			90.00	-0.3198		
6.25	-1.5917			100.00	-0.2479		
7.50	-1.4833			110.00	-0.2084		
8.75	-1.2232			241.85	-0.0726		
10.00	-1.0894						
12.50	-0.9288						
15.00	-0.7913						
17.50	-0.7484						
20.00	-0.7270						
30.00	-0.5405						
40.00	-0.4740						
50.00	-0.4284						
60.00	-0.4054						
70.00	-0.3787						
80.00	-0.3528						
90.00	-0.3206						
100.00	-0.2582						
110.00	-0.2059						
241.85	-0.0757						
279.84	-0.0652						

TABLE VI. Continued

(a) Continued

mfr = 0.50 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9328	343.16	-0.0307	-187.47	0.9328	343.16	-0.0222
-171.29	0.9370	384.14	-0.0286	-106.57	0.8751	384.14	-0.0238
-155.11	0.9302	419.13	-0.0222	-25.67	0.6658	419.13	-0.0168
-130.84	0.9129	457.12	-0.0147	-10.27	0.8362	457.12	-0.0147
-106.57	0.8773	507.77	-0.0035	-2.05	1.0889	507.77	0.0045
-90.39	0.8443	545.76	0.0189	0.00	-0.1281	545.76	0.0227
-74.21	0.8035	571.08	0.0419	0.31	-1.4858	571.08	0.0552
-58.03	0.7580	583.74	0.0649	0.63	-2.2251	583.74	0.0814
-41.85	0.7077	596.41	0.0980	1.25	-2.0782	596.41	0.1092
-33.76	0.6870	609.07	0.1734	1.88	-2.0493	609.07	0.1707
-25.67	0.6640			2.50	-2.1090		
-23.11	0.6711			3.13	-1.6317		
-17.97	0.7011			3.75	-1.2079		
-10.27	0.8391			4.37	-1.0236		
-5.13	1.0039			5.00	-0.9589		
-3.34	1.0713			6.25	-0.8193		
-2.05	1.0855			7.50	-0.8591		
-0.90	0.9928			8.75	-0.7815		
-0.44	0.8172			10.00	-0.7801		
0.00	-0.2167			12.50	-0.7513		
0.31	-1.6150			15.00	-0.6965		
0.63	-2.1793			17.50	-0.6387		
1.25	-2.1593			20.00	-0.5827		
1.88	-2.0709			30.00	-0.4838		
2.50	-1.8876			50.00	-0.4078		
3.13	-1.5740			60.00	-0.4024		
3.75	-1.1662			70.00	-0.3665		
4.37	-1.0762			80.00	-0.3600		
5.00	-0.9462			90.00	-0.3058		
6.25	-0.9031			100.00	-0.2622		
7.50	-0.8207			110.00	-0.1956		
8.75	-0.8417			241.85	-0.0651		
10.00	-0.7831						
12.50	-0.7579						
15.00	-0.7129						
17.50	-0.6569						
20.00	-0.5992						
30.00	-0.5046						
40.00	-0.4453						
50.00	-0.4271						
60.00	-0.4038						
70.00	-0.3518						
80.00	-0.3544						
90.00	-0.3178						
100.00	-0.2512						
110.00	-0.1801						
241.85	-0.0675						
279.84	-0.0595						

mfr = 0.50 and α = 1.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9350	343.16	-0.0445	-187.47	0.9328	343.16	-0.0370
-171.29	0.9376	384.14	-0.0413	-106.57	0.8757	384.14	-0.0397
-155.11	0.9335	419.13	-0.0381	-25.67	0.6496	419.13	-0.0317
-130.84	0.9141	457.12	-0.0328	-10.27	0.8091	457.12	-0.0269
-106.57	0.8843	507.77	-0.0173	-2.05	1.0893	507.77	-0.0082
-90.39	0.8504	545.76	0.0008	0.00	-0.0138	545.76	0.0088
-74.21	0.8143	571.08	0.0296	0.31	-1.3160	571.08	0.0462
-58.03	0.7714	583.74	0.0520	0.63	-1.9590	583.74	0.0728
-41.85	0.7228	596.41	0.0856	1.25	-1.7795	596.41	0.1155
-33.76	0.7014	609.07	0.1395	1.88	-1.7650	609.07	0.1844
-25.67	0.6826			2.50	-1.4860		
-23.11	0.6997			3.13	-1.0191		
-17.97	0.7291			3.75	-0.9127		
-10.27	0.8693			4.37	-0.8089		
-5.13	1.0217			5.00	-0.8272		
-3.34	1.0797			6.25	-0.7046		
-2.05	1.0847			7.50	-0.7713		
-0.90	0.9525			8.75	-0.6848		
-0.44	0.7710			10.00	-0.6789		
0.00	-0.3640			12.50	-0.6725		
0.31	-1.8075			15.00	-0.6460		
0.63	-2.3599			17.50	-0.5813		
1.25	-2.1975			20.00	-0.5477		
1.88	-2.2385			30.00	-0.4195		
2.50	-2.0751			50.00	-0.3706		
3.13	-2.0231			60.00	-0.3794		
3.75	-1.5316			70.00	-0.3241		
4.37	-1.3892			80.00	-0.3436		
5.00	-1.3981			90.00	-0.2783		
6.25	-1.0891			100.00	-0.2447		
7.50	-0.8778			110.00	-0.1659		
8.75	-0.8757			241.85	-0.0477		
10.00	-0.8491						
12.50	-0.7780						
15.00	-0.7256						
17.50	-0.6666						
20.00	-0.6478						
30.00	-0.5219						
40.00	-0.4774						
50.00	-0.4278						
60.00	-0.4144						
70.00	-0.3883						
80.00	-0.3576						
90.00	-0.3232						
100.00	-0.2342						
110.00	-0.2061						
241.85	-0.0459						
279.84	-0.0335						

mfr = 0.50 and α = 2.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9361	343.16	-0.0336	-187.47	0.9269	343.16	-0.0379
-171.29	0.9335	384.14	-0.0331	-106.57	0.8717	384.14	-0.0357
-155.11	0.9324	419.13	-0.0304	-25.67	0.6215	419.13	-0.0251
-130.84	0.9147	457.12	-0.0267	-10.27	0.7606	457.12	-0.0240
-106.57	0.8824	507.77	-0.0123	-2.05	1.0830	507.77	-0.0054
-90.39	0.8490	545.76	0.0074	0.00	0.1435	545.76	0.0132
-74.21	0.8166	571.08	0.0329	0.31	-0.9910	571.08	0.0494
-58.03	0.7744	583.74	0.0584	0.63	-1.6102	583.74	0.0850
-41.85	0.7322	596.41	0.0834	1.25	-1.5612	596.41	0.1228
-33.76	0.7183	609.07	0.1366	1.88	-1.3269	609.07	0.1948
-25.67	0.7119			2.50	-1.1872		
-23.11	0.7183			3.13	-0.8666		
-17.97	0.7559			3.75	-0.8027		
-10.27	0.8934			4.37	-0.7526		
-5.13	1.0479			5.00	-0.7064		
-3.34	1.0855			6.25	-0.6615		
-2.05	1.0719			7.50	-0.6694		
-0.90	0.9185			8.75	-0.6159		
-0.44	0.7128			10.00	-0.6025		
0.00	-0.4617			12.50	-0.5990		
0.31	-2.0331			15.00	-0.5655		
0.63	-2.4798			17.50	-0.5238		
1.25	-2.3094			20.00	-0.4710		
1.88	-2.2936			30.00	-0.4105		
2.50	-2.2412			50.00	-0.3583		
3.13	-2.0378			60.00	-0.3413		
3.75	-1.9160			70.00	-0.3278		
4.37	-1.7828			80.00	-0.3084		
5.00	-1.5846			90.00	-0.2814		
6.25	-1.4457			100.00	-0.2268		
7.50	-1.1442			110.00	-0.1728		
8.75	-1.0839			241.85	-0.0597		
10.00	-0.9911						
12.50	-0.8716						
15.00	-0.7730						
17.50	-0.7146						
20.00	-0.6596						
30.00	-0.5435						
40.00	-0.4859						
50.00	-0.4413						
60.00	-0.4182						
70.00	-0.3912						
80.00	-0.3560						
90.00	-0.3177						
100.00	-0.2562						
110.00	-0.2061						
241.85	-0.0677						
279.84	-0.0579						

TABLE VI. Continued

(a) Continued

mfr = 0.50 and α = 3.0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	0.9353	343.16	-0.0422	-187.47	0.9275	343.16	-0.0342
-171.29	0.9343	384.14	-0.0455	-106.57	0.8712	384.14	-0.0315
-155.11	0.9322	419.13	-0.0401	-25.67	0.5897	419.13	-0.0181
-130.84	0.9143	457.12	-0.0277	-10.27	0.7147	457.12	-0.0175
-106.57	0.8822	507.77	-0.0052	-2.05	1.0732	507.77	-0.0009
-90.39	0.8501	545.76	0.0104	0.00	0.3156	545.76	0.0200
-74.21	0.8143	571.08	0.0388	0.31	-0.8420	571.08	0.0560
-58.03	0.7785	583.74	0.0549	0.63	-1.3031	583.74	0.0855
-41.85	0.7438	596.41	0.0796	1.25	-1.3037	596.41	0.1263
-33.76	0.7366	609.07	0.1258	1.88	-1.0631	609.07	0.1994
-25.67	0.7165			2.50	-0.9096		
-23.11	0.7449			3.13	-0.7404		
-17.97	0.7769			3.75	-0.6365		
-10.27	0.9269			4.37	-0.6335		
-5.13	1.0627			5.00	-0.6033		
-3.34	1.0895			6.25	-0.5365		
-2.05	1.0702			7.50	-0.5589		
-0.90	0.8788			8.75	-0.5291		
-0.44	0.6675			10.00	-0.5032		
0.00	-0.6260			12.50	-0.5210		
0.31	-2.1944			15.00	-0.4925		
0.63	-2.3558			17.50	-0.4547		
1.25	-2.1336			20.00	-0.4227		
1.88	-2.2865			30.00	-0.3563		
2.50	-2.1643			50.00	-0.3255		
3.13	-2.0749			60.00	-0.3208		
3.75	-2.0326			70.00	-0.3113		
4.37	-1.8510			80.00	-0.2947		
5.00	-1.8436			90.00	-0.2722		
6.25	-1.6330			100.00	-0.2106		
7.50	-1.4659			110.00	-0.1644		
8.75	-1.3849			241.85	-0.0485		
10.00	-1.1859						
12.50	-1.0404						
15.00	-0.9087						
17.50	-0.8581						
20.00	-0.8056						
30.00	-0.5750						
40.00	-0.4955						
50.00	-0.4577						
60.00	-0.4247						
70.00	-0.3895						
80.00	-0.3575						
90.00	-0.3203						
100.00	-0.2555						
110.00	-0.2077						
241.85	-0.0672						
279.84	-0.0560						

mfr = 0.56 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	0.8926	343.16	-0.0393	-187.47	0.8939	343.16	-0.0286
-171.29	0.8957	384.14	-0.0356	-106.57	0.8215	384.14	-0.0286
-155.11	0.8921	419.13	-0.0308	-25.67	0.5370	419.13	-0.0143
-130.84	0.8659	457.12	-0.0249	-10.27	0.7263	457.12	-0.0143
-106.57	0.8236	507.77	-0.0052	-2.05	1.0874	507.77	0.0033
-90.39	0.7782	545.76	0.0166	0.00	0.1232	545.76	0.0241
-74.21	0.7307	571.08	0.0534	0.31	-1.1999	571.08	0.0593
-58.03	0.6706	583.74	0.0784	0.63	-1.7761	583.74	0.0923
-41.85	0.6021	596.41	0.1211	1.25	-1.6478	596.41	0.1397
-33.76	0.5740	609.07	0.1915	1.88	-1.6297	609.07	0.2048
-25.67	0.5464			2.50	-1.3250		
-23.11	0.5311			3.13	-0.9981		
-17.97	0.5775			3.75	-0.8583		
-10.27	0.7363			4.37	-0.8313		
-5.13	0.9239			5.00	-0.7995		
-3.34	1.0363			6.25	-0.7092		
-2.05	1.0869			7.50	-0.7354		
-0.90	1.0554			8.75	-0.7011		
-0.44	0.9264			10.00	-0.6925		
0.00	-0.0111			12.50	-0.6807		
0.31	-1.3078			15.00	-0.5996		
0.63	-1.9612			17.50	-0.5673		
1.25	-1.7169			20.00	-0.5109		
1.88	-1.6896			30.00	-0.4397		
2.50	-1.2358			50.00	-0.3780		
3.13	-1.0005			60.00	-0.3586		
3.75	-0.9165			70.00	-0.3427		
4.37	-0.8897			80.00	-0.3227		
5.00	-0.8541			90.00	-0.2957		
6.25	-0.8024			100.00	-0.2263		
7.50	-0.7162			110.00	-0.1822		
8.75	-0.7261			241.85	-0.0583		
10.00	-0.6906						
12.50	-0.6651						
15.00	-0.6438						
17.50	-0.5872						
20.00	-0.5196						
30.00	-0.4614						
40.00	-0.4117						
50.00	-0.3893						
60.00	-0.3667						
70.00	-0.3498						
80.00	-0.3297						
90.00	-0.2938						
100.00	-0.2341						
110.00	-0.1819						
241.85	-0.0645						
279.84	-0.0546						

mfr = 0.63 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	0.8382	343.16	-0.0258	-187.47	0.8370	343.16	-0.0253
-171.29	0.8403	384.14	-0.0210	-106.57	0.7461	384.14	-0.0253
-155.11	0.8335	419.13	-0.0157	-25.67	0.3343	419.13	-0.0141
-130.84	0.8016	457.12	-0.0061	-10.27	0.5499	457.12	-0.0130
-106.57	0.7451	507.77	0.0190	-2.05	1.0479	507.77	0.0089
-90.39	0.6891	545.76	0.0479	0.00	0.4203	545.76	0.0367
-74.21	0.6225	571.08	0.0895	0.31	-0.5984	571.08	0.0772
-58.03	0.5419	583.74	0.1205	0.63	-1.1270	583.74	0.1109
-41.85	0.4461	596.41	0.1633	1.25	-1.1667	596.41	0.1526
-33.76	0.4068	609.07	0.2343	1.88	-1.0672	609.07	0.2188
-25.67	0.3479			2.50	-0.9320		
-23.11	0.3402			3.13	-0.8704		
-17.97	0.3803			3.75	-0.7079		
-10.27	0.5629			4.37	-0.6757		
-5.13	0.7975			5.00	-0.6243		
-3.34	0.9335			6.25	-0.5558		
-2.05	1.0521			7.50	-0.6207		
-0.90	1.0861			8.75	-0.5948		
-0.44	1.0151			10.00	-0.5984		
0.00	0.2750			12.50	-0.5836		
0.31	-0.8027			15.00	-0.5341		
0.63	-1.3959			17.50	-0.4705		
1.25	-1.1759			20.00	-0.4682		
1.88	-1.0301			30.00	-0.4004		
2.50	-0.9533			50.00	-0.3509		
3.13	-0.8388			60.00	-0.3498		
3.75	-0.7561			70.00	-0.3274		
4.37	-0.7048			80.00	-0.3150		
5.00	-0.6473			90.00	-0.2797		
6.25	-0.6190			100.00	-0.2237		
7.50	-0.6017			110.00	-0.1724		
8.75	-0.6080			241.85	-0.0538		
10.00	-0.6038						
12.50	-0.5750						
15.00	-0.5422						
17.50	-0.4814						
20.00	-0.4489						
30.00	-0.4008						
40.00	-0.3753						
50.00	-0.3573						
60.00	-0.3482						
70.00	-0.3362						
80.00	-0.3111						
90.00	-0.2799						
100.00	-0.2201						
110.00	-0.1752						
241.85	-0.0544						
279.84	-0.0470						

TABLE VI. Continued

(a) Continued

mfr = 0.69 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.7769	343.16	-0.0235	-187.47	0.7715	343.16	-0.0176
-171.29	0.7759	384.14	-0.0165	-106.57	0.6591	384.14	-0.0197
-155.11	0.7680	419.13	-0.0096	-25.67	0.1238	419.13	-0.0106
-130.84	0.7280	457.12	0.0081	-10.27	0.3426	457.12	-0.0047
-106.57	0.6580	507.77	0.0312	-2.05	0.9763	507.77	0.0215
-90.39	0.5850	545.76	0.0644	0.00	0.6064	545.76	0.0473
-74.21	0.5046	571.08	0.1111	0.31	-0.3644	571.08	0.0875
-58.03	0.3932	583.74	0.1427	0.63	-0.8543	583.74	0.1234
-41.85	0.2744	596.41	0.1889	1.25	-0.8258	596.41	0.1675
-33.76	0.2013	609.07	0.2522	1.88	-0.7321	609.07	0.2377
-25.67	0.1084			2.50	-0.6602		
-23.11	0.0952			3.13	-0.5930		
-17.97	0.1332			3.75	-0.5224		
-10.27	0.3320			4.37	-0.5335		
-5.13	0.6436			5.00	-0.4946		
-3.34	0.8156			6.25	-0.4683		
-2.05	0.9626			7.50	-0.4910		
-0.90	1.0812			8.75	-0.4999		
-0.44	1.0756			10.00	-0.4679		
0.00	0.5907			12.50	-0.4946		
0.31	-0.4199			15.00	-0.4443		
0.63	-0.8051			17.50	-0.4200		
1.25	-0.8146			20.00	-0.3981		
1.88	-0.6900			30.00	-0.3431		
2.50	-0.5765			50.00	-0.3325		
3.13	-0.5797			60.00	-0.3319		
3.75	-0.5529			70.00	-0.3159		
4.37	-0.4898			80.00	-0.2964		
5.00	-0.5371			90.00	-0.2698		
6.25	-0.4882			100.00	-0.2083		
7.50	-0.4625			110.00	-0.1621		
8.75	-0.4972			241.85	-0.0088		
10.00	-0.4551						
12.50	-0.4609						
15.00	-0.4602						
17.50	-0.4283						
20.00	-0.4006						
30.00	-0.3605						
40.00	-0.3479						
50.00	-0.3322						
60.00	-0.3285						
70.00	-0.3183						
80.00	-0.2981						
90.00	-0.2686						
100.00	-0.2081						
110.00	-0.1635						
241.85	-0.0461						
279.84	-0.0411						

mfr = 0.69 and α = 2.0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.7766	343.16	-0.0138	-187.47	0.7721	343.16	-0.0267
-171.29	0.7786	384.14	-0.0117	-106.57	0.6523	384.14	-0.0213
-155.11	0.7697	419.13	-0.0058	-25.67	0.0428	419.13	-0.0101
-130.84	0.7330	457.12	0.0081	-10.27	0.2151	457.12	-0.0079
-106.57	0.6644	507.77	0.0348	-2.05	0.8572	507.77	0.0172
-90.39	0.5930	545.76	0.0701	0.00	0.7634	545.76	0.0461
-74.21	0.5138	571.08	0.1140	0.31	0.0994	571.08	0.0883
-58.03	0.4147	583.74	0.1487	0.63	-0.3245	583.74	0.1236
-41.85	0.3057	596.41	0.1879	1.25	-0.4245	596.41	0.1692
-33.76	0.2659	609.07	0.2457	1.88	-0.4353	609.07	0.2451
-25.67	0.1880			2.50	-0.3891		
-23.11	0.1921			3.13	-0.3580		
-17.97	0.2181			3.75	-0.2994		
-10.27	0.4387			4.37	-0.3115		
-5.13	0.7133			5.00	-0.3018		
-3.34	0.8600			6.25	-0.2905		
-2.05	0.9943			7.50	-0.3112		
-0.90	1.0525			8.75	-0.3363		
-0.44	0.9906			10.00	-0.3242		
0.00	0.3393			12.50	-0.3661		
0.31	-0.8438			15.00	-0.3319		
0.63	-1.3211			17.50	-0.3089		
1.25	-1.2652			20.00	-0.3047		
1.88	-1.1351			30.00	-0.2735		
2.50	-0.9569			50.00	-0.2882		
3.13	-0.9132			60.00	-0.2947		
3.75	-0.7804			70.00	-0.2776		
4.37	-0.7254			80.00	-0.2741		
5.00	-0.7652			90.00	-0.2475		
6.25	-0.6583			100.00	-0.2003		
7.50	-0.6431			110.00	-0.1478		
8.75	-0.6708			241.85	-0.0404		
10.00	-0.5933						
12.50	-0.6079						
15.00	-0.6359						
17.50	-0.5288						
20.00	-0.5325						
30.00	-0.4245						
40.00	-0.4378						
50.00	-0.3846						
60.00	-0.3982						
70.00	-0.3514						
80.00	-0.3598						
90.00	-0.2856						
100.00	-0.2533						
110.00	-0.1797						
241.85	-0.0874						
279.84	-0.0806						

mfr = 0.75 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.7131	343.16	-0.0140	-187.47	0.7121	343.16	-0.0119
-171.29	0.7168	384.14	-0.0082	-106.57	0.5655	384.14	-0.0108
-155.11	0.6996	419.13	-0.0013	-25.67	-0.1439	419.13	-0.0013
-130.84	0.6557	457.12	0.0163	-10.27	0.0695	457.12	0.0083
-106.57	0.5666	507.77	0.0444	-2.05	0.8400	507.77	0.0327
-90.39	0.4750	545.76	0.0795	0.00	0.7993	545.76	0.0694
-74.21	0.3745	571.08	0.1257	0.31	0.0683	571.08	0.1103
-58.03	0.2344	583.74	0.1577	0.63	-0.3652	583.74	0.1491
-41.85	0.0734	596.41	0.2007	1.25	-0.4571	596.41	0.1922
-33.76	-0.0232	609.07	0.2645	1.88	-0.4471	609.07	0.2618
-25.67	-0.1369			2.50	-0.3744		
-23.11	-0.1640			3.13	-0.3689		
-17.97	-0.1433			3.75	-0.3387		
-10.27	0.0788			4.37	-0.3025		
-5.13	0.4523			5.00	-0.3375		
-3.34	0.6382			6.25	-0.3185		
-2.05	0.8541			7.50	-0.3105		
-0.90	1.0486			8.75	-0.3634		
-0.44	1.0929			10.00	-0.3727		
0.00	0.7917			12.50	-0.3791		
0.31	-0.0901			15.00	-0.3891		
0.63	-0.3986			17.50	-0.3645		
1.25	-0.4058			20.00	-0.3340		
1.88	-0.3939			30.00	-0.3281		
2.50	-0.3819			50.00	-0.3111		
3.13	-0.4064			60.00	-0.3094		
3.75	-0.3340			70.00	-0.2947		
4.37	-0.3512			80.00	-0.2806		
5.00	-0.3397			90.00	-0.2554		
6.25	-0.3324			100.00	-0.1968		
7.50	-0.3288			110.00	-0.1482		
8.75	-0.3986			241.85	-0.0416		
10.00	-0.3876						
12.50	-0.3808						
15.00	-0.3695						
17.50	-0.3777						
20.00	-0.3296						
30.00	-0.3204						
40.00	-0.3271						
50.00	-0.3017						
60.00	-0.3007						
70.00	-0.2976						
80.00	-0.2804						
90.00	-0.2580						
100.00	-0.1949						
110.00	-0.1485						
241.85	-0.0434						
279.84	-0.0342						

TABLE VI. Continued

(a) Concluded

mfr = 0.82 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.6306	343.16	-0.0138	-187.47	0.6306	343.16	-0.0063
-171.29	0.6354	384.14	-0.0020	-106.57	0.4525	384.14	-0.0041
-155.11	0.6196	419.13	0.0061	-25.67	-0.5022	419.13	0.0071
-130.84	0.5576	457.12	0.0227	-10.27	-0.2454	457.12	0.0114
-106.57	0.4524	507.77	0.0533	-2.05	0.6738	507.77	0.0431
-90.39	0.3362	545.76	0.0908	0.00	0.9341	545.76	0.0785
-74.21	0.2111	571.08	0.1353	0.31	0.3406	571.08	0.1240
-58.03	0.0250	583.74	0.1644	0.63	-0.0043	583.74	0.1590
-41.85	-0.1933	596.41	0.2073	1.25	-0.1525	596.41	0.2068
-33.76	-0.3111	609.07	0.2711	1.88	-0.1787	609.07	0.2684
-25.67	-0.4833			2.50	-0.1690		
-23.11	-0.5324			3.13	-0.1781		
-17.97	-0.4963			3.75	-0.1690		
-10.27	-0.2140			4.37	-0.1620		
-5.13	0.1944			5.00	-0.2205		
-3.34	0.4179			6.25	-0.2011		
-2.05	0.6782			7.50	-0.2365		
-0.90	0.9552			8.75	-0.2650		
-0.44	1.0700			10.00	-0.2566		
0.00	0.9199			12.50	-0.2992		
0.31	0.2190			15.00	-0.3016		
0.63	-0.0760			17.50	-0.2933		
1.25	-0.1354			20.00	-0.2761		
1.88	-0.1954			30.00	-0.2708		
2.50	-0.1617			50.00	-0.2933		
3.13	-0.1917			60.00	-0.2862		
3.75	-0.1433			70.00	-0.2797		
4.37	-0.1759			80.00	-0.2614		
5.00	-0.2195			90.00	-0.2389		
6.25	-0.2090			100.00	-0.1832		
7.50	-0.2311			110.00	-0.1406		
8.75	-0.2816			241.85	-0.0359		
10.00	-0.3010						
12.50	-0.2816						
15.00	-0.3215						
17.50	-0.2648						
20.00	-0.2905						
30.00	-0.2810						
40.00	-0.2868						
50.00	-0.2889						
60.00	-0.2787						
70.00	-0.2791						
80.00	-0.2669						
90.00	-0.2448						
100.00	-0.1837						
110.00	-0.1407						
241.85	-0.0415						
279.84	-0.0316						

mfr = 0.82 and α = 2.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.6338	343.16	0.0010	-187.47	0.6261	343.16	-0.0123
-171.29	0.6353	384.14	0.0021	-106.57	0.4459	384.14	-0.0086
-155.11	0.6223	419.13	0.0090	-25.67	-0.6298	419.13	0.0063
-130.84	0.5647	457.12	0.0240	-10.27	-0.4142	457.12	0.0149
-106.57	0.4585	507.77	0.0522	-2.05	0.4971	507.77	0.0416
-90.39	0.3455	545.76	0.0923	0.00	1.0459	545.76	0.0752
-74.21	0.2251	571.08	0.1376	0.31	0.5896	571.08	0.1200
-58.03	0.0498	583.74	0.1698	0.63	0.3060	583.74	0.1575
-41.85	-0.1439	596.41	0.2104	1.25	0.1443	596.41	0.2002
-33.76	-0.2546	609.07	0.2680	1.88	0.0613	609.07	0.2696
-25.67	-0.3706			2.50	0.0582		
-23.11	-0.4313			3.13	0.0477		
-17.97	-0.3742			3.75	0.0511		
-10.27	-0.0561			4.37	0.0254		
-5.13	0.3282			5.00	-0.0066		
-3.34	0.5558			6.25	-0.0005		
-2.05	0.8327			7.50	-0.0891		
-0.90	1.0255			8.75	-0.1031		
-0.44	1.0898			10.00	-0.1091		
0.00	0.7616			12.50	-0.1656		
0.31	-0.1057			15.00	-0.1833		
0.63	-0.4150			17.50	-0.1780		
1.25	-0.4296			20.00	-0.1686		
1.88	-0.4809			30.00	-0.1963		
2.50	-0.4066			50.00	-0.2381		
3.13	-0.4019			60.00	-0.2475		
3.75	-0.4097			70.00	-0.2446		
4.37	-0.4296			80.00	-0.2404		
5.00	-0.3977			90.00	-0.2216		
6.25	-0.3595			100.00	-0.1721		
7.50	-0.3809			110.00	-0.1262		
8.75	-0.4218			241.85	-0.0308		
10.00	-0.4223						
12.50	-0.4181						
15.00	-0.4160						
17.50	-0.3998						
20.00	-0.3876						
30.00	-0.3616						
40.00	-0.3388						
50.00	-0.3208						
60.00	-0.3196						
70.00	-0.3058						
80.00	-0.2892						
90.00	-0.2606						
100.00	-0.1995						
110.00	-0.1486						
241.85	-0.0401						
279.84	-0.0358						

mfr = 0.93 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.3503	343.16	-0.0015	-187.47	0.3544	343.16	0.0023
-171.29	0.3523	384.14	0.0050	-106.57	0.0998	384.14	0.0050
-155.11	0.3266	419.13	0.0135	-25.67	-1.9511	419.13	0.0162
-130.84	0.2448	457.12	0.0274	-10.27	-1.0030	457.12	0.0221
-106.57	0.1041	507.77	0.0569	-2.05	0.2085	507.77	0.0510
-90.39	-0.0639	545.76	0.0901	0.00	1.0807	545.76	0.0874
-74.21	-0.2633	571.08	0.1302	0.31	0.7355	571.08	0.1249
-58.03	-0.5929	583.74	0.1571	0.63	0.4665	583.74	0.1577
-41.85	-1.4330	596.41	0.1919	1.25	0.2830	596.41	0.1887
-33.76	-2.1812	609.07	0.2412	1.88	0.2351	609.07	0.2428
-25.67	-1.9629			2.50	0.1701		
-23.11	-1.8752			3.13	0.1372		
-17.97	-1.5723			3.75	0.1105		
-10.27	-0.9781			4.37	0.0603		
-5.13	-0.3823			5.00	0.0530		
-3.34	-0.0989			6.25	0.0281		
-2.05	0.2779			7.50	-0.0255		
-0.90	0.7175			8.75	-0.0481		
-0.44	0.9164			10.00	-0.0882		
0.00	1.0814			12.50	-0.1271		
0.31	0.6862			15.00	-0.1720		
0.63	0.4820			17.50	-0.1472		
1.25	0.2448			20.00	-0.1850		
1.88	0.1986			30.00	-0.2022		
2.50	0.1745			50.00	-0.2482		
3.13	0.0653			60.00	-0.2471		
3.75	0.1120			70.00	-0.2482		
4.37	0.0538			80.00	-0.2376		
5.00	0.0464			90.00	-0.2140		
6.25	0.0027			100.00	-0.1644		
7.50	-0.0477			110.00	-0.1242		
8.75	-0.1148			241.85	-0.0264		
10.00	-0.1274						
12.50	-0.1620						
15.00	-0.1684						
17.50	-0.1794						
20.00	-0.1783						
30.00	-0.2014						
40.00	-0.2285						
50.00	-0.2376						
60.00	-0.2415						
70.00	-0.2512						
80.00	-0.2378						
90.00	-0.2203						
100.00	-0.1603						
110.00	-0.1248						
241.85	-0.0270						
279.84	-0.0184						

TABLE VI. Continued

(b) M = 0.64

mfr = 0.27 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.0589	343.16	-0.0615	-187.47	1.0634	343.16	-0.0525
-171.29	1.0603	384.14	-0.0596	-106.57	1.0467	384.14	-0.0558
-155.11	1.0575	419.13	-0.0582	-25.67	1.0117	419.13	-0.0534
-130.84	1.0538	457.12	-0.0558	-10.27	1.0911	457.12	-0.0558
-106.57	1.0426	507.77	-0.0520	-2.05	0.9531	507.77	-0.0477
-90.39	1.0366	545.76	-0.0530	0.00	-0.6888	545.76	-0.0591
-74.21	1.0264	571.08	-0.0506	0.31	-1.2013	571.08	-0.0458
-58.03	1.0148	583.74	-0.0397	0.63	-1.2981	583.74	-0.0340
-41.85	1.0069	596.41	-0.0340	1.25	-1.0559	596.41	-0.0297
-33.76	1.0101	609.07	-0.0132	1.88	-1.0501	609.07	0.0049
-25.67	1.0127			2.50	-1.1105		
-23.11	1.0211			3.13	-1.0681		
-17.97	1.0357			3.75	-1.0507		
-10.27	1.0896			4.37	-1.0988		
-5.13	1.0894			5.00	-1.1220		
-3.34	1.0482			6.25	-1.1322		
-2.05	0.9473			7.50	-1.0827		
-0.90	0.6702			8.75	-1.1273		
-0.44	0.3947			10.00	-1.0648		
0.00	-0.8431			12.50	-1.1078		
0.31	-1.9982			15.00	-1.1498		
0.63	-2.0276			17.50	-1.3340		
1.25	-1.9188			20.00	-1.1346		
1.88	-1.9375			30.00	-1.1420		
2.50	-1.8361			50.00	-0.7799		
3.13	-1.7885			60.00	-0.6461		
3.75	-1.7623			70.00	-0.4427		
4.37	-1.7675			80.00	-0.3444		
5.00	-1.6712			90.00	-0.3030		
6.25	-1.6194			100.00	-0.2345		
7.50	-1.5651			110.00	-0.2047		
8.75	-1.2924			241.85	-0.0837		
10.00	-1.2998						
12.50	-1.1243						
15.00	-1.0818						
17.50	-1.0794						
20.00	-1.1382						
30.00	-1.0467						
40.00	-0.9488						
50.00	-0.7866						
60.00	-0.6483						
70.00	-0.4620						
80.00	-0.4234						
90.00	-0.3181						
100.00	-0.2851						
110.00	-0.2331						
241.85	-0.0925						
279.84	-0.0837						

mfr = 0.30 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.0525	343.16	-0.0542	-187.47	1.0529	343.16	-0.0518
-171.29	1.0548	384.14	-0.0532	-106.57	1.0324	384.14	-0.0523
-155.11	1.0502	419.13	-0.0547	-25.67	0.9842	419.13	-0.0461
-130.84	1.0441	457.12	-0.0499	-10.27	1.0754	457.12	-0.0490
-106.57	1.0325	507.77	-0.0433	-2.05	0.9784	507.77	-0.0437
-90.39	1.0232	545.76	-0.0466	0.00	-0.6322	545.76	-0.0395
-74.21	1.0097	571.08	-0.0404	0.31	-1.7982	571.08	-0.0262
-58.03	0.9971	583.74	-0.0195	0.63	-1.8164	583.74	-0.0091
-41.85	0.9864	596.41	-0.0238	1.25	-1.4740	596.41	-0.0024
-33.76	0.9826	609.07	0.0085	1.88	-1.3291	609.07	0.0456
-25.67	0.9894			2.50	-1.1994		
-23.11	0.9947			3.13	-1.3324		
-17.97	1.0162			3.75	-1.2141		
-10.27	1.0775			4.37	-1.2589		
-5.13	1.1041			5.00	-1.4719		
-3.34	1.0717			6.25	-1.2578		
-2.05	0.9848			7.50	-1.2857		
-0.90	0.7285			8.75	-1.4943		
-0.44	0.4704			10.00	-1.3146		
0.00	-0.7553			12.50	-1.3478		
0.31	-1.7189			15.00	-1.2252		
0.63	-1.4758			17.50	-1.2536		
1.25	-1.5928			20.00	-1.2294		
1.88	-1.5174			30.00	-0.9853		
2.50	-1.5792			50.00	-0.4920		
3.13	-1.4271			60.00	-0.4223		
3.75	-1.4613			70.00	-0.3835		
4.37	-1.4159			80.00	-0.3164		
5.00	-1.4908			90.00	-0.2938		
6.25	-1.4482			100.00	-0.2508		
7.50	-1.5643			110.00	-0.2183		
8.75	-1.5287			241.85	-0.0762		
10.00	-1.4683						
12.50	-1.4149						
15.00	-1.4065						
17.50	-1.3396						
20.00	-1.2984						
30.00	-0.9154						
40.00	-0.6196						
50.00	-0.5214						
60.00	-0.4260						
70.00	-0.3918						
80.00	-0.3518						
90.00	-0.3156						
100.00	-0.2632						
110.00	-0.2267						
241.85	-0.0812						
279.84	-0.0735						

mfr = 0.40 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.0122	343.16	-0.0399	-187.47	1.0101	343.16	-0.0361
-171.29	1.0122	384.14	-0.0384	-106.57	0.9772	384.14	-0.0384
-155.11	1.0099	419.13	-0.0351	-25.67	0.8700	419.13	-0.0337
-130.84	0.9964	457.12	-0.0294	-10.27	0.9981	457.12	-0.0351
-106.57	0.9783	507.77	-0.0181	-2.05	1.0645	507.77	-0.0257
-90.39	0.9565	545.76	-0.0081	0.00	-0.3691	545.76	-0.0119
-74.21	0.9361	571.08	0.0203	0.31	-1.7939	571.08	0.0155
-58.03	0.9059	583.74	0.0397	0.63	-2.0417	583.74	0.0430
-41.85	0.8827	596.41	0.0534	1.25	-1.9560	596.41	0.0653
-33.76	0.8753	609.07	0.1126	1.88	-1.9640	609.07	0.1230
-25.67	0.8663			2.50	-1.9465		
-23.11	0.8785			3.13	-1.8568		
-17.97	0.9056			3.75	-1.8201		
-10.27	1.0055			4.37	-1.7922		
-5.13	1.0962			5.00	-1.7630		
-3.34	1.1067			6.25	-1.6954		
-2.05	1.0710			7.50	-1.6071		
-0.90	0.8824			8.75	-1.5449		
-0.44	0.6719			10.00	-1.4026		
0.00	-0.4912			12.50	-1.2384		
0.31	-1.9067			15.00	-1.0516		
0.63	-2.1579			17.50	-0.8748		
1.25	-2.0734			20.00	-0.7448		
1.88	-2.0220			30.00	-0.5641		
2.50	-2.1130			50.00	-0.4559		
3.13	-1.9343			60.00	-0.4084		
3.75	-1.9436			70.00	-0.3979		
4.37	-1.7910			80.00	-0.3504		
5.00	-1.7667			90.00	-0.3363		
6.25	-1.6009			100.00	-0.2516		
7.50	-1.5309			110.00	-0.2197		
8.75	-1.3829			241.85	-0.0805		
10.00	-1.3148						
12.50	-1.0427						
15.00	-0.9244						
17.50	-0.8335						
20.00	-0.8227						
30.00	-0.5460						
40.00	-0.4985						
50.00	-0.4532						
60.00	-0.4256						
70.00	-0.3807						
80.00	-0.3729						
90.00	-0.3366						
100.00	-0.2731						
110.00	-0.2062						
241.85	-0.0860						
279.84	-0.0707						

TABLE VI. Continued

(b) Continued

mfr = 0.50 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9524	343.16	-0.0389	-187.47	0.9505	343.16	-0.0271
-171.29	0.9543	384.14	-0.0337	-106.57	0.8949	384.14	-0.0332
-155.11	0.9482	419.13	-0.0256	-25.67	0.6913	419.13	-0.0247
-130.84	0.9329	457.12	-0.0204	-10.27	0.8696	457.12	-0.0247
-106.57	0.8970	507.77	-0.0014	-2.05	1.1004	507.77	-0.0109
-90.39	0.8649	545.76	0.0209	0.00	-0.0480	545.76	0.0129
-74.21	0.8267	571.08	0.0609	0.31	-1.3674	571.08	0.0466
-58.03	0.7796	583.74	0.0846	0.63	-1.9547	583.74	0.0799
-41.85	0.7363	596.41	0.1222	1.25	-2.1384	596.41	0.1231
-33.76	0.7112	609.07	0.1934	1.88	-1.9915	609.07	0.1915
-25.67	0.6871			2.50	-1.9995		
-23.11	0.6928			3.13	-2.0206		
-17.97	0.7243			3.75	-1.7173		
-10.27	0.8596			4.37	-1.4047		
-5.13	1.0277			5.00	-1.2458		
-3.34	1.0844			6.25	-0.9013		
-2.05	1.1042			7.50	-0.8185		
-0.90	1.0162			8.75	-0.8168		
-0.44	0.8621			10.00	-0.7664		
0.00	-0.1270			12.50	-0.7527		
0.31	-1.4899			15.00	-0.7022		
0.63	-1.9780			17.50	-0.6575		
1.25	-2.1340			20.00	-0.5882		
1.88	-1.9467			30.00	-0.4990		
2.50	-1.9518			50.00	-0.4220		
3.13	-1.9940			60.00	-0.4026		
3.75	-1.7378			70.00	-0.3769		
4.37	-1.3850			80.00	-0.3491		
5.00	-1.2604			90.00	-0.3124		
6.25	-0.8904			100.00	-0.2510		
7.50	-0.7794			110.00	-0.1986		
8.75	-0.8206			241.85	-0.0662		
10.00	-0.7705						
12.50	-0.7382						
15.00	-0.7010						
17.50	-0.6189						
20.00	-0.5828						
30.00	-0.5076						
40.00	-0.4557						
50.00	-0.4242						
60.00	-0.4029						
70.00	-0.3779						
80.00	-0.3534						
90.00	-0.3161						
100.00	-0.2532						
110.00	-0.1969						
241.85	-0.0678						
279.84	-0.0601						

mfr = 0.55 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9171	343.16	-0.0308	-187.47	0.9124	343.16	-0.0256
-171.29	0.9180	384.14	-0.0247	-106.57	0.8452	384.14	-0.0275
-155.11	0.9138	419.13	-0.0180	-25.67	0.5681	419.13	-0.0204
-130.84	0.8882	457.12	-0.0080	-10.27	0.7467	457.12	-0.0175
-106.57	0.8468	507.77	0.0162	-2.05	1.1026	507.77	0.0010
-90.39	0.8030	545.76	0.0451	0.00	0.1310	545.76	0.0281
-74.21	0.7560	571.08	0.0869	0.31	-1.0979	571.08	0.0703
-58.03	0.6959	583.74	0.1192	0.63	-1.6909	583.74	0.1059
-41.85	0.6340	596.41	0.1591	1.25	-1.8099	596.41	0.1487
-33.76	0.6016	609.07	0.2284	1.88	-1.6645	609.07	0.2189
-25.67	0.5644			2.50	-1.7351		
-23.11	0.5665			3.13	-1.6042		
-17.97	0.5869			3.75	-1.0446		
-10.27	0.7357			4.37	-0.8236		
-5.13	0.9552			5.00	-0.7843		
-3.34	1.0486			6.25	-0.7046		
-2.05	1.1014			7.50	-0.7439		
-0.90	1.0706			8.75	-0.7391		
-0.44	0.9480			10.00	-0.7281		
0.00	0.1335			12.50	-0.7034		
0.31	-1.1479			15.00	-0.6629		
0.63	-1.6908			17.50	-0.5963		
1.25	-1.8649			20.00	-0.5659		
1.88	-1.7484			30.00	-0.4574		
2.50	-1.6015			50.00	-0.4066		
3.13	-1.4188			60.00	-0.3851		
3.75	-0.9222			70.00	-0.3621		
4.37	-0.8871			80.00	-0.3442		
5.00	-0.8179			90.00	-0.3029		
6.25	-0.7650			100.00	-0.2405		
7.50	-0.7233			110.00	-0.1902		
8.75	-0.7701			241.85	-0.0553		
10.00	-0.7215						
12.50	-0.7065						
15.00	-0.6475						
17.50	-0.6033						
20.00	-0.5486						
30.00	-0.4622						
40.00	-0.4276						
50.00	-0.3994						
60.00	-0.3820						
70.00	-0.3673						
80.00	-0.3424						
90.00	-0.3026						
100.00	-0.2380						
110.00	-0.1890						
241.85	-0.0625						
279.84	-0.0531						

mfr = 0.62 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.8663	343.16	-0.0236	-187.47	0.8618	343.16	-0.0179
-171.29	0.8677	384.14	-0.0165	-106.57	0.7750	384.14	-0.0189
-155.11	0.8607	419.13	-0.0084	-25.67	0.3893	419.13	-0.0084
-130.84	0.8301	457.12	0.0058	-10.27	0.6080	457.12	-0.0037
-106.57	0.7775	507.77	0.0309	-2.05	1.0734	507.77	0.0243
-90.39	0.7249	545.76	0.0646	0.00	0.4057	545.76	0.0561
-74.21	0.6617	571.08	0.1101	0.31	-0.6392	571.08	0.1002
-58.03	0.5803	583.74	0.1429	0.63	-1.2343	583.74	0.1410
-41.85	0.4882	596.41	0.1875	1.25	-1.3635	596.41	0.1889
-33.76	0.4416	609.07	0.2586	1.88	-1.3110	609.07	0.2576
-25.67	0.3898			2.50	-1.1414		
-23.11	0.3819			3.13	-0.8919		
-17.97	0.4160			3.75	-0.7285		
-10.27	0.6065			4.37	-0.6810		
-5.13	0.8379			5.00	-0.6707		
-3.34	0.9637			6.25	-0.6278		
-2.05	1.0740			7.50	-0.6513		
-0.90	1.1026			8.75	-0.6465		
-0.44	1.0329			10.00	-0.6308		
0.00	0.2986			12.50	-0.6094		
0.31	-0.8435			15.00	-0.5549		
0.63	-1.3891			17.50	-0.5047		
1.25	-1.2096			20.00	-0.4921		
1.88	-1.0717			30.00	-0.4100		
2.50	-1.0138			50.00	-0.3765		
3.13	-0.9061			60.00	-0.3566		
3.75	-0.7678			70.00	-0.3435		
4.37	-0.7014			80.00	-0.3247		
5.00	-0.7257			90.00	-0.2980		
6.25	-0.6318			100.00	-0.2263		
7.50	-0.6355			110.00	-0.1739		
8.75	-0.6505			241.85	-0.0495		
10.00	-0.6309						
12.50	-0.6192						
15.00	-0.5856						
17.50	-0.5026						
20.00	-0.4620						
30.00	-0.4189						
40.00	-0.3967						
50.00	-0.3784						
60.00	-0.3566						
70.00	-0.3487						
80.00	-0.3192						
90.00	-0.2896						
100.00	-0.2254						
110.00	-0.1757						
241.85	-0.0501						
279.84	-0.0429						

TABLE VI. Continued

(b) Concluded

mfr = 0.68 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.8042	343.16	-0.0216	-187.47	0.8013	343.16	-0.0121
-171.29	0.8046	384.14	-0.0126	-106.57	0.6906	384.14	-0.0131
-155.11	0.7976	419.13	-0.0036	-25.67	0.1727	419.13	0.0045
-130.84	0.7603	457.12	0.0107	-10.27	0.4073	457.12	0.0116
-106.57	0.6922	507.77	0.0416	-2.05	0.9966	507.77	0.0397
-90.39	0.6195	545.76	0.0792	0.00	0.5695	545.76	0.0744
-74.21	0.5402	571.08	0.1310	0.31	-0.3735	571.08	0.1243
-58.03	0.4274	583.74	0.1676	0.63	-0.8610	583.74	0.1667
-41.85	0.3090	596.41	0.2118	1.25	-0.8643	596.41	0.2090
-33.76	0.2504	609.07	0.2809	1.88	-0.7978	609.07	0.2842
-25.67	0.1607			2.50	-0.7600		
-23.11	0.1428			3.13	-0.6259		
-17.97	0.1727			3.75	-0.5902		
-10.27	0.3690			4.37	-0.5526		
-5.13	0.6575			5.00	-0.4747		
-3.34	0.8276			6.25	-0.5130		
-2.05	0.9713			7.50	-0.5036		
-0.90	1.0737			8.75	-0.5400		
-0.44	1.0633			10.00	-0.4763		
0.00	0.6060			12.50	-0.5067		
0.31	-0.4558			15.00	-0.4905		
0.63	-0.7969			17.50	-0.4585		
1.25	-0.8714			20.00	-0.4349		
1.88	-0.7482			30.00	-0.3761		
2.50	-0.6269			50.00	-0.3604		
3.13	-0.6106			60.00	-0.3388		
3.75	-0.5542			70.00	-0.3273		
4.37	-0.5570			80.00	-0.3084		
5.00	-0.5719			90.00	-0.2733		
6.25	-0.5225			100.00	-0.2124		
7.50	-0.4735			110.00	-0.1610		
8.75	-0.5672			241.85	-0.0517		
10.00	-0.5188						
12.50	-0.5020						
15.00	-0.5097						
17.50	-0.4684						
20.00	-0.4519						
30.00	-0.3622						
40.00	-0.3902						
50.00	-0.3444						
60.00	-0.3688						
70.00	-0.3220						
80.00	-0.3324						
90.00	-0.2759						
100.00	-0.2405						
110.00	-0.1594						
241.85	-0.0786						
279.84	-0.0676						

mfr = 0.75 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.7403	343.16	-0.0102	-187.47	0.7367	343.16	-0.0040
-171.29	0.7417	384.14	-0.0016	-106.57	0.5969	384.14	-0.0021
-155.11	0.7296	419.13	0.0079	-25.67	-0.1287	419.13	0.0050
-130.84	0.6830	457.12	0.0240	-10.27	0.1404	457.12	0.0135
-106.57	0.6002	507.77	0.0548	-2.05	0.8802	507.77	0.0486
-90.39	0.5096	545.76	0.0951	0.00	0.7987	545.76	0.0880
-74.21	0.4040	571.08	0.1459	0.31	0.0284	571.08	0.1416
-58.03	0.2613	583.74	0.1838	0.63	-0.4241	583.74	0.1815
-41.85	0.0965	596.41	0.2294	1.25	-0.5228	596.41	0.2256
-33.76	-0.0010	609.07	0.2954	1.88	-0.5015	609.07	0.2973
-25.67	-0.1339			2.50	-0.4359		
-23.11	-0.1449			3.13	-0.4482		
-17.97	-0.1192			3.75	-0.3674		
-10.27	0.0854			4.37	-0.3845		
-5.13	0.4784			5.00	-0.3674		
-3.34	0.6669			6.25	-0.3631		
-2.05	0.8564			7.50	-0.3653		
-0.90	1.0662			8.75	-0.3911		
-0.44	1.1074			10.00	-0.3789		
0.00	0.8310			12.50	-0.4218		
0.31	0.0063			15.00	-0.3857		
0.63	-0.3675			17.50	-0.3841		
1.25	-0.4043			20.00	-0.3354		
1.88	-0.3936			30.00	-0.3203		
2.50	-0.3945			50.00	-0.3276		
3.13	-0.3968			60.00	-0.3250		
3.75	-0.3596			70.00	-0.3150		
4.37	-0.3187			80.00	-0.2878		
5.00	-0.4080			90.00	-0.2684		
6.25	-0.3420			100.00	-0.2041		
7.50	-0.3415			110.00	-0.1580		
8.75	-0.3954			241.85	-0.0384		
10.00	-0.3880						
12.50	-0.3838						
15.00	-0.4169						
17.50	-0.3754						
20.00	-0.3647						
30.00	-0.3410						
40.00	-0.3334						
50.00	-0.3280						
60.00	-0.3197						
70.00	-0.3119						
80.00	-0.2961						
90.00	-0.2634						
100.00	-0.2005						
110.00	-0.1569						
241.85	-0.0389						
279.84	-0.0263						

mfr = 0.81 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.6553	343.16	-0.0088	-187.47	0.6565	343.16	-0.0041
-171.29	0.6609	384.14	0.0002	-106.57	0.4776	384.14	-0.0007
-155.11	0.6437	419.13	0.0116	-25.67	-0.5277	419.13	0.0121
-130.84	0.5863	457.12	0.0278	-10.27	-0.2024	457.12	0.0250
-106.57	0.4852	507.77	0.0601	-2.05	0.7021	507.77	0.0582
-90.39	0.3687	545.76	0.1020	0.00	0.9730	545.76	0.0987
-74.21	0.2391	571.08	0.1519	0.31	0.3590	571.08	0.1495
-58.03	0.0424	583.74	0.1861	0.63	-0.0775	583.74	0.1914
-41.85	-0.1837	596.41	0.2285	1.25	-0.1504	596.41	0.2346
-33.76	-0.3105	609.07	0.2937	1.88	-0.2492	609.07	0.3037
-25.67	-0.4967			2.50	-0.2129		
-23.11	-0.5424			3.13	-0.2030		
-17.97	-0.4999			3.75	-0.1840		
-10.27	-0.1751			4.37	-0.2079		
-5.13	0.1884			5.00	-0.2134		
-3.34	0.4703			6.25	-0.1981		
-2.05	0.7115			7.50	-0.2480		
-0.90	0.9890			8.75	-0.2641		
-0.44	1.0947			10.00	-0.2732		
0.00	0.9197			12.50	-0.3000		
0.31	0.2936			15.00	-0.3173		
0.63	-0.0550			17.50	-0.2921		
1.25	-0.0811			20.00	-0.2942		
1.88	-0.1767			30.00	-0.2821		
2.50	-0.1184			50.00	-0.2889		
3.13	-0.2116			60.00	-0.3010		
3.75	-0.1799			70.00	-0.2926		
4.37	-0.1855			80.00	-0.2826		
5.00	-0.2275			90.00	-0.2585		
6.25	-0.2312			100.00	-0.1893		
7.50	-0.2545			110.00	-0.1457		
8.75	-0.2671			241.85	-0.0362		
10.00	-0.3281						
12.50	-0.3193						
15.00	-0.3258						
17.50	-0.3002						
20.00	-0.2944						
30.00	-0.2946						
40.00	-0.2955						
50.00	-0.2988						
60.00	-0.2894						
70.00	-0.2937						
80.00	-0.2779						
90.00	-0.2484						
100.00	-0.1903						
110.00	-0.1431						
241.85	-0.0362						
279.84	-0.0252						

TABLE VI. Continued

(c) M = 0.69

mfr = 0.28 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0780	343.16	-0.0544	-187.47	1.0801	343.16	-0.0514
-171.29	1.0784	384.14	-0.0548	-106.57	1.0650	384.14	-0.0548
-155.11	1.0776	419.13	-0.0539	-25.67	1.0358	419.13	-0.0505
-130.84	1.0747	457.12	-0.0527	-10.27	1.1093	457.12	-0.0539
-106.57	1.0642	507.77	-0.0514	-2.05	0.9740	507.77	-0.0548
-90.39	1.0541	545.76	-0.0484	0.00	-0.6201	545.76	-0.0497
-74.21	1.0457	571.08	-0.0415	0.31	-1.5243	571.08	-0.0415
-58.03	1.0323	583.74	-0.0360	0.63	-1.5708	583.74	-0.0373
-41.85	1.0277	596.41	-0.0279	1.25	-1.4978	596.41	-0.0313
-33.76	1.0263	609.07	-0.0026	1.88	-1.5387	609.07	0.0128
-25.67	1.0343			2.50	-1.0006		
-23.11	1.0424			3.13	-1.4306		
-17.97	1.0608			3.75	-1.4167		
-10.27	1.1079			4.37	-1.5066		
-5.13	1.0750			5.00	-1.3599		
-3.34	1.0393			6.25	-1.5121		
-2.05	0.9443			7.50	-1.3675		
-0.90	0.6800			8.75	-1.3140		
-0.44	0.4284			10.00	-1.3902		
0.00	-0.6890			12.50	-1.3334		
0.31	-1.7333			15.00	-1.1114		
0.63	-1.9107			17.50	-1.3415		
1.25	-1.8930			20.00	-1.2856		
1.88	-1.6827			30.00	-1.0934		
2.50	-1.7699			50.00	-0.6791		
3.13	-1.7324			60.00	-0.6090		
3.75	-1.6418			70.00	-0.4741		
4.37	-1.7665			80.00	-0.4221		
5.00	-1.6646			90.00	-0.3528		
6.25	-1.6515			100.00	-0.3127		
7.50	-1.5896			110.00	-0.2311		
8.75	-0.9136			241.85	-0.1201		
10.00	-1.1011						
12.50	-0.9225						
15.00	-1.1896						
17.50	-1.0434						
20.00	-1.1333						
30.00	-1.0674						
40.00	-0.9960						
50.00	-0.8272						
60.00	-0.7500						
70.00	-0.5967						
80.00	-0.5307						
90.00	-0.3806						
100.00	-0.3324						
110.00	-0.2594						
241.85	-0.1235						
279.84	-0.1116						

mfr = 0.30 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0719	343.16	-0.0542	-187.47	1.0719	343.16	-0.0486
-171.29	1.0736	384.14	-0.0525	-106.57	1.0522	384.14	-0.0520
-155.11	1.0727	419.13	-0.0529	-25.67	1.0062	419.13	-0.0486
-130.84	1.0640	457.12	-0.0516	-10.27	1.0936	457.12	-0.0546
-106.57	1.0523	507.77	-0.0405	-2.05	1.0109	507.77	-0.0482
-90.39	1.0439	545.76	-0.0444	0.00	-0.4968	545.76	-0.0478
-74.21	1.0326	571.08	-0.0273	0.31	-1.5259	571.08	-0.0380
-58.03	1.0172	583.74	-0.0205	0.63	-1.3879	583.74	-0.0239
-41.85	1.0059	596.41	0.0003	1.25	-1.4377	596.41	-0.0082
-33.76	1.0043	609.07	0.0280	1.88	-1.3229	609.07	0.0395
-25.67	1.0066			2.50	-1.3135		
-23.11	1.0123			3.13	-1.4956		
-17.97	1.0311			3.75	-1.4286		
-10.27	1.0945			4.37	-1.4656		
-5.13	1.1245			5.00	-1.3300		
-3.34	1.0979			6.25	-1.3052		
-2.05	1.0141			7.50	-1.2810		
-0.90	0.7887			8.75	-1.1511		
-0.44	0.5307			10.00	-1.2169		
0.00	-0.6095			12.50	-1.2819		
0.31	-1.5482			15.00	-1.3282		
0.63	-1.5503			17.50	-1.3036		
1.25	-1.5020			20.00	-1.2701		
1.88	-1.4361			30.00	-1.0754		
2.50	-1.4306			50.00	-0.6357		
3.13	-1.5037			60.00	-0.5292		
3.75	-1.5163			70.00	-0.4438		
4.37	-1.5389			80.00	-0.3559		
5.00	-1.4672			90.00	-0.3362		
6.25	-1.5230			100.00	-0.2540		
7.50	-1.4286			110.00	-0.2211		
8.75	-1.4407			241.85	-0.0759		
10.00	-1.4168						
12.50	-1.4122						
15.00	-1.3642						
17.50	-1.2849						
20.00	-1.2471						
30.00	-1.0318						
40.00	-0.7920						
50.00	-0.6040						
60.00	-0.4707						
70.00	-0.4147						
80.00	-0.3549						
90.00	-0.3143						
100.00	-0.2701						
110.00	-0.2279						
241.85	-0.0862						
279.84	-0.0724						

mfr = 0.40 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0305	343.16	-0.0468	-187.47	1.0299	343.16	-0.0348
-171.29	1.0322	384.14	-0.0442	-106.57	0.9964	384.14	-0.0408
-155.11	1.0292	419.13	-0.0400	-25.67	0.8933	419.13	-0.0335
-130.84	1.0204	457.12	-0.0314	-10.27	1.0205	457.12	-0.0344
-106.57	0.9973	507.77	-0.0198	-2.05	1.0909	507.77	-0.0203
-90.39	0.9784	545.76	-0.0018	0.00	-0.2593	545.76	-0.0065
-74.21	0.9583	571.08	0.0243	0.31	-1.5584	571.08	0.0239
-58.03	0.9289	583.74	0.0466	0.63	-2.0310	583.74	0.0543
-41.85	0.9087	596.41	0.0761	1.25	-2.1518	596.41	0.0864
-33.76	0.8952	609.07	0.1310	1.88	-2.1919	609.07	0.1417
-25.67	0.8981			2.50	-2.1375		
-23.11	0.8990			3.13	-2.0706		
-17.97	0.9264			3.75	-2.0498		
-10.27	1.0205			4.37	-2.0474		
-5.13	1.1203			5.00	-2.0555		
-3.34	1.1302			6.25	-2.0335		
-2.05	1.0886			7.50	-1.9246		
-0.90	0.9195			8.75	-1.8262		
-0.44	0.7231			10.00	-1.8164		
0.00	-0.3353			12.50	-1.2230		
0.31	-1.6581			15.00	-0.9707		
0.63	-2.0216			17.50	-0.9209		
1.25	-2.1799			20.00	-0.5832		
1.88	-2.2014			30.00	-0.4845		
2.50	-2.1486			50.00	-0.4537		
3.13	-2.1377			60.00	-0.4315		
3.75	-2.0469			70.00	-0.4078		
4.37	-2.0676			80.00	-0.3790		
5.00	-1.9950			90.00	-0.3360		
6.25	-1.9924			100.00	-0.2670		
7.50	-1.9097			110.00	-0.2131		
8.75	-1.8827			241.85	-0.0629		
10.00	-1.7978						
12.50	-1.3761						
15.00	-0.8866						
17.50	-0.7383						
20.00	-0.5318						
30.00	-0.4917						
40.00	-0.4725						
50.00	-0.4525						
60.00	-0.4209						
70.00	-0.4050						
80.00	-0.3614						
90.00	-0.3324						
100.00	-0.2563						
110.00	-0.2119						
241.85	-0.0649						
279.84	-0.0579						

TABLE VI. Continued

(c) Continued

mfr = 0.49 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9756	343.16	-0.0334	-187.47	0.9801	343.16	-0.0239
-171.29	0.9769	384.14	-0.0282	-106.57	0.9281	384.14	-0.0282
-155.11	0.9760	419.13	-0.0214	-25.67	0.7298	419.13	-0.0222
-130.84	0.9555	457.12	-0.0107	-10.27	0.8939	457.12	-0.0154
-106.57	0.9261	507.77	0.0133	-2.05	1.1295	507.77	0.0069
-90.39	0.8937	545.76	0.0399	0.00	0.0487	545.76	0.0326
-74.21	0.8572	571.08	0.0836	0.31	-1.1908	571.08	0.0720
-58.03	0.8122	583.74	0.1153	0.63	-1.7276	583.74	0.1110
-41.85	0.7621	596.41	0.1595	1.25	-1.9758	596.41	0.1539
-33.76	0.7539	609.07	0.2268	1.88	-1.9495	609.07	0.2242
-25.67	0.7289			2.50	-1.9525		
-23.11	0.7336			3.13	-1.8500		
-17.97	0.7643			3.75	-1.8443		
-10.27	0.8996			4.37	-1.8053		
-5.13	1.0436			5.00	-1.7755		
-3.34	1.1081			6.25	-1.6691		
-2.05	1.1270			7.50	-1.3753		
-0.90	1.0476			8.75	-0.8103		
-0.44	0.8928			10.00	-0.6811		
0.00	-0.0394			12.50	-0.6503		
0.31	-1.2915			15.00	-0.6332		
0.63	-1.7452			17.50	-0.6166		
1.25	-1.9783			20.00	-0.5862		
1.88	-1.9593			30.00	-0.5017		
2.50	-1.8385			50.00	-0.4273		
3.13	-1.8064			60.00	-0.4117		
3.75	-1.7929			70.00	-0.3904		
4.37	-1.7342			80.00	-0.3578		
5.00	-1.6932			90.00	-0.3143		
6.25	-1.6058			100.00	-0.2500		
7.50	-1.2248			110.00	-0.1904		
8.75	-0.7720			241.85	-0.0550		
10.00	-0.8244						
12.50	-0.6559						
15.00	-0.6628						
17.50	-0.6267						
20.00	-0.5826						
30.00	-0.4929						
40.00	-0.4529						
50.00	-0.4212						
60.00	-0.4062						
70.00	-0.3847						
80.00	-0.3616						
90.00	-0.3141						
100.00	-0.2465						
110.00	-0.1969						
241.85	-0.0580						
279.84	-0.0460						

mfr = 0.49 and α = 2.0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9788	343.16	-0.0276	-187.47	0.9763	343.16	-0.0357
-171.29	0.9809	384.14	-0.0267	-106.57	0.9202	384.14	-0.0314
-155.11	0.9788	419.13	-0.0225	-25.67	0.6903	419.13	-0.0191
-130.84	0.9596	457.12	-0.0105	-10.27	0.8224	457.12	-0.0165
-106.57	0.9358	507.77	0.0129	-2.05	1.1235	507.77	0.0078
-90.39	0.8982	545.76	0.0449	0.00	0.2190	545.76	0.0308
-74.21	0.8656	571.08	0.0870	0.31	-0.8885	571.08	0.0717
-58.03	0.8226	583.74	0.1147	0.63	-1.4754	583.74	0.1126
-41.85	0.7883	596.41	0.1548	1.25	-1.7532	596.41	0.1629
-33.76	0.7763	609.07	0.2042	1.88	-1.6029	609.07	0.2405
-25.67	0.7674			2.50	-1.5776		
-23.11	0.7745			3.13	-1.5389		
-17.97	0.8045			3.75	-1.5073		
-10.27	0.9359			4.37	-1.0806		
-5.13	1.0772			5.00	-0.8470		
-3.34	1.1206			6.25	-0.6169		
-2.05	1.1132			7.50	-0.6445		
-0.90	0.9844			8.75	-0.6626		
-0.44	0.8058			10.00	-0.6431		
0.00	-0.1901			12.50	-0.6629		
0.31	-1.5199			15.00	-0.6082		
0.63	-1.8882			17.50	-0.5789		
1.25	-2.0780			20.00	-0.5124		
1.88	-2.1003			30.00	-0.4426		
2.50	-2.0902			50.00	-0.4012		
3.13	-2.0826			60.00	-0.3871		
3.75	-2.0134			70.00	-0.3617		
4.37	-1.9802			80.00	-0.3433		
5.00	-1.9331			90.00	-0.3081		
6.25	-1.8890			100.00	-0.2422		
7.50	-1.8252			110.00	-0.1844		
8.75	-1.7647			241.85	-0.0543		
10.00	-1.7341						
12.50	-1.6164						
15.00	-0.8551						
17.50	-0.6126						
20.00	-0.5642						
30.00	-0.4979						
40.00	-0.4859						
50.00	-0.4509						
60.00	-0.4303						
70.00	-0.4101						
80.00	-0.3706						
90.00	-0.3288						
100.00	-0.2561						
110.00	-0.2081						
241.85	-0.0592						
279.84	-0.0479						

mfr = 0.55 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9458	343.16	-0.0251	-187.47	0.9409	343.16	-0.0195
-171.29	0.9453	384.14	-0.0191	-106.57	0.8781	384.14	-0.0199
-155.11	0.9428	419.13	-0.0131	-25.67	0.6188	419.13	-0.0101
-130.84	0.9177	457.12	-0.0007	-10.27	0.7947	457.12	-0.0067
-106.57	0.8800	507.77	0.0279	-2.05	1.1220	507.77	0.0224
-90.39	0.8385	545.76	0.0617	0.00	0.2127	545.76	0.0578
-74.21	0.7946	571.08	0.1104	0.31	-0.9275	571.08	0.1023
-58.03	0.7346	583.74	0.1458	0.63	-1.5228	583.74	0.1433
-41.85	0.6772	596.41	0.1911	1.25	-1.8104	596.41	0.1916
-33.76	0.6476	609.07	0.2629	1.88	-1.7676	609.07	0.2655
-25.67	0.6084			2.50	-1.6723		
-23.11	0.6141			3.13	-1.6215		
-17.97	0.6419			3.75	-1.6590		
-10.27	0.7833			4.37	-1.6230		
-5.13	0.9873			5.00	-1.4745		
-3.34	1.0813			6.25	-0.7247		
-2.05	1.1273			7.50	-0.6776		
-0.90	1.0897			8.75	-0.6758		
-0.44	0.9794			10.00	-0.6833		
0.00	0.1716			12.50	-0.7135		
0.31	-1.0854			15.00	-0.6885		
0.63	-1.5284			17.50	-0.6322		
1.25	-1.8345			20.00	-0.5835		
1.88	-1.7831			30.00	-0.4836		
2.50	-1.6358			50.00	-0.4198		
3.13	-1.6240			60.00	-0.4001		
3.75	-1.6017			70.00	-0.3831		
4.37	-1.4055			80.00	-0.3529		
5.00	-1.0942			90.00	-0.3138		
6.25	-0.8870			100.00	-0.2464		
7.50	-0.6709			110.00	-0.1799		
8.75	-0.7244			241.85	-0.0467		
10.00	-0.7004						
12.50	-0.7063						
15.00	-0.6699						
17.50	-0.6133						
20.00	-0.5549						
30.00	-0.4764						
40.00	-0.4369						
50.00	-0.4193						
60.00	-0.3894						
70.00	-0.3868						
80.00	-0.3439						
90.00	-0.3108						
100.00	-0.2381						
110.00	-0.1952						
241.85	-0.0501						
279.84	-0.0383						

TABLE VI. Continued

(c) Continued

mfr = 0.61 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.8928	343.16	-0.0155	-187.47	0.8910	343.16	-0.0066
-171.29	0.8949	384.14	-0.0083	-106.57	0.8061	384.14	-0.0061
-155.11	0.8886	419.13	0.0011	-25.67	0.4357	419.13	0.0041
-130.84	0.8639	457.12	0.0152	-10.27	0.6442	457.12	0.0135
-106.57	0.8086	507.77	0.0482	-2.05	1.0907	507.77	0.0447
-90.39	0.7544	545.76	0.0845	0.00	0.4402	545.76	0.0794
-74.21	0.6961	571.08	0.1384	0.31	-0.6087	571.08	0.1290
-58.03	0.6115	583.74	0.1743	0.63	-1.2474	583.74	0.1743
-41.85	0.5318	596.41	0.2222	1.25	-1.4831	596.41	0.2239
-33.76	0.4829	609.07	0.2928	1.88	-1.4529	609.07	0.2953
-25.67	0.4286			2.50	-1.4850		
-23.11	0.4418			3.13	-1.2844		
-17.97	0.4706			3.75	-0.9602		
-10.27	0.6391			4.37	-0.7187		
-5.13	0.8641			5.00	-0.7011		
-3.34	0.9973			6.25	-0.6229		
-2.05	1.0919			7.50	-0.6589		
-0.90	1.1171			8.75	-0.6595		
-0.44	1.0508			10.00	-0.6433		
0.00	0.3708			12.50	-0.6466		
0.31	-0.7201			15.00	-0.6215		
0.63	-1.3247			17.50	-0.5495		
1.25	-1.2681			20.00	-0.5202		
1.88	-1.2533			30.00	-0.4293		
2.50	-1.1851			50.00	-0.3859		
3.13	-1.2040			60.00	-0.3831		
3.75	-0.8197			70.00	-0.3642		
4.37	-0.7041			80.00	-0.3397		
5.00	-0.7088			90.00	-0.3015		
6.25	-0.6603			100.00	-0.2335		
7.50	-0.6325			110.00	-0.1797		
8.75	-0.6759			241.85	-0.0446		
10.00	-0.6599						
12.50	-0.6333						
15.00	-0.6130						
17.50	-0.5503						
20.00	-0.5221						
30.00	-0.4454						
40.00	-0.4178						
50.00	-0.3959						
60.00	-0.3708						
70.00	-0.3529						
80.00	-0.3381						
90.00	-0.3029						
100.00	-0.2287						
110.00	-0.1683						
241.85	-0.0525						
279.84	-0.0416						

mfr = 0.68 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.8329	343.16	-0.0174	-187.47	0.8283	343.16	-0.0059
-171.29	0.8313	384.14	-0.0076	-106.57	0.7216	384.14	-0.0055
-155.11	0.8250	419.13	0.0027	-25.67	0.2033	419.13	0.0082
-130.84	0.7876	457.12	0.0198	-10.27	0.4235	457.12	0.0177
-106.57	0.7216	507.77	0.0528	-2.05	1.0212	507.77	0.0536
-90.39	0.6511	545.76	0.0956	0.00	0.6249	545.76	0.0964
-74.21	0.5739	571.08	0.1504	0.31	-0.2880	571.08	0.1542
-58.03	0.4703	583.74	0.1885	0.63	-0.8296	583.74	0.1936
-41.85	0.3511	596.41	0.2381	1.25	-0.8753	596.41	0.2484
-33.76	0.2850	609.07	0.3088	1.88	-0.7796	609.07	0.3203
-25.67	0.1995			2.50	-0.6576		
-23.11	0.1735			3.13	-0.6352		
-17.97	0.2222			3.75	-0.5709		
-10.27	0.4254			4.37	-0.5774		
-5.13	0.6993			5.00	-0.5201		
-3.34	0.8465			6.25	-0.5353		
-2.05	1.0056			7.50	-0.5448		
-0.90	1.1027			8.75	-0.5437		
-0.44	1.0854			10.00	-0.5083		
0.00	0.5869			12.50	-0.5348		
0.31	-0.4119			15.00	-0.5092		
0.63	-0.8880			17.50	-0.4865		
1.25	-1.0045			20.00	-0.4198		
1.88	-0.8142			30.00	-0.3914		
2.50	-0.6378			50.00	-0.3593		
3.13	-0.6188			60.00	-0.3579		
3.75	-0.5922			70.00	-0.3371		
4.37	-0.5648			80.00	-0.3187		
5.00	-0.5504			90.00	-0.2790		
6.25	-0.5019			100.00	-0.2166		
7.50	-0.4745			110.00	-0.1604		
8.75	-0.5568			241.85	-0.0315		
10.00	-0.5120						
12.50	-0.5496						
15.00	-0.5250						
17.50	-0.4812						
20.00	-0.4478						
30.00	-0.3938						
40.00	-0.3794						
50.00	-0.3552						
60.00	-0.3685						
70.00	-0.3376						
80.00	-0.3363						
90.00	-0.2801						
100.00	-0.2332						
110.00	-0.1630						
241.85	-0.0652						
279.84	-0.0513						

mfr = 0.74 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.7670	343.16	0.0077	-187.47	0.7631	343.16	-0.0076
-171.29	0.7699	384.14	0.0149	-106.57	0.6246	384.14	-0.0029
-155.11	0.7566	419.13	0.0269	-25.67	-0.1032	419.13	0.0094
-130.84	0.7117	457.12	0.0430	-10.27	0.1743	457.12	0.0195
-106.57	0.6281	507.77	0.0710	-2.05	0.9227	507.77	0.0578
-90.39	0.5350	545.76	0.1087	0.00	0.8272	545.76	0.1040
-74.21	0.4389	571.08	0.1549	0.31	0.0465	571.08	0.1621
-58.03	0.2868	583.74	0.1948	0.63	-0.3411	583.74	0.2092
-41.85	0.1193	596.41	0.2456	1.25	-0.4603	596.41	0.2592
-33.76	0.0179	609.07	0.3126	1.88	-0.4304	609.07	0.3296
-25.67	-0.0780			2.50	-0.4927		
-23.11	-0.1346			3.13	-0.3588		
-17.97	-0.1079			3.75	-0.3802		
-10.27	0.1213			4.37	-0.3573		
-5.13	0.5266			5.00	-0.3611		
-3.34	0.7226			6.25	-0.3494		
-2.05	0.9293			7.50	-0.3849		
-0.90	1.0865			8.75	-0.4397		
-0.44	1.1253			10.00	-0.3961		
0.00	0.8469			12.50	-0.4280		
0.31	-0.0882			15.00	-0.4317		
0.63	-0.3596			17.50	-0.4018		
1.25	-0.5026			20.00	-0.3456		
1.88	-0.4174			30.00	-0.3283		
2.50	-0.3779			50.00	-0.3381		
3.13	-0.3817			60.00	-0.3311		
3.75	-0.4016			70.00	-0.3180		
4.37	-0.4016			80.00	-0.3026		
5.00	-0.4116			90.00	-0.2712		
6.25	-0.3784			100.00	-0.2048		
7.50	-0.3605			110.00	-0.1500		
8.75	-0.4374			241.85	-0.0297		
10.00	-0.3917						
12.50	-0.4262						
15.00	-0.4064						
17.50	-0.3842						
20.00	-0.3769						
30.00	-0.3622						
40.00	-0.3440						
50.00	-0.3285						
60.00	-0.3308						
70.00	-0.3353						
80.00	-0.2994						
90.00	-0.2720						
100.00	-0.2031						
110.00	-0.1618						
241.85	-0.0390						
279.84	-0.0263						

TABLE VI. Continued

(c) Concluded

mfr = 0.81 and α = 0°

φ = 0°				φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-187.47	0.6797	343.16	-0.0017	-187.47	0.6772	343.16	0.0064
-171.29	0.6830	384.14	0.0073	-106.57	0.4996	384.14	0.0081
-155.11	0.6709	419.13	0.0188	-25.67	-0.5596	419.13	0.0222
-130.84	0.6083	457.12	0.0376	-10.27	-0.1951	457.12	0.0338
-106.57	0.5060	507.77	0.0774	-2.05	0.7182	507.77	0.0719
-90.39	0.3893	545.76	0.1194	0.00	0.9743	545.76	0.1155
-74.21	0.2564	571.08	0.1716	0.31	0.3423	571.08	0.1712
-58.03	0.0617	583.74	0.2054	0.63	0.0673	583.74	0.2114
-41.85	-0.1947	596.41	0.2533	1.25	-0.1328	596.41	0.2623
-33.76	-0.3326	609.07	0.3188	1.88	-0.1517	609.07	0.3295
-25.67	-0.5620			2.50	-0.1635		
-23.11	-0.6336			3.13	-0.1433		
-17.97	-0.5264			3.75	-0.1791		
-10.27	-0.1932			4.37	-0.1878		
-5.13	0.2284			5.00	-0.1819		
-3.34	0.5123			6.25	-0.1631		
-2.05	0.7399			7.50	-0.2438		
-0.90	1.0030			8.75	-0.2602		
-0.44	1.1100			10.00	-0.2882		
0.00	0.9651			12.50	-0.3392		
0.31	0.2475			15.00	-0.3236		
0.63	-0.0839			17.50	-0.3321		
1.25	-0.1959			20.00	-0.3023		
1.88	-0.1296			30.00	-0.3014		
2.50	-0.1921			50.00	-0.3156		
3.13	-0.1846			60.00	-0.3127		
3.75	-0.1653			70.00	-0.2981		
4.37	-0.1842			80.00	-0.2929		
5.00	-0.2173			90.00	-0.2565		
6.25	-0.2375			100.00	-0.1947		
7.50	-0.2031			110.00	-0.1460		
8.75	-0.2660			241.85	-0.0342		
10.00	-0.2840						
12.50	-0.3029						
15.00	-0.3415						
17.50	-0.3008						
20.00	-0.2919						
30.00	-0.3033						
40.00	-0.3083						
50.00	-0.3121						
60.00	-0.3083						
70.00	-0.3042						
80.00	-0.2884						
90.00	-0.2593						
100.00	-0.1968						
110.00	-0.1439						
241.85	-0.0342						
279.84	-0.0263						

TABLE VI. Continued

(d) M = 0.72

mfr = 0.30 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0829	343.16	-0.0585	-187.47	1.0824	343.16	-0.0455
-171.29	1.0838	384.14	-0.0528	-106.57	1.0640	384.14	-0.0508
-155.11	1.0826	419.13	-0.0524	-25.67	1.0204	419.13	-0.0467
-130.84	1.0770	457.12	-0.0491	-10.27	1.1062	457.12	-0.0496
-106.57	1.0634	507.77	-0.0422	-2.05	1.0258	507.77	-0.0459
-90.39	1.0530	545.76	-0.0410	0.00	-0.4333	545.76	-0.0422
-74.21	1.0399	571.08	-0.0300	0.31	-1.4822	571.08	-0.0239
-58.03	1.0279	583.74	-0.0223	0.63	-1.5726	583.74	-0.0080
-41.85	1.0187	596.41	-0.0060	1.25	-1.4178	596.41	0.0127
-33.76	1.0164	609.07	0.0282	1.88	-1.4325	609.07	0.0501
-25.67	1.0182			2.50	-1.4881		
-23.11	1.0236			3.13	-1.4621		
-17.97	1.0469			3.75	-1.6070		
-10.27	1.1062			4.37	-1.4189		
-5.13	1.1339			5.00	-1.3953		
-3.34	1.1075			6.25	-1.4532		
-2.05	1.0275			7.50	-1.3001		
-0.90	0.8013			8.75	-1.3700		
-0.44	0.5638			10.00	-1.4020		
0.00	-0.5426			12.50	-1.3016		
0.31	-1.4994			15.00	-1.3034		
0.63	-1.3671			17.50	-1.2866		
1.25	-1.4393			20.00	-1.2514		
1.88	-1.4461			30.00	-1.1068		
2.50	-1.3250			50.00	-0.6896		
3.13	-1.4012			60.00	-0.5801		
3.75	-1.4597			70.00	-0.4170		
4.37	-1.4389			80.00	-0.3751		
5.00	-1.3968			90.00	-0.3216		
6.25	-1.3659			100.00	-0.2678		
7.50	-1.3980			110.00	-0.2314		
8.75	-1.4465			241.85	-0.0698		
10.00	-1.4200						
12.50	-1.3001						
15.00	-1.3531						
17.50	-1.2785						
20.00	-1.2478						
30.00	-1.0667						
40.00	-0.8906						
50.00	-0.6681						
60.00	-0.5498						
70.00	-0.4472						
80.00	-0.3975						
90.00	-0.3282						
100.00	-0.2733						
110.00	-0.2289						
241.85	-0.0773						
279.84	-0.0688						

mfr = 0.40 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0448	343.16	-0.0436	-187.47	1.0436	343.16	-0.0366
-171.29	1.0456	384.14	-0.0391	-106.57	1.0108	384.14	-0.0395
-155.11	1.0440	419.13	-0.0350	-25.67	0.9066	419.13	-0.0342
-130.84	1.0333	457.12	-0.0257	-10.27	1.0315	457.12	-0.0322
-106.57	1.0113	507.77	-0.0106	-2.05	1.0957	507.77	-0.0175
-90.39	0.9918	545.76	0.0122	0.00	-0.1767	545.76	0.0000
-74.21	0.9703	571.08	0.0435	0.31	-1.4358	571.08	0.0297
-58.03	0.9443	583.74	0.0638	0.63	-1.8707	583.74	0.0586
-41.85	0.9220	596.41	0.1018	1.25	-2.0022	596.41	0.0953
-33.76	0.9097	609.07	0.1571	1.88	-2.0277	609.07	0.1555
-25.67	0.9035			2.50	-2.0522		
-23.11	0.9075			3.13	-2.0112		
-17.97	0.9417			3.75	-1.9450		
-10.27	1.0306			4.37	-1.9243		
-5.13	1.1234			5.00	-1.9031		
-3.34	1.1361			6.25	-1.8594		
-2.05	1.1069			7.50	-1.8233		
-0.90	0.9504			8.75	-1.7786		
-0.44	0.7436			10.00	-1.7305		
0.00	-0.2456			12.50	-1.5975		
0.31	-1.5143			15.00	-1.5908		
0.63	-1.8472			17.50	-1.1374		
1.25	-2.0233			20.00	-0.8544		
1.88	-2.0382			30.00	-0.4101		
2.50	-2.0253			50.00	-0.4375		
3.13	-1.9904			60.00	-0.4281		
3.75	-1.9720			70.00	-0.4051		
4.37	-1.8974			80.00	-0.3776		
5.00	-1.9046			90.00	-0.3363		
6.25	-1.8633			100.00	-0.2658		
7.50	-1.7851			110.00	-0.2142		
8.75	-1.7530			241.85	-0.0640		
10.00	-1.7329						
12.50	-1.5806						
15.00	-1.5675						
17.50	-1.3198						
20.00	-0.6865						
30.00	-0.4066						
40.00	-0.4440						
50.00	-0.4435						
60.00	-0.4323						
70.00	-0.4105						
80.00	-0.3782						
90.00	-0.3377						
100.00	-0.2699						
110.00	-0.2125						
241.85	-0.0696						
279.84	-0.0602						

mfr = 0.49 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9876	343.16	-0.0309	-187.47	0.9862	343.16	-0.0231
-171.29	0.9888	384.14	-0.0240	-106.57	0.9352	384.14	-0.0252
-155.11	0.9864	419.13	-0.0174	-25.67	0.7397	419.13	-0.0154
-130.84	0.9684	457.12	-0.0040	-10.27	0.9064	457.12	-0.0125
-106.57	0.9396	507.77	0.0214	-2.05	1.1312	507.77	0.0156
-90.39	0.9068	545.76	0.0544	0.00	0.0736	545.76	0.0450
-74.21	0.8736	571.08	0.1001	0.31	-1.1265	571.08	0.0903
-58.03	0.8268	583.74	0.1328	0.63	-1.6077	583.74	0.1283
-41.85	0.7747	596.41	0.1756	1.25	-1.8312	596.41	0.1736
-33.76	0.7591	609.07	0.2462	1.88	-1.8397	609.07	0.2479
-25.67	0.7433			2.50	-1.8543		
-23.11	0.7438			3.13	-1.8119		
-17.97	0.7821			3.75	-1.7585		
-10.27	0.9095			4.37	-1.7388		
-5.13	1.0622			5.00	-1.7002		
-3.34	1.1161			6.25	-1.6180		
-2.05	1.1312			7.50	-1.4633		
-0.90	1.0495			8.75	-1.4450		
-0.44	0.8940			10.00	-1.4010		
0.00	-0.0007			12.50	-1.0171		
0.31	-1.1716			15.00	-0.5611		
0.63	-1.6403			17.50	-0.5259		
1.25	-1.8378			20.00	-0.5412		
1.88	-1.8241			30.00	-0.4974		
2.50	-1.7895			50.00	-0.4477		
3.13	-1.7847			60.00	-0.4269		
3.75	-1.7179			70.00	-0.4043		
4.37	-1.7127			80.00	-0.3749		
5.00	-1.6572			90.00	-0.3326		
6.25	-1.5920			100.00	-0.2573		
7.50	-1.5116			110.00	-0.1988		
8.75	-1.5072			241.85	-0.0597		
10.00	-1.3318						
12.50	-0.8961						
15.00	-0.6695						
17.50	-0.5393						
20.00	-0.5210						
30.00	-0.4946						
40.00	-0.4719						
50.00	-0.4476						
60.00	-0.4163						
70.00	-0.4052						
80.00	-0.3715						
90.00	-0.3267						
100.00	-0.2567						
110.00	-0.2031						
241.85	-0.0601						
279.84	-0.0464						

TABLE VI. Continued

(d) Concluded

mfr = 0.54 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9620	343.16	-0.0231	-187.47	0.9565	343.16	-0.0190
-171.29	0.9600	384.14	-0.0190	-106.57	0.8963	384.14	-0.0190
-155.11	0.9580	419.13	-0.0101	-25.67	0.6472	419.13	-0.0060
-130.84	0.9341	457.12	0.0066	-10.27	0.8195	457.12	-0.0007
-106.57	0.8974	507.77	0.0334	-2.05	1.1320	507.77	0.0253
-90.39	0.8571	545.76	0.0700	0.00	0.2203	545.76	0.0615
-74.21	0.8140	571.08	0.1189	0.31	-0.8566	571.08	0.1152
-58.03	0.7594	583.74	0.1575	0.63	-1.4653	583.74	0.1575
-41.85	0.7000	596.41	0.2042	1.25	-1.6983	596.41	0.2083
-33.76	0.6674	609.07	0.2746	1.88	-1.7214	609.07	0.2831
-25.67	0.6342			2.50	-1.5867		
-23.11	0.6405			3.13	-1.6325		
-17.97	0.6710			3.75	-1.5407		
-10.27	0.8106			4.37	-1.5287		
-5.13	0.9958			5.00	-1.4826		
-3.34	1.0905			6.25	-1.4634		
-2.05	1.1305			7.50	-1.2997		
-0.90	1.0975			8.75	-0.7859		
-0.44	0.9699			10.00	-0.8859		
0.00	0.1897			12.50	-0.6691		
0.31	-0.9894			15.00	-0.6151		
0.63	-1.4507			17.50	-0.6079		
1.25	-1.7270			20.00	-0.5777		
1.88	-1.7262			30.00	-0.4845		
2.50	-1.5934			50.00	-0.4368		
3.13	-1.5778			60.00	-0.4071		
3.75	-1.5008			70.00	-0.3904		
4.37	-1.4632			80.00	-0.3593		
5.00	-1.3722			90.00	-0.3176		
6.25	-1.4271			100.00	-0.2436		
7.50	-1.2896			110.00	-0.1893		
8.75	-0.6690			241.85	-0.0444		
10.00	-0.6848						
12.50	-0.6181						
15.00	-0.6548						
17.50	-0.6053						
20.00	-0.5576						
30.00	-0.4811						
40.00	-0.4472						
50.00	-0.4166						
60.00	-0.4049						
70.00	-0.3954						
80.00	-0.3641						
90.00	-0.3134						
100.00	-0.2455						
110.00	-0.1938						
241.85	-0.0548						
279.84	-0.0421						

TABLE VI. Continued

(e) M = 0.74

mfr = 0.27 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.1018	343.16	-0.0507	-187.47	1.1031	343.16	-0.0456
-171.29	1.1018	384.14	-0.0507	-106.57	1.0894	384.14	-0.0491
-155.11	1.1026	419.13	-0.0499	-25.67	1.0576	419.13	-0.0452
-130.84	1.0965	457.12	-0.0429	-10.27	1.1284	457.12	-0.0495
-106.57	1.0862	507.77	-0.0444	-2.05	1.0113	507.77	-0.0444
-90.39	1.0786	545.76	-0.0518	0.00	-0.4600	545.76	-0.0483
-74.21	1.0690	571.08	-0.0464	0.31	-1.5095	571.08	-0.0374
-58.03	1.0588	583.74	-0.0394	0.63	-1.5216	583.74	-0.0219
-41.85	1.0542	596.41	-0.0285	1.25	-1.3499	596.41	-0.0114
-33.76	1.0542	609.07	0.0069	1.88	-1.4471	609.07	0.0271
-25.67	1.0598			2.50	-1.4037		
-23.11	1.0645			3.13	-1.3973		
-17.97	1.0842			3.75	-1.4192		
-10.27	1.1297			4.37	-1.3344		
-5.13	1.1258			5.00	-1.4566		
-3.34	1.0830			6.25	-1.4206		
-2.05	0.9908			7.50	-1.3714		
-0.90	0.7609			8.75	-1.3232		
-0.44	0.5169			10.00	-1.3525		
0.00	-0.5419			12.50	-1.3340		
0.31	-1.3520			15.00	-1.3111		
0.63	-1.3141			17.50	-1.3146		
1.25	-1.4570			20.00	-1.2492		
1.88	-1.4669			30.00	-1.1195		
2.50	-1.5539			50.00	-0.7981		
3.13	-1.5477			60.00	-0.6543		
3.75	-1.4355			70.00	-0.5631		
4.37	-1.4631			80.00	-0.4719		
5.00	-1.5037			90.00	-0.3918		
6.25	-1.3949			100.00	-0.3243		
7.50	-1.3831			110.00	-0.2761		
8.75	-1.3007			241.85	-0.0869		
10.00	-1.3451						
12.50	-1.2919						
15.00	-1.2361						
17.50	-1.1088						
20.00	-1.1185						
30.00	-1.0141						
40.00	-0.9766						
50.00	-0.8621						
60.00	-0.7746						
70.00	-0.6023						
80.00	-0.5906						
90.00	-0.4718						
100.00	-0.3971						
110.00	-0.2731						
241.85	-0.0829						
279.84	-0.0802						

mfr = 0.31 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0915	343.16	-0.0560	-187.47	1.0913	343.16	-0.0397
-171.29	1.0931	384.14	-0.0525	-106.57	1.0720	384.14	-0.0490
-155.11	1.0927	419.13	-0.0501	-25.67	1.0253	419.13	-0.0470
-130.84	1.0866	457.12	-0.0474	-10.27	1.1157	457.12	-0.0521
-106.57	1.0740	507.77	-0.0408	-2.05	1.0378	507.77	-0.0404
-90.39	1.0649	545.76	-0.0334	0.00	-0.3529	545.76	-0.0366
-74.21	1.0508	571.08	-0.0166	0.31	-1.5416	571.08	-0.0226
-58.03	1.0375	583.74	-0.0093	0.63	-1.8846	583.74	-0.0003
-41.85	1.0272	596.41	0.0121	1.25	-2.0272	596.41	0.0179
-33.76	1.0172	609.07	0.0536	1.88	-2.0713	609.07	0.0630
-25.67	1.0275			2.50	-2.0599		
-23.11	1.0305			3.13	-2.0210		
-17.97	1.0558			3.75	-1.9804		
-10.27	1.1162			4.37	-1.9775		
-5.13	1.1412			5.00	-1.9666		
-3.34	1.1160			6.25	-1.9331		
-2.05	1.0414			7.50	-1.9090		
-0.90	0.8454			8.75	-1.8389		
-0.44	0.5885			10.00	-1.8243		
0.00	-0.4899			12.50	-1.7136		
0.31	-1.6261			15.00	-1.7132		
0.63	-1.8986			17.50	-1.6509		
1.25	-2.0380			20.00	-1.6117		
1.88	-2.0587			30.00	-0.8986		
2.50	-2.0514			50.00	-0.3446		
3.13	-2.0199			60.00	-0.3472		
3.75	-2.0346			70.00	-0.3554		
4.37	-1.9725			80.00	-0.3597		
5.00	-1.9694			90.00	-0.3235		
6.25	-1.9189			100.00	-0.2643		
7.50	-1.8829			110.00	-0.2103		
8.75	-1.8818			241.85	-0.0757		
10.00	-1.8125						
12.50	-1.7708						
15.00	-1.7021						
17.50	-1.6651						
20.00	-1.5948						
30.00	-0.9133						
40.00	-0.5952						
50.00	-0.3307						
60.00	-0.3426						
70.00	-0.3519						
80.00	-0.3529						
90.00	-0.3211						
100.00	-0.2641						
110.00	-0.2151						
241.85	-0.0806						
279.84	-0.0734						

mfr = 0.40 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0551	343.16	-0.0415	-187.47	1.0540	343.16	-0.0310
-171.29	1.0562	384.14	-0.0384	-106.57	1.0213	384.14	-0.0360
-155.11	1.0532	419.13	-0.0310	-25.67	0.9193	419.13	-0.0275
-130.84	1.0433	457.12	-0.0201	-10.27	1.0428	457.12	-0.0271
-106.57	1.0234	507.77	-0.0017	-2.05	1.1095	507.77	-0.0091
-90.39	1.0020	545.76	0.0181	0.00	-0.1081	545.76	0.0135
-74.21	0.9817	571.08	0.0544	0.31	-1.3297	571.08	0.0466
-58.03	0.9588	583.74	0.0809	0.63	-1.7411	583.74	0.0747
-41.85	0.9317	596.41	0.1176	1.25	-1.8556	596.41	0.1125
-33.76	0.9197	609.07	0.1714	1.88	-1.9095	609.07	0.1742
-25.67	0.9184			2.50	-1.9196		
-23.11	0.9223			3.13	-1.8946		
-17.97	0.9545			3.75	-1.8634		
-10.27	1.0389			4.37	-1.7969		
-5.13	1.1325			5.00	-1.7977		
-3.34	1.1460			6.25	-1.7456		
-2.05	1.1135			7.50	-1.7179		
-0.90	0.9650			8.75	-1.6510		
-0.44	0.7614			10.00	-1.6424		
0.00	-0.1778			12.50	-1.5520		
0.31	-1.4169			15.00	-1.5223		
0.63	-1.7378			17.50	-1.4959		
1.25	-1.8768			20.00	-1.4502		
1.88	-1.9026			30.00	-0.4627		
2.50	-1.8937			50.00	-0.4066		
3.13	-1.8803			60.00	-0.4100		
3.75	-1.8507			70.00	-0.4040		
4.37	-1.8242			80.00	-0.3781		
5.00	-1.8050			90.00	-0.3362		
6.25	-1.7578			100.00	-0.2634		
7.50	-1.6870			110.00	-0.2010		
8.75	-1.6493			241.85	-0.0628		
10.00	-1.6313						
12.50	-1.5613						
15.00	-1.4906						
17.50	-1.4457						
20.00	-1.4240						
30.00	-0.4893						
40.00	-0.3665						
50.00	-0.4119						
60.00	-0.4115						
70.00	-0.4044						
80.00	-0.3751						
90.00	-0.3351						
100.00	-0.2588						
110.00	-0.2088						
241.85	-0.0647						
279.84	-0.0516						

TABLE VI. Continued

(e) Continued

mfr = 0.49 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0034	343.16	-0.0252	-187.47	0.9997	343.16	-0.0150
-171.29	1.0034	384.14	-0.0182	-106.57	0.9505	384.14	-0.0154
-155.11	1.0026	419.13	-0.0096	-25.67	0.7577	419.13	-0.0076
-130.84	0.9831	457.12	0.0048	-10.27	0.9079	457.12	-0.0033
-106.57	0.9525	507.77	0.0325	-2.05	1.1438	507.77	0.0263
-90.39	0.9197	545.76	0.0664	0.00	0.1673	545.76	0.0618
-74.21	0.8852	571.08	0.1160	0.31	-1.0425	571.08	0.1082
-58.03	0.8421	583.74	0.1518	0.63	-1.4754	583.74	0.1499
-41.85	0.7984	596.41	0.1979	1.25	-1.7110	596.41	0.1967
-33.76	0.7788	609.07	0.2653	1.88	-1.7224	609.07	0.2653
-25.67	0.7552			2.50	-1.7300		
-23.11	0.7659			3.13	-1.6715		
-17.97	0.7982			3.75	-1.6635		
-10.27	0.9243			4.37	-1.6328		
-5.13	1.0608			5.00	-1.5836		
-3.34	1.1249			6.25	-1.5133		
-2.05	1.1407			7.50	-1.4731		
-0.90	1.0608			8.75	-1.4403		
-0.44	0.9064			10.00	-1.3733		
0.00	0.0569			12.50	-1.3246		
0.31	-1.1253			15.00	-1.2827		
0.63	-1.5230			17.50	-0.7631		
1.25	-1.7101			20.00	-0.7061		
1.88	-1.7048			30.00	-0.4622		
2.50	-1.7052			50.00	-0.4523		
3.13	-1.6852			60.00	-0.4289		
3.75	-1.6417			70.00	-0.4130		
4.37	-1.5845			80.00	-0.3806		
5.00	-1.5899			90.00	-0.3335		
6.25	-1.5165			100.00	-0.2564		
7.50	-1.4673			110.00	-0.2013		
8.75	-1.3885			241.85	-0.0611		
10.00	-1.3628						
12.50	-1.2667						
15.00	-1.2998						
17.50	-0.9111						
20.00	-0.4994						
30.00	-0.4681						
40.00	-0.4665						
50.00	-0.4500						
60.00	-0.4368						
70.00	-0.4087						
80.00	-0.3886						
90.00	-0.3374						
100.00	-0.2642						
110.00	-0.1961						
241.85	-0.0620						
279.84	-0.0521						

mfr = 0.54 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9756	343.16	-0.0224	-187.47	0.9764	343.16	-0.0107
-171.29	0.9771	384.14	-0.0138	-106.57	0.9135	384.14	-0.0146
-155.11	0.9687	419.13	-0.0045	-25.67	0.6649	419.13	-0.0017
-130.84	0.9496	457.12	0.0103	-10.27	0.8395	457.12	0.0041
-106.57	0.9103	507.77	0.0400	-2.05	1.1437	507.77	0.0365
-90.39	0.8740	545.76	0.0786	0.00	0.2762	545.76	0.0789
-74.21	0.8307	571.08	0.1312	0.31	-0.8249	571.08	0.1339
-58.03	0.7760	583.74	0.1729	0.63	-1.3061	583.74	0.1744
-41.85	0.7226	596.41	0.2200	1.25	-1.5722	596.41	0.2271
-33.76	0.6984	609.07	0.2941	1.88	-1.5962	609.07	0.2999
-25.67	0.6675			2.50	-1.6123		
-23.11	0.6606			3.13	-1.5727		
-17.97	0.6993			3.75	-1.5066		
-10.27	0.8417			4.37	-1.4862		
-5.13	1.0245			5.00	-1.4410		
-3.34	1.0990			6.25	-1.3979		
-2.05	1.1464			7.50	-1.3430		
-0.90	1.1071			8.75	-1.2912		
-0.44	0.9776			10.00	-1.2282		
0.00	0.2036			12.50	-1.0999		
0.31	-0.9086			15.00	-0.6043		
0.63	-1.3655			17.50	-0.5447		
1.25	-1.6275			20.00	-0.5020		
1.88	-1.6141			30.00	-0.4856		
2.50	-1.5945			50.00	-0.4403		
3.13	-1.5207			60.00	-0.4226		
3.75	-1.4987			70.00	-0.3932		
4.37	-1.4599			80.00	-0.3682		
5.00	-1.4246			90.00	-0.3259		
6.25	-1.3420			100.00	-0.2462		
7.50	-1.3048			110.00	-0.1860		
8.75	-1.2979			241.85	-0.0501		
10.00	-1.1519						
12.50	-0.6155						
15.00	-0.5419						
17.50	-0.5494						
20.00	-0.5365						
30.00	-0.4864						
40.00	-0.4541						
50.00	-0.4268						
60.00	-0.4140						
70.00	-0.3984						
80.00	-0.3641						
90.00	-0.3216						
100.00	-0.2469						
110.00	-0.1892						
241.85	-0.0488						
279.84	-0.0416						

mfr = 0.61 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9220	343.16	-0.0105	-187.47	0.9193	343.16	-0.0028
-171.29	0.9239	384.14	-0.0024	-106.57	0.8367	384.14	-0.0028
-155.11	0.9182	419.13	0.0078	-25.67	0.4771	419.13	0.0082
-130.84	0.8903	457.12	0.0234	-10.27	0.6720	457.12	0.0195
-106.57	0.8397	507.77	0.0588	-2.05	1.1180	507.77	0.0561
-90.39	0.7874	545.76	0.1017	0.00	0.5094	545.76	0.1001
-74.21	0.7290	571.08	0.1583	0.31	-0.5357	571.08	0.1594
-58.03	0.6488	583.74	0.2000	0.63	-1.0826	583.74	0.2043
-41.85	0.5624	596.41	0.2506	1.25	-1.3869	596.41	0.2561
-33.76	0.5279	609.07	0.3223	1.88	-1.4006	609.07	0.3290
-25.67	0.4703			2.50	-1.2989		
-23.11	0.4655			3.13	-1.2516		
-17.97	0.5098			3.75	-1.1775		
-10.27	0.6609			4.37	-1.1908		
-5.13	0.9016			5.00	-0.8875		
-3.34	1.0225			6.25	-0.5081		
-2.05	1.1169			7.50	-0.5681		
-0.90	1.1399			8.75	-0.5995		
-0.44	1.0835			10.00	-0.6363		
0.00	0.4462			12.50	-0.6786		
0.31	-0.6065			15.00	-0.7006		
0.63	-1.1479			17.50	-0.5785		
1.25	-1.3860			20.00	-0.5418		
1.88	-1.3334			30.00	-0.4459		
2.50	-1.2500			50.00	-0.4096		
3.13	-1.1951			60.00	-0.4023		
3.75	-1.1375			70.00	-0.3747		
4.37	-1.0694			80.00	-0.3561		
5.00	-0.9838			90.00	-0.3134		
6.25	-0.6200			100.00	-0.2393		
7.50	-0.5490			110.00	-0.1791		
8.75	-0.7014			241.85	-0.0389		
10.00	-0.6546						
12.50	-0.6930						
15.00	-0.6522						
17.50	-0.5896						
20.00	-0.5329						
30.00	-0.4637						
40.00	-0.4316						
50.00	-0.4075						
60.00	-0.3983						
70.00	-0.3807						
80.00	-0.3537						
90.00	-0.3069						
100.00	-0.2384						
110.00	-0.1750						
241.85	-0.0447						
279.84	-0.0339						

TABLE VI. Continued

(e) Concluded

mfr = 0.68 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.8622	343.16	-0.0086	-187.47	0.8532	343.16	0.0007
-171.29	0.8614	384.14	0.0027	-106.57	0.7471	384.14	0.0027
-155.11	0.8534	419.13	0.0159	-25.67	0.2259	419.13	0.0190
-130.84	0.8171	457.12	0.0346	-10.27	0.4627	457.12	0.0311
-106.57	0.7530	507.77	0.0673	-2.05	1.0444	507.77	0.0696
-90.39	0.6797	545.76	0.1163	0.00	0.6901	545.76	0.1175
-74.21	0.6068	571.08	0.1720	0.31	-0.2295	571.08	0.1782
-58.03	0.4938	583.74	0.2148	0.63	-0.7204	583.74	0.2238
-41.85	0.3763	596.41	0.2662	1.25	-0.8773	596.41	0.2771
-33.76	0.3101	609.07	0.3371	1.88	-0.8778	609.07	0.3476
-25.67	0.2216			2.50	-0.7553		
-23.11	0.2066			3.13	-0.7213		
-17.97	0.2439			3.75	-0.5845		
-10.27	0.4683			4.37	-0.5666		
-5.13	0.7225			5.00	-0.5357		
-3.34	0.9010			6.25	-0.5050		
-2.05	1.0407			7.50	-0.5396		
-0.90	1.1367			8.75	-0.5729		
-0.44	1.1187			10.00	-0.5301		
0.00	0.6175			12.50	-0.5745		
0.31	-0.2836			15.00	-0.5517		
0.63	-0.8016			17.50	-0.4957		
1.25	-0.8975			20.00	-0.4806		
1.88	-0.8166			30.00	-0.4086		
2.50	-0.6973			50.00	-0.3853		
3.13	-0.6504			60.00	-0.3935		
3.75	-0.6347			70.00	-0.3599		
4.37	-0.5640			80.00	-0.3405		
5.00	-0.5763			90.00	-0.3004		
6.25	-0.5475			100.00	-0.2299		
7.50	-0.4984			110.00	-0.1650		
8.75	-0.5598			241.85	-0.0205		
10.00	-0.5617						
12.50	-0.5026						
15.00	-0.5508						
17.50	-0.4938						
20.00	-0.4856						
30.00	-0.4071						
40.00	-0.4092						
50.00	-0.3802						
60.00	-0.3871						
70.00	-0.3659						
80.00	-0.3476						
90.00	-0.3031						
100.00	-0.2332						
110.00	-0.1626						
241.85	-0.0493						
279.84	-0.0313						

mfr = 0.74 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.8003	343.16	-0.0032	-187.47	0.7988	343.16	0.0034
-171.29	0.8030	384.14	0.0050	-106.57	0.6633	384.14	0.0070
-155.11	0.7919	419.13	0.0183	-25.67	-0.0453	419.13	0.0214
-130.84	0.7461	457.12	0.0358	-10.27	0.2141	457.12	0.0346
-106.57	0.6654	507.77	0.0767	-2.05	0.9451	507.77	0.0756
-90.39	0.5791	545.76	0.1239	0.00	0.8274	545.76	0.1270
-74.21	0.4767	571.08	0.1824	0.31	0.0476	571.08	0.1839
-58.03	0.3333	583.74	0.2237	0.63	-0.3431	583.74	0.2311
-41.85	0.1754	596.41	0.2760	1.25	-0.5391	596.41	0.2837
-33.76	0.0855	609.07	0.3434	1.88	-0.4511	609.07	0.3535
-25.67	-0.0388			2.50	-0.5201		
-23.11	-0.0741			3.13	-0.4029		
-17.97	-0.0057			3.75	-0.3608		
-10.27	0.2567			4.37	-0.3705		
-5.13	0.5547			5.00	-0.3375		
-3.34	0.7710			6.25	-0.3548		
-2.05	0.9510			7.50	-0.3764		
-0.90	1.1126			8.75	-0.4178		
-0.44	1.1406			10.00	-0.4217		
0.00	0.7763			12.50	-0.4765		
0.31	-0.0707			15.00	-0.4446		
0.63	-0.4675			17.50	-0.4321		
1.25	-0.4936			20.00	-0.4023		
1.88	-0.4467			30.00	-0.3582		
2.50	-0.4233			50.00	-0.3626		
3.13	-0.4141			60.00	-0.3613		
3.75	-0.3657			70.00	-0.3341		
4.37	-0.3887			80.00	-0.3233		
5.00	-0.4041			90.00	-0.2827		
6.25	-0.4053			100.00	-0.2156		
7.50	-0.3691			110.00	-0.1576		
8.75	-0.4264			241.85	-0.0299		
10.00	-0.4114						
12.50	-0.4494						
15.00	-0.4615						
17.50	-0.4175						
20.00	-0.4016						
30.00	-0.3653						
40.00	-0.3809						
50.00	-0.3607						
60.00	-0.3665						
70.00	-0.3500						
80.00	-0.3232						
90.00	-0.2923						
100.00	-0.2181						
110.00	-0.1601						
241.85	-0.0376						
279.84	-0.0263						

mfr = 0.80 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.7221	343.16	0.0013	-187.47	0.7222	343.16	0.0075
-171.29	0.7255	384.14	0.0103	-106.57	0.5516	384.14	0.0107
-155.11	0.7091	419.13	0.0243	-25.67	-0.5231	419.13	0.0286
-130.84	0.6530	457.12	0.0442	-10.27	-0.1027	457.12	0.0399
-106.57	0.5522	507.77	0.0835	-2.05	0.7910	507.77	0.0808
-90.39	0.4403	545.76	0.1291	0.00	0.9793	545.76	0.1310
-74.21	0.3112	571.08	0.1902	0.31	0.3121	571.08	0.1918
-58.03	0.1240	583.74	0.2280	0.63	-0.0686	583.74	0.2362
-41.85	-0.1211	596.41	0.2771	1.25	-0.1891	596.41	0.2876
-33.76	-0.2828	609.07	0.3441	1.88	-0.1850	609.07	0.3539
-25.67	-0.5775			2.50	-0.1737		
-23.11	-0.5822			3.13	-0.2112		
-17.97	-0.5132			3.75	-0.1870		
-10.27	-0.1023			4.37	-0.1742		
-5.13	0.3391			5.00	-0.1775		
-3.34	0.5989			6.25	-0.1787		
-2.05	0.7799			7.50	-0.2455		
-0.90	1.0528			8.75	-0.2878		
-0.44	1.1349			10.00	-0.2579		
0.00	0.9567			12.50	-0.3652		
0.31	0.2997			15.00	-0.3652		
0.63	-0.0276			17.50	-0.3605		
1.25	-0.1597			20.00	-0.3290		
1.88	-0.1570			30.00	-0.3173		
2.50	-0.1402			50.00	-0.3290		
3.13	-0.2307			60.00	-0.3290		
3.75	-0.1937			70.00	-0.3238		
4.37	-0.1700			80.00	-0.2966		
5.00	-0.2265			90.00	-0.2730		
6.25	-0.2865			100.00	-0.2025		
7.50	-0.2181			110.00	-0.1500		
8.75	-0.3225			241.85	-0.0258		
10.00	-0.2957						
12.50	-0.3790						
15.00	-0.3504						
17.50	-0.3606						
20.00	-0.3468						
30.00	-0.3233						
40.00	-0.3374						
50.00	-0.3187						
60.00	-0.3333						
70.00	-0.3247						
80.00	-0.3072						
90.00	-0.2773						
100.00	-0.1985						
110.00	-0.1482						
241.85	-0.0303						
279.84	-0.0213						

TABLE VI. Continued

(f) M = 0.77

mfr = 0.27 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1135	343.16	-0.0566	-187.47	1.1159	343.16	-0.0450
-171.29	1.1135	384.14	-0.0540	-106.57	1.1031	384.14	-0.0514
-155.11	1.1161	419.13	-0.0525	-25.67	1.0756	419.13	-0.0458
-130.84	1.1135	457.12	-0.0491	-10.27	1.1422	457.12	-0.0521
-106.57	1.1037	507.77	-0.0432	-2.05	1.0312	507.77	-0.0439
-90.39	1.0927	545.76	-0.0417	0.00	-0.3327	545.76	-0.0432
-74.21	1.0814	571.08	-0.0320	0.31	-1.4830	571.08	-0.0290
-58.03	1.0723	583.74	-0.0216	0.63	-1.7695	583.74	-0.0167
-41.85	1.0716	596.41	-0.0037	1.25	-1.9375	596.41	0.0075
-33.76	1.0748	609.07	0.0365	1.88	-1.9799	609.07	0.0507
-25.67	1.0707			2.50	-1.9672		
-23.11	1.0859			3.13	-1.9222		
-17.97	1.1011			3.75	-1.8975		
-10.27	1.1422			4.37	-1.9020		
-5.13	1.1544			5.00	-1.8988		
-3.34	1.1221			6.25	-1.8512		
-2.05	1.0358			7.50	-1.8497		
-0.90	0.7732			8.75	-1.7677		
-0.44	0.5903			10.00	-1.7491		
0.00	-0.4629			12.50	-1.7004		
0.31	-1.5584			15.00	-1.6422		
0.63	-1.7713			17.50	-1.6360		
1.25	-1.9333			20.00	-1.5102		
1.88	-1.9549			30.00	-1.3721		
2.50	-1.9656			50.00	-0.5392		
3.13	-1.9817			60.00	-0.4196		
3.75	-1.9421			70.00	-0.2827		
4.37	-1.9072			80.00	-0.2600		
5.00	-1.9006			90.00	-0.2761		
6.25	-1.8330			100.00	-0.2155		
7.50	-1.7941			110.00	-0.1752		
8.75	-1.7581			241.85	-0.0730		
10.00	-1.7100						
12.50	-1.6810						
15.00	-1.6533						
17.50	-1.6326						
20.00	-1.5388						
30.00	-1.4365						
40.00	-1.1390						
50.00	-0.5162						
60.00	-0.4270						
70.00	-0.2918						
80.00	-0.2574						
90.00	-0.2908						
100.00	-0.2191						
110.00	-0.2006						
241.85	-0.0747						
279.84	-0.0652						

mfr = 0.30 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1030	343.16	-0.0524	-187.47	1.1026	343.16	-0.0457
-171.29	1.1034	384.14	-0.0498	-106.57	1.0849	384.14	-0.0502
-155.11	1.1041	419.13	-0.0446	-25.67	1.0453	419.13	-0.0442
-130.84	1.0986	457.12	-0.0397	-10.27	1.1270	457.12	-0.0461
-106.57	1.0887	507.77	-0.0341	-2.05	1.0466	507.77	-0.0408
-90.39	1.0755	545.76	-0.0233	0.00	-0.3160	545.76	-0.0352
-74.21	1.0627	571.08	-0.0080	0.31	-1.4304	571.08	-0.0162
-58.03	1.0514	583.74	0.0107	0.63	-1.7695	583.74	0.0051
-41.85	1.0415	596.41	0.0331	1.25	-1.9153	596.41	0.0272
-33.76	1.0392	609.07	0.0807	1.88	-1.9568	609.07	0.0784
-25.67	1.0429			2.50	-1.9670		
-23.11	1.0466			3.13	-1.9274		
-17.97	1.0709			3.75	-1.8769		
-10.27	1.1274			4.37	-1.8424		
-5.13	1.1531			5.00	-1.8483		
-3.34	1.1268			6.25	-1.8153		
-2.05	1.0515			7.50	-1.7912		
-0.90	0.8400			8.75	-1.7557		
-0.44	0.6241			10.00	-1.7279		
0.00	-0.4042			12.50	-1.6324		
0.31	-1.5336			15.00	-1.6196		
0.63	-1.7773			17.50	-1.5901		
1.25	-1.9096			20.00	-1.5194		
1.88	-1.9339			30.00	-1.3547		
2.50	-1.9261			50.00	-0.5923		
3.13	-1.9232			60.00	-0.3572		
3.75	-1.8852			70.00	-0.2736		
4.37	-1.8664			80.00	-0.2894		
5.00	-1.8520			90.00	-0.2869		
6.25	-1.8068			100.00	-0.2385		
7.50	-1.7574			110.00	-0.1931		
8.75	-1.7405			241.85	-0.0697		
10.00	-1.7147						
12.50	-1.6485						
15.00	-1.6017						
17.50	-1.5675						
20.00	-1.5236						
30.00	-1.3623						
40.00	-0.8325						
50.00	-0.4554						
60.00	-0.3013						
70.00	-0.3101						
80.00	-0.2948						
90.00	-0.2927						
100.00	-0.2401						
110.00	-0.1986						
241.85	-0.0788						
279.84	-0.0680						

mfr = 0.40 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.0676	343.16	-0.0394	-187.47	1.0658	343.16	-0.0323
-171.29	1.0687	384.14	-0.0323	-106.57	1.0345	384.14	-0.0334
-155.11	1.0658	419.13	-0.0263	-25.67	0.9349	419.13	-0.0249
-130.84	1.0545	457.12	-0.0155	-10.27	1.0522	457.12	-0.0193
-106.57	1.0373	507.77	0.0016	-2.05	1.1213	507.77	-0.0021
-90.39	1.0172	545.76	0.0303	0.00	-0.0606	545.76	0.0243
-74.21	0.9967	571.08	0.0688	0.31	-1.2262	571.08	0.0606
-58.03	0.9711	583.74	0.0979	0.63	-1.6215	583.74	0.0919
-41.85	0.9489	596.41	0.1344	1.25	-1.7410	596.41	0.1333
-33.76	0.9390	609.07	0.1940	1.88	-1.7855	609.07	0.1933
-25.67	0.9373			2.50	-1.7897		
-23.11	0.9410			3.13	-1.7683		
-17.97	0.9674			3.75	-1.7414		
-10.27	1.0579			4.37	-1.7128		
-5.13	1.1405			5.00	-1.6997		
-3.34	1.1539			6.25	-1.6310		
-2.05	1.1220			7.50	-1.6011		
-0.90	0.9761			8.75	-1.5569		
-0.44	0.7858			10.00	-1.5267		
0.00	-0.1518			12.50	-1.4776		
0.31	-1.3010			15.00	-1.4586		
0.63	-1.6049			17.50	-1.4301		
1.25	-1.7504			20.00	-1.3834		
1.88	-1.7772			30.00	-1.2443		
2.50	-1.7581			50.00	-0.3113		
3.13	-1.7544			60.00	-0.3460		
3.75	-1.7320			70.00	-0.3675		
4.37	-1.7129			80.00	-0.3588		
5.00	-1.6589			90.00	-0.3275		
6.25	-1.6148			100.00	-0.2585		
7.50	-1.5590			110.00	-0.1975		
8.75	-1.5450			241.85	-0.0615		
10.00	-1.5311						
12.50	-1.4572						
15.00	-1.4100						
17.50	-1.4079						
20.00	-1.3631						
30.00	-1.1769						
40.00	-0.4325						
50.00	-0.3171						
60.00	-0.3606						
70.00	-0.3860						
80.00	-0.3641						
90.00	-0.3300						
100.00	-0.2543						
110.00	-0.1997						
241.85	-0.0636						
279.84	-0.0524						

TABLE VI. Continued

(f) Continued

mfr = 0.48 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	1.0142	343.16	-0.0258	-187.47	1.0140	343.16	-0.0146
-171.29	1.0167	384.14	-0.0180	-106.57	0.9639	384.14	-0.0165
-155.11	1.0131	419.13	-0.0064	-25.67	0.7736	419.13	-0.0064
-130.84	0.9944	457.12	0.0060	-10.27	0.9326	457.12	0.0007
-106.57	0.9668	507.77	0.0390	-2.05	1.1540	507.77	0.0299
-90.39	0.9338	545.76	0.0760	0.00	0.1868	545.76	0.0693
-74.21	0.8997	571.08	0.1255	0.31	-0.9405	571.08	0.1198
-58.03	0.8593	583.74	0.1629	0.63	-1.3715	583.74	0.1640
-41.85	0.8149	596.41	0.2127	1.25	-1.6059	596.41	0.2130
-33.76	0.7938	609.07	0.2778	1.88	-1.5938	609.07	0.2838
-25.67	0.7789			2.50	-1.6113		
-23.11	0.7793			3.13	-1.6085		
-17.97	0.8021			3.75	-1.5333		
-10.27	0.9297			4.37	-1.5311		
-5.13	1.0791			5.00	-1.4802		
-3.34	1.1367			6.25	-1.4160		
-2.05	1.1532			7.50	-1.3799		
-0.90	1.0782			8.75	-1.3305		
-0.44	0.9365			10.00	-1.3004		
0.00	0.1265			12.50	-1.2523		
0.31	-0.9568			15.00	-1.2399		
0.63	-1.3814			17.50	-1.2100		
1.25	-1.5966			20.00	-1.1823		
1.88	-1.6084			30.00	-0.3631		
2.50	-1.5862			50.00	-0.4356		
3.13	-1.5634			60.00	-0.4385		
3.75	-1.5409			70.00	-0.4166		
4.37	-1.5199			80.00	-0.3789		
5.00	-1.4830			90.00	-0.3387		
6.25	-1.4394			100.00	-0.2545		
7.50	-1.3748			110.00	-0.1929		
8.75	-1.3434			241.85	-0.0525		
10.00	-1.2922						
12.50	-1.2719						
15.00	-1.2392						
17.50	-1.1801						
20.00	-1.1424						
30.00	-0.3636						
40.00	-0.3875						
50.00	-0.4315						
60.00	-0.4216						
70.00	-0.4182						
80.00	-0.3879						
90.00	-0.3356						
100.00	-0.2547						
110.00	-0.1981						
241.85	-0.0564						
279.84	-0.0416						

mfr = 0.64 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	0.9878	343.16	-0.0135	-187.47	0.9869	343.16	-0.0083
-171.29	0.9896	384.14	-0.0075	-106.57	0.9247	384.14	-0.0079
-155.11	0.9852	419.13	0.0003	-25.67	0.6812	419.13	0.0018
-130.84	0.9626	457.12	0.0152	-10.27	0.8474	457.12	0.0119
-106.57	0.9246	507.77	0.0484	-2.05	1.1535	507.77	0.0462
-90.39	0.8855	545.76	0.0928	0.00	0.3088	545.76	0.0860
-74.21	0.8437	571.08	0.1487	0.31	-0.7289	571.08	0.1457
-58.03	0.7918	583.74	0.1878	0.63	-1.2481	583.74	0.1885
-41.85	0.7352	596.41	0.2370	1.25	-1.4720	596.41	0.2441
-33.76	0.7071	609.07	0.3104	1.88	-1.4885	609.07	0.3175
-25.67	0.6664			2.50	-1.4679		
-23.11	0.6746			3.13	-1.4544		
-17.97	0.7137			3.75	-1.4088		
-10.27	0.8544			4.37	-1.3639		
-5.13	1.0270			5.00	-1.3168		
-3.34	1.1064			6.25	-1.2972		
-2.05	1.1513			7.50	-1.2074		
-0.90	1.1163			8.75	-1.2029		
-0.44	1.0058			10.00	-1.1137		
0.00	0.2448			12.50	-1.1364		
0.31	-0.8158			15.00	-1.1001		
0.63	-1.2773			17.50	-1.0894		
1.25	-1.5087			20.00	-0.4974		
1.88	-1.4999			30.00	-0.4148		
2.50	-1.4433			50.00	-0.4478		
3.13	-1.4444			60.00	-0.4462		
3.75	-1.3915			70.00	-0.4177		
4.37	-1.3254			80.00	-0.3818		
5.00	-1.3563			90.00	-0.3376		
6.25	-1.2637			100.00	-0.2505		
7.50	-1.2005			110.00	-0.1862		
8.75	-1.2020			241.85	-0.0486		
10.00	-1.1399						
12.50	-1.0800						
15.00	-1.0470						
17.50	-1.0121						
20.00	-0.9221						
30.00	-0.4084						
40.00	-0.4489						
50.00	-0.4484						
60.00	-0.4356						
70.00	-0.4132						
80.00	-0.3843						
90.00	-0.3357						
100.00	-0.2539						
110.00	-0.1870						
241.85	-0.0498						
279.84	-0.0429						

mfr = 0.81 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	0.9345	343.16	-0.0053	-187.47	0.9327	343.16	-0.0075
-171.29	0.9363	384.14	0.0030	-106.57	0.8499	384.14	-0.0012
-155.11	0.9276	419.13	0.0142	-25.67	0.4940	419.13	0.0123
-130.84	0.9016	457.12	0.0322	-10.27	0.6905	457.12	0.0231
-106.57	0.8510	507.77	0.0687	-2.05	1.1255	507.77	0.0624
-90.39	0.7998	545.76	0.1165	0.00	0.5016	545.76	0.1098
-74.21	0.7423	571.08	0.1740	0.31	-0.4461	571.08	0.1699
-58.03	0.6596	583.74	0.2128	0.63	-0.9753	583.74	0.2169
-41.85	0.5832	596.41	0.2662	1.25	-1.2395	596.41	0.2733
-33.76	0.5442	609.07	0.3349	1.88	-1.2914	609.07	0.3450
-25.67	0.4866			2.50	-1.3487		
-23.11	0.4899			3.13	-1.2207		
-17.97	0.5311			3.75	-1.1445		
-10.27	0.6991			4.37	-1.0245		
-5.13	0.9067			5.00	-1.0530		
-3.34	1.0264			6.25	-0.9697		
-2.05	1.1276			7.50	-0.5669		
-0.90	1.1505			8.75	-0.7458		
-0.44	1.0835			10.00	-0.5440		
0.00	0.4236			12.50	-0.6103		
0.31	-0.5197			15.00	-0.7330		
0.63	-1.0713			17.50	-0.7037		
1.25	-1.3288			20.00	-0.5581		
1.88	-1.2655			30.00	-0.4742		
2.50	-1.2931			50.00	-0.4329		
3.13	-1.2589			60.00	-0.4254		
3.75	-1.1217			70.00	-0.3952		
4.37	-1.0610			80.00	-0.3692		
5.00	-1.0282			90.00	-0.3233		
6.25	-0.8067			100.00	-0.2448		
7.50	-0.9042			110.00	-0.1779		
8.75	-0.6308			241.85	-0.0413		
10.00	-0.6687						
12.50	-0.6503						
15.00	-0.7290						
17.50	-0.6551						
20.00	-0.5651						
30.00	-0.4780						
40.00	-0.4522						
50.00	-0.4310						
60.00	-0.4194						
70.00	-0.4023						
80.00	-0.3655						
90.00	-0.3217						
100.00	-0.2344						
110.00	-0.1799						
241.85	-0.0434						
279.84	-0.0352						

TABLE VI. Continued

(f) Concluded

mfr = 0.68 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.8725	343.16	-0.0061	-187.47	0.8644	343.16	0.0059
-171.29	0.8740	384.14	0.0047	-106.57	0.7569	384.14	0.0070
-155.11	0.8652	419.13	0.0137	-25.67	0.2279	419.13	0.0219
-130.84	0.8303	457.12	0.0358	-10.27	0.4429	457.12	0.0353
-106.57	0.7659	507.77	0.0746	-2.05	1.0321	507.77	0.0780
-90.39	0.6956	545.76	0.1247	0.00	0.7204	545.76	0.1269
-74.21	0.6210	571.08	0.1848	0.31	-0.1416	571.08	0.1911
-58.03	0.5156	583.74	0.2296	0.63	-0.6537	583.74	0.2389
-41.85	0.3915	596.41	0.2811	1.25	-0.8111	596.41	0.2930
-33.76	0.3230	609.07	0.3505	1.88	-0.9375	609.07	0.3654
-25.67	0.2332			2.50	-0.6772		
-23.11	0.2204			3.13	-0.7102		
-17.97	0.2559			3.75	-0.6102		
-10.27	0.4589			4.37	-0.6623		
-5.13	0.7653			5.00	-0.5382		
-3.34	0.9265			6.25	-0.4851		
-2.05	1.0566			7.50	-0.5386		
-0.90	1.1513			8.75	-0.5368		
-0.44	1.1292			10.00	-0.5776		
0.00	0.6850			12.50	-0.5821		
0.31	-0.2259			15.00	-0.6003		
0.63	-0.7487			17.50	-0.5027		
1.25	-0.8341			20.00	-0.4799		
1.88	-0.7738			30.00	-0.4150		
2.50	-0.7212			50.00	-0.4051		
3.13	-0.6483			60.00	-0.3894		
3.75	-0.6399			70.00	-0.3832		
4.37	-0.5685			80.00	-0.3501		
5.00	-0.6064			90.00	-0.3208		
6.25	-0.5541			100.00	-0.2265		
7.50	-0.4886			110.00	-0.1746		
8.75	-0.6384			241.85	-0.0401		
10.00	-0.5777						
12.50	-0.6137						
15.00	-0.6239						
17.50	-0.5221						
20.00	-0.4799						
30.00	-0.4334						
40.00	-0.4195						
50.00	-0.4036						
60.00	-0.3971						
70.00	-0.3741						
80.00	-0.3604						
90.00	-0.3134						
100.00	-0.2341						
110.00	-0.1603						
241.85	-0.0418						
279.84	-0.0327						

mfr = 0.74 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.8137	343.16	0.0000	-187.47	0.8114	343.16	0.0075
-171.29	0.8162	384.14	0.0108	-106.57	0.6776	384.14	0.0101
-155.11	0.8071	419.13	0.0220	-25.67	-0.0534	419.13	0.0258
-130.84	0.7624	457.12	0.0441	-10.27	0.2167	457.12	0.0404
-106.57	0.6834	507.77	0.0841	-2.05	0.9481	507.77	0.0815
-90.39	0.5924	545.76	0.1359	0.00	0.8390	545.76	0.1337
-74.21	0.4980	571.08	0.1956	0.31	0.0813	571.08	0.1979
-58.03	0.3560	583.74	0.2374	0.63	-0.3986	583.74	0.2430
-41.85	0.1877	596.41	0.2900	1.25	-0.5334	596.41	0.2990
-33.76	0.0915	609.07	0.3576	1.88	-0.4952	609.07	0.3707
-25.67	-0.0312			2.50	-0.4309		
-23.11	-0.0468			3.13	-0.4499		
-17.97	-0.0110			3.75	-0.3573		
-10.27	0.2427			4.37	-0.3435		
-5.13	0.6116			5.00	-0.3945		
-3.34	0.7746			6.25	-0.3176		
-2.05	0.9673			7.50	-0.4061		
-0.90	1.1340			8.75	-0.4098		
-0.44	1.1561			10.00	-0.4193		
0.00	0.8191			12.50	-0.4805		
0.31	0.0392			15.00	-0.4669		
0.63	-0.4279			17.50	-0.4169		
1.25	-0.4717			20.00	-0.3991		
1.88	-0.4342			30.00	-0.3784		
2.50	-0.3158			50.00	-0.3764		
3.13	-0.4890			60.00	-0.3706		
3.75	-0.3592			70.00	-0.3602		
4.37	-0.3926			80.00	-0.3317		
5.00	-0.3798			90.00	-0.2941		
6.25	-0.3779			100.00	-0.2177		
7.50	-0.3827			110.00	-0.1596		
8.75	-0.5085			241.85	-0.0283		
10.00	-0.4228						
12.50	-0.4857						
15.00	-0.4896						
17.50	-0.4460						
20.00	-0.4180						
30.00	-0.3897						
40.00	-0.3689						
50.00	-0.3735						
60.00	-0.3637						
70.00	-0.3644						
80.00	-0.3378						
90.00	-0.2886						
100.00	-0.2202						
110.00	-0.1613						
241.85	-0.0361						
279.84	-0.0245						

mfr = 0.80 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.7361	343.16	0.0045	-187.47	0.7324	343.16	0.0142
-171.29	0.7350	384.14	0.0138	-106.57	0.5642	384.14	0.0161
-155.11	0.7218	419.13	0.0265	-25.67	-0.6365	419.13	0.0336
-130.84	0.6687	457.12	0.0501	-10.27	-0.0888	457.12	0.0489
-106.57	0.5651	507.77	0.0915	-2.05	0.7975	507.77	0.0893
-90.39	0.4552	545.76	0.1416	0.00	0.9892	545.76	0.1420
-74.21	0.3252	571.08	0.1999	0.31	0.3160	571.08	0.2044
-58.03	0.1260	583.74	0.2432	0.63	-0.0291	583.74	0.2499
-41.85	-0.1212	596.41	0.2944	1.25	-0.2059	596.41	0.3034
-33.76	-0.2737	609.07	0.3602	1.88	-0.2155	609.07	0.3721
-25.67	-0.6195			2.50	-0.2352		
-23.11	-0.7056			3.13	-0.1368		
-17.97	-0.4901			3.75	-0.1544		
-10.27	-0.0826			4.37	-0.1640		
-5.13	0.3589			5.00	-0.1989		
-3.34	0.5920			6.25	-0.2064		
-2.05	0.8201			7.50	-0.2671		
-0.90	1.0567			8.75	-0.2777		
-0.44	1.1406			10.00	-0.2857		
0.00	0.9673			12.50	-0.3477		
0.31	0.2560			15.00	-0.3701		
0.63	-0.0901			17.50	-0.3490		
1.25	-0.0894			20.00	-0.3453		
1.88	-0.1677			30.00	-0.3374		
2.50	-0.1472			50.00	-0.3428		
3.13	-0.2022			60.00	-0.3378		
3.75	-0.1967			70.00	-0.3411		
4.37	-0.1967			80.00	-0.3163		
5.00	-0.2150			90.00	-0.2853		
6.25	-0.2470			100.00	-0.2088		
7.50	-0.2352			110.00	-0.1461		
8.75	-0.3320			241.85	-0.0269		
10.00	-0.3202						
12.50	-0.3780						
15.00	-0.3549						
17.50	-0.3559						
20.00	-0.3437						
30.00	-0.3202						
40.00	-0.3290						
50.00	-0.3328						
60.00	-0.3467						
70.00	-0.3378						
80.00	-0.3165						
90.00	-0.2753						
100.00	-0.2099						
110.00	-0.1458						
241.85	-0.0291						
279.84	-0.0204						

TABLE VI. Continued

(g) M =0.79

mfr = 0.27 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.1250	343.16	-0.0505	-187.47	1.1272	343.16	-0.0451
-171.29	1.1250	384.14	-0.0494	-106.57	1.1141	384.14	-0.0487
-155.11	1.1257	419.13	-0.0483	-25.67	1.0828	419.13	-0.0437
-130.84	1.1201	457.12	-0.0426	-10.27	1.1537	457.12	-0.0483
-106.57	1.1110	507.77	-0.0368	-2.05	1.0314	507.77	-0.0447
-90.39	1.1033	545.76	-0.0336	0.00	-0.3463	545.76	-0.0415
-74.21	1.0959	571.08	-0.0182	0.31	-1.3649	571.08	-0.0265
-58.03	1.0857	583.74	-0.0046	0.63	-1.6642	583.74	-0.0067
-41.85	1.0748	596.41	0.0162	1.25	-1.8187	596.41	0.0187
-33.76	1.0813	609.07	0.0628	1.88	-1.8759	609.07	0.0632
-25.67	1.0848			2.50	-1.8592		
-23.11	1.0900			3.13	-1.8170		
-17.97	1.1038			3.75	-1.8116		
-10.27	1.1537			4.37	-1.7976		
-5.13	1.1522			5.00	-1.7838		
-3.34	1.1198			6.25	-1.7615		
-2.05	1.0297			7.50	-1.7278		
-0.90	0.8040			8.75	-1.7123		
-0.44	0.5669			10.00	-1.6476		
0.00	-0.4387			12.50	-1.5857		
0.31	-1.4713			15.00	-1.5662		
0.63	-1.6663			17.50	-1.5253		
1.25	-1.8190			20.00	-1.4944		
1.88	-1.8420			30.00	-1.3303		
2.50	-1.8678			50.00	-1.1303		
3.13	-1.8420			60.00	-0.8650		
3.75	-1.8173			70.00	-0.4413		
4.37	-1.8028			80.00	-0.3151		
5.00	-1.7685			90.00	-0.2122		
6.25	-1.7253			100.00	-0.1682		
7.50	-1.6963			110.00	-0.1357		
8.75	-1.6829			241.85	-0.0741		
10.00	-1.6271						
12.50	-1.5967						
15.00	-1.5632						
17.50	-1.5285						
20.00	-1.4882						
30.00	-1.2903						
40.00	-1.1925						
50.00	-1.0875						
60.00	-0.7484						
70.00	-0.4139						
80.00	-0.2850						
90.00	-0.2143						
100.00	-0.1774						
110.00	-0.1409						
241.85	-0.0803						
279.84	-0.0724						

mfr = 0.30 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.1163	343.16	-0.0489	-187.47	1.1155	343.16	-0.0374
-171.29	1.1170	384.14	-0.0453	-106.57	1.0992	384.14	-0.0425
-155.11	1.1156	419.13	-0.0435	-25.67	1.0588	419.13	-0.0389
-130.84	1.1110	457.12	-0.0378	-10.27	1.1388	457.12	-0.0418
-106.57	1.0997	507.77	-0.0274	-2.05	1.0600	507.77	-0.0335
-90.39	1.0888	545.76	-0.0130	0.00	-0.2627	545.76	-0.0217
-74.21	1.0800	571.08	0.0096	0.31	-1.3194	571.08	0.0006
-58.03	1.0677	583.74	0.0264	0.63	-1.6544	583.74	0.0254
-41.85	1.0551	596.41	0.0544	1.25	-1.7800	596.41	0.0523
-33.76	1.0521	609.07	0.1072	1.88	-1.8319	609.07	0.1057
-25.67	1.0596			2.50	-1.8404		
-23.11	1.0612			3.13	-1.8157		
-17.97	1.0810			3.75	-1.7757		
-10.27	1.1388			4.37	-1.7535		
-5.13	1.1631			5.00	-1.7232		
-3.34	1.1390			6.25	-1.7013		
-2.05	1.0626			7.50	-1.6683		
-0.90	0.8656			8.75	-1.6453		
-0.44	0.6316			10.00	-1.6087		
0.00	-0.3529			12.50	-1.5531		
0.31	-1.4257			15.00	-1.5257		
0.63	-1.6467			17.50	-1.5070		
1.25	-1.7950			20.00	-1.4549		
1.88	-1.8013			30.00	-1.3024		
2.50	-1.8035			50.00	-1.1092		
3.13	-1.7992			60.00	-0.5869		
3.75	-1.7798			70.00	-0.4276		
4.37	-1.7720			80.00	-0.2659		
5.00	-1.7372			90.00	-0.2078		
6.25	-1.6941			100.00	-0.1744		
7.50	-1.6552			110.00	-0.1459		
8.75	-1.6410			241.85	-0.0677		
10.00	-1.6113						
12.50	-1.5222						
15.00	-1.5164						
17.50	-1.4780						
20.00	-1.4542						
30.00	-1.2944						
40.00	-1.1888						
50.00	-1.0783						
60.00	-0.5682						
70.00	-0.3521						
80.00	-0.2461						
90.00	-0.2078						
100.00	-0.1848						
110.00	-0.1576						
241.85	-0.0714						
279.84	-0.0627						

mfr = 0.40 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0793	343.16	-0.0345	-187.47	1.0773	343.16	-0.0270
-171.29	1.0797	384.14	-0.0288	-106.57	1.0476	384.14	-0.0288
-155.11	1.0779	419.13	-0.0212	-25.67	0.9515	419.13	-0.0194
-130.84	1.0677	457.12	-0.0122	-10.27	1.0686	457.12	-0.0194
-106.57	1.0480	507.77	0.0129	-2.05	1.1312	507.77	0.0043
-90.39	1.0297	545.76	0.0409	0.00	-0.0113	545.76	0.0327
-74.21	1.0110	571.08	0.0830	0.31	-1.1341	571.08	0.0754
-58.03	0.9853	583.74	0.1135	0.63	-1.5104	583.74	0.1089
-41.85	0.9603	596.41	0.1541	1.25	-1.6363	596.41	0.1531
-33.76	0.9503	609.07	0.2159	1.88	-1.6902	609.07	0.2166
-25.67	0.9487			2.50	-1.6889		
-23.11	0.9507			3.13	-1.6602		
-17.97	0.9789			3.75	-1.6463		
-10.27	1.0702			4.37	-1.6179		
-5.13	1.1502			5.00	-1.5957		
-3.34	1.1627			6.25	-1.5452		
-2.05	1.1381			7.50	-1.4871		
-0.90	0.9978			8.75	-1.4788		
-0.44	0.8177			10.00	-1.4342		
0.00	-0.0949			12.50	-1.3836		
0.31	-1.1910			15.00	-1.3769		
0.63	-1.4984			17.50	-1.3574		
1.25	-1.6355			20.00	-1.3052		
1.88	-1.6656			30.00	-1.1810		
2.50	-1.6564			50.00	-0.4674		
3.13	-1.6390			60.00	-0.2822		
3.75	-1.6440			70.00	-0.2978		
4.37	-1.5941			80.00	-0.2978		
5.00	-1.5735			90.00	-0.2834		
6.25	-1.5335			100.00	-0.2297		
7.50	-1.4793			110.00	-0.1764		
8.75	-1.4590			241.85	-0.0600		
10.00	-1.4449						
12.50	-1.4052						
15.00	-1.3526						
17.50	-1.3245						
20.00	-1.3110						
30.00	-1.1767						
40.00	-1.0711						
50.00	-0.5476						
60.00	-0.2885						
70.00	-0.2810						
80.00	-0.3234						
90.00	-0.2819						
100.00	-0.2349						
110.00	-0.1849						
241.85	-0.0629						
279.84	-0.0517						

TABLE VI. Continued

(g) Continued

mfr = 0.49 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0281	343.16	-0.0175	-187.47	1.0276	343.16	-0.0093
-171.29	1.0302	384.14	-0.0114	-106.57	0.9775	384.14	-0.0114
-155.11	1.0281	419.13	-0.0003	-25.67	0.7905	419.13	0.0008
-130.84	1.0101	457.12	0.0152	-10.27	0.9362	457.12	0.0069
-106.57	0.9804	507.77	0.0462	-2.05	1.1666	507.77	0.0390
-90.39	0.9498	545.76	0.0868	0.00	0.2309	545.76	0.0807
-74.21	0.9180	571.08	0.1422	0.31	-0.8439	571.08	0.1329
-58.03	0.8735	583.74	0.1789	0.63	-1.2639	583.74	0.1797
-41.85	0.8308	596.41	0.2257	1.25	-1.4911	596.41	0.2304
-33.76	0.8087	609.07	0.2955	1.88	-1.4955	609.07	0.3031
-25.67	0.7905			2.50	-1.5134		
-23.11	0.7881			3.13	-1.4872		
-17.97	0.8274			3.75	-1.4636		
-10.27	0.9517			4.37	-1.4140		
-5.13	1.0821			5.00	-1.3978		
-3.34	1.1467			6.25	-1.3320		
-2.05	1.1617			7.50	-1.2887		
-0.90	1.0988			8.75	-1.2747		
-0.44	0.9576			10.00	-1.2265		
0.00	0.1476			12.50	-1.1819		
0.31	-0.9183			15.00	-1.1875		
0.63	-1.3119			17.50	-1.1811		
1.25	-1.4949			20.00	-1.1221		
1.88	-1.5042			30.00	-0.8945		
2.50	-1.4839			50.00	-0.3534		
3.13	-1.4481			60.00	-0.4095		
3.75	-1.4382			70.00	-0.4175		
4.37	-1.4144			80.00	-0.3908		
5.00	-1.4024			90.00	-0.3442		
6.25	-1.3616			100.00	-0.2561		
7.50	-1.2850			110.00	-0.1924		
8.75	-1.2524			241.85	-0.0524		
10.00	-1.2449						
12.50	-1.2119						
15.00	-1.1978						
17.50	-1.1254						
20.00	-1.1400						
30.00	-0.9470						
40.00	-0.3851						
50.00	-0.3473						
60.00	-0.3959						
70.00	-0.4099						
80.00	-0.3997						
90.00	-0.3434						
100.00	-0.2625						
110.00	-0.1884						
241.85	-0.0549						
279.84	-0.0445						

mfr = 0.54 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.9977	343.16	-0.0143	-187.47	0.9964	343.16	-0.0049
-171.29	0.9998	384.14	-0.0085	-106.57	0.9357	384.14	-0.0067
-155.11	0.9928	419.13	0.0037	-25.67	0.6862	419.13	0.0084
-130.84	0.9744	457.12	0.0213	-10.27	0.8635	457.12	0.0199
-106.57	0.9385	507.77	0.0572	-2.05	1.1603	507.77	0.0518
-90.39	0.8969	545.76	0.1040	0.00	0.3835	545.76	0.1011
-74.21	0.8581	571.08	0.1604	0.31	-0.6667	571.08	0.1593
-58.03	0.8074	583.74	0.2010	0.63	-1.1327	583.74	0.2060
-41.85	0.7485	596.41	0.2535	1.25	-1.3685	596.41	0.2617
-33.76	0.7231	609.07	0.3228	1.88	-1.4192	609.07	0.3354
-25.67	0.6894			2.50	-1.3884		
-23.11	0.6894			3.13	-1.3495		
-17.97	0.7283			3.75	-1.3386		
-10.27	0.8615			4.37	-1.3066		
-5.13	1.0339			5.00	-1.2924		
-3.34	1.1101			6.25	-1.2053		
-2.05	1.1604			7.50	-1.1734		
-0.90	1.1284			8.75	-1.1509		
-0.44	1.0160			10.00	-1.1066		
0.00	0.2856			12.50	-1.0903		
0.31	-0.7672			15.00	-1.0473		
0.63	-1.1774			17.50	-1.0604		
1.25	-1.3829			20.00	-1.0091		
1.88	-1.4077			30.00	-0.4088		
2.50	-1.3744			50.00	-0.4450		
3.13	-1.3517			60.00	-0.4462		
3.75	-1.3237			70.00	-0.4287		
4.37	-1.3018			80.00	-0.3909		
5.00	-1.2660			90.00	-0.3475		
6.25	-1.1806			100.00	-0.2528		
7.50	-1.1357			110.00	-0.1856		
8.75	-1.1473			241.85	-0.0455		
10.00	-1.0967						
12.50	-1.0570						
15.00	-1.0783						
17.50	-0.9968						
20.00	-1.0040						
30.00	-0.4010						
40.00	-0.3974						
50.00	-0.4225						
60.00	-0.4431						
70.00	-0.4319						
80.00	-0.3953						
90.00	-0.3436						
100.00	-0.2504						
110.00	-0.1881						
241.85	-0.0476						
279.84	-0.0410						

mfr = 0.61 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	0.9504	343.16	-0.0067	-187.47	0.9471	343.16	0.0048
-171.29	0.9511	384.14	0.0016	-106.57	0.8677	384.14	0.0037
-155.11	0.9441	419.13	0.0131	-25.67	0.5087	419.13	0.0184
-130.84	0.9156	457.12	0.0328	-10.27	0.6957	457.12	0.0317
-106.57	0.8678	507.77	0.0740	-2.05	1.1406	507.77	0.0693
-90.39	0.8161	545.76	0.1231	0.00	0.5344	545.76	0.1192
-74.21	0.7578	571.08	0.1840	0.31	-0.4008	571.08	0.1851
-58.03	0.6806	583.74	0.2263	0.63	-0.9370	583.74	0.2310
-41.85	0.5987	596.41	0.2804	1.25	-1.2100	596.41	0.2883
-33.76	0.5601	609.07	0.3532	1.88	-1.2309	609.07	0.3618
-25.67	0.4979			2.50	-1.2449		
-23.11	0.4936			3.13	-1.1551		
-17.97	0.5348			3.75	-1.1092		
-10.27	0.6973			4.37	-1.0434		
-5.13	0.9269			5.00	-1.0342		
-3.34	1.0484			6.25	-1.0161		
-2.05	1.1326			7.50	-0.8500		
-0.90	1.1637			8.75	-0.8600		
-0.44	1.1048			10.00	-0.7699		
0.00	0.5018			12.50	-0.7401		
0.31	-0.4691			15.00	-0.6465		
0.63	-0.9519			17.50	-0.6850		
1.25	-1.1803			20.00	-0.5985		
1.88	-1.2071			30.00	-0.4738		
2.50	-1.1379			50.00	-0.4500		
3.13	-1.1203			60.00	-0.4448		
3.75	-1.0006			70.00	-0.4194		
4.37	-1.0066			80.00	-0.3857		
5.00	-1.0133			90.00	-0.3290		
6.25	-0.9448			100.00	-0.2496		
7.50	-0.7434			110.00	-0.1774		
8.75	-0.8586			241.85	-0.0406		
10.00	-0.7696						
12.50	-0.6986						
15.00	-0.6874						
17.50	-0.6573						
20.00	-0.6004						
30.00	-0.4744						
40.00	-0.4676						
50.00	-0.4440						
60.00	-0.4316						
70.00	-0.4182						
80.00	-0.3873						
90.00	-0.3316						
100.00	-0.2420						
110.00	-0.1763						
241.85	-0.0402						
279.84	-0.0311						

TABLE VI. Continued

(g) Concluded

mfr = 0.68 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.8852	343.16	-0.0025	-187.47	0.8862	343.16	0.0123
-171.29	0.8887	384.14	0.0105	-106.57	0.7771	384.14	0.0112
-155.11	0.8788	419.13	0.0216	-25.67	0.2599	419.13	0.0274
-130.84	0.8442	457.12	0.0417	-10.27	0.4923	457.12	0.0396
-106.57	0.7797	507.77	0.0824	-2.05	1.0767	507.77	0.0838
-90.39	0.7114	545.76	0.1363	0.00	0.7100	545.76	0.1367
-74.21	0.6342	571.08	0.1996	0.31	-0.1293	571.08	0.2042
-58.03	0.5260	583.74	0.2434	0.63	-0.7159	583.74	0.2513
-41.85	0.4002	596.41	0.2977	1.25	-0.8863	596.41	0.3063
-33.76	0.3408	609.07	0.3682	1.88	-0.9252	609.07	0.3790
-25.67	0.2492			2.50	-0.7940		
-23.11	0.2333			3.13	-0.7998		
-17.97	0.2611			3.75	-0.6451		
-10.27	0.4832			4.37	-0.6067		
-5.13	0.7630			5.00	-0.5082		
-3.34	0.9120			6.25	-0.5062		
-2.05	1.0389			7.50	-0.4791		
-0.90	1.1380			8.75	-0.5764		
-0.44	1.1280			10.00	-0.5758		
0.00	0.6955			12.50	-0.6224		
0.31	-0.1874			15.00	-0.6471		
0.63	-0.6175			17.50	-0.6519		
1.25	-0.8432			20.00	-0.5416		
1.88	-0.8290			30.00	-0.4230		
2.50	-0.5466			50.00	-0.4238		
3.13	-0.6062			60.00	-0.4170		
3.75	-0.5728			70.00	-0.4063		
4.37	-0.5399			80.00	-0.3593		
5.00	-0.6019			90.00	-0.3223		
6.25	-0.5399			100.00	-0.2311		
7.50	-0.4414			110.00	-0.1686		
8.75	-0.6210			241.85	-0.0454		
10.00	-0.6168						
12.50	-0.5367						
15.00	-0.6665						
17.50	-0.5824						
20.00	-0.5103						
30.00	-0.4198						
40.00	-0.4551						
50.00	-0.4170						
60.00	-0.4269						
70.00	-0.3955						
80.00	-0.3891						
90.00	-0.3195						
100.00	-0.2550						
110.00	-0.1658						
241.85	-0.0604						
279.84	-0.0504						

mfr = 0.74 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.8285	343.16	0.0020	-187.47	0.8237	343.16	0.0132
-171.29	0.8281	384.14	0.0128	-106.57	0.6928	384.14	0.0157
-155.11	0.8190	419.13	0.0272	-25.67	-0.0205	419.13	0.0329
-130.84	0.7739	457.12	0.0495	-10.27	0.2691	457.12	0.0488
-106.57	0.6964	507.77	0.0887	-2.05	0.9796	507.77	0.0902
-90.39	0.6086	545.76	0.1441	0.00	0.8631	545.76	0.1477
-74.21	0.5113	571.08	0.2099	0.31	0.1053	571.08	0.2121
-58.03	0.3710	583.74	0.2512	0.63	-0.3570	583.74	0.2613
-41.85	0.1969	596.41	0.3048	1.25	-0.4854	596.41	0.3170
-33.76	0.0989	609.07	0.3727	1.88	-0.4874	609.07	0.3868
-25.67	-0.0316			2.50	-0.4404		
-23.11	-0.0681			3.13	-0.4218		
-17.97	-0.0145			3.75	-0.3942		
-10.27	0.2619			4.37	-0.3503		
-5.13	0.6016			5.00	-0.3651		
-3.34	0.7973			6.25	-0.3437		
-2.05	0.9609			7.50	-0.4121		
-0.90	1.1315			8.75	-0.4542		
-0.44	1.1644			10.00	-0.4336		
0.00	0.8296			12.50	-0.4885		
0.31	0.0912			15.00	-0.5085		
0.63	-0.3428			17.50	-0.4408		
1.25	-0.4478			20.00	-0.4161		
1.88	-0.4233			30.00	-0.3667		
2.50	-0.3460			50.00	-0.3922		
3.13	-0.3715			60.00	-0.3823		
3.75	-0.3595			70.00	-0.3771		
4.37	-0.3297			80.00	-0.3480		
5.00	-0.4240			90.00	-0.3086		
6.25	-0.3850			100.00	-0.2230		
7.50	-0.3382			110.00	-0.1573		
8.75	-0.4698			241.85	-0.0249		
10.00	-0.4087						
12.50	-0.4868						
15.00	-0.5231						
17.50	-0.4475						
20.00	-0.4205						
30.00	-0.3935						
40.00	-0.3848						
50.00	-0.3871						
60.00	-0.3798						
70.00	-0.3767						
80.00	-0.3470						
90.00	-0.3071						
100.00	-0.2175						
110.00	-0.1579						
241.85	-0.0311						
279.84	-0.0174						

mfr = 0.80 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.7504	343.16	0.0061	-187.47	0.7442	343.16	0.0172
-171.29	0.7490	384.14	0.0186	-106.57	0.5804	384.14	0.0193
-155.11	0.7324	419.13	0.0326	-25.67	-0.7652	419.13	0.0380
-130.84	0.6769	457.12	0.0541	-10.27	-0.0699	457.12	0.0531
-106.57	0.5803	507.77	0.1000	-2.05	0.8178	507.77	0.1025
-90.39	0.4717	545.76	0.1527	0.00	1.0272	545.76	0.1552
-74.21	0.3385	571.08	0.2169	0.31	0.3747	571.08	0.2205
-58.03	0.1403	583.74	0.2581	0.63	0.0637	583.74	0.2674
-41.85	-0.1138	596.41	0.3090	1.25	-0.1585	596.41	0.3216
-33.76	-0.2491	609.07	0.3754	1.88	-0.1093	609.07	0.3904
-25.67	-0.7727			2.50	-0.2118		
-23.11	-0.7207			3.13	-0.1400		
-17.97	-0.5031			3.75	-0.1482		
-10.27	-0.0525			4.37	-0.1359		
-5.13	0.3584			5.00	-0.1788		
-3.34	0.6004			6.25	-0.1413		
-2.05	0.8172			7.50	-0.2268		
-0.90	1.0604			8.75	-0.2685		
-0.44	1.1555			10.00	-0.2868		
0.00	0.9761			12.50	-0.3610		
0.31	0.2847			15.00	-0.3789		
0.63	0.0377			17.50	-0.3551		
1.25	-0.1927			20.00	-0.3293		
1.88	-0.1321			30.00	-0.3344		
2.50	-0.1917			50.00	-0.3447		
3.13	-0.1507			60.00	-0.3698		
3.75	-0.2146			70.00	-0.3459		
4.37	-0.1525			80.00	-0.3400		
5.00	-0.2044			90.00	-0.2888		
6.25	-0.2203			100.00	-0.2145		
7.50	-0.2139			110.00	-0.1455		
8.75	-0.3016			241.85	-0.0234		
10.00	-0.3019						
12.50	-0.3524						
15.00	-0.3844						
17.50	-0.3613						
20.00	-0.3542						
30.00	-0.3461						
40.00	-0.3612						
50.00	-0.3546						
60.00	-0.3666						
70.00	-0.3559						
80.00	-0.3347						
90.00	-0.2924						
100.00	-0.2117						
110.00	-0.1486						
241.85	-0.0234						
279.84	-0.0151						

TABLE VI. Continued

(h) M = 0.82

mfr = 0.27 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.1372	343.16	-0.0462	-187.47	1.1388	343.16	-0.0383
-171.29	1.1365	384.14	-0.0445	-106.57	1.1266	384.14	-0.0428
-155.11	1.1355	419.13	-0.0421	-25.67	1.0987	419.13	-0.0358
-130.84	1.1314	457.12	-0.0365	-10.27	1.1637	457.12	-0.0400
-106.57	1.1243	507.77	-0.0289	-2.05	1.0479	507.77	-0.0365
-90.39	1.1141	545.76	-0.0241	0.00	-0.2801	545.76	-0.0306
-74.21	1.1073	571.08	-0.0060	0.31	-1.2743	571.08	-0.0109
-58.03	1.0961	583.74	0.0106	0.63	-1.5922	583.74	0.0127
-41.85	1.0896	596.41	0.0341	1.25	-1.7140	596.41	0.0321
-33.76	1.0903	609.07	0.0823	1.88	-1.7824	609.07	0.0840
-25.67	1.0960			2.50	-1.7704		
-23.11	1.1041			3.13	-1.7555		
-17.97	1.1171			3.75	-1.7078		
-10.27	1.1618			4.37	-1.7091		
-5.13	1.1494			5.00	-1.6802		
-3.34	1.1133			6.25	-1.6742		
-2.05	1.0323			7.50	-1.6208		
-0.90	0.8077			8.75	-1.6138		
-0.44	0.5963			10.00	-1.5636		
0.00	-0.3665			12.50	-1.5011		
0.31	-1.3775			15.00	-1.4674		
0.63	-1.5765			17.50	-1.4486		
1.25	-1.7156			20.00	-1.3999		
1.88	-1.7343			30.00	-1.2697		
2.50	-1.7500			50.00	-1.0703		
3.13	-1.7412			60.00	-1.0243		
3.75	-1.7220			70.00	-0.9656		
4.37	-1.6869			80.00	-0.4711		
5.00	-1.6787			90.00	-0.3828		
6.25	-1.6441			100.00	-0.2826		
7.50	-1.6052			110.00	-0.1860		
8.75	-1.5888			241.85	-0.0783		
10.00	-1.5642						
12.50	-1.5172						
15.00	-1.5022						
17.50	-1.4564						
20.00	-1.4238						
30.00	-1.2693						
40.00	-1.1676						
50.00	-1.0815						
60.00	-1.0232						
70.00	-0.9801						
80.00	-0.5121						
90.00	-0.3720						
100.00	-0.2864						
110.00	-0.1644						
241.85	-0.0832						
279.84	-0.0779						

mfr = 0.30 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.1297	343.16	-0.0419	-187.47	1.1301	343.16	-0.0332
-171.29	1.1311	384.14	-0.0405	-106.57	1.1122	384.14	-0.0391
-155.11	1.1294	419.13	-0.0377	-25.67	1.0721	419.13	-0.0353
-130.84	1.1250	457.12	-0.0308	-10.27	1.1523	457.12	-0.0367
-106.57	1.1141	507.77	-0.0194	-2.05	1.0767	507.77	-0.0225
-90.39	1.1036	545.76	-0.0052	0.00	-0.1883	545.76	-0.0083
-74.21	1.0928	571.08	0.0225	0.31	-1.2196	571.08	0.0176
-58.03	1.0792	583.74	0.0418	0.63	-1.5450	583.74	0.0418
-41.85	1.0707	596.41	0.0737	1.25	-1.6759	596.41	0.0705
-33.76	1.0668	609.07	0.1276	1.88	-1.7140	609.07	0.1325
-25.67	1.0710			2.50	-1.7249		
-23.11	1.0732			3.13	-1.7084		
-17.97	1.0965			3.75	-1.6793		
-10.27	1.1500			4.37	-1.6449		
-5.13	1.1785			5.00	-1.6364		
-3.34	1.1525			6.25	-1.6001		
-2.05	1.0916			7.50	-1.5579		
-0.90	0.8982			8.75	-1.5306		
-0.44	0.6810			10.00	-1.5150		
0.00	-0.2816			12.50	-1.4686		
0.31	-1.3119			15.00	-1.4211		
0.63	-1.5472			17.50	-1.4161		
1.25	-1.6676			20.00	-1.3618		
1.88	-1.6952			30.00	-1.2323		
2.50	-1.6980			50.00	-1.0503		
3.13	-1.6785			60.00	-1.0105		
3.75	-1.6768			70.00	-0.8805		
4.37	-1.6530			80.00	-0.4347		
5.00	-1.6362			90.00	-0.3577		
6.25	-1.6065			100.00	-0.2086		
7.50	-1.5496			110.00	-0.1558		
8.75	-1.5475			241.85	-0.0515		
10.00	-1.5042						
12.50	-1.4729						
15.00	-1.4439						
17.50	-1.4006						
20.00	-1.3648						
30.00	-1.2332						
40.00	-1.1185						
50.00	-1.0583						
60.00	-0.9867						
70.00	-0.9277						
80.00	-0.4284						
90.00	-0.3454						
100.00	-0.2111						
110.00	-0.1255						
241.85	-0.0551						
279.84	-0.0503						

mfr = 0.40 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0942	343.16	-0.0316	-187.47	1.0914	343.16	-0.0195
-171.29	1.0935	384.14	-0.0247	-106.57	1.0639	384.14	-0.0233
-155.11	1.0932	419.13	-0.0167	-25.67	0.9677	419.13	-0.0139
-130.84	1.0817	457.12	-0.0036	-10.27	1.0826	457.12	-0.0094
-106.57	1.0644	507.77	0.0224	-2.05	1.1501	507.77	0.0172
-90.39	1.0444	545.76	0.0545	0.00	0.0155	545.76	0.0469
-74.21	1.0261	571.08	0.0964	0.31	-1.0325	571.08	0.0926
-58.03	1.0013	583.74	0.1299	0.63	-1.4129	583.74	0.1278
-41.85	0.9779	596.41	0.1711	1.25	-1.5231	596.41	0.1732
-33.76	0.9715	609.07	0.2375	1.88	-1.5666	609.07	0.2379
-25.67	0.9677			2.50	-1.5759		
-23.11	0.9700			3.13	-1.5526		
-17.97	0.9990			3.75	-1.5380		
-10.27	1.0838			4.37	-1.5255		
-5.13	1.1630			5.00	-1.4913		
-3.34	1.1778			6.25	-1.4248		
-2.05	1.1458			7.50	-1.4136		
-0.90	1.0108			8.75	-1.3673		
-0.44	0.8347			10.00	-1.3434		
0.00	-0.0438			12.50	-1.3089		
0.31	-1.0987			15.00	-1.2917		
0.63	-1.3956			17.50	-1.2565		
1.25	-1.5329			20.00	-1.2274		
1.88	-1.5591			30.00	-1.1163		
2.50	-1.5278			50.00	-0.9877		
3.13	-1.5411			60.00	-0.9341		
3.75	-1.5206			70.00	-0.4385		
4.37	-1.5131			80.00	-0.2753		
5.00	-1.4807			90.00	-0.2010		
6.25	-1.4235			100.00	-0.1570		
7.50	-1.4068			110.00	-0.1260		
8.75	-1.3751			241.85	-0.0510		
10.00	-1.3489						
12.50	-1.3049						
15.00	-1.2751						
17.50	-1.2606						
20.00	-1.2306						
30.00	-1.1232						
40.00	-1.0042						
50.00	-0.9610						
60.00	-0.9031						
70.00	-0.4554						
80.00	-0.2612						
90.00	-0.2152						
100.00	-0.1621						
110.00	-0.1297						
241.85	-0.0570						
279.84	-0.0450						

TABLE VI. Continued

(h) Continued

mfr = 0.49 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0443	343.16	-0.0134	-187.47	1.0423	343.16	-0.0072
-171.29	1.0450	384.14	-0.0079	-106.57	0.9944	384.14	-0.0072
-155.11	1.0402	419.13	0.0025	-25.67	0.8054	419.13	0.0056
-130.84	1.0239	457.12	0.0181	-10.27	0.9607	457.12	0.0119
-106.57	0.9964	507.77	0.0521	-2.05	1.1750	507.77	0.0490
-90.39	0.9645	545.76	0.0978	0.00	0.2716	545.76	0.0916
-74.21	0.9319	571.08	0.1550	0.31	-0.7691	571.08	0.1505
-58.03	0.8913	583.74	0.1945	0.63	-1.1465	583.74	0.1970
-41.85	0.8462	596.41	0.2465	1.25	-1.3840	596.41	0.2493
-33.76	0.8257	609.07	0.3137	1.88	-1.4096	609.07	0.3228
-25.67	0.8070			2.50	-1.3936		
-23.11	0.8135			3.13	-1.3724		
-17.97	0.8353			3.75	-1.3530		
-10.27	0.9592			4.37	-1.3199		
-5.13	1.0983			5.00	-1.2996		
-3.34	1.1580			6.25	-1.2635		
-2.05	1.1741			7.50	-1.2217		
-0.90	1.1087			8.75	-1.1965		
-0.44	0.9707			10.00	-1.1338		
0.00	0.2197			12.50	-1.1070		
0.31	-0.8522			15.00	-1.0924		
0.63	-1.1982			17.50	-1.0958		
1.25	-1.3847			20.00	-1.0985		
1.88	-1.4004			30.00	-0.9603		
2.50	-1.3864			50.00	-0.6816		
3.13	-1.3619			60.00	-0.3051		
3.75	-1.3451			70.00	-0.3623		
4.37	-1.3113			80.00	-0.3343		
5.00	-1.2925			90.00	-0.3209		
6.25	-1.2652			100.00	-0.2449		
7.50	-1.2177			110.00	-0.1781		
8.75	-1.1859			241.85	-0.0458		
10.00	-1.1856						
12.50	-1.1180						
15.00	-1.1469						
17.50	-1.1122						
20.00	-1.0933						
30.00	-0.9161						
40.00	-0.8674						
50.00	-0.6260						
60.00	-0.3098						
70.00	-0.3539						
80.00	-0.3450						
90.00	-0.3241						
100.00	-0.2333						
110.00	-0.1803						
241.85	-0.0538						
279.84	-0.0350						

mfr = 0.54 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0153	343.16	-0.0101	-187.47	1.0120	343.16	-0.0021
-171.29	1.0171	384.14	-0.0018	-106.57	0.9521	384.14	-0.0025
-155.11	1.0113	419.13	0.0090	-25.67	0.7097	419.13	0.0121
-130.84	0.9913	457.12	0.0276	-10.27	0.8746	457.12	0.0224
-106.57	0.9550	507.77	0.0650	-2.05	1.1728	507.77	0.0612
-90.39	0.9167	545.76	0.1138	0.00	0.4291	545.76	0.1103
-74.21	0.8773	571.08	0.1753	0.31	-0.5684	571.08	0.1743
-58.03	0.8217	583.74	0.2168	0.63	-1.0213	583.74	0.2224
-41.85	0.7677	596.41	0.2711	1.25	-1.2779	596.41	0.2798
-33.76	0.7334	609.07	0.3417	1.88	-1.3147	609.07	0.3552
-25.67	0.7097			2.50	-1.3142		
-23.11	0.7055			3.13	-1.2723		
-17.97	0.7341			3.75	-1.2227		
-10.27	0.8788			4.37	-1.2119		
-5.13	1.0516			5.00	-1.1821		
-3.34	1.1297			6.25	-1.1356		
-2.05	1.1741			7.50	-1.1135		
-0.90	1.1461			8.75	-1.0580		
-0.44	1.0364			10.00	-1.0511		
0.00	0.3395			12.50	-1.0243		
0.31	-0.6707			15.00	-0.9871		
0.63	-1.0444			17.50	-0.9959		
1.25	-1.3001			20.00	-0.9795		
1.88	-1.3099			30.00	-0.8009		
2.50	-1.2898			50.00	-0.3527		
3.13	-1.2435			60.00	-0.3922		
3.75	-1.2179			70.00	-0.4389		
4.37	-1.2234			80.00	-0.4121		
5.00	-1.1671			90.00	-0.3539		
6.25	-1.1364			100.00	-0.2432		
7.50	-1.0693			110.00	-0.1746		
8.75	-1.0887			241.85	-0.0374		
10.00	-1.0427						
12.50	-1.0423						
15.00	-1.0441						
17.50	-0.9837						
20.00	-0.9438						
30.00	-0.7911						
40.00	-0.6245						
50.00	-0.3734						
60.00	-0.3736						
70.00	-0.4247						
80.00	-0.4087						
90.00	-0.3516						
100.00	-0.2469						
110.00	-0.1794						
241.85	-0.0442						
279.84	-0.0378						

mfr = 0.61 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9644	343.16	-0.0066	-187.47	0.9598	343.16	0.0066
-171.29	0.9637	384.14	0.0056	-106.57	0.8821	384.14	0.0070
-155.11	0.9579	419.13	0.0181	-25.67	0.5200	419.13	0.0246
-130.84	0.9308	457.12	0.0403	-10.27	0.7195	457.12	0.0396
-106.57	0.8838	507.77	0.0808	-2.05	1.1417	507.77	0.0808
-90.39	0.8307	545.76	0.1329	0.00	0.5918	545.76	0.1361
-74.21	0.7746	571.08	0.1968	0.31	-0.3323	571.08	0.2013
-58.03	0.6954	583.74	0.2425	0.63	-0.8526	583.74	0.2512
-41.85	0.6070	596.41	0.2963	1.25	-1.0806	596.41	0.3084
-33.76	0.5717	609.07	0.3677	1.88	-1.1350	609.07	0.3823
-25.67	0.5238			2.50	-1.1682		
-23.11	0.5181			3.13	-1.0032		
-17.97	0.5496			3.75	-1.0768		
-10.27	0.7118			4.37	-1.0229		
-5.13	0.9472			5.00	-0.9762		
-3.34	1.0608			6.25	-0.8871		
-2.05	1.1459			7.50	-0.8793		
-0.90	1.1700			8.75	-0.7893		
-0.44	1.1094			10.00	-0.8113		
0.00	0.5363			12.50	-0.7161		
0.31	-0.4872			15.00	-0.7583		
0.63	-0.8632			17.50	-0.7322		
1.25	-1.1469			20.00	-0.6788		
1.88	-1.0980			30.00	-0.4976		
2.50	-1.0963			50.00	-0.4688		
3.13	-1.0789			60.00	-0.4549		
3.75	-1.0611			70.00	-0.4634		
4.37	-0.9887			80.00	-0.3991		
5.00	-1.0027			90.00	-0.3496		
6.25	-0.9032			100.00	-0.2329		
7.50	-0.7969			110.00	-0.1710		
8.75	-0.8636			241.85	-0.0375		
10.00	-0.8393						
12.50	-0.8072						
15.00	-0.7657						
17.50	-0.8397						
20.00	-0.7087						
30.00	-0.5354						
40.00	-0.4411						
50.00	-0.4691						
60.00	-0.4623						
70.00	-0.4499						
80.00	-0.4211						
90.00	-0.3517						
100.00	-0.2456						
110.00	-0.1692						
241.85	-0.0383						
279.84	-0.0279						

TABLE VI. Continued

(h) Concluded

mfr = 0.68 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.9058	343.16	0.0027	-187.47	0.9030	343.16	0.0114
-171.29	0.9068	384.14	0.0141	-106.57	0.7983	384.14	0.0152
-155.11	0.8989	419.13	0.0297	-25.67	0.2922	419.13	0.0318
-130.84	0.8643	457.12	0.0508	-10.27	0.5256	457.12	0.0463
-106.57	0.8043	507.77	0.0941	-2.05	1.0776	507.77	0.0944
-90.39	0.7351	545.76	0.1523	0.00	0.7421	545.76	0.1530
-74.21	0.6601	571.08	0.2171	0.31	-0.0836	571.08	0.2209
-58.03	0.5519	583.74	0.2617	0.63	-0.5273	583.74	0.2683
-41.85	0.4347	596.41	0.3143	1.25	-0.8143	596.41	0.3254
-33.76	0.3652	609.07	0.3866	1.88	-0.8616	609.07	0.3960
-25.67	0.2838			2.50	-0.8653		
-23.11	0.2705			3.13	-0.6152		
-17.97	0.2987			3.75	-0.6434		
-10.27	0.5202			4.37	-0.5657		
-5.13	0.8031			5.00	-0.5235		
-3.34	0.9473			6.25	-0.4165		
-2.05	1.0775			7.50	-0.4694		
-0.90	1.1697			8.75	-0.4981		
-0.44	1.1545			10.00	-0.5292		
0.00	0.7035			12.50	-0.6036		
0.31	-0.2009			15.00	-0.6197		
0.63	-0.5946			17.50	-0.6768		
1.25	-0.8263			20.00	-0.6415		
1.88	-0.8379			30.00	-0.4067		
2.50	-0.8137			50.00	-0.4449		
3.13	-0.6161			60.00	-0.4388		
3.75	-0.5840			70.00	-0.4293		
4.37	-0.5530			80.00	-0.3910		
5.00	-0.5342			90.00	-0.3272		
6.25	-0.5250			100.00	-0.2321		
7.50	-0.4189			110.00	-0.1599		
8.75	-0.5701			241.85	-0.0170		
10.00	-0.5902						
12.50	-0.6171						
15.00	-0.6376						
17.50	-0.6710						
20.00	-0.6600						
30.00	-0.4449						
40.00	-0.4413						
50.00	-0.4428						
60.00	-0.4437						
70.00	-0.4350						
80.00	-0.4065						
90.00	-0.3285						
100.00	-0.2402						
110.00	-0.1634						
241.85	-0.0386						
279.84	-0.0242						

mfr = 0.74 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.8443	343.16	0.0086	-187.47	0.8398	343.16	0.0165
-171.29	0.8447	384.14	0.0210	-106.57	0.7107	384.14	0.0210
-155.11	0.8335	419.13	0.0345	-25.67	-0.0194	419.13	0.0377
-130.84	0.7917	457.12	0.0591	-10.27	0.2697	457.12	0.0522
-106.57	0.7141	507.77	0.1055	-2.05	1.0017	507.77	0.1034
-90.39	0.6248	545.76	0.1626	0.00	0.8832	545.76	0.1602
-74.21	0.5278	571.08	0.2266	0.31	0.1249	571.08	0.2283
-58.03	0.3874	583.74	0.2726	0.63	-0.3203	583.74	0.2795
-41.85	0.2086	596.41	0.3235	1.25	-0.4878	596.41	0.3363
-33.76	0.1116	609.07	0.3920	1.88	-0.5010	609.07	0.4045
-25.67	-0.0079			2.50	-0.4019		
-23.11	-0.0519			3.13	-0.3703		
-17.97	0.0161			3.75	-0.3483		
-10.27	0.2720			4.37	-0.3379		
-5.13	0.6275			5.00	-0.3644		
-3.34	0.8167			6.25	-0.3163		
-2.05	0.9938			7.50	-0.3732		
-0.90	1.1472			8.75	-0.4710		
-0.44	1.1781			10.00	-0.4452		
0.00	0.8606			12.50	-0.4341		
0.31	0.1055			15.00	-0.5575		
0.63	-0.3633			17.50	-0.5491		
1.25	-0.3470			20.00	-0.4770		
1.88	-0.3790			30.00	-0.3904		
2.50	-0.2907			50.00	-0.4073		
3.13	-0.3732			60.00	-0.4184		
3.75	-0.3385			70.00	-0.4157		
4.37	-0.3739			80.00	-0.3789		
5.00	-0.3732			90.00	-0.3176		
6.25	-0.3749			100.00	-0.2257		
7.50	-0.3231			110.00	-0.1548		
8.75	-0.4916			241.85	-0.0236		
10.00	-0.5090						
12.50	-0.4544						
15.00	-0.5590						
17.50	-0.5148						
20.00	-0.4191						
30.00	-0.3869						
40.00	-0.4087						
50.00	-0.4070						
60.00	-0.4147						
70.00	-0.4211						
80.00	-0.3779						
90.00	-0.3231						
100.00	-0.2224						
110.00	-0.1597						
241.85	-0.0296						
279.84	-0.0151						

mfr = 0.80 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.7516	343.16	0.0130	-187.47	0.7473	343.16	0.0252
-171.29	0.7516	384.14	0.0262	-106.57	0.5882	384.14	0.0279
-155.11	0.7383	419.13	0.0418	-25.67	-0.7255	419.13	0.0477
-130.84	0.6850	457.12	0.0654	-10.27	-0.0299	457.12	0.0619
-106.57	0.5909	507.77	0.1122	-2.05	0.8173	507.77	0.1108
-90.39	0.4811	545.76	0.1676	0.00	1.0110	545.76	0.1683
-74.21	0.3520	571.08	0.2324	0.31	0.4333	571.08	0.2376
-58.03	0.1529	583.74	0.2751	0.63	0.0257	583.74	0.2848
-41.85	-0.0846	596.41	0.3295	1.25	-0.1575	596.41	0.3392
-33.76	-0.8572	609.07	0.3929	1.88	-0.1972	609.07	0.4064
-25.67	-0.7163			2.50	-0.1456		
-23.11	-0.6580			3.13	-0.1640		
-17.97	-0.4473			3.75	-0.1598		
-10.27	-0.0219			4.37	-0.1948		
-5.13	0.4370			5.00	-0.1632		
-3.34	0.6525			6.25	-0.1620		
-2.05	0.8697			7.50	-0.2120		
-0.90	1.0908			8.75	-0.2436		
-0.44	1.1663			10.00	-0.2999		
0.00	0.9990			12.50	-0.3713		
0.31	0.3408			15.00	-0.4150		
0.63	-0.0020			17.50	-0.3740		
1.25	-0.0693			20.00	-0.3417		
1.88	-0.1139			30.00	-0.3421		
2.50	-0.1450			50.00	-0.3809		
3.13	-0.1792			60.00	-0.3759		
3.75	-0.1655			70.00	-0.3835		
4.37	-0.1846			80.00	-0.3421		
5.00	-0.1990			90.00	-0.3079		
6.25	-0.2471			100.00	-0.2127		
7.50	-0.1986			110.00	-0.1486		
8.75	-0.3578			241.85	-0.0196		
10.00	-0.3096						
12.50	-0.3937						
15.00	-0.3674						
17.50	-0.3916						
20.00	-0.3550						
30.00	-0.3503						
40.00	-0.3774						
50.00	-0.3612						
60.00	-0.3918						
70.00	-0.3812						
80.00	-0.3622						
90.00	-0.3117						
100.00	-0.2176						
110.00	-0.1453						
241.85	-0.0228						
279.84	-0.0112						

TABLE VI. Continued

(i) M = 0.84

mfr = 0.27 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1500	343.16	-0.0368	-187.47	1.1525	343.16	-0.0291
-171.29	1.1513	384.14	-0.0358	-106.57	1.1381	384.14	-0.0362
-155.11	1.1503	419.13	-0.0368	-25.67	1.1116	419.13	-0.0345
-130.84	1.1470	457.12	-0.0305	-10.27	1.1779	457.12	-0.0352
-106.57	1.1395	507.77	-0.0238	-2.05	1.0637	507.77	-0.0285
-90.39	1.1294	545.76	-0.0105	0.00	-0.1979	545.76	-0.0171
-74.21	1.1222	571.08	0.0102	0.31	-1.1763	571.08	0.0082
-58.03	1.1101	583.74	0.0259	0.63	-1.4728	583.74	0.0283
-41.85	1.1032	596.41	0.0540	1.25	-1.5989	596.41	0.0543
-33.76	1.1064	609.07	0.1004	1.88	-1.6402	609.07	0.1074
-25.67	1.1112			2.50	-1.6487		
-23.11	1.1175			3.13	-1.6379		
-17.97	1.1348			3.75	-1.6203		
-10.27	1.1775			4.37	-1.5746		
-5.13	1.1811			5.00	-1.5637		
-3.34	1.1436			6.25	-1.5492		
-2.05	1.0644			7.50	-1.5172		
-0.90	0.8522			8.75	-1.4983		
-0.44	0.6400			10.00	-1.4639		
0.00	-0.3244			12.50	-1.4125		
0.31	-1.2779			15.00	-1.3778		
0.63	-1.4658			17.50	-1.3541		
1.25	-1.6083			20.00	-1.3242		
1.88	-1.6254			30.00	-1.2007		
2.50	-1.6326			50.00	-1.0174		
3.13	-1.6214			60.00	-0.9886		
3.75	-1.6057			70.00	-0.9412		
4.37	-1.5856			80.00	-0.9405		
5.00	-1.5701			90.00	-0.7423		
6.25	-1.5395			100.00	-0.4118		
7.50	-1.5000			110.00	-0.3686		
8.75	-1.4908			241.85	-0.0321		
10.00	-1.4582						
12.50	-1.4046						
15.00	-1.3926						
17.50	-1.3625						
20.00	-1.3194						
30.00	-1.1792						
40.00	-1.0763						
50.00	-1.0259						
60.00	-0.9676						
70.00	-0.9553						
80.00	-0.9317						
90.00	-0.7588						
100.00	-0.4208						
110.00	-0.3777						
241.85	-0.0406						
279.84	-0.0398						

mfr = 0.30 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1436	343.16	-0.0341	-187.47	1.1430	343.16	-0.0234
-171.29	1.1439	384.14	-0.0321	-106.57	1.1260	384.14	-0.0308
-155.11	1.1417	419.13	-0.0308	-25.67	1.0868	419.13	-0.0264
-130.84	1.1344	457.12	-0.0241	-10.27	1.1637	457.12	-0.0291
-106.57	1.1249	507.77	-0.0104	-2.05	1.0927	507.77	-0.0164
-90.39	1.1170	545.76	0.0070	0.00	-0.1575	545.76	0.0020
-74.21	1.1052	571.08	0.0355	0.31	-1.1421	571.08	0.0308
-58.03	1.0934	583.74	0.0556	0.63	-1.4497	583.74	0.0606
-41.85	1.0819	596.41	0.0891	1.25	-1.5718	596.41	0.0914
-33.76	1.0794	609.07	0.1436	1.88	-1.6141	609.07	0.1467
-25.67	1.0846			2.50	-1.6278		
-23.11	1.0905			3.13	-1.6090		
-17.97	1.1112			3.75	-1.5907		
-10.27	1.1644			4.37	-1.5584		
-5.13	1.1859			5.00	-1.5381		
-3.34	1.1619			6.25	-1.5011		
-2.05	1.0913			7.50	-1.4769		
-0.90	0.8999			8.75	-1.4482		
-0.44	0.6916			10.00	-1.4172		
0.00	-0.2511			12.50	-1.3672		
0.31	-1.2388			15.00	-1.3501		
0.63	-1.4592			17.50	-1.3272		
1.25	-1.5751			20.00	-1.2849		
1.88	-1.5963			30.00	-1.1795		
2.50	-1.6068			50.00	-1.0257		
3.13	-1.5979			60.00	-0.9678		
3.75	-1.5748			70.00	-0.9545		
4.37	-1.5666			80.00	-0.9389		
5.00	-1.5338			90.00	-0.5028		
6.25	-1.5038			100.00	-0.3990		
7.50	-1.4790			110.00	-0.3307		
8.75	-1.4592			241.85	-0.0360		
10.00	-1.4338						
12.50	-1.3943						
15.00	-1.3542						
17.50	-1.3269						
20.00	-1.3058						
30.00	-1.1761						
40.00	-1.0783						
50.00	-1.0045						
60.00	-0.9639						
70.00	-0.9574						
80.00	-0.9256						
90.00	-0.4894						
100.00	-0.3748						
110.00	-0.3521						
241.85	-0.0418						
279.84	-0.0438						

mfr = 0.39 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1073	343.16	-0.0244	-187.47	1.1045	343.16	-0.0133
-171.29	1.1064	384.14	-0.0197	-106.57	1.0772	384.14	-0.0170
-155.11	1.1034	419.13	-0.0103	-25.67	0.9806	419.13	-0.0063
-130.84	1.0939	457.12	0.0018	-10.27	1.0983	457.12	-0.0029
-106.57	1.0761	507.77	0.0276	-2.05	1.1574	507.77	0.0229
-90.39	1.0581	545.76	0.0641	0.00	0.1014	545.76	0.0594
-74.21	1.0381	571.08	0.1126	0.31	-0.9725	571.08	0.1049
-58.03	1.0131	583.74	0.1454	0.63	-1.3190	583.74	0.1438
-41.85	0.9934	596.41	0.1874	1.25	-1.4181	596.41	0.1891
-33.76	0.9825	609.07	0.2510	1.88	-1.4680	609.07	0.2547
-25.67	0.9821			2.50	-1.4922		
-23.11	0.9869			3.13	-1.4595		
-17.97	1.0128			3.75	-1.4451		
-10.27	1.0890			4.37	-1.4262		
-5.13	1.1758			5.00	-1.4043		
-3.34	1.1862			6.25	-1.3484		
-2.05	1.1568			7.50	-1.3379		
-0.90	1.0195			8.75	-1.2997		
-0.44	0.8566			10.00	-1.2703		
0.00	0.0408			12.50	-1.2214		
0.31	-1.0380			15.00	-1.2114		
0.63	-1.3154			17.50	-1.1858		
1.25	-1.4438			20.00	-1.1709		
1.88	-1.4590			30.00	-1.0715		
2.50	-1.4504			50.00	-0.9176		
3.13	-1.4576			60.00	-0.8972		
3.75	-1.4401			70.00	-0.8698		
4.37	-1.4240			80.00	-0.8620		
5.00	-1.3761			90.00	-0.3325		
6.25	-1.3616			100.00	-0.2509		
7.50	-1.3203			110.00	-0.1371		
8.75	-1.3084			241.85	-0.0362		
10.00	-1.2718						
12.50	-1.2421						
15.00	-1.2122						
17.50	-1.1833						
20.00	-1.1612						
30.00	-1.0545						
40.00	-0.9622						
50.00	-0.9281						
60.00	-0.8929						
70.00	-0.8705						
80.00	-0.8051						
90.00	-0.3352						
100.00	-0.2312						
110.00	-0.1403						
241.85	-0.0467						
279.84	-0.0374						

TABLE VI. Continued

(i) Continued

mfr = 0.49 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0567	343.16	-0.0105	-187.47	1.0550	343.16	-0.0002
-171.29	1.0574	384.14	-0.0028	-106.57	1.0076	384.14	-0.0025
-155.11	1.0538	419.13	0.0072	-25.67	0.8352	419.13	0.0109
-130.84	1.0353	457.12	0.0263	-10.27	0.9813	457.12	0.0223
-106.57	1.0078	507.77	0.0619	-2.05	1.1874	507.77	0.0608
-90.39	0.9775	545.76	0.1108	0.00	0.3391	545.76	0.1061
-74.21	0.9453	571.08	0.1701	0.31	-0.7243	571.08	0.1691
-58.03	0.9009	583.74	0.2101	0.63	-1.0739	583.74	0.2128
-41.85	0.8615	596.41	0.2620	1.25	-1.3027	596.41	0.2670
-33.76	0.8475	609.07	0.3321	1.88	-1.3110	609.07	0.3384
-25.67	0.8301			2.50	-1.3261		
-23.11	0.8245			3.13	-1.2897		
-17.97	0.8578			3.75	-1.2585		
-10.27	0.9850			4.37	-1.2467		
-5.13	1.1094			5.00	-1.2154		
-3.34	1.1703			6.25	-1.1789		
-2.05	1.1882			7.50	-1.1482		
-0.90	1.1265			8.75	-1.1003		
-0.44	0.9980			10.00	-1.0844		
0.00	0.2323			12.50	-1.0506		
0.31	-0.7719			15.00	-1.0818		
0.63	-1.1137			17.50	-1.0488		
1.25	-1.2843			20.00	-1.0473		
1.88	-1.3074			30.00	-0.9204		
2.50	-1.2922			50.00	-0.7826		
3.13	-1.2625			60.00	-0.7859		
3.75	-1.2625			70.00	-0.7391		
4.37	-1.2393			80.00	-0.3513		
5.00	-1.2119			90.00	-0.2236		
6.25	-1.1743			100.00	-0.1694		
7.50	-1.1459			110.00	-0.1326		
8.75	-1.0999			241.85	-0.0390		
10.00	-1.0989						
12.50	-1.0589						
15.00	-1.0317						
17.50	-1.0444						
20.00	-1.0158						
30.00	-0.8905						
40.00	-0.8436						
50.00	-0.7626						
60.00	-0.7650						
70.00	-0.6980						
80.00	-0.2744						
90.00	-0.2350						
100.00	-0.1969						
110.00	-0.1283						
241.85	-0.0428						
279.84	-0.0343						

mfr = 0.49 and α = 1.0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0580	343.16	-0.0035	-187.47	1.0553	343.16	-0.0152
-171.29	1.0590	384.14	-0.0002	-106.57	1.0076	384.14	-0.0089
-155.11	1.0560	419.13	0.0082	-25.67	0.8144	419.13	0.0095
-130.84	1.0390	457.12	0.0276	-10.27	0.9518	457.12	0.0186
-106.57	1.0101	507.77	0.0661	-2.05	1.1898	507.77	0.0567
-90.39	0.9835	545.76	0.1137	0.00	0.3685	545.76	0.1083
-74.21	0.9510	571.08	0.1692	0.31	-0.6068	571.08	0.1696
-58.03	0.9112	583.74	0.2064	0.63	-1.0296	583.74	0.2161
-41.85	0.8692	596.41	0.2506	1.25	-1.2475	596.41	0.2727
-33.76	0.8543	609.07	0.3152	1.88	-1.2694	609.07	0.3510
-25.67	0.8362			2.50	-1.2594		
-23.11	0.8399			3.13	-1.2234		
-17.97	0.8727			3.75	-1.2082		
-10.27	0.9883			4.37	-1.1747		
-5.13	1.1306			5.00	-1.1578		
-3.34	1.1786			6.25	-1.1054		
-2.05	1.1879			7.50	-1.0603		
-0.90	1.1123			8.75	-1.0474		
-0.44	0.9666			10.00	-0.9932		
0.00	0.2159			12.50	-0.9747		
0.31	-0.8432			15.00	-0.9813		
0.63	-1.1606			17.50	-0.9984		
1.25	-1.3229			20.00	-0.9461		
1.88	-1.3463			30.00	-0.8505		
2.50	-1.3209			50.00	-0.7366		
3.13	-1.3206			60.00	-0.6673		
3.75	-1.3064			70.00	-0.6410		
4.37	-1.2770			80.00	-0.3118		
5.00	-1.2592			90.00	-0.2673		
6.25	-1.2394			100.00	-0.2109		
7.50	-1.1787			110.00	-0.1587		
8.75	-1.1820			241.85	-0.0365		
10.00	-1.1691						
12.50	-1.1510						
15.00	-1.1349						
17.50	-1.1233						
20.00	-1.0961						
30.00	-0.9752						
40.00	-0.9194						
50.00	-0.8782						
60.00	-0.8316						
70.00	-0.8412						
80.00	-0.4140						
90.00	-0.2337						
100.00	-0.1510						
110.00	-0.0985						
241.85	-0.0377						
279.84	-0.0327						

mfr = 0.49 and α = 2.0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0568	343.16	0.0045	-187.47	1.0551	343.16	-0.0192
-171.29	1.0588	384.14	0.0032	-106.57	1.0055	384.14	-0.0088
-155.11	1.0539	419.13	0.0126	-25.67	0.7975	419.13	0.0086
-130.84	1.0388	457.12	0.0297	-10.27	0.9316	457.12	0.0206
-106.57	1.0099	507.77	0.0662	-2.05	1.1862	507.77	0.0591
-90.39	0.9810	545.76	0.1100	0.00	0.4371	545.76	0.1077
-74.21	0.9515	571.08	0.1646	0.31	-0.4861	571.08	0.1713
-58.03	0.9143	583.74	0.1998	0.63	-0.9432	583.74	0.2202
-41.85	0.8805	596.41	0.2423	1.25	-1.1692	596.41	0.2784
-33.76	0.8666	609.07	0.2999	1.88	-1.2171	609.07	0.3591
-25.67	0.8625			2.50	-1.2033		
-23.11	0.8603			3.13	-1.1595		
-17.97	0.9002			3.75	-1.1262		
-10.27	1.0199			4.37	-1.1033		
-5.13	1.1423			5.00	-1.0850		
-3.34	1.1823			6.25	-1.0128		
-2.05	1.1815			7.50	-0.9987		
-0.90	1.0885			8.75	-0.9529		
-0.44	0.9373			10.00	-0.9256		
0.00	0.1177			12.50	-0.8737		
0.31	-0.9051			15.00	-0.8711		
0.63	-1.2222			17.50	-0.8867		
1.25	-1.3826			20.00	-0.8133		
1.88	-1.3955			30.00	-0.6726		
2.50	-1.3806			50.00	-0.6148		
3.13	-1.3826			60.00	-0.5388		
3.75	-1.3645			70.00	-0.4517		
4.37	-1.3625			80.00	-0.4257		
5.00	-1.3262			90.00	-0.3642		
6.25	-1.3044			100.00	-0.2570		
7.50	-1.2582			110.00	-0.1673		
8.75	-1.2411			241.85	-0.0354		
10.00	-1.2226						
12.50	-1.1866						
15.00	-1.2005						
17.50	-1.1506						
20.00	-1.1417						
30.00	-1.0810						
40.00	-0.9645						
50.00	-0.9510						
60.00	-0.9084						
70.00	-0.8652						
80.00	-0.4474						
90.00	-0.2850						
100.00	-0.2014						
110.00	-0.0893						
241.85	-0.0397						
279.84	-0.0343						

TABLE VI. Continued

(i) Continued

mfr = 0.49 and α = 3.1°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0592	343.16	0.0136	-187.47	1.0527	343.16	-0.0283
-171.29	1.0573	384.14	0.0083	-106.57	1.0064	384.14	-0.0129
-155.11	1.0550	419.13	0.0126	-25.67	0.7774	419.13	0.0073
-130.84	1.0415	457.12	0.0304	-10.27	0.9095	457.12	0.0187
-106.57	1.0122	507.77	0.0646	-2.05	1.1833	507.77	0.0559
-90.39	0.9840	545.76	0.1075	0.00	0.5026	545.76	0.1025
-74.21	0.9557	571.08	0.1568	0.31	-0.3680	571.08	0.1672
-58.03	0.9212	583.74	0.1894	0.63	-0.8568	583.74	0.2182
-41.85	0.8886	596.41	0.2272	1.25	-1.1117	596.41	0.2785
-33.76	0.8799	609.07	0.2809	1.88	-1.1423	609.07	0.3650
-25.67	0.8736			2.50	-1.1532		
-23.11	0.8765			3.13	-1.0938		
-17.97	0.9113			3.75	-1.0623		
-10.27	1.0326			4.37	-1.0090		
-5.13	1.1528			5.00	-0.9936		
-3.34	1.1854			6.25	-0.9273		
-2.05	1.1765			7.50	-0.8552		
-0.90	1.0678			8.75	-0.8379		
-0.44	0.9059			10.00	-0.7983		
0.00	0.0798			12.50	-0.7437		
0.31	-0.9835			15.00	-0.7211		
0.63	-1.2591			17.50	-0.7136		
1.25	-1.4276			20.00	-0.6528		
1.88	-1.4447			30.00	-0.5484		
2.50	-1.4355			50.00	-0.4352		
3.13	-1.4355			60.00	-0.4809		
3.75	-1.4200			70.00	-0.5128		
4.37	-1.4134			80.00	-0.5418		
5.00	-1.3972			90.00	-0.4612		
6.25	-1.3585			100.00	-0.2406		
7.50	-1.3304			110.00	-0.1656		
8.75	-1.3050			241.85	-0.0350		
10.00	-1.2977						
12.50	-1.2733						
15.00	-1.2577						
17.50	-1.2267						
20.00	-1.2074						
30.00	-1.1116						
40.00	-1.0497						
50.00	-1.0185						
60.00	-0.9641						
70.00	-0.8340						
80.00	-0.4277						
90.00	-0.3923						
100.00	-0.3034						
110.00	-0.1914						
241.85	-0.0288						
279.84	-0.0276						

mfr = 0.54 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0270	343.16	-0.0085	-187.47	1.0259	343.16	0.0049
-171.29	1.0296	384.14	0.0022	-106.57	0.9663	384.14	0.0035
-155.11	1.0237	419.13	0.0133	-25.67	0.7263	419.13	0.0206
-130.84	1.0027	457.12	0.0354	-10.27	0.8957	457.12	0.0327
-106.57	0.9672	507.77	0.0759	-2.05	1.1857	507.77	0.0736
-90.39	0.9304	545.76	0.1296	0.00	0.4494	545.76	0.1259
-74.21	0.8896	571.08	0.1930	0.31	-0.5309	571.08	0.1937
-58.03	0.8357	583.74	0.2342	0.63	-0.9647	583.74	0.2409
-41.85	0.7769	596.41	0.2892	1.25	-1.1772	596.41	0.2979
-33.76	0.7559	609.07	0.3586	1.88	-1.2316	609.07	0.3706
-25.67	0.7193			2.50	-1.2232		
-23.11	0.7230			3.13	-1.1782		
-17.97	0.7570			3.75	-1.1708		
-10.27	0.8861			4.37	-1.1437		
-5.13	1.0510			5.00	-1.1174		
-3.34	1.1398			6.25	-1.0460		
-2.05	1.1856			7.50	-1.0413		
-0.90	1.1600			8.75	-1.0251		
-0.44	1.0579			10.00	-0.9585		
0.00	0.3849			12.50	-0.9589		
0.31	-0.5933			15.00	-0.9574		
0.63	-0.9858			17.50	-0.9608		
1.25	-1.1950			20.00	-0.8650		
1.88	-1.2294			30.00	-0.8126		
2.50	-1.1987			50.00	-0.7179		
3.13	-1.1656			60.00	-0.6574		
3.75	-1.1465			70.00	-0.4852		
4.37	-1.1163			80.00	-0.2910		
5.00	-1.0998			90.00	-0.3022		
6.25	-1.0529			100.00	-0.2183		
7.50	-1.0063			110.00	-0.1559		
8.75	-0.9746			241.85	-0.0377		
10.00	-0.9835						
12.50	-0.9964						
15.00	-0.9686						
17.50	-0.9178						
20.00	-0.9388						
30.00	-0.8438						
40.00	-0.7491						
50.00	-0.7113						
60.00	-0.6142						
70.00	-0.3850						
80.00	-0.3173						
90.00	-0.2969						
100.00	-0.2182						
110.00	-0.1589						
241.85	-0.0350						
279.84	-0.0280						

mfr = 0.61 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9793	343.16	0.0026	-187.47	0.9739	343.16	0.0116
-171.29	0.9816	384.14	0.0110	-106.57	0.8949	384.14	0.0133
-155.11	0.9747	419.13	0.0257	-25.67	0.5458	419.13	0.0277
-130.84	0.9472	457.12	0.0478	-10.27	0.7350	457.12	0.0468
-106.57	0.8999	507.77	0.0906	-2.05	1.1557	507.77	0.0916
-90.39	0.8500	545.76	0.1502	0.00	0.6134	545.76	0.1479
-74.21	0.7959	571.08	0.2162	0.31	-0.2985	571.08	0.2169
-58.03	0.7208	583.74	0.2634	0.63	-0.7795	583.74	0.2681
-41.85	0.6417	596.41	0.3166	1.25	-1.0554	596.41	0.3243
-33.76	0.5862	609.07	0.3875	1.88	-1.0671	609.07	0.3969
-25.67	0.5370			2.50	-1.0824		
-23.11	0.5362			3.13	-1.0365		
-17.97	0.5788			3.75	-0.9505		
-10.27	0.7398			4.37	-0.9329		
-5.13	0.9595			5.00	-0.9049		
-3.34	1.0618			6.25	-0.8610		
-2.05	1.1536			7.50	-0.7759		
-0.90	1.1834			8.75	-0.8084		
-0.44	1.1327			10.00	-0.7907		
0.00	0.5440			12.50	-0.7681		
0.31	-0.3564			15.00	-0.7577		
0.63	-0.8083			17.50	-0.7251		
1.25	-1.0309			20.00	-0.6806		
1.88	-1.0263			30.00	-0.6421		
2.50	-1.0131			50.00	-0.5513		
3.13	-0.9960			60.00	-0.4424		
3.75	-0.9702			70.00	-0.4131		
4.37	-0.9237			80.00	-0.4509		
5.00	-0.9349			90.00	-0.3934		
6.25	-0.8004			100.00	-0.2403		
7.50	-0.8228			110.00	-0.1606		
8.75	-0.8119			241.85	-0.0337		
10.00	-0.7931						
12.50	-0.7730						
15.00	-0.7903						
17.50	-0.7588						
20.00	-0.7609						
30.00	-0.6555						
40.00	-0.6321						
50.00	-0.5846						
60.00	-0.4237						
70.00	-0.4427						
80.00	-0.4257						
90.00	-0.3956						
100.00	-0.2397						
110.00	-0.1644						
241.85	-0.0383						
279.84	-0.0290						

TABLE VI. Continued

(i) Continued

mfr = 0.67 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	0.9258	343.16	0.0055	-187.47	0.9252	343.16	0.0176
-171.29	0.9272	384.14	0.0186	-106.57	0.8239	384.14	0.0196
-155.11	0.9202	419.13	0.0346	-25.67	0.3258	419.13	0.0396
-130.84	0.8865	457.12	0.0584	-10.27	0.5345	457.12	0.0557
-106.57	0.8275	507.77	0.1062	-2.05	1.0978	507.77	0.1065
-90.39	0.7595	545.76	0.1643	0.00	0.7833	545.76	0.1666
-74.21	0.6861	571.08	0.2331	0.31	-0.0653	571.08	0.2364
-58.03	0.5839	583.74	0.2778	0.63	-0.5517	583.74	0.2888
-41.85	0.4683	596.41	0.3333	1.25	-0.7648	596.41	0.3457
-33.76	0.4076	609.07	0.4038	1.88	-0.8152	609.07	0.4162
-25.67	0.3339			2.50	-0.8470		
-23.11	0.3151			3.13	-0.7381		
-17.97	0.3561			3.75	-0.6205		
-10.27	0.5673			4.37	-0.6173		
-5.13	0.8282			5.00	-0.5987		
-3.34	0.9697			6.25	-0.4818		
-2.05	1.1004			7.50	-0.4710		
-0.90	1.1798			8.75	-0.4529		
-0.44	1.1628			10.00	-0.4932		
0.00	0.7048			12.50	-0.5366		
0.31	-0.1119			15.00	-0.6065		
0.63	-0.6097			17.50	-0.6265		
1.25	-0.8116			20.00	-0.6105		
1.88	-0.8099			30.00	-0.5677		
2.50	-0.7247			50.00	-0.4233		
3.13	-0.6370			60.00	-0.4204		
3.75	-0.6848			70.00	-0.4533		
4.37	-0.6120			80.00	-0.4936		
5.00	-0.6025			90.00	-0.3930		
6.25	-0.5600			100.00	-0.2181		
7.50	-0.4814			110.00	-0.1544		
8.75	-0.5291			241.85	-0.0293		
10.00	-0.5284						
12.50	-0.5643						
15.00	-0.6038						
17.50	-0.6298						
20.00	-0.6397						
30.00	-0.6143						
40.00	-0.5398						
50.00	-0.4131						
60.00	-0.4320						
70.00	-0.4766						
80.00	-0.4930						
90.00	-0.3760						
100.00	-0.2322						
110.00	-0.1504						
241.85	-0.0370						
279.84	-0.0231						

mfr = 0.67 and α = 1.0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	0.9262	343.16	0.0174	-187.47	0.9243	343.16	0.0070
-171.29	0.9278	384.14	0.0227	-106.57	0.8216	384.14	0.0170
-155.11	0.9195	419.13	0.0338	-25.67	0.2882	419.13	0.0358
-130.84	0.8861	457.12	0.0588	-10.27	0.5064	457.12	0.0538
-106.57	0.8270	507.77	0.1067	-2.05	1.0783	507.77	0.1020
-90.39	0.7615	545.76	0.1669	0.00	0.7864	545.76	0.1626
-74.21	0.6919	571.08	0.2318	0.31	0.0424	571.08	0.2331
-58.03	0.5932	583.74	0.2776	0.63	-0.4108	583.74	0.2853
-41.85	0.4857	596.41	0.3311	1.25	-0.6419	596.41	0.3455
-33.76	0.4233	609.07	0.3970	1.88	-0.6163	609.07	0.4181
-25.67	0.3525			2.50	-0.5422		
-23.11	0.3528			3.13	-0.4981		
-17.97	0.3956			3.75	-0.4037		
-10.27	0.5942			4.37	-0.3910		
-5.13	0.8535			5.00	-0.3767		
-3.34	0.9809			6.25	-0.3346		
-2.05	1.1071			7.50	-0.3641		
-0.90	1.1745			8.75	-0.4548		
-0.44	1.1459			10.00	-0.4641		
0.00	0.6621			12.50	-0.5134		
0.31	-0.2401			15.00	-0.5171		
0.63	-0.7043			17.50	-0.5419		
1.25	-0.9213			20.00	-0.5397		
1.88	-0.9223			30.00	-0.4522		
2.50	-0.8966			50.00	-0.4485		
3.13	-0.8986			60.00	-0.4622		
3.75	-0.7927			70.00	-0.4700		
4.37	-0.7729			80.00	-0.4444		
5.00	-0.7881			90.00	-0.3481		
6.25	-0.6317			100.00	-0.2203		
7.50	-0.7235			110.00	-0.1525		
8.75	-0.7172			241.85	-0.0305		
10.00	-0.6608						
12.50	-0.5922						
15.00	-0.7149						
17.50	-0.6624						
20.00	-0.6809						
30.00	-0.6311						
40.00	-0.6380						
50.00	-0.5668						
60.00	-0.4517						
70.00	-0.4096						
80.00	-0.4386						
90.00	-0.3842						
100.00	-0.2388						
110.00	-0.1517						
241.85	-0.0436						
279.84	-0.0359						

mfr = 0.67 and α = 2.0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	0.9260	343.16	0.0270	-187.47	0.9240	343.16	-0.0034
-171.29	0.9280	384.14	0.0277	-106.57	0.8203	384.14	0.0130
-155.11	0.9200	419.13	0.0384	-25.67	0.2590	419.13	0.0340
-130.84	0.8849	457.12	0.0611	-10.27	0.4509	457.12	0.0528
-106.57	0.8272	507.77	0.1096	-2.05	1.0266	507.77	0.1002
-90.39	0.7653	545.76	0.1671	0.00	0.8954	545.76	0.1628
-74.21	0.6961	571.08	0.2341	0.31	0.1446	571.08	0.2354
-58.03	0.6007	583.74	0.2782	0.63	-0.2337	583.74	0.2856
-41.85	0.5010	596.41	0.3291	1.25	-0.3852	596.41	0.3481
-33.76	0.4498	609.07	0.3909	1.88	-0.2998	609.07	0.4224
-25.67	0.3852			2.50	-0.3918		
-23.11	0.3811			3.13	-0.3067		
-17.97	0.4350			3.75	-0.2710		
-10.27	0.6476			4.37	-0.2843		
-5.13	0.9020			5.00	-0.2947		
-3.34	1.0337			6.25	-0.2724		
-2.05	1.1401			7.50	-0.3043		
-0.90	1.1851			8.75	-0.3384		
-0.44	1.1382			10.00	-0.3321		
0.00	0.5797			12.50	-0.4052		
0.31	-0.3208			15.00	-0.4944		
0.63	-0.7668			17.50	-0.5266		
1.25	-1.0575			20.00	-0.4137		
1.88	-0.9959			30.00	-0.3604		
2.50	-1.0078			50.00	-0.4170		
3.13	-0.9903			60.00	-0.4144		
3.75	-0.9468			70.00	-0.4540		
4.37	-0.9148			80.00	-0.4422		
5.00	-0.8970			90.00	-0.3570		
6.25	-0.8364			100.00	-0.2210		
7.50	-0.7859			110.00	-0.1518		
8.75	-0.8182			241.85	-0.0181		
10.00	-0.7883						
12.50	-0.8212						
15.00	-0.8048						
17.50	-0.8120						
20.00	-0.8268						
30.00	-0.7286						
40.00	-0.6966						
50.00	-0.6372						
60.00	-0.4956						
70.00	-0.3911						
80.00	-0.3740						
90.00	-0.3317						
100.00	-0.2241						
110.00	-0.1543						
241.85	-0.0282						
279.84	-0.0224						

TABLE VI. Continued

(i) Continued

mfr = 0.67 and α = 3.1°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.9275	343.16	0.0382	-187.47	0.9205	343.16	-0.0110
-171.29	0.9271	384.14	0.0335	-106.57	0.8180	384.14	0.0128
-155.11	0.9212	419.13	0.0422	-25.67	0.2308	419.13	0.0352
-130.84	0.8867	457.12	0.0633	-10.27	0.3814	457.12	0.0542
-106.57	0.8297	507.77	0.1094	-2.05	1.0039	507.77	0.1004
-90.39	0.7661	545.76	0.1719	0.00	0.9564	545.76	0.1602
-74.21	0.6992	571.08	0.2362	0.31	0.2825	571.08	0.2312
-58.03	0.6035	583.74	0.2770	0.63	-0.0623	583.74	0.2840
-41.85	0.5100	596.41	0.3279	1.25	-0.2618	596.41	0.3462
-33.76	0.4651	609.07	0.3867	1.88	-0.2110	609.07	0.4272
-25.67	0.4205			2.50	-0.2348		
-23.11	0.4234			3.13	-0.1835		
-17.97	0.4755			3.75	-0.1377		
-10.27	0.6770			4.37	-0.1739		
-5.13	0.9379			5.00	-0.1551		
-3.34	1.0579			6.25	-0.1963		
-2.05	1.1504			7.50	-0.2229		
-0.90	1.1729			8.75	-0.2909		
-0.44	1.1229			10.00	-0.2496		
0.00	0.5288			12.50	-0.3218		
0.31	-0.4095			15.00	-0.3756		
0.63	-0.8456			17.50	-0.3073		
1.25	-1.0947			20.00	-0.3081		
1.88	-1.1198			30.00	-0.2999		
2.50	-1.0904			50.00	-0.3637		
3.13	-1.0907			60.00	-0.3970		
3.75	-1.0410			70.00	-0.4166		
4.37	-1.0255			80.00	-0.4229		
5.00	-1.0057			90.00	-0.3444		
6.25	-0.9830			100.00	-0.2196		
7.50	-0.9421			110.00	-0.1503		
8.75	-0.9642			241.85	-0.0306		
10.00	-0.9174						
12.50	-0.9494						
15.00	-0.9485						
17.50	-0.9022						
20.00	-0.9307						
30.00	-0.8297						
40.00	-0.7835						
50.00	-0.7388						
60.00	-0.6989						
70.00	-0.3807						
80.00	-0.2901						
90.00	-0.2799						
100.00	-0.2179						
110.00	-0.1418						
241.85	-0.0375						
279.84	-0.0286						

mfr = 0.74 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.8654	343.16	0.0127	-187.47	0.8626	343.16	0.0248
-171.29	0.8668	384.14	0.0258	-106.57	0.7361	384.14	0.0271
-155.11	0.8576	419.13	0.0422	-25.67	0.0330	419.13	0.0465
-130.84	0.8153	457.12	0.0669	-10.27	0.3098	457.12	0.0619
-106.57	0.7405	507.77	0.1157	-2.05	1.0088	507.77	0.1127
-90.39	0.6569	545.76	0.1776	0.00	0.8882	545.76	0.1769
-74.21	0.5615	571.08	0.2442	0.31	0.1640	571.08	0.2495
-58.03	0.4238	583.74	0.2903	0.63	-0.2872	583.74	0.2970
-41.85	0.2589	596.41	0.3431	1.25	-0.4237	596.41	0.3532
-33.76	0.1725	609.07	0.4090	1.88	-0.3888	609.07	0.4224
-25.67	0.0404			2.50	-0.4341		
-23.11	0.0120			3.13	-0.3548		
-17.97	0.0784			3.75	-0.3008		
-10.27	0.3482			4.37	-0.3215		
-5.13	0.6590			5.00	-0.2948		
-3.34	0.8611			6.25	-0.2833		
-2.05	1.0137			7.50	-0.3426		
-0.90	1.1651			8.75	-0.4069		
-0.44	1.1887			10.00	-0.4419		
0.00	0.8458			12.50	-0.4619		
0.31	0.0921			15.00	-0.5115		
0.63	-0.3673			17.50	-0.5537		
1.25	-0.4672			20.00	-0.5267		
1.88	-0.4290			30.00	-0.4304		
2.50	-0.3044			50.00	-0.4582		
3.13	-0.3937			60.00	-0.4608		
3.75	-0.3568			70.00	-0.4722		
4.37	-0.3449			80.00	-0.4363		
5.00	-0.3406			90.00	-0.3511		
6.25	-0.3832			100.00	-0.2185		
7.50	-0.3007			110.00	-0.1497		
8.75	-0.4487			241.85	-0.0194		
10.00	-0.4794						
12.50	-0.4306						
15.00	-0.5441						
17.50	-0.5400						
20.00	-0.5178						
30.00	-0.4537						
40.00	-0.3988						
50.00	-0.4504						
60.00	-0.4571						
70.00	-0.4945						
80.00	-0.4282						
90.00	-0.3650						
100.00	-0.2138						
110.00	-0.1514						
241.85	-0.0229						
279.84	-0.0109						

mfr = 0.82 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.1338	343.16	0.0124	-187.47	0.1135	343.16	0.0198
-171.29	0.0881	384.14	0.0231	-106.57	-0.2090	384.14	0.0244
-155.11	0.0077	419.13	0.0365	-25.67	-0.6982	419.13	0.0422
-130.84	-0.1032	457.12	0.0576	-10.27	-0.0089	457.12	0.0553
-106.57	-0.1871	507.77	0.0975	-2.05	0.8474	507.77	0.0981
-90.39	-0.2693	545.76	0.1460	0.00	1.0229	545.76	0.1473
-74.21	-0.3102	571.08	0.1969	0.31	0.4638	571.08	0.2009
-58.03	-0.3666	583.74	0.2317	0.63	0.0725	583.74	0.2391
-41.85	-0.9037	596.41	0.2726	1.25	-0.1096	596.41	0.2813
-33.76	-0.8377	609.07	0.3272	1.88	-0.1298	609.07	0.3403
-25.67	-0.6870			2.50	-0.1170		
-23.11	-0.6310			3.13	-0.1220		
-17.97	-0.4259			3.75	-0.0833		
-10.27	0.0008			4.37	-0.1096		
-5.13	0.4335			5.00	-0.0929		
-3.34	0.6781			6.25	-0.0988		
-2.05	0.8760			7.50	-0.2012		
-0.90	1.1005			8.75	-0.2334		
-0.44	1.1788			10.00	-0.2498		
0.00	1.0153			12.50	-0.3399		
0.31	0.3206			15.00	-0.3866		
0.63	0.1101			17.50	-0.4252		
1.25	-0.1254			20.00	-0.3284		
1.88	-0.1118			30.00	-0.3462		
2.50	-0.1326			50.00	-0.4211		
3.13	-0.1587			60.00	-0.4093		
3.75	-0.1491			70.00	-0.4434		
4.37	-0.1554			80.00	-0.3981		
5.00	-0.1986			90.00	-0.3425		
6.25	-0.2366			100.00	-0.2127		
7.50	-0.1848			110.00	-0.1456		
8.75	-0.3211			241.85	-0.0233		
10.00	-0.3122						
12.50	-0.3640						
15.00	-0.4702						
17.50	-0.3980						
20.00	-0.3874						
30.00	-0.3894						
40.00	-0.3971						
50.00	-0.4261						
60.00	-0.4246						
70.00	-0.4441						
80.00	-0.4141						
90.00	-0.3310						
100.00	-0.2095						
110.00	-0.1488						
241.85	-0.0225						
279.84	-0.0059						

TABLE VI. Continued

(i) Concluded

mfr = 0.83 and α = 1.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	0.1703	343.16	0.0209	-187.47	0.1085	343.16	0.0145
-171.29	0.0991	384.14	0.0279	-106.57	-0.2080	384.14	0.0229
-155.11	0.0132	419.13	0.0406	-25.67	-0.7066	419.13	0.0399
-130.84	-0.0953	457.12	0.0614	-10.27	-0.0221	457.12	0.0510
-106.57	-0.1962	507.77	0.1012	-2.05	0.8232	507.77	0.0931
-90.39	-0.2601	545.76	0.1510	0.00	1.0630	545.76	0.1410
-74.21	-0.3152	571.08	0.2022	0.31	0.5201	571.08	0.1955
-58.03	-0.4197	583.74	0.2370	0.63	0.2287	583.74	0.2353
-41.85	-0.8777	596.41	0.2765	1.25	0.0174	596.41	0.2791
-33.76	-0.7907	609.07	0.3293	1.88	-0.0277	609.07	0.3393
-25.67	-0.6451			2.50	-0.0410		
-23.11	-0.5688			3.13	-0.0366		
-17.97	-0.3525			3.75	-0.0288		
-10.27	0.0668			4.37	-0.0249		
-5.13	0.4816			5.00	-0.0606		
-3.34	0.7101			6.25	-0.0660		
-2.05	0.9190			7.50	-0.1410		
-0.90	1.1335			8.75	-0.1900		
-0.44	1.1846			10.00	-0.2054		
0.00	0.9658			12.50	-0.2991		
0.31	0.2473			15.00	-0.3065		
0.63	-0.1101			17.50	-0.2776		
1.25	-0.2354			20.00	-0.2991		
1.88	-0.2489			30.00	-0.2954		
2.50	-0.2423			50.00	-0.3751		
3.13	-0.3116			60.00	-0.4014		
3.75	-0.2202			70.00	-0.4077		
4.37	-0.2526			80.00	-0.3984		
5.00	-0.2878			90.00	-0.3347		
6.25	-0.2839			100.00	-0.2143		
7.50	-0.2585			110.00	-0.1380		
8.75	-0.3976			241.85	-0.0184		
10.00	-0.3762						
12.50	-0.4032						
15.00	-0.5188						
17.50	-0.5193						
20.00	-0.4891						
30.00	-0.3907						
40.00	-0.4288						
50.00	-0.4675						
60.00	-0.4381						
70.00	-0.4788						
80.00	-0.4099						
90.00	-0.3469						
100.00	-0.2186						
110.00	-0.1510						
241.85	-0.0222						
279.84	-0.0133						

mfr = 0.84 and α = 2.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	0.1892	343.16	0.0326	-187.47	0.0834	343.16	0.0068
-171.29	0.1286	384.14	0.0322	-106.57	-0.2065	384.14	0.0199
-155.11	0.0679	419.13	0.0443	-25.67	-0.7603	419.13	0.0376
-130.84	-0.0782	457.12	0.0627	-10.27	-0.1047	457.12	0.0510
-106.57	-0.1761	507.77	0.1045	-2.05	0.7368	507.77	0.0951
-90.39	-0.2648	545.76	0.1497	0.00	1.1010	545.76	0.1406
-74.21	-0.3027	571.08	0.2042	0.31	0.6378	571.08	0.1935
-58.03	-0.5305	583.74	0.2393	0.63	0.2950	583.74	0.2319
-41.85	-0.8517	596.41	0.2785	1.25	0.1159	596.41	0.2761
-33.76	-0.7614	609.07	0.3313	1.88	0.1032	609.07	0.3370
-25.67	-0.6021			2.50	0.0458		
-23.11	-0.5399			3.13	0.0924		
-17.97	-0.3173			3.75	0.0402		
-10.27	0.1071			4.37	0.0285		
-5.13	0.5296			5.00	0.0000		
-3.34	0.7469			6.25	0.0370		
-2.05	0.9538			7.50	-0.0769		
-0.90	1.1320			8.75	-0.0752		
-0.44	1.1765			10.00	-0.1291		
0.00	0.9182			12.50	-0.1806		
0.31	0.0909			15.00	-0.2525		
0.63	-0.2107			17.50	-0.2276		
1.25	-0.3650			20.00	-0.2336		
1.88	-0.3637			30.00	-0.2573		
2.50	-0.3202			50.00	-0.3247		
3.13	-0.3785			60.00	-0.3614		
3.75	-0.3825			70.00	-0.3825		
4.37	-0.3779			80.00	-0.3699		
5.00	-0.3765			90.00	-0.3162		
6.25	-0.3706			100.00	-0.2110		
7.50	-0.3136			110.00	-0.1387		
8.75	-0.4603			241.85	-0.0276		
10.00	-0.5051						
12.50	-0.5124						
15.00	-0.5501						
17.50	-0.5931						
20.00	-0.5942						
30.00	-0.5513						
40.00	-0.4118						
50.00	-0.4494						
60.00	-0.4991						
70.00	-0.5066						
80.00	-0.4496						
90.00	-0.3334						
100.00	-0.2244						
110.00	-0.1441						
241.85	-0.0327						
279.84	-0.0222						

mfr = 0.81 and α = 3.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	0.2196	343.16	0.0439	-187.47	0.0778	343.16	-0.0077
-171.29	0.1582	384.14	0.0375	-106.57	-0.1981	384.14	0.0147
-155.11	0.0784	419.13	0.0455	-25.67	-0.8044	419.13	0.0348
-130.84	-0.0463	457.12	0.0630	-10.27	-0.1617	457.12	0.0502
-106.57	-0.1813	507.77	0.1055	-2.05	0.7142	507.77	0.0918
-90.39	-0.2566	545.76	0.1510	0.00	1.1282	545.76	0.1346
-74.21	-0.3015	571.08	0.2060	0.31	0.7437	571.08	0.1872
-58.03	-0.8099	583.74	0.2394	0.63	0.4096	583.74	0.2264
-41.85	-0.8303	596.41	0.2786	1.25	0.2630	596.41	0.2723
-33.76	-0.7088	609.07	0.3265	1.88	0.1971	609.07	0.3336
-25.67	-0.5600			2.50	0.1916		
-23.11	-0.5018			3.13	0.1579		
-17.97	-0.2704			3.75	0.1051		
-10.27	0.1632			4.37	0.1211		
-5.13	0.5853			5.00	0.1495		
-3.34	0.8083			6.25	0.0885		
-2.05	0.9987			7.50	0.0405		
-0.90	1.1588			8.75	-0.0344		
-0.44	1.1856			10.00	-0.0620		
0.00	0.8479			12.50	-0.1313		
0.31	0.0269			15.00	-0.1617		
0.63	-0.4091			17.50	-0.1647		
1.25	-0.5619			20.00	-0.1814		
1.88	-0.5612			30.00	-0.2110		
2.50	-0.4451			50.00	-0.3038		
3.13	-0.4929			60.00	-0.3383		
3.75	-0.4850			70.00	-0.3568		
4.37	-0.5074			80.00	-0.3553		
5.00	-0.4688			90.00	-0.3160		
6.25	-0.5167			100.00	-0.2029		
7.50	-0.3810			110.00	-0.1380		
8.75	-0.4903			241.85	-0.0158		
10.00	-0.5381						
12.50	-0.5837						
15.00	-0.6530						
17.50	-0.6517						
20.00	-0.6472						
30.00	-0.6302						
40.00	-0.6418						
50.00	-0.4827						
60.00	-0.3795						
70.00	-0.4536						
80.00	-0.4522						
90.00	-0.3417						
100.00	-0.2131						
110.00	-0.1440						
241.85	-0.0227						
279.84	-0.0138						

TABLE VI. Continued

(j) M = 0.87

mfr = 0.27 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	1.1646	343.16	-0.0196	-187.47	1.1657	343.16	-0.0092
-171.29	1.1652	384.14	-0.0231	-106.57	1.1528	384.14	-0.0225
-155.11	1.1636	419.13	-0.0247	-25.67	1.1272	419.13	-0.0196
-130.84	1.1595	457.12	-0.0199	-10.27	1.1885	457.12	-0.0228
-106.57	1.1535	507.77	-0.0092	-2.05	1.0886	507.77	-0.0150
-90.39	1.1443	545.76	0.0028	0.00	-0.1494	545.76	-0.0014
-74.21	1.1354	571.08	0.0277	0.31	-1.0831	571.08	0.0231
-58.03	1.1259	583.74	0.0493	0.63	-1.3835	583.74	0.0480
-41.85	1.1221	596.41	0.0755	1.25	-1.5042	596.41	0.0791
-33.76	1.1204	609.07	0.1292	1.88	-1.5441	609.07	0.1347
-25.67	1.1247			2.50	-1.5597		
-23.11	1.1307			3.13	-1.5419		
-17.97	1.1453			3.75	-1.5100		
-10.27	1.1864			4.37	-1.4866		
-5.13	1.1946			5.00	-1.4702		
-3.34	1.1612			6.25	-1.4530		
-2.05	1.0804			7.50	-1.4204		
-0.90	0.8695			8.75	-1.3872		
-0.44	0.6729			10.00	-1.3721		
0.00	-0.2276			12.50	-1.3284		
0.31	-1.1921			15.00	-1.3058		
0.63	-1.3853			17.50	-1.2700		
1.25	-1.5113			20.00	-1.2449		
1.88	-1.5288			30.00	-1.1282		
2.50	-1.5339			50.00	-0.9728		
3.13	-1.5333			60.00	-0.9412		
3.75	-1.5202			70.00	-0.9040		
4.37	-1.5062			80.00	-0.8972		
5.00	-1.4756			90.00	-0.8868		
6.25	-1.4440			100.00	-0.8925		
7.50	-1.4216			110.00	-0.6665		
8.75	-1.4089			241.85	0.0101		
10.00	-1.3764						
12.50	-1.3222						
15.00	-1.3005						
17.50	-1.2731						
20.00	-1.2527						
30.00	-1.1191						
40.00	-1.0371						
50.00	-0.9674						
60.00	-0.9429						
70.00	-0.9029						
80.00	-0.9097						
90.00	-0.8947						
100.00	-0.8906						
110.00	-0.7360						
241.85	0.0116						
279.84	-0.0130						

mfr = 0.31 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	1.1507	343.16	-0.0176	-187.47	1.1527	343.16	-0.0098
-171.29	1.1542	384.14	-0.0172	-106.57	1.1323	384.14	-0.0182
-155.11	1.1519	419.13	-0.0163	-25.67	1.0898	419.13	-0.0137
-130.84	1.1475	457.12	-0.0095	-10.27	1.1720	457.12	-0.0130
-106.57	1.1361	507.77	0.0083	-2.05	1.1198	507.77	0.0035
-90.39	1.1240	545.76	0.0300	0.00	-0.0666	545.76	0.0265
-74.21	1.1122	571.08	0.0624	0.31	-1.0308	571.08	0.0618
-58.03	1.1002	583.74	0.0900	0.63	-1.3567	583.74	0.0916
-41.85	1.0897	596.41	0.1233	1.25	-1.4583	596.41	0.1275
-33.76	1.0862	609.07	0.1826	1.88	-1.5048	609.07	0.1881
-25.67	1.0898			2.50	-1.5057		
-23.11	1.0945			3.13	-1.5044		
-17.97	1.1116			3.75	-1.4774		
-10.27	1.1681			4.37	-1.4566		
-5.13	1.1914			5.00	-1.4315		
-3.34	1.1738			6.25	-1.4068		
-2.05	1.1082			7.50	-1.3612		
-0.90	0.9304			8.75	-1.3537		
-0.44	0.7308			10.00	-1.3063		
0.00	-0.1303			12.50	-1.2823		
0.31	-1.1266			15.00	-1.2521		
0.63	-1.3423			17.50	-1.2213		
1.25	-1.4599			20.00	-1.1962		
1.88	-1.4813			30.00	-1.0990		
2.50	-1.4787			50.00	-0.9509		
3.13	-1.4784			60.00	-0.9125		
3.75	-1.4647			70.00	-0.9071		
4.37	-1.4583			80.00	-0.8985		
5.00	-1.4231			90.00	-0.8809		
6.25	-1.4043			100.00	-0.8694		
7.50	-1.3625			110.00	-0.4289		
8.75	-1.3442			241.85	-0.0063		
10.00	-1.3165						
12.50	-1.2890						
15.00	-1.2579						
17.50	-1.2162						
20.00	-1.2092						
30.00	-1.0930						
40.00	-1.0124						
50.00	-0.9443						
60.00	-0.9185						
70.00	-0.8999						
80.00	-0.8994						
90.00	-0.8852						
100.00	-0.8620						
110.00	-0.4233						
241.85	-0.0131						
279.84	-0.0243						

mfr = 0.39 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	1.1203	343.16	-0.0124	-187.47	1.1186	343.16	-0.0020
-171.29	1.1203	384.14	-0.0085	-106.57	1.0904	384.14	-0.0075
-155.11	1.1184	419.13	-0.0004	-25.67	1.0032	419.13	0.0019
-130.84	1.1095	457.12	0.0135	-10.27	1.1083	457.12	0.0100
-106.57	1.0940	507.77	0.0407	-2.05	1.1733	507.77	0.0372
-90.39	1.0756	545.76	0.0802	0.00	0.1419	545.76	0.0754
-74.21	1.0553	571.08	0.1275	0.31	-0.8799	571.08	0.1220
-58.03	1.0318	583.74	0.1593	0.63	-1.2258	583.74	0.1625
-41.85	1.0143	596.41	0.2059	1.25	-1.3489	596.41	0.2091
-33.76	1.0007	609.07	0.2719	1.88	-1.3751	609.07	0.2790
-25.67	1.0011			2.50	-1.3919		
-23.11	1.0068			3.13	-1.3616		
-17.97	1.0325			3.75	-1.3493		
-10.27	1.1122			4.37	-1.3324		
-5.13	1.1870			5.00	-1.3095		
-3.34	1.2016			6.25	-1.2745		
-2.05	1.1720			7.50	-1.2338		
-0.90	1.0367			8.75	-1.2098		
-0.44	0.8901			10.00	-1.1854		
0.00	0.0526			12.50	-1.1514		
0.31	-0.9488			15.00	-1.1381		
0.63	-1.2213			17.50	-1.1288		
1.25	-1.3407			20.00	-1.0951		
1.88	-1.3621			30.00	-0.9918		
2.50	-1.3506			50.00	-0.8742		
3.13	-1.3659			60.00	-0.8642		
3.75	-1.3416			70.00	-0.8444		
4.37	-1.3282			80.00	-0.8484		
5.00	-1.3049			90.00	-0.8416		
6.25	-1.2772			100.00	-0.7839		
7.50	-1.2127			110.00	-0.3511		
8.75	-1.2060			241.85	-0.0148		
10.00	-1.1888						
12.50	-1.1585						
15.00	-1.1361						
17.50	-1.1141						
20.00	-1.0919						
30.00	-1.0078						
40.00	-0.9158						
50.00	-0.8898						
60.00	-0.8544						
70.00	-0.8254						
80.00	-0.8383						
90.00	-0.8394						
100.00	-0.7497						
110.00	-0.3266						
241.85	-0.0189						
279.84	-0.0192						

TABLE VI.Continued

(j) Continued

mfr = 0.49 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	1.0706	343.16	-0.0048	-187.47	1.0689	343.16	0.0068
-171.29	1.0715	384.14	0.0029	-106.57	1.0224	384.14	0.0046
-155.11	1.0677	419.13	0.0143	-25.67	0.8438	419.13	0.0188
-130.84	1.0521	457.12	0.0334	-10.27	0.9887	457.12	0.0289
-106.57	1.0245	507.77	0.0720	-2.05	1.1995	507.77	0.0691
-90.39	0.9949	545.76	0.1226	0.00	0.3469	545.76	0.1206
-74.21	0.9619	571.08	0.1845	0.31	-0.6053	571.08	0.1842
-58.03	0.9205	583.74	0.2267	0.63	-1.0076	583.74	0.2315
-41.85	0.8776	596.41	0.2789	1.25	-1.1956	596.41	0.2844
-33.76	0.8588	609.07	0.3467	1.88	-1.2260	609.07	0.3570
-25.67	0.8424			2.50	-1.2146		
-23.11	0.8492			3.13	-1.2065		
-17.97	0.8724			3.75	-1.1701		
-10.27	0.9927			4.37	-1.1810		
-5.13	1.1206			5.00	-1.1389		
-3.34	1.1810			6.25	-1.0941		
-2.05	1.2005			7.50	-1.0620		
-0.90	1.1345			8.75	-1.0428		
-0.44	1.0034			10.00	-1.0046		
0.00	0.2941			12.50	-0.9640		
0.31	-0.6717			15.00	-0.9985		
0.63	-1.0252			17.50	-0.9751		
1.25	-1.1955			20.00	-0.9791		
1.88	-1.2195			30.00	-0.8419		
2.50	-1.1993			50.00	-0.7942		
3.13	-1.1965			60.00	-0.7698		
3.75	-1.1719			70.00	-0.7608		
4.37	-1.1466			80.00	-0.7741		
5.00	-1.1463			90.00	-0.7529		
6.25	-1.0894			100.00	-0.3421		
7.50	-1.0578			110.00	-0.2103		
8.75	-1.0239			241.85	-0.0273		
10.00	-1.0418						
12.50	-0.9689						
15.00	-0.9855						
17.50	-0.9737						
20.00	-0.9589						
30.00	-0.8299						
40.00	-0.8229						
50.00	-0.7583						
60.00	-0.7529						
70.00	-0.7518						
80.00	-0.7630						
90.00	-0.7548						
100.00	-0.3633						
110.00	-0.1940						
241.85	-0.0292						
279.84	-0.0232						

mfr = 0.49 and α = 2.0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	1.0731	343.16	0.0144	-187.47	1.0706	343.16	-0.0167
-171.29	1.0747	384.14	0.0118	-106.57	1.0216	384.14	-0.0034
-155.11	1.0709	419.13	0.0199	-25.67	0.8127	419.13	0.0131
-130.84	1.0534	457.12	0.0381	-10.27	0.9465	457.12	0.0245
-106.57	1.0280	507.77	0.0766	-2.05	1.2004	507.77	0.0672
-90.39	0.9994	545.76	0.1239	0.00	0.4931	545.76	0.1204
-74.21	0.9708	571.08	0.1761	0.31	-0.4308	571.08	0.1868
-58.03	0.9326	583.74	0.2137	0.63	-0.8770	583.74	0.2371
-41.85	0.8971	596.41	0.2527	1.25	-1.0948	596.41	0.2974
-33.76	0.8846	609.07	0.3123	1.88	-1.1272	609.07	0.3781
-25.67	0.8749			2.50	-1.1274		
-23.11	0.8821			3.13	-1.1100		
-17.97	0.9197			3.75	-1.0578		
-10.27	1.0287			4.37	-1.0141		
-5.13	1.1498			5.00	-1.0065		
-3.34	1.1948			6.25	-0.9369		
-2.05	1.1967			7.50	-0.8831		
-0.90	1.0995			8.75	-0.8845		
-0.44	0.9592			10.00	-0.8239		
0.00	0.1877			12.50	-0.8325		
0.31	-0.7968			15.00	-0.8296		
0.63	-1.1446			17.50	-0.8267		
1.25	-1.2941			20.00	-0.7794		
1.88	-1.3008			30.00	-0.6630		
2.50	-1.2791			50.00	-0.6017		
3.13	-1.3011			60.00	-0.6225		
3.75	-1.2912			70.00	-0.6350		
4.37	-1.2634			80.00	-0.6375		
5.00	-1.2475			90.00	-0.6372		
6.25	-1.2248			100.00	-0.5084		
7.50	-1.1810			110.00	-0.1559		
8.75	-1.1491			241.85	-0.0257		
10.00	-1.1456						
12.50	-1.1082						
15.00	-1.1141						
17.50	-1.1188						
20.00	-1.0886						
30.00	-0.9973						
40.00	-0.9328						
50.00	-0.8942						
60.00	-0.8729						
70.00	-0.8827						
80.00	-0.8602						
90.00	-0.4994						
100.00	-0.3600						
110.00	-0.3307						
241.85	-0.0160						
279.84	-0.0171						

mfr = 0.54 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-187.47	1.0404	343.16	-0.0011	-187.47	1.0405	343.16	0.0096
-171.29	1.0436	384.14	0.0109	-106.57	0.9804	384.14	0.0132
-155.11	1.0375	419.13	0.0265	-25.67	0.7433	419.13	0.0278
-130.84	1.0172	457.12	0.0449	-10.27	0.9064	457.12	0.0427
-106.57	0.9822	507.77	0.0877	-2.05	1.1969	507.77	0.0861
-90.39	0.9463	545.76	0.1451	0.00	0.4854	545.76	0.1435
-74.21	0.9065	571.08	0.2115	0.31	-0.4318	571.08	0.2122
-58.03	0.8544	583.74	0.2537	0.63	-0.8658	583.74	0.2611
-41.85	0.7957	596.41	0.3088	1.25	-1.0927	596.41	0.3149
-33.76	0.7726	609.07	0.3781	1.88	-1.1437	609.07	0.3872
-25.67	0.7429			2.50	-1.1297		
-23.11	0.7401			3.13	-1.1022		
-17.97	0.7740			3.75	-1.0618		
-10.27	0.8892			4.37	-1.0474		
-5.13	1.0710			5.00	-1.0259		
-3.34	1.1501			6.25	-0.9905		
-2.05	1.1952			7.50	-0.9631		
-0.90	1.1723			8.75	-0.9381		
-0.44	1.0710			10.00	-0.9158		
0.00	0.4579			12.50	-0.9021		
0.31	-0.5258			15.00	-0.9046		
0.63	-0.9010			17.50	-0.8752		
1.25	-1.1124			20.00	-0.8623		
1.88	-1.1402			30.00	-0.7689		
2.50	-1.1243			50.00	-0.7057		
3.13	-1.0722			60.00	-0.7035		
3.75	-1.0696			70.00	-0.6795		
4.37	-1.0572			80.00	-0.7103		
5.00	-1.0233			90.00	-0.6500		
6.25	-0.9930			100.00	-0.2294		
7.50	-0.9546			110.00	-0.1307		
8.75	-0.9383			241.85	-0.0316		
10.00	-0.9051						
12.50	-0.9032						
15.00	-0.8973						
17.50	-0.8716						
20.00	-0.8591						
30.00	-0.7732						
40.00	-0.7370						
50.00	-0.6876						
60.00	-0.6924						
70.00	-0.6849						
80.00	-0.7149						
90.00	-0.6997						
100.00	-0.2577						
110.00	-0.1169						
241.85	-0.0342						
279.84	-0.0263						

TABLE VI.Continued

(j) Continued

mfr = 0.61 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9929	343.16	0.0091	-187.47	0.9911	343.16	0.0207
-171.29	0.9935	384.14	0.0204	-106.57	0.9143	384.14	0.0227
-155.11	0.9878	419.13	0.0340	-25.67	0.5673	419.13	0.0411
-130.84	0.9618	457.12	0.0554	-10.27	0.7557	457.12	0.0567
-106.57	0.9141	507.77	0.1044	-2.05	1.1731	507.77	0.1034
-90.39	0.8658	545.76	0.1678	0.00	0.6280	545.76	0.1665
-74.21	0.8148	571.08	0.2345	0.31	-0.1911	571.08	0.2374
-58.03	0.7370	583.74	0.2818	0.63	-0.6948	583.74	0.2886
-41.85	0.6518	596.41	0.3362	1.25	-0.9037	596.41	0.3449
-33.76	0.6148	609.07	0.4082	1.88	-0.9765	609.07	0.4159
-25.67	0.5601			2.50	-0.9664		
-23.11	0.5512			3.13	-0.9155		
-17.97	0.5951			3.75	-0.9087		
-10.27	0.7571			4.37	-0.9054		
-5.13	0.9658			5.00	-0.8001		
-3.34	1.0745			6.25	-0.8059		
-2.05	1.1624			7.50	-0.7484		
-0.90	1.1905			8.75	-0.7652		
-0.44	1.1294			10.00	-0.7082		
0.00	0.5801			12.50	-0.7261		
0.31	-0.3175			15.00	-0.7039		
0.63	-0.7261			17.50	-0.7060		
1.25	-0.9563			20.00	-0.6716		
1.88	-0.9624			30.00	-0.6143		
2.50	-0.9592			50.00	-0.6082		
3.13	-0.8997			60.00	-0.6089		
3.75	-0.8806			70.00	-0.5935		
4.37	-0.8509			80.00	-0.6103		
5.00	-0.8295			90.00	-0.6039		
6.25	-0.7616			100.00	-0.2635		
7.50	-0.7386			110.00	-0.1272		
8.75	-0.7539			241.85	-0.0323		
10.00	-0.7003						
12.50	-0.7156						
15.00	-0.7472						
17.50	-0.6875						
20.00	-0.7322						
30.00	-0.6035						
40.00	-0.6334						
50.00	-0.5991						
60.00	-0.6256						
70.00	-0.6261						
80.00	-0.6166						
90.00	-0.6240						
100.00	-0.2140						
110.00	-0.1075						
241.85	-0.0315						
279.84	-0.0233						

mfr = 0.68 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9385	343.16	0.0124	-187.47	0.9401	343.16	0.0218
-171.29	0.9434	384.14	0.0273	-106.57	0.8382	384.14	0.0280
-155.11	0.9341	419.13	0.0426	-25.67	0.3459	419.13	0.0458
-130.84	0.9017	457.12	0.0672	-10.27	0.5638	457.12	0.0662
-106.57	0.8416	507.77	0.1213	-2.05	1.1101	507.77	0.1171
-90.39	0.7749	545.76	0.1823	0.00	0.7676	545.76	0.1813
-74.21	0.7021	571.08	0.2511	0.31	0.0040	571.08	0.2549
-58.03	0.6001	583.74	0.2964	0.63	-0.5270	583.74	0.3062
-41.85	0.4895	596.41	0.3535	1.25	-0.7398	596.41	0.3622
-33.76	0.4160	609.07	0.4216	1.88	-0.7772	609.07	0.4306
-25.67	0.3413			2.50	-0.7757		
-23.11	0.3159			3.13	-0.6922		
-17.97	0.3531			3.75	-0.5711		
-10.27	0.5591			4.37	-0.5431		
-5.13	0.8285			5.00	-0.4824		
-3.34	0.9801			6.25	-0.4143		
-2.05	1.1028			7.50	-0.4207		
-0.90	1.1869			8.75	-0.4570		
-0.44	1.1779			10.00	-0.4523		
0.00	0.7600			12.50	-0.4910		
0.31	-0.0800			15.00	-0.5617		
0.63	-0.5097			17.50	-0.5851		
1.25	-0.7261			20.00	-0.5804		
1.88	-0.6880			30.00	-0.5563		
2.50	-0.5059			50.00	-0.5589		
3.13	-0.4839			60.00	-0.5413		
3.75	-0.5509			70.00	-0.5703		
4.37	-0.5116			80.00	-0.5825		
5.00	-0.5065			90.00	-0.4756		
6.25	-0.5298			100.00	-0.2415		
7.50	-0.4685			110.00	-0.1166		
8.75	-0.4883			241.85	-0.0321		
10.00	-0.4746						
12.50	-0.5177						
15.00	-0.5746						
17.50	-0.6004						
20.00	-0.5986						
30.00	-0.5762						
40.00	-0.5701						
50.00	-0.5324						
60.00	-0.5712						
70.00	-0.5115						
80.00	-0.5794						
90.00	-0.5621						
100.00	-0.2219						
110.00	-0.1209						
241.85	-0.0351						
279.84	-0.0193						

mfr = 0.68 and α = 2.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9426	343.16	0.0351	-187.47	0.9381	343.16	0.0017
-171.29	0.9429	384.14	0.0367	-106.57	0.8373	384.14	0.0212
-155.11	0.9352	419.13	0.0513	-25.67	0.2649	419.13	0.0432
-130.84	0.9008	457.12	0.0750	-10.27	0.4455	457.12	0.0623
-106.57	0.8408	507.77	0.1220	-2.05	1.0361	507.77	0.1165
-90.39	0.7798	545.76	0.1849	0.00	0.8978	545.76	0.1777
-74.21	0.7077	571.08	0.2527	0.31	0.2088	571.08	0.2527
-58.03	0.6124	583.74	0.2964	0.63	-0.2591	583.74	0.3049
-41.85	0.5128	596.41	0.3470	1.25	-0.3782	596.41	0.3658
-33.76	0.4649	609.07	0.4073	1.88	-0.3205	609.07	0.4430
-25.67	0.4112			2.50	-0.3415		
-23.11	0.4062			3.13	-0.3041		
-17.97	0.4430			3.75	-0.2557		
-10.27	0.6602			4.37	-0.2453		
-5.13	0.9165			5.00	-0.2532		
-3.34	1.0524			6.25	-0.2101		
-2.05	1.1556			7.50	-0.2664		
-0.90	1.1946			8.75	-0.3093		
-0.44	1.1533			10.00	-0.3538		
0.00	0.6235			12.50	-0.3383		
0.31	-0.2569			15.00	-0.4381		
0.63	-0.6873			17.50	-0.4884		
1.25	-0.9457			20.00	-0.4693		
1.88	-0.9499			30.00	-0.3559		
2.50	-0.8924			50.00	-0.4259		
3.13	-0.9422			60.00	-0.4500		
3.75	-0.8940			70.00	-0.4923		
4.37	-0.8972			80.00	-0.5120		
5.00	-0.8579			90.00	-0.5422		
6.25	-0.8272			100.00	-0.3096		
7.50	-0.7205			110.00	-0.1250		
8.75	-0.7806			241.85	-0.0221		
10.00	-0.7905						
12.50	-0.7668						
15.00	-0.7905						
17.50	-0.7665						
20.00	-0.7662						
30.00	-0.6656						
40.00	-0.6737						
50.00	-0.6678						
60.00	-0.6531						
70.00	-0.6603						
80.00	-0.6617						
90.00	-0.4499						
100.00	-0.1843						
110.00	-0.0949						
241.85	-0.0263						
279.84	-0.0218						

TABLE VI. Continued

(j) Concluded

mfr = 0.74 and α = 0°

φ = 0°				φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-187.47	0.8827	343.16	0.0176	-187.47	0.8784	343.16	0.0312
-171.29	0.8817	384.14	0.0335	-106.57	0.7545	384.14	0.0341
-155.11	0.8706	419.13	0.0487	-25.67	0.0475	419.13	0.0516
-130.84	0.8286	457.12	0.0776	-10.27	0.3392	457.12	0.0724
-106.57	0.7552	507.77	0.1275	-2.05	1.0187	507.77	0.1266
-90.39	0.6725	545.76	0.1928	0.00	0.9150	545.76	0.1921
-74.21	0.5767	571.08	0.2628	0.31	0.2086	571.08	0.2638
-58.03	0.4368	583.74	0.3095	0.63	-0.1848	583.74	0.3164
-41.85	0.2666	596.41	0.3647	1.25	-0.4474	596.41	0.3725
-33.76	0.1706	609.07	0.4273	1.88	-0.3909	609.07	0.4416
-25.67	0.0360			2.50	-0.3975		
-23.11	0.0213			3.13	-0.3493		
-17.97	0.0818			3.75	-0.2919		
-10.27	0.3342			4.37	-0.3291		
-5.13	0.6780			5.00	-0.2578		
-3.34	0.8545			6.25	-0.2522		
-2.05	1.0119			7.50	-0.3081		
-0.90	1.1772			8.75	-0.3658		
-0.44	1.1997			10.00	-0.4144		
0.00	0.9008			12.50	-0.4669		
0.31	0.1375			15.00	-0.4963		
0.63	-0.3081			17.50	-0.5243		
1.25	-0.3561			20.00	-0.5082		
1.88	-0.3484			30.00	-0.4927		
2.50	-0.3315			50.00	-0.4589		
3.13	-0.3618			60.00	-0.4521		
3.75	-0.3030			70.00	-0.4916		
4.37	-0.2768			80.00	-0.5247		
5.00	-0.3056			90.00	-0.5347		
6.25	-0.3084			100.00	-0.2333		
7.50	-0.2547			110.00	-0.1191		
8.75	-0.4050			241.85	-0.0165		
10.00	-0.4226						
12.50	-0.4584						
15.00	-0.4775						
17.50	-0.5102						
20.00	-0.4677						
30.00	-0.4658						
40.00	-0.4651						
50.00	-0.4283						
60.00	-0.4625						
70.00	-0.4927						
80.00	-0.5236						
90.00	-0.5390						
100.00	-0.2676						
110.00	-0.1191						
241.85	-0.0191						
279.84	-0.0060						

mfr = 0.84 and α = 0°

φ = 0°				φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-187.47	0.1376	343.16	0.0189	-187.47	0.1364	343.16	0.0267
-171.29	0.0677	384.14	0.0309	-106.57	-0.1786	384.14	0.0309
-155.11	-0.0011	419.13	0.0439	-25.67	-0.5982	419.13	0.0475
-130.84	-0.0947	457.12	0.0656	-10.27	0.0623	457.12	0.0640
-106.57	-0.1910	507.77	0.1062	-2.05	0.9043	507.77	0.1085
-90.39	-0.2437	545.76	0.1581	0.00	1.0201	545.76	0.1571
-74.21	-0.2780	571.08	0.2123	0.31	0.4342	571.08	0.2142
-58.03	-0.3611	583.74	0.2477	0.63	0.0302	583.74	0.2536
-41.85	-0.8392	596.41	0.2896	1.25	-0.1628	596.41	0.2990
-33.76	-0.7639	609.07	0.3447	1.88	-0.0789	609.07	0.3564
-25.67	-0.6263			2.50	-0.1549		
-23.11	-0.5487			3.13	-0.1007		
-17.97	-0.3421			3.75	-0.1128		
-10.27	0.0870			4.37	-0.1351		
-5.13	0.4660			5.00	-0.1523		
-3.34	0.7075			6.25	-0.1014		
-2.05	0.8935			7.50	-0.1911		
-0.90	1.1245			8.75	-0.2543		
-0.44	1.1883			10.00	-0.2511		
0.00	0.9932			12.50	-0.3037		
0.31	0.3268			15.00	-0.4258		
0.63	0.0543			17.50	-0.4265		
1.25	-0.1232			20.00	-0.4060		
1.88	-0.0829			30.00	-0.3306		
2.50	-0.0842			50.00	-0.4269		
3.13	-0.1660			60.00	-0.4434		
3.75	-0.1082			70.00	-0.4836		
4.37	-0.1149			80.00	-0.5084		
5.00	-0.1660			90.00	-0.5095		
6.25	-0.2022			100.00	-0.2069		
7.50	-0.1852			110.00	-0.1071		
8.75	-0.2905			241.85	-0.0141		
10.00	-0.2962						
12.50	-0.3407						
15.00	-0.4241						
17.50	-0.4232						
20.00	-0.4151						
30.00	-0.3503						
40.00	-0.3806						
50.00	-0.4219						
60.00	-0.4402						
70.00	-0.4998						
80.00	-0.5189						
90.00	-0.5373						
100.00	-0.2161						
110.00	-0.1123						
241.85	-0.0201						
279.84	-0.0089						

TABLE VI. Continued

(k) M = 0.89

mfr = 0.27 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	1.1775	343.16	0.0112	-187.47	1.1785	343.16	0.0206
-171.29	1.1788	384.14	0.0005	-106.57	1.1657	384.14	0.0021
-155.11	1.1778	419.13	-0.0039	-25.67	1.1397	419.13	-0.0017
-130.84	1.1726	457.12	-0.0023	-10.27	1.2010	457.12	-0.0080
-106.57	1.1674	507.77	0.0062	-2.05	1.0974	507.77	0.0040
-90.39	1.1563	545.76	0.0228	0.00	-0.1067	545.76	0.0200
-74.21	1.1511	571.08	0.0514	0.31	-1.0147	571.08	0.0504
-58.03	1.1415	583.74	0.0759	0.63	-1.3044	583.74	0.0781
-41.85	1.1341	596.41	0.1076	1.25	-1.4126	596.41	0.1111
-33.76	1.1317	609.07	0.1670	1.88	-1.4571	609.07	0.1723
-25.67	1.1366			2.50	-1.4623		
-23.11	1.1442			3.13	-1.4593		
-17.97	1.1605			3.75	-1.4352		
-10.27	1.2017			4.37	-1.4103		
-5.13	1.2047			5.00	-1.3942		
-3.34	1.1759			6.25	-1.3700		
-2.05	1.1010			7.50	-1.3420		
-0.90	0.8909			8.75	-1.3207		
-0.44	0.6948			10.00	-1.2982		
0.00	-0.1933			12.50	-1.2589		
0.31	-1.1090			15.00	-1.2182		
0.63	-1.3049			17.50	-1.1942		
1.25	-1.4248			20.00	-1.1872		
1.88	-1.4396			30.00	-1.0610		
2.50	-1.4461			50.00	-0.9232		
3.13	-1.4427			60.00	-0.8881		
3.75	-1.4319			70.00	-0.8756		
4.37	-1.4124			80.00	-0.8728		
5.00	-1.4006			90.00	-0.8599		
6.25	-1.3635			100.00	-0.8558		
7.50	-1.3427			110.00	-0.8154		
8.75	-1.3114			241.85	0.0632		
10.00	-1.2965						
12.50	-1.2634						
15.00	-1.2365						
17.50	-1.2055						
20.00	-1.1796						
30.00	-1.0467						
40.00	-0.9748						
50.00	-0.9242						
60.00	-0.8798						
70.00	-0.8759						
80.00	-0.8598						
90.00	-0.8471						
100.00	-0.8526						
110.00	-0.8118						
241.85	0.0599						
279.84	0.0370						

mfr = 0.32 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	1.1636	343.16	0.0037	-187.47	1.1610	343.16	0.0157
-171.29	1.1617	384.14	-0.0004	-106.57	1.1447	384.14	0.0012
-155.11	1.1608	419.13	-0.0020	-25.67	1.0953	419.13	0.0040
-130.84	1.1543	457.12	0.0046	-10.27	1.1774	457.12	0.0031
-106.57	1.1426	507.77	0.0251	-2.05	1.1405	507.77	0.0239
-90.39	1.1309	545.76	0.0535	0.00	0.0035	545.76	0.0516
-74.21	1.1207	571.08	0.0932	0.31	-0.9582	571.08	0.0916
-58.03	1.1065	583.74	0.1234	0.63	-1.2634	583.74	0.1266
-41.85	1.0917	596.41	0.1615	1.25	-1.3692	596.41	0.1678
-33.76	1.0929	609.07	0.2252	1.88	-1.4053	609.07	0.2321
-25.67	1.0960			2.50	-1.4089		
-23.11	1.1019			3.13	-1.4032		
-17.97	1.1207			3.75	-1.3859		
-10.27	1.1739			4.37	-1.3602		
-5.13	1.2086			5.00	-1.3430		
-3.34	1.1962			6.25	-1.2998		
-2.05	1.1357			7.50	-1.2820		
-0.90	0.9599			8.75	-1.2551		
-0.44	0.7818			10.00	-1.2202		
0.00	-0.0594			12.50	-1.1878		
0.31	-1.0339			15.00	-1.1766		
0.63	-1.2605			17.50	-1.1431		
1.25	-1.3674			20.00	-1.1166		
1.88	-1.3876			30.00	-1.0241		
2.50	-1.3873			50.00	-0.8964		
3.13	-1.3951			60.00	-0.8772		
3.75	-1.3826			70.00	-0.8545		
4.37	-1.3714			80.00	-0.8538		
5.00	-1.3378			90.00	-0.8444		
6.25	-1.3021			100.00	-0.8497		
7.50	-1.2816			110.00	-0.8074		
8.75	-1.2580			241.85	0.0475		
10.00	-1.2363						
12.50	-1.1988						
15.00	-1.1699						
17.50	-1.1584						
20.00	-1.1295						
30.00	-1.0212						
40.00	-0.9427						
50.00	-0.8895						
60.00	-0.8612						
70.00	-0.8521						
80.00	-0.8456						
90.00	-0.8472						
100.00	-0.8467						
110.00	-0.8038						
241.85	0.0410						
279.84	0.0184						

mfr = 0.39 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	1.1339	343.16	0.0044	-187.47	1.1321	343.16	0.0176
-171.29	1.1345	384.14	0.0066	-106.57	1.1047	384.14	0.0085
-155.11	1.1320	419.13	0.0116	-25.67	1.0157	419.13	0.0167
-130.84	1.1224	457.12	0.0251	-10.27	1.1248	457.12	0.0239
-106.57	1.1064	507.77	0.0569	-2.05	1.1842	507.77	0.0541
-90.39	1.0879	545.76	0.0962	0.00	0.1658	545.76	0.0922
-74.21	1.0700	571.08	0.1481	0.31	-0.8144	571.08	0.1453
-58.03	1.0463	583.74	0.1837	0.63	-1.1398	583.74	0.1856
-41.85	1.0284	596.41	0.2306	1.25	-1.2551	596.41	0.2328
-33.76	1.0213	609.07	0.2929	1.88	-1.2931	609.07	0.3023
-25.67	1.0098			2.50	-1.3118		
-23.11	1.0188			3.13	-1.2801		
-17.97	1.0480			3.75	-1.2732		
-10.27	1.1241			4.37	-1.2506		
-5.13	1.1996			5.00	-1.2335		
-3.34	1.2134			6.25	-1.1830		
-2.05	1.1890			7.50	-1.1683		
-0.90	1.0594			8.75	-1.1358		
-0.44	0.8969			10.00	-1.1108		
0.00	0.1001			12.50	-1.0781		
0.31	-0.8661			15.00	-1.0767		
0.63	-1.1501			17.50	-1.0624		
1.25	-1.2623			20.00	-1.0391		
1.88	-1.2853			30.00	-0.9426		
2.50	-1.2785			50.00	-0.8388		
3.13	-1.2757			60.00	-0.8213		
3.75	-1.2558			70.00	-0.8025		
4.37	-1.2329			80.00	-0.8147		
5.00	-1.2326			90.00	-0.8172		
6.25	-1.1991			100.00	-0.8105		
7.50	-1.1492			110.00	-0.7768		
8.75	-1.1330			241.85	0.0322		
10.00	-1.1250						
12.50	-1.0912						
15.00	-1.0660						
17.50	-1.0493						
20.00	-1.0391						
30.00	-0.9241						
40.00	-0.8686						
50.00	-0.8345						
60.00	-0.8130						
70.00	-0.8189						
80.00	-0.7956						
90.00	-0.8115						
100.00	-0.7916						
110.00	-0.7762						
241.85	0.0264						
279.84	0.0115						

TABLE VI. Continued

(k) Continued

mfr = 0.49 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0855	343.16	0.0079	-187.47	1.0847	343.16	0.0198
-171.29	1.0877	384.14	0.0142	-106.57	1.0378	384.14	0.0167
-155.11	1.0815	419.13	0.0245	-25.67	0.8642	419.13	0.0299
-130.84	1.0679	457.12	0.0450	-10.27	1.0006	457.12	0.0418
-106.57	1.0399	507.77	0.0872	-2.05	1.2107	507.77	0.0840
-90.39	1.0103	545.76	0.1416	0.00	0.3927	545.76	0.1378
-74.21	0.9801	571.08	0.2029	0.31	-0.5467	571.08	0.2026
-58.03	0.9390	583.74	0.2460	0.63	-0.9206	583.74	0.2514
-41.85	0.9004	596.41	0.2961	1.25	-1.1263	596.41	0.3065
-33.76	0.8756	609.07	0.3691	1.88	-1.1424	609.07	0.3773
-25.67	0.8648			2.50	-1.1304		
-23.11	0.8655			3.13	-1.1264		
-17.97	0.8961			3.75	-1.0899		
-10.27	1.0020			4.37	-1.0814		
-5.13	1.1439			5.00	-1.0540		
-3.34	1.1909			6.25	-1.0137		
-2.05	1.2113			7.50	-1.0032		
-0.90	1.1509			8.75	-0.9686		
-0.44	1.0346			10.00	-0.9478		
0.00	0.3473			12.50	-0.9014		
0.31	-0.6184			15.00	-0.9241		
0.63	-0.9669			17.50	-0.9248		
1.25	-1.1304			20.00	-0.9133		
1.88	-1.1447			30.00	-0.7882		
2.50	-1.1242			50.00	-0.7415		
3.13	-1.1205			60.00	-0.7161		
3.75	-1.0957			70.00	-0.7171		
4.37	-1.0929			80.00	-0.7227		
5.00	-1.0700			90.00	-0.7283		
6.25	-1.0194			100.00	-0.7471		
7.50	-0.9993			110.00	-0.7014		
8.75	-0.9962			241.85	0.0034		
10.00	-0.9807						
12.50	-0.9372						
15.00	-0.9312						
17.50	-0.9341						
20.00	-0.9075						
30.00	-0.8094						
40.00	-0.7549						
50.00	-0.7353						
60.00	-0.7305						
70.00	-0.7203						
80.00	-0.7382						
90.00	-0.7189						
100.00	-0.7618						
110.00	-0.7034						
241.85	-0.0021						
279.84	-0.0094						

mfr = 0.49 and α = 2.1°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0878	343.16	0.0333	-187.47	1.0827	343.16	-0.0070
-171.29	1.0875	384.14	0.0276	-106.57	1.0372	384.14	0.0075
-155.11	1.0854	419.13	0.0339	-25.67	0.8274	419.13	0.0248
-130.84	1.0706	457.12	0.0521	-10.27	0.9588	457.12	0.0377
-106.57	1.0431	507.77	0.0917	-2.05	1.2127	507.77	0.0823
-90.39	1.0167	545.76	0.1410	0.00	0.5035	545.76	0.1392
-74.21	0.9880	571.08	0.1954	0.31	-0.3565	571.08	0.2070
-58.03	0.9497	583.74	0.2319	0.63	-0.7713	583.74	0.2580
-41.85	0.9134	596.41	0.2737	1.25	-1.0004	596.41	0.3202
-33.76	0.9033	609.07	0.3290	1.88	-1.0389	609.07	0.3984
-25.67	0.8961			2.50	-1.0477		
-23.11	0.8995			3.13	-1.0045		
-17.97	0.9342			3.75	-0.9757		
-10.27	1.0549			4.37	-0.9568		
-5.13	1.1614			5.00	-0.9082		
-3.34	1.2043			6.25	-0.8733		
-2.05	1.2065			7.50	-0.8469		
-0.90	1.1159			8.75	-0.8407		
-0.44	0.9700			10.00	-0.8101		
0.00	0.2002			12.50	-0.7812		
0.31	-0.7480			15.00	-0.7937		
0.63	-1.0475			17.50	-0.7579		
1.25	-1.2076			20.00	-0.7450		
1.88	-1.2169			30.00	-0.6220		
2.50	-1.2138			50.00	-0.6008		
3.13	-1.2086			60.00	-0.5900		
3.75	-1.1996			70.00	-0.5904		
4.37	-1.1807			80.00	-0.6388		
5.00	-1.1729			90.00	-0.6346		
6.25	-1.1286			100.00	-0.6688		
7.50	-1.0999			110.00	-0.6224		
8.75	-1.0772			241.85	-0.0072		
10.00	-1.0683						
12.50	-1.0525						
15.00	-1.0273						
17.50	-1.0460						
20.00	-1.0048						
30.00	-0.9462						
40.00	-0.8711						
50.00	-0.8378						
60.00	-0.8399						
70.00	-0.8351						
80.00	-0.8352						
90.00	-0.8270						
100.00	-0.8268						
110.00	-0.5336						
241.85	0.0375						
279.84	0.0088						

mfr = 0.54 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-187.47	1.0595	343.16	0.0093	-187.47	1.0555	343.16	0.0200
-171.29	1.0589	384.14	0.0206	-106.57	0.9993	384.14	0.0200
-155.11	1.0561	419.13	0.0294	-25.67	0.7609	419.13	0.0360
-130.84	1.0361	457.12	0.0526	-10.27	0.9283	457.12	0.0520
-106.57	1.0013	507.77	0.1013	-2.05	1.2108	507.77	0.0994
-90.39	0.9649	545.76	0.1610	0.00	0.5324	545.76	0.1597
-74.21	0.9245	571.08	0.2266	0.31	-0.3653	571.08	0.2276
-58.03	0.8701	583.74	0.2703	0.63	-0.8017	583.74	0.2769
-41.85	0.8202	596.41	0.3243	1.25	-1.0280	596.41	0.3350
-33.76	0.7890	609.07	0.3959	1.88	-1.0507	609.07	0.4076
-25.67	0.7633			2.50	-1.0732		
-23.11	0.7619			3.13	-1.0177		
-17.97	0.7903			3.75	-0.9848		
-10.27	0.9224			4.37	-0.9774		
-5.13	1.0852			5.00	-0.9765		
-3.34	1.1623			6.25	-0.8932		
-2.05	1.2099			7.50	-0.9000		
-0.90	1.1877			8.75	-0.8696		
-0.44	1.1012			10.00	-0.8415		
0.00	0.4612			12.50	-0.8349		
0.31	-0.4529			15.00	-0.8015		
0.63	-0.8155			17.50	-0.8349		
1.25	-1.0399			20.00	-0.7855		
1.88	-1.0610			30.00	-0.7181		
2.50	-1.0409			50.00	-0.6610		
3.13	-1.0161			60.00	-0.6439		
3.75	-0.9873			70.00	-0.6568		
4.37	-0.9811			80.00	-0.6899		
5.00	-0.9384			90.00	-0.6840		
6.25	-0.8969			100.00	-0.7156		
7.50	-0.8824			110.00	-0.6606		
8.75	-0.8644			241.85	0.0027		
10.00	-0.8483						
12.50	-0.8591						
15.00	-0.8623						
17.50	-0.8294						
20.00	-0.8079						
30.00	-0.7362						
40.00	-0.6874						
50.00	-0.7003						
60.00	-0.6399						
70.00	-0.6694						
80.00	-0.6860						
90.00	-0.7003						
100.00	-0.6903						
110.00	-0.6694						
241.85	-0.0039						
279.84	-0.0064						

TABLE VI. Continued

(k) Continued

mfr = 0.61 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	1.0127	343.16	0.0205	-187.47	1.0089	343.16	0.0287
-171.29	1.0127	384.14	0.0325	-106.57	0.9337	384.14	0.0315
-155.11	1.0068	419.13	0.0466	-25.67	0.5789	419.13	0.0501
-130.84	0.9806	457.12	0.0749	-10.27	0.7783	457.12	0.0680
-106.57	0.9334	507.77	0.1239	-2.05	1.1807	507.77	0.1183
-90.39	0.8863	545.76	0.1836	0.00	0.6630	545.76	0.1836
-74.21	0.8309	571.08	0.2531	0.31	-0.1438	571.08	0.2547
-58.03	0.7585	583.74	0.2987	0.63	-0.6295	583.74	0.3053
-41.85	0.6790	596.41	0.3547	1.25	-0.8783	596.41	0.3644
-33.76	0.6376	609.07	0.4238	1.88	-0.9144	609.07	0.4329
-25.67	0.5751			2.50	-0.8999		
-23.11	0.5893			3.13	-0.8785		
-17.97	0.6115			3.75	-0.8167		
-10.27	0.7808			4.37	-0.8197		
-5.13	0.9909			5.00	-0.7725		
-3.34	1.1040			6.25	-0.7587		
-2.05	1.1764			7.50	-0.6921		
-0.90	1.2095			8.75	-0.6828		
-0.44	1.1611			10.00	-0.7022		
0.00	0.6217			12.50	-0.7116		
0.31	-0.2427			15.00	-0.6886		
0.63	-0.6413			17.50	-0.6928		
1.25	-0.8622			20.00	-0.6789		
1.88	-0.8801			30.00	-0.5796		
2.50	-0.8708			50.00	-0.5981		
3.13	-0.8835			60.00	-0.5880		
3.75	-0.8278			70.00	-0.6130		
4.37	-0.7377			80.00	-0.6398		
5.00	-0.7779			90.00	-0.6555		
6.25	-0.7596			100.00	-0.6611		
7.50	-0.6311			110.00	-0.6040		
8.75	-0.6946			241.85	-0.0072		
10.00	-0.6206						
12.50	-0.6801						
15.00	-0.6770						
17.50	-0.6689						
20.00	-0.6527						
30.00	-0.5694						
40.00	-0.5946						
50.00	-0.5706						
60.00	-0.5895						
70.00	-0.5998						
80.00	-0.6385						
90.00	-0.6454						
100.00	-0.6716						
110.00	-0.5961						
241.85	-0.0111						
279.84	-0.0086						

mfr = 0.68 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.9579	343.16	0.0250	-187.47	0.9554	343.16	0.0366
-171.29	0.9585	384.14	0.0375	-106.57	0.8579	384.14	0.0388
-155.11	0.9518	419.13	0.0545	-25.67	0.3590	419.13	0.0589
-130.84	0.9179	457.12	0.0806	-10.27	0.5770	457.12	0.0771
-106.57	0.8584	507.77	0.1349	-2.05	1.1246	507.77	0.1353
-90.39	0.7953	545.76	0.1978	0.00	0.7944	545.76	0.2000
-74.21	0.7242	571.08	0.2700	0.31	0.0469	571.08	0.2745
-58.03	0.6235	583.74	0.3166	0.63	-0.4409	583.74	0.3245
-41.85	0.5036	596.41	0.3722	1.25	-0.6208	596.41	0.3820
-33.76	0.4484	609.07	0.4394	1.88	-0.7041	609.07	0.4514
-25.67	0.3531			2.50	-0.6612		
-23.11	0.3382			3.13	-0.6363		
-17.97	0.3954			3.75	-0.5460		
-10.27	0.5958			4.37	-0.5782		
-5.13	0.8502			5.00	-0.5450		
-3.34	0.9898			6.25	-0.3546		
-2.05	1.1186			7.50	-0.3508		
-0.90	1.2084			8.75	-0.4130		
-0.44	1.1968			10.00	-0.4190		
0.00	0.7648			12.50	-0.4437		
0.31	-0.0269			15.00	-0.5126		
0.63	-0.4967			17.50	-0.5377		
1.25	-0.6333			20.00	-0.5290		
1.88	-0.6761			30.00	-0.5164		
2.50	-0.4871			50.00	-0.5638		
3.13	-0.5326			60.00	-0.5304		
3.75	-0.4211			70.00	-0.5724		
4.37	-0.4119			80.00	-0.6038		
5.00	-0.4843			90.00	-0.6145		
6.25	-0.4403			100.00	-0.6354		
7.50	-0.4366			110.00	-0.5387		
8.75	-0.4422			241.85	-0.0080		
10.00	-0.4744						
12.50	-0.4812						
15.00	-0.5142						
17.50	-0.5441						
20.00	-0.5401						
30.00	-0.5351						
40.00	-0.5412						
50.00	-0.5435						
60.00	-0.5361						
70.00	-0.5589						
80.00	-0.5945						
90.00	-0.6113						
100.00	-0.6308						
110.00	-0.5558						
241.85	-0.0087						
279.84	-0.0050						

mfr = 0.74 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-187.47	0.8981	343.16	0.0279	-187.47	0.8944	343.16	0.0405
-171.29	0.8975	384.14	0.0436	-106.57	0.7715	384.14	0.0449
-155.11	0.8876	419.13	0.0628	-25.67	0.0384	419.13	0.0647
-130.84	0.8469	457.12	0.0898	-10.27	0.3571	457.12	0.0870
-106.57	0.7717	507.77	0.1427	-2.05	1.0370	507.77	0.1433
-90.39	0.6899	545.76	0.2113	0.00	0.9562	545.76	0.2116
-74.21	0.5941	571.08	0.2817	0.31	0.2547	571.08	0.2867
-58.03	0.4581	583.74	0.3286	0.63	-0.1229	583.74	0.3374
-41.85	0.2817	596.41	0.3827	1.25	-0.3315	596.41	0.3918
-33.76	0.1881	609.07	0.4481	1.88	-0.3500	609.07	0.4600
-25.67	0.0624			2.50	-0.2876		
-23.11	0.0374			3.13	-0.2348		
-17.97	0.0836			3.75	-0.2528		
-10.27	0.3321			4.37	-0.2399		
-5.13	0.6939			5.00	-0.2528		
-3.34	0.8801			6.25	-0.1977		
-2.05	1.0410			7.50	-0.2601		
-0.90	1.1892			8.75	-0.3285		
-0.44	1.2126			10.00	-0.3447		
0.00	0.9326			12.50	-0.4081		
0.31	0.1436			15.00	-0.4799		
0.63	-0.1929			17.50	-0.4750		
1.25	-0.3525			20.00	-0.4687		
1.88	-0.3240			30.00	-0.4332		
2.50	-0.2825			50.00	-0.4520		
3.13	-0.3113			60.00	-0.4805		
3.75	-0.3032			70.00	-0.5021		
4.37	-0.2775			80.00	-0.5457		
5.00	-0.3128			90.00	-0.5607		
6.25	-0.2989			100.00	-0.5896		
7.50	-0.2034			110.00	-0.4384		
8.75	-0.3463			241.85	-0.0022		
10.00	-0.3798						
12.50	-0.4291						
15.00	-0.4263						
17.50	-0.4830						
20.00	-0.4760						
30.00	-0.4840						
40.00	-0.4597						
50.00	-0.4592						
60.00	-0.4819						
70.00	-0.5224						
80.00	-0.5425						
90.00	-0.5642						
100.00	-0.5879						
110.00	-0.4573						
241.85	-0.0052						
279.84	0.0007						

TABLE VI. Continued

(k) Concluded

mfr = 0.81 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	0.1504	343.16	0.0235	-187.47	0.1395	343.16	0.0383
-171.29	0.0559	384.14	0.0383	-106.57	-0.1685	384.14	0.0395
-155.11	-0.0066	419.13	0.0521	-25.67	-0.5360	419.13	0.0590
-130.84	-0.0910	457.12	0.0791	-10.27	0.1312	457.12	0.0738
-106.57	-0.1724	507.77	0.1218	-2.05	0.9324	507.77	0.1215
-90.39	-0.2185	545.76	0.1733	0.00	1.0264	545.76	0.1729
-74.21	-0.2467	571.08	0.2294	0.31	0.4415	571.08	0.2310
-58.03	-0.3887	583.74	0.2662	0.63	0.0676	583.74	0.2725
-41.85	-0.7501	596.41	0.3067	1.25	-0.0892	596.41	0.3155
-33.76	-0.6838	609.07	0.3626	1.88	-0.0999	609.07	0.3739
-25.67	-0.5328			2.50	-0.1414		
-23.11	-0.5012			3.13	-0.1264		
-17.97	-0.2798			3.75	-0.0719		
-10.27	0.1218			4.37	-0.1068		
-5.13	0.5285			5.00	-0.1160		
-3.34	0.7156			6.25	-0.1279		
-2.05	0.9283			7.50	-0.1841		
-0.90	1.1111			8.75	-0.2544		
-0.44	1.1932			10.00	-0.2433		
0.00	1.0366			12.50	-0.2836		
0.31	0.3695			15.00	-0.3778		
0.63	0.0882			17.50	-0.4331		
1.25	-0.1065			20.00	-0.3955		
1.88	-0.0709			30.00	-0.3584		
2.50	-0.0858			50.00	-0.3966		
3.13	-0.0690			60.00	-0.4320		
3.75	-0.0972			70.00	-0.4737		
4.37	-0.1300			80.00	-0.5193		
5.00	-0.1547			90.00	-0.5440		
6.25	-0.1510			100.00	-0.5777		
7.50	-0.1260			110.00	-0.4658		
8.75	-0.3045			241.85	-0.0176		
10.00	-0.2823						
12.50	-0.2946						
15.00	-0.4060						
17.50	-0.4218						
20.00	-0.4067						
30.00	-0.4239						
40.00	-0.3871						
50.00	-0.4143						
60.00	-0.4491						
70.00	-0.4817						
80.00	-0.5355						
90.00	-0.5492						
100.00	-0.5822						
110.00	-0.5037						
241.85	-0.0213						
279.84	-0.0115						

TABLE VI. Continued

(l) M = 0.92

mfr = 0.27 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.1912	343.16	0.0631	-187.47	1.1928	343.16	0.0726
-171.29	1.1927	384.14	0.0450	-106.57	1.1796	384.14	0.0472
-155.11	1.1891	419.13	0.0322	-25.67	1.1564	419.13	0.0352
-130.84	1.1867	457.12	0.0285	-10.27	1.2154	457.12	0.0252
-106.57	1.1783	507.77	0.0340	-2.05	1.1064	507.77	0.0319
-90.39	1.1705	545.76	0.0533	0.00	-0.0385	545.76	0.0502
-74.21	1.1627	571.08	0.0854	0.31	-0.9420	571.08	0.0823
-58.03	1.1531	583.74	0.1099	0.63	-1.2264	583.74	0.1126
-41.85	1.1486	596.41	0.1432	1.25	-1.3318	596.41	0.1466
-33.76	1.1486	609.07	0.2035	1.88	-1.3688	609.07	0.2059
-25.67	1.1543			2.50	-1.3917		
-23.11	1.1574			3.13	-1.3819		
-17.97	1.1749			3.75	-1.3589		
-10.27	1.2134			4.37	-1.3331		
-5.13	1.2194			5.00	-1.3226		
-3.34	1.1900			6.25	-1.2801		
-2.05	1.1089			7.50	-1.2739		
-0.90	0.9124			8.75	-1.2487		
-0.44	0.7072			10.00	-1.2241		
0.00	-0.1609			12.50	-1.1652		
0.31	-1.0369			15.00	-1.1533		
0.63	-1.2347			17.50	-1.1353		
1.25	-1.3490			20.00	-1.0991		
1.88	-1.3599			30.00	-0.9901		
2.50	-1.3737			50.00	-0.8488		
3.13	-1.3635			60.00	-0.8390		
3.75	-1.3583			70.00	-0.8170		
4.37	-1.3406			80.00	-0.8207		
5.00	-1.3216			90.00	-0.8051		
6.25	-1.2932			100.00	-0.8156		
7.50	-1.2630			110.00	-0.7736		
8.75	-1.2458			241.85	0.0374		
10.00	-1.2335						
12.50	-1.1853						
15.00	-1.1685						
17.50	-1.1349						
20.00	-1.1176						
30.00	-1.0107						
40.00	-0.9190						
50.00	-0.8766						
60.00	-0.8250						
70.00	-0.8163						
80.00	-0.8200						
90.00	-0.8076						
100.00	-0.8052						
110.00	-0.7684						
241.85	0.0410						
279.84	0.0752						

mfr = 0.32 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.1776	343.16	0.0550	-187.47	1.1752	343.16	0.0669
-171.29	1.1767	384.14	0.0418	-106.57	1.1586	384.14	0.0446
-155.11	1.1764	419.13	0.0342	-25.67	1.1114	419.13	0.0391
-130.84	1.1701	457.12	0.0363	-10.27	1.1910	457.12	0.0342
-106.57	1.1596	507.77	0.0535	-2.05	1.1525	507.77	0.0510
-90.39	1.1485	545.76	0.0847	0.00	0.0614	545.76	0.0816
-74.21	1.1368	571.08	0.1278	0.31	-0.8737	571.08	0.1259
-58.03	1.1248	583.74	0.1593	0.63	-1.1754	583.74	0.1630
-41.85	1.1122	596.41	0.2007	1.25	-1.2881	596.41	0.2052
-33.76	1.1080	609.07	0.2664	1.88	-1.3165	609.07	0.2704
-25.67	1.1141			2.50	-1.3277		
-23.11	1.1178			3.13	-1.3133		
-17.97	1.1391			3.75	-1.2979		
-10.27	1.1910			4.37	-1.2805		
-5.13	1.2267			5.00	-1.2617		
-3.34	1.2143			6.25	-1.2169		
-2.05	1.1544			7.50	-1.2007		
-0.90	0.9904			8.75	-1.1765		
-0.44	0.8136			10.00	-1.1586		
0.00	-0.0045			12.50	-1.1153		
0.31	-0.9492			15.00	-1.1109		
0.63	-1.1763			17.50	-1.0763		
1.25	-1.2858			20.00	-1.0431		
1.88	-1.3002			30.00	-0.9649		
2.50	-1.3039			50.00	-0.8314		
3.13	-1.3005			60.00	-0.8242		
3.75	-1.2906			70.00	-0.8019		
4.37	-1.2861			80.00	-0.8070		
5.00	-1.2534			90.00	-0.7958		
6.25	-1.2329			100.00	-0.7972		
7.50	-1.1962			110.00	-0.7619		
8.75	-1.1769			241.85	0.0642		
10.00	-1.1606						
12.50	-1.1211						
15.00	-1.0847						
17.50	-1.0798						
20.00	-1.0483						
30.00	-0.9661						
40.00	-0.8779						
50.00	-0.8326						
60.00	-0.8040						
70.00	-0.8124						
80.00	-0.7963						
90.00	-0.7976						
100.00	-0.7927						
110.00	-0.7716						
241.85	0.0664						
279.84	0.0816						

mfr = 0.40 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.1450	343.16	0.0439	-187.47	1.1431	343.16	0.0555
-171.29	1.1447	384.14	0.0375	-106.57	1.1151	384.14	0.0387
-155.11	1.1429	419.13	0.0372	-25.67	1.0245	419.13	0.0415
-130.84	1.1339	457.12	0.0485	-10.27	1.1283	457.12	0.0451
-106.57	1.1154	507.77	0.0791	-2.05	1.2029	507.77	0.0773
-90.39	1.0968	545.76	0.1256	0.00	0.2292	545.76	0.1232
-74.21	1.0776	571.08	0.1810	0.31	-0.7160	571.08	0.1804
-58.03	1.0533	583.74	0.2205	0.63	-1.0567	583.74	0.2257
-41.85	1.0320	596.41	0.2673	1.25	-1.1762	596.41	0.2759
-33.76	1.0229	609.07	0.3343	1.88	-1.1963	609.07	0.3459
-25.67	1.0181			2.50	-1.1989		
-23.11	1.0252			3.13	-1.1889		
-17.97	1.0492			3.75	-1.1819		
-10.27	1.1273			4.37	-1.1553		
-5.13	1.2089			5.00	-1.1545		
-3.34	1.2252			6.25	-1.1094		
-2.05	1.2050			7.50	-1.0833		
-0.90	1.0849			8.75	-1.0581		
-0.44	0.9386			10.00	-1.0393		
0.00	0.1710			12.50	-1.0068		
0.31	-0.7934			15.00	-0.9871		
0.63	-1.0522			17.50	-0.9698		
1.25	-1.1846			20.00	-0.9715		
1.88	-1.1948			30.00	-0.8648		
2.50	-1.1816			50.00	-0.7784		
3.13	-1.1909			60.00	-0.7703		
3.75	-1.1716			70.00	-0.7489		
4.37	-1.1517			80.00	-0.7597		
5.00	-1.1457			90.00	-0.7486		
6.25	-1.1134			100.00	-0.7611		
7.50	-1.0836			110.00	-0.7201		
8.75	-1.0510			241.85	0.0784		
10.00	-1.0389						
12.50	-1.0097						
15.00	-0.9903						
17.50	-0.9901						
20.00	-0.9482						
30.00	-0.8538						
40.00	-0.7986						
50.00	-0.7829						
60.00	-0.7484						
70.00	-0.7448						
80.00	-0.7477						
90.00	-0.7542						
100.00	-0.7647						
110.00	-0.7256						
241.85	0.0794						
279.84	0.0646						

TABLE VI. Continued

(l) Continued

mfr = 0.49 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1000	343.16	0.0341	-187.47	1.0973	343.16	0.0408
-171.29	1.0997	384.14	0.0359	-106.57	1.0533	384.14	0.0359
-155.11	1.0970	419.13	0.0439	-25.67	0.8818	419.13	0.0463
-130.84	1.0823	457.12	0.0635	-10.27	1.0195	457.12	0.0583
-106.57	1.0555	507.77	0.1045	-2.05	1.2248	507.77	0.1027
-90.39	1.0261	545.76	0.1609	0.00	0.4231	545.76	0.1585
-74.21	0.9957	571.08	0.2262	0.31	-0.4862	571.08	0.2271
-58.03	0.9542	583.74	0.2700	0.63	-0.8706	583.74	0.2753
-41.85	0.9133	596.41	0.3237	1.25	-1.0511	596.41	0.3320
-33.76	0.8981	609.07	0.3911	1.88	-1.0742	609.07	0.4043
-25.67	0.8791			2.50	-1.0945		
-23.11	0.8805			3.13	-1.0533		
-17.97	0.9143			3.75	-1.0236		
-10.27	1.0320			4.37	-1.0098		
-5.13	1.1563			5.00	-1.0039		
-3.34	1.2088			6.25	-0.9457		
-2.05	1.2251			7.50	-0.9262		
-0.90	1.1691			8.75	-0.9025		
-0.44	1.0498			10.00	-0.8814		
0.00	0.3458			12.50	-0.8433		
0.31	-0.5519			15.00	-0.8770		
0.63	-0.8977			17.50	-0.8627		
1.25	-1.0512			20.00	-0.8603		
1.88	-1.0759			30.00	-0.7544		
2.50	-1.0406			50.00	-0.7018		
3.13	-1.0403			60.00	-0.6689		
3.75	-1.0255			70.00	-0.7001		
4.37	-1.0152			80.00	-0.6930		
5.00	-0.9935			90.00	-0.7089		
6.25	-0.9802			100.00	-0.7100		
7.50	-0.9337			110.00	-0.6781		
8.75	-0.9267			241.85	0.0588		
10.00	-0.9092						
12.50	-0.9013						
15.00	-0.8607						
17.50	-0.8482						
20.00	-0.8518						
30.00	-0.7618						
40.00	-0.7258						
50.00	-0.6790						
60.00	-0.6829						
70.00	-0.6835						
80.00	-0.7056						
90.00	-0.7114						
100.00	-0.6996						
110.00	-0.6805						
241.85	0.0616						
279.84	0.0379						

mfr = 0.49 and α = 1.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1034	343.16	0.0505	-187.47	1.1007	343.16	0.0309
-171.29	1.1040	384.14	0.0444	-106.57	1.0540	384.14	0.0315
-155.11	1.0998	419.13	0.0496	-25.67	0.8660	419.13	0.0450
-130.84	1.0845	457.12	0.0679	-10.27	1.0014	457.12	0.0575
-106.57	1.0587	507.77	0.1095	-2.05	1.2260	507.77	0.1019
-90.39	1.0296	545.76	0.1643	0.00	0.5049	545.76	0.1594
-74.21	1.0029	571.08	0.2258	0.31	-0.3906	571.08	0.2289
-58.03	0.9606	583.74	0.2674	0.63	-0.7989	583.74	0.2806
-41.85	0.9258	596.41	0.3155	1.25	-0.9744	596.41	0.3409
-33.76	0.9126	609.07	0.3819	1.88	-1.0295	609.07	0.4180
-25.67	0.8953			2.50	-1.0389		
-23.11	0.8872			3.13	-1.0065		
-17.97	0.9335			3.75	-0.9758		
-10.27	1.0429			4.37	-0.9507		
-5.13	1.1703			5.00	-0.9277		
-3.34	1.2139			6.25	-0.8735		
-2.05	1.2234			7.50	-0.8626		
-0.90	1.1614			8.75	-0.8626		
-0.44	1.0197			10.00	-0.8250		
0.00	0.3205			12.50	-0.7749		
0.31	-0.6182			15.00	-0.7949		
0.63	-0.9397			17.50	-0.7891		
1.25	-1.0983			20.00	-0.7644		
1.88	-1.1089			30.00	-0.7027		
2.50	-1.0859			50.00	-0.6160		
3.13	-1.0618			60.00	-0.6309		
3.75	-1.0751			70.00	-0.6322		
4.37	-1.0657			80.00	-0.6543		
5.00	-1.0356			90.00	-0.6560		
6.25	-1.0069			100.00	-0.6830		
7.50	-0.9904			110.00	-0.6438		
8.75	-0.9747			241.85	0.0526		
10.00	-0.9614						
12.50	-0.9334						
15.00	-0.9348						
17.50	-0.9228						
20.00	-0.9001						
30.00	-0.8374						
40.00	-0.7735						
50.00	-0.7484						
60.00	-0.7374						
70.00	-0.7427						
80.00	-0.7413						
90.00	-0.7466						
100.00	-0.7480						
110.00	-0.7240						
241.85	0.0756						
279.84	0.0491						

mfr = 0.49 and α = 2.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-187.47	1.1026	343.16	0.0632	-187.47	1.0991	343.16	0.0145
-171.29	1.1041	384.14	0.0506	-106.57	1.0524	384.14	0.0261
-155.11	1.1005	419.13	0.0534	-25.67	0.8521	419.13	0.0417
-130.84	1.0870	457.12	0.0708	-10.27	0.9696	457.12	0.0561
-106.57	1.0605	507.77	0.1100	-2.05	1.2225	507.77	0.1002
-90.39	1.0323	545.76	0.1639	0.00	0.5245	545.76	0.1581
-74.21	1.0026	571.08	0.2215	0.31	-0.3022	571.08	0.2291
-58.03	0.9659	583.74	0.2622	0.63	-0.7028	583.74	0.2833
-41.85	0.9338	596.41	0.3063	1.25	-0.9333	596.41	0.3439
-33.76	0.9240	609.07	0.3657	1.88	-0.9802	609.07	0.4251
-25.67	0.9105			2.50	-0.9974		
-23.11	0.9149			3.13	-0.9498		
-17.97	0.9443			3.75	-0.9082		
-10.27	1.0622			4.37	-0.8853		
-5.13	1.1801			5.00	-0.8774		
-3.34	1.2191			6.25	-0.8343		
-2.05	1.2222			7.50	-0.7919		
-0.90	1.1354			8.75	-0.7664		
-0.44	0.9940			10.00	-0.7319		
0.00	0.2561			12.50	-0.7055		
0.31	-0.6720			15.00	-0.7261		
0.63	-0.9642			17.50	-0.7516		
1.25	-1.1353			20.00	-0.7167		
1.88	-1.1458			30.00	-0.6085		
2.50	-1.1458			50.00	-0.5816		
3.13	-1.1295			60.00	-0.5541		
3.75	-1.1126			70.00	-0.5538		
4.37	-1.1078			80.00	-0.6013		
5.00	-1.0942			90.00	-0.6251		
6.25	-1.0719			100.00	-0.6410		
7.50	-1.0218			110.00	-0.6146		
8.75	-1.0248			241.85	0.0443		
10.00	-1.0146						
12.50	-1.0010						
15.00	-0.9738						
17.50	-0.9690						
20.00	-0.9568						
30.00	-0.8803						
40.00	-0.8269						
50.00	-0.7940						
60.00	-0.7802						
70.00	-0.7950						
80.00	-0.7915						
90.00	-0.7943						
100.00	-0.7813						
110.00	-0.7623						
241.85	0.0920						
279.84	0.0581						

TABLE VI. Continued

(l) Continued

mfr = 0.49 and α = 3.1°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.1018	343.16	0.0777	-187.47	1.0967	343.16	0.0002
-171.29	1.1009	384.14	0.0587	-106.57	1.0506	384.14	0.0226
-155.11	1.0988	419.13	0.0599	-25.67	0.8347	419.13	0.0407
-130.84	1.0844	457.12	0.0734	-10.27	0.9503	457.12	0.0541
-106.57	1.0592	507.77	0.1135	-2.05	1.2193	507.77	0.1001
-90.39	1.0322	545.76	0.1644	0.00	0.6123	545.76	0.1582
-74.21	1.0049	571.08	0.2183	0.31	-0.2144	571.08	0.2299
-58.03	0.9715	583.74	0.2519	0.63	-0.6415	583.74	0.2844
-41.85	0.9421	596.41	0.2918	1.25	-0.8835	596.41	0.3460
-33.76	0.9327	609.07	0.3482	1.88	-0.9260	609.07	0.4302
-25.67	0.9229			2.50	-0.9228		
-23.11	0.9357			3.13	-0.8930		
-17.97	0.9695			3.75	-0.8597		
-10.27	1.0716			4.37	-0.8014		
-5.13	1.1892			5.00	-0.8038		
-3.34	1.2225			6.25	-0.7395		
-2.05	1.2154			7.50	-0.7319		
-0.90	1.1080			8.75	-0.6882		
-0.44	0.9711			10.00	-0.6369		
0.00	0.2264			12.50	-0.6295		
0.31	-0.7336			15.00	-0.6254		
0.63	-1.0306			17.50	-0.6264		
1.25	-1.1791			20.00	-0.5894		
1.88	-1.1852			30.00	-0.4975		
2.50	-1.1855			50.00	-0.4724		
3.13	-1.1960			60.00	-0.4961		
3.75	-1.1764			70.00	-0.5124		
4.37	-1.1601			80.00	-0.5602		
5.00	-1.1414			90.00	-0.5711		
6.25	-1.1260			100.00	-0.5999		
7.50	-1.0853			110.00	-0.5806		
8.75	-1.0735			241.85	0.0380		
10.00	-1.0590						
12.50	-1.0533						
15.00	-1.0254						
17.50	-1.0240						
20.00	-1.0007						
30.00	-0.9344						
40.00	-0.8573						
50.00	-0.8495						
60.00	-0.8237						
70.00	-0.8346						
80.00	-0.8248						
90.00	-0.8205						
100.00	-0.8311						
110.00	-0.7967						
241.85	0.0967						
279.84	0.0706						

mfr = 0.54 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0729	343.16	0.0327	-187.47	1.0714	343.16	0.0443
-171.29	1.0750	384.14	0.0388	-106.57	1.0133	384.14	0.0400
-155.11	1.0696	419.13	0.0498	-25.67	0.7808	419.13	0.0529
-130.84	1.0498	457.12	0.0737	-10.27	0.9345	457.12	0.0697
-106.57	1.0159	507.77	0.1209	-2.05	1.2221	507.77	0.1193
-90.39	0.9804	545.76	0.1806	0.00	0.5441	545.76	0.1799
-74.21	0.9416	571.08	0.2488	0.31	-0.3312	571.08	0.2513
-58.03	0.8909	583.74	0.2960	0.63	-0.7426	583.74	0.3024
-41.85	0.8372	596.41	0.3496	1.25	-0.9579	596.41	0.3603
-33.76	0.8065	609.07	0.4206	1.88	-0.9814	609.07	0.4313
-25.67	0.7815			2.50	-0.9840		
-23.11	0.7757			3.13	-0.9662		
-17.97	0.8126			3.75	-0.9308		
-10.27	0.9420			4.37	-0.9103		
-5.13	1.1017			5.00	-0.9057		
-3.34	1.1790			6.25	-0.8533		
-2.05	1.2198			7.50	-0.8355		
-0.90	1.2013			8.75	-0.8126		
-0.44	1.1074			10.00	-0.7728		
0.00	0.4846			12.50	-0.7707		
0.31	-0.3933			15.00	-0.7710		
0.63	-0.7585			17.50	-0.7653		
1.25	-0.9730			20.00	-0.7616		
1.88	-0.9914			30.00	-0.6968		
2.50	-0.9652			50.00	-0.6436		
3.13	-0.9347			60.00	-0.6534		
3.75	-0.9281			70.00	-0.6432		
4.37	-0.9124			80.00	-0.6636		
5.00	-0.8740			90.00	-0.6660		
6.25	-0.8668			100.00	-0.6846		
7.50	-0.8318			110.00	-0.6537		
8.75	-0.8028			241.85	0.0465		
10.00	-0.7871						
12.50	-0.7639						
15.00	-0.8091						
17.50	-0.7618						
20.00	-0.7680						
30.00	-0.6701						
40.00	-0.6548						
50.00	-0.6326						
60.00	-0.6209						
70.00	-0.6541						
80.00	-0.6608						
90.00	-0.6767						
100.00	-0.6895						
110.00	-0.6526						
241.85	0.0451						
279.84	0.0263						

mfr = 0.61 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-187.47	1.0286	343.16	0.0371	-187.47	1.0254	343.16	0.0478
-171.29	1.0286	384.14	0.0457	-106.57	0.9511	384.14	0.0469
-155.11	1.0241	419.13	0.0628	-25.67	0.6109	419.13	0.0631
-130.84	0.9974	457.12	0.0876	-10.27	0.7908	457.12	0.0830
-106.57	0.9523	507.77	0.1393	-2.05	1.1986	507.77	0.1384
-90.39	0.9025	545.76	0.2020	0.00	0.6825	545.76	0.2044
-74.21	0.8489	571.08	0.2742	0.31	-0.1108	571.08	0.2779
-58.03	0.7775	583.74	0.3213	0.63	-0.5685	583.74	0.3289
-41.85	0.7029	596.41	0.3769	1.25	-0.7947	596.41	0.3873
-33.76	0.6565	609.07	0.4464	1.88	-0.8621	609.07	0.4577
-25.67	0.6035			2.50	-0.8530		
-23.11	0.6038			3.13	-0.7883		
-17.97	0.6386			3.75	-0.7693		
-10.27	0.7948			4.37	-0.7335		
-5.13	1.0010			5.00	-0.7070		
-3.34	1.1040			6.25	-0.6809		
-2.05	1.1823			7.50	-0.6383		
-0.90	1.2145			8.75	-0.6547		
-0.44	1.1639			10.00	-0.6427		
0.00	0.6492			12.50	-0.5904		
0.31	-0.2052			15.00	-0.6362		
0.63	-0.5866			17.50	-0.6176		
1.25	-0.7955			20.00	-0.5979		
1.88	-0.8133			30.00	-0.5515		
2.50	-0.8012			50.00	-0.5647		
3.13	-0.7922			60.00	-0.5633		
3.75	-0.7612			70.00	-0.5772		
4.37	-0.7102			80.00	-0.6034		
5.00	-0.7328			90.00	-0.6244		
6.25	-0.6828			100.00	-0.6474		
7.50	-0.6484			110.00	-0.6037		
8.75	-0.6575			241.85	0.0251		
10.00	-0.6478						
12.50	-0.6339						
15.00	-0.6512						
17.50	-0.6547						
20.00	-0.6000						
30.00	-0.5640						
40.00	-0.5653						
50.00	-0.5607						
60.00	-0.5858						
70.00	-0.5769						
80.00	-0.6190						
90.00	-0.6306						
100.00	-0.6554						
110.00	-0.6125						
241.85	0.0244						
279.84	0.0166						

TABLE VI. Continued

(l) Continued

mfr = 0.68 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.9758	343.16	0.0397	-187.47	0.9728	343.16	0.0513
-171.29	0.9764	384.14	0.0519	-106.57	0.8755	384.14	0.0532
-155.11	0.9692	419.13	0.0694	-25.67	0.3764	419.13	0.0724
-130.84	0.9368	457.12	0.0963	-10.27	0.5952	457.12	0.0929
-106.57	0.8783	507.77	0.1517	-2.05	1.1315	507.77	0.1517
-90.39	0.8150	545.76	0.2181	0.00	0.8407	545.76	0.2202
-74.21	0.7439	571.08	0.2912	0.31	0.1293	571.08	0.2946
-58.03	0.6416	583.74	0.3393	0.63	-0.3624	583.74	0.3467
-41.85	0.5258	596.41	0.3941	1.25	-0.5775	596.41	0.4051
-33.76	0.4595	609.07	0.4611	1.88	-0.6470	609.07	0.4737
-25.67	0.3808			2.50	-0.5958		
-23.11	0.3778			3.13	-0.6025		
-17.97	0.4180			3.75	-0.4918		
-10.27	0.6064			4.37	-0.4675		
-5.13	0.8851			5.00	-0.4969		
-3.34	1.0105			6.25	-0.3030		
-2.05	1.1349			7.50	-0.3488		
-0.90	1.2238			8.75	-0.3539		
-0.44	1.2135			10.00	-0.3739		
0.00	0.8135			12.50	-0.3905		
0.31	0.0272			15.00	-0.4674		
0.63	-0.4322			17.50	-0.4958		
1.25	-0.5700			20.00	-0.4881		
1.88	-0.5927			30.00	-0.4914		
2.50	-0.5435			50.00	-0.5087		
3.13	-0.5734			60.00	-0.5311		
3.75	-0.5321			70.00	-0.5412		
4.37	-0.3809			80.00	-0.5680		
5.00	-0.3845			90.00	-0.5985		
6.25	-0.4092			100.00	-0.6149		
7.50	-0.3664			110.00	-0.5856		
8.75	-0.4696			241.85	0.0313		
10.00	-0.4539						
12.50	-0.4041						
15.00	-0.4603						
17.50	-0.4843						
20.00	-0.4922						
30.00	-0.4900						
40.00	-0.5035						
50.00	-0.5051						
60.00	-0.5124						
70.00	-0.5423						
80.00	-0.5728						
90.00	-0.5960						
100.00	-0.6194						
110.00	-0.5824						
241.85	0.0289						
279.84	0.0218						

mfr = 0.68 and α = 2.1°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.9750	343.16	0.0674	-187.47	0.9714	343.16	0.0237
-171.29	0.9771	384.14	0.0646	-106.57	0.8723	384.14	0.0445
-155.11	0.9699	419.13	0.0775	-25.67	0.3128	419.13	0.0692
-130.84	0.9379	457.12	0.1031	-10.27	0.4992	457.12	0.0912
-106.57	0.8783	507.77	0.1569	-2.05	1.0803	507.77	0.1486
-90.39	0.8202	545.76	0.2226	0.00	0.9765	545.76	0.2186
-74.21	0.7523	571.08	0.2928	0.31	0.3161	571.08	0.2959
-58.03	0.6591	583.74	0.3372	0.63	-0.1259	583.74	0.3509
-41.85	0.5576	596.41	0.3879	1.25	-0.2876	596.41	0.4111
-33.76	0.5103	609.07	0.4487	1.88	-0.2003	609.07	0.4841
-25.67	0.4435			2.50	-0.2224		
-23.11	0.4422			3.13	-0.2024		
-17.97	0.4968			3.75	-0.1550		
-10.27	0.6819			4.37	-0.1601		
-5.13	0.9559			5.00	-0.1509		
-3.34	1.0801			6.25	-0.1213		
-2.05	1.1798			7.50	-0.1675		
-0.90	1.2286			8.75	-0.2384		
-0.44	1.1901			10.00	-0.2680		
0.00	0.7055			12.50	-0.3205		
0.31	-0.1496			15.00	-0.3303		
0.63	-0.5675			17.50	-0.3878		
1.25	-0.8065			20.00	-0.3786		
1.88	-0.7779			30.00	-0.3228		
2.50	-0.7752			50.00	-0.3678		
3.13	-0.7692			60.00	-0.4348		
3.75	-0.7611			70.00	-0.4520		
4.37	-0.7334			80.00	-0.4980		
5.00	-0.7307			90.00	-0.5153		
6.25	-0.6678			100.00	-0.5603		
7.50	-0.6088			110.00	-0.5231		
8.75	-0.6639			241.85	0.0294		
10.00	-0.6440						
12.50	-0.6076						
15.00	-0.6654						
17.50	-0.6846						
20.00	-0.6690						
30.00	-0.5898						
40.00	-0.6115						
50.00	-0.5976						
60.00	-0.6079						
70.00	-0.6277						
80.00	-0.6414						
90.00	-0.6557						
100.00	-0.6750						
110.00	-0.6392						
241.85	0.0432						
279.84	0.0266						

mfr = 0.74 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-187.47	0.9197	343.16	0.0420	-187.47	0.9147	343.16	0.0527
-171.29	0.9179	384.14	0.0573	-106.57	0.7946	384.14	0.0573
-155.11	0.9068	419.13	0.0753	-25.67	0.0980	419.13	0.0769
-130.84	0.8660	457.12	0.1059	-10.27	0.3894	457.12	0.1007
-106.57	0.7968	507.77	0.1631	-2.05	1.0555	507.77	0.1610
-90.39	0.7146	545.76	0.2305	0.00	0.9525	545.76	0.2311
-74.21	0.6228	571.08	0.3042	0.31	0.2598	571.08	0.3069
-58.03	0.4884	583.74	0.3498	0.63	-0.1169	583.74	0.3583
-41.85	0.3157	596.41	0.4051	1.25	-0.2926	596.41	0.4153
-33.76	0.2233	609.07	0.4694	1.88	-0.3113	609.07	0.4801
-25.67	0.0909			2.50	-0.2997		
-23.11	0.0594			3.13	-0.2378		
-17.97	0.0892			3.75	-0.2177		
-10.27	0.3823			4.37	-0.1795		
-5.13	0.7253			5.00	-0.2245		
-3.34	0.9004			6.25	-0.1607		
-2.05	1.0524			7.50	-0.2198		
-0.90	1.1987			8.75	-0.2809		
-0.44	1.2252			10.00	-0.2977		
0.00	0.9380			12.50	-0.3593		
0.31	0.1879			15.00	-0.4088		
0.63	-0.0993			17.50	-0.4264		
1.25	-0.3143			20.00	-0.4275		
1.88	-0.2612			30.00	-0.4071		
2.50	-0.2081			50.00	-0.4583		
3.13	-0.2404			60.00	-0.4691		
3.75	-0.2319			70.00	-0.5006		
4.37	-0.2238			80.00	-0.5335		
5.00	-0.2702			90.00	-0.5623		
6.25	-0.2537			100.00	-0.5894		
7.50	-0.1955			110.00	-0.5487		
8.75	-0.3046			241.85	0.0223		
10.00	-0.3441						
12.50	-0.3782						
15.00	-0.4325						
17.50	-0.4385						
20.00	-0.4449						
30.00	-0.4261						
40.00	-0.4421						
50.00	-0.4699						
60.00	-0.4647						
70.00	-0.5166						
80.00	-0.5340						
90.00	-0.5598						
100.00	-0.5849						
110.00	-0.5637						
241.85	0.0216						
279.84	0.0230						

TABLE VI. Concluded

(l) Concluded

mfr = 0.82 and α = 0°

φ = 0°				**φ = 180°**			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-187.47	0.1417	343.16	0.0422	-187.47	0.1319	343.16	0.0492
-171.29	0.0782	384.14	0.0541	-106.57	-0.1429	384.14	0.0520
-155.11	0.0140	419.13	0.0676	-25.67	-0.4798	419.13	0.0703
-130.84	-0.0807	457.12	0.0936	-10.27	0.1606	457.12	0.0884
-106.57	-0.1435	507.77	0.1401	-2.05	0.9320	507.77	0.1380
-90.39	-0.1935	545.76	0.1931	0.00	1.0518	545.76	0.1912
-74.21	-0.2171	571.08	0.2485	0.31	0.4409	571.08	0.2497
-58.03	-0.3585	583.74	0.2852	0.63	0.0932	583.74	0.2919
-41.85	-0.7097	596.41	0.3262	1.25	-0.0381	596.41	0.3363
-33.76	-0.6273	609.07	0.3816	1.88	-0.0865	609.07	0.3926
-25.67	-0.4906			2.50	-0.1283		
-23.11	-0.4252			3.13	-0.0698		
-17.97	-0.2256			3.75	-0.0927		
-10.27	0.1711			4.37	-0.0621		
-5.13	0.5641			5.00	-0.0968		
-3.34	0.7629			6.25	-0.0762		
-2.05	0.9539			7.50	-0.1486		
-0.90	1.1570			8.75	-0.1738		
-0.44	1.2194			10.00	-0.2445		
0.00	1.0175			12.50	-0.2367		
0.31	0.3700			15.00	-0.3394		
0.63	0.0710			17.50	-0.3906		
1.25	-0.0759			20.00	-0.3655		
1.88	-0.0533			30.00	-0.3781		
2.50	-0.0412			50.00	-0.4082		
3.13	-0.1058			60.00	-0.4313		
3.75	-0.0687			70.00	-0.4645		
4.37	-0.0828			80.00	-0.5059		
5.00	-0.0922			90.00	-0.5282		
6.25	-0.1362			100.00	-0.5686		
7.50	-0.1079			110.00	-0.5289		
8.75	-0.2566			241.85	0.0168		
10.00	-0.2916						
12.50	-0.2512						
15.00	-0.3474						
17.50	-0.3709						
20.00	-0.3594						
30.00	-0.3902						
40.00	-0.3792						
50.00	-0.4086						
60.00	-0.4220						
70.00	-0.4848						
80.00	-0.4983						
90.00	-0.5360						
100.00	-0.5645						
110.00	-0.5411						
241.85	0.0097						
279.84	0.0111						

mfr = 0.82 and α = 2.0°

φ = 0°				**φ = 180°**			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-187.47	0.1945	343.16	0.0649	-187.47	0.1025	343.16	0.0264
-171.29	0.1239	384.14	0.0637	-106.57	-0.1482	384.14	0.0466
-155.11	0.0355	419.13	0.0753	-25.67	-0.5565	419.13	0.0704
-130.84	-0.0599	457.12	0.0998	-10.27	0.0622	457.12	0.0878
-106.57	-0.1388	507.77	0.1480	-2.05	0.8633	507.77	0.1352
-90.39	-0.1825	545.76	0.2015	0.00	1.1286	545.76	0.1871
-74.21	-0.2252	571.08	0.2562	0.31	0.6327	571.08	0.2464
-58.03	-0.7368	583.74	0.2931	0.63	0.3544	583.74	0.2861
-41.85	-0.6302	596.41	0.3325	1.25	0.1621	596.41	0.3319
-33.76	-0.5413	609.07	0.3839	1.88	0.1351	609.07	0.3924
-25.67	-0.4073			2.50	0.0944		
-23.11	-0.3498			3.13	0.1001		
-17.97	-0.1306			3.75	0.1038		
-10.27	0.2555			4.37	0.0863		
-5.13	0.6284			5.00	0.0507		
-3.34	0.8371			6.25	0.0747		
-2.05	1.0197			7.50	-0.0044		
-0.90	1.1884			8.75	-0.0598		
-0.44	1.2184			10.00	-0.0829		
0.00	0.9456			12.50	-0.1631		
0.31	0.2005			15.00	-0.2152		
0.63	-0.2117			17.50	-0.2371		
1.25	-0.3267			20.00	-0.1834		
1.88	-0.3122			30.00	-0.2412		
2.50	-0.2728			50.00	-0.3146		
3.13	-0.2954			60.00	-0.3582		
3.75	-0.2936			70.00	-0.4036		
4.37	-0.2668			80.00	-0.4638		
5.00	-0.2782			90.00	-0.4875		
6.25	-0.2704			100.00	-0.5298		
7.50	-0.2171			110.00	-0.4905		
8.75	-0.3038			241.85	0.0115		
10.00	-0.3472						
12.50	-0.4041						
15.00	-0.4779						
17.50	-0.4682						
20.00	-0.4981						
30.00	-0.4875						
40.00	-0.5175						
50.00	-0.5336						
60.00	-0.5238						
70.00	-0.5379						
80.00	-0.5849						
90.00	-0.6068						
100.00	-0.6194						
110.00	-0.5733						
241.85	0.0182						
279.84	0.0129						

TABLE VII. PRESSURECOEFFICIENTS ONMODEL WITH NACA 1-85-100INLET AND A CONTRACTION RATIO OF 1.250

(a) M =0.79

mfr = 0.61 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	0.9402	173.61	-0.0072	-94.32	0.9406	190.28	0.0042
-82.25	0.9515	190.28	0.0025	-82.25	0.9544	206.94	0.0164
-75.15	0.9560	206.94	0.0135	-46.76	0.8725	223.61	0.0328
-68.05	0.9501	223.61	0.0339	-11.26	0.4843	245.83	0.0721
-57.40	0.9186	245.83	0.0724	-4.51	0.6900	262.50	0.1229
-46.76	0.8678	262.50	0.1239	-0.90	1.1417	273.61	0.1822
-39.66	0.8181	273.61	0.1807	0.00	0.4297	279.17	0.2261
-32.56	0.7537	279.17	0.2179	0.31	-1.6893	284.72	0.2736
-25.46	0.6759	284.72	0.2646	0.62	-1.7758	290.28	0.3321
-18.36	0.5947	290.28	0.3239	1.25	-1.6348		
-14.81	0.5592			1.88	-1.5787		
-11.26	0.4981			2.50	-1.5826		
-10.14	0.4894			3.12	-1.4195		
-7.88	0.5231			3.75	-1.3587		
-4.51	0.6740			4.38	-1.3220		
-2.25	0.9234			5.00	-1.2760		
-1.46	1.0433			6.25	-1.2688		
-0.90	1.1206			7.50	-1.1088		
-0.39	1.1475			8.75	-0.7502		
-0.19	1.0780			10.00	-0.4182		
0.00	0.4586			12.50	-0.2058		
0.31	-1.6781			15.00	-0.1714		
0.62	-1.7052			17.50	-0.1580		
1.25	-1.6274			20.00	-0.1679		
1.88	-1.5669			30.00	-0.1691		
2.50	-1.5158			40.00	-0.1501		
3.12	-1.4419			50.00	-0.1410		
3.75	-1.3578			60.00	-0.1359		
4.38	-1.3278			70.00	-0.1241		
5.00	-1.2877			80.00	-0.1091		
6.25	-1.1804			90.00	-0.0922		
7.50	-0.9998			100.00	-0.0544		
8.75	-0.6517			129.17	-0.0545		
10.00	-0.4733						
12.50	-0.2318						
15.00	-0.1863						
17.50	-0.1548						
20.00	-0.1934						
30.00	-0.1642						
40.00	-0.1736						
50.00	-0.1408						
60.00	-0.1533						
70.00	-0.1257						
80.00	-0.1152						
100.00	-0.0648						
129.17	-0.0574						
145.83	-0.0450						

mfr = 0.67 and α = -2.0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	0.8914	173.61	-0.0205	-94.32	0.8918	190.28	0.0178
-82.25	0.9066	190.28	0.0013	-82.25	0.9099	206.94	0.0285
-75.15	0.9101	206.94	0.0149	-46.76	0.8066	223.61	0.0463
-68.05	0.9003	223.61	0.0396	-11.26	0.3635	245.83	0.0906
-57.40	0.8634	245.83	0.0792	-4.51	0.6276	262.50	0.1435
-46.76	0.8015	262.50	0.1335	-0.90	1.1327	273.61	0.1992
-39.66	0.7385	273.61	0.1949	0.00	0.4676	279.17	0.2374
-32.56	0.6523	279.17	0.2385	0.31	-1.6782	284.72	0.2797
-25.46	0.5409	284.72	0.2936	0.62	-1.7538	290.28	0.3307
-18.36	0.4136	290.28	0.3668	1.25	-1.6734		
-14.81	0.3415			1.88	-1.5652		
-11.26	0.2586			2.50	-1.5278		
-10.14	0.2263			3.12	-1.4480		
-7.88	0.2599			3.75	-1.3743		
-4.51	0.4482			4.38	-1.3473		
-2.25	0.7312			5.00	-1.3145		
-1.46	0.9144			6.25	-1.2366		
-0.90	1.0413			7.50	-1.1899		
-0.39	1.1622			8.75	-0.8520		
-0.19	1.1597			10.00	-0.5461		
0.00	0.6856			12.50	-0.2743		
0.31	-1.4665			15.00	-0.1584		
0.62	-1.4429			17.50	-0.1517		
1.25	-1.3412			20.00	-0.1612		
1.88	-1.2099			30.00	-0.1679		
2.50	-1.0736			40.00	-0.1501		
3.12	-1.0732			50.00	-0.1423		
3.75	-0.5102			60.00	-0.1379		
4.38	-0.3042			70.00	-0.1237		
5.00	-0.2658			80.00	-0.1040		
6.25	-0.2225			90.00	-0.0902		
7.50	-0.2306			100.00	-0.0508		
8.75	-0.2358			129.17	-0.0301		
10.00	-0.2288						
12.50	-0.2369						
15.00	-0.2164						
17.50	-0.1894						
20.00	-0.1818						
30.00	-0.1413						
40.00	-0.1351						
50.00	-0.1150						
60.00	-0.1243						
70.00	-0.1084						
80.00	-0.1048						
100.00	-0.0481						
129.17	-0.0301						
145.83	-0.0148						

mfr = 0.67 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	0.8898	173.61	0.0005	-94.32	0.8910	190.28	0.0098
-82.25	0.9058	190.28	0.0094	-82.25	0.9067	206.94	0.0259
-75.15	0.9121	206.94	0.0244	-46.76	0.8030	223.61	0.0409
-68.05	0.9013	223.61	0.0445	-11.26	0.2991	245.83	0.0809
-57.40	0.8662	245.83	0.0816	-4.51	0.5533	262.50	0.1357
-46.76	0.8034	262.50	0.1354	-0.90	1.0958	273.61	0.2004
-39.66	0.7431	273.61	0.1961	0.00	0.5968	279.17	0.2462
-32.56	0.6618	279.17	0.2354	0.31	-1.5622	284.72	0.2962
-25.46	0.5504	284.72	0.2859	0.62	-1.6526	290.28	0.3613
-18.36	0.4388	290.28	0.3477	1.25	-1.5333		
-14.81	0.3804			1.88	-1.4292		
-11.26	0.3192			2.50	-1.3633		
-10.14	0.2861			3.12	-1.3097		
-7.88	0.3332			3.75	-1.1880		
-4.51	0.5459			4.38	-1.1524		
-2.25	0.8254			5.00	-1.1630		
-1.46	0.9694			6.25	-0.6398		
-0.90	1.0982			7.50	-0.4090		
-0.39	1.1664			8.75	-0.2512		
-0.19	1.1329			10.00	-0.1830		
0.00	0.5784			12.50	-0.2174		
0.31	-1.5876			15.00	-0.2301		
0.62	-1.6186			17.50	-0.2028		
1.25	-1.5474			20.00	-0.1933		
1.88	-1.4403			30.00	-0.1680		
2.50	-1.3473			40.00	-0.1462		
3.12	-1.2701			50.00	-0.1348		
3.75	-1.2415			60.00	-0.1360		
4.38	-1.1996			70.00	-0.1238		
5.00	-1.1601			80.00	-0.1032		
6.25	-0.8708			90.00	-0.0914		
7.50	-0.4419			100.00	-0.0504		
8.75	-0.1935			129.17	-0.0337		
10.00	-0.1822						
12.50	-0.2298						
15.00	-0.2111						
17.50	-0.2041						
20.00	-0.1991						
30.00	-0.1629						
40.00	-0.1467						
50.00	-0.1345						
60.00	-0.1289						
70.00	-0.1167						
80.00	-0.1068						
100.00	-0.0605						
129.17	-0.0374						
145.83	-0.0188						

TABLE VII. Continued

(a) Concluded

mfr = 0.67 and α = 2.1°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-94.32	0.8922	173.61	0.0138	-94.32	0.8914	190.28	0.0035
-82.25	0.9091	190.28	0.0170	-82.25	0.9096	206.94	0.0217
-75.15	0.9126	206.94	0.0263	-46.76	0.7992	223.61	0.0374
-68.05	0.9049	223.61	0.0460	-11.26	0.2196	245.83	0.0799
-57.40	0.8681	245.83	0.0881	-4.51	0.4369	262.50	0.1328
-46.76	0.8067	262.50	0.1410	-0.90	1.0527	273.61	0.1960
-39.66	0.7483	273.61	0.1960	0.00	0.6952	279.17	0.2439
-32.56	0.6684	279.17	0.2339	0.31	-1.3904	284.72	0.3018
-25.46	0.5686	284.72	0.2718	0.62	-1.4355	290.28	0.3765
-18.36	0.4653	290.28	0.3158	1.25	-1.3140		
-14.81	0.4180			1.88	-1.2332		
-11.26	0.3868			2.50	-1.1226		
-10.14	0.3742			3.12	-0.8968		
-7.88	0.4247			3.75	-0.3582		
-4.51	0.6154			4.38	-0.2510		
-2.25	0.8917			5.00	-0.2430		
-1.46	1.0236			6.25	-0.2329		
-0.90	1.1312			7.50	-0.2264		
-0.39	1.1639			8.75	-0.2287		
-0.19	1.0986			10.00	-0.2228		
0.00	0.4439			12.50	-0.2283		
0.31	-1.6743			15.00	-0.2125		
0.62	-1.7162			17.50	-0.1860		
1.25	-1.6658			20.00	-0.1750		
1.88	-1.5669			30.00	-0.1375		
2.50	-1.5232			40.00	-0.1260		
3.12	-1.4559			50.00	-0.1209		
3.75	-1.3922			60.00	-0.1209		
4.38	-1.3447			70.00	-0.1083		
5.00	-1.3317			80.00	-0.0957		
6.25	-1.2496			90.00	-0.0878		
7.50	-1.1682			100.00	-0.0452		
8.75	-0.8979			129.17	-0.0283		
10.00	-0.5893						
12.50	-0.4119						
15.00	-0.2217						
17.50	-0.1416						
20.00	-0.1478						
30.00	-0.1658						
40.00	-0.1586						
50.00	-0.1409						
60.00	-0.1391						
70.00	-0.1189						
80.00	-0.1118						
100.00	-0.0565						
129.17	-0.0300						
145.83	-0.0205						

mfr = 0.74 and α = 0°

ϕ = 0° Forebody X/L	ϕ = 0° Forebody CP	ϕ = 0° Afterbody X/L	ϕ = 0° Afterbody CP	ϕ = 180° Forebody X/L	ϕ = 180° Forebody CP	ϕ = 180° Afterbody X/L	ϕ = 180° Afterbody CP
-94.32	0.8220	173.61	0.0039	-94.32	0.8251	190.28	0.0161
-82.25	0.8442	190.28	0.0179	-82.25	0.8448	206.94	0.0332
-75.15	0.8502	206.94	0.0304	-46.76	0.7062	223.61	0.0482
-68.05	0.8351	223.61	0.0532	-11.26	-0.0243	245.83	0.0932
-57.40	0.7893	245.83	0.0954	-4.51	0.2978	262.50	0.1511
-46.76	0.7092	262.50	0.1489	-0.90	1.0119	273.61	0.2153
-39.66	0.6291	273.61	0.2124	0.00	0.7448	279.17	0.2599
-32.56	0.5200	279.17	0.2520	0.31	-1.3758	284.72	0.3124
-25.46	0.3730	284.72	0.3056	0.62	-1.4605	290.28	0.3784
-18.36	0.2056	290.28	0.3687	1.25	-1.2490		
-14.81	0.1182			1.88	-1.2469		
-11.26	0.0131			2.50	-1.1739		
-10.14	-0.0570			3.12	-0.9736		
-7.88	0.0344			3.75	-0.7577		
-4.51	0.2655			4.38	-0.2801		
-2.25	0.6480			5.00	-0.3194		
-1.46	0.8415			6.25	-0.2397		
-0.90	1.0224			7.50	-0.2226		
-0.39	1.1484			8.75	-0.2435		
-0.19	1.1633			10.00	-0.2404		
0.00	0.7578			12.50	-0.2491		
0.31	-1.4212			15.00	-0.2400		
0.62	-1.4071			17.50	-0.1949		
1.25	-1.2804			20.00	-0.1870		
1.88	-1.1661			30.00	-0.1523		
2.50	-1.1158			40.00	-0.1385		
3.12	-1.0254			50.00	-0.1224		
3.75	-0.9463			60.00	-0.1287		
4.38	-0.5590			70.00	-0.1137		
5.00	-0.3307			80.00	-0.1038		
6.25	-0.2407			90.00	-0.0861		
7.50	-0.2196			100.00	-0.0460		
8.75	-0.2459			129.17	-0.0276		
10.00	-0.2452						
12.50	-0.2593						
15.00	-0.2348						
17.50	-0.2122						
20.00	-0.1940						
30.00	-0.1465						
40.00	-0.1354						
50.00	-0.1237						
60.00	-0.1213						
70.00	-0.1129						
80.00	-0.0996						
100.00	-0.0499						
129.17	-0.0300						
145.83	-0.0172						

TABLE VII. Continued

(b) M = 0.84

mfr = 0.49 and α = -2.1°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	1.0533	173.61	-0.0316	-94.32	1.0529	190.28	0.0064
-82.25	1.0589	190.28	-0.0093	-82.25	1.0632	206.94	0.0157
-75.15	1.0616	206.94	0.0050	-46.76	1.0150	223.61	0.0257
-68.05	1.0580	223.61	0.0227	-11.26	0.8586	245.83	0.0569
-57.40	1.0391	245.83	0.0613	-4.51	1.0205	262.50	0.0959
-46.76	1.0094	262.50	0.1065	-0.90	1.1810	273.61	0.1454
-39.66	0.9790	273.61	0.1631	0.00	0.1403	279.17	0.1794
-32.56	0.9435	279.17	0.2043	0.31	-1.6966	284.72	0.2196
-25.46	0.8945	284.72	0.2582	0.62	-1.7458	290.28	0.2755
-18.36	0.8469	290.28	0.3261	1.25	-1.6955		
-14.81	0.8292			1.88	-1.6862		
-11.26	0.7951			2.50	-1.6889		
-10.14	0.8002			3.12	-1.6816		
-7.88	0.8233			3.75	-1.6443		
-4.51	0.9312			4.38	-1.5778		
-2.25	1.0860			5.00	-1.5312		
-1.46	1.1561			6.25	-1.4418		
-0.90	1.1862			7.50	-1.3761		
-0.39	1.1515			8.75	-1.3234		
-0.19	1.0414			10.00	-1.2924		
0.00	0.3420			12.50	-1.1959		
0.31	-1.5748			15.00	-1.1639		
0.62	-1.6188			17.50	-1.0699		
1.25	-1.5256			20.00	-0.9398		
1.88	-1.5138			30.00	-0.4033		
2.50	-1.4921			40.00	-0.1465		
3.12	-1.4456			50.00	-0.0555		
3.75	-1.3387			60.00	-0.0876		
4.38	-1.2855			70.00	-0.0997		
5.00	-1.2544			80.00	-0.0975		
6.25	-1.1662			90.00	-0.0909		
7.50	-1.1118			100.00	-0.0497		
8.75	-1.0367			129.17	-0.0415		
10.00	-1.0072						
12.50	-0.9095						
15.00	-0.8079						
17.50	-0.7596						
20.00	-0.3794						
30.00	-0.0785						
40.00	-0.1069						
50.00	-0.1208						
60.00	-0.1357						
70.00	-0.1296						
80.00	-0.1139						
100.00	-0.0591						
129.17	-0.0438						
145.83	-0.0342						

mfr = 0.49 and α = -1.0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	1.0517	173.61	-0.0256	-94.32	1.0535	190.28	-0.0040
-82.25	1.0595	190.28	-0.0083	-82.25	1.0627	206.94	0.0077
-75.15	1.0618	206.94	-0.0020	-46.76	1.0138	223.61	0.0180
-68.05	1.0562	223.61	0.0203	-11.26	0.8397	245.83	0.0519
-57.40	1.0390	245.83	0.0553	-4.51	0.9954	262.50	0.0959
-46.76	1.0099	262.50	0.0998	-0.90	1.1897	273.61	0.1471
-39.66	0.9809	273.61	0.1577	0.00	0.2149	279.17	0.1847
-32.56	0.9467	279.17	0.2000	0.31	-1.6639	284.72	0.2336
-25.46	0.8994	284.72	0.2492	0.62	-1.7279	290.28	0.2925
-18.36	0.8533	290.28	0.3124	1.25	-1.6643		
-14.81	0.8280			1.88	-1.6479		
-11.26	0.8041			2.50	-1.6529		
-10.14	0.8034			3.12	-1.6268		
-7.88	0.8471			3.75	-1.5630		
-4.51	0.9549			4.38	-1.4723		
-2.25	1.1059			5.00	-1.4536		
-1.46	1.1679			6.25	-1.3685		
-0.90	1.1914			7.50	-1.3062		
-0.39	1.1375			8.75	-1.2398		
-0.19	1.0231			10.00	-1.2071		
0.00	0.3184			12.50	-1.1216		
0.31	-1.6130			15.00	-1.0634		
0.62	-1.6494			17.50	-1.0192		
1.25	-1.5677			20.00	-0.7262		
1.88	-1.5572			30.00	-0.2845		
2.50	-1.5276			40.00	-0.0432		
3.12	-1.5152			50.00	-0.0741		
3.75	-1.4325			60.00	-0.1058		
4.38	-1.3653			70.00	-0.1047		
5.00	-1.3165			80.00	-0.1032		
6.25	-1.2542			90.00	-0.0851		
7.50	-1.1535			100.00	-0.0476		
8.75	-1.1365			129.17	-0.0355		
10.00	-1.0843						
12.50	-0.9905						
15.00	-0.9261						
17.50	-0.8712						
20.00	-0.5548						
30.00	-0.0641						
40.00	-0.0871						
50.00	-0.1019						
60.00	-0.1228						
70.00	-0.1286						
80.00	-0.1081						
100.00	-0.0547						
129.17	-0.0398						
145.83	-0.0336						

mfr = 0.49 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	1.0530	173.61	-0.0142	-94.32	1.0526	190.28	-0.0003
-82.25	1.0596	190.28	-0.0026	-82.25	1.0614	206.94	0.0119
-75.15	1.0618	206.94	0.0076	-46.76	1.0127	223.61	0.0219
-68.05	1.0579	223.61	0.0259	-11.26	0.8211	245.83	0.0606
-57.40	1.0401	245.83	0.0633	-4.51	0.9721	262.50	0.1034
-46.76	1.0089	262.50	0.1064	-0.90	1.1915	273.61	0.1584
-39.66	0.9813	273.61	0.1623	0.00	0.2688	279.17	0.2008
-32.56	0.9472	279.17	0.1995	0.31	-1.6302	284.72	0.2501
-25.46	0.9017	284.72	0.2452	0.62	-1.7129	290.28	0.3128
-18.36	0.8606	290.28	0.3075	1.25	-1.6331		
-14.81	0.8460			1.88	-1.6260		
-11.26	0.8204			2.50	-1.6104		
-10.14	0.8270			3.12	-1.5498		
-7.88	0.8492			3.75	-1.4468		
-4.51	0.9623			4.38	-1.4346		
-2.25	1.1146			5.00	-1.3503		
-1.46	1.1668			6.25	-1.3068		
-0.90	1.1837			7.50	-1.2641		
-0.39	1.1169			8.75	-1.1924		
-0.19	0.9888			10.00	-1.1496		
0.00	0.2629			12.50	-1.0638		
0.31	-1.6251			15.00	-0.9952		
0.62	-1.6724			17.50	-0.9423		
1.25	-1.6058			20.00	-0.8547		
1.88	-1.5853			30.00	-0.1520		
2.50	-1.5650			40.00	-0.0559		
3.12	-1.5503			50.00	-0.0911		
3.75	-1.4480			60.00	-0.1139		
4.38	-1.4066			70.00	-0.1190		
5.00	-1.3671			80.00	-0.1084		
6.25	-1.2913			90.00	-0.0900		
7.50	-1.1963			100.00	-0.0438		
8.75	-1.1715			129.17	-0.0484		
10.00	-1.1362						
12.50	-1.0579						
15.00	-0.9853						
17.50	-0.9374						
20.00	-0.8544						
30.00	-0.1837						
40.00	-0.0771						
50.00	-0.0851						
60.00	-0.1204						
70.00	-0.1201						
80.00	-0.1090						
100.00	-0.0590						
129.17	-0.0534						
145.83	-0.0457						

TABLE VII. Continued

(b) Continued

mfr = 0.49 and α = 1.0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	1.0452	173.61	-0.0068	-94.32	1.0433	190.28	-0.0055
-82.25	1.0587	190.28	-0.0005	-82.25	1.0540	206.94	0.0085
-75.15	1.0603	206.94	0.0058	-46.76	1.0015	223.61	0.0208
-68.05	1.0574	223.61	0.0268	-11.26	0.7989	245.83	0.0563
-57.40	1.0411	245.83	0.0626	-4.51	0.9451	262.50	0.1015
-46.76	1.0108	262.50	0.1041	-0.90	1.1840	273.61	0.1599
-39.66	0.9829	273.61	0.1559	0.00	0.3301	279.17	0.2051
-32.56	0.9487	279.17	0.1918	0.31	-1.6146	284.72	0.2579
-25.46	0.9057	284.72	0.2347	0.62	-1.6934	290.28	0.3253
-18.36	0.8579	290.28	0.2904	1.25	-1.6109		
-14.81	0.8447			1.88	-1.5820		
-11.26	0.8275			2.50	-1.5602		
-10.14	0.8403			3.12	-1.4870		
-7.88	0.8952			3.75	-1.4021		
-4.51	0.9967			4.38	-1.3546		
-2.25	1.1262			5.00	-1.2980		
-1.46	1.1758			6.25	-1.2557		
-0.90	1.1843			7.50	-1.1884		
-0.39	1.1001			8.75	-1.1102		
-0.19	0.9629			10.00	-1.0700		
0.00	0.1955			12.50	-0.9832		
0.31	-1.6577			15.00	-0.9487		
0.62	-1.7012			17.50	-0.8553		
1.25	-1.6603			20.00	-0.6548		
1.88	-1.6371			30.00	-0.0967		
2.50	-1.6165			40.00	-0.0842		
3.12	-1.5799			50.00	-0.1187		
3.75	-1.5333			60.00	-0.1301		
4.38	-1.4846			70.00	-0.1279		
5.00	-1.4417			80.00	-0.1187		
6.25	-1.3782			90.00	-0.1022		
7.50	-1.3026			100.00	-0.0489		
8.75	-1.2526			129.17	-0.0459		
10.00	-1.2113						
12.50	-1.1233						
15.00	-1.0581						
17.50	-0.9888						
20.00	-0.9380						
30.00	-0.2927						
40.00	-0.0513						
50.00	-0.0748						
60.00	-0.1046						
70.00	-0.1176						
80.00	-0.1091						
100.00	-0.0551						
129.17	-0.0451						
145.83	-0.0374						

mfr = 0.49 and α = 2.0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	1.0538	173.61	0.0037	-94.32	1.0527	190.28	-0.0079
-82.25	1.0585	190.28	0.0047	-82.25	1.0611	206.94	0.0070
-75.15	1.0621	206.94	0.0117	-46.76	1.0112	223.61	0.0193
-68.05	1.0582	223.61	0.0306	-11.26	0.7886	245.83	0.0575
-57.40	1.0400	245.83	0.0638	-4.51	0.9351	262.50	0.1059
-46.76	1.0107	262.50	0.1059	-0.90	1.1888	273.61	0.1640
-39.66	0.9866	273.61	0.1500	0.00	0.3838	279.17	0.2111
-32.56	0.9502	279.17	0.1829	0.31	-1.5811	284.72	0.2655
-25.46	0.9099	284.72	0.2224	0.62	-1.6500	290.28	0.3382
-18.36	0.8757	290.28	0.2754	1.25	-1.5590		
-14.81	0.8611			1.88	-1.5305		
-11.26	0.8578			2.50	-1.5072		
-10.14	0.8644			3.12	-1.4013		
-7.88	0.9047			3.75	-1.3338		
-4.51	1.0180			4.38	-1.2902		
-2.25	1.1440			5.00	-1.2501		
-1.46	1.1851			6.25	-1.1760		
-0.90	1.1855			7.50	-1.1112		
-0.39	1.0921			8.75	-1.0356		
-0.19	0.9477			10.00	-0.9797		
0.00	0.1501			12.50	-0.8867		
0.31	-1.6823			15.00	-0.8279		
0.62	-1.7329			17.50	-0.7801		
1.25	-1.6757			20.00	-0.4193		
1.88	-1.6692			30.00	-0.0872		
2.50	-1.6600			40.00	-0.1019		
3.12	-1.6421			50.00	-0.1203		
3.75	-1.5904			60.00	-0.1287		
4.38	-1.5354			70.00	-0.1221		
5.00	-1.4935			80.00	-0.1144		
6.25	-1.4340			90.00	-0.0967		
7.50	-1.3556			100.00	-0.0398		
8.75	-1.3202			129.17	-0.0434		
10.00	-1.2866						
12.50	-1.1780						
15.00	-1.1149						
17.50	-0.9952						
20.00	-0.9107						
30.00	-0.3916						
40.00	-0.1200						
50.00	-0.0499						
60.00	-0.0817						
70.00	-0.0971						
80.00	-0.0957						
100.00	-0.0587						
129.17	-0.0414						
145.83	-0.0368						

mfr = 0.49 and α = 3.1°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	1.0518	173.61	0.0073	-94.32	1.0485	190.28	-0.0093
-82.25	1.0574	190.28	0.0093	-82.25	1.0588	206.94	0.0050
-75.15	1.0587	206.94	0.0163	-46.76	1.0082	223.61	0.0183
-68.05	1.0581	223.61	0.0299	-11.26	0.7668	245.83	0.0572
-57.40	1.0398	245.83	0.0572	-4.51	0.9055	262.50	0.1041
-46.76	1.0121	262.50	0.0881	-0.90	1.1872	273.61	0.1659
-39.66	0.9844	273.61	0.1200	0.00	0.4136	279.17	0.2148
-32.56	0.9521	279.17	0.1486	0.31	-1.5558	284.72	0.2723
-25.46	0.9140	284.72	0.1719	0.62	-1.6255	290.28	0.3497
-18.36	0.8820	290.28	0.2211	1.25	-1.5160		
-14.81	0.8724			1.88	-1.4861		
-11.26	0.8713			2.50	-1.4387		
-10.14	0.8673			3.12	-1.3263		
-7.88	0.9059			3.75	-1.2473		
-4.51	1.0264			4.38	-1.2077		
-2.25	1.1368			5.00	-1.1755		
-1.46	1.1811			6.25	-1.1159		
-0.90	1.1738			7.50	-1.0124		
-0.39	1.0741			8.75	-0.9611		
-0.19	0.9043			10.00	-0.9075		
0.00	0.1479			12.50	-0.8170		
0.31	-0.9283			15.00	-0.7566		
0.62	-0.7458			17.50	-0.2692		
1.25	-0.8045			20.00	-0.1598		
1.88	-0.8615			30.00	-0.1094		
2.50	-0.8484			40.00	-0.1278		
3.12	-0.8838			50.00	-0.1366		
3.75	-0.8323			60.00	-0.1418		
4.38	-0.8877			70.00	-0.1300		
5.00	-0.8051			80.00	-0.1171		
6.25	-0.8457			90.00	-0.0980		
7.50	-0.8084			100.00	-0.0395		
8.75	-0.8589			129.17	-0.0467		
10.00	-0.8818						
12.50	-0.8759						
15.00	-0.8640						
17.50	-0.8310						
20.00	-0.8294						
30.00	-0.6905						
40.00	-0.4899						
50.00	-0.3454						
60.00	-0.2023						
70.00	-0.1455						
80.00	-0.0899						
100.00	-0.0526						
129.17	-0.0271						
145.83	-0.0256						

TABLE VII. Continued

(b) Continued

mfr = 0.55 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-94.32	1.0185	173.61	-0.0116	-94.32	1.0200	190.28	0.0040
-82.25	1.0284	190.28	0.0014	-82.25	1.0299	206.94	0.0214
-75.15	1.0323	206.94	0.0154	-46.76	0.9670	223.61	0.0330
-68.05	1.0271	223.61	0.0353	-11.26	0.7096	245.83	0.0727
-57.40	1.0049	245.83	0.0773	-4.51	0.8879	262.50	0.1250
-46.76	0.9653	262.50	0.1290	-0.90	1.1862	273.61	0.1850
-39.66	0.9297	273.61	0.1853	0.00	0.3683	279.17	0.2270
-32.56	0.8830	279.17	0.2230	0.31	-1.5641	284.72	0.2747
-25.46	0.8245	284.72	0.2706	0.62	-1.6419	290.28	0.3386
-18.36	0.7673	290.28	0.3303	1.25	-1.5487		
-14.81	0.7405			1.88	-1.5221		
-11.26	0.7048			2.50	-1.4951		
-10.14	0.7059			3.12	-1.4324		
-7.88	0.7372			3.75	-1.3427		
-4.51	0.8800			4.38	-1.3000		
-2.25	1.0610			5.00	-1.2575		
-1.46	1.1393			6.25	-1.1799		
-0.90	1.1821			7.50	-1.1394		
-0.39	1.1551			8.75	-1.0613		
-0.19	1.0498			10.00	-1.0360		
0.00	0.3835			12.50	-0.9460		
0.31	-1.5341			15.00	-0.8792		
0.62	-1.5840			17.50	-0.8234		
1.25	-1.4986			20.00	-0.4669		
1.88	-1.4776			30.00	-0.0764		
2.50	-1.4490			40.00	-0.0919		
3.12	-1.4162			50.00	-0.1193		
3.75	-1.3423			60.00	-0.1322		
4.38	-1.2884			70.00	-0.1289		
5.00	-1.2634			80.00	-0.1115		
6.25	-1.1820			90.00	-0.1012		
7.50	-1.0979			100.00	-0.0491		
8.75	-1.0437			129.17	-0.0410		
10.00	-1.0167						
12.50	-0.9498						
15.00	-0.8923						
17.50	-0.8092						
20.00	-0.5597						
30.00	-0.0711						
40.00	-0.1007						
50.00	-0.1105						
60.00	-0.1392						
70.00	-0.1285						
80.00	-0.1122						
100.00	-0.0612						
129.17	-0.0414						
145.83	-0.0314						

mfr = 0.61 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-94.32	0.9699	173.61	0.0047	-94.32	0.9721	190.28	0.0160
-82.25	0.9823	190.28	0.0150	-82.25	0.9850	206.94	0.0310
-75.15	0.9872	206.94	0.0283	-46.76	0.9040	223.61	0.0457
-68.05	0.9804	223.61	0.0493	-11.26	0.5236	245.83	0.0900
-57.40	0.9516	245.83	0.0954	-4.51	0.7462	262.50	0.1470
-46.76	0.9018	262.50	0.1500	-0.90	1.1675	273.61	0.2137
-39.66	0.8541	273.61	0.2104	0.00	0.5318	279.17	0.2584
-32.56	0.7914	279.17	0.2544	0.31	-1.4800	284.72	0.3084
-25.46	0.7113	284.72	0.3031	0.62	-1.5444	290.28	0.3691
-18.36	0.6277	290.28	0.3614	1.25	-1.4516		
-14.81	0.5887			1.88	-1.4050		
-11.26	0.5435			2.50	-1.3633		
-10.14	0.5280			3.12	-1.2779		
-7.88	0.5777			3.75	-1.2190		
-4.51	0.7387			4.38	-1.2020		
-2.25	0.9464			5.00	-1.1063		
-1.46	1.0707			6.25	-1.0779		
-0.90	1.1564			7.50	-1.0052		
-0.39	1.1819			8.75	-0.9909		
-0.19	1.1171			10.00	-0.9354		
0.00	0.5266			12.50	-0.8616		
0.31	-1.4675			15.00	-0.7618		
0.62	-1.5020			17.50	-0.2733		
1.25	-1.4560			20.00	-0.2194		
1.88	-1.3667			30.00	-0.1109		
2.50	-1.3279			40.00	-0.1301		
3.12	-1.2618			50.00	-0.1308		
3.75	-1.2421			60.00	-0.1330		
4.38	-1.1465			70.00	-0.1253		
5.00	-1.1504			80.00	-0.1116		
6.25	-1.0959			90.00	-0.0935		
7.50	-1.0266			100.00	-0.0492		
8.75	-0.9839			129.17	-0.0376		
10.00	-0.9089						
12.50	-0.8383						
15.00	-0.7910						
17.50	-0.4820						
20.00	-0.1736						
30.00	-0.1045						
40.00	-0.1301						
50.00	-0.1320						
60.00	-0.1416						
70.00	-0.1264						
80.00	-0.1123						
100.00	-0.0601						
129.17	-0.0392						
145.83	-0.0245						

mfr = 0.67 and α = -2.1°

ϕ = 0°				ϕ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-94.32	0.9205	173.61	-0.0127	-94.32	0.9209	190.28	0.0294
-82.25	0.9356	190.28	0.0120	-82.25	0.9382	206.94	0.0441
-75.15	0.9392	206.94	0.0311	-46.76	0.8380	223.61	0.0621
-68.05	0.9304	223.61	0.0564	-11.26	0.3959	245.83	0.1075
-57.40	0.8920	245.83	0.1005	-4.51	0.6494	262.50	0.1699
-46.76	0.8305	262.50	0.1579	-0.90	1.1479	273.61	0.2318
-39.66	0.7687	273.61	0.2271	0.00	0.5425	279.17	0.2725
-32.56	0.6885	279.17	0.2729	0.31	-1.4737	284.72	0.3173
-25.46	0.5795	284.72	0.3293	0.62	-1.5477	290.28	0.3660
-18.36	0.4482	290.28	0.4027	1.25	-1.4848		
-14.81	0.3834			1.88	-1.3996		
-11.26	0.3034			2.50	-1.3488		
-10.14	0.2544			3.12	-1.2913		
-7.88	0.3017			3.75	-1.2289		
-4.51	0.4814			4.38	-1.1887		
-2.25	0.7659			5.00	-1.1580		
-1.46	0.9280			6.25	-1.1053		
-0.90	1.0644			7.50	-1.0592		
-0.39	1.1823			8.75	-1.0154		
-0.19	1.1796			10.00	-0.9994		
0.00	0.7543			12.50	-0.9184		
0.31	-1.2697			15.00	-0.8696		
0.62	-1.2829			17.50	-0.3882		
1.25	-1.2052			20.00	-0.1988		
1.88	-1.1071			30.00	-0.0883		
2.50	-1.0008			40.00	-0.1171		
3.12	-0.9660			50.00	-0.1308		
3.75	-0.9311			60.00	-0.1356		
4.38	-0.8913			70.00	-0.1242		
5.00	-0.8580			80.00	-0.1064		
6.25	-0.5533			90.00	-0.0879		
7.50	-0.3924			100.00	-0.0443		
8.75	-0.1449			129.17	-0.0277		
10.00	-0.1364						
12.50	-0.2028						
15.00	-0.2094						
17.50	-0.1903						
20.00	-0.1820						
30.00	-0.1512						
40.00	-0.1357						
50.00	-0.1258						
60.00	-0.1249						
70.00	-0.1156						
80.00	-0.1051						
100.00	-0.0492						
129.17	-0.0261						
145.83	-0.0072						

TABLE VII. Continued

(b) Continued

mfr = 0.67 and α = -1.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.9213	173.61	-0.0071	-94.32	0.9243	190.28	0.0252
-82.25	0.9390	190.28	0.0145	-82.25	0.9405	206.94	0.0406
-75.15	0.9439	206.94	0.0316	-46.76	0.8371	223.61	0.0569
-68.05	0.9331	223.61	0.0562	-11.26	0.3622	245.83	0.1066
-57.40	0.8964	245.83	0.1029	-4.51	0.6192	262.50	0.1663
-46.76	0.8366	262.50	0.1600	-0.90	1.1316	273.61	0.2351
-39.66	0.7728	273.61	0.2274	0.00	0.5935	279.17	0.2791
-32.56	0.6947	279.17	0.2728	0.31	-1.4259	284.72	0.3288
-25.46	0.5914	284.72	0.3278	0.62	-1.4963	290.28	0.3862
-18.36	0.4609	290.28	0.3972	1.25	-1.4160		
-14.81	0.4082			1.88	-1.3388		
-11.26	0.3184			2.50	-1.2641		
-10.14	0.2978			3.12	-1.2309		
-7.88	0.3545			3.75	-1.1946		
-4.51	0.5391			4.38	-1.1225		
-2.25	0.8033			5.00	-1.1149		
-1.46	0.9566			6.25	-1.0459		
-0.90	1.0929			7.50	-0.9838		
-0.39	1.1894			8.75	-0.9176		
-0.19	1.1786			10.00	-0.9040		
0.00	0.6911			12.50	-0.8545		
0.31	-1.3375			15.00	-0.3524		
0.62	-1.3434			17.50	-0.2627		
1.25	-1.2639			20.00	-0.0957		
1.88	-1.1925			30.00	-0.1290		
2.50	-1.1188			40.00	-0.1353		
3.12	-1.0337			50.00	-0.1353		
3.75	-1.0169			60.00	-0.1327		
4.38	-0.9657			70.00	-0.1231		
5.00	-0.9614			80.00	-0.1053		
6.25	-0.9052			90.00	-0.0928		
7.50	-0.7635			100.00	-0.0444		
8.75	-0.7530			129.17	-0.0256		
10.00	-0.2976						
12.50	-0.1487						
15.00	-0.1512						
17.50	-0.1507						
20.00	-0.1493						
30.00	-0.1490						
40.00	-0.1385						
50.00	-0.1247						
60.00	-0.1331						
70.00	-0.1212						
80.00	-0.1030						
100.00	-0.0485						
129.17	-0.0306						
145.83	-0.0124						

mfr = 0.67 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.9241	173.61	0.0055	-94.32	0.9238	190.28	0.0212
-82.25	0.9409	190.28	0.0199	-82.25	0.9422	206.94	0.0365
-75.15	0.9435	206.94	0.0342	-46.76	0.8396	223.61	0.0562
-68.05	0.9337	223.61	0.0572	-11.26	0.3443	245.83	0.1031
-57.40	0.8997	245.83	0.1031	-4.51	0.5712	262.50	0.1638
-46.76	0.8344	262.50	0.1624	-0.90	1.1202	273.61	0.2302
-39.66	0.7750	273.61	0.2288	0.00	0.6373	279.17	0.2791
-32.56	0.6992	279.17	0.2735	0.31	-1.3796	284.72	0.3334
-25.46	0.5954	284.72	0.3268	0.62	-1.4446	290.28	0.4014
-18.36	0.4829	290.28	0.3894	1.25	-1.3689		
-14.81	0.4351			1.88	-1.2641		
-11.26	0.3406			2.50	-1.2216		
-10.14	0.3201			3.12	-1.1483		
-7.88	0.3812			3.75	-1.0943		
-4.51	0.5817			4.38	-1.0401		
-2.25	0.8487			5.00	-1.0054		
-1.46	1.0100			6.25	-0.9785		
-0.90	1.1102			7.50	-0.9114		
-0.39	1.1889			8.75	-0.8730		
-0.19	1.1588			10.00	-0.7862		
0.00	0.6587			12.50	-0.4885		
0.31	-1.3814			15.00	-0.1811		
0.62	-1.3938			17.50	-0.1014		
1.25	-1.3587			20.00	-0.0929		
1.88	-1.2779			30.00	-0.1457		
2.50	-1.1867			40.00	-0.1412		
3.12	-1.1515			50.00	-0.1298		
3.75	-1.1229			60.00	-0.1353		
4.38	-1.0454			70.00	-0.1202		
5.00	-1.0411			80.00	-0.1069		
6.25	-0.9863			90.00	-0.0907		
7.50	-0.9006			100.00	-0.0439		
8.75	-0.8783			129.17	-0.0224		
10.00	-0.8185						
12.50	-0.6809						
15.00	-0.2149						
17.50	-0.1387						
20.00	-0.1033						
30.00	-0.1443						
40.00	-0.1406						
50.00	-0.1347						
60.00	-0.1348						
70.00	-0.1217						
80.00	-0.1088						
100.00	-0.0543						
129.17	-0.0328						
145.83	-0.0127						

mfr = 0.67 and α = 1.0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.9221	173.61	0.0119	-94.32	0.9224	190.28	0.0099
-82.25	0.9397	190.28	0.0155	-82.25	0.9401	206.94	0.0302
-75.15	0.9436	206.94	0.0295	-46.76	0.8375	223.61	0.0583
-68.05	0.9325	223.61	0.0526	-11.26	0.3064	245.83	0.1066
-57.40	0.8994	245.83	0.1019	-4.51	0.5444	262.50	0.1632
-46.76	0.8387	262.50	0.1609	-0.90	1.0857	273.61	0.2312
-39.66	0.7793	273.61	0.2262	0.00	0.6914	279.17	0.2825
-32.56	0.7064	279.17	0.2682	0.31	-1.2976	284.72	0.3399
-25.46	0.6051	284.72	0.3155	0.62	-1.3787	290.28	0.4119
-18.36	0.4940	290.28	0.3739	1.25	-1.2910		
-14.81	0.4506			1.88	-1.2032		
-11.26	0.3800			2.50	-1.1397		
-10.14	0.3726			3.12	-1.0568		
-7.88	0.4232			3.75	-1.0208		
-4.51	0.6131			4.38	-0.9922		
-2.25	0.8967			5.00	-0.9249		
-1.46	1.0232			6.25	-0.8197		
-0.90	1.1329			7.50	-0.8067		
-0.39	1.1907			8.75	-0.2323		
-0.19	1.1483			10.00	-0.3967		
0.00	0.5757			12.50	-0.1347		
0.31	-1.4281			15.00	-0.1494		
0.62	-1.4524			17.50	-0.1557		
1.25	-1.4064			20.00	-0.1660		
1.88	-1.3341			30.00	-0.1476		
2.50	-1.2700			40.00	-0.1380		
3.12	-1.2093			50.00	-0.1288		
3.75	-1.1603			60.00	-0.1280		
4.38	-1.1420			70.00	-0.1185		
5.00	-1.0832			80.00	-0.1007		
6.25	-1.0477			90.00	-0.0834		
7.50	-1.0237			100.00	-0.0384		
8.75	-0.9698			129.17	-0.0213		
10.00	-0.9373						
12.50	-0.8253						
15.00	-0.4197						
17.50	-0.1549						
20.00	-0.0933						
30.00	-0.1004						
40.00	-0.1264						
50.00	-0.1253						
60.00	-0.1241						
70.00	-0.1122						
80.00	-0.0978						
100.00	-0.0492						
129.17	-0.0255						
145.83	-0.0128						

TABLE VII. Continued

(b) Continued

mfr = 0.67 and α = 2.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	0.9200	173.61	0.0274	-94.32	0.9204	190.28	0.0117
-82.25	0.9361	190.28	0.0260	-82.25	0.9359	206.94	0.0351
-75.15	0.9427	206.94	0.0407	-46.76	0.8320	223.61	0.0525
-68.05	0.9348	223.61	0.0659	-11.26	0.2738	245.83	0.0999
-57.40	0.8974	245.83	0.1133	-4.51	0.4757	262.50	0.1587
-46.76	0.8349	262.50	0.1690	-0.90	1.0774	273.61	0.2294
-39.66	0.7767	273.61	0.2288	0.00	0.7422	279.17	0.2798
-32.56	0.7050	279.17	0.2675	0.31	-1.2351	284.72	0.3393
-25.46	0.6016	284.72	0.3099	0.62	-1.3346	290.28	0.4148
-18.36	0.5022	290.28	0.3540	1.25	-1.2037		
-14.81	0.4621			1.88	-1.1518		
-11.26	0.4020			2.50	-1.0435		
-10.14	0.3891			3.12	-0.9234		
-7.88	0.4554			3.75	-0.8875		
-4.51	0.6684			4.38	-0.8810		
-2.25	0.9228			5.00	-0.8450		
-1.46	1.0503			6.25	-0.6978		
-0.90	1.1436			7.50	-0.2349		
-0.39	1.1841			8.75	-0.1898		
-0.19	1.1273			10.00	-0.1335		
0.00	0.5423			12.50	-0.2071		
0.31	-1.4742			15.00	-0.2067		
0.62	-1.5009			17.50	-0.1823		
1.25	-1.4542			20.00	-0.1716		
1.88	-1.3969			30.00	-0.1557		
2.50	-1.3338			40.00	-0.1347		
3.12	-1.2810			50.00	-0.1324		
3.75	-1.2439			60.00	-0.1247		
4.38	-1.2027			70.00	-0.1217		
5.00	-1.1590			80.00	-0.1003		
6.25	-1.1353			90.00	-0.0910		
7.50	-1.0777			100.00	-0.0367		
8.75	-1.0336			129.17	-0.0309		
10.00	-1.0096						
12.50	-0.9161						
15.00	-0.8108						
17.50	-0.3751						
20.00	-0.1436						
30.00	-0.0852						
40.00	-0.1239						
50.00	-0.1250						
60.00	-0.1308						
70.00	-0.1225						
80.00	-0.1006						
100.00	-0.0510						
129.17	-0.0348						
145.83	-0.0193						

mfr = 0.67 and α = 3.1°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	0.9216	173.61	0.0381	-94.32	0.9212	190.28	0.0114
-82.25	0.9372	190.28	0.0338	-82.25	0.9363	206.94	0.0321
-75.15	0.9431	206.94	0.0424	-46.76	0.8311	223.61	0.0532
-68.05	0.9326	223.61	0.0645	-11.26	0.2360	245.83	0.1009
-57.40	0.8966	245.83	0.1136	-4.51	0.4235	262.50	0.1603
-46.76	0.8390	262.50	0.1679	-0.90	1.0450	273.61	0.2287
-39.66	0.7815	273.61	0.2246	0.00	0.7997	279.17	0.2800
-32.56	0.7073	279.17	0.2623	0.31	-1.1703	284.72	0.3411
-25.46	0.6147	284.72	0.2994	0.62	-1.2420	290.28	0.4222
-18.36	0.5177	290.28	0.3452	1.25	-1.1004		
-14.81	0.4831			1.88	-1.0022		
-11.26	0.4445			2.50	-0.9201		
-10.14	0.4434			3.12	-0.8191		
-7.88	0.4798			3.75	-0.4360		
-4.51	0.7023			4.38	-0.5574		
-2.25	0.9553			5.00	-0.2654		
-1.46	1.0739			6.25	-0.1470		
-0.90	1.1605			7.50	-0.1597		
-0.39	1.1841			8.75	-0.1893		
-0.19	1.1084			10.00	-0.2025		
0.00	0.4619			12.50	-0.2240		
0.31	-1.4938			15.00	-0.2129		
0.62	-1.5487			17.50	-0.1781		
1.25	-1.5224			20.00	-0.1641		
1.88	-1.4422			30.00	-0.1397		
2.50	-1.3883			40.00	-0.1238		
3.12	-1.3465			50.00	-0.1168		
3.75	-1.3193			60.00	-0.1216		
4.38	-1.2676			70.00	-0.1142		
5.00	-1.2340			80.00	-0.0943		
6.25	-1.1959			90.00	-0.0921		
7.50	-1.1436			100.00	-0.0319		
8.75	-1.0841			129.17	-0.0236		
10.00	-1.0618						
12.50	-0.9936						
15.00	-0.9552						
17.50	-0.6474						
20.00	-0.4059						
30.00	-0.0683						
40.00	-0.1007						
50.00	-0.1196						
60.00	-0.1319						
70.00	-0.1146						
80.00	-0.1090						
100.00	-0.0568						
129.17	-0.0294						
145.83	-0.0190						

mfr = 0.74 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	0.8544	173.61	0.0090	-94.32	0.8566	190.28	0.0276
-82.25	0.8755	190.28	0.0246	-82.25	0.8772	206.94	0.0409
-75.15	0.8813	206.94	0.0409	-46.76	0.7449	223.61	0.0613
-68.05	0.8666	223.61	0.0640	-11.26	-0.0002	245.83	0.1160
-57.40	0.8226	245.83	0.1153	-4.51	0.3357	262.50	0.1779
-46.76	0.7416	262.50	0.1772	-0.90	1.0273	273.61	0.2485
-39.66	0.6659	273.61	0.2442	0.00	0.7762	279.17	0.2975
-32.56	0.5564	279.17	0.2875	0.31	-1.2196	284.72	0.3515
-25.46	0.4141	284.72	0.3405	0.62	-1.2854	290.28	0.4171
-18.36	0.2450	290.28	0.4058	1.25	-1.1687		
-14.81	0.1586			1.88	-1.0822		
-11.26	0.0351			2.50	-1.0557		
-10.14	-0.0031			3.12	-0.9295		
-7.88	0.0689			3.75	-0.9020		
-4.51	0.3123			4.38	-0.9072		
-2.25	0.6679			5.00	-0.8304		
-1.46	0.8739			6.25	-0.2168		
-0.90	1.0327			7.50	-0.7735		
-0.39	1.1736			8.75	-0.1468		
-0.19	1.1894			10.00	-0.1309		
0.00	0.7681			12.50	-0.1991		
0.31	-1.2380			15.00	-0.2077		
0.62	-1.2299			17.50	-0.1803		
1.25	-1.1849			20.00	-0.1763		
1.88	-1.0825			30.00	-0.1582		
2.50	-1.0214			40.00	-0.1375		
3.12	-0.9586			50.00	-0.1294		
3.75	-0.8940			60.00	-0.1272		
4.38	-0.8825			70.00	-0.1176		
5.00	-0.8320			80.00	-0.1003		
6.25	-0.7401			90.00	-0.0848		
7.50	-0.2479			100.00	-0.0387		
8.75	-0.2042			129.17	-0.0206		
10.00	-0.1576						
12.50	-0.1829						
15.00	-0.1937						
17.50	-0.1832						
20.00	-0.1860						
30.00	-0.1526						
40.00	-0.1368						
50.00	-0.1267						
60.00	-0.1303						
70.00	-0.1187						
80.00	-0.1047						
100.00	-0.0450						
129.17	-0.0206						
145.83	-0.0078						

TABLE VII. Continued

(b) Continued

mfr = 0.83 and α = -2.1°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.2653	173.61	-0.0038	-94.32	0.2959	190.28	0.0359
-82.25	0.1439	190.28	0.0203	-82.25	0.2071	206.94	0.0479
-75.15	0.0781	206.94	0.0353	-46.76	-0.1857	223.61	0.0646
-68.05	0.0091	223.61	0.0563	-11.26	-0.6125	245.83	0.1077
-57.40	-0.0553	245.83	0.0980	-4.51	0.1239	262.50	0.1574
-46.76	-0.1967	262.50	0.1403	-0.90	0.9839	273.61	0.2105
-39.66	-0.2828	273.61	0.1928	0.00	0.8074	279.17	0.2502
-32.56	-0.3296	279.17	0.2282	0.31	-1.1693	284.72	0.2902
-25.46	-0.3986	284.72	0.2695	0.62	-1.2423	290.28	0.3419
-18.36	-0.7776	290.28	0.3262	1.25	-1.1530		
-14.81	-0.8893			1.88	-1.0619		
-11.26	-0.6668			2.50	-1.0493		
-10.14	-0.6535			3.12	-0.9675		
-7.88	-0.4525			3.75	-0.9166		
-4.51	-0.0864			4.38	-0.8576		
-2.25	0.3658			5.00	-0.8501		
-1.46	0.6103			6.25	-0.8349		
-0.90	0.8248			7.50	-0.6210		
-0.39	1.0862			8.75	-0.1585		
-0.19	1.1820			10.00	-0.1654		
0.00	0.9724			12.50	-0.1891		
0.31	-0.8110			15.00	-0.2116		
0.62	-0.6117			17.50	-0.1854		
1.25	-0.5028			20.00	-0.1902		
1.88	-0.3470			30.00	-0.1702		
2.50	-0.1954			40.00	-0.1451		
3.12	-0.1454			50.00	-0.1422		
3.75	-0.1862			60.00	-0.1281		
4.38	-0.1536			70.00	-0.1240		
5.00	-0.1470			80.00	-0.0963		
6.25	-0.1368			90.00	-0.0882		
7.50	-0.1447			100.00	-0.0347		
8.75	-0.1549			129.17	-0.0178		
10.00	-0.1618						
12.50	-0.1707						
15.00	-0.1574						
17.50	-0.1372						
20.00	-0.1338						
30.00	-0.1211						
40.00	-0.1061						
50.00	-0.1046						
60.00	-0.1057						
70.00	-0.0997						
80.00	-0.0948						
100.00	-0.0428						
129.17	-0.0213						
145.83	0.0023						

mfr = 0.83 and α = -1.1°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.2733	173.61	0.0004	-94.32	0.2795	190.28	0.0291
-82.25	0.1833	190.28	0.0197	-82.25	0.1927	206.94	0.0414
-75.15	0.1228	206.94	0.0341	-46.76	-0.1869	223.61	0.0578
-68.05	0.0597	223.61	0.0574	-11.26	-0.6421	245.83	0.0998
-57.40	-0.0741	245.83	0.0975	-4.51	0.0830	262.50	0.1475
-46.76	-0.2007	262.50	0.1412	-0.90	0.9631	273.61	0.2019
-39.66	-0.2684	273.61	0.1943	0.00	0.8644	279.17	0.2437
-32.56	-0.3006	279.17	0.2276	0.31	-1.1083	284.72	0.2857
-25.46	-0.4013	284.72	0.2687	0.62	-1.1733	290.28	0.3414
-18.36	-0.9303	290.28	0.3270	1.25	-1.0777		
-14.81	-0.8583			1.88	-0.9829		
-11.26	-0.6310			2.50	-0.9181		
-10.14	-0.6118			3.12	-0.8889		
-7.88	-0.4206			3.75	-0.7947		
-4.51	-0.0186			4.38	-0.7158		
-2.25	0.4356			5.00	-0.6107		
-1.46	0.6654			6.25	-0.1489		
-0.90	0.8775			7.50	-0.1914		
-0.39	1.1146			8.75	-0.1759		
-0.19	1.1853			10.00	-0.2128		
0.00	0.9362			12.50	-0.2412		
0.31	-0.8906			15.00	-0.2331		
0.62	-0.9149			17.50	-0.1958		
1.25	-0.7610			20.00	-0.1773		
1.88	-0.6242			30.00	-0.1526		
2.50	-0.4736			40.00	-0.1352		
3.12	-0.1859			50.00	-0.1249		
3.75	-0.2273			60.00	-0.1245		
4.38	-0.2165			70.00	-0.1130		
5.00	-0.2129			80.00	-0.0972		
6.25	-0.2102			90.00	-0.0872		
7.50	-0.2063			100.00	-0.0359		
8.75	-0.1977			129.17	-0.0156		
10.00	-0.1875						
12.50	-0.1935						
15.00	-0.2052						
17.50	-0.1652						
20.00	-0.1605						
30.00	-0.1294						
40.00	-0.1143						
50.00	-0.1149						
60.00	-0.1154						
70.00	-0.1105						
80.00	-0.0925						
100.00	-0.0449						
129.17	-0.0202						
145.83	-0.0009						

mfr = 0.84 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.2486	173.61	0.0123	-94.32	0.2670	190.28	0.0257
-82.25	0.1876	190.28	0.0244	-82.25	0.1649	206.94	0.0427
-75.15	0.1654	206.94	0.0351	-46.76	-0.1798	223.61	0.0578
-68.05	0.0422	223.61	0.0584	-11.26	-0.6738	245.83	0.0975
-57.40	-0.0830	245.83	0.1009	-4.51	0.0403	262.50	0.1443
-46.76	-0.1598	262.50	0.1470	-0.90	0.9020	273.61	0.2002
-39.66	-0.2750	273.61	0.2008	0.00	0.9033	279.17	0.2406
-32.56	-0.3050	279.17	0.2339	0.31	-1.0368	284.72	0.2830
-25.46	-0.3778	284.72	0.2743	0.62	-1.0932	290.28	0.3408
-18.36	-0.9070	290.28	0.3291	1.25	-0.9166		
-14.81	-0.8200			1.88	-0.8053		
-11.26	-0.6047			2.50	-0.6746		
-10.14	-0.5677			3.12	-0.2838		
-7.88	-0.3795			3.75	-0.1817		
-4.51	0.0464			4.38	-0.1696		
-2.25	0.4491			5.00	-0.1628		
-1.46	0.6924			6.25	-0.2213		
-0.90	0.9196			7.50	-0.2180		
-0.39	1.1381			8.75	-0.2086		
-0.19	1.1876			10.00	-0.2287		
0.00	0.8777			12.50	-0.2498		
0.31	-1.0298			15.00	-0.2161		
0.62	-1.0506			17.50	-0.1965		
1.25	-0.9643			20.00	-0.1736		
1.88	-0.8695			30.00	-0.1488		
2.50	-0.7562			40.00	-0.1277		
3.12	-0.5191			50.00	-0.1181		
3.75	-0.4114			60.00	-0.1188		
4.38	-0.2052			70.00	-0.1092		
5.00	-0.1989			80.00	-0.0925		
6.25	-0.1864			90.00	-0.0814		
7.50	-0.2250			100.00	-0.0375		
8.75	-0.2329			129.17	-0.0190		
10.00	-0.2279						
12.50	-0.2381						
15.00	-0.2294						
17.50	-0.1907						
20.00	-0.1781						
30.00	-0.1433						
40.00	-0.1314						
50.00	-0.1216						
60.00	-0.1194						
70.00	-0.1121						
80.00	-0.0988						
100.00	-0.0419						
129.17	-0.0236						
145.83	-0.0066						

TABLE VII. Continued

(b) Concluded

mfr = 0.83 and α = 1.1°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	0.2934	173.61	0.0272	-94.32	0.2413	190.28	0.0219
-82.25	0.2207	190.28	0.0326	-82.25	0.1456	206.94	0.0405
-75.15	0.1314	206.94	0.0422	-46.76	-0.1802	223.61	0.0538
-68.05	0.0750	223.61	0.0628	-11.26	-0.7103	245.83	0.0947
-57.40	-0.0707	245.83	0.1047	-4.51	-0.0249	262.50	0.1426
-46.76	-0.1759	262.50	0.1502	-0.90	0.8876	273.61	0.1992
-39.66	-0.2444	273.61	0.2048	0.00	0.9408	279.17	0.2367
-32.56	-0.3013	279.17	0.2384	0.31	-0.9282	284.72	0.2803
-25.46	-0.3561	284.72	0.2793	0.62	-0.9975	290.28	0.3397
-18.36	-0.8635	290.28	0.3314	1.25	-0.7128		
-14.81	-0.7883			1.88	-0.2410		
-11.26	-0.5590			2.50	-0.1861		
-10.14	-0.5244			3.12	-0.1661		
-7.88	-0.3447			3.75	-0.2015		
-4.51	0.0922			4.38	-0.2057		
-2.25	0.5506			5.00	-0.1997		
-1.46	0.7380			6.25	-0.1976		
-0.90	0.9658			7.50	-0.1997		
-0.39	1.1606			8.75	-0.1919		
-0.19	1.1913			10.00	-0.1813		
0.00	0.8469			12.50	-0.2199		
0.31	-1.0677			15.00	-0.1850		
0.62	-1.1385			17.50	-0.1581		
1.25	-1.0939			20.00	-0.1552		
1.88	-0.9606			30.00	-0.1187		
2.50	-0.9160			40.00	-0.1154		
3.12	-0.8230			50.00	-0.1161		
3.75	-0.8266			60.00	-0.1110		
4.38	-0.8544			70.00	-0.1077		
5.00	-0.7745			80.00	-0.0948		
6.25	-0.4423			90.00	-0.0768		
7.50	-0.1664			100.00	-0.0363		
8.75	-0.2214			129.17	-0.0137		
10.00	-0.2113						
12.50	-0.2371						
15.00	-0.2372						
17.50	-0.2090						
20.00	-0.1995						
30.00	-0.1516						
40.00	-0.1335						
50.00	-0.1254						
60.00	-0.1281						
70.00	-0.1158						
80.00	-0.0976						
100.00	-0.0419						
129.17	-0.0217						
145.83	-0.0098						

mfr = 0.83 and α = 2.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	0.2946	173.61	0.0378	-94.32	0.2259	190.28	0.0178
-82.25	0.2079	190.28	0.0348	-82.25	0.1116	206.94	0.0378
-75.15	0.1495	206.94	0.0448	-46.76	-0.1814	223.61	0.0504
-68.05	0.0629	223.61	0.0651	-11.26	-0.7517	245.83	0.0924
-57.40	-0.0596	245.83	0.1064	-4.51	-0.0741	262.50	0.1407
-46.76	-0.1679	262.50	0.1553	-0.90	0.8426	273.61	0.1954
-39.66	-0.2667	273.61	0.2054	0.00	0.9994	279.17	0.2357
-32.56	-0.3321	279.17	0.2403	0.31	-0.7237	284.72	0.2763
-25.46	-0.3307	284.72	0.2800	0.62	-0.7094	290.28	0.3373
-18.36	-0.8403	290.28	0.3293	1.25	-0.4980		
-14.81	-0.7495			1.88	-0.2219		
-11.26	-0.5360			2.50	-0.1785		
-10.14	-0.5087			3.12	-0.1438		
-7.88	-0.2619			3.75	-0.1744		
-4.51	0.1367			4.38	-0.1877		
-2.25	0.5605			5.00	-0.1191		
-1.46	0.7761			6.25	-0.1561		
-0.90	0.9809			7.50	-0.1280		
-0.39	1.1633			8.75	-0.1438		
-0.19	1.1887			10.00	-0.1483		
0.00	0.8152			12.50	-0.1645		
0.31	-1.1925			15.00	-0.1475		
0.62	-1.1918			17.50	-0.1269		
1.25	-1.1238			20.00	-0.1202		
1.88	-1.0595			30.00	-0.1228		
2.50	-0.9899			40.00	-0.1055		
3.12	-0.9305			50.00	-0.1022		
3.75	-0.9423			60.00	-0.1099		
4.38	-0.9049			70.00	-0.1014		
5.00	-0.8324			80.00	-0.0889		
6.25	-0.8225			90.00	-0.0819		
7.50	-0.7677			100.00	-0.0343		
8.75	-0.6797			129.17	-0.0183		
10.00	-0.1666						
12.50	-0.2066						
15.00	-0.1915						
17.50	-0.1925						
20.00	-0.1957						
30.00	-0.1620						
40.00	-0.1403						
50.00	-0.1295						
60.00	-0.1319						
70.00	-0.1191						
80.00	-0.0963						
100.00	-0.0451						
129.17	-0.0249						
145.83	-0.0114						

mfr = 0.83 and α = 3.1°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	0.3010	173.61	0.0452	-94.32	0.2086	190.28	0.0145
-82.25	0.2499	190.28	0.0389	-82.25	0.1420	206.94	0.0382
-75.15	0.1966	206.94	0.0459	-46.76	-0.1985	223.61	0.0495
-68.05	0.1077	223.61	0.0662	-11.26	-0.8053	245.83	0.0919
-57.40	-0.0106	245.83	0.1079	-4.51	-0.1357	262.50	0.1372
-46.76	-0.1675	262.50	0.1586	-0.90	0.7794	273.61	0.1887
-39.66	-0.2477	273.61	0.2100	0.00	1.0419	279.17	0.2287
-32.56	-0.2983	279.17	0.2414	0.31	-0.4648	284.72	0.2714
-25.46	-0.5879	284.72	0.2780	0.62	-0.3217	290.28	0.3344
-18.36	-0.8042	290.28	0.3264	1.25	-0.2391		
-14.81	-0.7215			1.88	-0.1318		
-11.26	-0.5158			2.50	-0.0829		
-10.14	-0.4803			3.12	-0.0555		
-7.88	-0.2497			3.75	-0.0475		
-4.51	0.1703			4.38	-0.0921		
-2.25	0.6163			5.00	-0.0493		
-1.46	0.8156			6.25	-0.0806		
-0.90	1.0056			7.50	-0.0619		
-0.39	1.1758			8.75	-0.0779		
-0.19	1.1874			10.00	-0.0977		
0.00	0.7812			12.50	-0.1401		
0.31	-1.2638			15.00	-0.1379		
0.62	-1.2464			17.50	-0.1224		
1.25	-1.2128			20.00	-0.0903		
1.88	-1.1504			30.00	-0.0992		
2.50	-1.1083			40.00	-0.0969		
3.12	-1.0274			50.00	-0.0951		
3.75	-1.0304			60.00	-0.1084		
4.38	-0.9975			70.00	-0.0958		
5.00	-0.9512			80.00	-0.0844		
6.25	-0.8976			90.00	-0.0781		
7.50	-0.7980			100.00	-0.0320		
8.75	-0.8082			129.17	-0.0142		
10.00	-0.5087						
12.50	-0.1734						
15.00	-0.1684						
17.50	-0.1445						
20.00	-0.1611						
30.00	-0.1576						
40.00	-0.1487						
50.00	-0.1340						
60.00	-0.1310						
70.00	-0.1206						
80.00	-0.0998						
100.00	-0.0440						
129.17	-0.0177						
145.83	-0.0084						

TABLE VII. Continued

(c) M = 0.87

mfr = 0.49 and α = -2.0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	1.0673	173.61	-0.0207	-94.32	1.0697	190.28	0.0118
-82.25	1.0741	190.28	0.0008	-82.25	1.0768	206.94	0.0204
-75.15	1.0785	206.94	0.0130	-46.76	1.0306	223.61	0.0310
-68.05	1.0704	223.61	0.0291	-11.26	0.8689	245.83	0.0674
-57.40	1.0527	245.83	0.0706	-4.51	1.0296	262.50	0.1159
-46.76	1.0231	262.50	0.1195	-0.90	1.1996	273.61	0.1693
-39.66	0.9954	273.61	0.1824	0.00	0.1987	279.17	0.2062
-32.56	0.9582	279.17	0.2265	0.31	-1.5851	284.72	0.2496
-25.46	0.9096	284.72	0.2828	0.62	-1.6559	290.28	0.3040
-18.36	0.8607	290.28	0.3551	1.25	-1.5794		
-14.81	0.8401			1.88	-1.5880		
-11.26	0.8139			2.50	-1.5733		
-10.14	0.8075			3.12	-1.5865		
-7.88	0.8289			3.75	-1.5374		
-4.51	0.9320			4.38	-1.4751		
-2.25	1.0801			5.00	-1.4231		
-1.46	1.1508			6.25	-1.3644		
-0.90	1.1843			7.50	-1.2992		
-0.39	1.1479			8.75	-1.2612		
-0.19	1.0507			10.00	-1.1988		
0.00	0.3969			12.50	-1.1052		
0.31	-1.4542			15.00	-1.0849		
0.62	-1.5195			17.50	-1.0013		
1.25	-1.4332			20.00	-0.9760		
1.88	-1.4171			30.00	-0.7834		
2.50	-1.4047			40.00	-0.2191		
3.12	-1.3435			50.00	-0.0279		
3.75	-1.2533			60.00	-0.0272		
4.38	-1.2232			70.00	-0.0575		
5.00	-1.1737			80.00	-0.0703		
6.25	-1.0999			90.00	-0.0657		
7.50	-1.0461			100.00	-0.0265		
8.75	-0.9931			129.17	-0.0502		
10.00	-0.9561						
12.50	-0.8594						
15.00	-0.8133						
17.50	-0.7514						
20.00	-0.7268						
30.00	-0.1922						
40.00	-0.0840						
50.00	-0.0806						
60.00	-0.1244						
70.00	-0.1137						
80.00	-0.1057						
100.00	-0.0509						
129.17	-0.0554						
145.83	-0.0454						

mfr = 0.49 and α = 0°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	1.0650	173.61	-0.0118	-94.32	1.0650	190.28	0.0040
-82.25	1.0723	190.28	0.0014	-82.25	1.0742	206.94	0.0172
-75.15	1.0742	206.94	0.0124	-46.76	1.0269	223.61	0.0301
-68.05	1.0723	223.61	0.0314	-11.26	0.8311	245.83	0.0678
-57.40	1.0534	245.83	0.0745	-4.51	0.9800	262.50	0.1170
-46.76	1.0234	262.50	0.1196	-0.90	1.2018	273.61	0.1760
-39.66	0.9959	273.61	0.1766	0.00	0.3166	279.17	0.2194
-32.56	0.9603	279.17	0.2165	0.31	-1.5412	284.72	0.2704
-25.46	0.9189	284.72	0.2656	0.62	-1.6204	290.28	0.3329
-18.36	0.8716	290.28	0.3268	1.25	-1.5423		
-14.81	0.8602			1.88	-1.5195		
-11.26	0.8442			2.50	-1.5273		
-10.14	0.8428			3.12	-1.4633		
-7.88	0.8700			3.75	-1.3722		
-4.51	0.9833			4.38	-1.3316		
-2.25	1.1257			5.00	-1.2859		
-1.46	1.1805			6.25	-1.2539		
-0.90	1.1999			7.50	-1.1867		
-0.39	1.1391			8.75	-1.1166		
-0.19	1.0012			10.00	-1.1018		
0.00	0.3007			12.50	-1.0170		
0.31	-1.5555			15.00	-0.9809		
0.62	-1.5793			17.50	-0.9121		
1.25	-1.5108			20.00	-0.8515		
1.88	-1.4971			30.00	-0.6157		
2.50	-1.4870			40.00	-0.0686		
3.12	-1.4702			50.00	-0.0408		
3.75	-1.3990			60.00	-0.0736		
4.38	-1.3273			70.00	-0.0882		
5.00	-1.2879			80.00	-0.0928		
6.25	-1.2400			90.00	-0.0836		
7.50	-1.1657			100.00	-0.0319		
8.75	-1.1204			129.17	-0.0391		
10.00	-1.0823						
12.50	-1.0155						
15.00	-0.9279						
17.50	-0.8994						
20.00	-0.8156						
30.00	-0.6019						
40.00	-0.0637						
50.00	-0.0420						
60.00	-0.0659						
70.00	-0.0946						
80.00	-0.0963						
100.00	-0.0490						
129.17	-0.0373						
145.83	-0.0321						

mfr = 0.49 and α = 2.1°

φ = 0° Forebody X/L	φ = 0° Forebody CP	φ = 0° Afterbody X/L	φ = 0° Afterbody CP	φ = 180° Forebody X/L	φ = 180° Forebody CP	φ = 180° Afterbody X/L	φ = 180° Afterbody CP
-94.32	1.0657	173.61	0.0057	-94.32	1.0671	190.28	-0.0030
-82.25	1.0743	190.28	0.0064	-82.25	1.0750	206.94	0.0128
-75.15	1.0784	206.94	0.0196	-46.76	1.0241	223.61	0.0273
-68.05	1.0733	223.61	0.0363	-11.26	0.8024	245.83	0.0669
-57.40	1.0547	245.83	0.0762	-4.51	0.9381	262.50	0.1197
-46.76	1.0260	262.50	0.1191	-0.90	1.2007	273.61	0.1834
-39.66	1.0014	273.61	0.1702	0.00	0.4251	279.17	0.2305
-32.56	0.9664	279.17	0.2041	0.31	-1.4884	284.72	0.2859
-25.46	0.9279	284.72	0.2444	0.62	-1.5547	290.28	0.3583
-18.36	0.8926	290.28	0.3004	1.25	-1.4713		
-14.81	0.8820			1.88	-1.4360		
-11.26	0.8699			2.50	-1.4143		
-10.14	0.8702			3.12	-1.3177		
-7.88	0.9104			3.75	-1.2617		
-4.51	1.0219			4.38	-1.2214		
-2.25	1.1505			5.00	-1.1832		
-1.46	1.1907			6.25	-1.1080		
-0.90	1.1900			7.50	-1.0431		
-0.39	1.0990			8.75	-0.9851		
-0.19	0.9578			10.00	-0.9226		
0.00	0.2192			12.50	-0.8823		
0.31	-1.6055			15.00	-0.8035		
0.62	-1.6394			17.50	-0.7568		
1.25	-1.5716			20.00	-0.7015		
1.88	-1.5700			30.00	-0.1620		
2.50	-1.5649			40.00	-0.0615		
3.12	-1.5538			50.00	-0.0968		
3.75	-1.5408			60.00	-0.1085		
4.38	-1.4630			70.00	-0.1132		
5.00	-1.4185			80.00	-0.1025		
6.25	-1.3446			90.00	-0.0903		
7.50	-1.2786			100.00	-0.0340		
8.75	-1.2418			129.17	-0.0427		
10.00	-1.1860						
12.50	-1.1244						
15.00	-1.1013						
17.50	-1.0212						
20.00	-0.9870						
30.00	-0.7217						
40.00	-0.2219						
50.00	-0.0289						
60.00	-0.0349						
70.00	-0.0615						
80.00	-0.0724						
100.00	-0.0473						
129.17	-0.0423						
145.83	-0.0390						

TABLE VII. Continued

(c) Continued

mfr = 0.55 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-94.32	1.0335	173.61	-0.0033	-94.32	1.0335	190.28	0.0106
-82.25	1.0394	190.28	0.0083	-82.25	1.0421	206.94	0.0267
-75.15	1.0435	206.94	0.0215	-46.76	0.9819	223.61	0.0422
-68.05	1.0403	223.61	0.0432	-11.26	0.7225	245.83	0.0851
-57.40	1.0188	245.83	0.0871	-4.51	0.8960	262.50	0.1394
-46.76	0.9789	262.50	0.1410	-0.90	1.2011	273.61	0.2020
-39.66	0.9422	273.61	0.2017	0.00	0.3934	279.17	0.2450
-32.56	0.8990	279.17	0.2430	0.31	-1.4734	284.72	0.2960
-25.46	0.8440	284.72	0.2918	0.62	-1.5606	290.28	0.3573
-18.36	0.7834	290.28	0.3509	1.25	-1.4512		
-14.81	0.7570			1.88	-1.4483		
-11.26	0.7296			2.50	-1.4098		
-10.14	0.7342			3.12	-1.3618		
-7.88	0.7463			3.75	-1.2793		
-4.51	0.8762			4.38	-1.2387		
-2.25	1.0571			5.00	-1.1831		
-1.46	1.1296			6.25	-1.1495		
-0.90	1.1726			7.50	-1.0615		
-0.39	1.1536			8.75	-1.0271		
-0.19	1.0545			10.00	-0.9413		
0.00	0.3974			12.50	-0.8680		
0.31	-1.4509			15.00	-0.8494		
0.62	-1.4970			17.50	-0.7779		
1.25	-1.4250			20.00	-0.7504		
1.88	-1.3938			30.00	-0.1968		
2.50	-1.3770			40.00	-0.0413		
3.12	-1.3305			50.00	-0.0638		
3.75	-1.2580			60.00	-0.1042		
4.38	-1.2249			70.00	-0.1106		
5.00	-1.1806			80.00	-0.1063		
6.25	-1.1097			90.00	-0.0960		
7.50	-1.0613			100.00	-0.0498		
8.75	-1.0107			129.17	-0.0532		
10.00	-0.9649						
12.50	-0.9073						
15.00	-0.8704						
17.50	-0.7936						
20.00	-0.7712						
30.00	-0.2316						
40.00	-0.0666						
50.00	-0.0655						
60.00	-0.1285						
70.00	-0.1117						
80.00	-0.1090						
100.00	-0.0651						
129.17	-0.0607						
145.83	-0.0424						

mfr = 0.61 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-94.32	0.9862	173.61	0.0038	-94.32	0.9891	190.28	0.0187
-82.25	0.9997	190.28	0.0177	-82.25	1.0027	206.94	0.0365
-75.15	1.0032	206.94	0.0316	-46.76	0.9209	223.61	0.0533
-68.05	0.9959	223.61	0.0552	-11.26	0.5490	245.83	0.1018
-57.40	0.9658	245.83	0.1034	-4.51	0.7503	262.50	0.1636
-46.76	0.9179	262.50	0.1636	-0.90	1.1779	273.61	0.2325
-39.66	0.8710	273.61	0.2286	0.00	0.5630	279.17	0.2784
-32.56	0.8117	279.17	0.2706	0.31	-1.4007	284.72	0.3295
-25.46	0.7315	284.72	0.3195	0.62	-1.4566	290.28	0.3893
-18.36	0.6497	290.28	0.3803	1.25	-1.3659		
-14.81	0.6169			1.88	-1.3012		
-11.26	0.5662			2.50	-1.2689		
-10.14	0.5562			3.12	-1.2182		
-7.88	0.5959			3.75	-1.1457		
-4.51	0.7588			4.38	-1.0729		
-2.25	0.9872			5.00	-1.0561		
-1.46	1.0925			6.25	-0.9997		
-0.90	1.1719			7.50	-0.9651		
-0.39	1.2018			8.75	-0.9220		
-0.19	1.1415			10.00	-0.8734		
0.00	0.5498			12.50	-0.7843		
0.31	-1.3729			15.00	-0.7685		
0.62	-1.4134			17.50	-0.7470		
1.25	-1.3719			20.00	-0.6406		
1.88	-1.2932			30.00	-0.0737		
2.50	-1.2199			40.00	-0.0801		
3.12	-1.1784			50.00	-0.1091		
3.75	-1.1443			60.00	-0.1238		
4.38	-1.1054			70.00	-0.1191		
5.00	-1.0563			80.00	-0.1030		
6.25	-1.0229			90.00	-0.0937		
7.50	-0.9639			100.00	-0.0436		
8.75	-0.9295			129.17	-0.0264		
10.00	-0.8947						
12.50	-0.8170						
15.00	-0.7841						
17.50	-0.7408						
20.00	-0.7034						
30.00	-0.0624						
40.00	-0.0843						
50.00	-0.0985						
60.00	-0.1202						
70.00	-0.1242						
80.00	-0.1067						
100.00	-0.0567						
129.17	-0.0260						
145.83	-0.0114						

mfr = 0.67 and α = 0°

φ = 0°				φ = 180°			
Forebody		Afterbody		Forebody		Afterbody	
X/L	CP	X/L	CP	X/L	CP	X/L	CP
-94.32	0.9370	173.61	0.0093	-94.32	0.9373	190.28	0.0261
-82.25	0.9541	190.28	0.0261	-82.25	0.9559	206.94	0.0425
-75.15	0.9554	206.94	0.0406	-46.76	0.8568	223.61	0.0651
-68.05	0.9471	223.61	0.0677	-11.26	0.3556	245.83	0.1156
-57.40	0.9119	245.83	0.1179	-4.51	0.5884	262.50	0.1779
-46.76	0.8527	262.50	0.1802	-0.90	1.1331	273.61	0.2503
-39.66	0.7945	273.61	0.2490	0.00	0.6743	279.17	0.2987
-32.56	0.7150	279.17	0.2919	0.31	-1.2845	284.72	0.3543
-25.46	0.6111	284.72	0.3436	0.62	-1.3552	290.28	0.4215
-18.36	0.5011	290.28	0.4044	1.25	-1.2724		
-14.81	0.4537			1.88	-1.1761		
-11.26	0.3567			2.50	-1.1465		
-10.14	0.3503			3.12	-1.0810		
-7.88	0.4050			3.75	-1.0416		
-4.51	0.6043			4.38	-0.9813		
-2.25	0.8624			5.00	-0.9794		
-1.46	1.0176			6.25	-0.9164		
-0.90	1.1272			7.50	-0.8492		
-0.39	1.2027			8.75	-0.8250		
-0.19	1.1777			10.00	-0.7934		
0.00	0.6710			12.50	-0.6986		
0.31	-1.2934			15.00	-0.6972		
0.62	-1.3160			17.50	-0.5924		
1.25	-1.2750			20.00	-0.1198		
1.88	-1.1910			30.00	-0.0998		
2.50	-1.1142			40.00	-0.1166		
3.12	-1.0563			50.00	-0.1255		
3.75	-1.0232			60.00	-0.1345		
4.38	-0.9904			70.00	-0.1177		
5.00	-0.9694			80.00	-0.1055		
6.25	-0.9286			90.00	-0.0898		
7.50	-0.8509			100.00	-0.0383		
8.75	-0.8261			129.17	-0.0213		
10.00	-0.8086						
12.50	-0.7341						
15.00	-0.6619						
17.50	-0.3154						
20.00	-0.1355						
30.00	-0.0884						
40.00	-0.1183						
50.00	-0.1215						
60.00	-0.1325						
70.00	-0.1245						
80.00	-0.1059						
100.00	-0.0550						
129.17	-0.0280						
145.83	-0.0116						

TABLE VII. Continued

(c) Concluded

mfr = 0.73 and α = 0°

ϕ = 0°				ϕ = 180°			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-94.32	0.8793	173.61	0.0137	-94.32	0.8804	190.28	0.0321
-82.25	0.9009	190.28	0.0302	-82.25	0.9018	206.94	0.0528
-75.15	0.9034	206.94	0.0464	-46.76	0.7722	223.61	0.0703
-68.05	0.8913	223.61	0.0742	-11.26	0.0771	245.83	0.1241
-57.40	0.8476	245.83	0.1274	-4.51	0.3892	262.50	0.1914
-46.76	0.7730	262.50	0.1898	-0.90	1.0672	273.61	0.2630
-39.66	0.6981	273.61	0.2584	0.00	0.7675	279.17	0.3122
-32.56	0.5985	279.17	0.3063	0.31	-1.1451	284.72	0.3672
-25.46	0.4586	284.72	0.3578	0.62	-1.2343	290.28	0.4336
-18.36	0.2945	290.28	0.4220	1.25	-1.1146		
-14.81	0.2106			1.88	-1.0380		
-11.26	0.1074			2.50	-0.9740		
-10.14	0.0742			3.12	-0.9430		
-7.88	0.1049			3.75	-0.8777		
-4.51	0.3778			4.38	-0.8447		
-2.25	0.7061			5.00	-0.8232		
-1.46	0.9006			6.25	-0.7823		
-0.90	1.0509			7.50	-0.7303		
-0.39	1.1919			8.75	-0.6715		
-0.19	1.1978			10.00	-0.6163		
0.00	0.7756			12.50	-0.1499		
0.31	-1.1635			15.00	-0.1320		
0.62	-1.1721			17.50	-0.1424		
1.25	-1.1293			20.00	-0.1248		
1.88	-1.0282			30.00	-0.1517		
2.50	-0.9851			40.00	-0.1352		
3.12	-0.9268			50.00	-0.1345		
3.75	-0.8530			60.00	-0.1312		
4.38	-0.8486			70.00	-0.1148		
5.00	-0.8470			80.00	-0.1033		
6.25	-0.7672			90.00	-0.0843		
7.50	-0.7650			100.00	-0.0359		
8.75	-0.5161			129.17	-0.0183		
10.00	-0.6597						
12.50	-0.3878						
15.00	-0.1398						
17.50	-0.1253						
20.00	-0.1428						
30.00	-0.1461						
40.00	-0.1425						
50.00	-0.1269						
60.00	-0.1331						
70.00	-0.1251						
80.00	-0.1084						
100.00	-0.0474						
129.17	-0.0210						
145.83	-0.0053						

TABLE VII. Continued

(d) M = 0.89

mfr = 0.49 and α = -2.1°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-94.32	1.0804	173.61	-0.0213	-94.32	1.0828	190.28	0.0184
-82.25	1.0871	190.28	0.0027	-82.25	1.0897	206.94	0.0252
-75.15	1.0923	206.94	0.0165	-46.76	1.0441	223.61	0.0387
-68.05	1.0855	223.61	0.0409	-11.26	0.8882	245.83	0.0793
-57.40	1.0690	245.83	0.0865	-4.51	1.0431	262.50	0.1315
-46.76	1.0396	262.50	0.1400	-0.90	1.2111	273.61	0.1893
-39.66	1.0126	273.61	0.2015	0.00	0.2306	279.17	0.2278
-32.56	0.9740	279.17	0.2475	0.31	-1.4966	284.72	0.2737
-25.46	0.9280	284.72	0.3022	0.62	-1.5702	290.28	0.3269
-18.36	0.8744	290.28	0.3731	1.25	-1.4976		
-14.81	0.8558			1.88	-1.4951		
-11.26	0.8292			2.50	-1.4876		
-10.14	0.8264			3.12	-1.4955		
-7.88	0.8416			3.75	-1.4523		
-4.51	0.9545			4.38	-1.4128		
-2.25	1.0949			5.00	-1.3311		
-1.46	1.1637			6.25	-1.2785		
-0.90	1.2028			7.50	-1.2027		
-0.39	1.1680			8.75	-1.1712		
-0.19	1.0674			10.00	-1.1345		
0.00	0.4307			12.50	-1.0729		
0.31	-1.3769			15.00	-1.0127		
0.62	-1.4318			17.50	-0.9708		
1.25	-1.3528			20.00	-0.9196		
1.88	-1.3347			30.00	-0.7911		
2.50	-1.3112			40.00	-0.6605		
3.12	-1.2512			50.00	-0.1154		
3.75	-1.1779			60.00	-0.0351		
4.38	-1.1393			70.00	0.0068		
5.00	-1.1042			80.00	-0.0112		
6.25	-1.0491			90.00	-0.0264		
7.50	-0.9798			100.00	-0.0001		
8.75	-0.9416			129.17	-0.0251		
10.00	-0.8926						
12.50	-0.8162						
15.00	-0.7840						
17.50	-0.7336						
20.00	-0.7003						
30.00	-0.5564						
40.00	-0.1977						
50.00	-0.0413						
60.00	-0.0713						
70.00	-0.0822						
80.00	-0.0761						
100.00	-0.0318						
129.17	-0.0366						
145.83	-0.0276						

mfr = 0.49 and α = 0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-94.32	1.0811	173.61	-0.0004	-94.32	1.0832	190.28	0.0146
-82.25	1.0900	190.28	0.0093	-82.25	1.0911	206.94	0.0289
-75.15	1.0933	206.94	0.0230	-46.76	1.0446	223.61	0.0392
-68.05	1.0866	223.61	0.0445	-11.26	0.8586	245.83	0.0810
-57.40	1.0701	245.83	0.0867	-4.51	1.0060	262.50	0.1366
-46.76	1.0426	262.50	0.1397	-0.90	1.2137	273.61	0.2002
-39.66	1.0144	273.61	0.2006	0.00	0.3430	279.17	0.2449
-32.56	0.9811	279.17	0.2417	0.31	-1.4362	284.72	0.2973
-25.46	0.9360	284.72	0.2921	0.62	-1.5203	290.28	0.3607
-18.36	0.8968	290.28	0.3526	1.25	-1.4479		
-14.81	0.8779			1.88	-1.4287		
-11.26	0.8648			2.50	-1.4189		
-10.14	0.8666			3.12	-1.3746		
-7.88	0.8926			3.75	-1.3139		
-4.51	1.0014			4.38	-1.2423		
-2.25	1.1433			5.00	-1.2289		
-1.46	1.2004			6.25	-1.1540		
-0.90	1.2145			7.50	-1.0843		
-0.39	1.1542			8.75	-1.0372		
-0.19	1.0375			10.00	-1.0194		
0.00	0.3291			12.50	-0.9458		
0.31	-1.4584			15.00	-0.9133		
0.62	-1.4842			17.50	-0.8269		
1.25	-1.4252			20.00	-0.8135		
1.88	-1.4040			30.00	-0.6791		
2.50	-1.3966			40.00	-0.5404		
3.12	-1.3871			50.00	-0.0770		
3.75	-1.3046			60.00	-0.0172		
4.38	-1.2421			70.00	-0.0252		
5.00	-1.2129			80.00	-0.0411		
6.25	-1.1625			90.00	-0.0487		
7.50	-1.1176			100.00	-0.0055		
8.75	-1.0466			129.17	-0.0242		
10.00	-1.0118						
12.50	-0.9675						
15.00	-0.8883						
17.50	-0.8780						
20.00	-0.8029						
30.00	-0.6661						
40.00	-0.5881						
50.00	-0.0943						
60.00	-0.0156						
70.00	-0.0303						
80.00	-0.0405						
100.00	-0.0242						
129.17	-0.0264						
145.83	-0.0246						

mfr = 0.49 and α = 2.0°

φ = 0° Forebody X/L	CP	φ = 0° Afterbody X/L	CP	φ = 180° Forebody X/L	CP	φ = 180° Afterbody X/L	CP
-94.32	1.0817	173.61	0.0279	-94.32	1.0803	190.28	0.0045
-82.25	1.0904	190.28	0.0229	-82.25	1.0910	206.94	0.0235
-75.15	1.0911	206.94	0.0276	-46.76	1.0389	223.61	0.0382
-68.05	1.0880	223.61	0.0479	-11.26	0.8241	245.83	0.0822
-57.40	1.0715	245.83	0.0878	-4.51	0.9663	262.50	0.1390
-46.76	1.0433	262.50	0.1365	-0.90	1.2136	273.61	0.2058
-39.66	1.0182	273.61	0.1914	0.00	0.4498	279.17	0.2557
-32.56	0.9880	279.17	0.2270	0.31	-1.4008	284.72	0.3128
-25.46	0.9451	284.72	0.2716	0.62	-1.4758	290.28	0.3849
-18.36	0.9112	290.28	0.3278	1.25	-1.3842		
-14.81	0.9019			1.88	-1.3579		
-11.26	0.8946			2.50	-1.3213		
-10.14	0.8977			3.12	-1.2429		
-7.88	0.9337			3.75	-1.1779		
-4.51	1.0457			4.38	-1.1276		
-2.25	1.1624			5.00	-1.1126		
-1.46	1.2050			6.25	-1.0483		
-0.90	1.2043			7.50	-0.9920		
-0.39	1.1158			8.75	-0.9390		
-0.19	0.9687			10.00	-0.8838		
0.00	0.2433			12.50	-0.8185		
0.31	-1.5079			15.00	-0.7670		
0.62	-1.5417			17.50	-0.7363		
1.25	-1.4762			20.00	-0.6820		
1.88	-1.4775			30.00	-0.5600		
2.50	-1.4639			40.00	-0.4006		
3.12	-1.4476			50.00	-0.0596		
3.75	-1.4301			60.00	-0.0616		
4.38	-1.3744			70.00	-0.0679		
5.00	-1.3310			80.00	-0.0793		
6.25	-1.2719			90.00	-0.0706		
7.50	-1.2015			100.00	-0.0150		
8.75	-1.1735			129.17	-0.0324		
10.00	-1.1387						
12.50	-1.0686						
15.00	-1.0313						
17.50	-0.9635						
20.00	-0.9321						
30.00	-0.7829						
40.00	-0.6715						
50.00	-0.1613						
60.00	-0.0277						
70.00	0.0092						
80.00	-0.0133						
100.00	-0.0130						
129.17	-0.0255						
145.83	-0.0266						

TABLE VII. Continued

(d) Continued

mfr = 0.55 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	1.0478	173.61	0.0011	-94.32	1.0474	190.28	0.0205
-82.25	1.0527	190.28	0.0174	-82.25	1.0575	206.94	0.0347
-75.15	1.0570	206.94	0.0347	-46.76	0.9986	223.61	0.0532
-68.05	1.0543	223.61	0.0582	-11.26	0.7443	245.83	0.0975
-57.40	1.0306	245.83	0.1037	-4.51	0.9119	262.50	0.1568
-46.76	0.9936	262.50	0.1603	-0.90	1.2117	273.61	0.2240
-39.66	0.9613	273.61	0.2234	0.00	0.4588	279.17	0.2698
-32.56	0.9151	279.17	0.2645	0.31	-1.3880	284.72	0.3201
-25.46	0.8597	284.72	0.3126	0.62	-1.4593	290.28	0.3817
-18.36	0.8052	290.28	0.3770	1.25	-1.3682		
-14.81	0.7779			1.88	-1.3464		
-11.26	0.7516			2.50	-1.3160		
-10.14	0.7405			3.12	-1.2405		
-7.88	0.7853			3.75	-1.1961		
-4.51	0.9086			4.38	-1.1574		
-2.25	1.0871			5.00	-1.1185		
-1.46	1.1685			6.25	-1.0541		
-0.90	1.2114			7.50	-0.9839		
-0.39	1.1848			8.75	-0.9517		
-0.19	1.0940			10.00	-0.9119		
0.00	0.4617			12.50	-0.8188		
0.31	-1.3781			15.00	-0.8295		
0.62	-1.4215			17.50	-0.7513		
1.25	-1.3477			20.00	-0.7190		
1.88	-1.3180			30.00	-0.6167		
2.50	-1.2914			40.00	-0.3107		
3.12	-1.2685			50.00	-0.0231		
3.75	-1.1921			60.00	-0.0238		
4.38	-1.1386			70.00	-0.0586		
5.00	-1.1067			80.00	-0.0773		
6.25	-1.0358			90.00	-0.0770		
7.50	-1.0012			100.00	-0.0328		
8.75	-0.9494			129.17	-0.0250		
10.00	-0.9321						
12.50	-0.8068						
15.00	-0.7820						
17.50	-0.7566						
20.00	-0.7290						
30.00	-0.6103						
40.00	-0.4145						
50.00	-0.0306						
60.00	-0.0438						
70.00	-0.0631						
80.00	-0.0782						
100.00	-0.0510						
129.17	-0.0289						
145.83	-0.0130						

mfr = 0.61 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	1.0024	173.61	0.0103	-94.32	1.0024	190.28	0.0291
-82.25	1.0135	190.28	0.0254	-82.25	1.0152	206.94	0.0486
-75.15	1.0172	206.94	0.0379	-46.76	0.9370	223.61	0.0686
-68.05	1.0122	223.61	0.0642	-11.26	0.5774	245.83	0.1203
-57.40	0.9821	245.83	0.1194	-4.51	0.7776	262.50	0.1830
-46.76	0.9363	262.50	0.1839	-0.90	1.1858	273.61	0.2532
-39.66	0.8911	273.61	0.2507	0.00	0.5896	279.17	0.3011
-32.56	0.8324	279.17	0.2943	0.31	-1.3147	284.72	0.3541
-25.46	0.7556	284.72	0.3460	0.62	-1.3692	290.28	0.4155
-18.36	0.6749	290.28	0.4068	1.25	-1.2810		
-14.81	0.6372			1.88	-1.2067		
-11.26	0.5770			2.50	-1.1824		
-10.14	0.5781			3.12	-1.1466		
-7.88	0.6092			3.75	-1.0676		
-4.51	0.7695			4.38	-1.0293		
-2.25	0.9906			5.00	-0.9961		
-1.46	1.1063			6.25	-0.9542		
-0.90	1.1840			7.50	-0.8864		
-0.39	1.2047			8.75	-0.8561		
-0.19	1.1470			10.00	-0.8319		
0.00	0.5867			12.50	-0.7632		
0.31	-1.2838			15.00	-0.7462		
0.62	-1.3187			17.50	-0.6948		
1.25	-1.2915			20.00	-0.6607		
1.88	-1.2146			30.00	-0.5681		
2.50	-1.1451			40.00	-0.0603		
3.12	-1.1226			50.00	-0.0520		
3.75	-1.0753			60.00	-0.0898		
4.38	-1.0299			70.00	-0.0982		
5.00	-0.9861			80.00	-0.0944		
6.25	-0.9564			90.00	-0.0815		
7.50	-0.9094			100.00	-0.0340		
8.75	-0.8625			129.17	-0.0296		
10.00	-0.8220						
12.50	-0.7810						
15.00	-0.7435						
17.50	-0.6738						
20.00	-0.6755						
30.00	-0.5523						
40.00	-0.0575						
50.00	-0.0557						
60.00	-0.0959						
70.00	-0.0926						
80.00	-0.0933						
100.00	-0.0489						
129.17	-0.0303						
145.83	-0.0137						

mfr = 0.67 and α = 0°

φ = 0° Forebody X/L	CP	Afterbody X/L	CP	φ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	0.9557	173.61	0.0160	-94.32	0.9574	190.28	0.0342
-82.25	0.9688	190.28	0.0336	-82.25	0.9703	206.94	0.0546
-75.15	0.9771	206.94	0.0514	-46.76	0.8712	223.61	0.0759
-68.05	0.9626	223.61	0.0812	-11.26	0.3759	245.83	0.1305
-57.40	0.9287	245.83	0.1336	-4.51	0.6102	262.50	0.1961
-46.76	0.8691	262.50	0.1967	-0.90	1.1427	273.61	0.2710
-39.66	0.8137	273.61	0.2682	0.00	0.7113	279.17	0.3222
-32.56	0.7362	279.17	0.3134	0.31	-1.2051	284.72	0.3783
-25.46	0.6310	284.72	0.3658	0.62	-1.2711	290.28	0.4404
-18.36	0.5223	290.28	0.4295	1.25	-1.1891		
-14.81	0.4673			1.88	-1.1193		
-11.26	0.3911			2.50	-1.0234		
-10.14	0.3710			3.12	-1.0102		
-7.88	0.4244			3.75	-0.9734		
-4.51	0.6085			4.38	-0.9296		
-2.25	0.8806			5.00	-0.9004		
-1.46	1.0281			6.25	-0.8144		
-0.90	1.1374			7.50	-0.7830		
-0.39	1.2126			8.75	-0.7622		
-0.19	1.1934			10.00	-0.7601		
0.00	0.6975			12.50	-0.6683		
0.31	-1.2092			15.00	-0.6301		
0.62	-1.2321			17.50	-0.5839		
1.25	-1.1740			20.00	-0.5606		
1.88	-1.1164			30.00	-0.0673		
2.50	-1.0472			40.00	-0.0739		
3.12	-0.9949			50.00	-0.1055		
3.75	-0.9718			60.00	-0.1242		
4.38	-0.9279			70.00	-0.1163		
5.00	-0.9053			80.00	-0.1017		
6.25	-0.8499			90.00	-0.0850		
7.50	-0.8196			100.00	-0.0364		
8.75	-0.7788			129.17	-0.0175		
10.00	-0.7488						
12.50	-0.6969						
15.00	-0.6662						
17.50	-0.6245						
20.00	-0.5593						
30.00	-0.0707						
40.00	-0.0566						
50.00	-0.0865						
60.00	-0.1204						
70.00	-0.1190						
80.00	-0.1023						
100.00	-0.0463						
129.17	-0.0186						
145.83	-0.0048						

TABLE VII. Continued

(d) Concluded

mfr = 0.73 and α = 0°

φ = 0°				φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-94.32	0.8976	173.61	0.0274	-94.32	0.9007	190.28	0.0424
-82.25	0.9183	190.28	0.0418	-82.25	0.9191	206.94	0.0618
-75.15	0.9229	206.94	0.0596	-46.76	0.7929	223.61	0.0862
-68.05	0.9112	223.61	0.0884	-11.26	0.0938	245.83	0.1429
-57.40	0.8652	245.83	0.1445	-4.51	0.3875	262.50	0.2112
-46.76	0.7930	262.50	0.2121	-0.90	1.0774	273.61	0.2861
-39.66	0.7206	273.61	0.2842	0.00	0.7885	279.17	0.3381
-32.56	0.6184	279.17	0.3287	0.31	-1.0678	284.72	0.3932
-25.46	0.4768	284.72	0.3822	0.62	-1.1617	290.28	0.4574
-18.36	0.3133	290.28	0.4452	1.25	-1.0234		
-14.81	0.2324			1.88	-0.9652		
-11.26	0.1077			2.50	-0.9190		
-10.14	0.0956			3.12	-0.8650		
-7.88	0.1547			3.75	-0.8275		
-4.51	0.4096			4.38	-0.7966		
-2.25	0.7323			5.00	-0.7796		
-1.46	0.9071			6.25	-0.6885		
-0.90	1.0829			7.50	-0.6923		
-0.39	1.2040			8.75	-0.6360		
-0.19	1.2109			10.00	-0.5445		
0.00	0.8026			12.50	-0.5098		
0.31	-1.0824			15.00	-0.5313		
0.62	-1.0676			17.50	-0.5171		
1.25	-1.0373			20.00	-0.2924		
1.88	-0.9592			30.00	-0.1186		
2.50	-0.8876			40.00	-0.1345		
3.12	-0.8274			50.00	-0.1252		
3.75	-0.8027			60.00	-0.1397		
4.38	-0.7947			70.00	-0.1238		
5.00	-0.7678			80.00	-0.1095		
6.25	-0.7391			90.00	-0.0898		
7.50	-0.6456			100.00	-0.0336		
8.75	-0.6555			129.17	-0.0094		
10.00	-0.6413						
12.50	-0.5536						
15.00	-0.5434						
17.50	-0.5616						
20.00	-0.3820						
30.00	-0.1113						
40.00	-0.1317						
50.00	-0.1307						
60.00	-0.1379						
70.00	-0.1227						
80.00	-0.1088						
100.00	-0.0427						
129.17	-0.0131						
145.83	0.0014						

mfr = 0.81 and α = 0°

φ = 0°				φ = 180°			
Forebody		**Afterbody**		**Forebody**		**Afterbody**	
X/L	**CP**	**X/L**	**CP**	**X/L**	**CP**	**X/L**	**CP**
-94.32	0.2853	173.61	0.0212	-94.32	0.2729	190.28	0.0416
-82.25	0.1964	190.28	0.0385	-82.25	0.1573	206.94	0.0617
-75.15	0.1442	206.94	0.0541	-46.76	-0.1587	223.61	0.0770
-68.05	0.0756	223.61	0.0799	-11.26	-0.5411	245.83	0.1241
-57.40	-0.0977	245.83	0.1241	-4.51	0.1338	262.50	0.1746
-46.76	-0.1607	262.50	0.1768	-0.90	0.9720	273.61	0.2336
-39.66	-0.2132	273.61	0.2333	0.00	0.9328	279.17	0.2747
-32.56	-0.2197	279.17	0.2697	0.31	-0.8864	284.72	0.3189
-25.46	-0.4315	284.72	0.3123	0.62	-0.9811	290.28	0.3756
-18.36	-0.7416	290.28	0.3678	1.25	-0.8714		
-14.81	-0.6832			1.88	-0.8445		
-11.26	-0.4762			2.50	-0.7235		
-10.14	-0.4425			3.12	-0.6582		
-7.88	-0.2329			3.75	-0.6411		
-4.51	0.1295			4.38	-0.5687		
-2.25	0.5279			5.00	-0.5665		
-1.46	0.7897			6.25	-0.5687		
-0.90	0.9695			7.50	-0.4109		
-0.39	1.1704			8.75	-0.1170		
-0.19	1.2121			10.00	-0.2671		
0.00	0.9109			12.50	-0.2184		
0.31	-0.9091			15.00	-0.2428		
0.62	-0.9474			17.50	-0.1803		
1.25	-0.8336			20.00	-0.1810		
1.88	-0.7990			30.00	-0.1611		
2.50	-0.7592			40.00	-0.1473		
3.12	-0.7242			50.00	-0.1389		
3.75	-0.6640			60.00	-0.1393		
4.38	-0.5835			70.00	-0.1261		
5.00	-0.5898			80.00	-0.1080		
6.25	-0.5421			90.00	-0.0916		
7.50	-0.4349			100.00	-0.0368		
8.75	-0.5140			129.17	-0.0148		
10.00	-0.3904						
12.50	-0.1941						
15.00	-0.1843						
17.50	-0.2142						
20.00	-0.1890						
30.00	-0.1576						
40.00	-0.1459						
50.00	-0.1286						
60.00	-0.1351						
70.00	-0.1191						
80.00	-0.1076						
100.00	-0.0395						
129.17	-0.0199						
145.83	-0.0047						

TABLE VII. Continued

(e) M = 0.92

mfr = 0.49 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	1.0983	173.61	0.0168	-94.32	1.0980	190.28	0.0278
-82.25	1.1042	190.28	0.0259	-82.25	1.1054	206.94	0.0402
-75.15	1.1074	206.94	0.0417	-46.76	1.0584	223.61	0.0566
-68.05	1.1021	223.61	0.0584	-11.26	0.8814	245.83	0.1013
-57.40	1.0869	245.83	0.1034	-4.51	1.0232	262.50	0.1593
-46.76	1.0568	262.50	0.1602	-0.90	1.2287	273.61	0.2258
-39.66	1.0315	273.61	0.2234	0.00	0.3784	279.17	0.2702
-32.56	0.9972	279.17	0.2666	0.31	-1.3635	284.72	0.3241
-25.46	0.9558	284.72	0.3149	0.62	-1.4439	290.28	0.3891
-18.36	0.9092	290.28	0.3806	1.25	-1.3658		
-14.81	0.8974			1.88	-1.3491		
-11.26	0.8794			2.50	-1.3315		
-10.14	0.8884			3.12	-1.3129		
-7.88	0.9037			3.75	-1.2390		
-4.51	1.0180			4.38	-1.2056		
-2.25	1.1552			5.00	-1.1525		
-1.46	1.2002			6.25	-1.0852		
-0.90	1.2210			7.50	-1.0398		
-0.39	1.1647			8.75	-0.9883		
-0.19	1.0447			10.00	-0.9489		
0.00	0.3562			12.50	-0.9163		
0.31	-1.3691			15.00	-0.8285		
0.62	-1.3945			17.50	-0.8029		
1.25	-1.3463			20.00	-0.7642		
1.88	-1.3307			30.00	-0.6417		
2.50	-1.3139			40.00	-0.5525		
3.12	-1.2975			50.00	-0.4920		
3.75	-1.2396			60.00	-0.4479		
4.38	-1.1821			70.00	-0.0508		
5.00	-1.1501			80.00	0.0070		
6.25	-1.1004			90.00	0.0131		
7.50	-1.0261			100.00	0.0410		
8.75	-0.9794			129.17	-0.0013		
10.00	-0.9456						
12.50	-0.8913						
15.00	-0.8644						
17.50	-0.8015						
20.00	-0.7668						
30.00	-0.6338						
40.00	-0.5587						
50.00	-0.4960						
60.00	-0.4344						
70.00	-0.0471						
80.00	0.0079						
100.00	0.0250						
129.17	-0.0006						
145.83	-0.0052						

mfr = 0.55 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	1.0661	173.61	0.0153	-94.32	1.0667	190.28	0.0330
-82.25	1.0712	190.28	0.0302	-82.25	1.0745	206.94	0.0492
-75.15	1.0760	206.94	0.0452	-46.76	1.0156	223.61	0.0665
-68.05	1.0700	223.61	0.0711	-11.26	0.7581	245.83	0.1187
-57.40	1.0488	245.83	0.1212	-4.51	0.9345	262.50	0.1809
-46.76	1.0123	262.50	0.1803	-0.90	1.2253	273.61	0.2490
-39.66	0.9806	273.61	0.2480	0.00	0.4839	279.17	0.2947
-32.56	0.9360	279.17	0.2907	0.31	-1.3067	284.72	0.3460
-25.46	0.8774	284.72	0.3411	0.62	-1.3748	290.28	0.4092
-18.36	0.8237	290.28	0.4000	1.25	-1.2783		
-14.81	0.8059			1.88	-1.2649		
-11.26	0.7742			2.50	-1.2371		
-10.14	0.7705			3.12	-1.1927		
-7.88	0.7791			3.75	-1.1355		
-4.51	0.9268			4.38	-1.0894		
-2.25	1.0882			5.00	-1.0487		
-1.46	1.1662			6.25	-1.0049		
-0.90	1.2122			7.50	-0.9233		
-0.39	1.1913			8.75	-0.9033		
-0.19	1.0977			10.00	-0.8500		
0.00	0.4826			12.50	-0.7922		
0.31	-1.2783			15.00	-0.7524		
0.62	-1.3328			17.50	-0.6997		
1.25	-1.2838			20.00	-0.6706		
1.88	-1.2389			30.00	-0.5987		
2.50	-1.2146			40.00	-0.5027		
3.12	-1.1797			50.00	-0.4435		
3.75	-1.1091			60.00	-0.1879		
4.38	-1.0606			70.00	-0.0050		
5.00	-1.0339			80.00	0.0004		
6.25	-1.0020			90.00	-0.0212		
7.50	-0.9341			100.00	0.0058		
8.75	-0.8673			129.17	-0.0167		
10.00	-0.8577						
12.50	-0.8069						
15.00	-0.7747						
17.50	-0.7095						
20.00	-0.6951						
30.00	-0.5805						
40.00	-0.5249						
50.00	-0.4442						
60.00	-0.1509						
70.00	-0.0108						
80.00	-0.0071						
100.00	-0.0065						
129.17	-0.0216						
145.83	-0.0107						

mfr = 0.61 and α = 0°

ϕ = 0° Forebody X/L	CP	Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	Afterbody X/L	CP
-94.32	1.0175	173.61	0.0201	-94.32	1.0215	190.28	0.0396
-82.25	1.0310	190.28	0.0366	-82.25	1.0323	206.94	0.0592
-75.15	1.0376	206.94	0.0549	-46.76	0.9559	223.61	0.0805
-68.05	1.0268	223.61	0.0811	-11.26	0.6018	245.83	0.1355
-57.40	1.0008	245.83	0.1352	-4.51	0.7942	262.50	0.2044
-46.76	0.9525	262.50	0.2020	-0.90	1.1978	273.61	0.2768
-39.66	0.9079	273.61	0.2734	0.00	0.6178	279.17	0.3251
-32.56	0.8484	279.17	0.3190	0.31	-1.2318	284.72	0.3764
-25.46	0.7733	284.72	0.3690	0.62	-1.2899	290.28	0.4377
-18.36	0.6932	290.28	0.4288	1.25	-1.2129		
-14.81	0.6493			1.88	-1.1415		
-11.26	0.6089			2.50	-1.1078		
-10.14	0.6001			3.12	-1.0442		
-7.88	0.6422			3.75	-0.9904		
-4.51	0.7881			4.38	-0.9638		
-2.25	1.0189			5.00	-0.9323		
-1.46	1.1225			6.25	-0.8724		
-0.90	1.2006			7.50	-0.8302		
-0.39	1.2225			8.75	-0.7829		
-0.19	1.1649			10.00	-0.7876		
0.00	0.6121			12.50	-0.7018		
0.31	-1.2124			15.00	-0.6964		
0.62	-1.2347			17.50	-0.6612		
1.25	-1.2106			20.00	-0.6050		
1.88	-1.1357			30.00	-0.5101		
2.50	-1.0789			40.00	-0.4337		
3.12	-1.0476			50.00	-0.1713		
3.75	-1.0103			60.00	-0.0267		
4.38	-0.9805			70.00	-0.0314		
5.00	-0.9459			80.00	-0.0547		
6.25	-0.8902			90.00	-0.0534		
7.50	-0.8451			100.00	-0.0118		
8.75	-0.8039			129.17	-0.0068		
10.00	-0.7834						
12.50	-0.7257						
15.00	-0.6820						
17.50	-0.6761						
20.00	-0.6217						
30.00	-0.5464						
40.00	-0.4556						
50.00	-0.2347						
60.00	-0.0248						
70.00	-0.0385						
80.00	-0.0518						
100.00	-0.0286						
129.17	-0.0103						
145.83	0.0038						

TABLE VII. Concluded

(e) Concluded

mfr = 0.67 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	0.9712	173.61	0.0306	-94.32	0.9722	190.28	0.0468
-82.25	0.9851	190.28	0.0462	-82.25	0.9866	206.94	0.0672
-75.15	0.9904	206.94	0.0645	-46.76	0.8904	223.61	0.0916
-68.05	0.9803	223.61	0.0943	-11.26	0.3892	245.83	0.1511
-57.40	0.9467	245.83	0.1523	-4.51	0.6472	262.50	0.2212
-46.76	0.8873	262.50	0.2215	-0.90	1.1563	273.61	0.2968
-39.66	0.8296	273.61	0.2937	0.00	0.7271	279.17	0.3477
-32.56	0.7573	279.17	0.3394	0.31	-1.1198	284.72	0.4025
-25.46	0.6515	284.72	0.3916	0.62	-1.1887	290.28	0.4650
-18.36	0.5440	290.28	0.4532	1.25	-1.1188		
-14.81	0.4962			1.88	-1.0260		
-11.26	0.4087			2.50	-0.9614		
-10.14	0.4098			3.12	-0.9433		
-7.88	0.4444			3.75	-0.9054		
-4.51	0.6413			4.38	-0.8449		
-2.25	0.8920			5.00	-0.8180		
-1.46	1.0416			6.25	-0.7657		
-0.90	1.1510			7.50	-0.7380		
-0.39	1.2290			8.75	-0.7115		
-0.19	1.2050			10.00	-0.6802		
0.00	0.7113			12.50	-0.6576		
0.31	-1.1362			15.00	-0.6229		
0.62	-1.1464			17.50	-0.5789		
1.25	-1.1151			20.00	-0.5414		
1.88	-1.0370			30.00	-0.4699		
2.50	-0.9884			40.00	-0.1822		
3.12	-0.9178			50.00	-0.0381		
3.75	-0.8955			60.00	-0.0708		
4.38	-0.8496			70.00	-0.0894		
5.00	-0.8186			80.00	-0.0881		
6.25	-0.8078			90.00	-0.0830		
7.50	-0.7618			100.00	-0.0229		
8.75	-0.7264			129.17	-0.0075		
10.00	-0.6774						
12.50	-0.6323						
15.00	-0.6093						
17.50	-0.6092						
20.00	-0.5695						
30.00	-0.4532						
40.00	-0.3526						
50.00	-0.0398						
60.00	-0.0621						
70.00	-0.0867						
80.00	-0.0882						
100.00	-0.0368						
129.17	-0.0107						
145.83	0.0027						

mfr = 0.73 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	0.9171	173.61	0.0271	-94.32	0.9167	190.28	0.0508
-82.25	0.9353	190.28	0.0499	-82.25	0.9366	206.94	0.0728
-75.15	0.9392	206.94	0.0688	-46.76	0.8131	223.61	0.0965
-68.05	0.9269	223.61	0.1008	-11.26	0.1164	245.83	0.1593
-57.40	0.8860	245.83	0.1608	-4.51	0.4412	262.50	0.2318
-46.76	0.8116	262.50	0.2318	-0.90	1.0873	273.61	0.3089
-39.66	0.7366	273.61	0.3059	0.00	0.8449	279.17	0.3602
-32.56	0.6390	279.17	0.3523	0.31	-0.9719	284.72	0.4166
-25.46	0.5042	284.72	0.4047	0.62	-1.0729	290.28	0.4803
-18.36	0.3407	290.28	0.4659	1.25	-0.9648		
-14.81	0.2492			1.88	-0.9155		
-11.26	0.1480			2.50	-0.8393		
-10.14	0.1077			3.12	-0.8155		
-7.88	0.1858			3.75	-0.7674		
-4.51	0.4181			4.38	-0.7148		
-2.25	0.7483			5.00	-0.6996		
-1.46	0.9350			6.25	-0.6532		
-0.90	1.0708			7.50	-0.6220		
-0.39	1.2147			8.75	-0.5754		
-0.19	1.2204			10.00	-0.5416		
0.00	0.8304			12.50	-0.5234		
0.31	-0.9914			15.00	-0.5183		
0.62	-1.0233			17.50	-0.4407		
1.25	-0.9626			20.00	-0.4512		
1.88	-0.8878			30.00	-0.0721		
2.50	-0.8484			40.00	-0.0904		
3.12	-0.7950			50.00	-0.1069		
3.75	-0.7712			60.00	-0.1241		
4.38	-0.7421			70.00	-0.1201		
5.00	-0.7337			80.00	-0.0998		
6.25	-0.6559			90.00	-0.0850		
7.50	-0.6391			100.00	-0.0205		
8.75	-0.6253			129.17	-0.0030		
10.00	-0.5712						
12.50	-0.4982						
15.00	-0.5026						
17.50	-0.5015						
20.00	-0.4592						
30.00	-0.0762						
40.00	-0.0773						
50.00	-0.1038						
60.00	-0.1287						
70.00	-0.1265						
80.00	-0.1032						
100.00	-0.0344						
129.17	-0.0111						
145.83	0.0100						

mfr = 0.81 and α = 0°

ϕ = 0° Forebody X/L	CP	ϕ = 0° Afterbody X/L	CP	ϕ = 180° Forebody X/L	CP	ϕ = 180° Afterbody X/L	CP
-94.32	0.2840	173.61	0.0315	-94.32	0.2853	190.28	0.0471
-82.25	0.1987	190.28	0.0477	-82.25	0.1744	206.94	0.0682
-75.15	0.1173	206.94	0.0657	-46.76	-0.1344	223.61	0.0871
-68.05	0.0476	223.61	0.0917	-11.26	-0.4771	245.83	0.1350
-57.40	-0.0367	245.83	0.1390	-4.51	0.1795	262.50	0.1925
-46.76	-0.1367	262.50	0.1922	-0.90	0.9762	273.61	0.2526
-39.66	-0.1870	273.61	0.2499	0.00	0.9356	279.17	0.2948
-32.56	-0.1906	279.17	0.2874	0.31	-0.8224	284.72	0.3376
-25.46	-0.3432	284.72	0.3309	0.62	-0.9276	290.28	0.3950
-18.36	-0.6895	290.28	0.3862	1.25	-0.8349		
-14.81	-0.6113			1.88	-0.7793		
-11.26	-0.4158			2.50	-0.7064		
-10.14	-0.3915			3.12	-0.6008		
-7.88	-0.1954			3.75	-0.5477		
-4.51	0.1862			4.38	-0.5416		
-2.25	0.5696			5.00	-0.5427		
-1.46	0.7966			6.25	-0.5585		
-0.90	0.9869			7.50	-0.4547		
-0.39	1.1806			8.75	-0.1873		
-0.19	1.2259			10.00	-0.3939		
0.00	0.9427			12.50	-0.3695		
0.31	-0.8628			15.00	-0.3705		
0.62	-0.8947			17.50	-0.2170		
1.25	-0.8149			20.00	-0.1604		
1.88	-0.7565			30.00	-0.1557		
2.50	-0.6967			40.00	-0.1526		
3.12	-0.6476			50.00	-0.1378		
3.75	-0.6388			60.00	-0.1493		
4.38	-0.5853			70.00	-0.1273		
5.00	-0.5901			80.00	-0.1134		
6.25	-0.5365			90.00	-0.0864		
7.50	-0.4702			100.00	-0.0299		
8.75	-0.4597			129.17	-0.0045		
10.00	-0.4242						
12.50	-0.4028						
15.00	-0.3774						
17.50	-0.3820						
20.00	-0.1372						
30.00	-0.1261						
40.00	-0.1488						
50.00	-0.1433						
60.00	-0.1478						
70.00	-0.1330						
80.00	-0.1174						
100.00	-0.0313						
129.17	-0.0098						
145.83	0.0106						

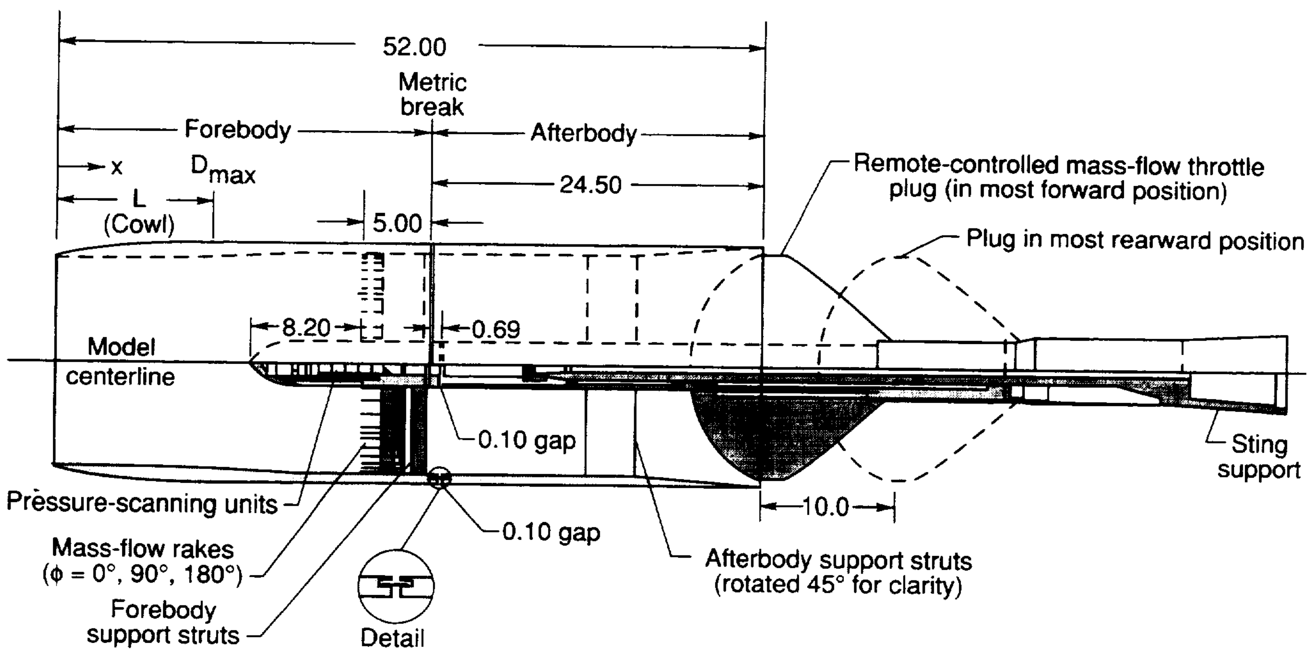


Figure 1. Simplified cross-sectional sketch of complete model. Linear dimensions are in inches.

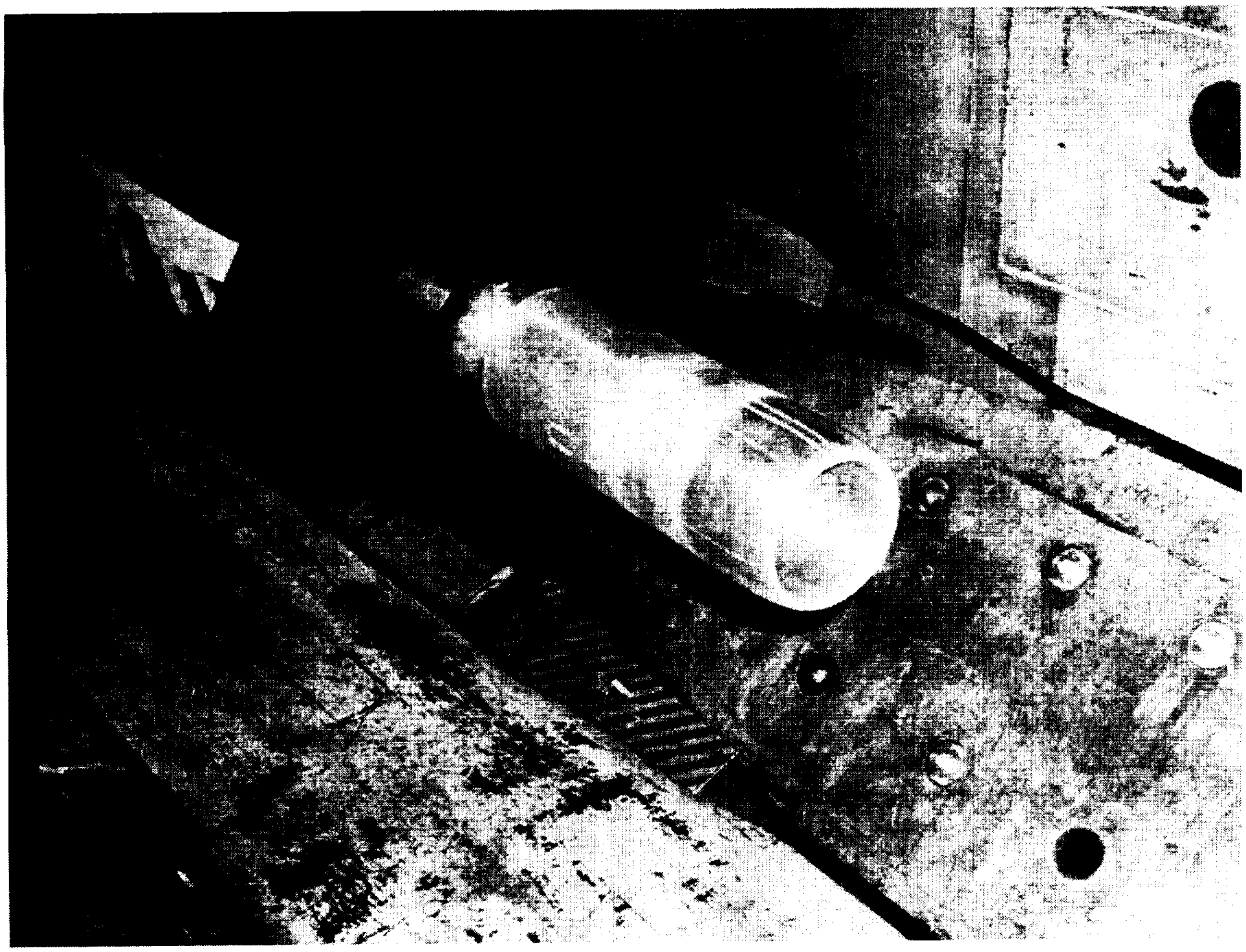


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Figure 2. Complete model installed in 16-Foot Transonic Tunnel test section.

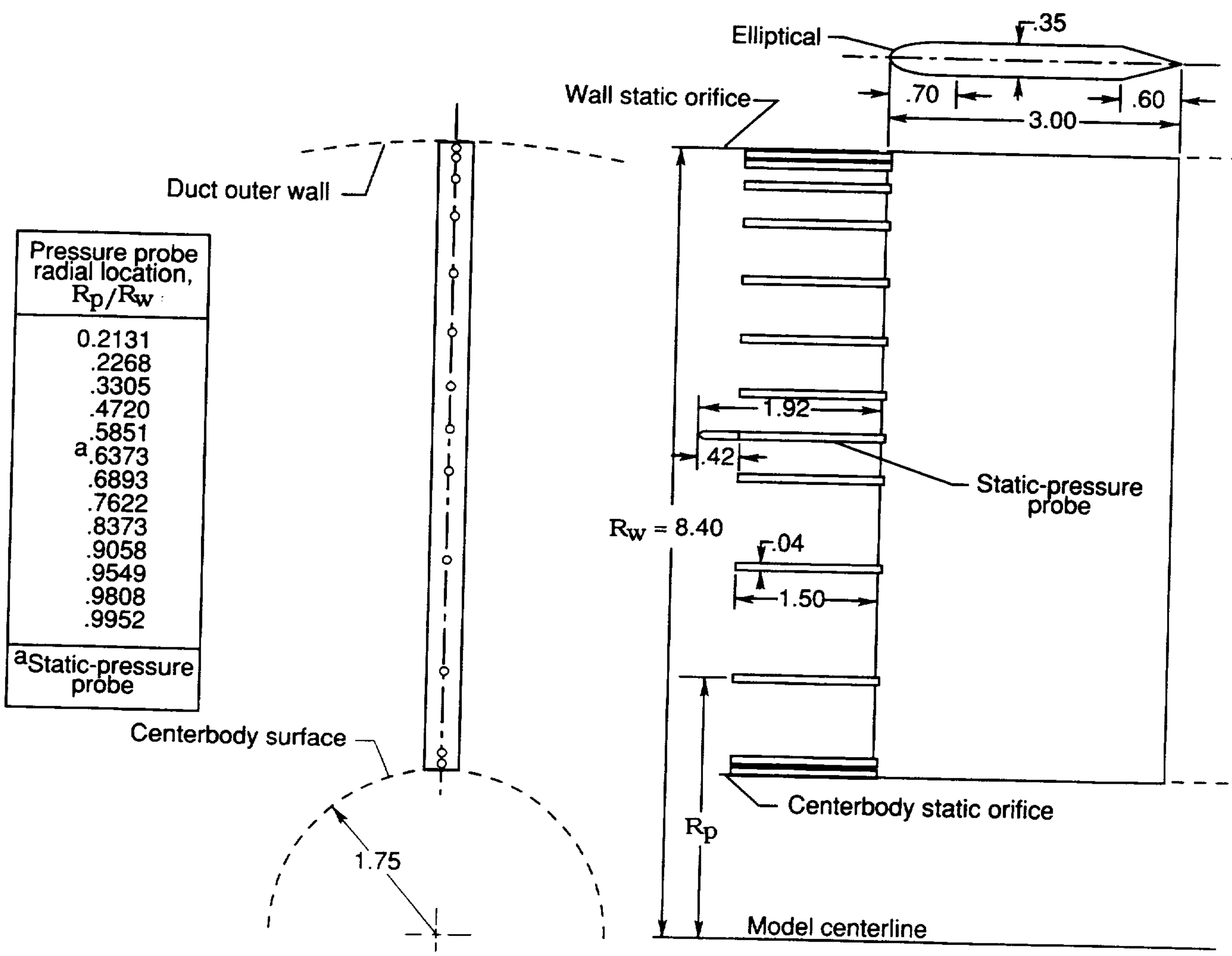


Figure 3. Pressure instrumentation (on struts at $\phi = 0°$, $90°$, and $180°$) used to obtain data for mass-flow computations. Linear dimensions are in inches.

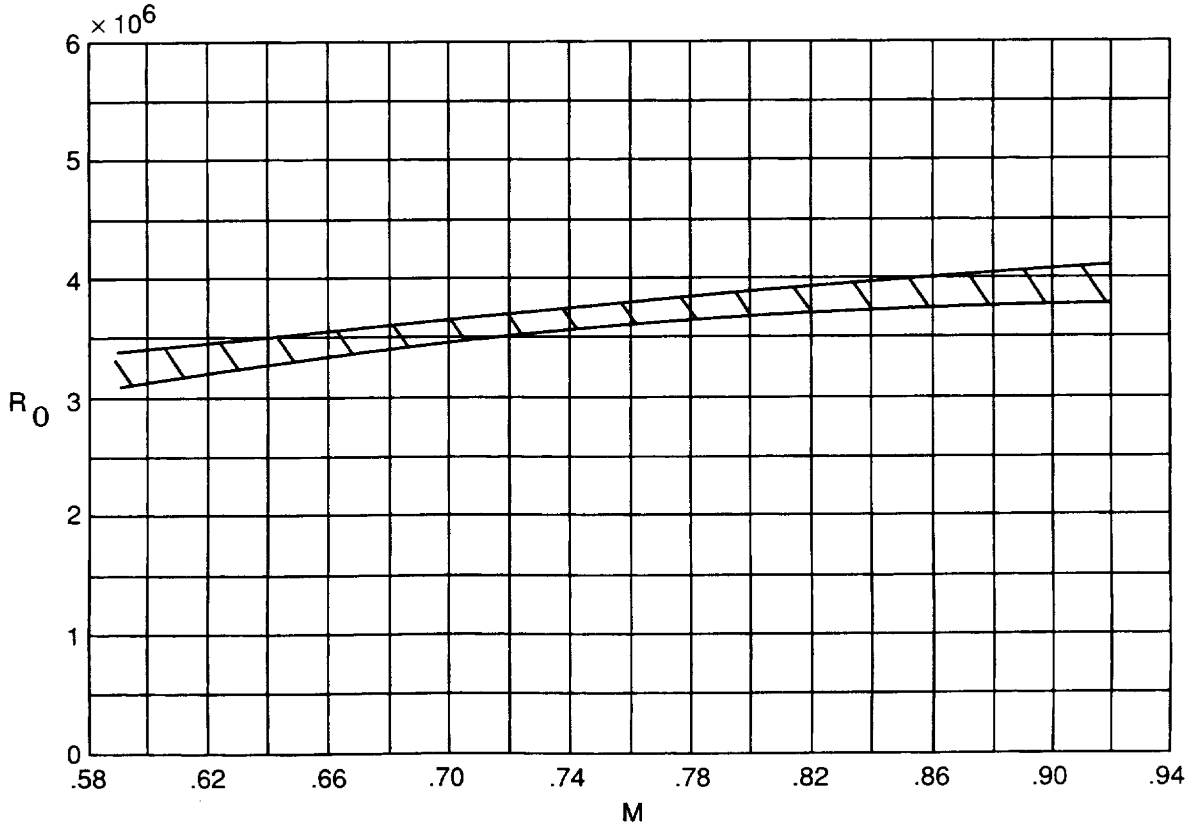
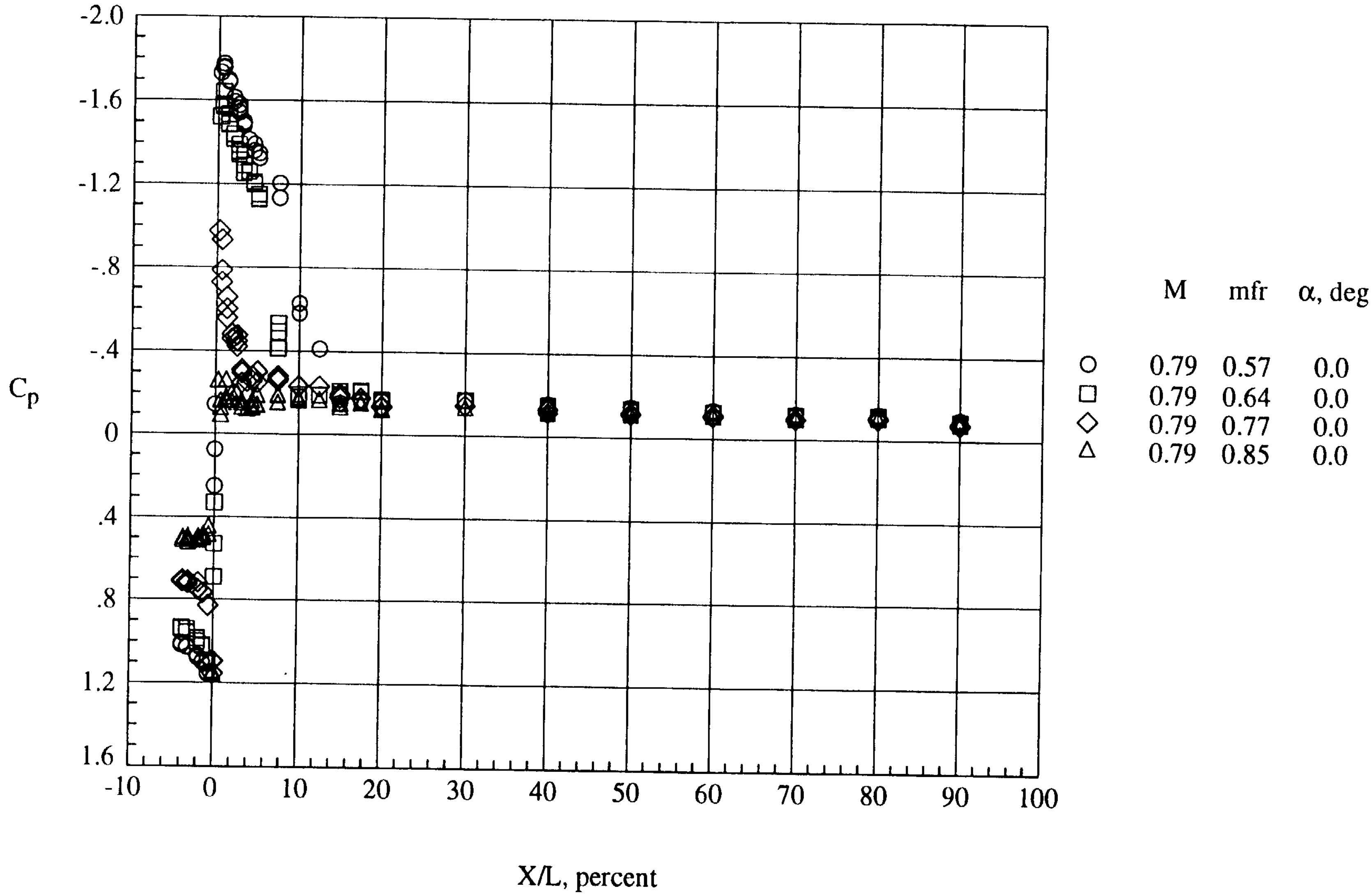
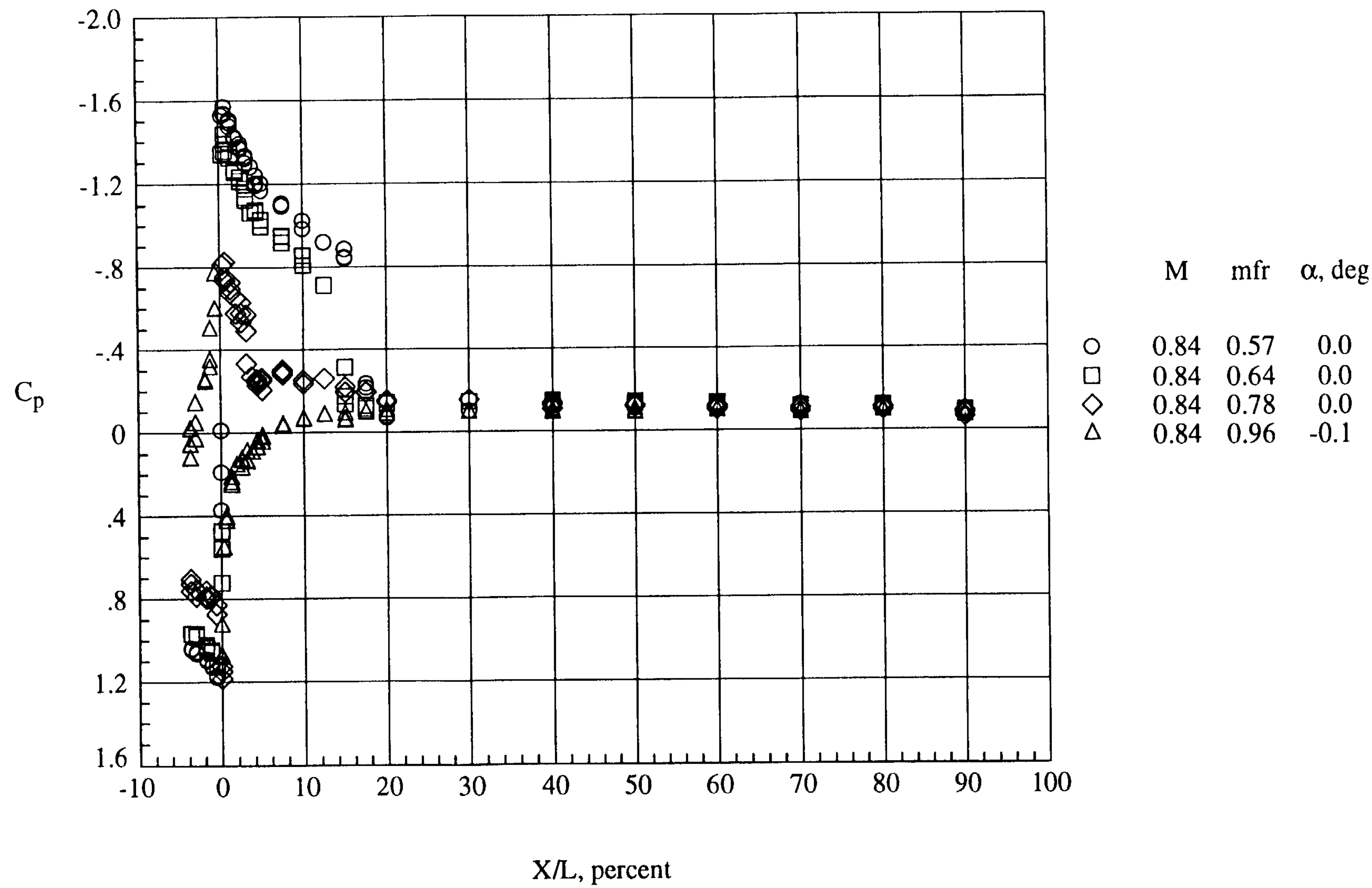


Figure 4. Variation of test Reynolds number with free-stream Mach number.



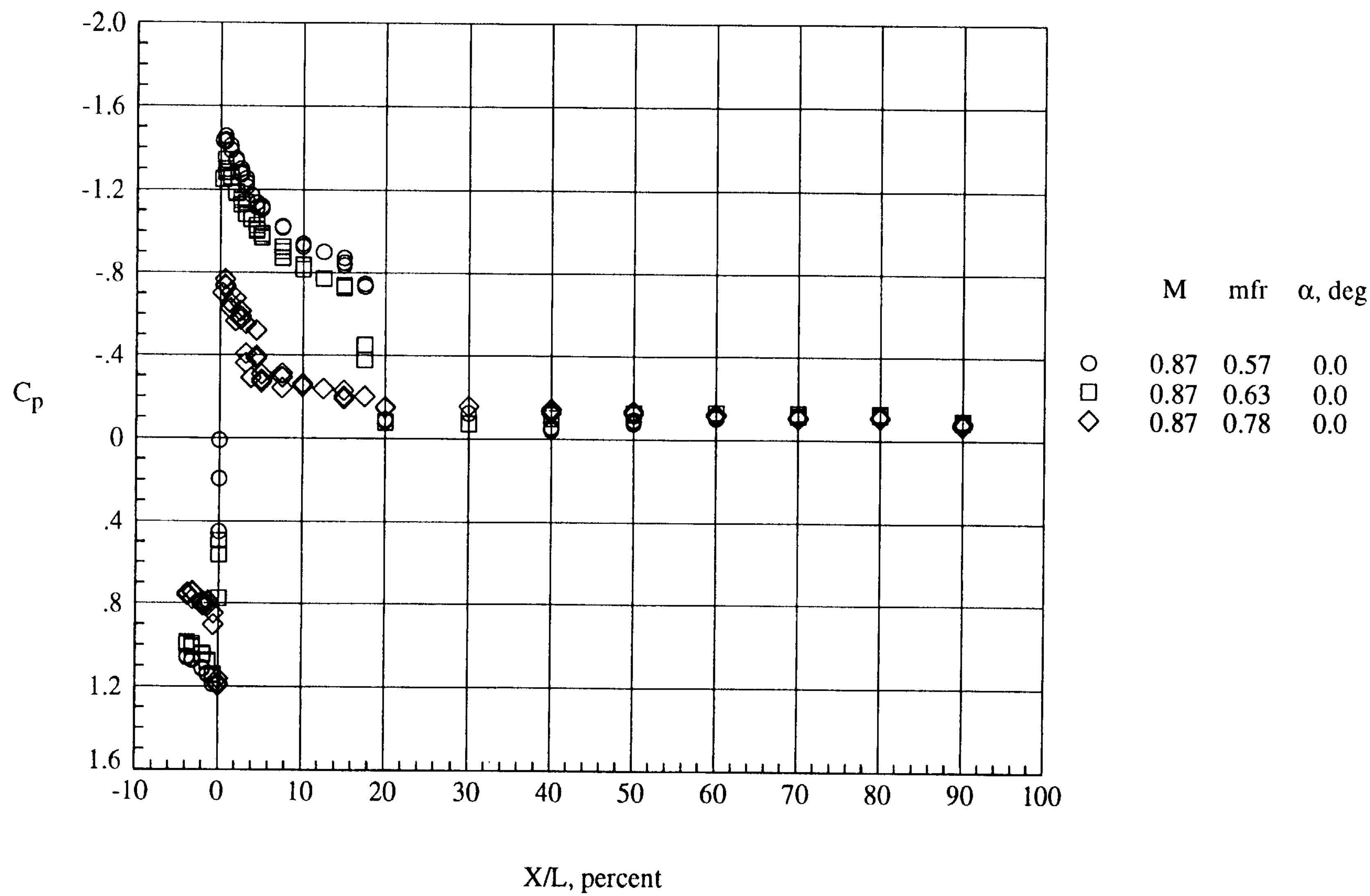
(a) M = 0.79.

Figure 5.- Pressure coefficient variation with X/L for the NACA 1-85-100 inlet with a contraction ratio of 1.009 for several mass-flow ratios at $\alpha = 0°$. Data combined from $\phi = 0°$, 90°, and 180° meridians.



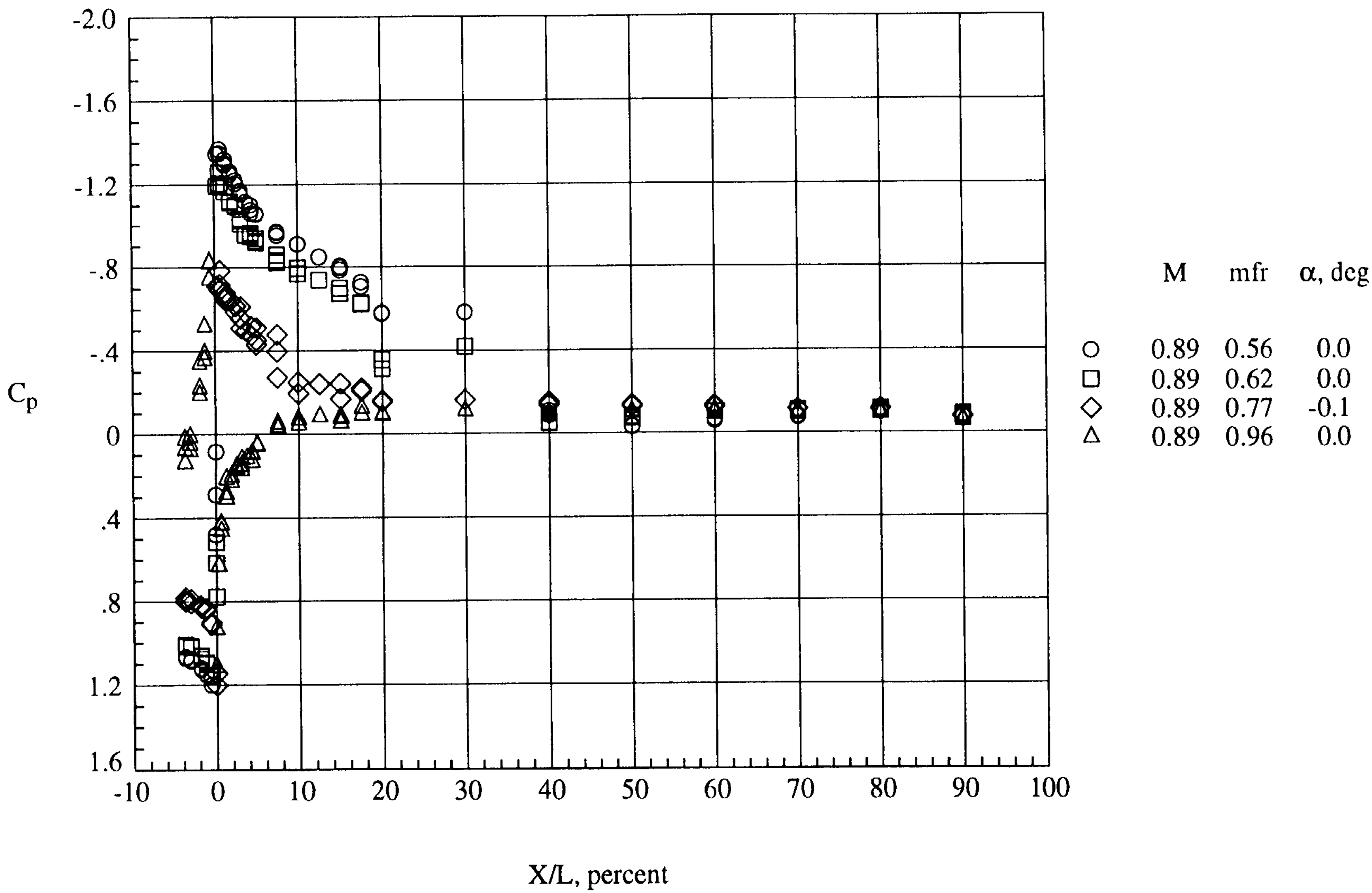
(b) M = 0.84.

Figure 5.- Continued.



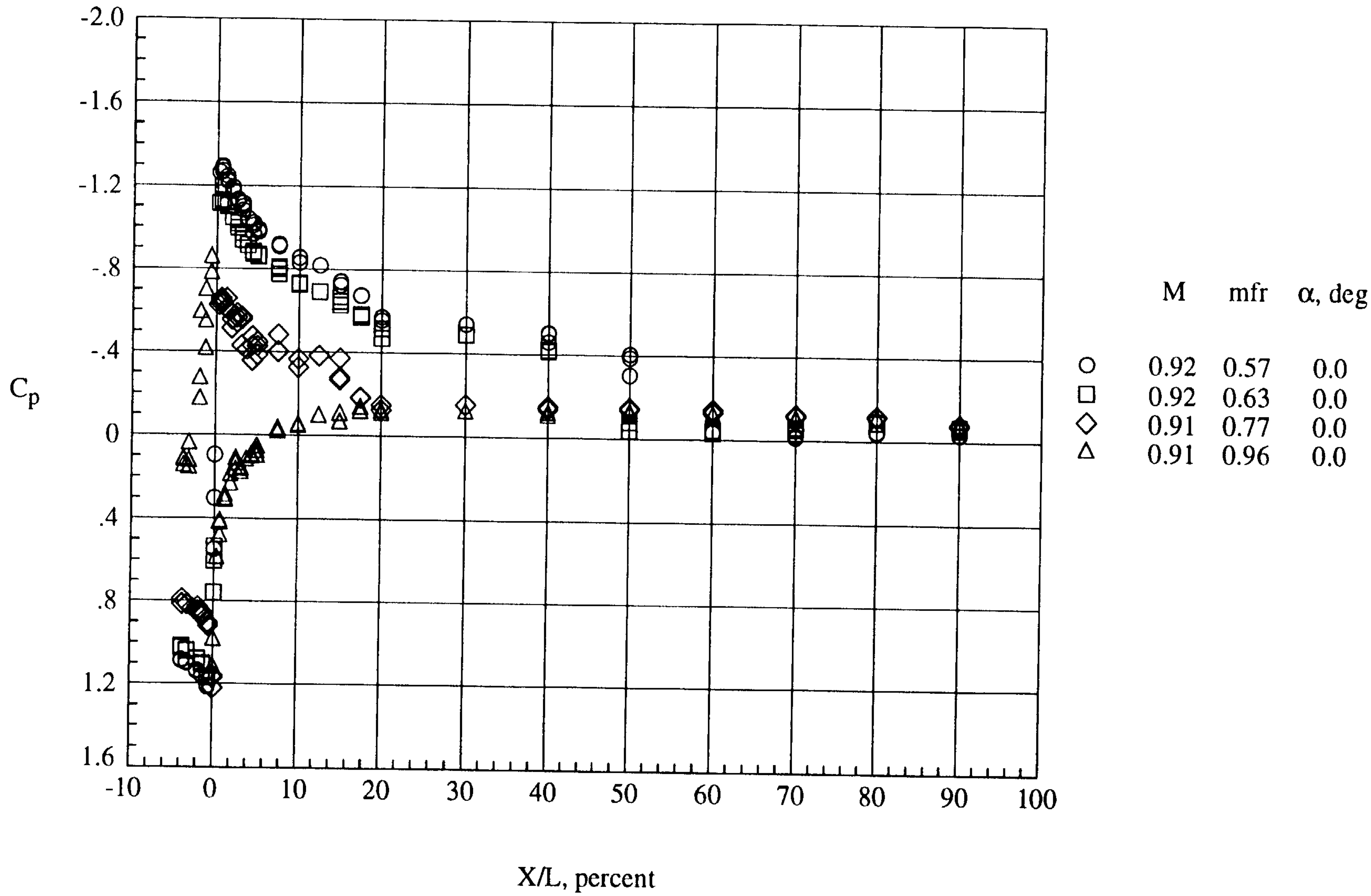
(c) M = 0.87.

Figure 5.- Continued.



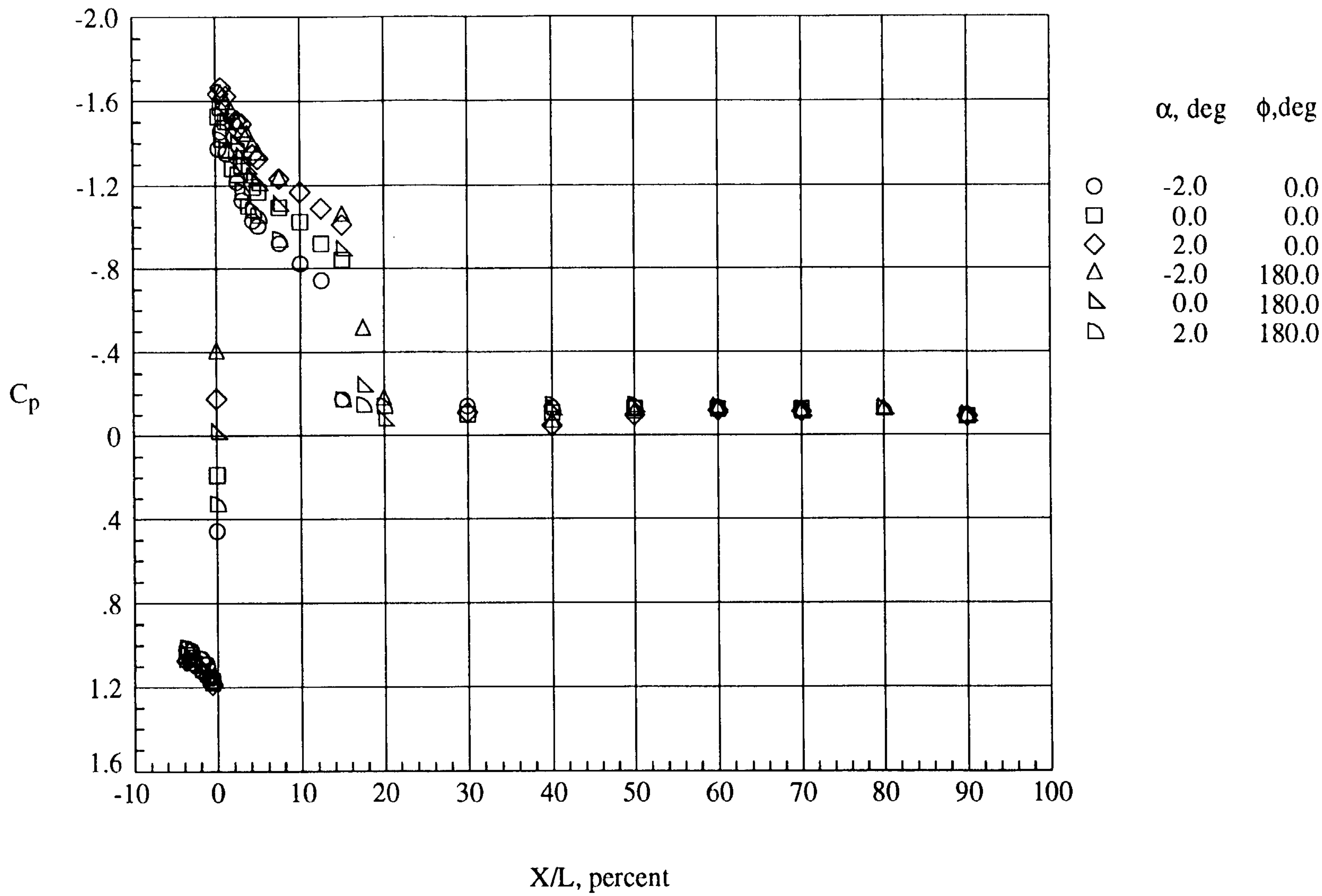
(d) M = 0.89.

Figure 5.- Continued.



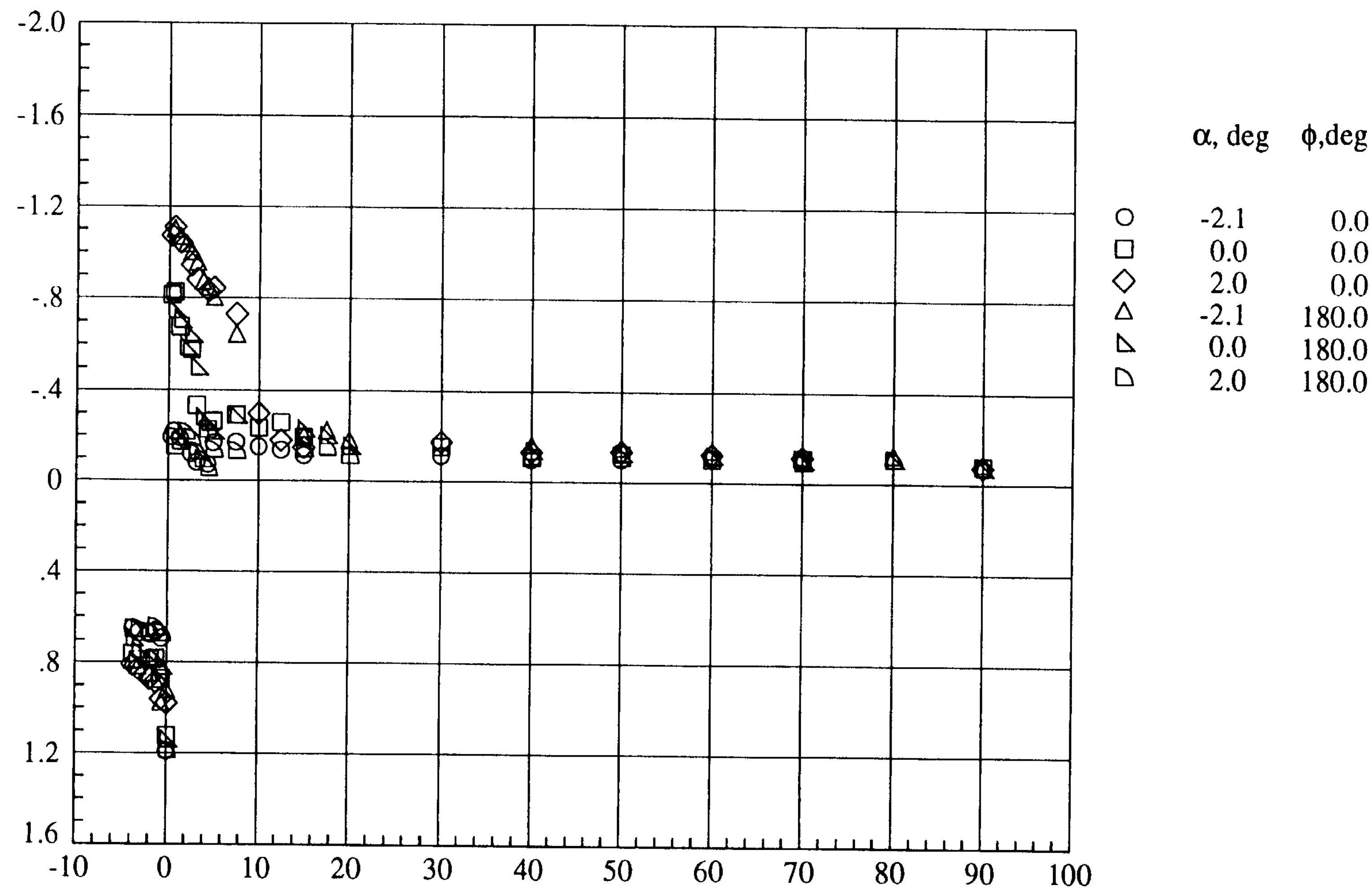
(e) M = 0.92.

Figure 5.- Concluded.



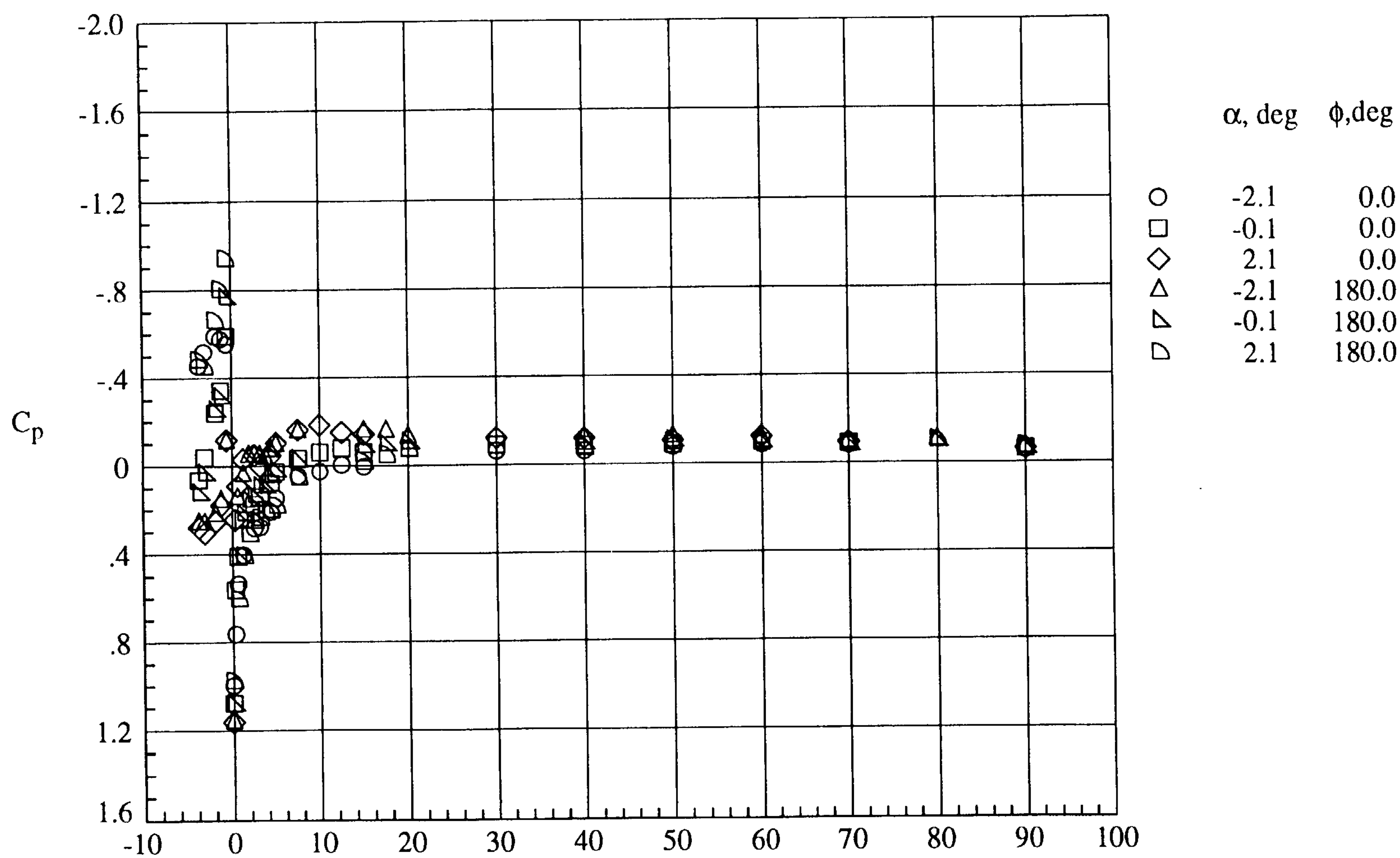
(a) M = 0.84 and mfr = 0.57.

Figure 6.- Pressure coefficient variation with X/L along the $\phi = 0°$, and 180° meridians for the NACA 1-85-100 inlet with a contraction ratio of 1.009 at several angles of attack.



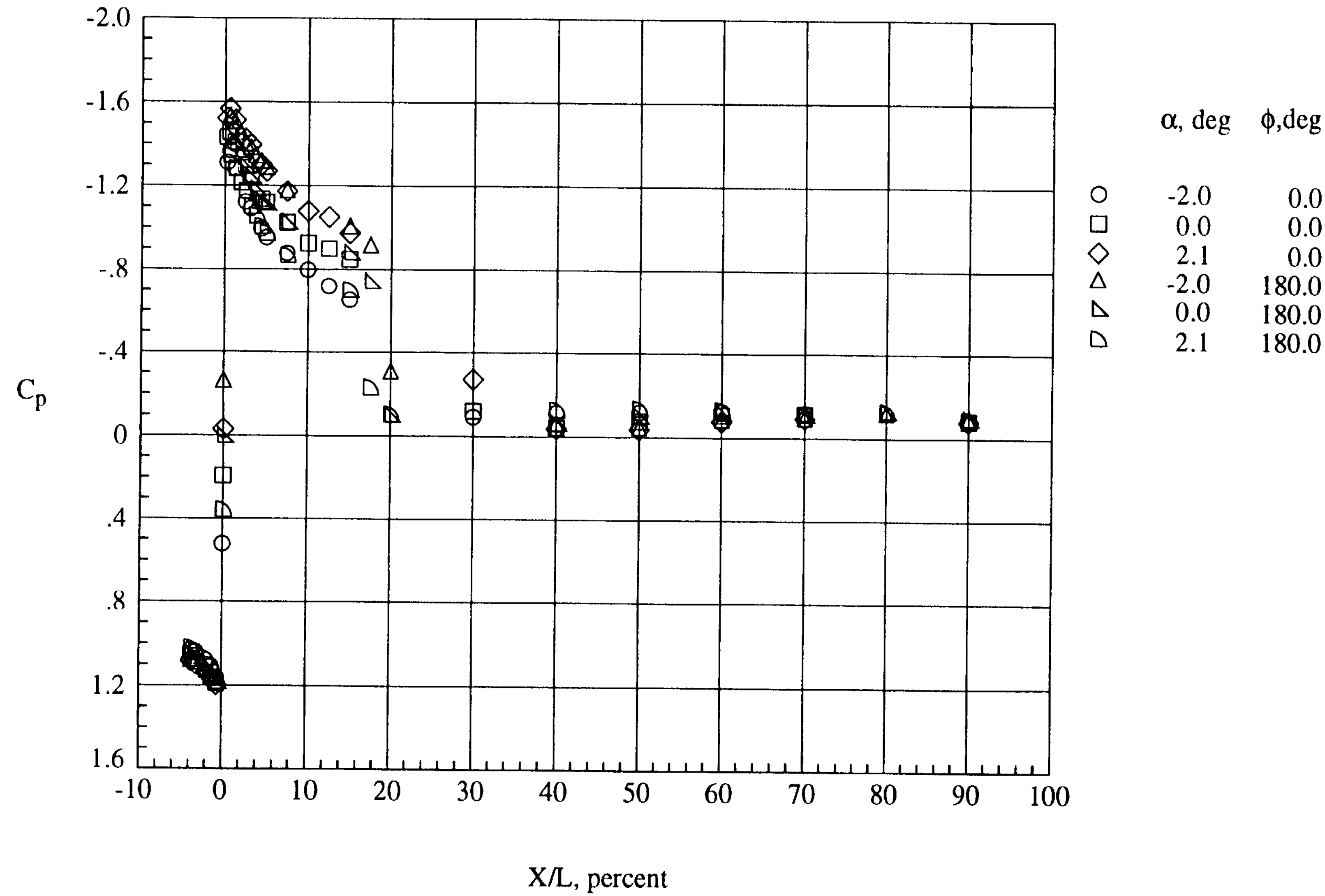
(b) M = 0.84 and mfr = 0.78.

Figure 6.- Continued.



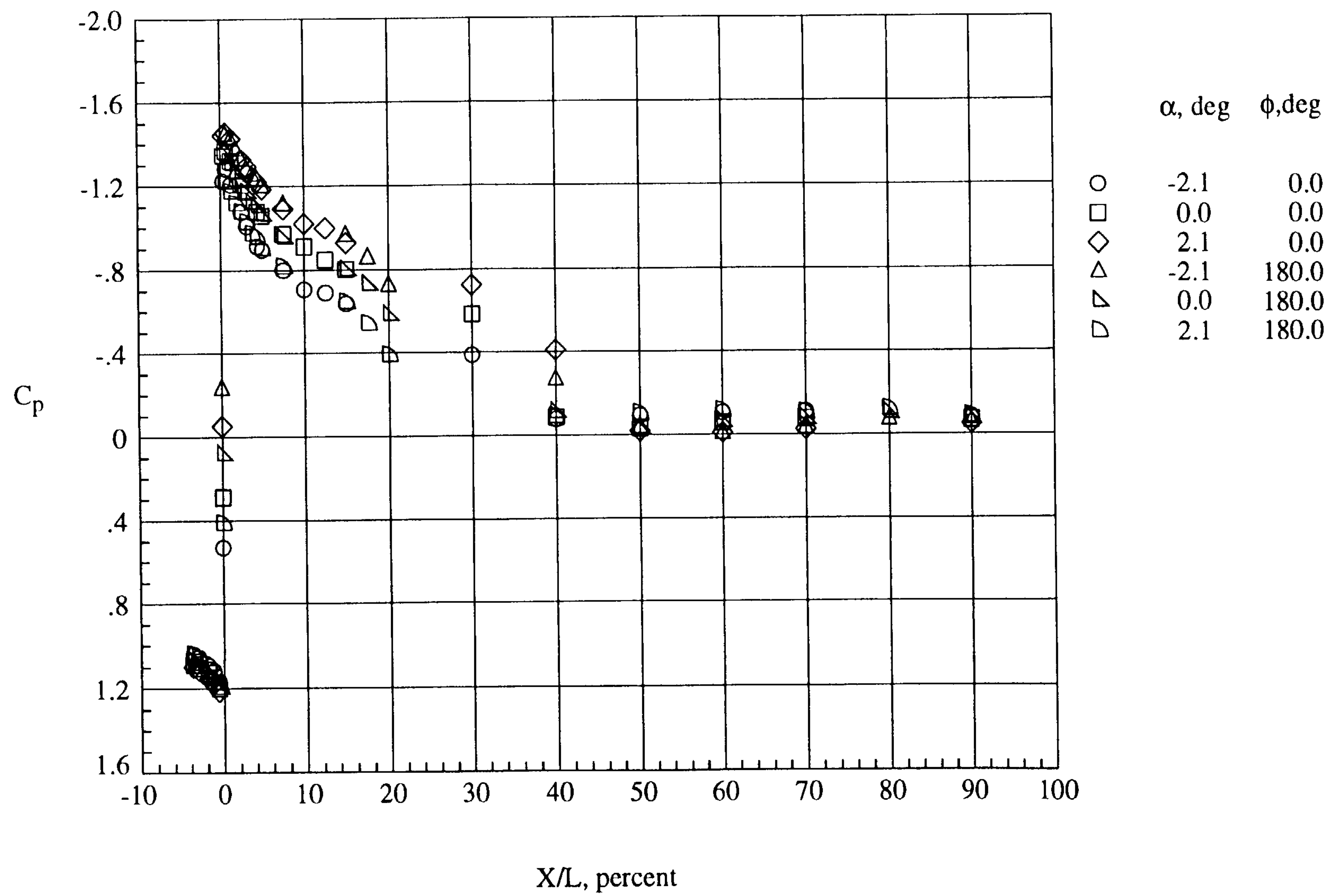
(c) M = 0.84 and mfr = 0.95.

Figure 6.- Continued.



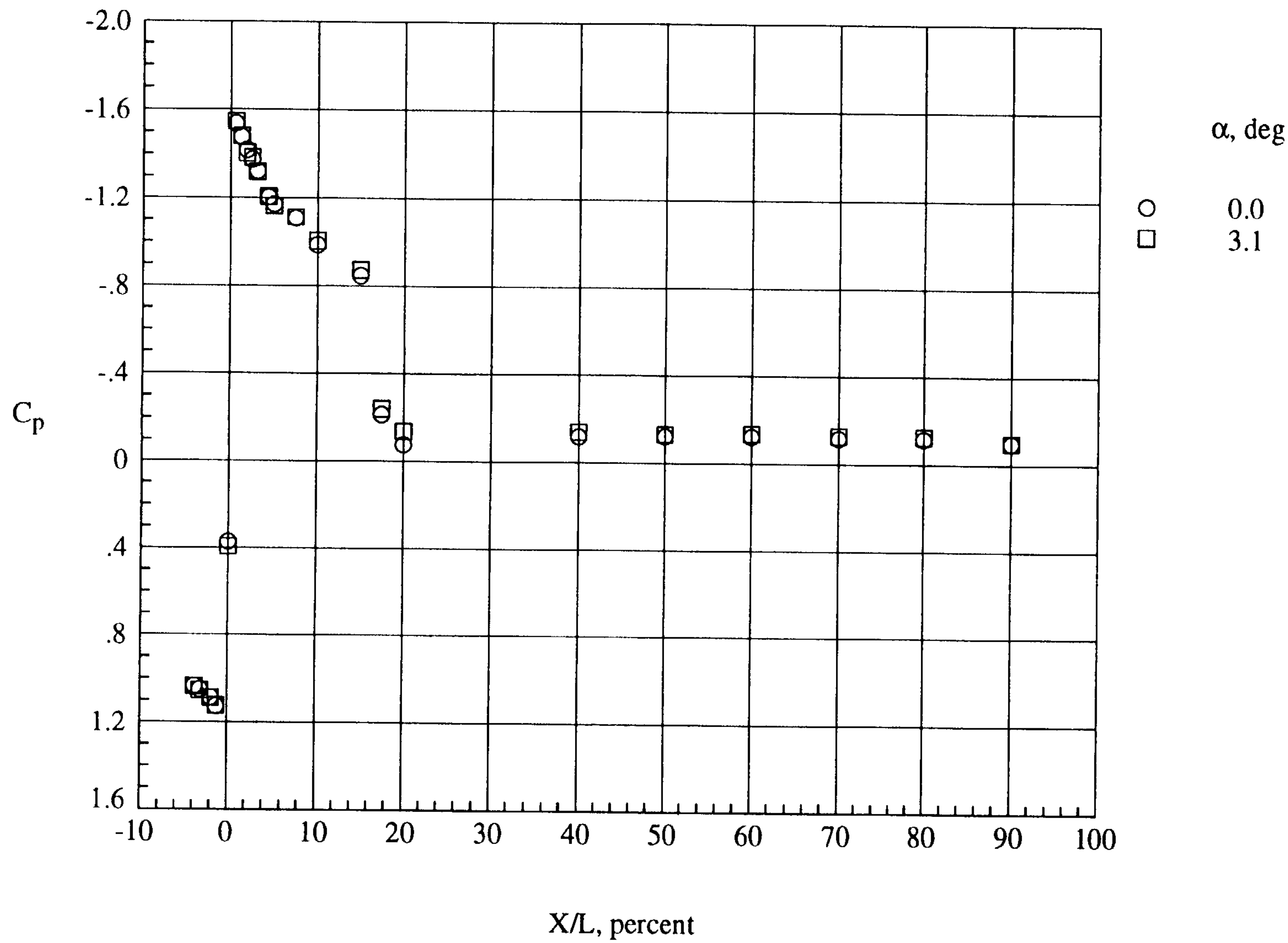
(d) M = 0.87 and mfr = 0.57.

Figure 6.- Continued.



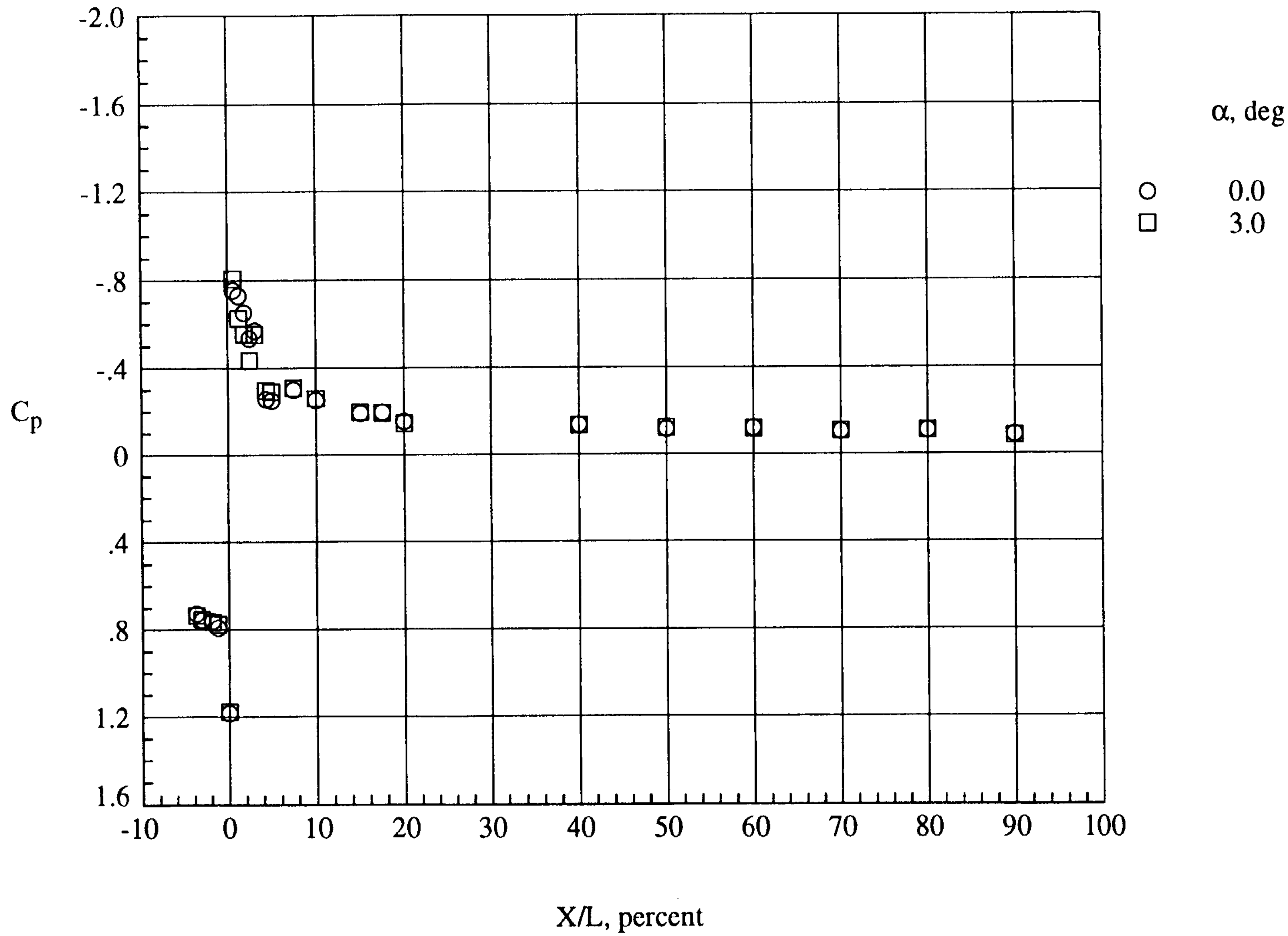
(e) M = 0.89 and mfr = 0.57.

Figure 6.- Concluded.



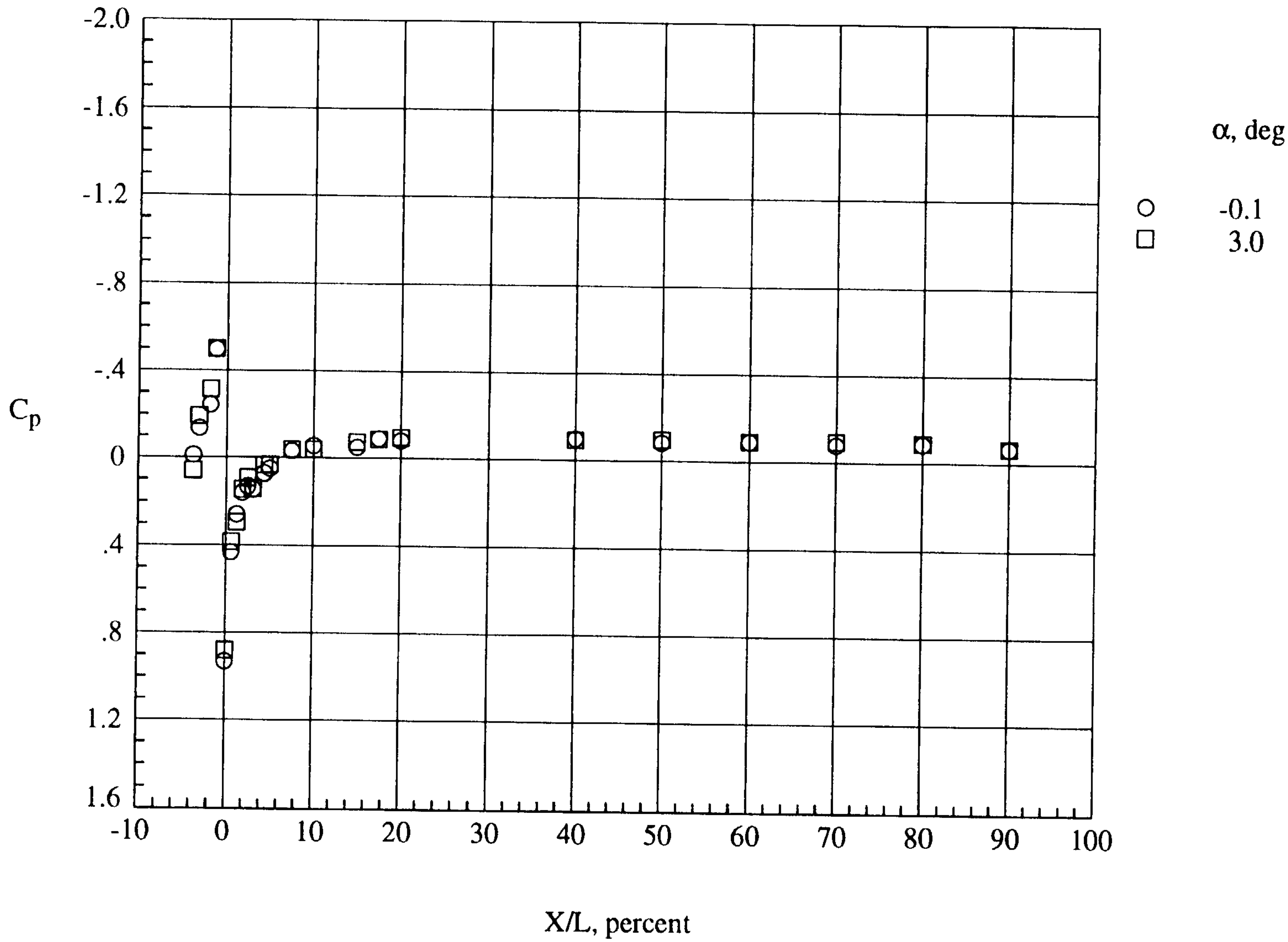
(a) M = 0.84 and mfr = 0.57.

Figure 7.- Pressure coefficient variation with X/L along the $\phi = 90°$ meridian for the NACA 1-85-100 inlet with a contraction ratio of 1.000 at two angles of attack.



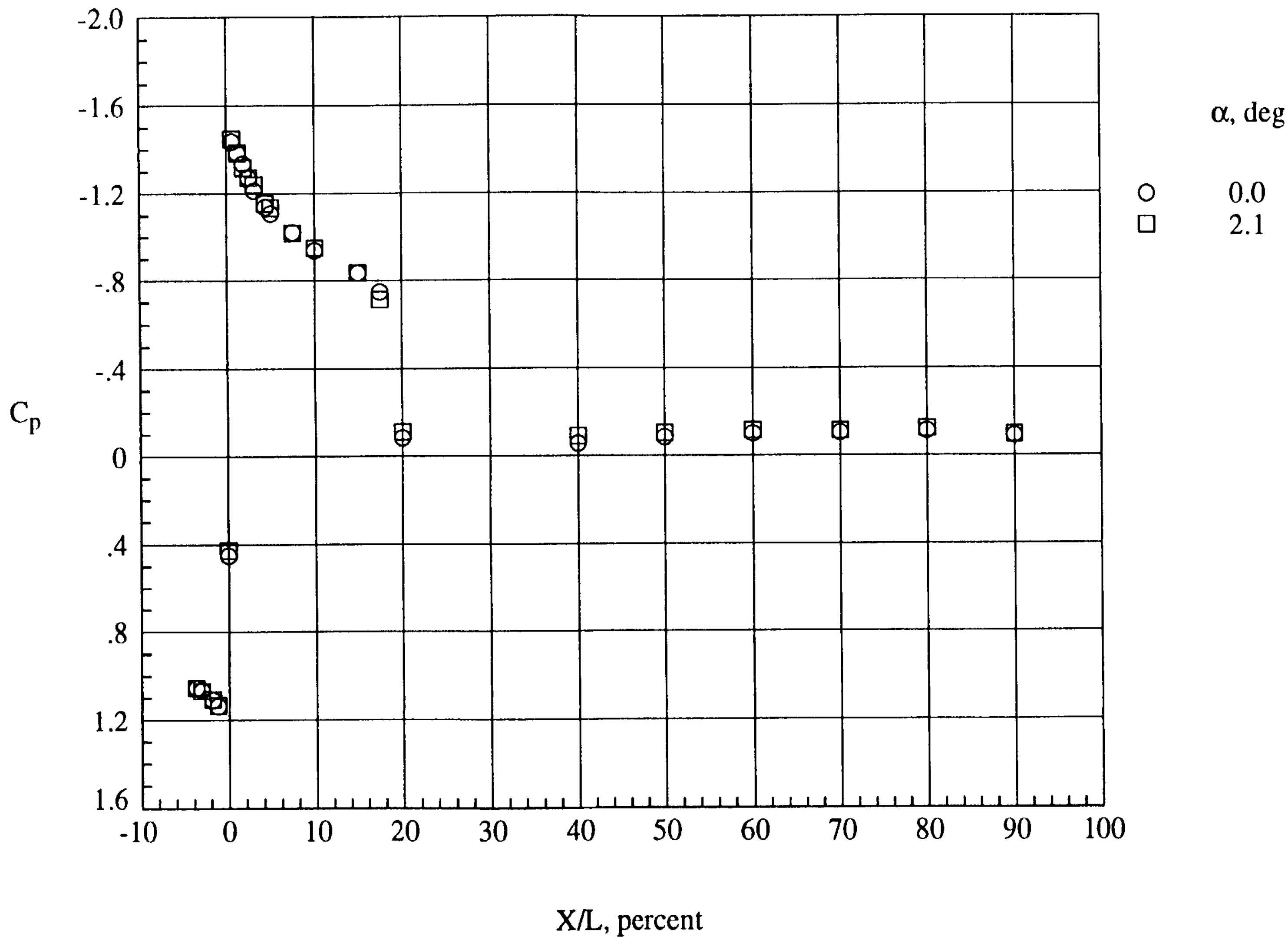
(b) M = 0.84 and mfr = 0.78.

Figure 7.- Continued.



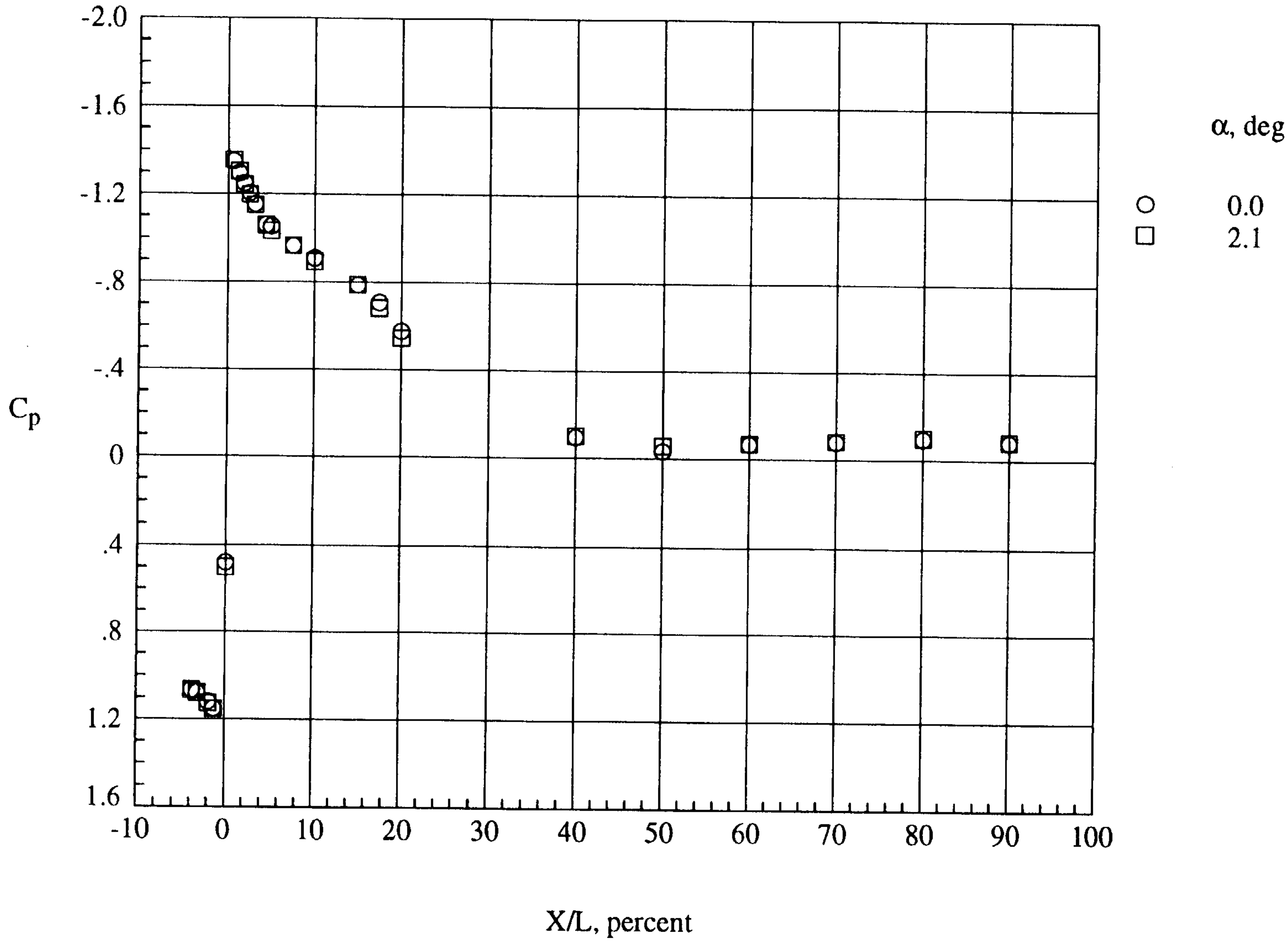
(c) M = 0.84 and mfr = 0.95.

Figure 7.- Continued.



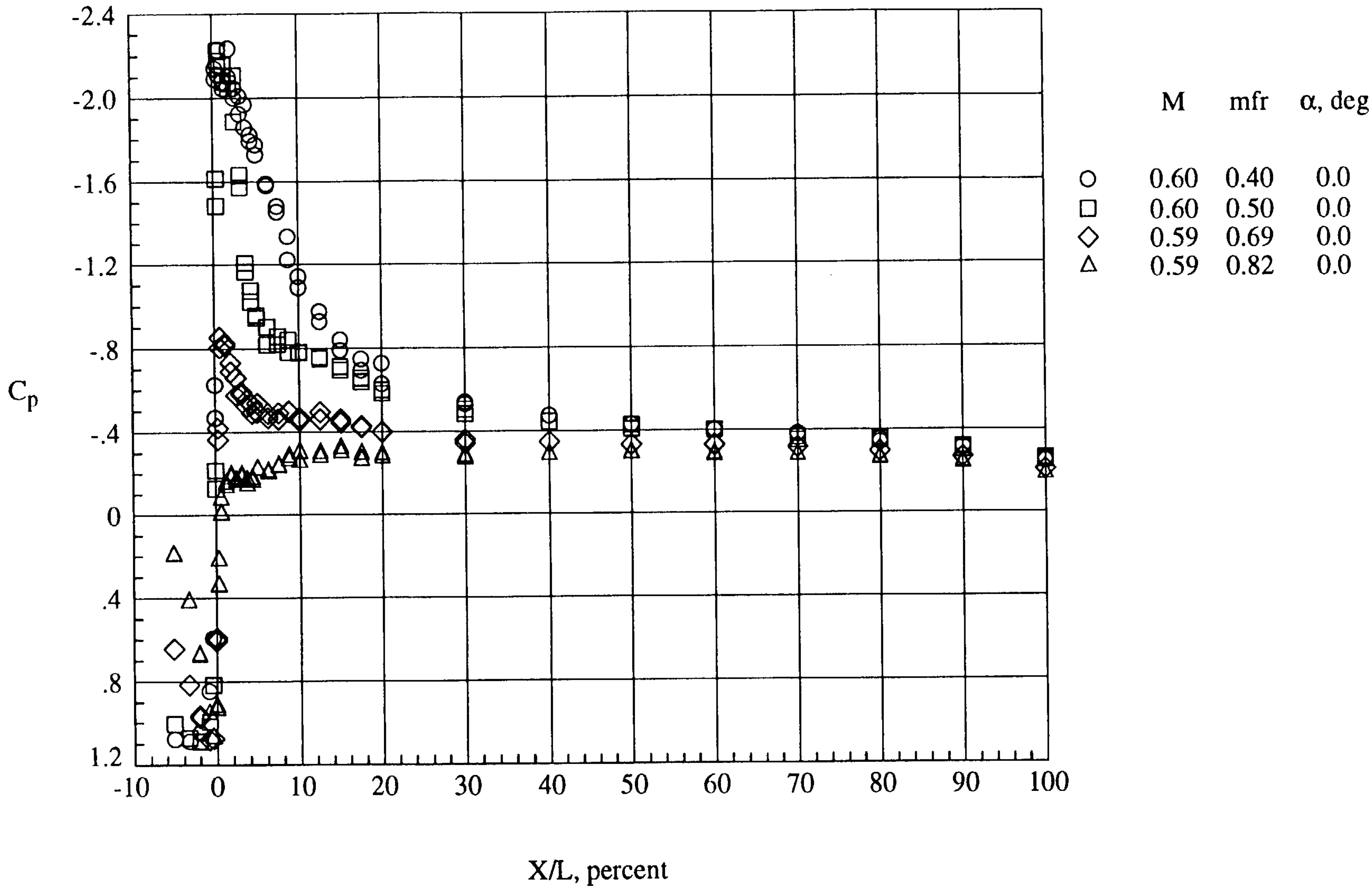
(d) M = 0.87 and mfr = 0.57.

Figure 7.- Continued.



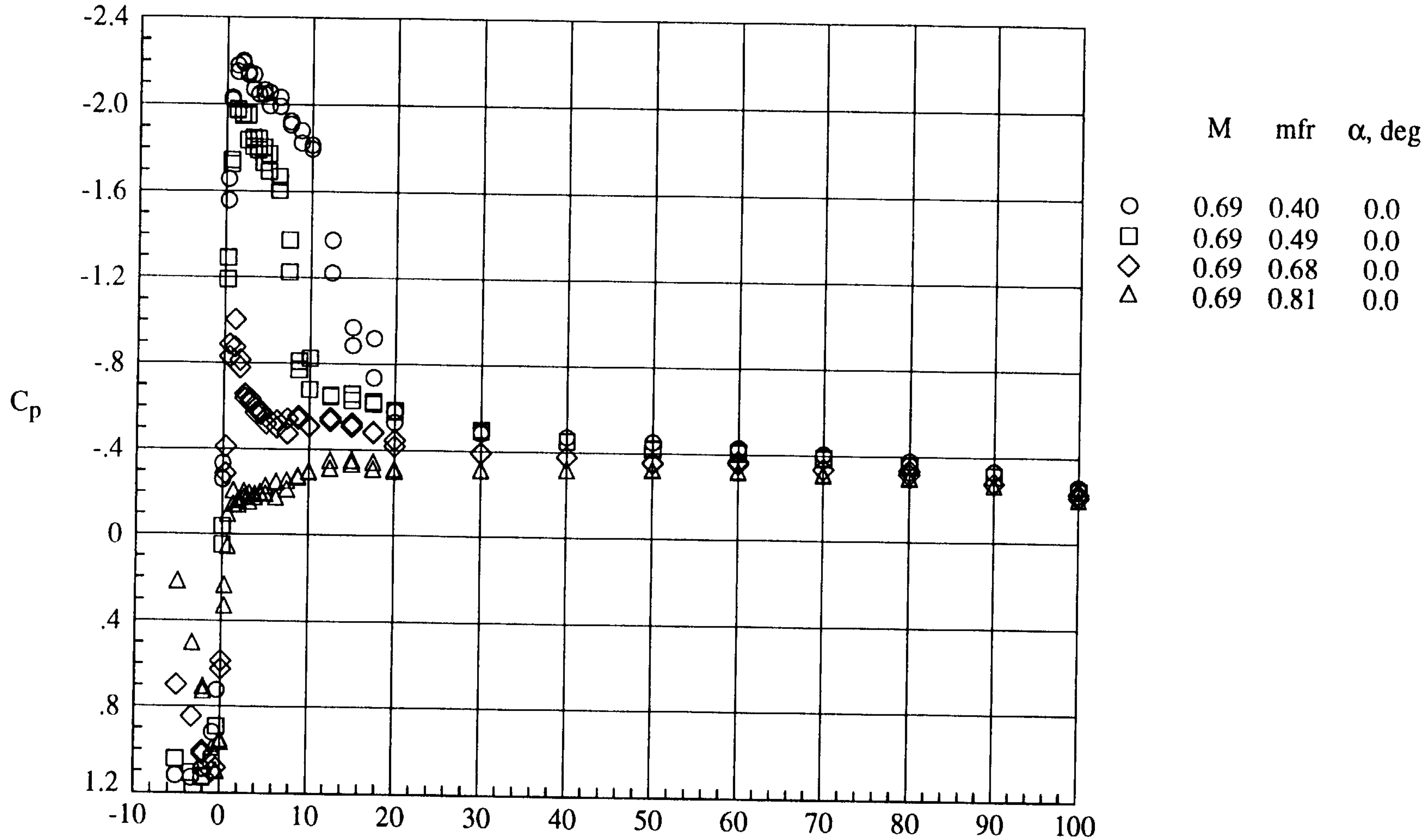
(e) M = 0.89 and mfr = 0.57.

Figure 7.- Concluded.



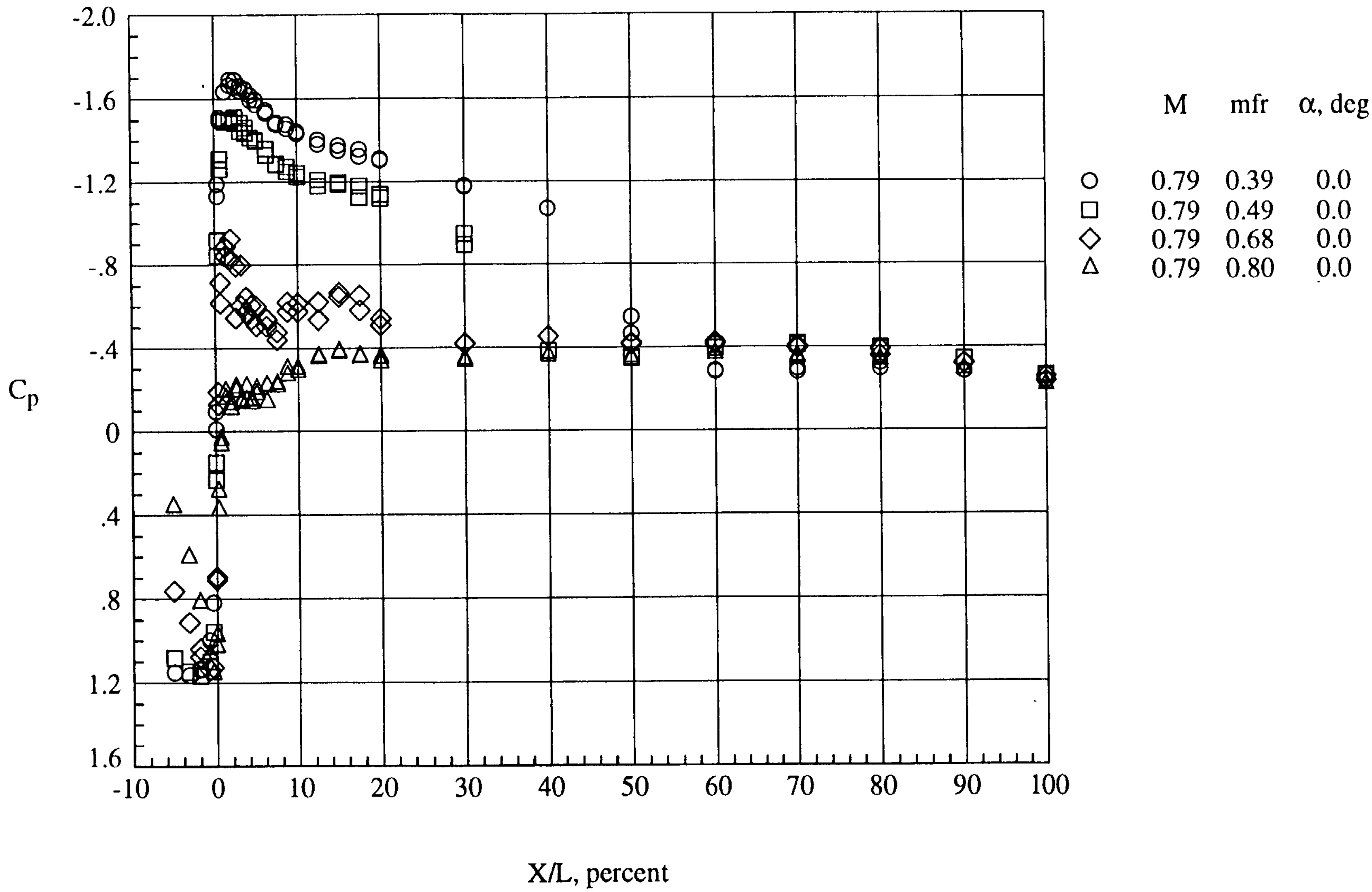
(a) M = 0.60.

Figure 8.- Pressure coefficient variation with X/L for the NACA 1-85-43.9 inlet with a contraction ratio of 1.250 for several mass-flow ratios at $\alpha = 0°$. Data combined from $\phi = 0°$ and 180° meridians.



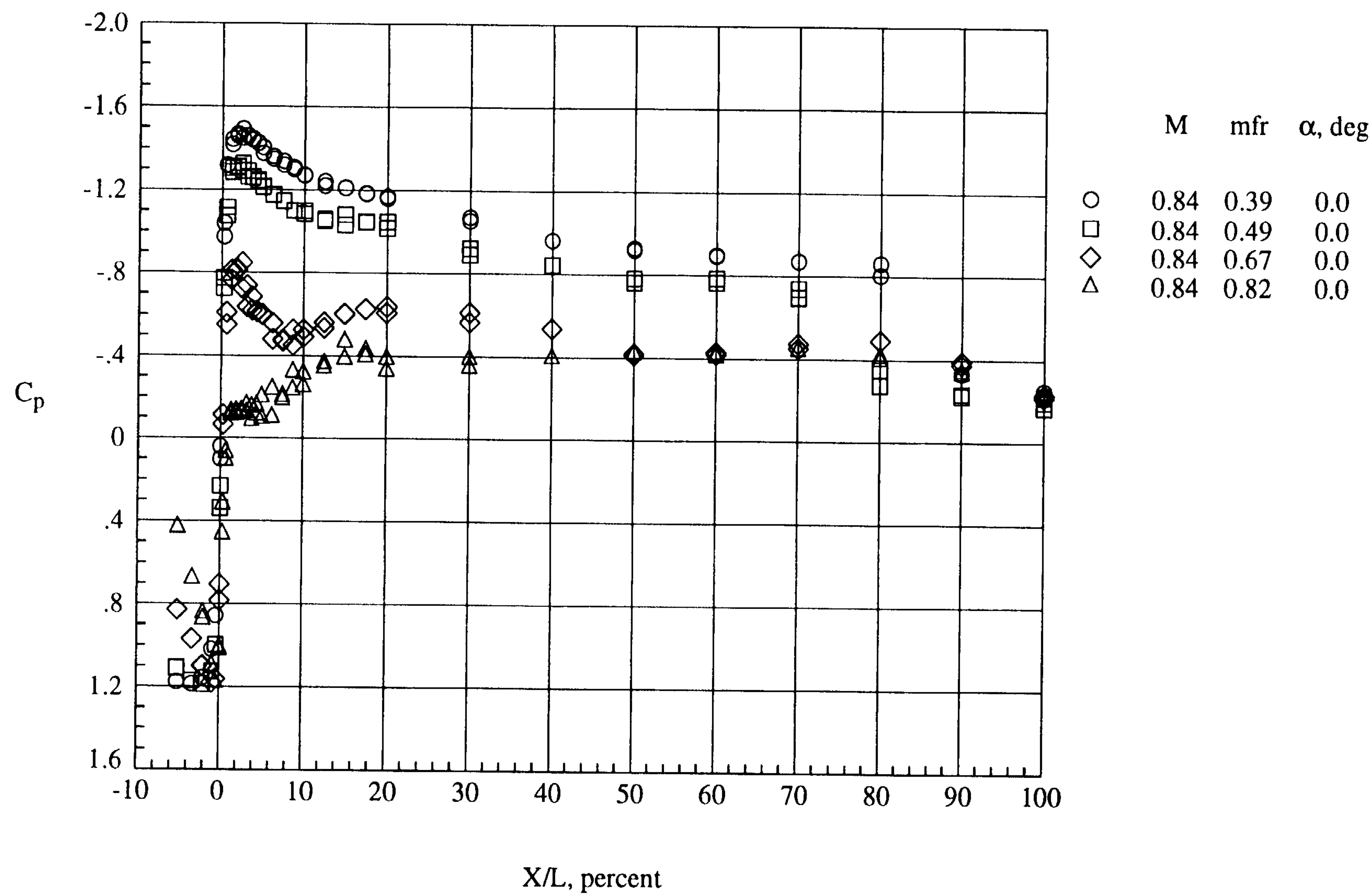
(b) M = 0.69.

Figure 8.- Continued.



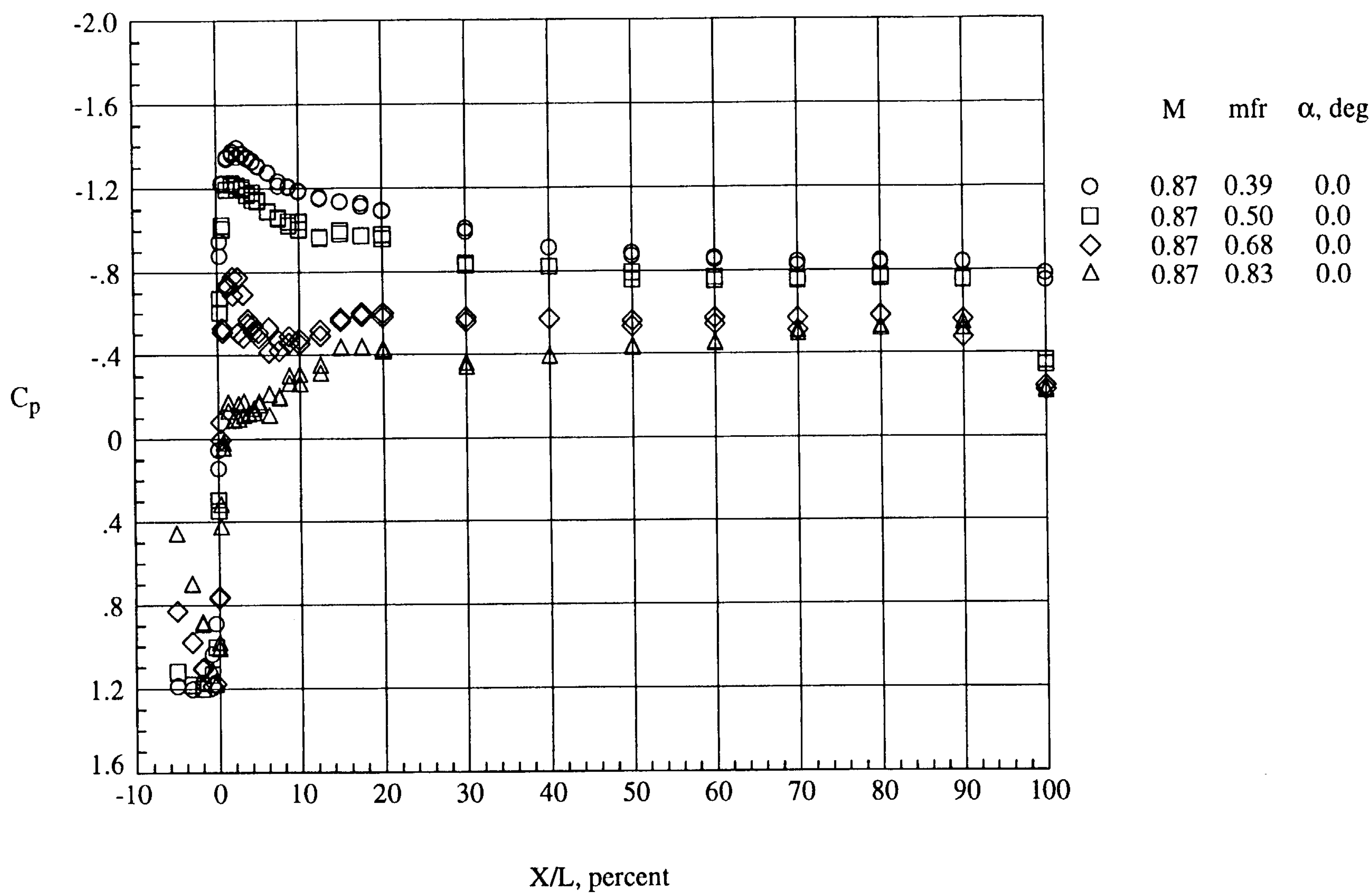
(c) M = 0.79.

Figure 8.- Continued.



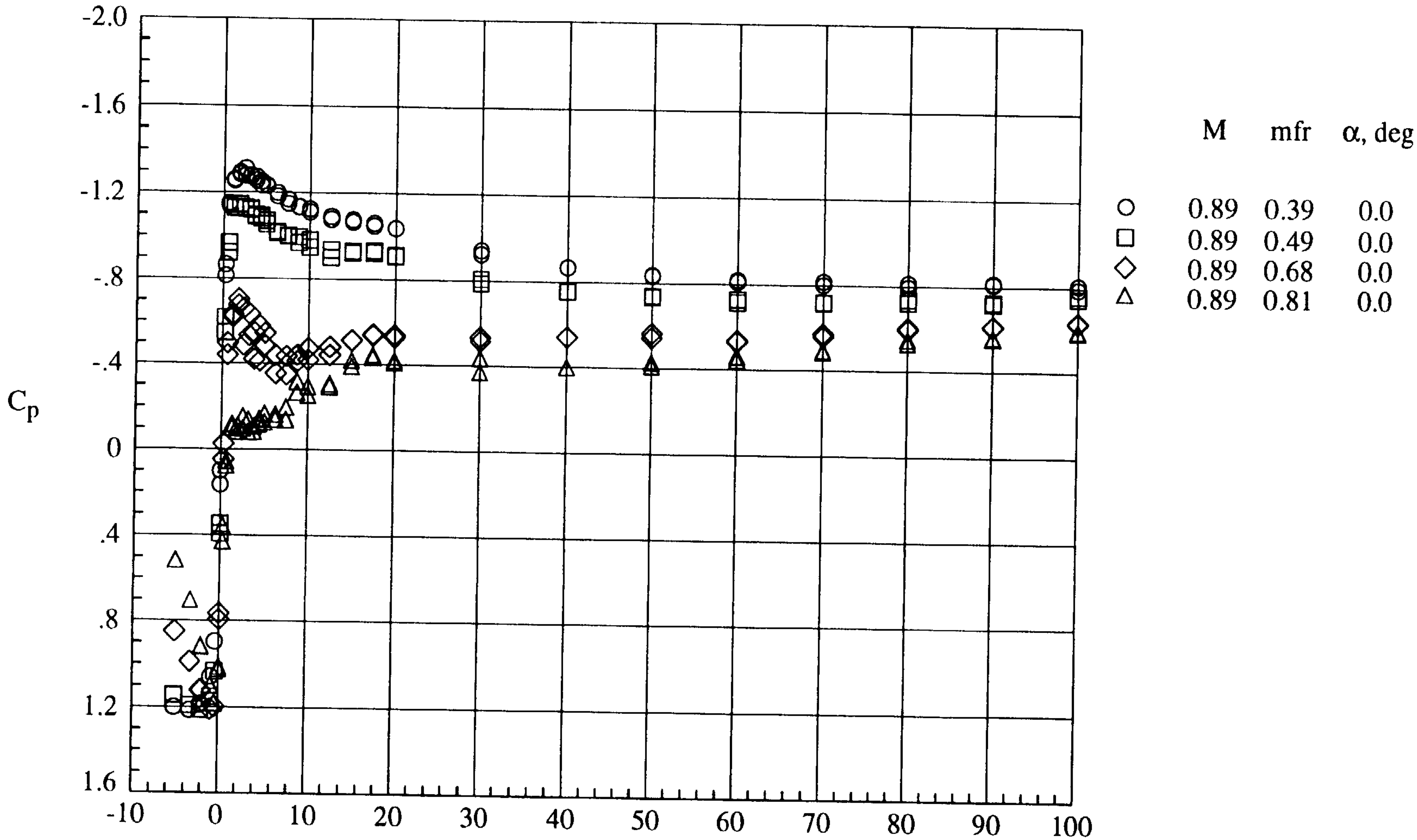
(d) M = 0.84.

Figure 8.- Continued.



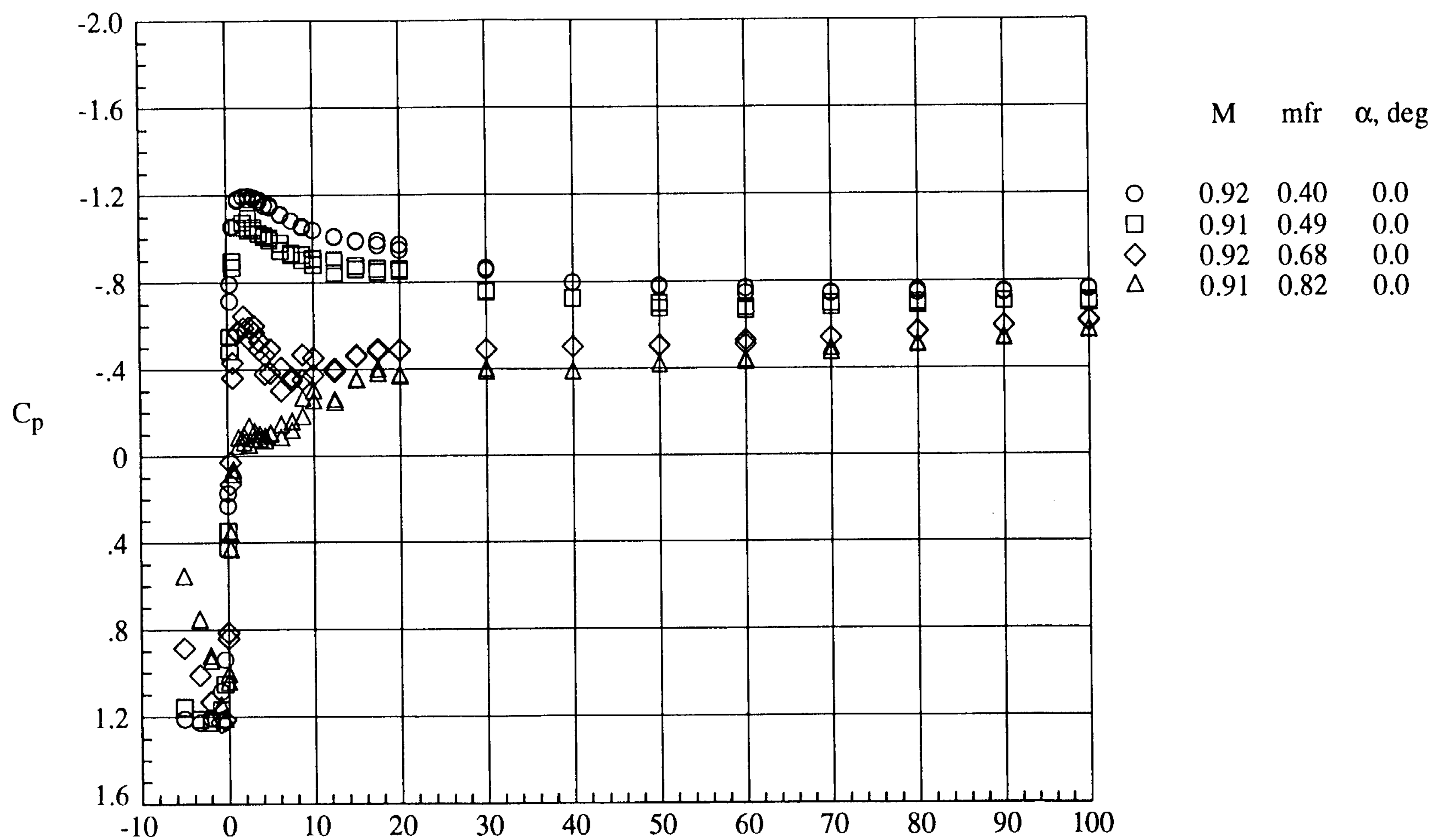
(e) M = 0.87.

Figure 8.- Continued.



(f) M = 0.89.

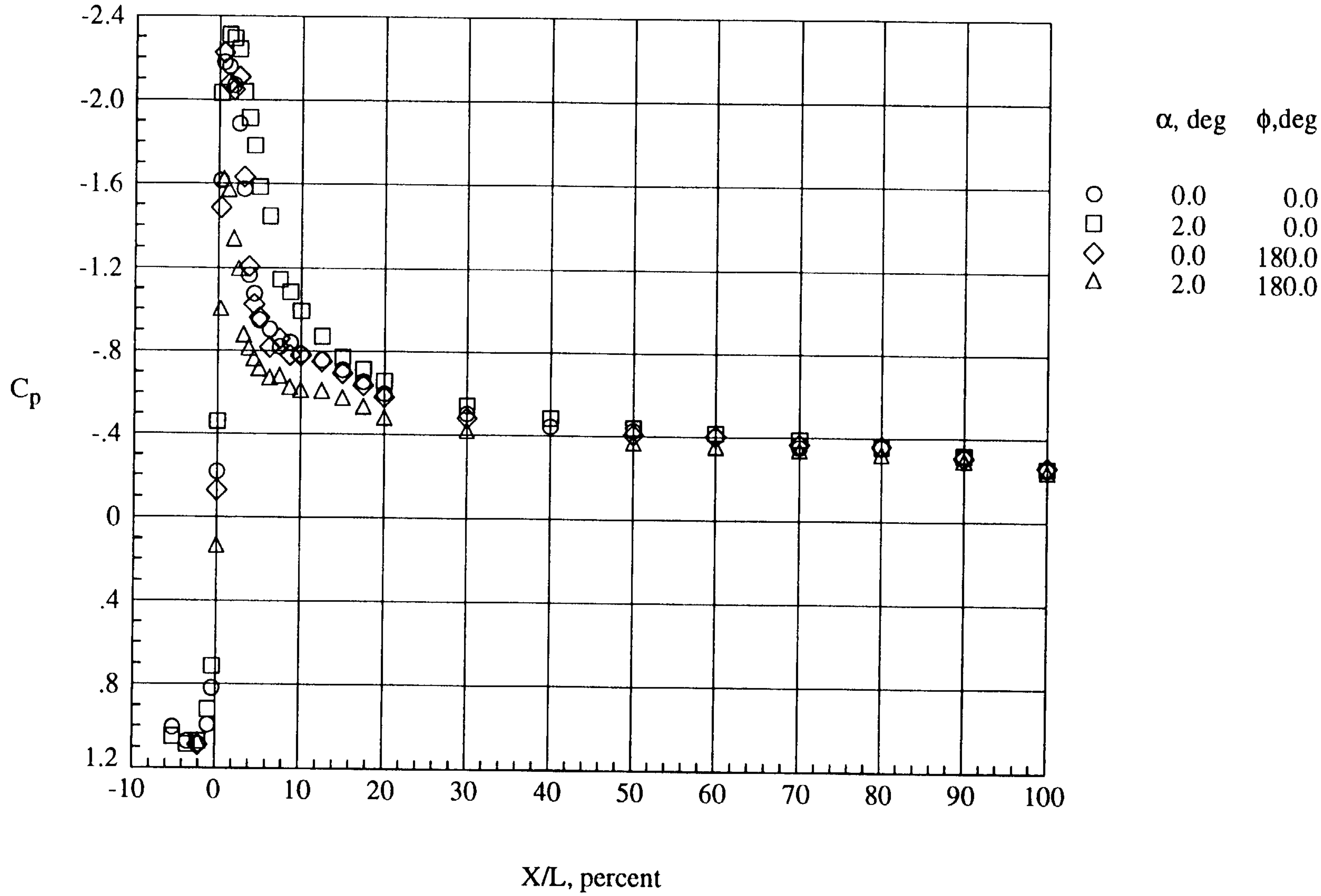
Figure 8.- Continued.



X/L, percent

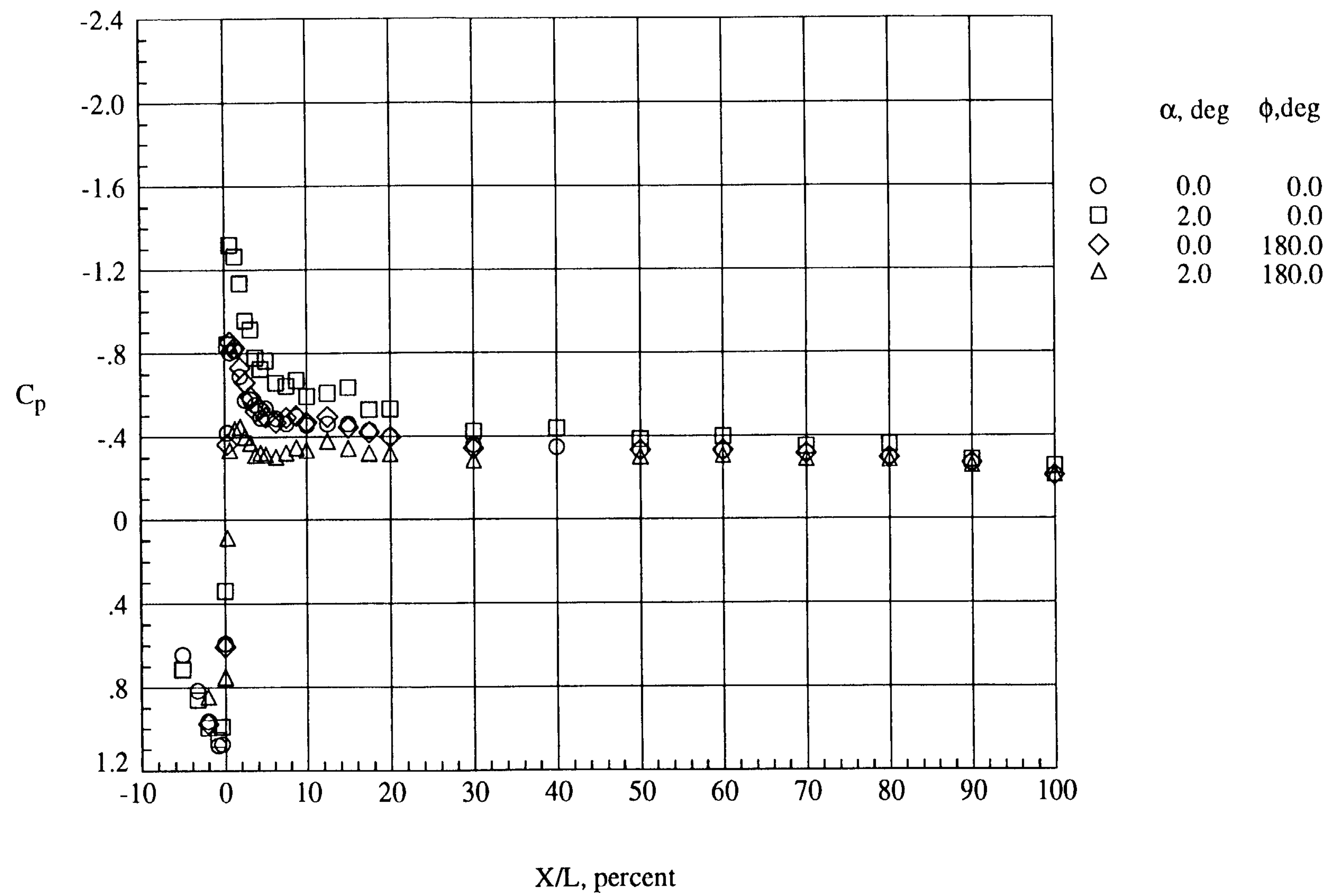
(g) M = 0.92.

Figure 8.- Concluded.



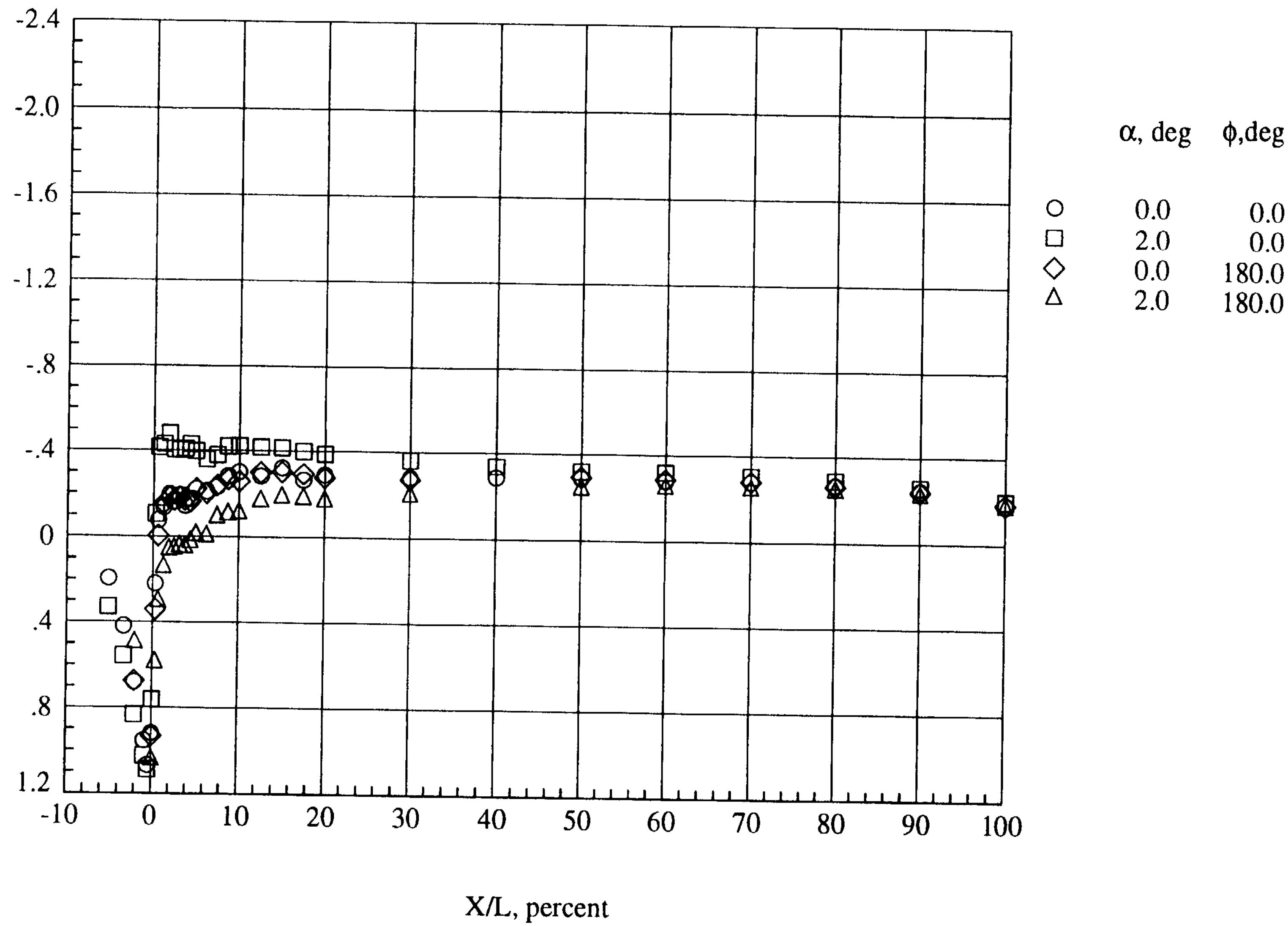
(a) M = 0.60 and mfr = 0.50.

Figure 9.- Pressure coefficient variation with X/L along the $\phi = 0°$, and 180° meridians for the NACA 1-85-43.9 inlet with a contraction ratio of 1.250 at two angles of attack.



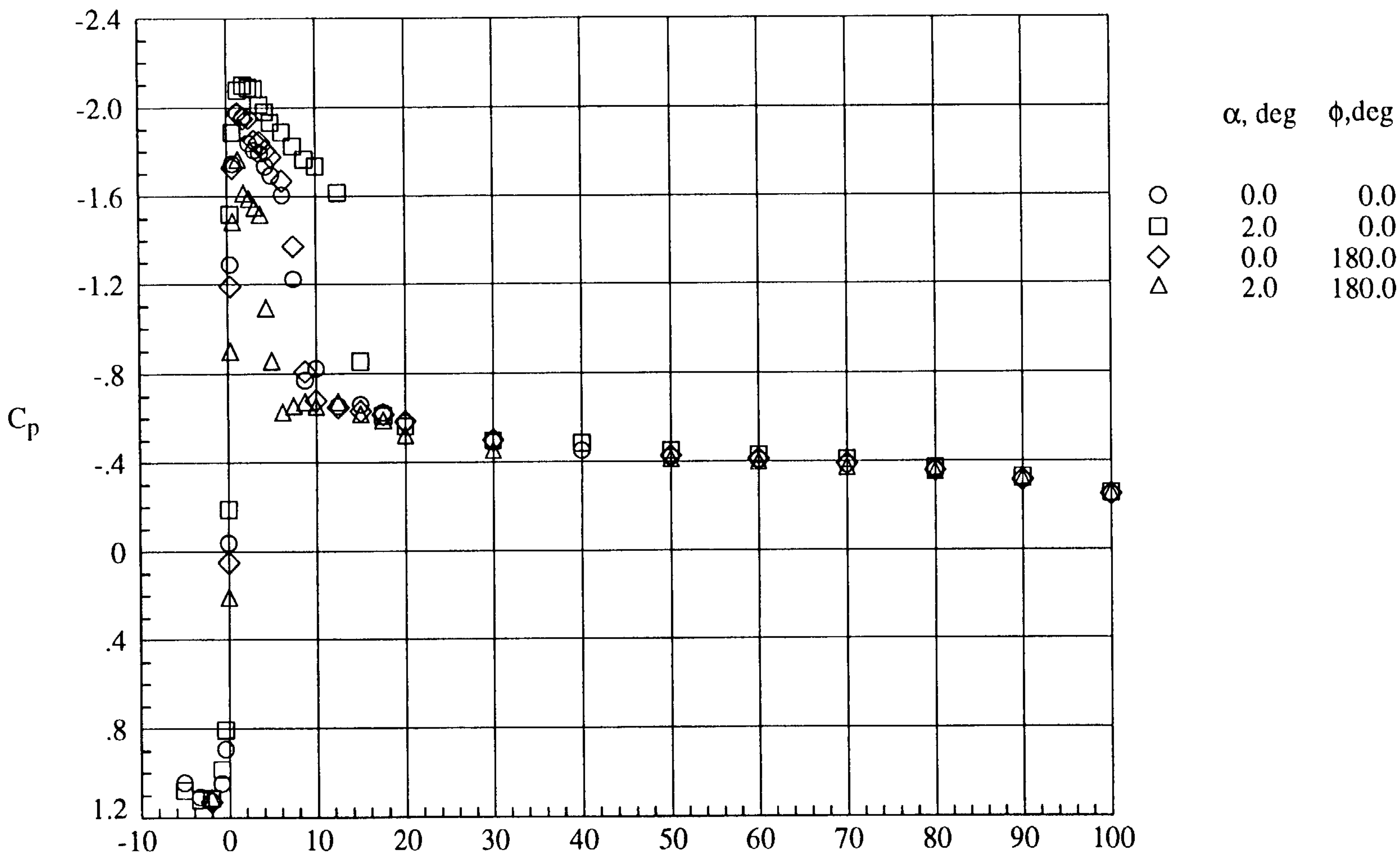
(b) M = 0.59 and mfr = 0.69.

Figure 9.- Continued.



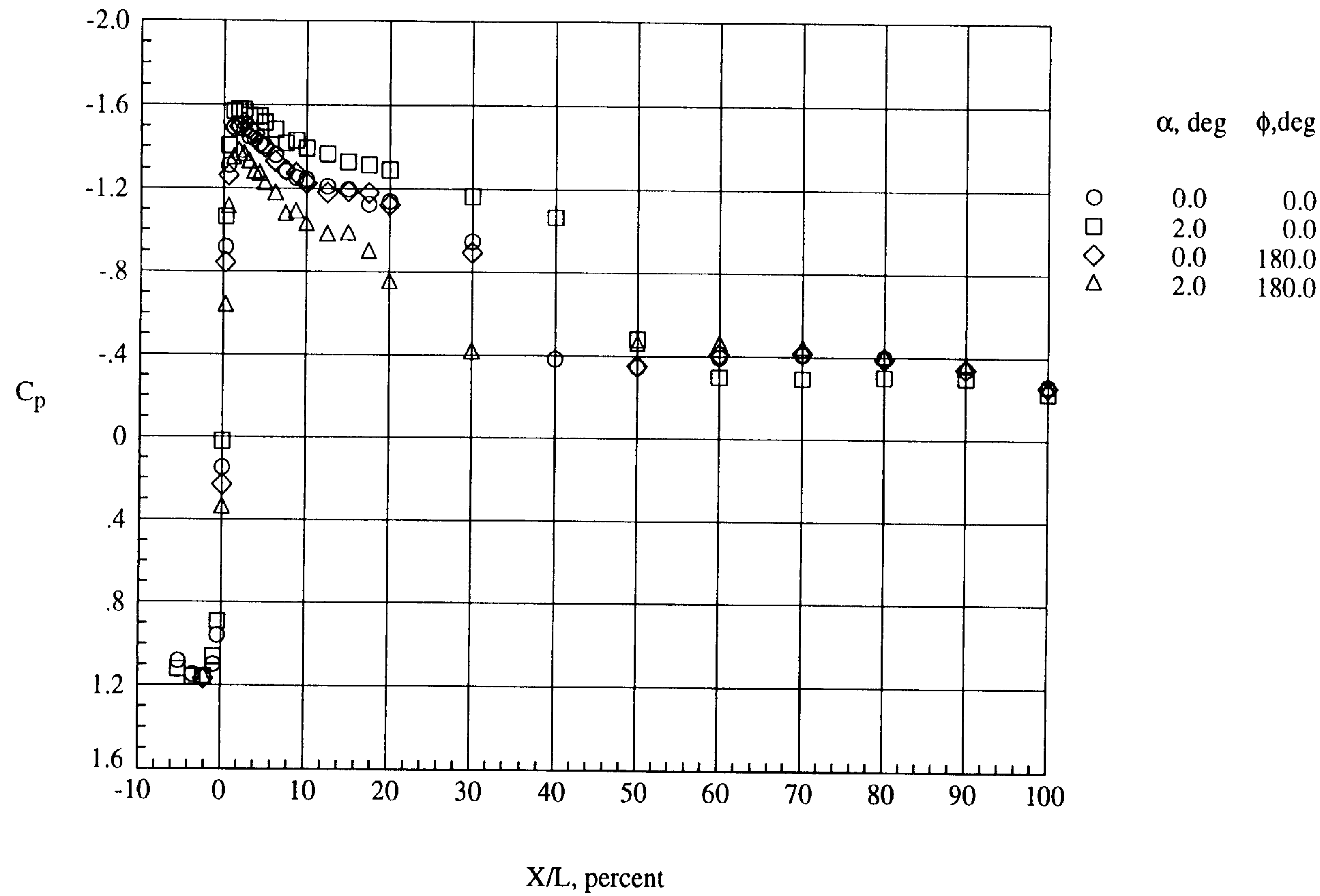
(c) M = 0.59 and mfr = 0.82.

Figure 9.- Continued.



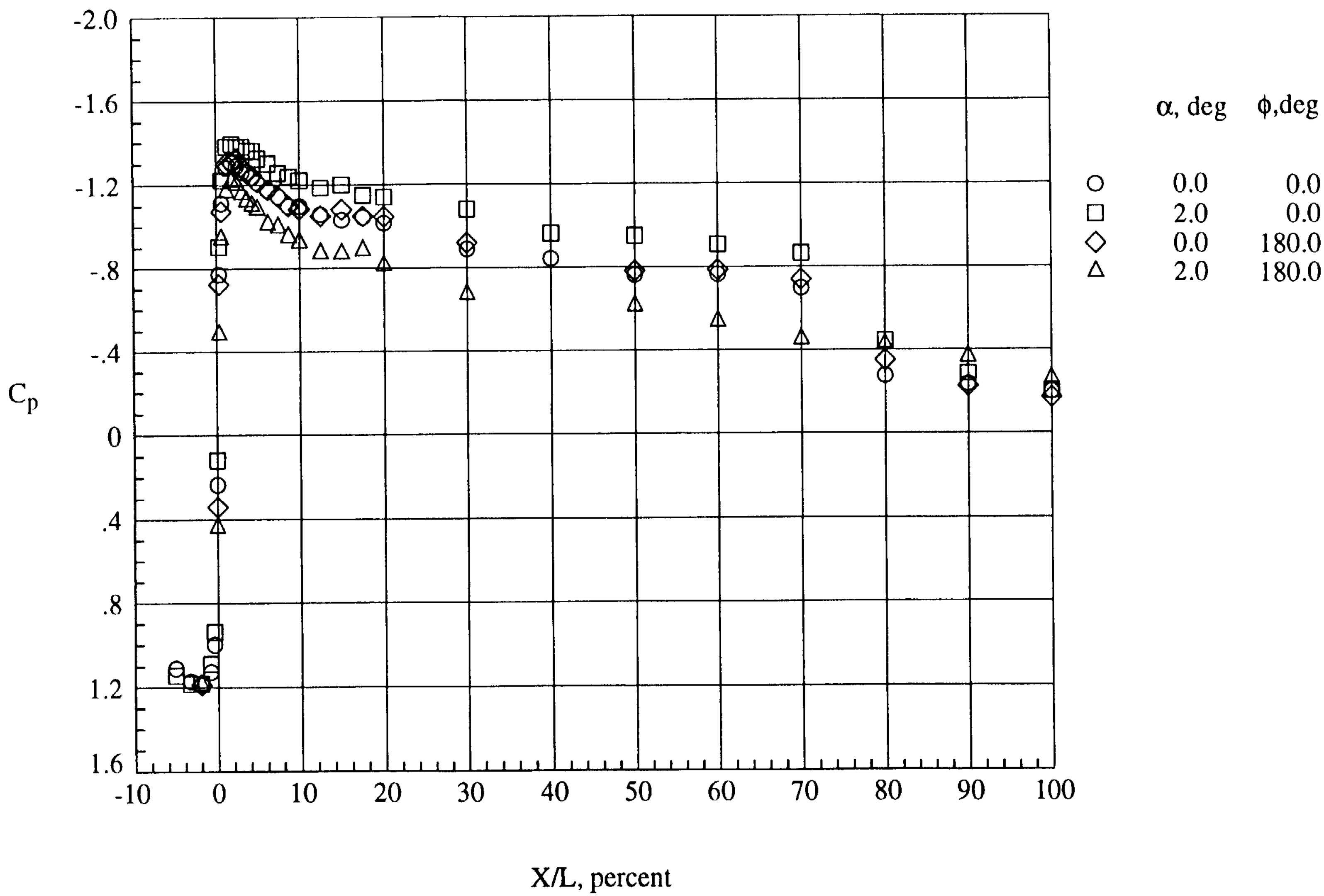
(d) M = 0.69 and mfr = 0.49.

Figure 9.- Continued.



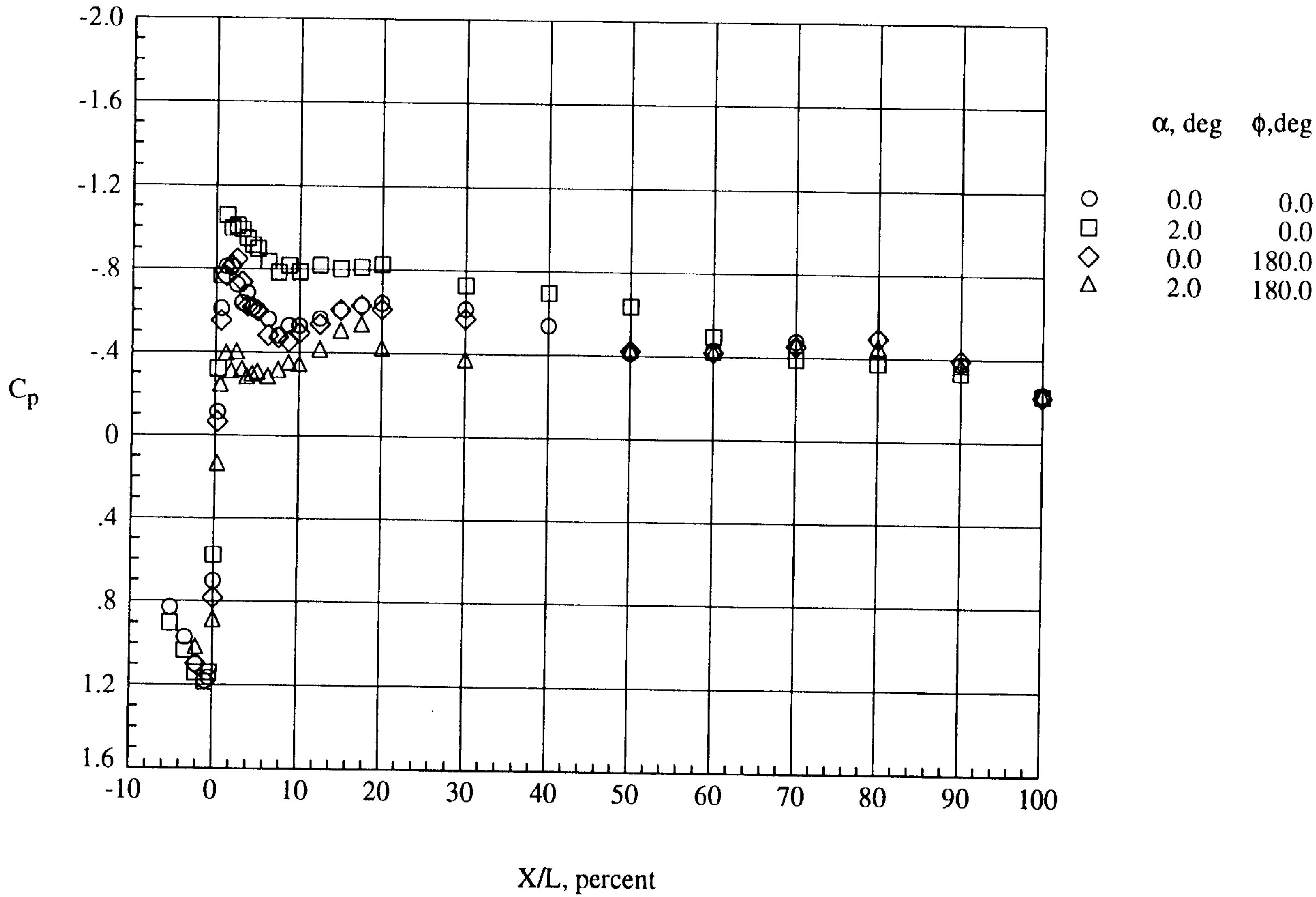
(e) M = 0.79 and mfr = 0.49.

Figure 9.- Continued.



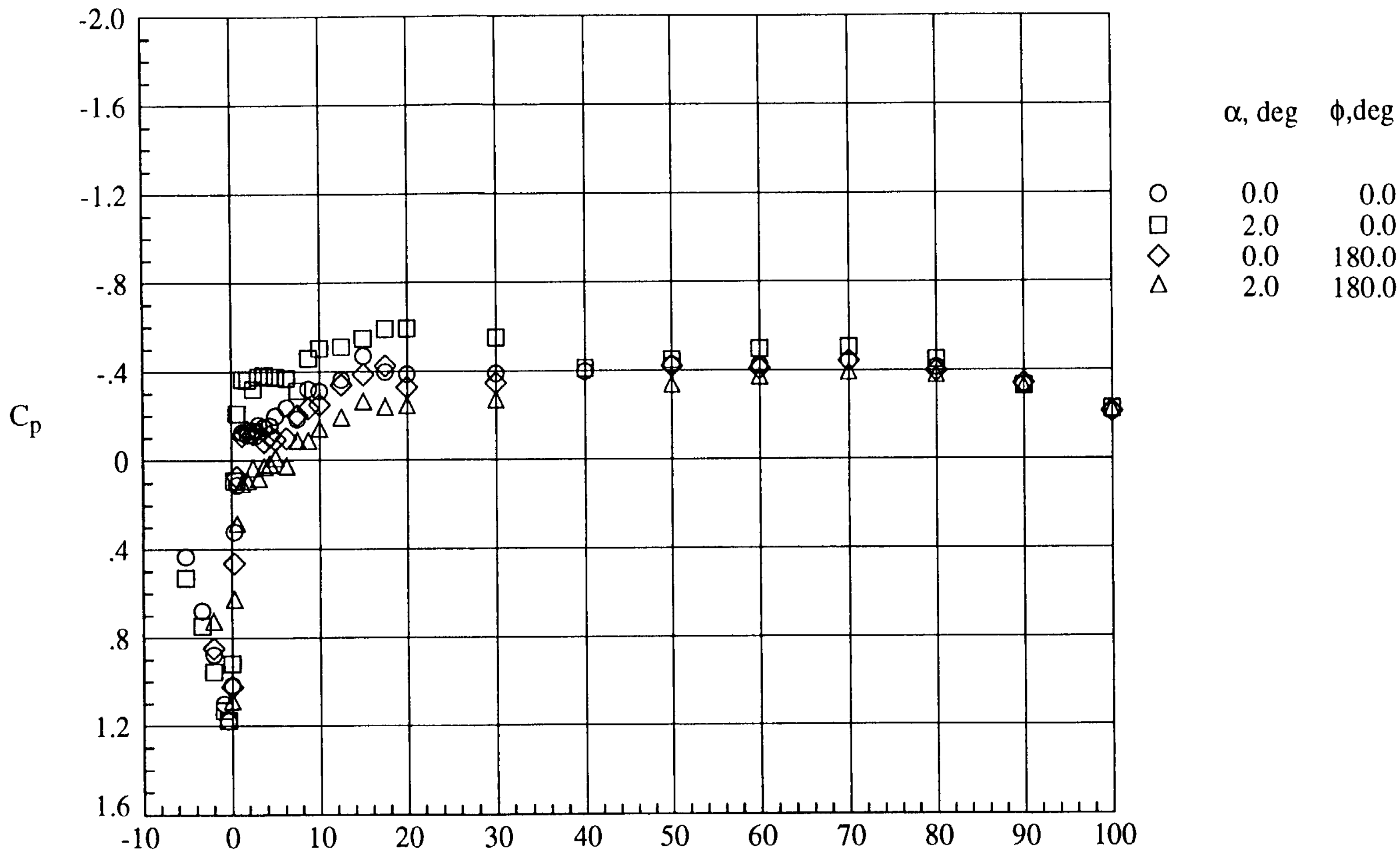
(f) M = 0.84 and mfr = 0.49.

Figure 9.- Continued.



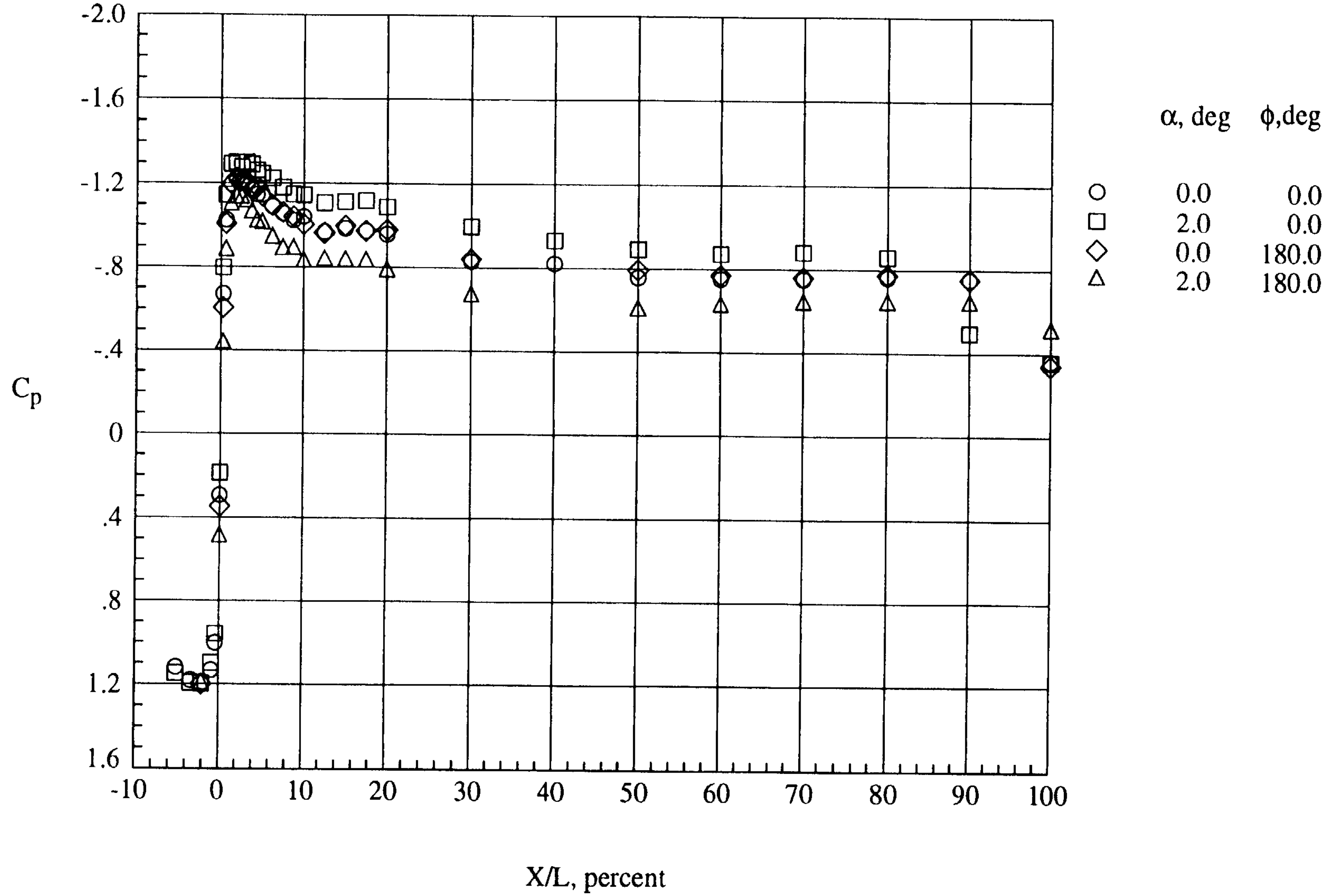
(g) M = 0.84 and mfr = 0.67.

Figure 9.- Continued.



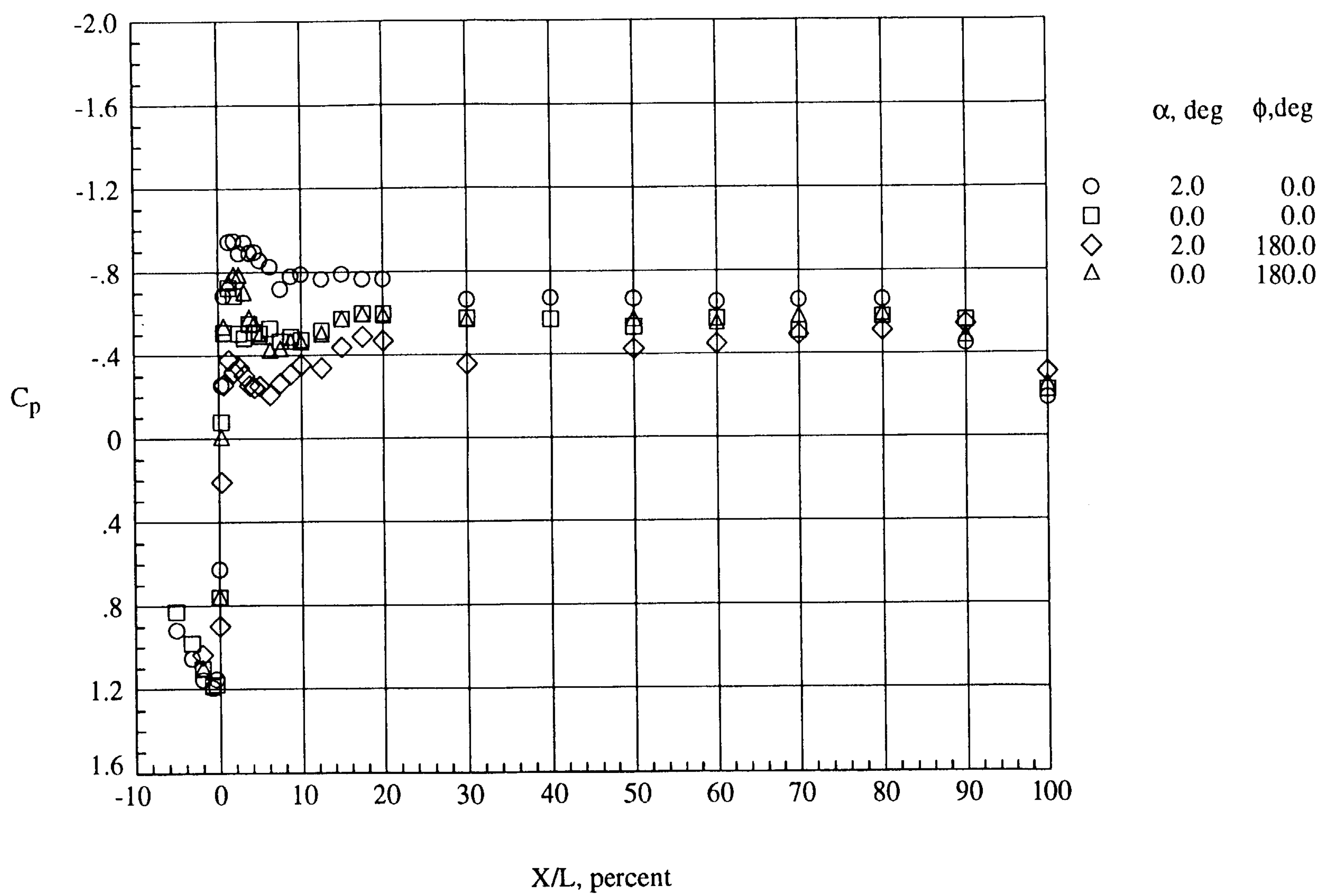
(h) M = 0.84 and mfr = 0.83.

Figure 9.- Continued.



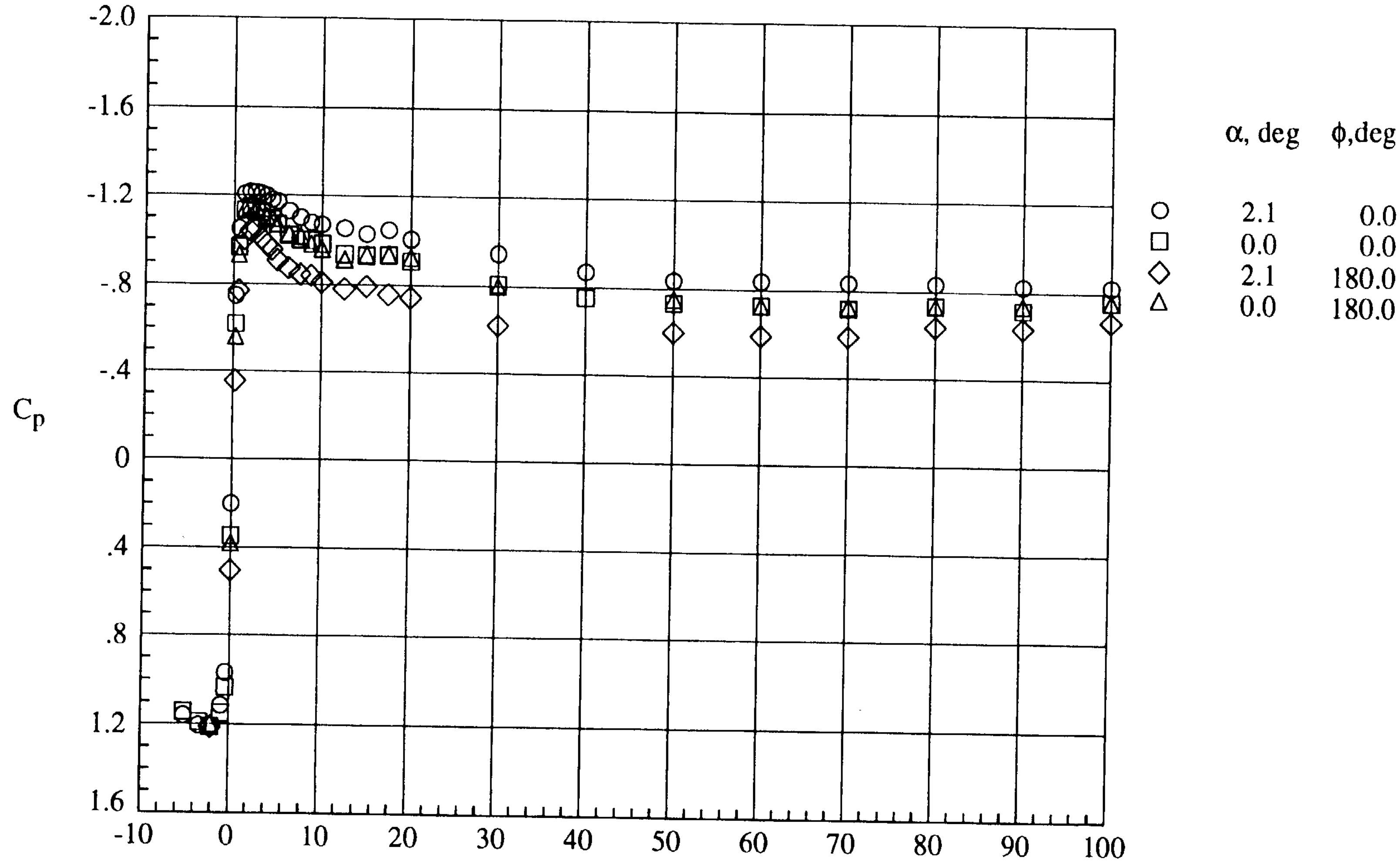
(i) M = 0.87 and mfr = 0.49.

Figure 9.- Continued.



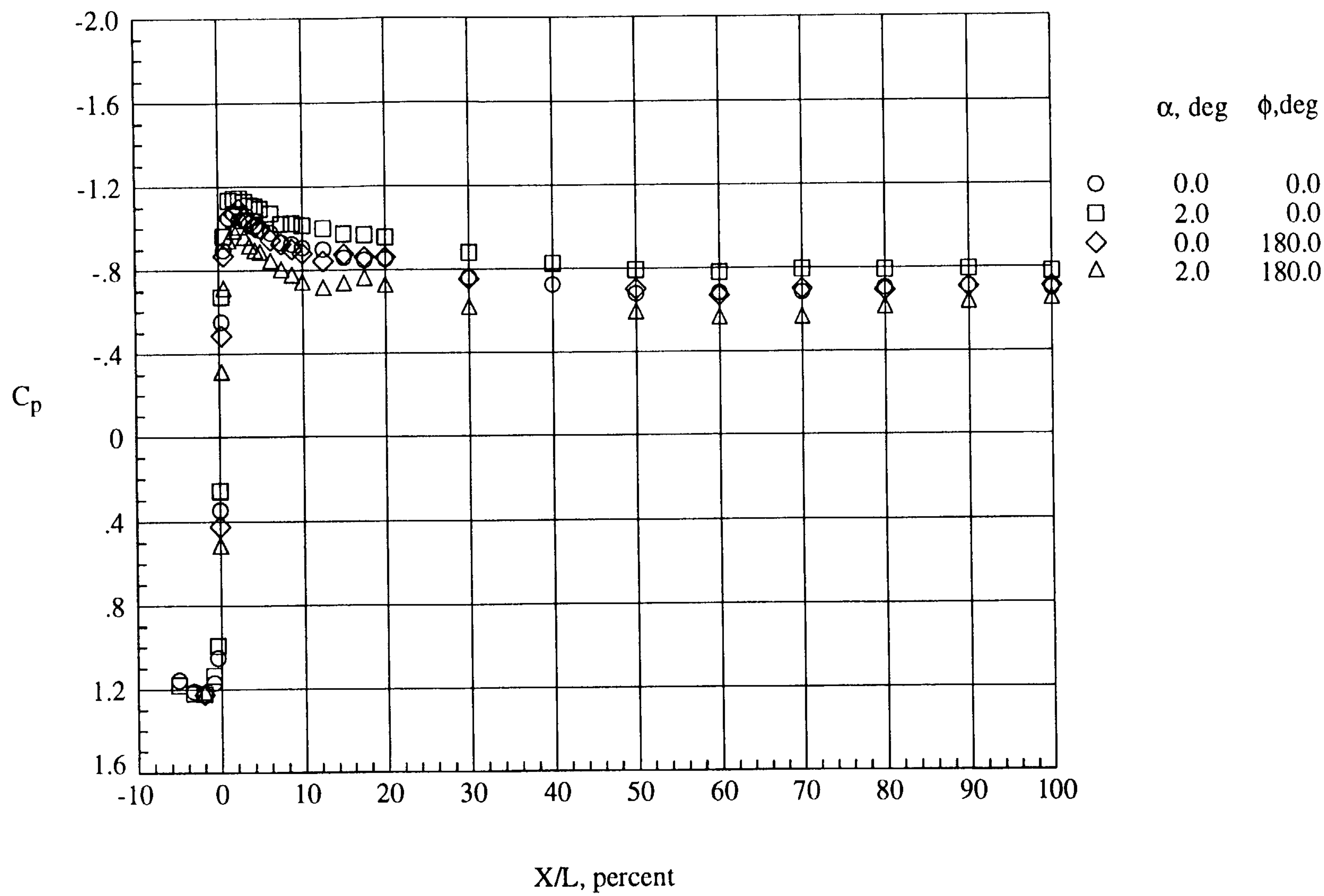
(j) M = 0.87 and mfr = 0.67.

Figure 9.- Continued.



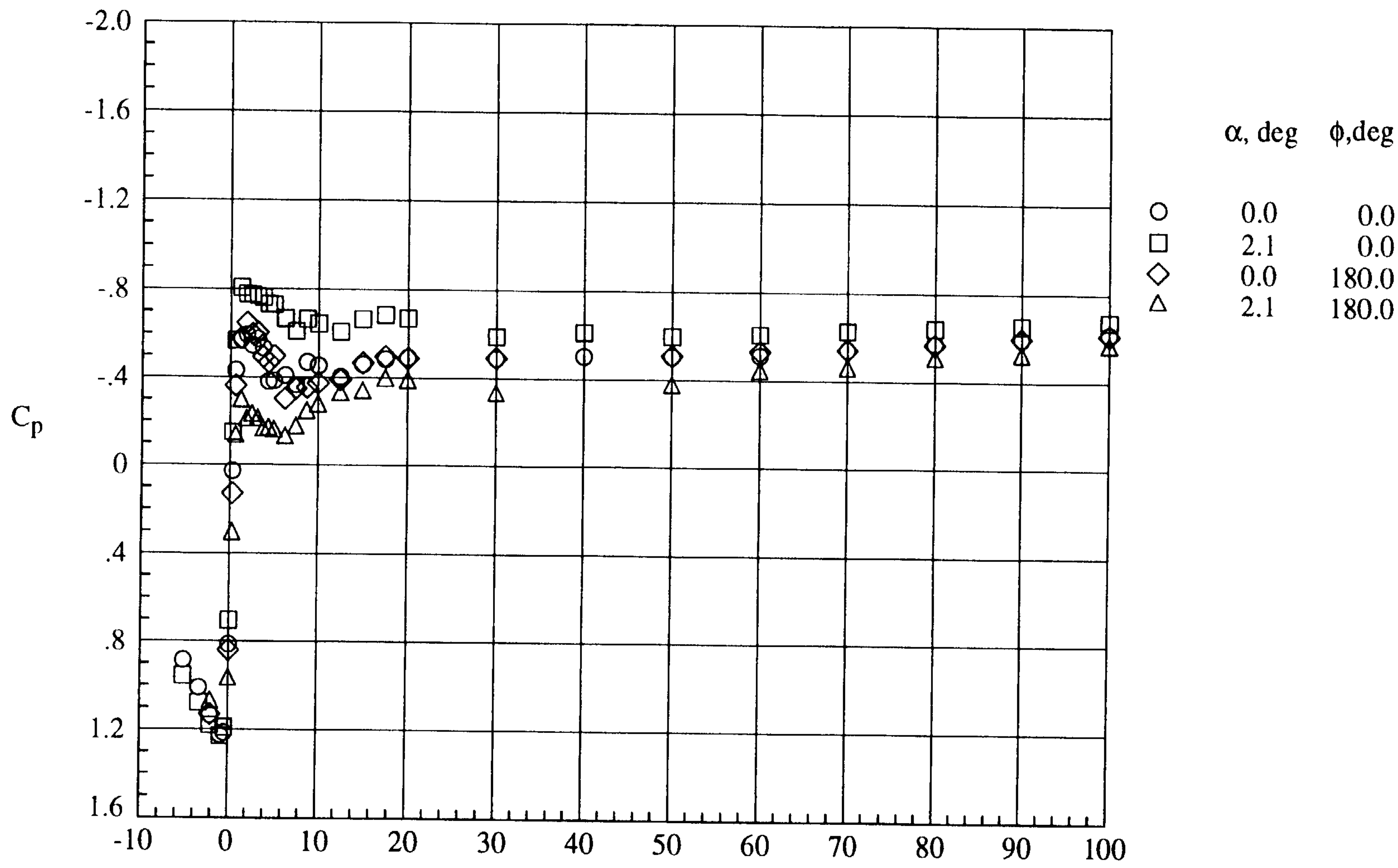
(k) M = 0.89 and mfr = 0.49.

Figure 9.- Continued.



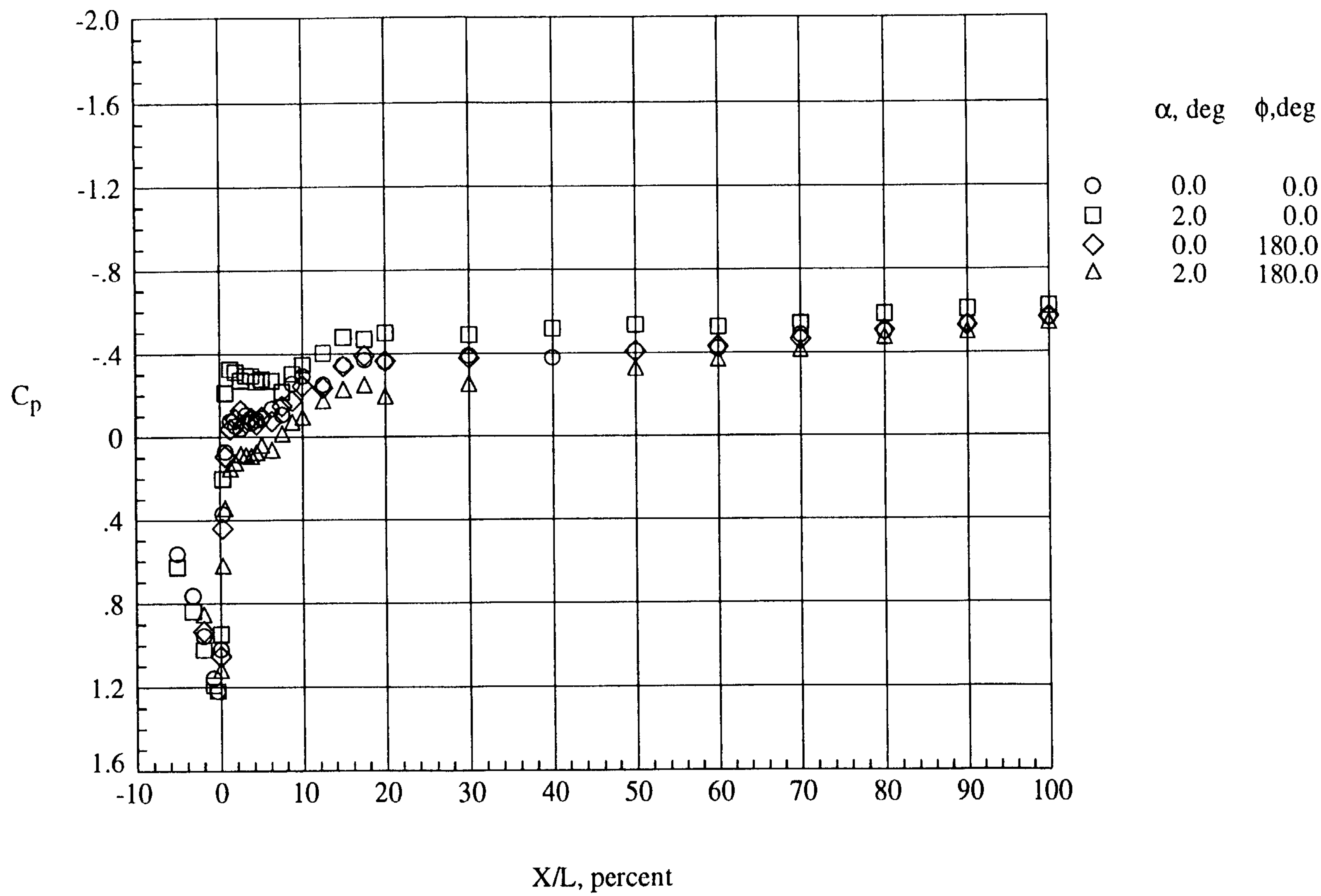
(l) M = 0.92 and mfr = 0.49.

Figure 9.- Continued.



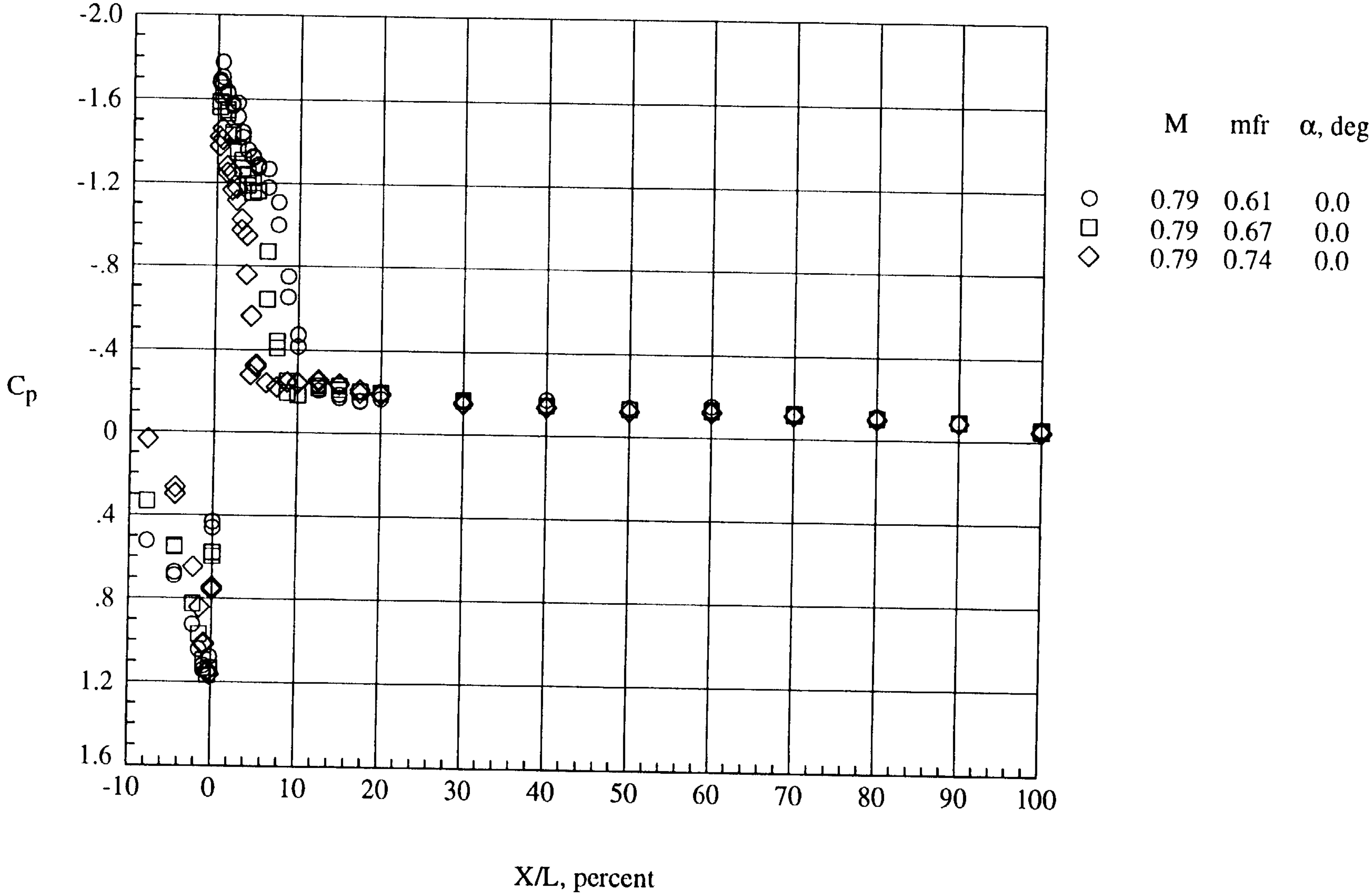
(m) M = 0.92 and mfr = 0.68.

Figure 9.- Continued.



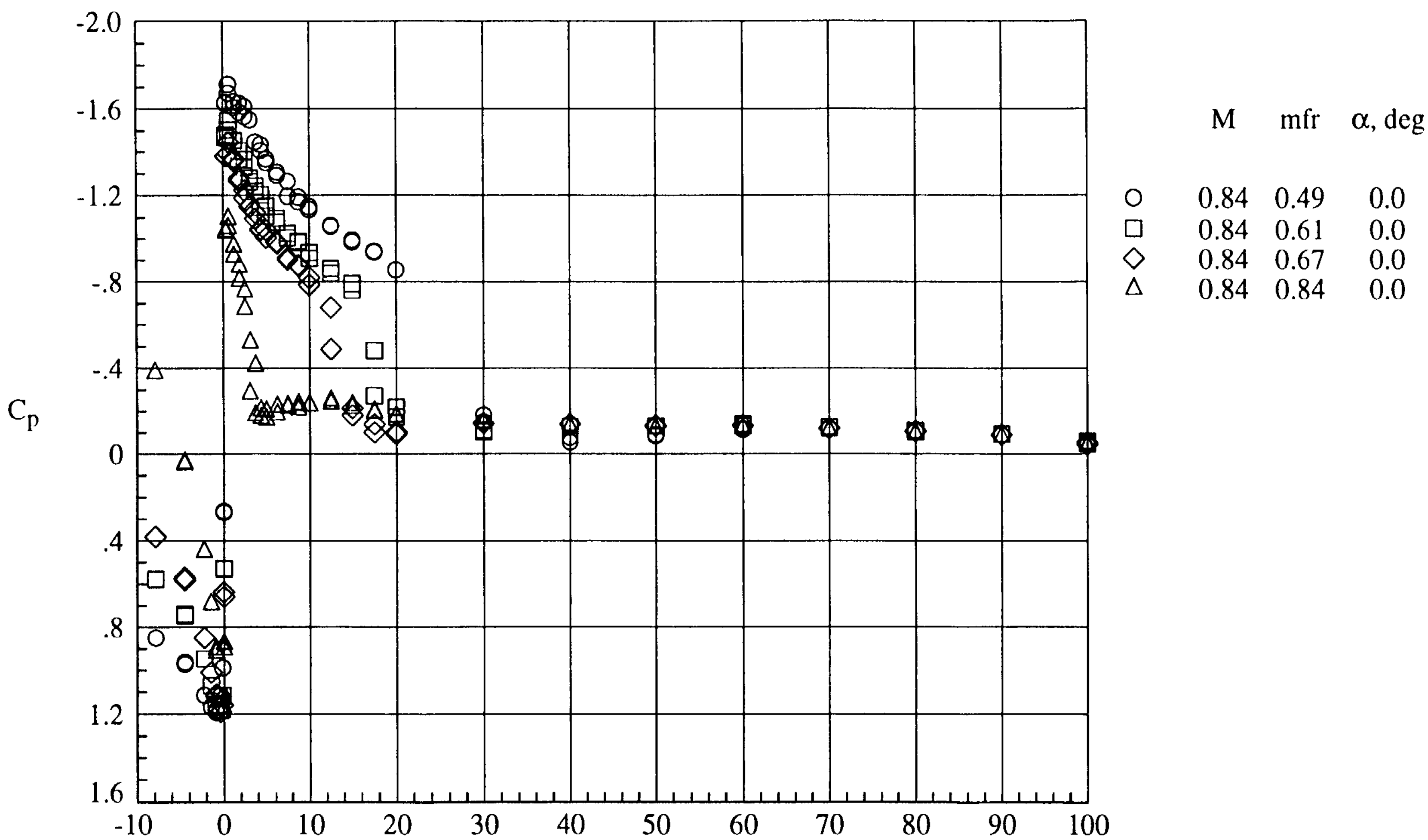
(n) M = 0.92 and mfr = 0.82.

Figure 9.- Concluded.



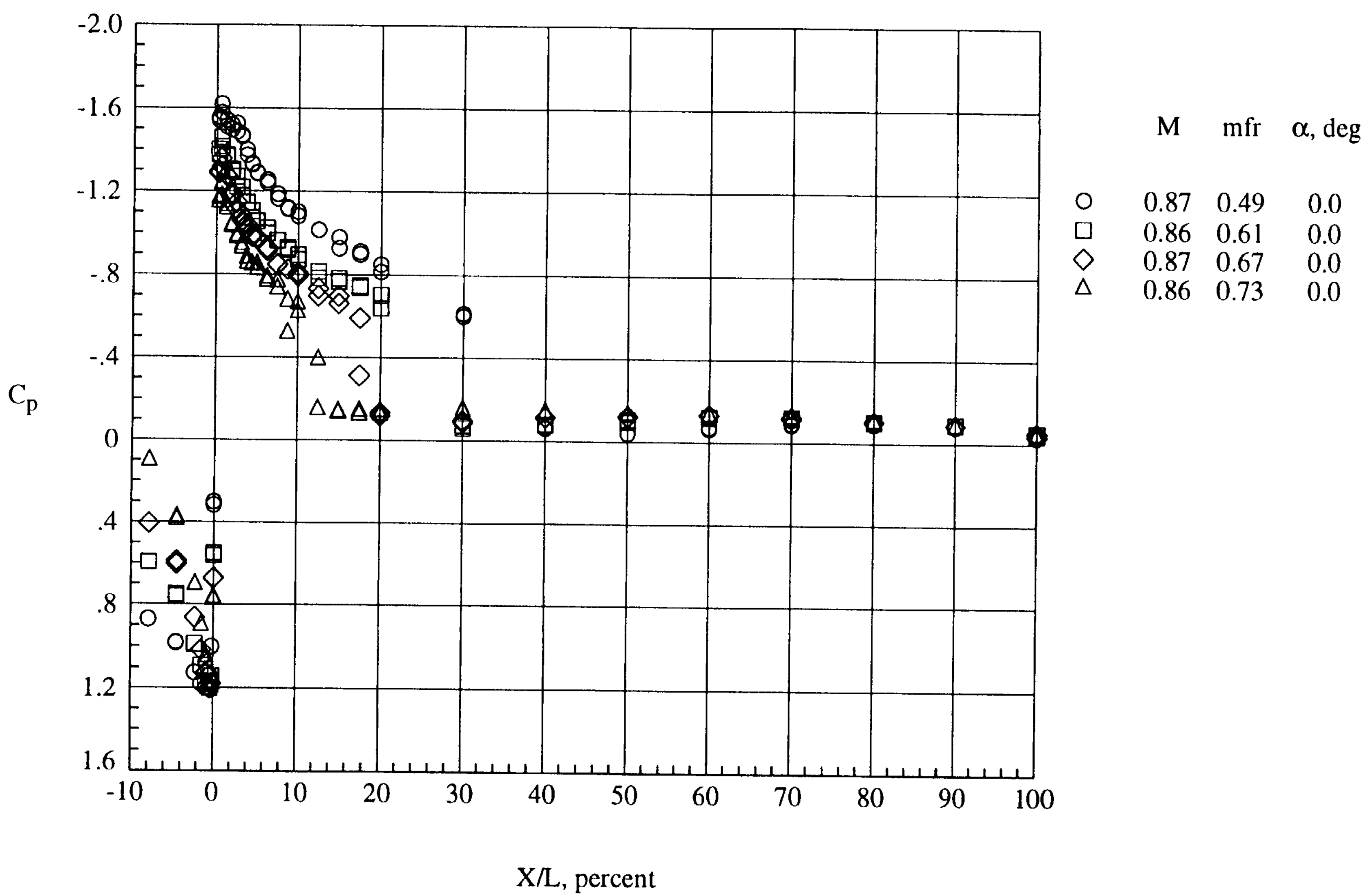
(a) M = 0.79.

Figure 10.- Pressure coefficient variation with X/L for the NACA 1-85-100 inlet with a contraction ratio of 1.250 for several mass-flow ratios at $\alpha = 0°$. Data combined from $\phi = 0°$ and 180° meridians.



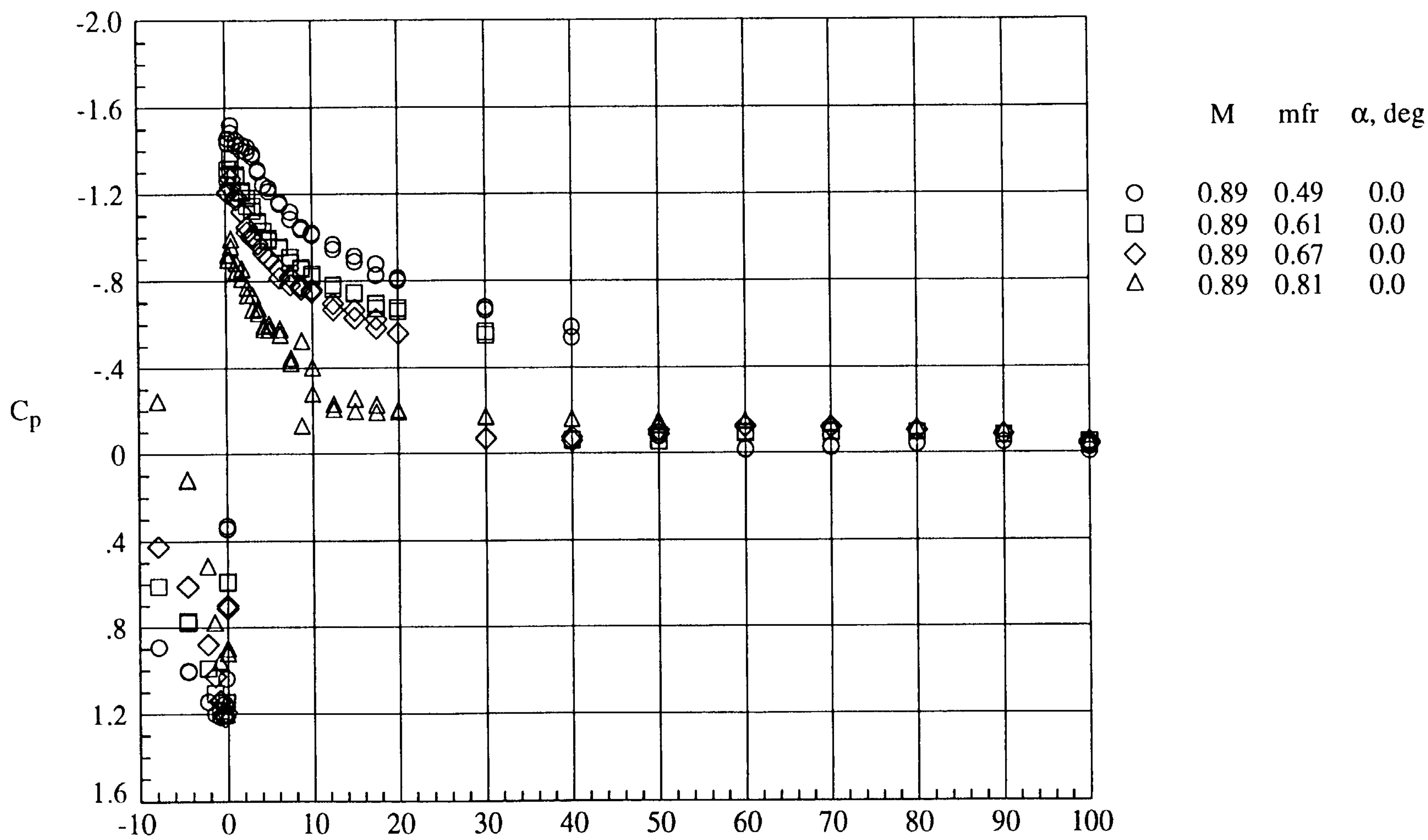
(b) M = 0.84.

Figure 10.- Continued.



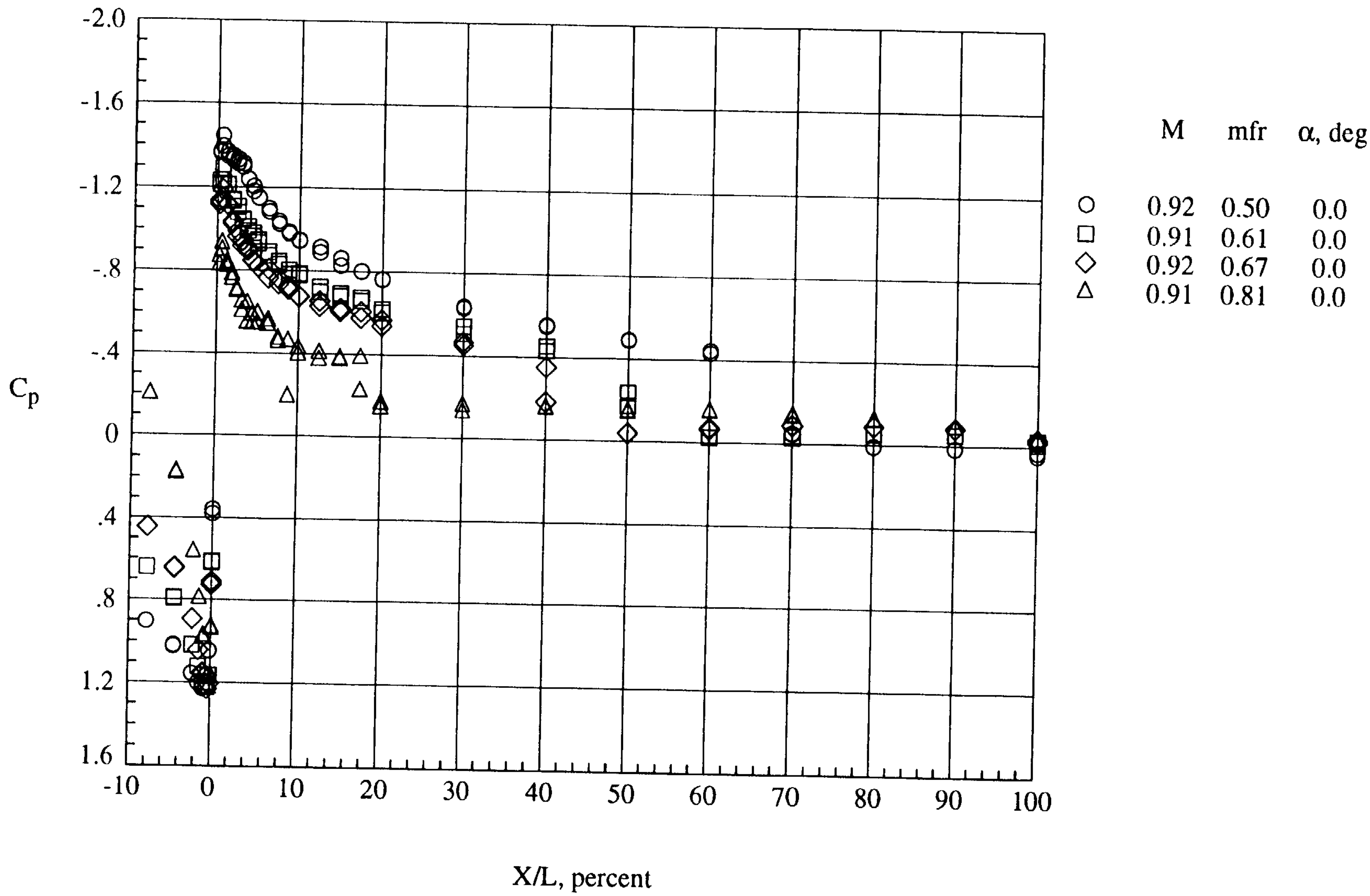
(c) M = 0.87.

Figure 10.- Continued.



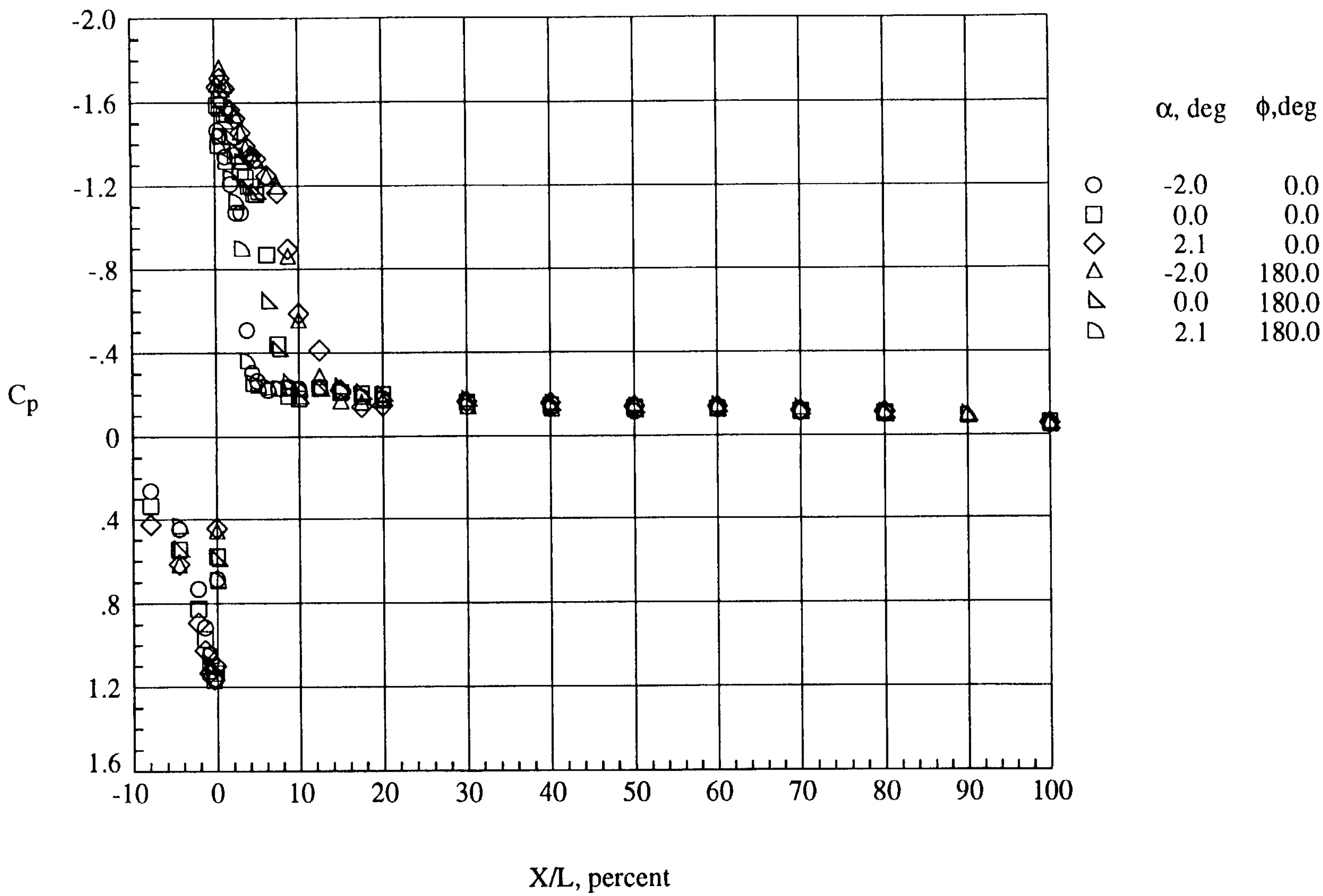
(d) M = 0.89.

Figure 10.- Continued.



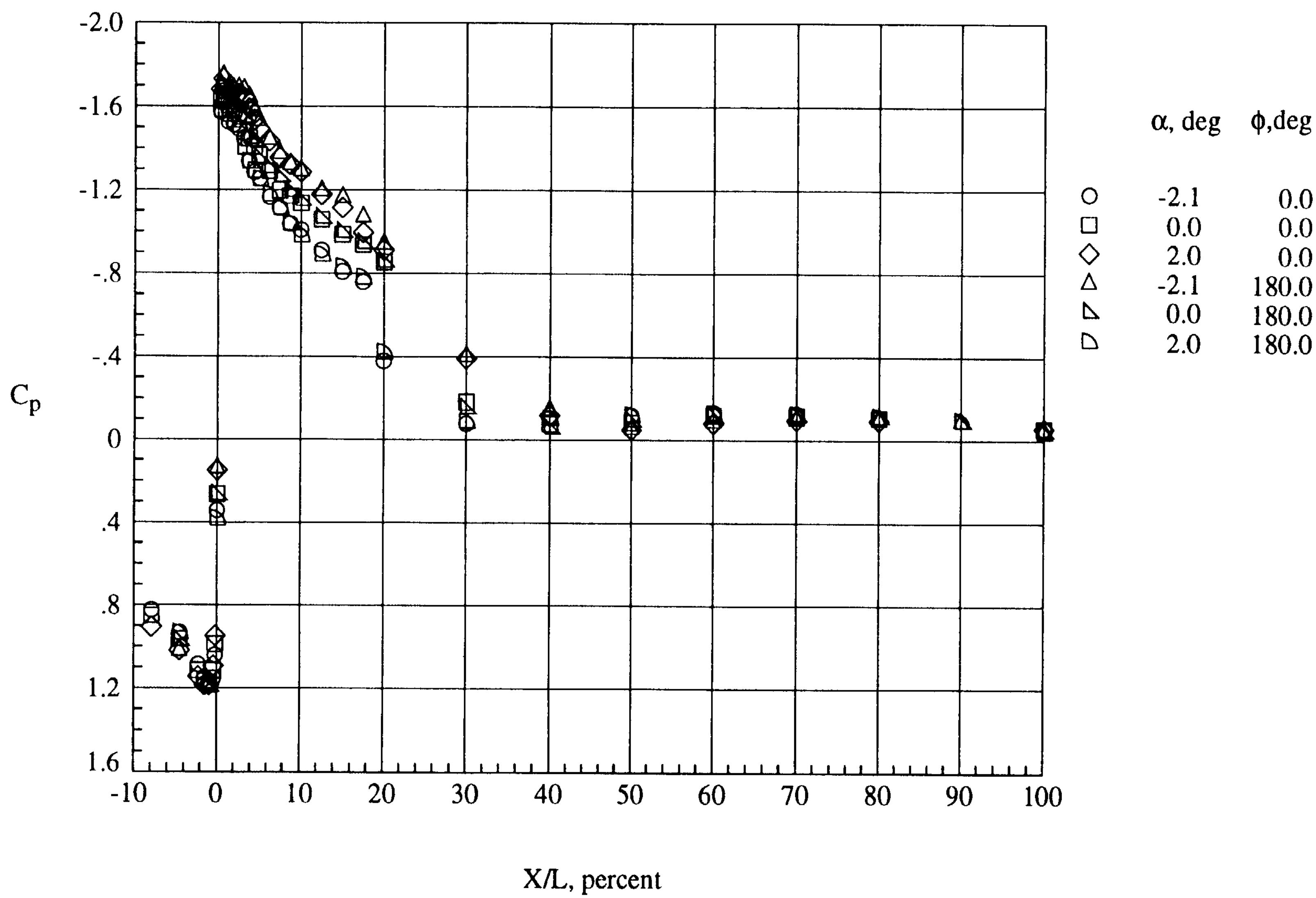
(e) M = 0.92.

Figure 10.- Concluded.



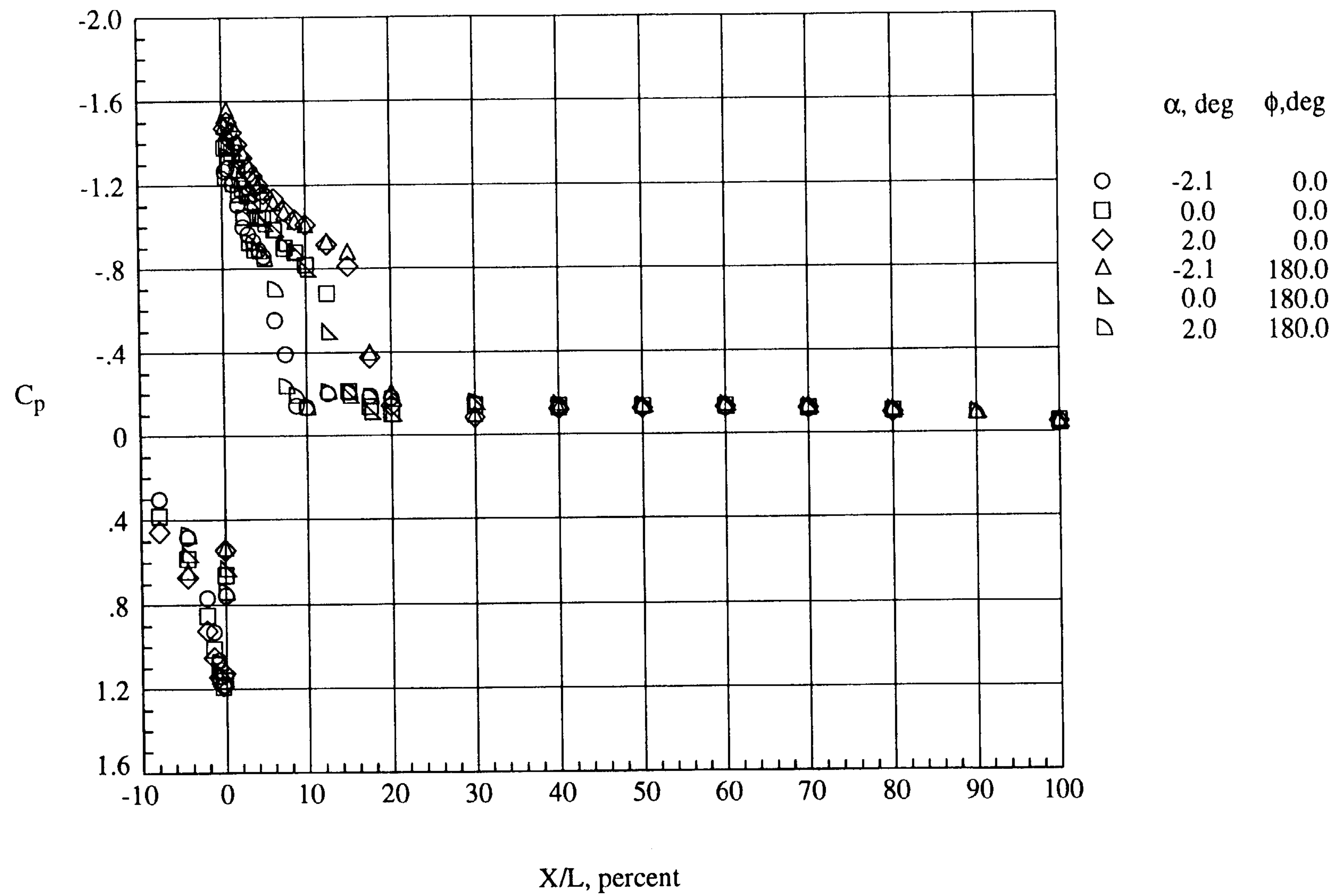
(a) M = 0.79 and mfr = 0.67.

Figure 11.- Pressure coefficient variation with X/L along the $\phi = 0°$, and 180° meridians for the NACA 1-85-100 inlet with a contraction ratio of 1.250 at several angles of attack.



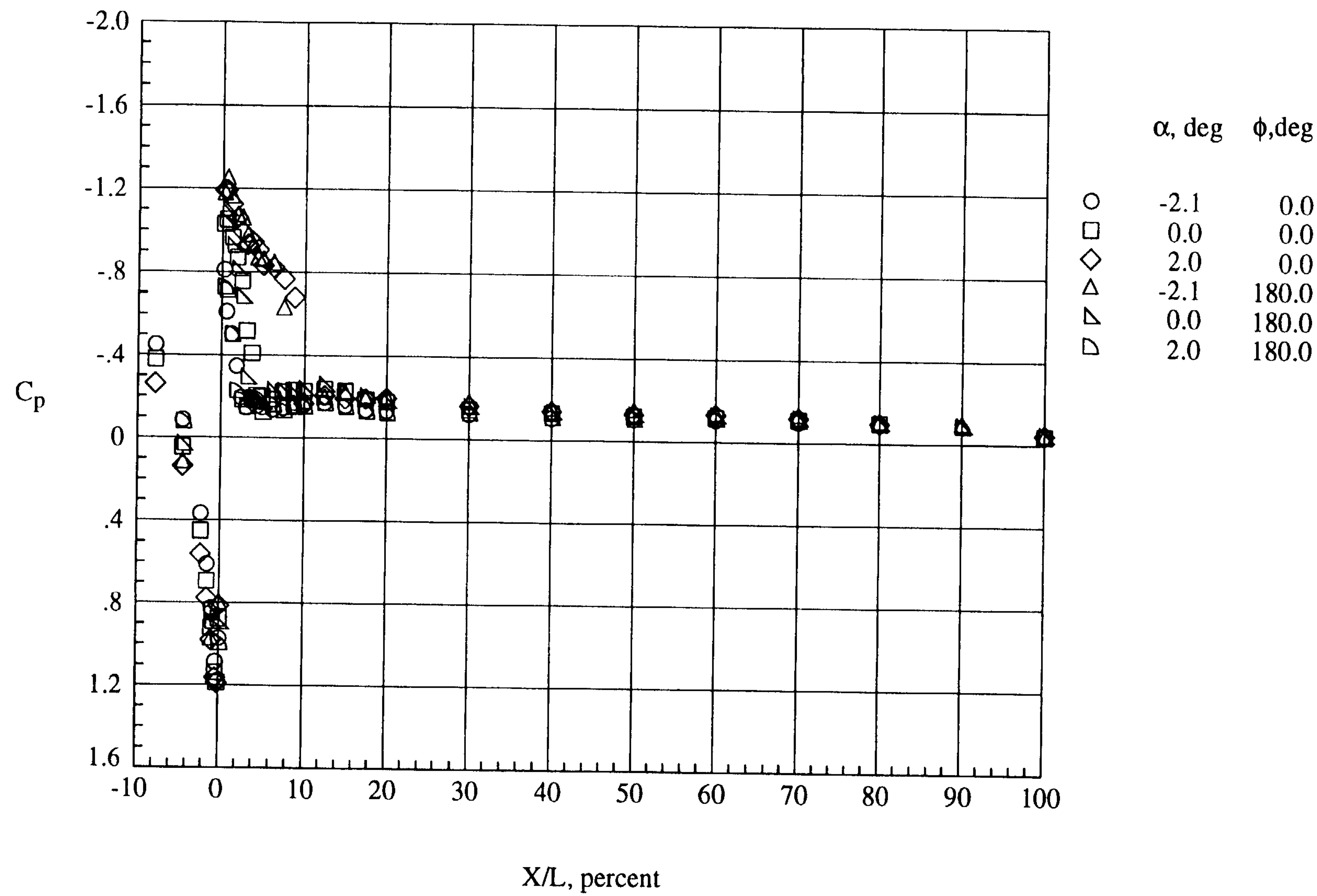
(b) M = 0.84 and mfr = 0.49.

Figure 11.- Continued.



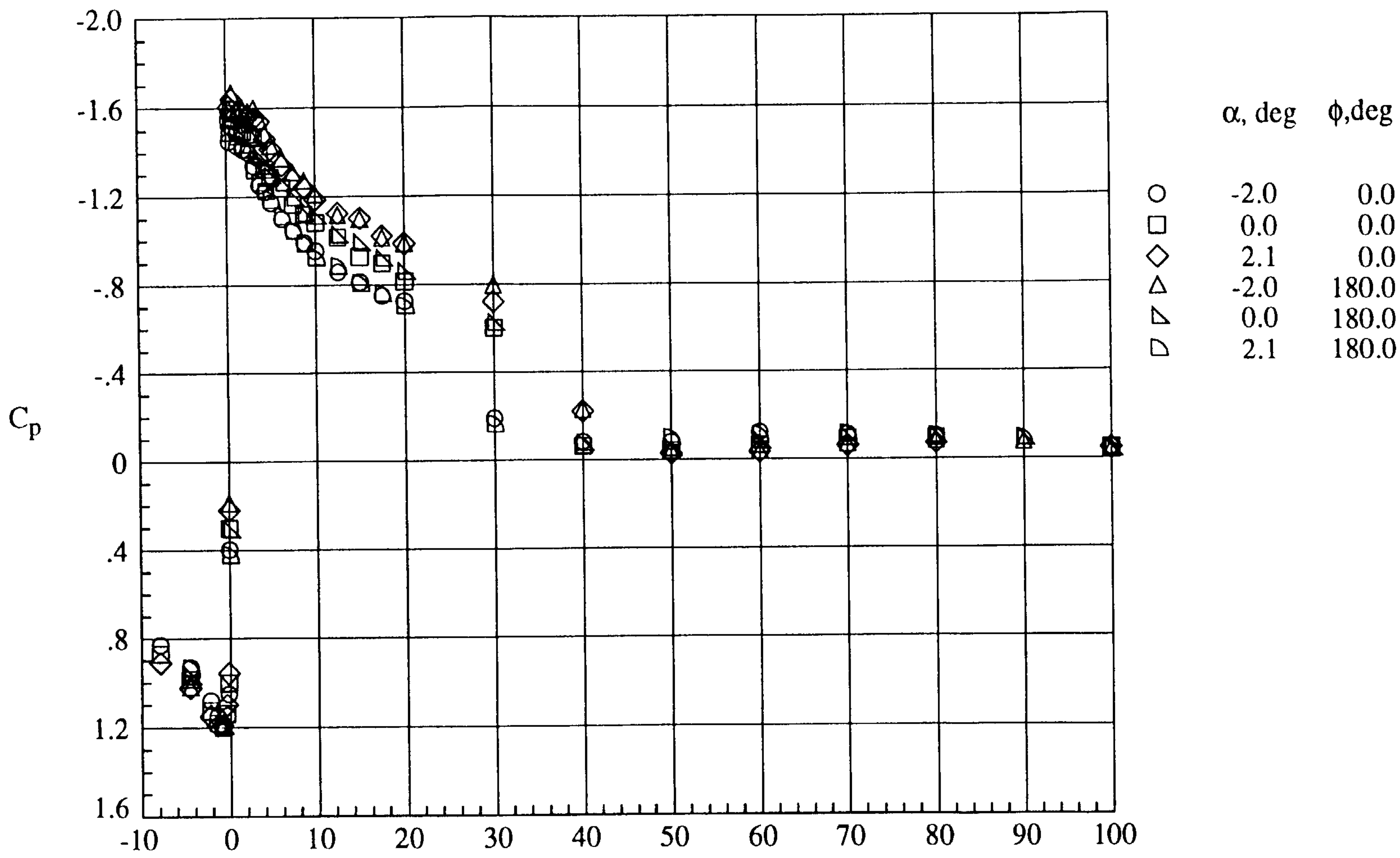
(c) M = 0.84 and mfr = 0.67.

Figure 11.- Continued.



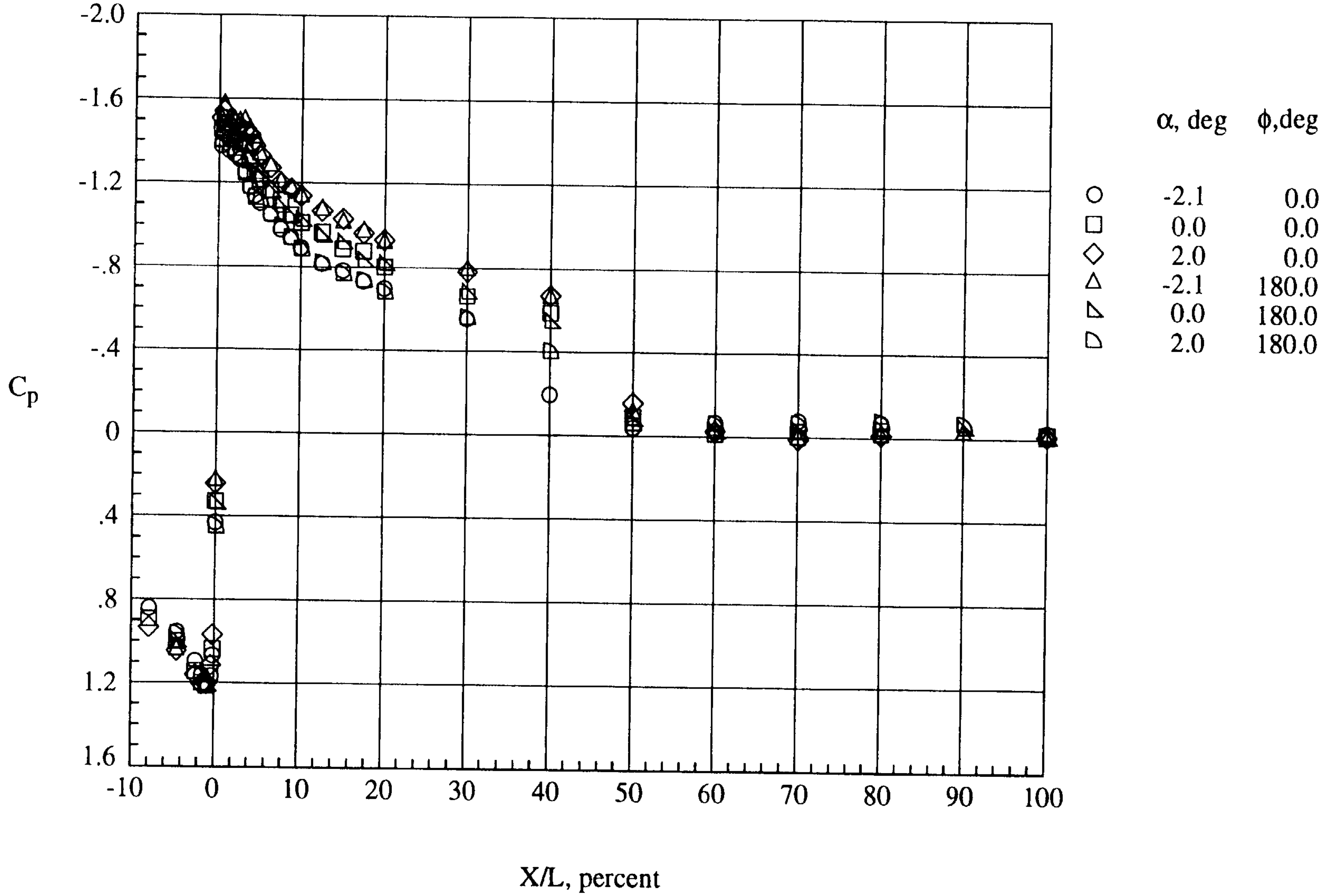
(d) M = 0.84 and mfr = 0.83.

Figure 11.- Continued.



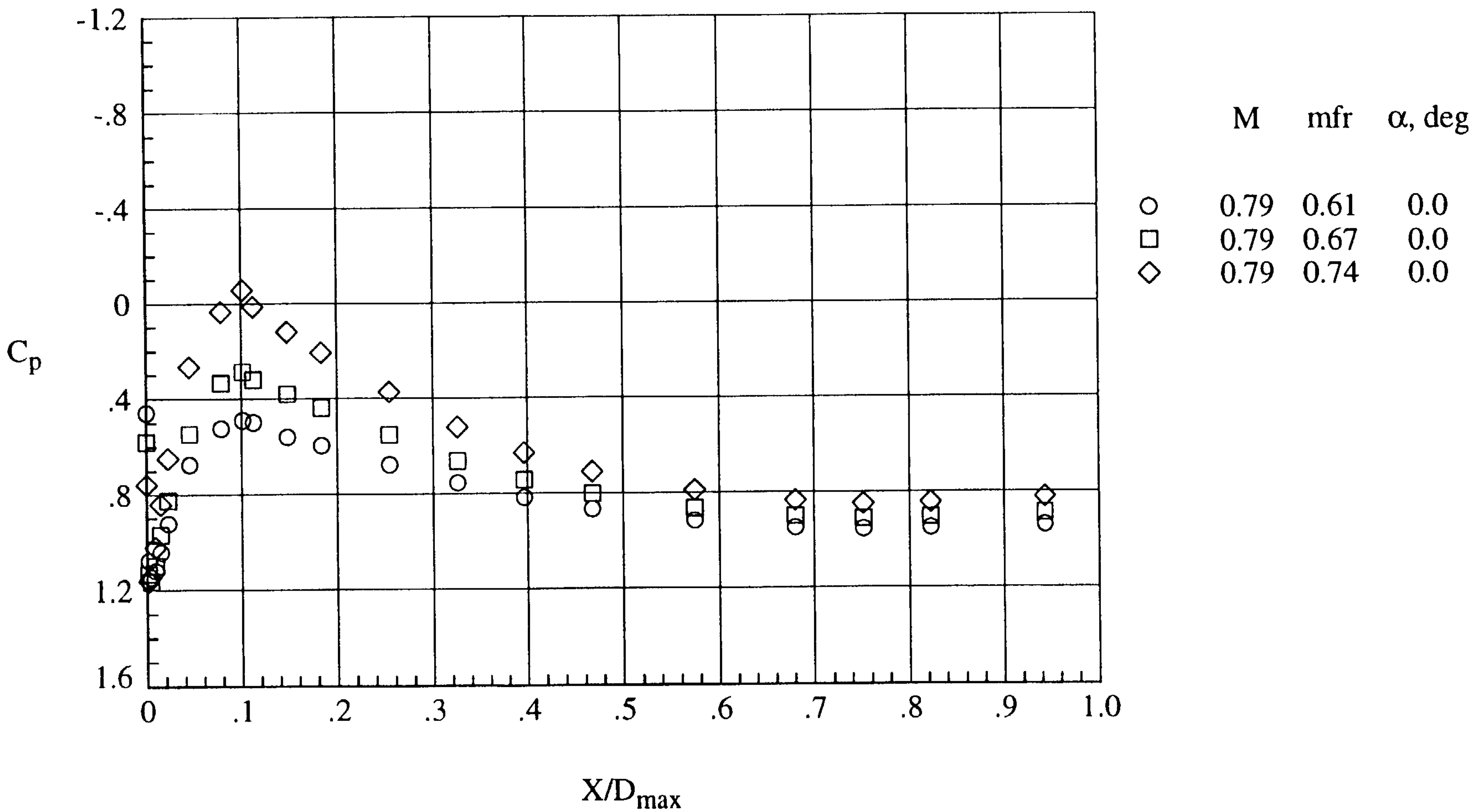
(e) M = 0.87 and mfr = 0.49.

Figure 11.- Continued.



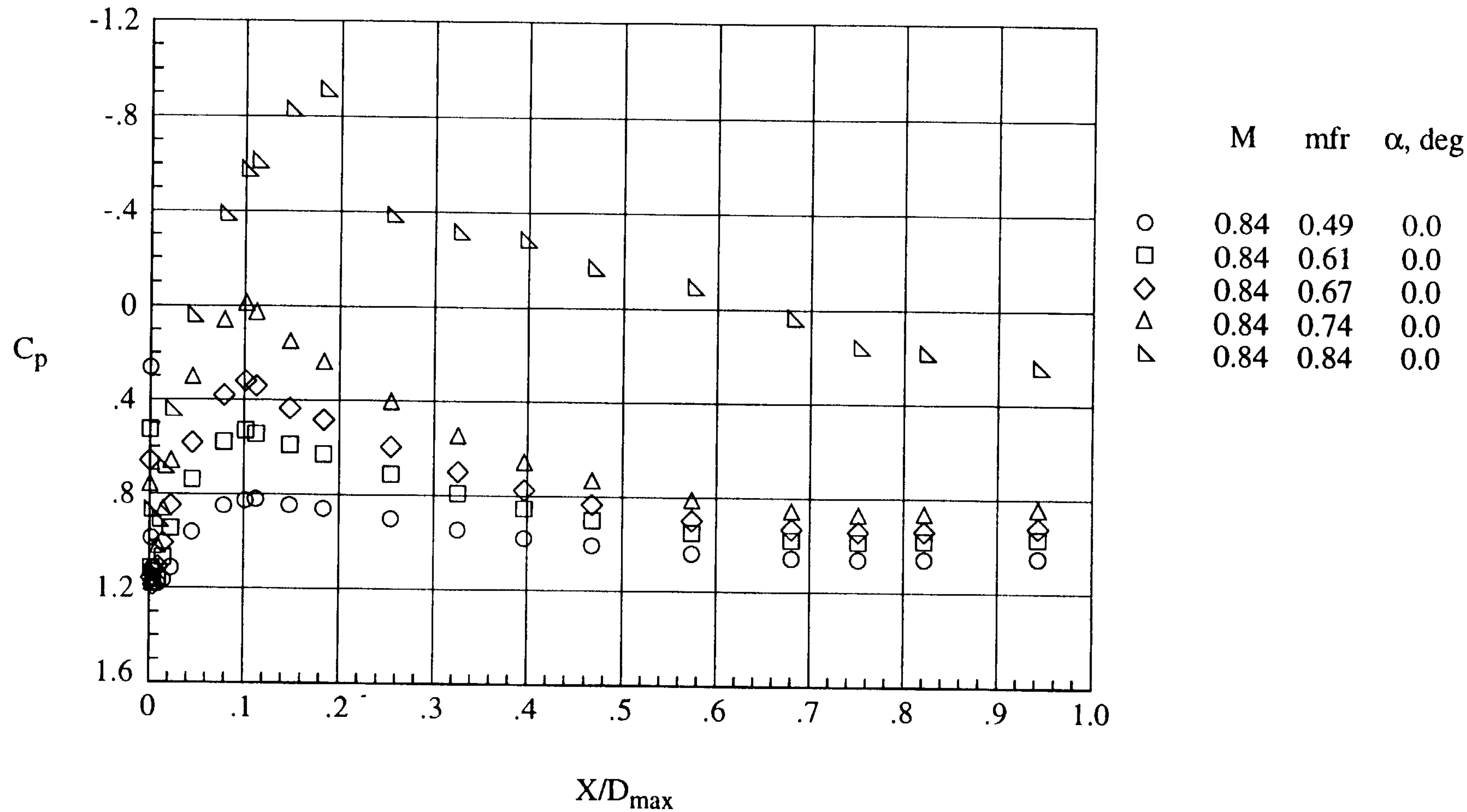
(f) M = 0.89 and mfr = 0.49.

Figure 11.- Concluded.



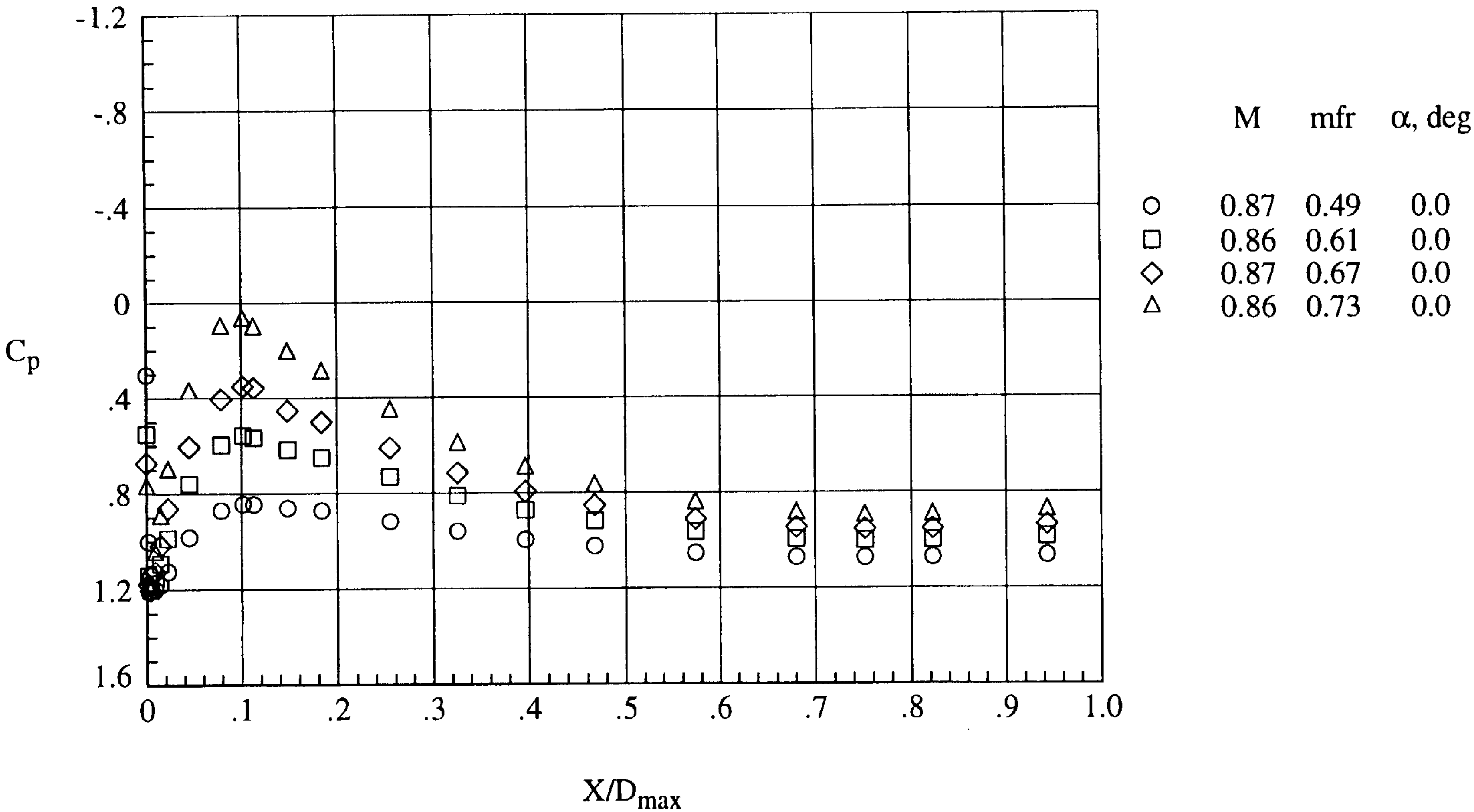
(a) M = 0.79.

Figure 12.- Pressure coefficient variation with X/D in the contraction and diffuser portions of the NACA 1-85-100 inlet with a contraction ratio of 1.25 for several mass-flow ratios at $\alpha = 0°$.



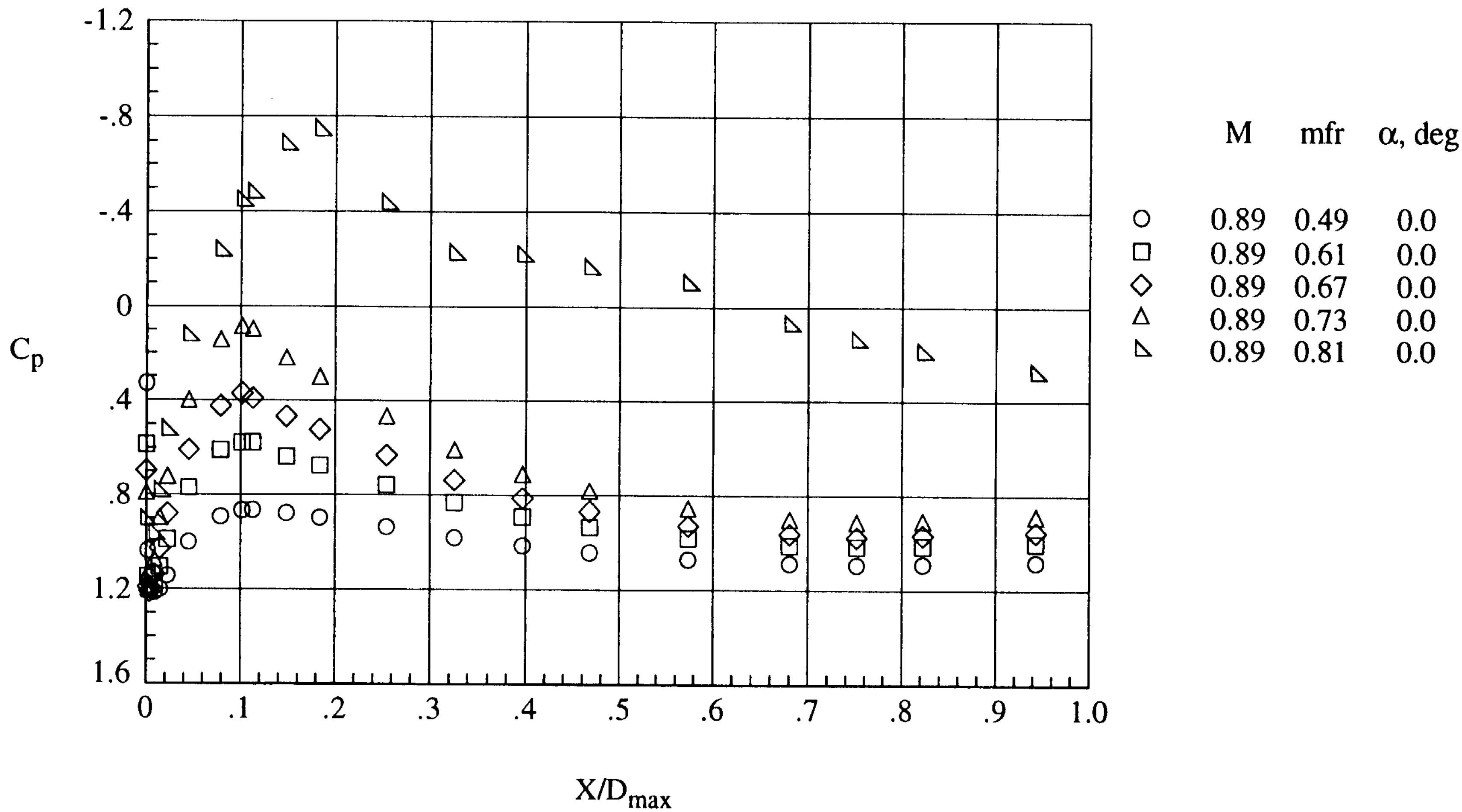
(b) M = 0.84.

Figure 12.- Continued.



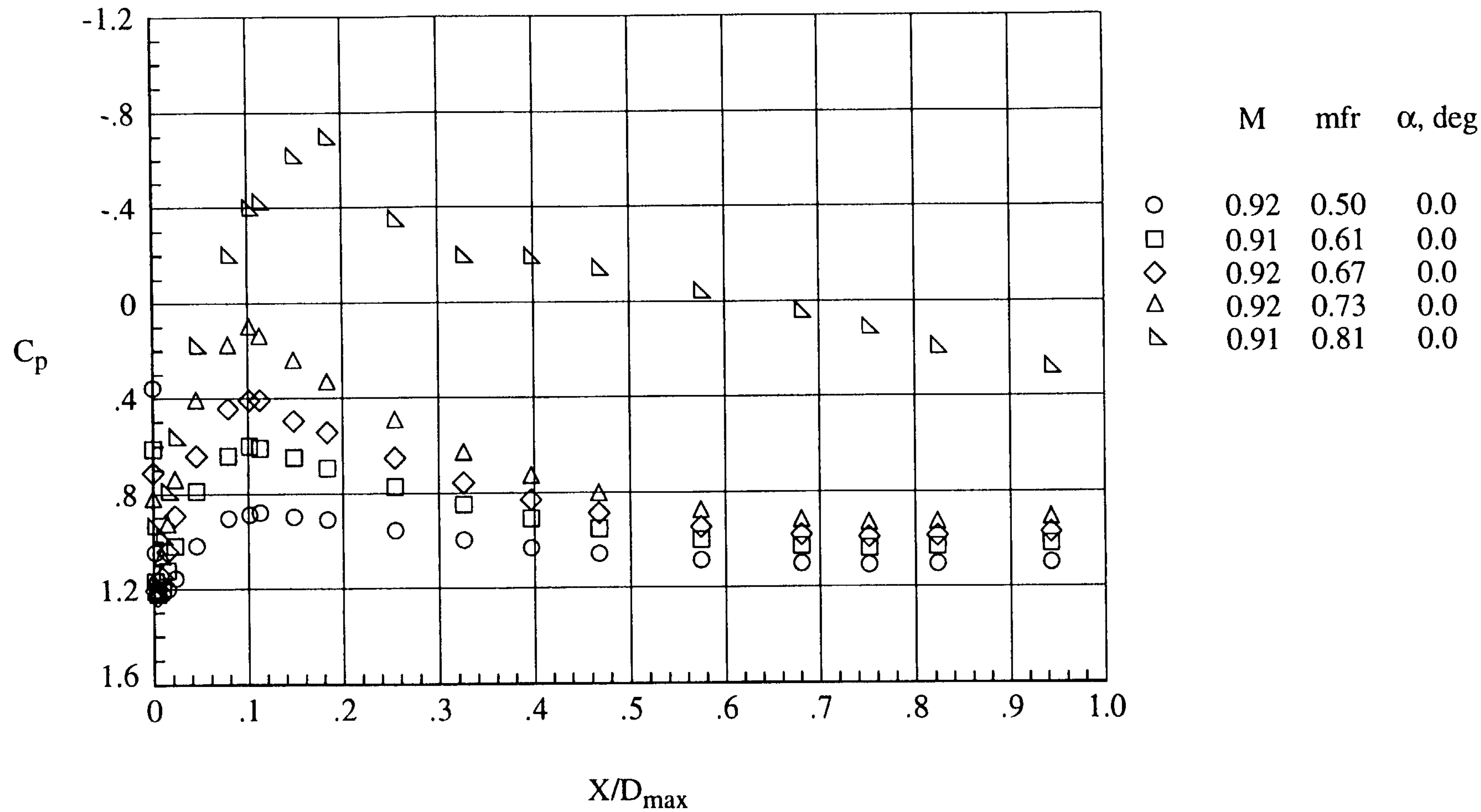
(c) M = 0.87.

Figure 12.- Continued.



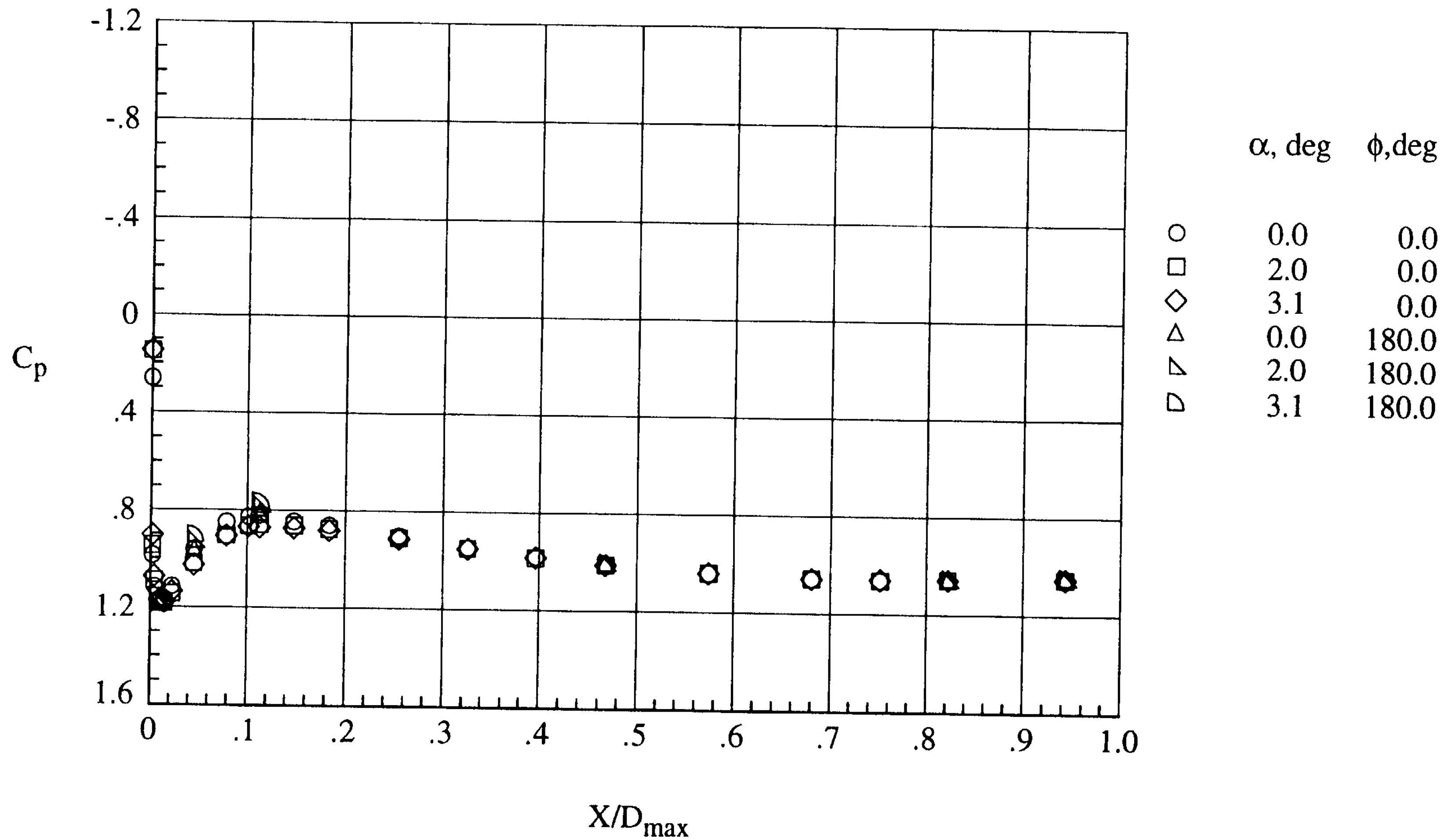
(d) M = 0.89.

Figure 12.- Continued.



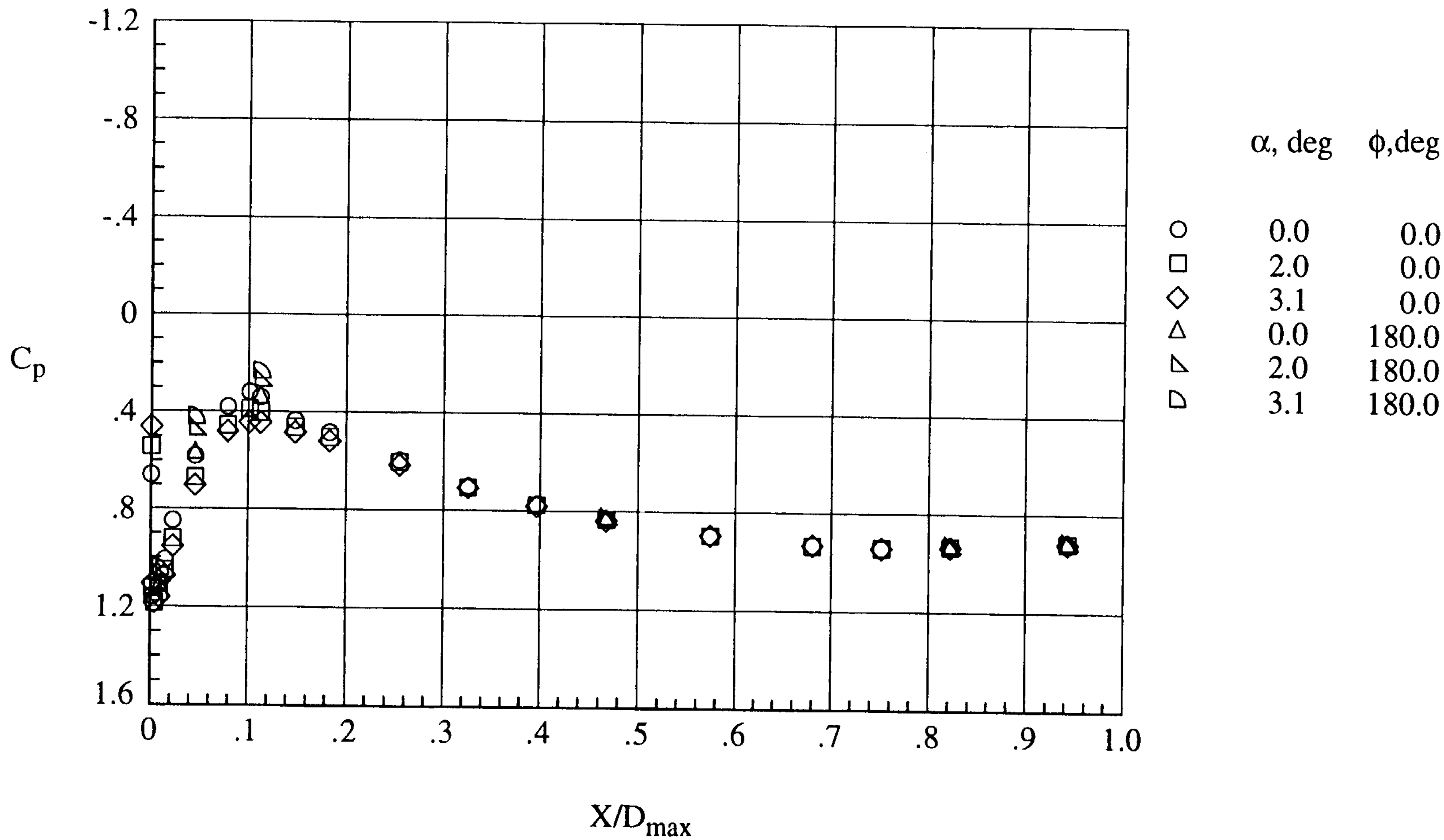
(e) M = 0.92.

Figure 12.- Concluded.



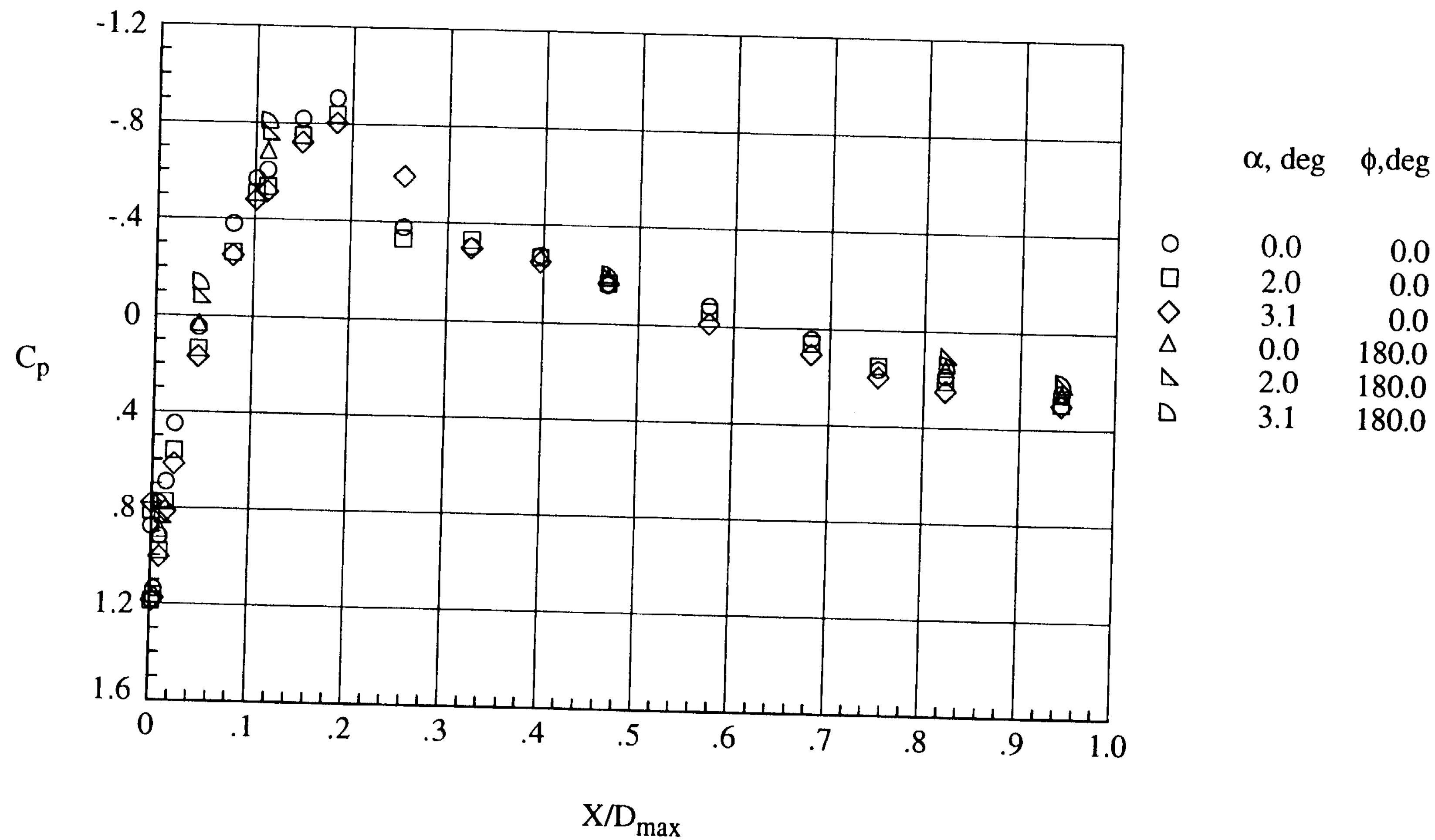
(a) M = 0.84 and mfr = 0.49.

Figure 13.- Pressure coefficient variation with X/D in the contraction and diffuser portions of the NACA 1-85-100 inlet with a contraction ratio of 1.25 for several mass-flow ratios and angles of attack.



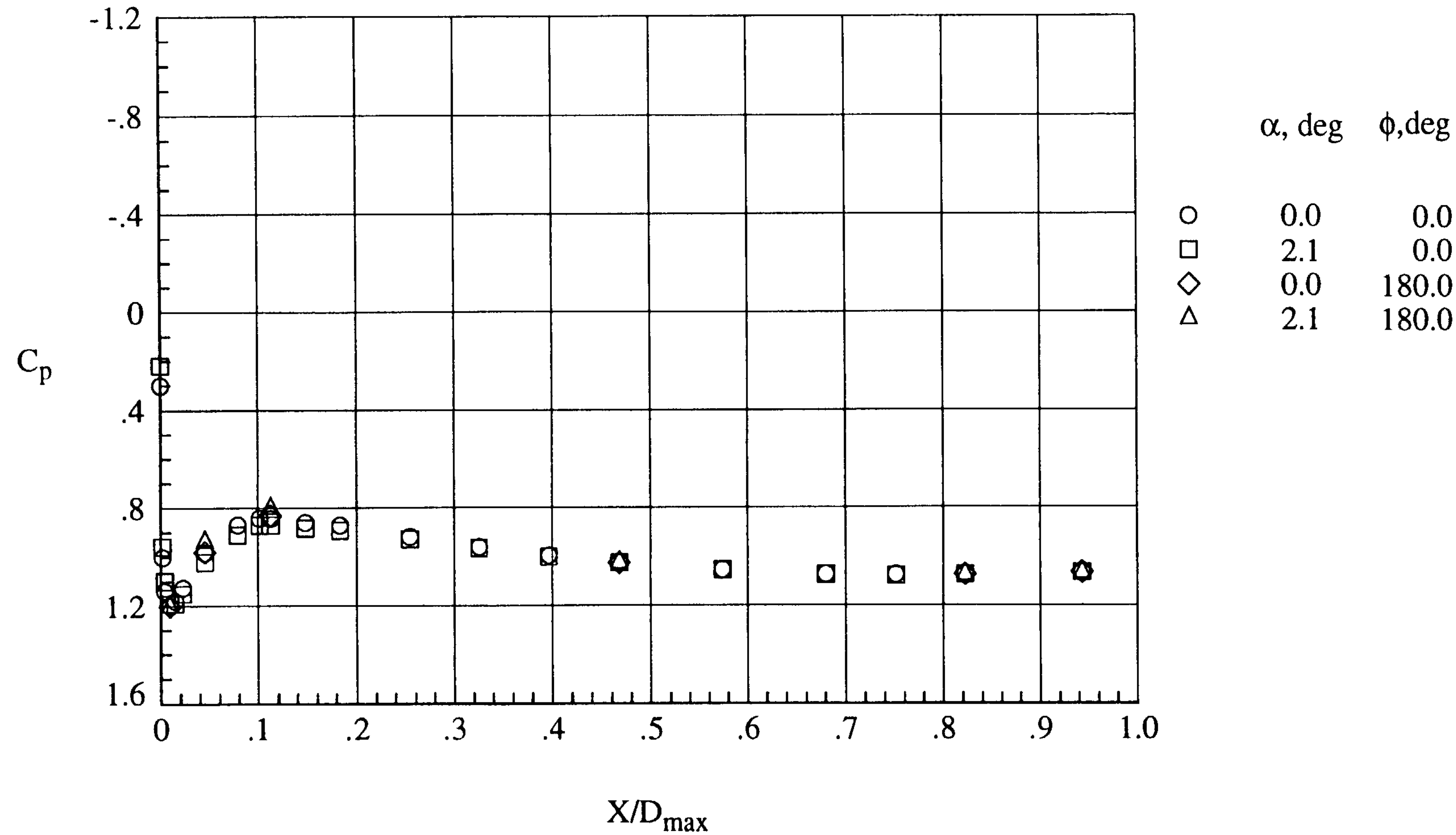
(b) M = 0.84 and mfr = 0.67.

Figure 13.- Continued.



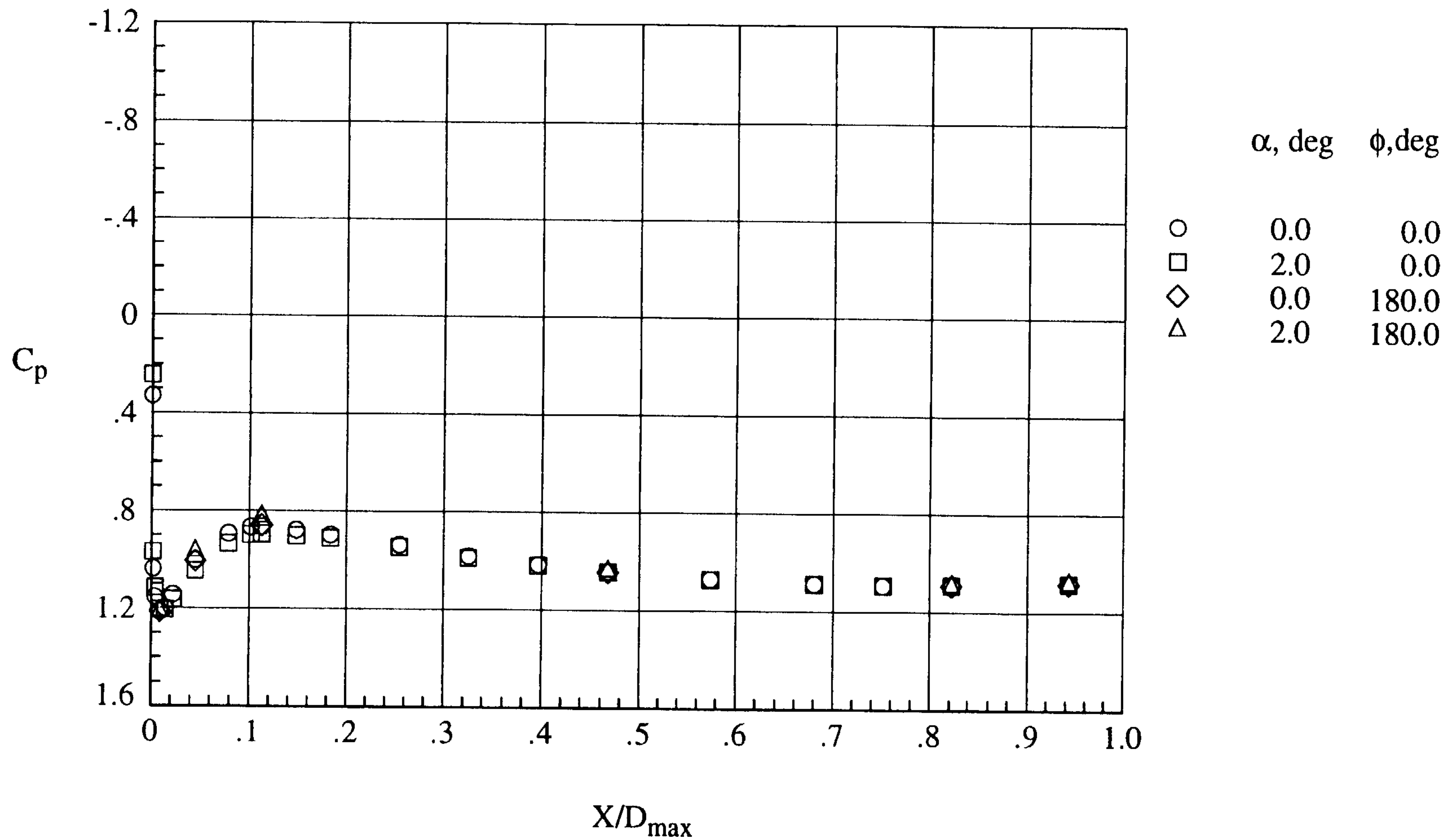
(c) M = 0.84 and mfr = 0.84.

Figure 13.- Continued.



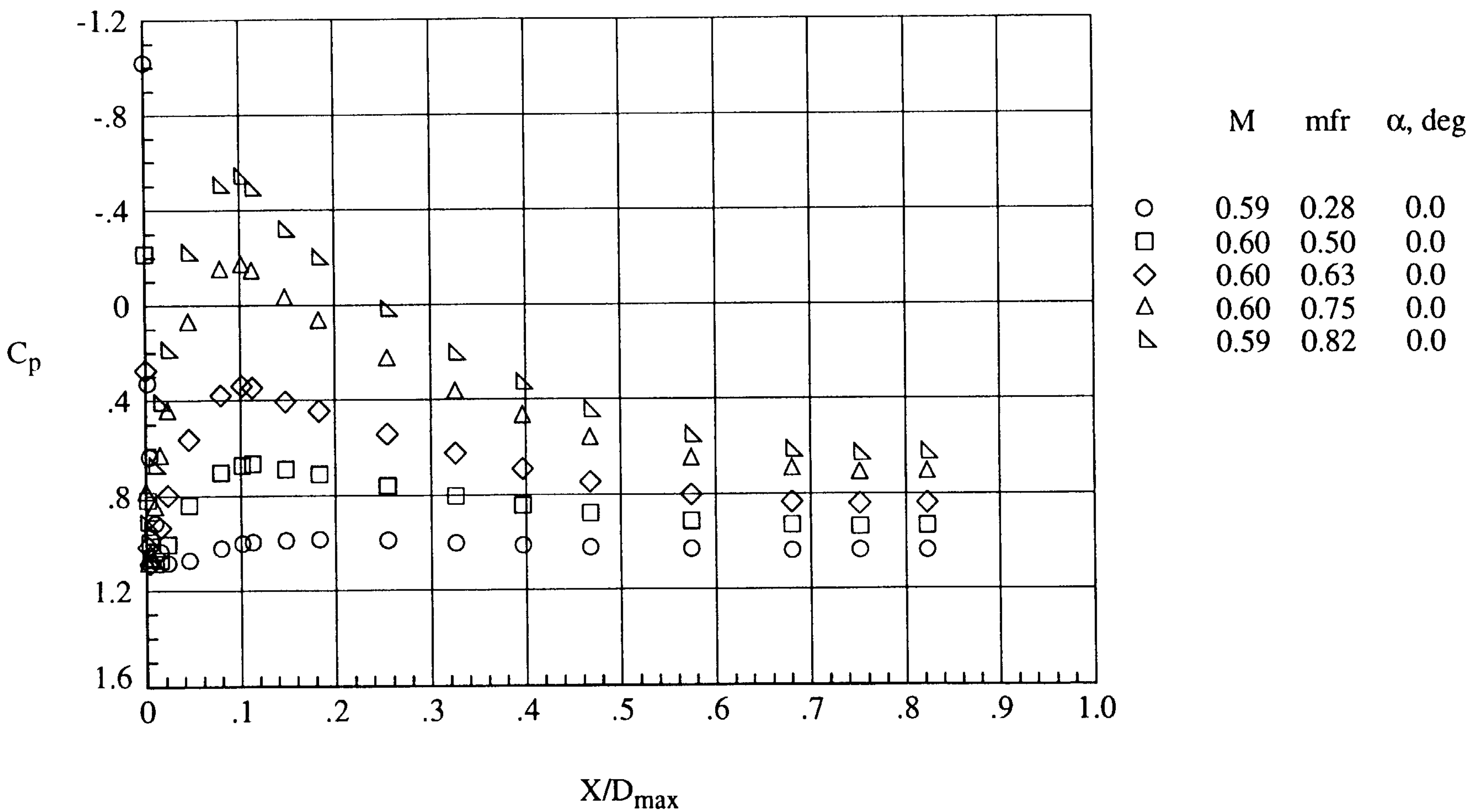
(d) M = 0.87 and mfr = 0.49.

Figure 13.- Continued.



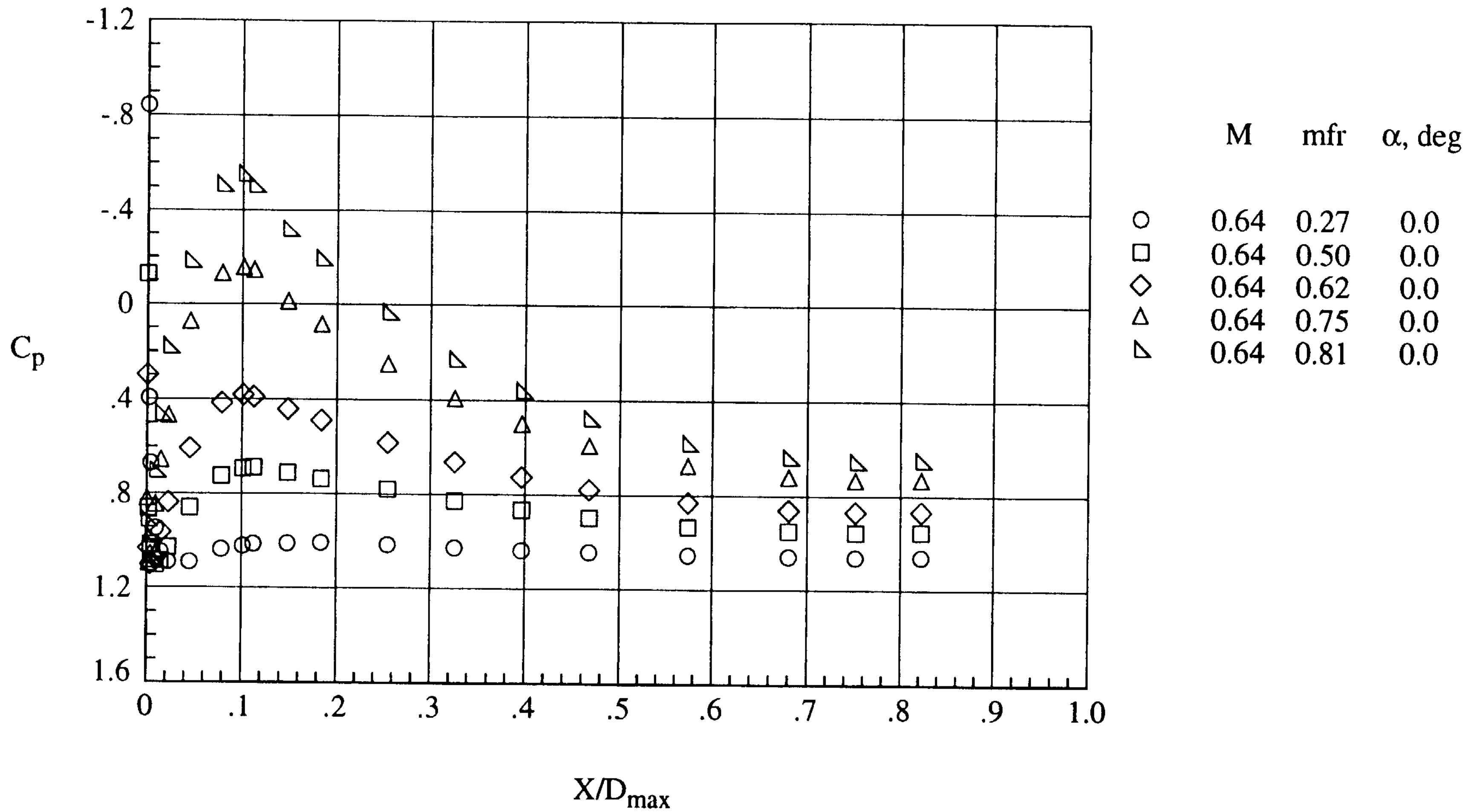
(e) M = 0.89 and mfr = 0.49.

Figure 13.- Concluded.



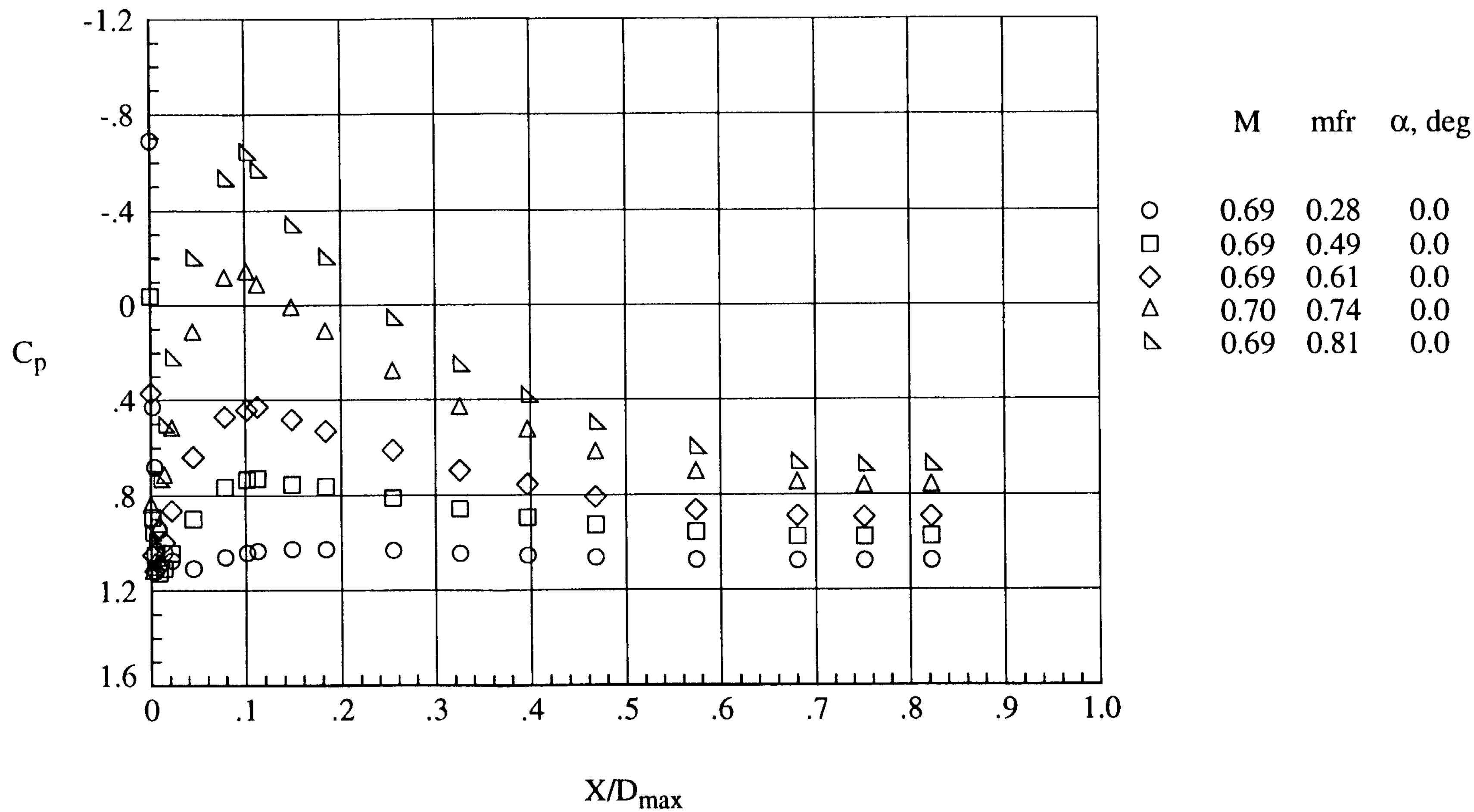
(a) M = 0.60.

Figure 14.- Pressure coefficient variation with X/D in the contraction and diffuser portions of the NACA 1-85-43.9 inlet with a contraction ratio of 1.25 for several mass-flow ratios at $\alpha = 0°$.



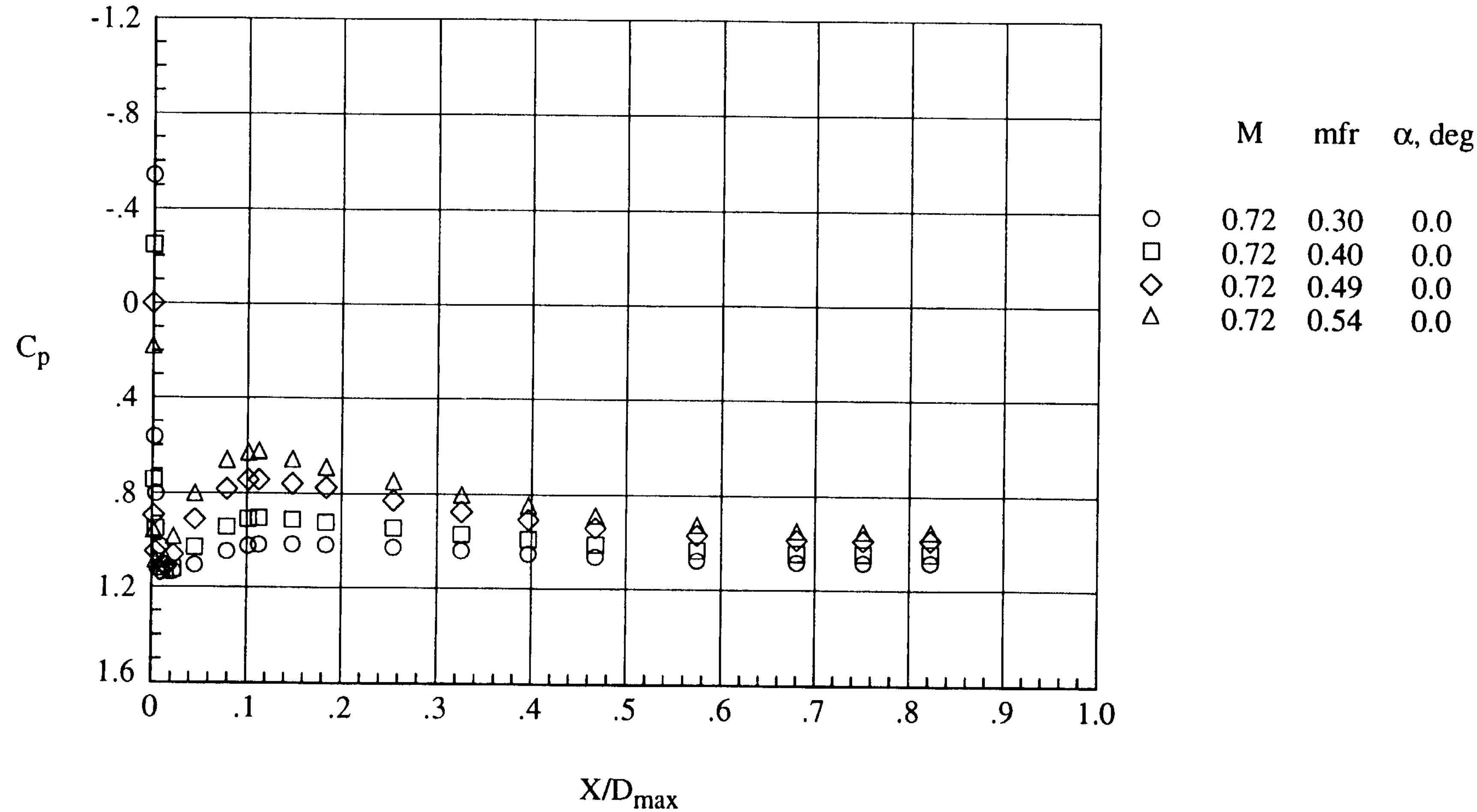
(b) M = 0.64.

Figure 14.- Continued.



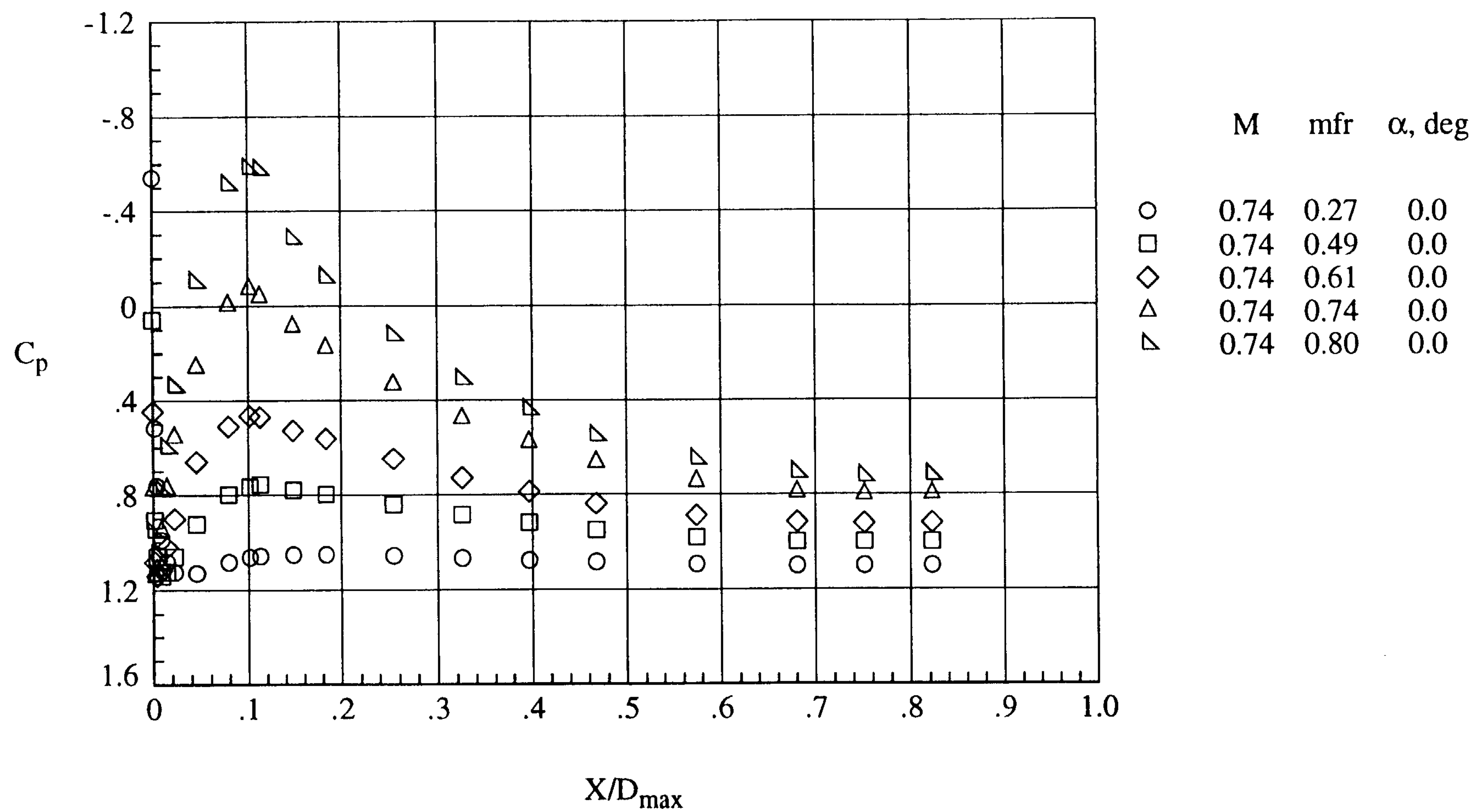
(c) M = 0.69.

Figure 14.- Continued.



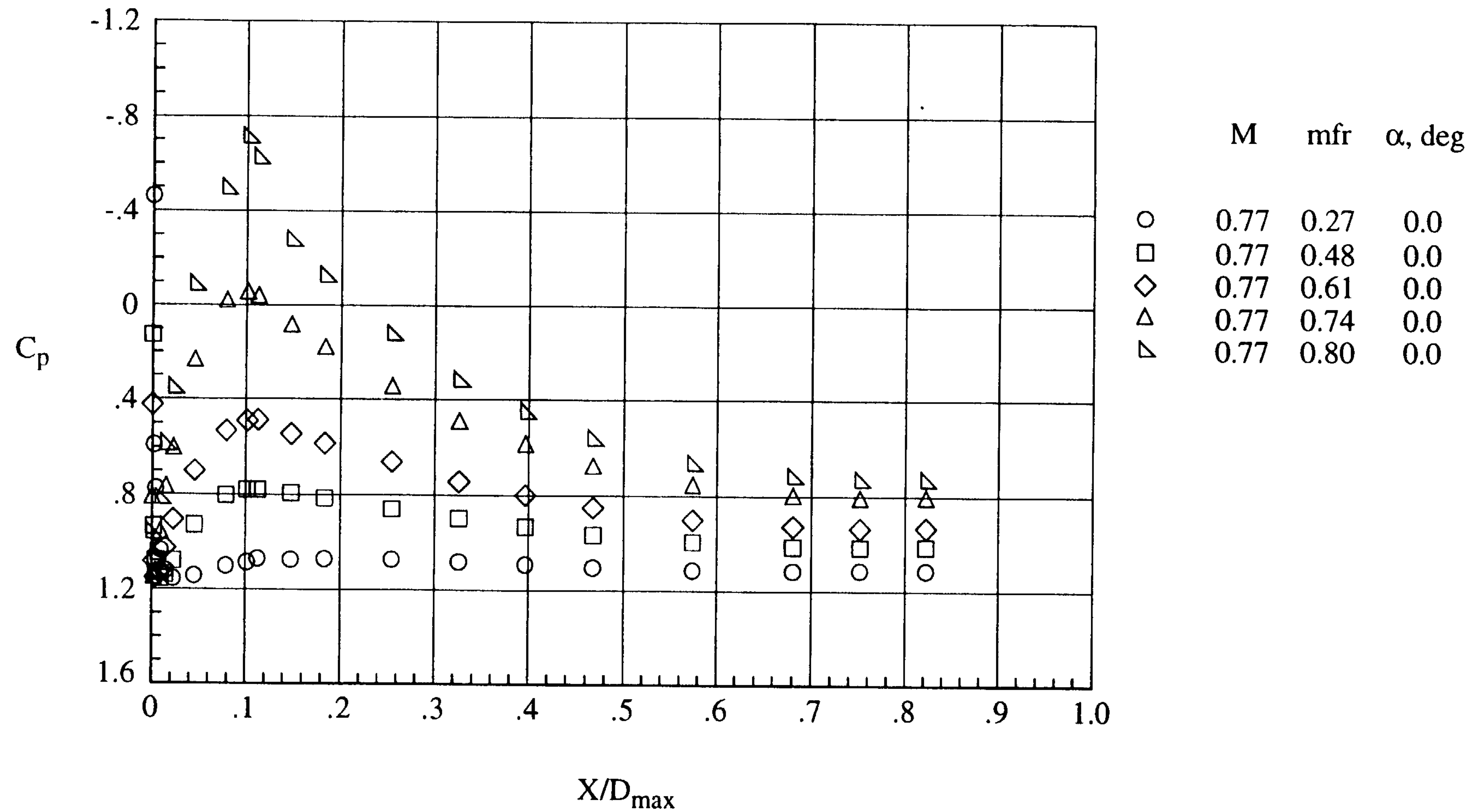
(d) M = 0.72.

Figure 14.- Continued.



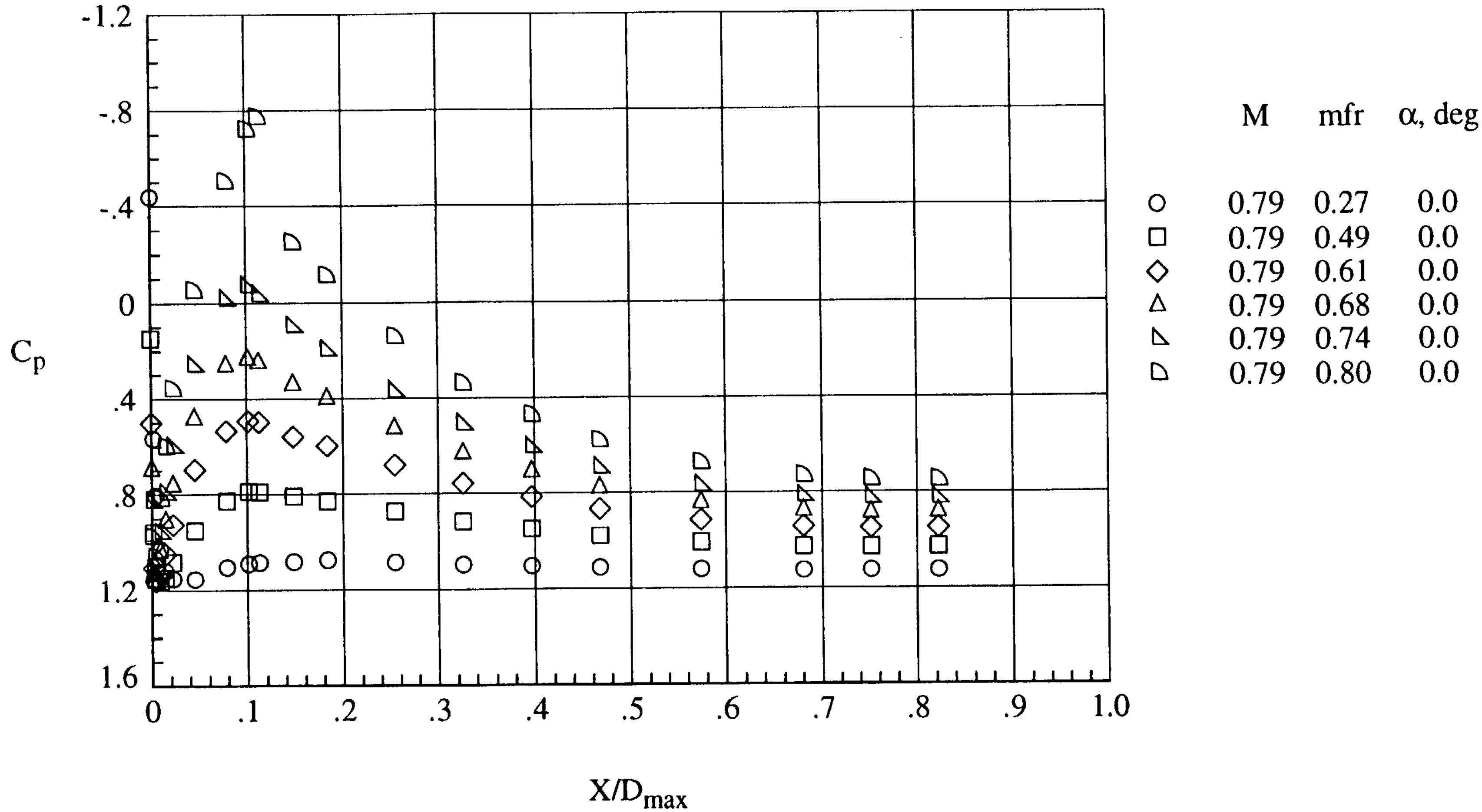
(e) M = 0.74.

Figure 14.- Continued.



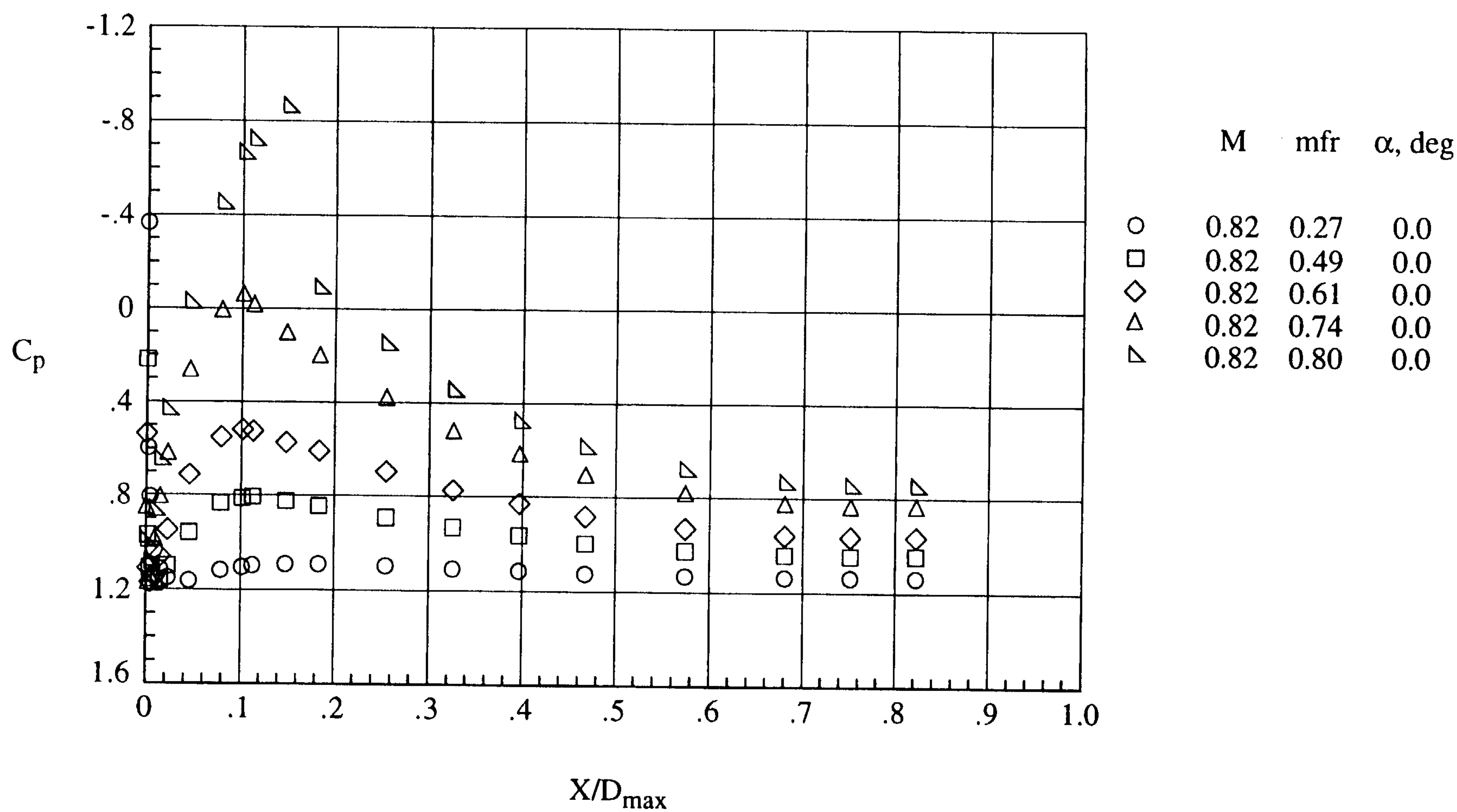
(f) M = 0.77.

Figure 14.- Continued.



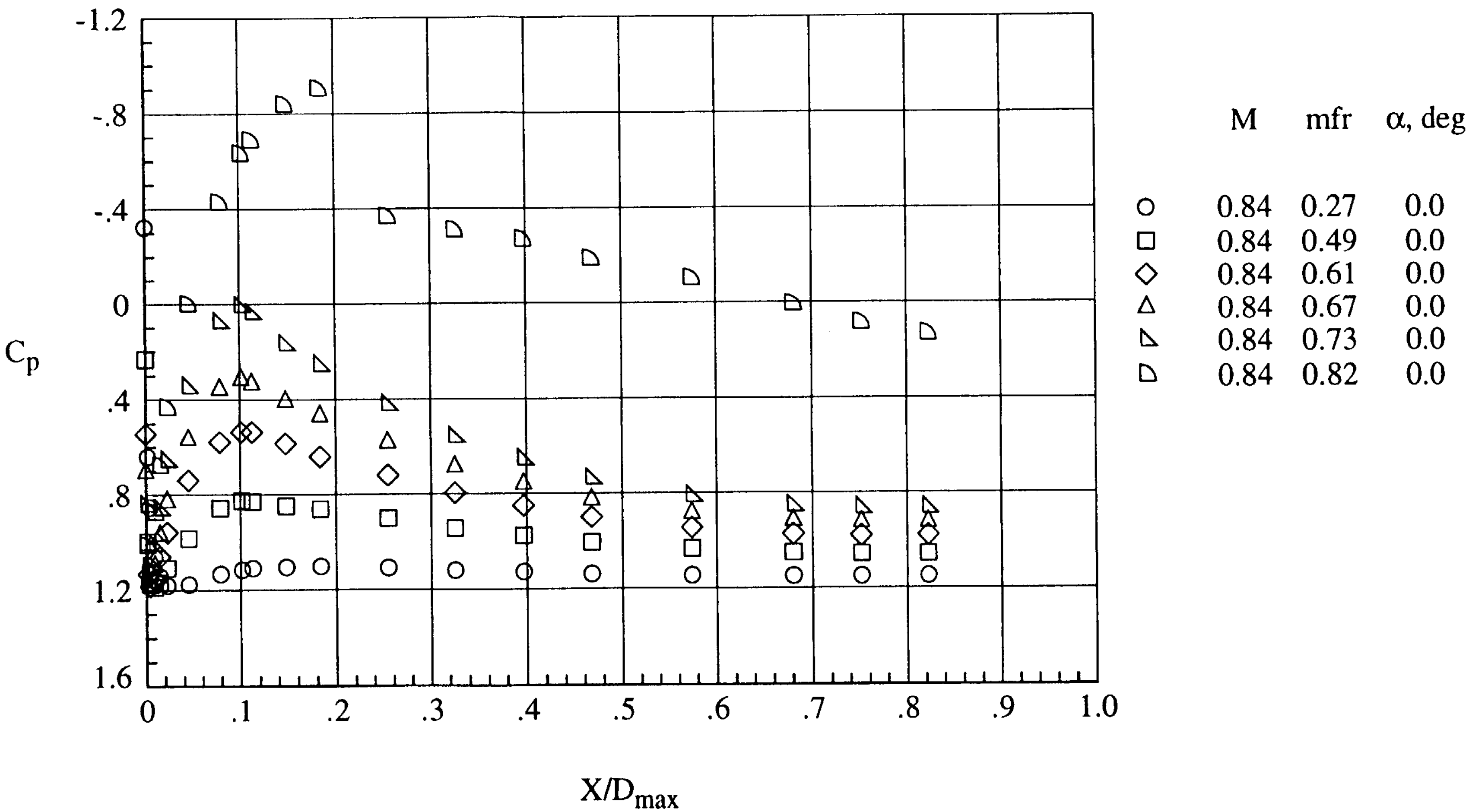
(g) M = 0.79.

Figure 14.- Continued.



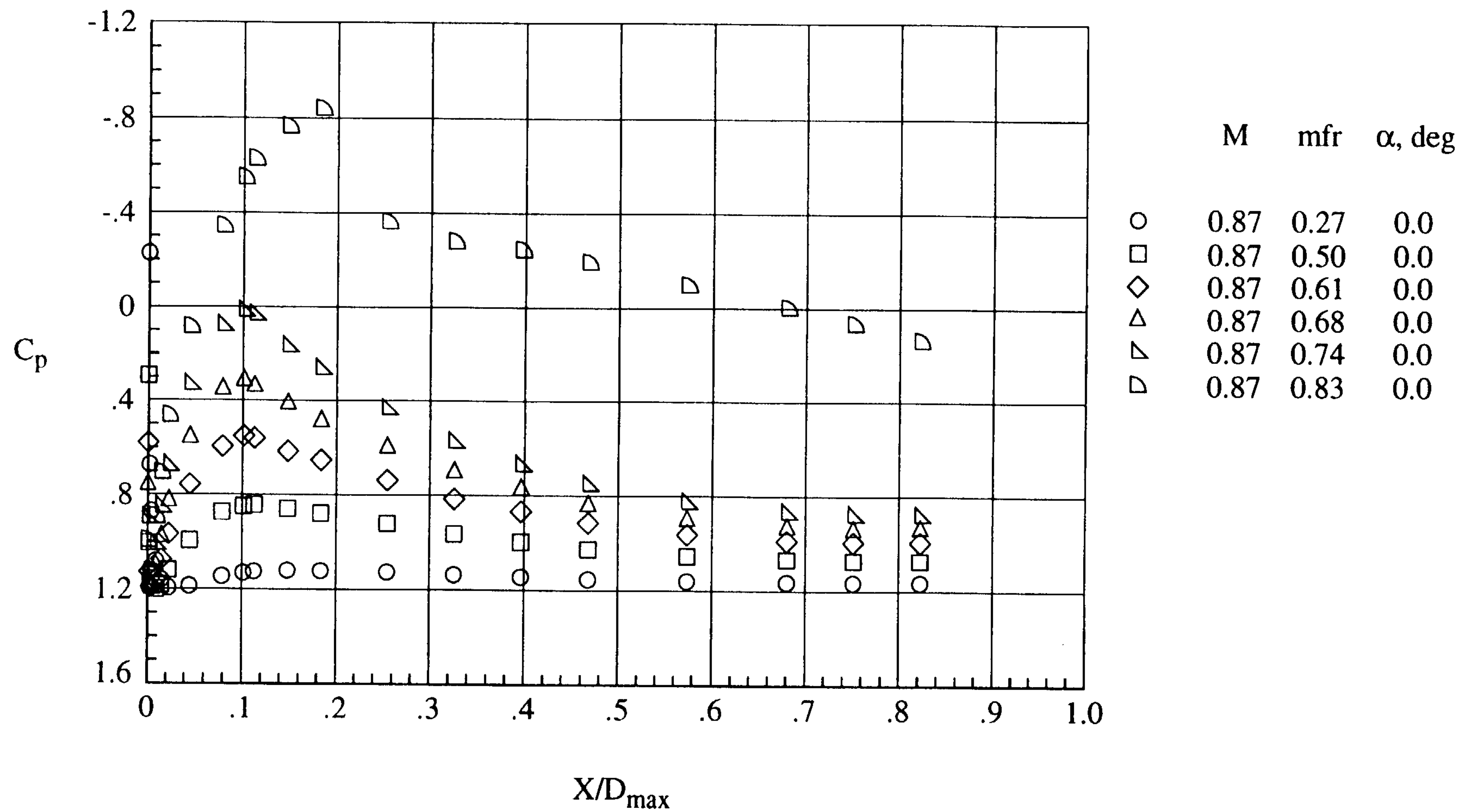
(h) M = 0.82.

Figure 14.- Continued.



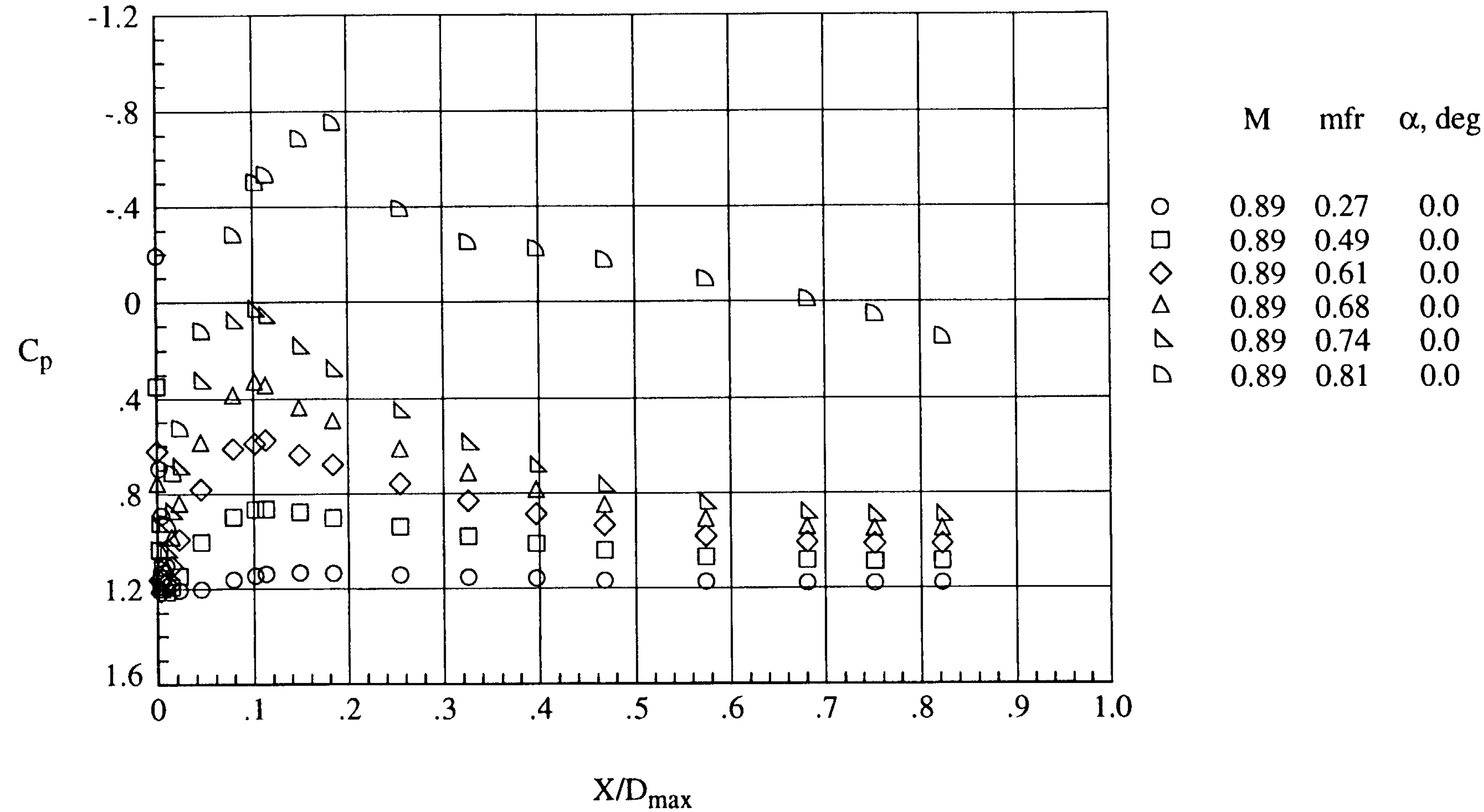
(i) M = 0.84.

Figure 14.- Continued.



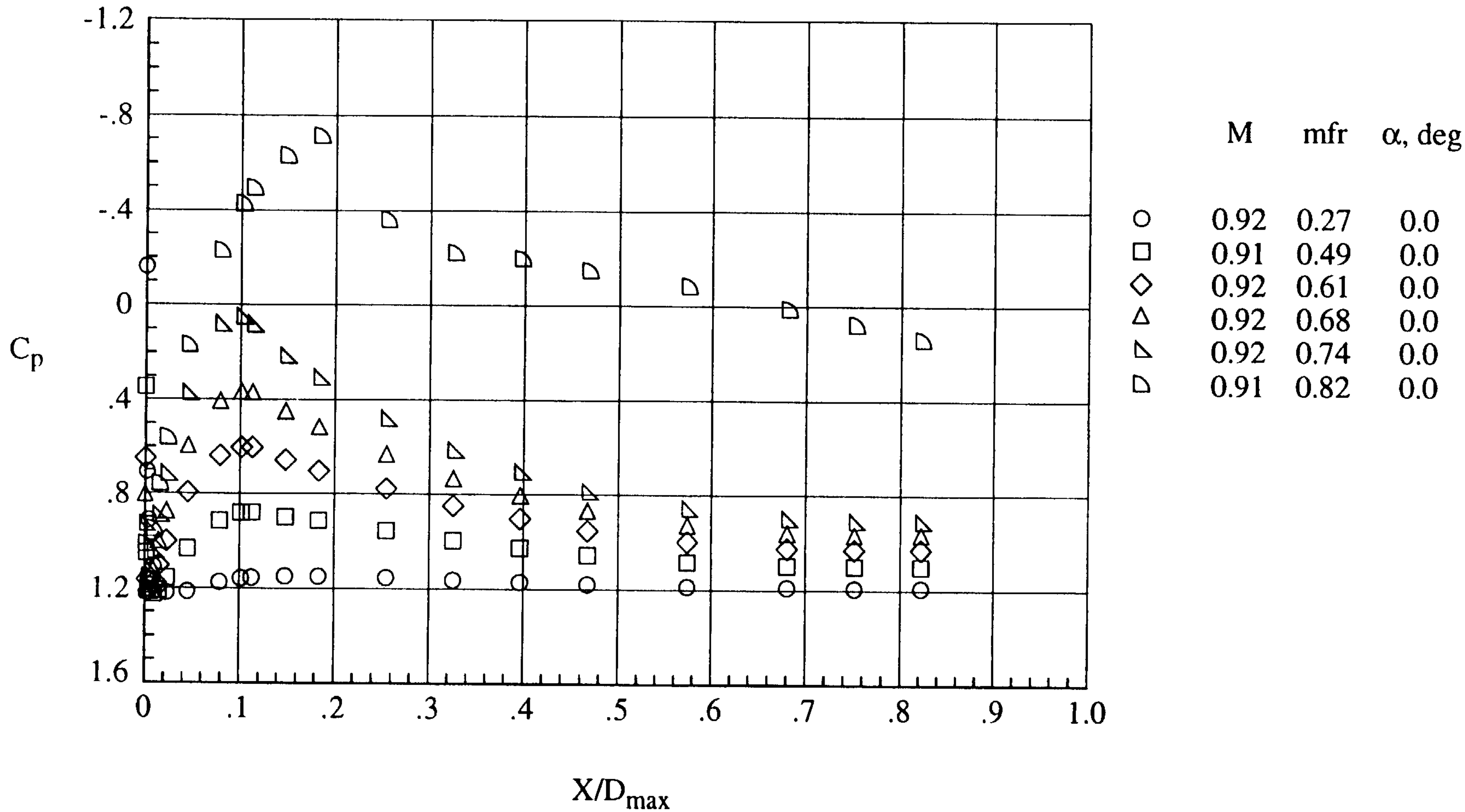
(j) M = 0.87.

Figure 14.- Continued.



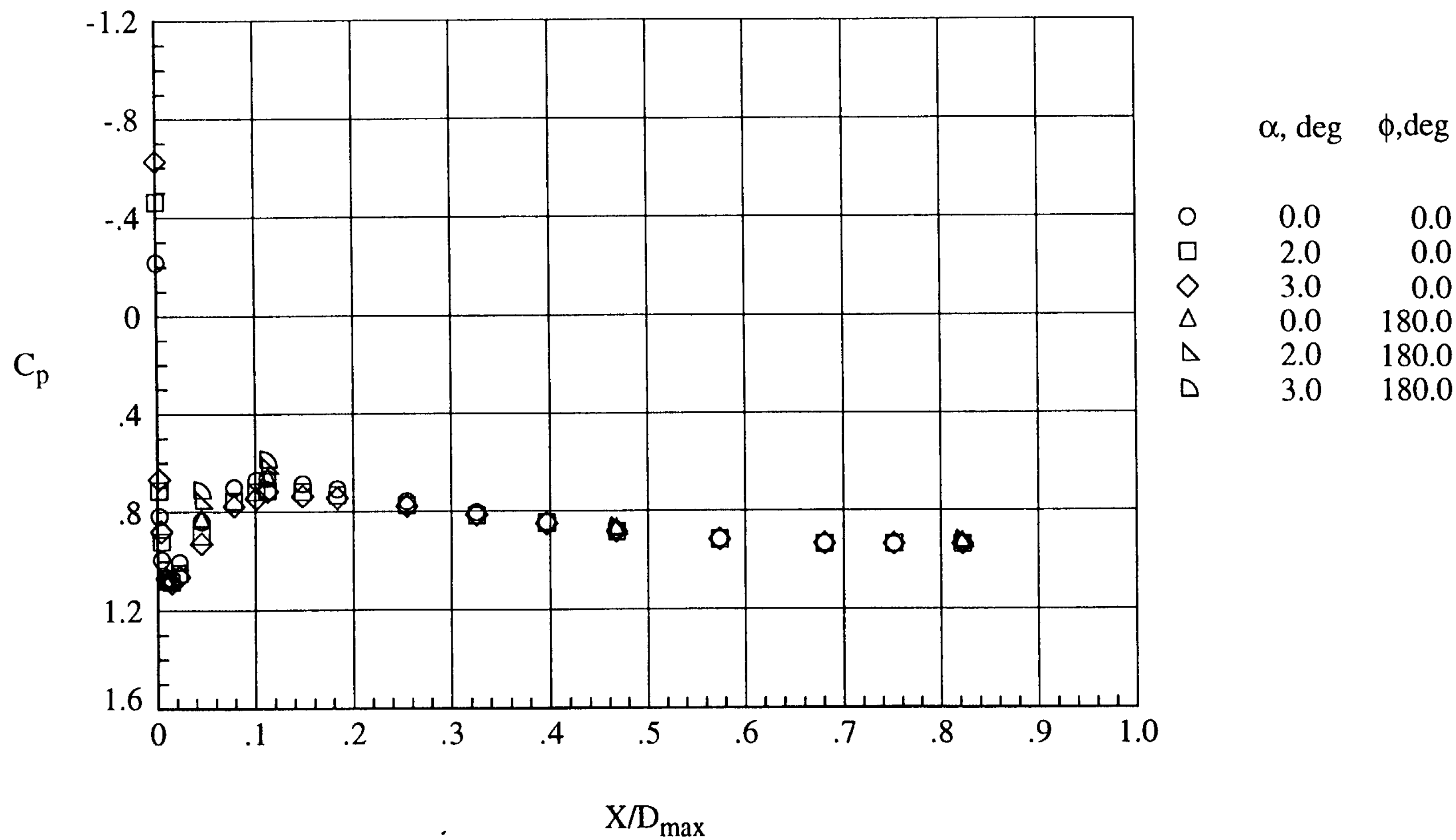
(k) M = 0.89.

Figure 14.- Continued.



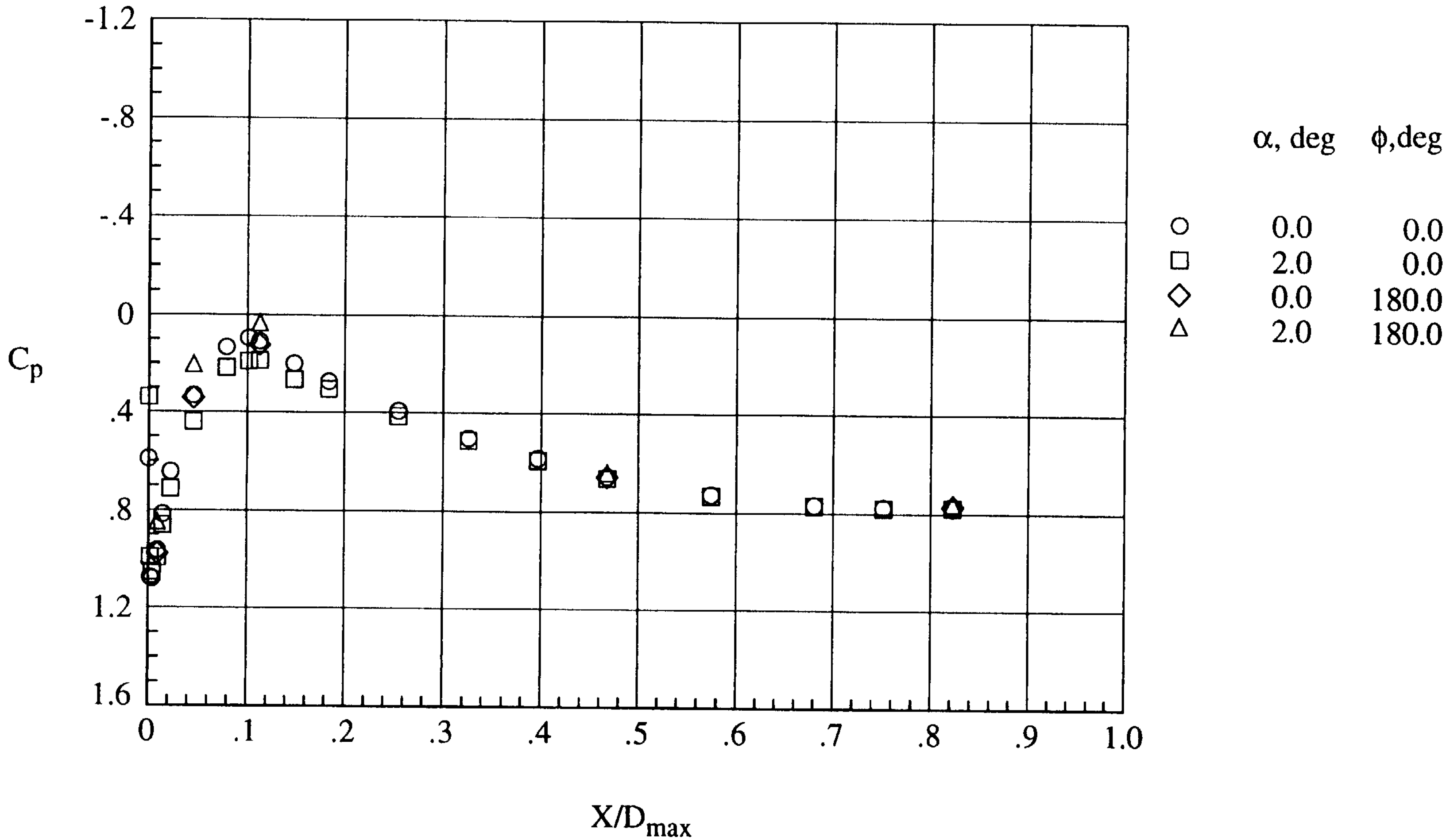
(l) M = 0.92.

Figure 14.- Concluded.



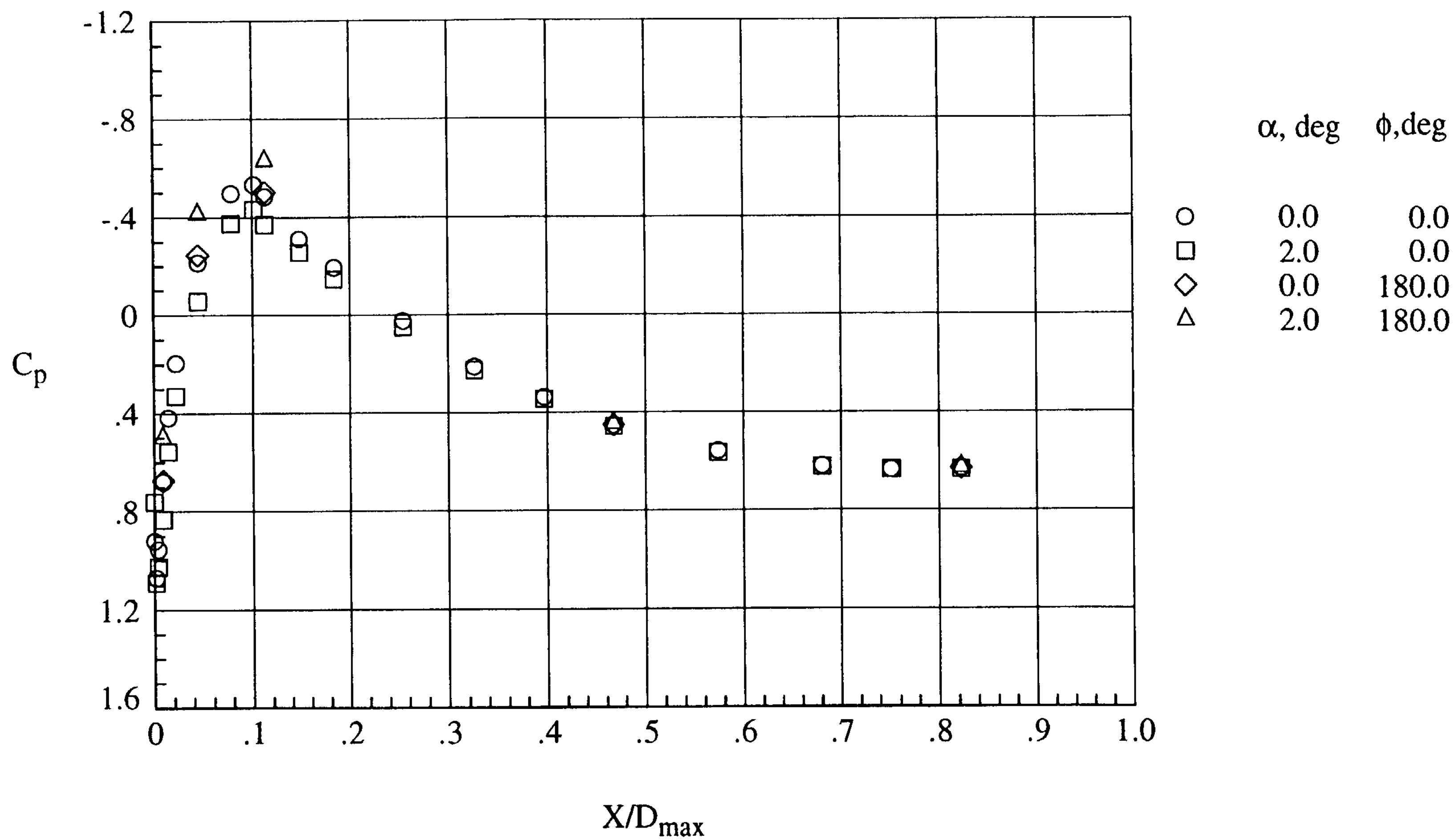
(a) M = 0.60 and mfr = 0.50.

Figure 15.- Pressure coefficient variation with X/D in the contraction and diffuser portions of the NACA 1-85-43.9 inlet with a contraction ratio of 1.25 for several mass-flow ratios and angles of attack.



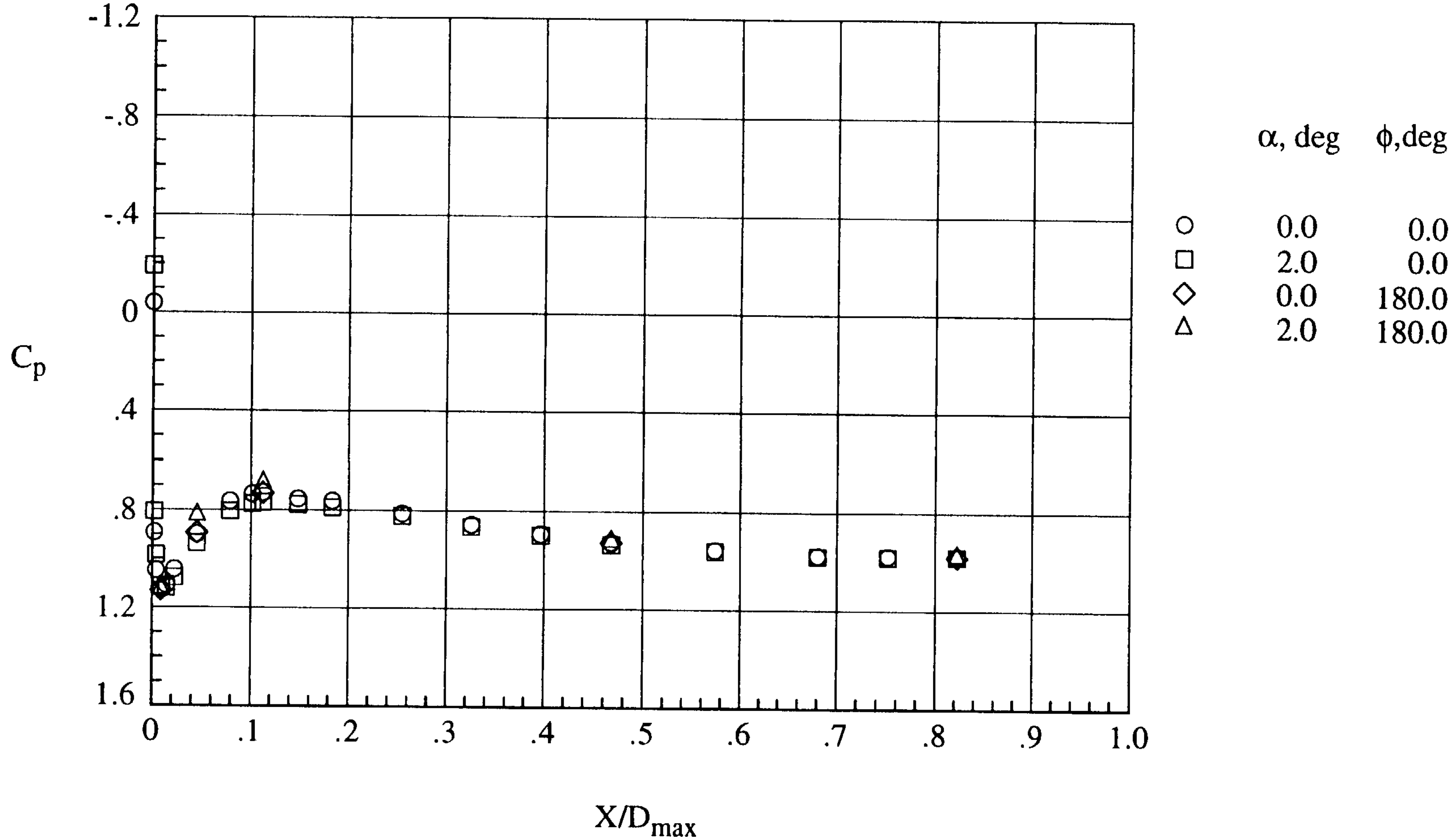
(b) M = 0.60 and mfr = 0.69.

Figure 15.- Continued.



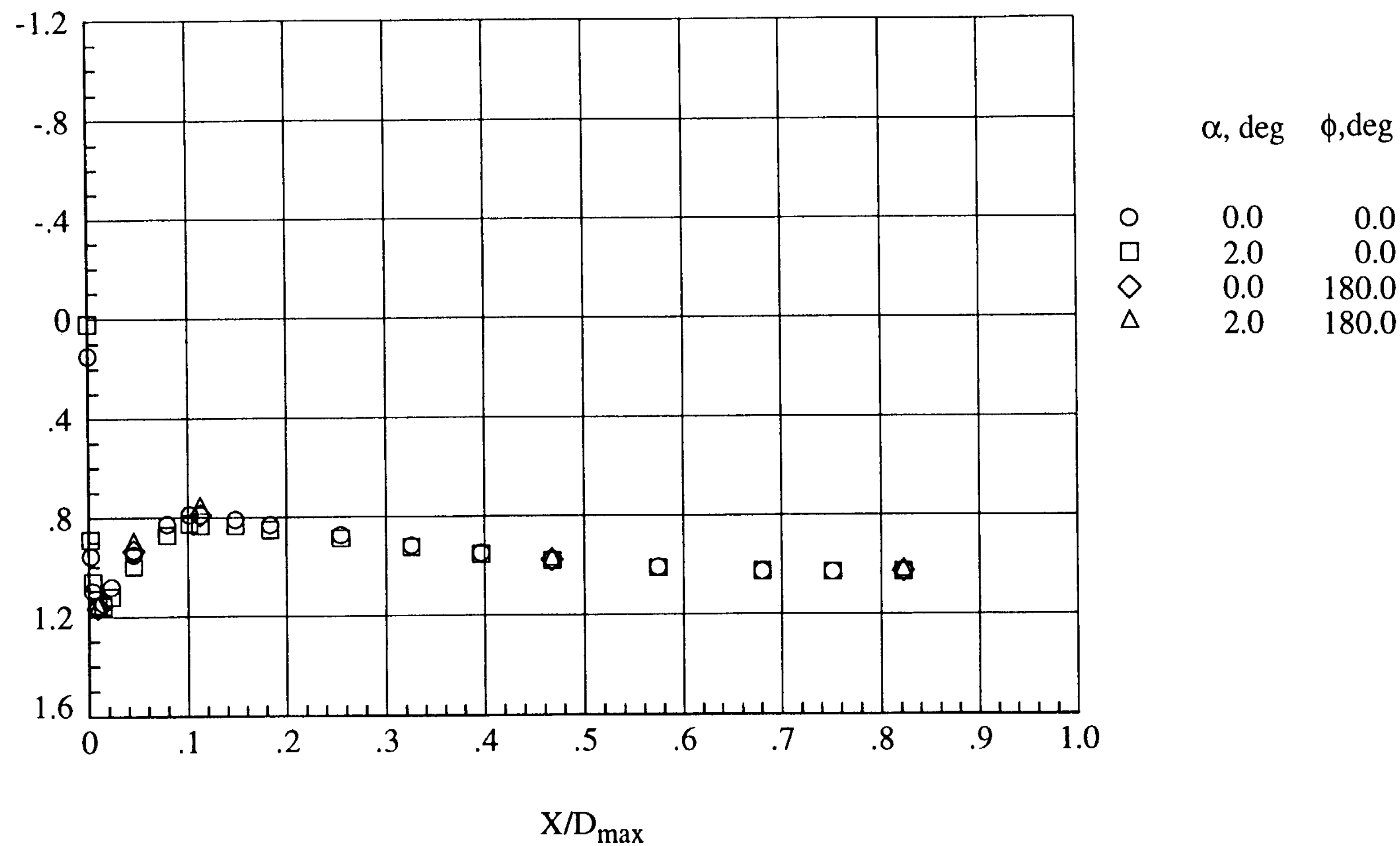
(c) M = 0.60 and mfr = 0.82.

Figure 15.- Continued.



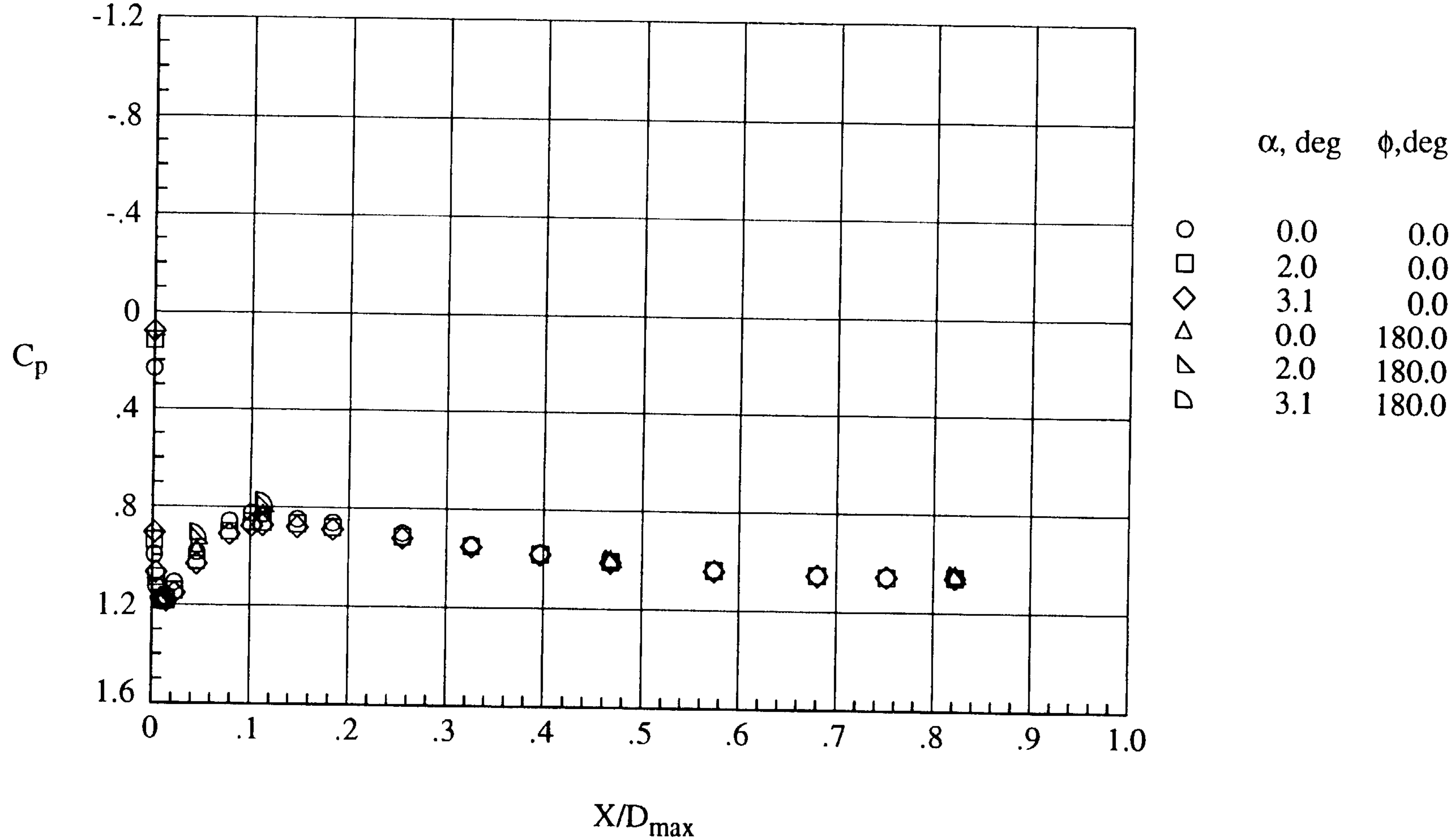
(d) M = 0.69 and mfr = 0.49.

Figure 15.- Continued.



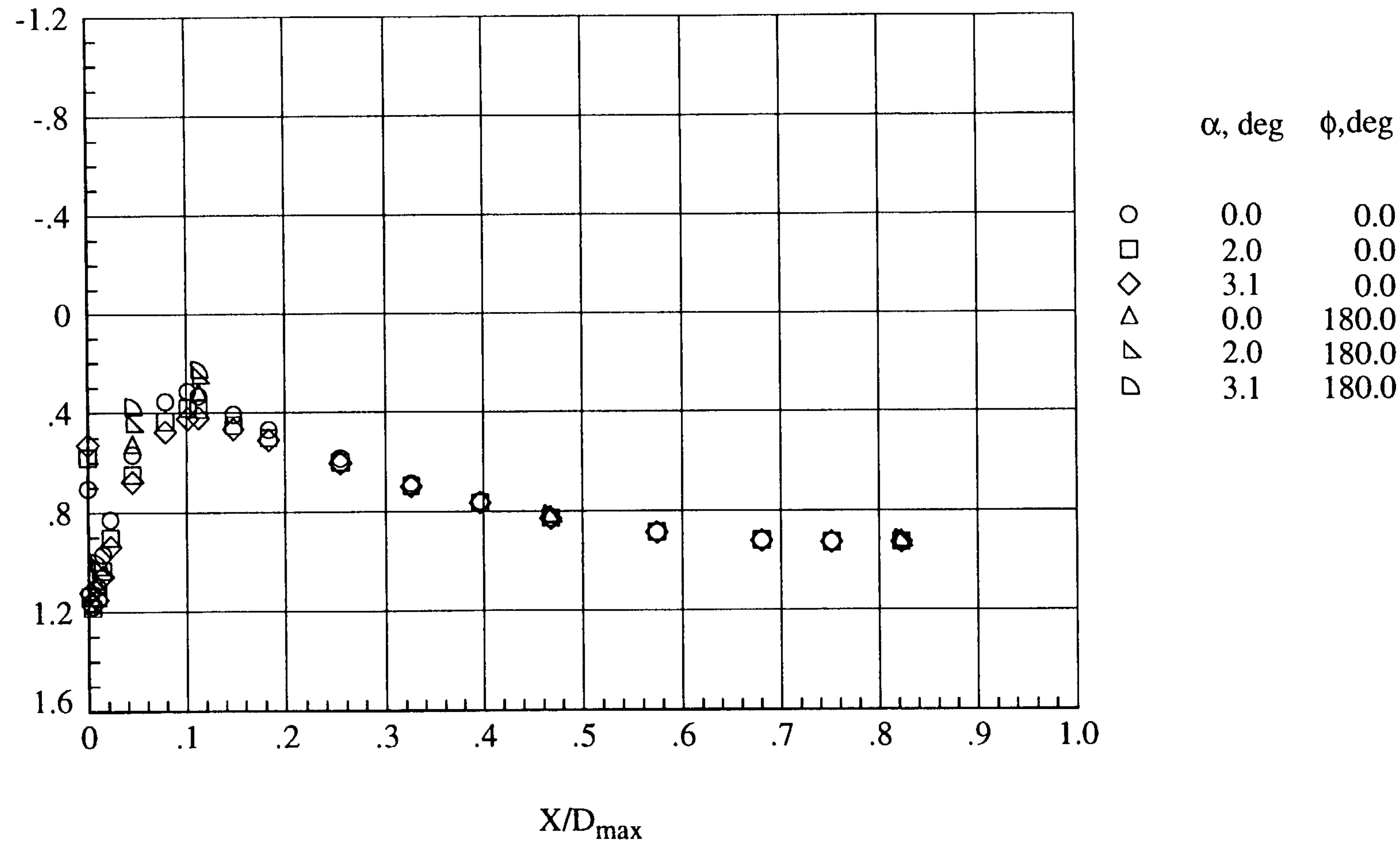
(e) M = 0.79 and mfr = 0.49.

Figure 15.- Continued.



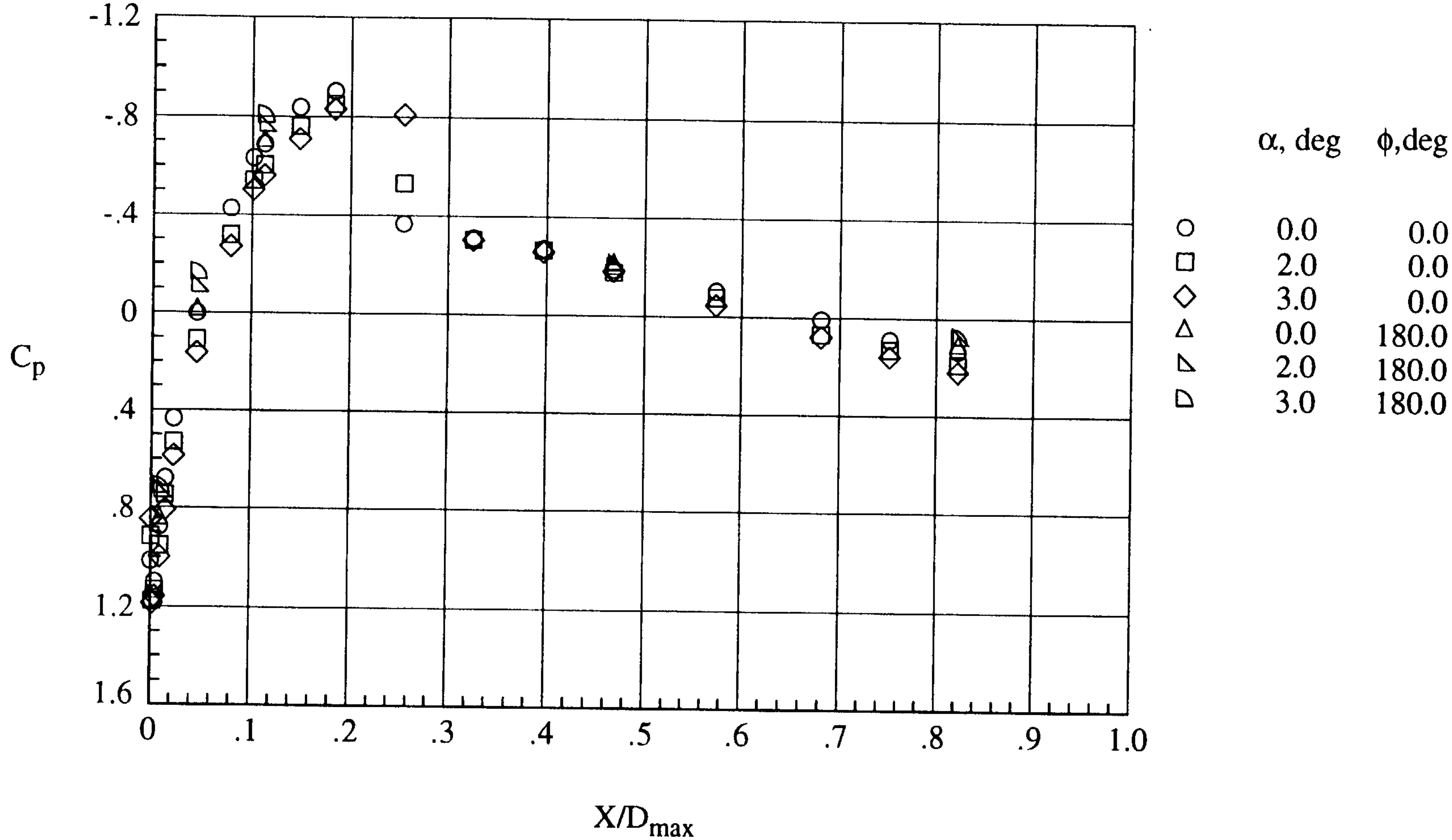
(f) M = 0.84 and mfr = 0.49.

Figure 15.- Continued.



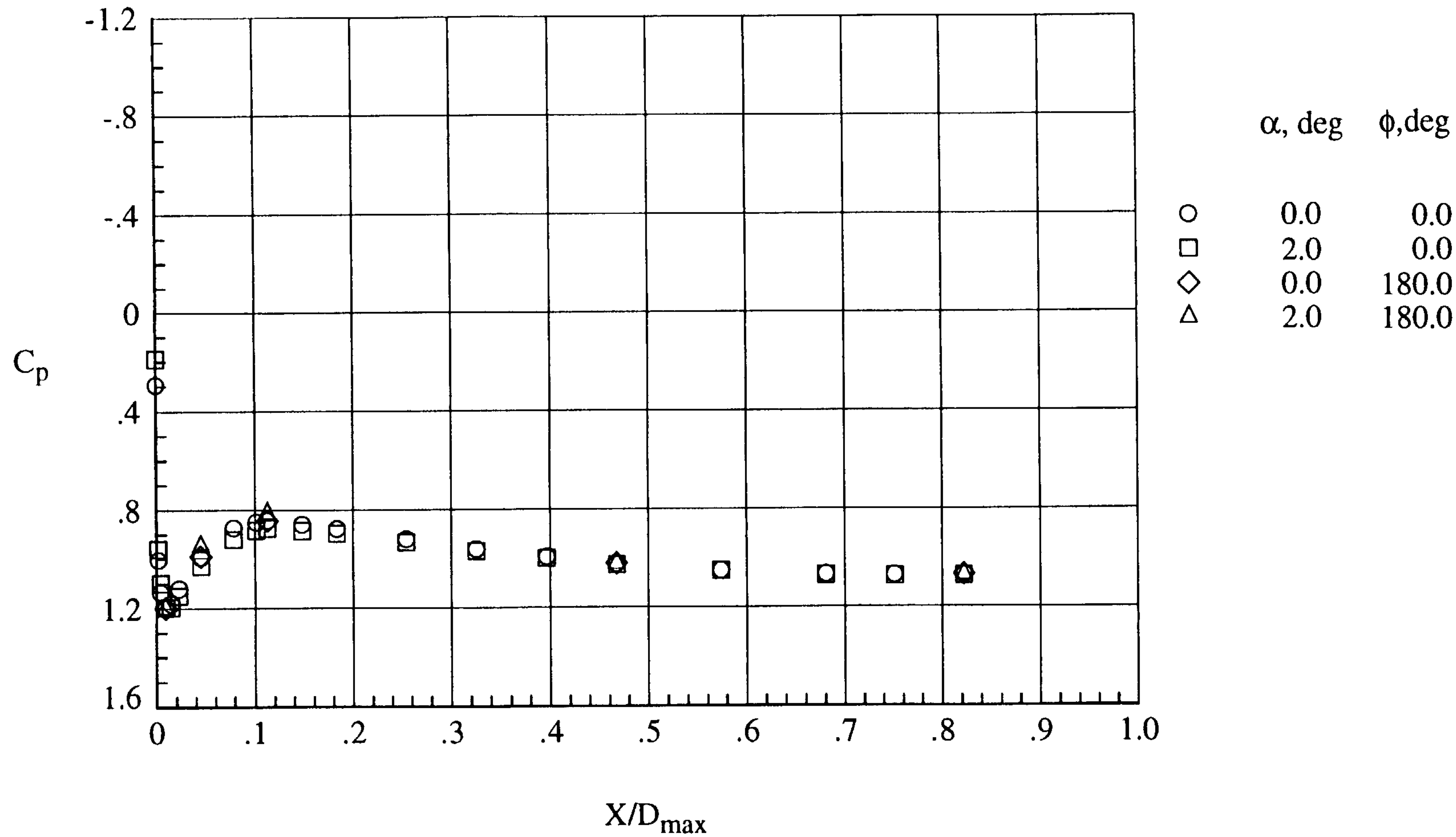
(g) M = 0.84 and mfr = 0.67.

Figure 15.- Continued.



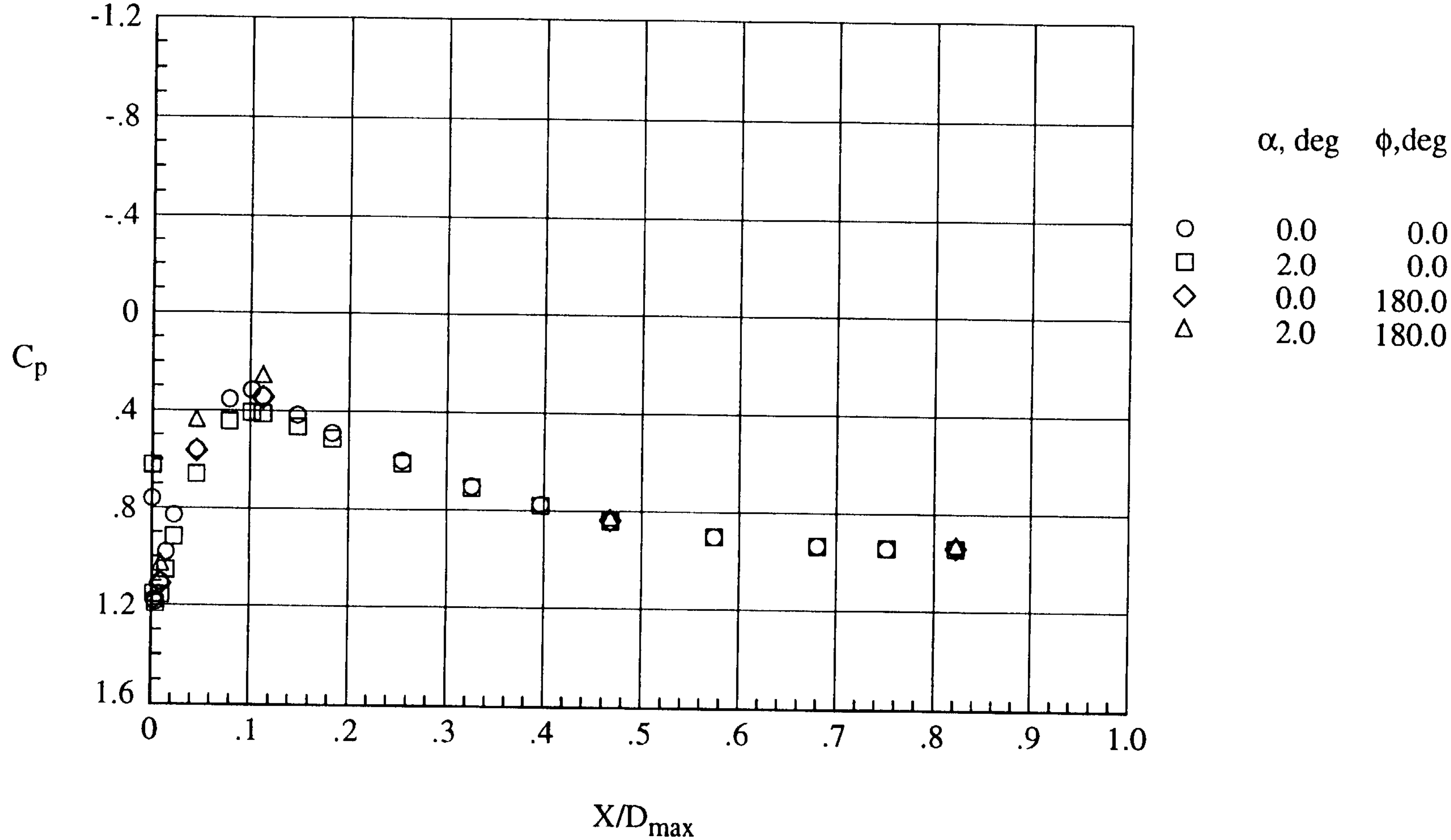
(h) M = 0.84 and mfr = 0.81.

Figure 15.- Continued.



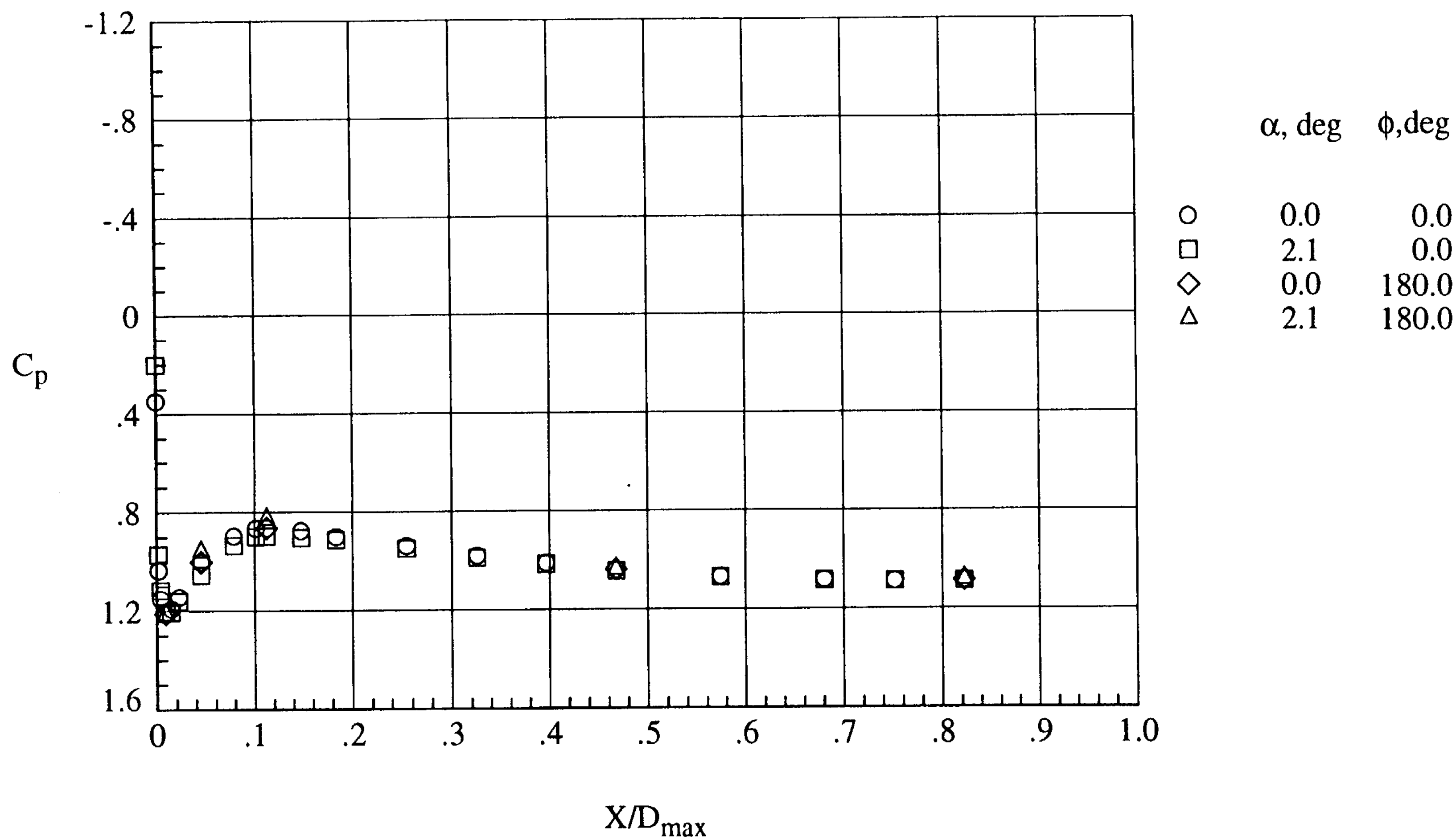
(i) M = 0.87 and mfr = 0.49.

Figure 15.- Continued.



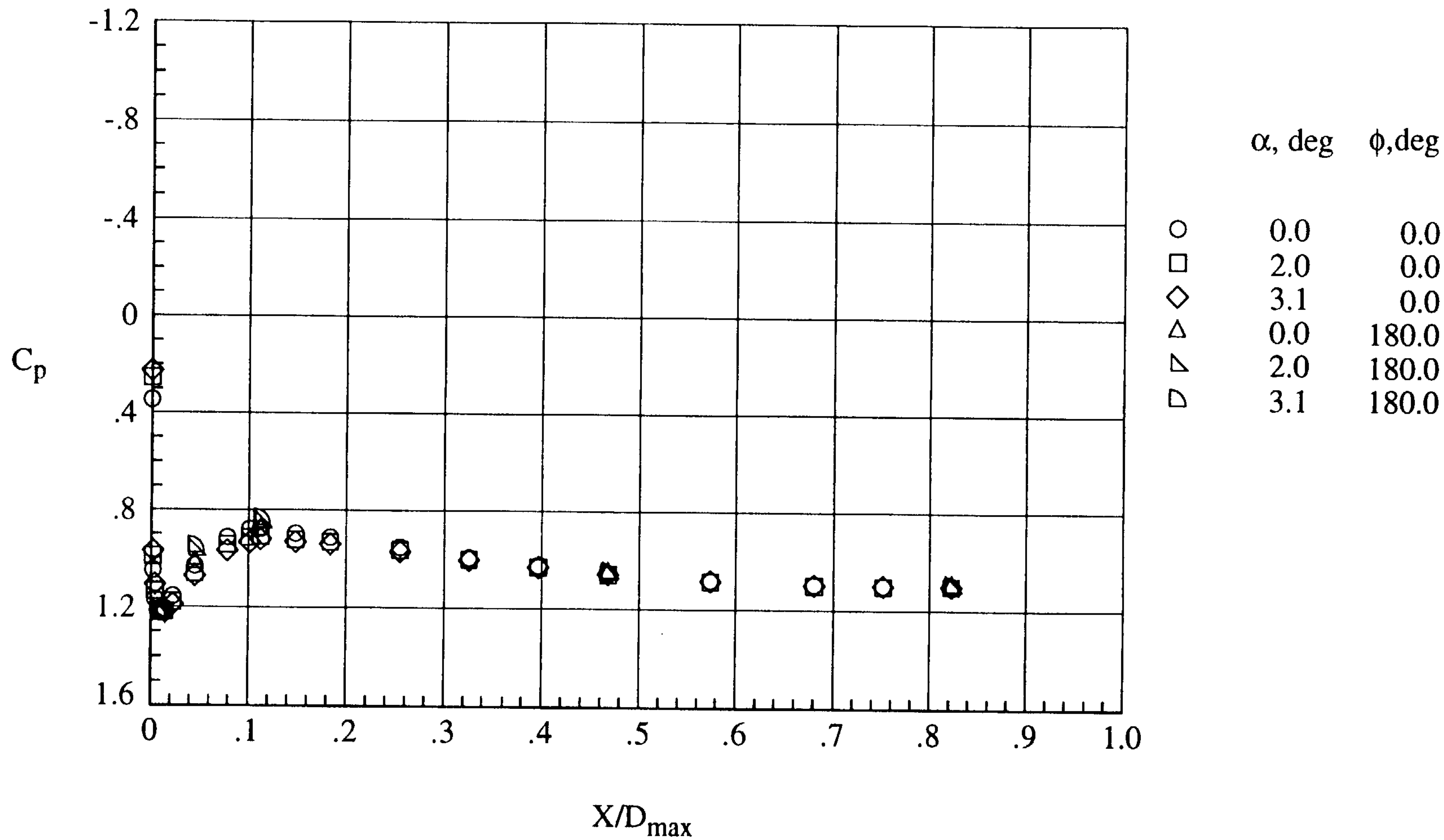
(j) M = 0.87 and mfr = 0.68.

Figure 15.- Continued.



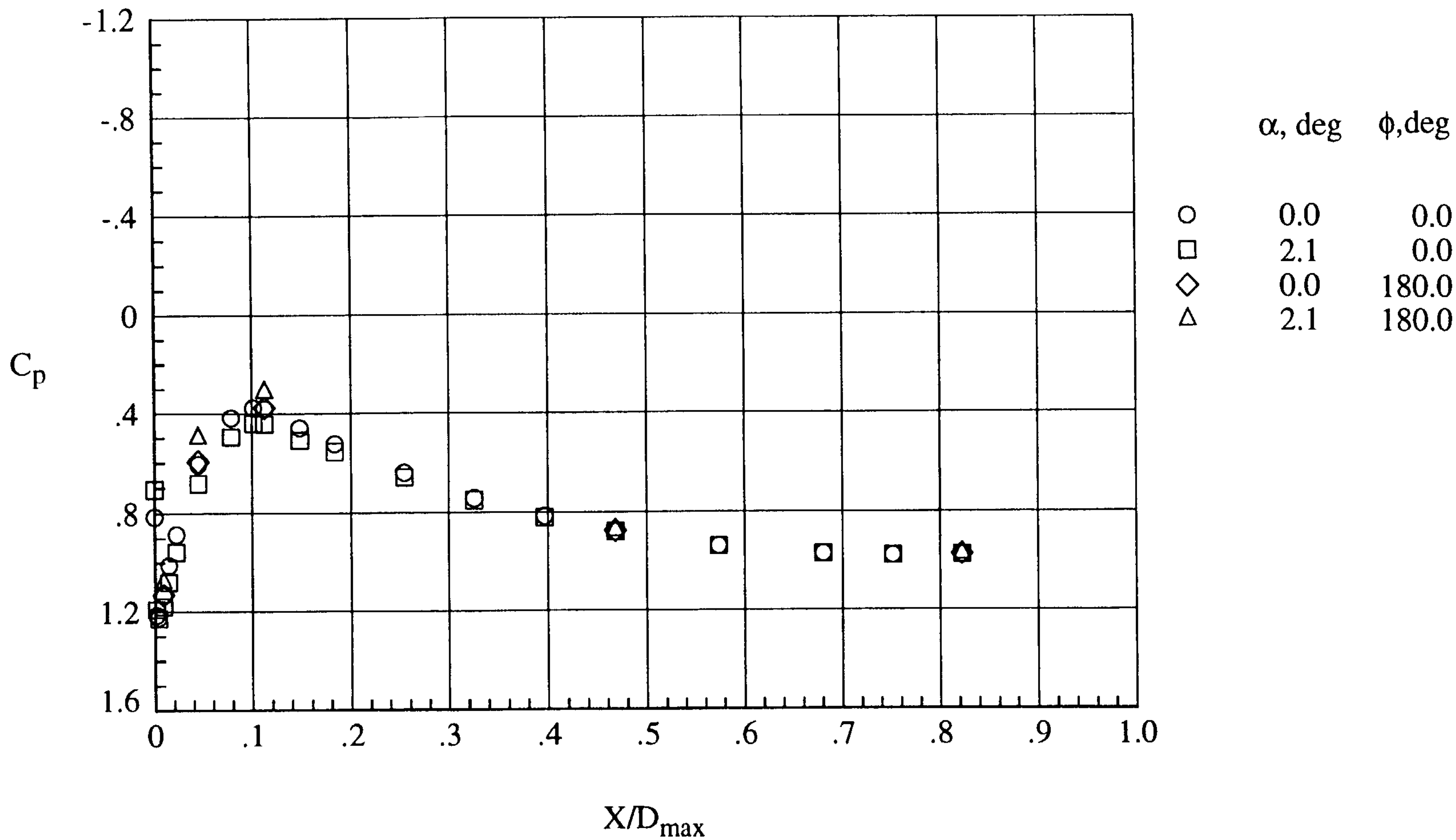
(k) M = 0.89 and mfr = 0.49.

Figure 15.- Continued.



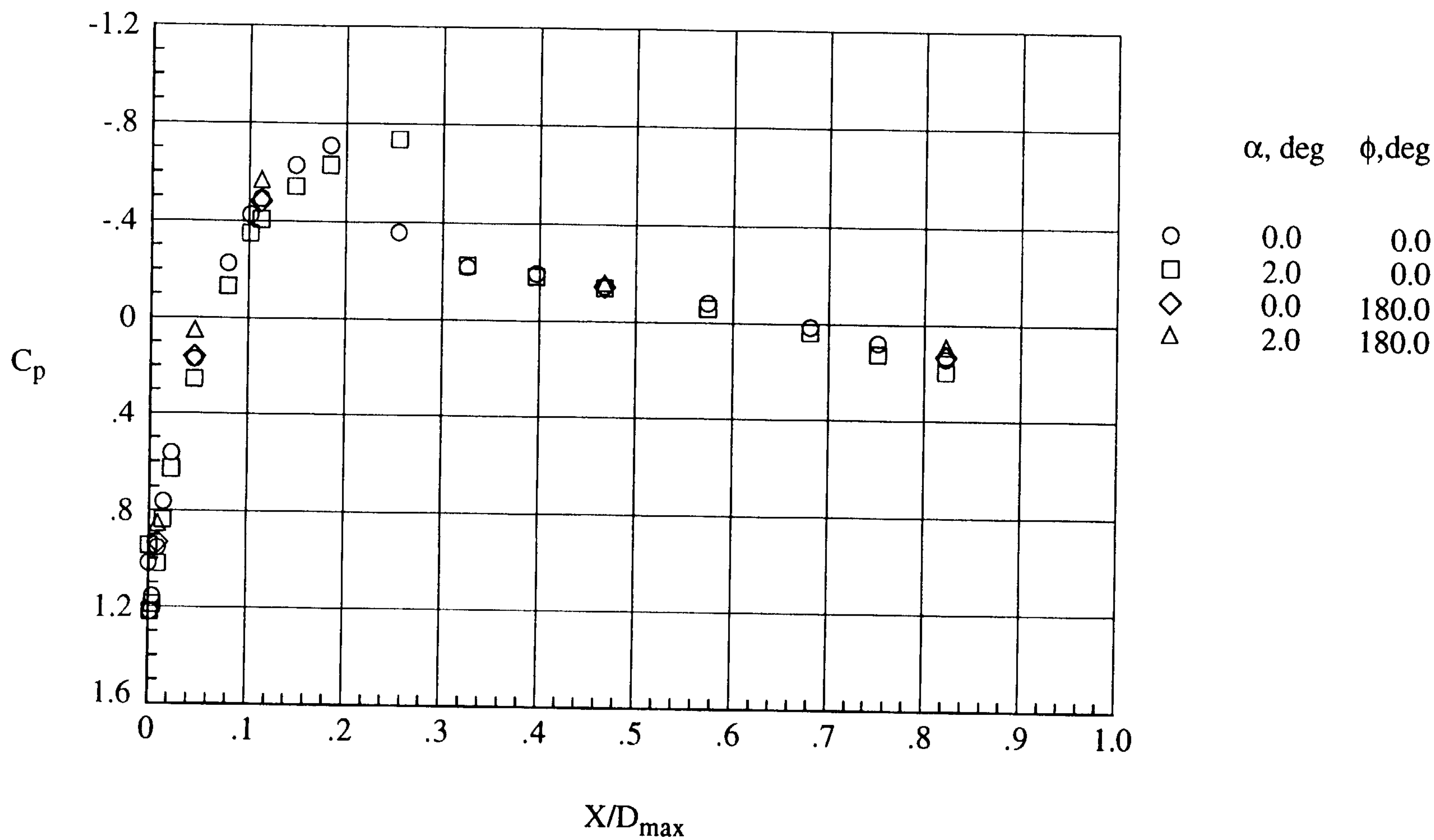
(l) M = 0.91 and mfr = 0.49.

Figure 15.- Continued.



(m) M = 0.92 and mfr = 0.68.

Figure 15.- Continued.



(n) M = 0.92 and mfr = 0.82.

Figure 15.- Concluded.

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Pressure distributions on three NACA 1-Series inlets have been obtained in the Langley 16-Foot Transonic Tunnel. The cowl diameter ratio (ratio of cowl highlight diameter to cowl maximum diameter) was 0.85 for all three inlets. The cowl length ratio (ratio of cowl length to cowl maximum diameter) was 1.0 for two of the inlets (NACA 1-85-100) and 0.439 for the other (NACA 1-85-43.9) inlet. One of the inlets with a cowl length ratio of 1.0 had an internal contraction ratio (ratio highlight area to throat area) of 1.009 and the other two inlets had a contraction ratio of 1.250. All three inlets had longitudinal rows of static pressure orifices on the top and bottom external cowl surfaces. The two inlets with a contraction ratio of 1.250 had a longitudinal row of static pressure orifices on the diffuser surface.

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